

OCF Resource Type Specification

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1783

Introduction

1784 This document, and all the other parts associated with this document, were developed in response
1785 to worldwide demand for smart home focused Internet of Things (IoT) devices, such as appliances,
1786 door locks, security cameras, sensors, and actuators; these to be modelled and securely controlled,
1787 locally and remotely, over an IP network.

1788 While some inter-device communication existed, no universal language had been developed for
1789 the IoT. Device makers instead had to choose between disparate frameworks, limiting their market
1790 share, or developing across multiple ecosystems, increasing their costs. The burden then falls on
1791 end users to determine whether the products they want are compatible with the ecosystem they
1792 bought into, or find ways to integrate their devices into their network, and try to solve interoperability
1793 issues on their own.

1794 In addition to the smart home, IoT deployments in commercial environments are hampered by a
1795 lack of security. This issue can be avoided by having a secure IoT communication framework, which
1796 this standard solves.

1797 The goal of these documents is then to connect the next 25 billion devices for the IoT, providing
1798 secure and reliable device discovery and connectivity across multiple OSs and platforms. There
1799 are multiple proposals and forums driving different approaches, but no single solution addresses
1800 the majority of key requirements. This document and the associated parts enable industry
1801 consolidation around a common, secure, interoperable approach.

1 Scope

This document specifies the Resources that have been defined by OCF that may be exposed by an OCF Device.

Application profile device documents (for example those created for Smart Home or Healthcare) specify device types appropriate to the profile; such documents use Resource Type definitions from this document.

This document is built on top of ISO/IEC 30118-1. ISO/IEC 30118-1 specifies the OCF Framework that enables the implementation of profiles for IoT usages and ecosystems. The OCF Core Framework is scalable to support simple devices (constrained device) and more capable devices (smart device).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 30118-1 Information technology -- Open Connectivity Foundation (OCF) Specification -- Part 1: Core specification
<https://www.iso.org/standard/53238.html>
Latest version available at: https://openconnectivity.org/specs/OCF_Core_Specification.pdf

OpenAPI specification, fka *Swagger RESTful API Documentation Specification*, Version 2.0
<https://github.com/OAI/OpenAPI-Specification/blob/master/versions/2.0.md>

3 Terms, definitions, and abbreviated terms

For the purposes of this document, the terms and definitions given in ISO/IEC 30118-1 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

3.1 Terms and definitions

3.1.1

actuator

Resource with support of the UPDATE operation

3.1.2

Composite Resource Type

Resource Type defined as a Collection of other Resource Types

3.1.3

sensor

Resource without support of the UPDATE operation

3.2 Symbols and abbreviated terms

CRUDN Create Retrieve Update Delete Notify

4 Document conventions and organization

4.1 Conventions

In this document a number of terms, conditions, mechanisms, sequences, parameters, events, states, or similar terms are printed with the first letter of each word in uppercase and the rest lowercase (e.g., Resource Type). Any lowercase uses of these words have the normal technical English meaning.

In this document, to be consistent with the IETF usages for RESTful operations, the RESTful operation words CRUDN, CREATE, RETRIVE, UPDATE, DELETE, and NOTIFY will have all letters capitalized. Any lowercase uses of these words have the normal technical English meaning.

4.2 Notation

In this document, features are described as required, recommended, allowed or DEPRECATED as follows:

Required (or shall or mandatory).

These basic features shall be implemented to comply with OCF Resource Type Specification. The phrases "shall not", and "PROHIBITED" indicate behaviour that is prohibited, i.e. that if performed means the implementation is not in compliance.

Recommended (or should).

These features add functionality supported by the OCF Resource Type Specification and should be implemented. Recommended features take advantage of the capabilities of the OCF Resource Type Specification, usually without imposing major increase of complexity. Notice that for compliance testing, if a recommended feature is implemented, it shall meet the specified requirements to be in compliance with these guidelines. Some recommended features could become requirements in the future. The phrase "should not" indicates behaviour that is permitted but not recommended.

Allowed (or allowed).

These features are neither required nor recommended by OCF Resource Type Specification, but if the feature is implemented, it shall meet the specified requirements to be in compliance with these guidelines.

DEPRECATED

Although these features are still described in this document, they should not be implemented except for backward compatibility. The occurrence of a deprecated feature during operation of an implementation compliant with the current document has no effect on the implementation's operation and does not produce any error conditions. Backward compatibility may require that a feature is implemented and functions as specified but it shall never be used by implementations compliant with this document.

Conditionally allowed (CA)

The definition or behaviour depends on a condition. If the specified condition is met, then the definition or behaviour is allowed, otherwise it is not allowed.

Conditionally required (CR)

The definition or behaviour depends on a condition. If the specified condition is met, then the definition or behaviour is required. Otherwise the definition or behaviour is allowed as default unless specifically defined as not allowed.

Strings that are to be taken literally are enclosed in "double quotes".

Words that are emphasized are printed in *italic*.

5 Baseline Model Constructs

5.1 URI

The URIs mentioned in this document are non-normative, they may be vendor defined.

An Instance of a Resource is indicated by the URI. When more than one instance of the same Resource Type is used in a Device, different URIs for the different Resource instances shall be used.

An implementation shall follow the requirements defined in ISO/IEC 30118-1 with respect to population of the URI. Please refer to the ISO/IEC 30118-1 clauses 6.2 and 6.3 for specific details.

5.2 Interfaces

5.2.1 Introduction

ISO/IEC 30118-1 specifies that all Resource Types have associated with them at least one OCF Interface; this OCF Interface is advertised during Resource discovery. In addition ISO/IEC 30118-1 defines a number of OCF Interfaces that can be applied to an instance of a Resource Type.

The difference between using sensor/actuator and read/write OCF Interfaces is due to the fact that a sensor/actuator interface describes an action that has immediate effect on the Device, either by reading the sensed value and putting the value on the wire, or as an UPDATE action that something needs to happen (e.g. actuate) on the Device. The read/write OCF Interface is typically used to set a settings value on the Device that might be used later when an action occurs. A typical example is setting the coffee strength that will be used when the coffee is brewed.

5.2.2 Restricting Interface Functionality

Note that the functionality associated with, or visibility of, an instance of any Resource exposed by a Device may be restricted depending upon local (per country or legislative region) regulatory requirements or other restrictions (e.g. with respect to Binary Switch in some jurisdictions the ability to remotely power on a connected device is restricted; a lock status could be read-only depending on the context).

The actual implementation of a resource can be limited by:

- Not implementing the optional Properties defined in the payload of a CRUDN operation.
- Removing CRUDN operations

If an UPDATE operation of a resource that can be actuated is not implemented, this change in behaviour is indicated by changing the OCF Interfaces accordingly.

When the resource is defined with the OCF Interface "oic.if.a", and the UPDATE operation is removed then the OCF Interface listed shall be "oic.if.s".

When the resource is defined with the OCF Interface "oic.if.rw", and the UPDATE operation is removed then the OCF Interface listed shall be "oic.if.r".

5.3 OpenAPI Specification 2.0 definition

The OpenAPI Specification 2.0 definitions provided in clause 6 in this document are normative.

The OpenAPI Specification 2.0 definitions are used to describe the payloads of the CRUDN operations on the specified Resource Type. The CRUDN operations are defined in ISO/IEC 30118-1. ISO/IEC 30118-1 also specifies additional Properties in the payloads of the CRUDN operations. The OpenAPI Specification 2.0 definitions in this document are not of themselves sufficient to

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create an implementation, additional Properties defined in ISO/IEC 30118-1 need to be added to create a compliant implementation. This document makes use of a subset of the responses supported by OpenAPI Specification 2.0, specifics on the use of these responses are defined in Table 4. Note that the actual values of success and error conditions are defined in ISO/IEC 30118-1.

The OpenAPI Specification 2.0 definitions map the OCF CRUDN behaviour to the OpenAPI Specification 2.0 as defined in Table 1.

Table 1 – Conversion between OCF CRUDN and OpenAPI Specification 2.0 definitions¹

Resource	Create	Retrieve	Update	Delete	Notify
/example	post	get	post	delete	N/A

Notify is not part of an OpenAPI Specification 2.0 definition but is defined in ISO/IEC 30118-1. All Resource Types defined in this document support notification via the use of observe as defined in ISO/IEC 30118-1 clause 11.4.2.

5.4 Property definition

5.4.1 Common Properties

ISO/IEC 30118-1 specifies a number of Properties that may be defined for Resources. The Common Properties “if” and “rt” shall be specified for all Resource Types defined in this document; they are exposed within the ISO/IEC 30118-1 defined “/oic/res/” Resource Type through which the Server and its available Resources are discovered. The Common Properties “id” and “n” may be specified for all Resource Types defined in this document. Table 2 lists all of the noted Common Properties.

If a Client requires that these Properties be included in a Resource representation that is provided in response to a RETRIEVE operation then the Client shall select the ISO/IEC 30118-1 defined baseline OCF Interface (“oic.if.baseline”) by specifying this in a query parameter.

Table 2 – Common Properties for Resources

Property Name	Property Title	Property Value	Value Type	Access Modes	Description
if	Interface	See ISO/IEC 30118-1 clause 7.6.2	Array of string	Readonly	Core defined; OCF Interface(s) supported by the Resource
rt	Resource type	See ISO/IEC 30118-1 clause 7.4	Array of string	Readonly	Core defined; Resource type. The Resource Types are defined in this document. See clause 6
n	Name	See ISO/IEC 30118-1 clause 7.3.2.5	String	Readonly	Core defined; human understandable name for the Resource.
id	Resource Identity	See ISO/IEC 30118-1 clause 7.3.2.6	String	Readonly	Core defined; Unique identifier of the Resource (over all

¹ Please refer to ISO/IEC 30118-1:2018 Table 26 for detailed semantics around the appropriate use of CoAP request methods.

					Resources in the Device)
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5.4.2 Resource Properties

5.4.2.1 Introduction

The Properties against which the CRUDN operations are specified are defined as part of an OpenAPI Specification 2.0 definition.

A basic Resource Type is formulated around one single value denoting a physical property.

Such a Resource Type is specified with the Properties as defined Table 3. Mandatory in the table means that the Property shall be defined as part of the overall Resource Type schema; actual inclusion of the Property as part of a returned or generated payload is dependent upon the schema that applies to the operation being invoked.

Table 3 – Property definitions of a Resource Type in the OpenAPI Specification 2.0 file

Property Name	Friendly Alias Name	Property Value	Value Type	Value Rules	Access Modes	Mandatory	Description
<value>, name may change dependent on the Resource	<value>, name may change dependent on the Resource	Dependent on the Resource	Dependent on the Resource	Dependent on the Resource	Dependent on the Resource	yes	The current value of the Resource
range	Range	[Min,Max]	array of integers or numbers	Linear range	Read-only	no	Range of input values, specified as a two element array. See clause 5.4.2.2.
step	Step	Dependent on the Resource	Integer or Number	Dependent on the Resource	Read-only	no	Step value across the defined range. See clause 5.4.2.3.
precision	Precision	Dependent on the Resource	Number	Dependent on the Resource	Read-only	no	Accuracy granularity of the exposed value. See clause 5.4.2.4.

For Resources, which by their nature have more than one physical parameter, the value Property can be replaced with multiple Properties specifying the different physical parameters, or with further structures such as arrays of Properties, objects, or Collections. The type of the value shall be indicated in the OpenAPI Specification 2.0 definition of the Resource Type and should be suitable for the conveyed value. All Property Names and Property Values defined in this document are case sensitive.

5.4.2.2 "range" Property

The "range" defines the valid range for the Property in the Resource as a two element array. This is either an integer or a number range. The first value in the array is the minimum value, the second value in the array is the maximum value.

5.4.2.3 "step" Property

The "step" defines the step value across the defined "range" as either an integer or a number. This is the increment for valid values across the range. For example, for the integer case if the "range" is 0..10 and "step" is 2 then valid values are 0,2,4,6,8,10; for the number case if the "range" is 0.0..10.0 and "step" is 2.5 then valid values are 0.0,2.5,5.0,7.5,10.0.

5.4.2.4 "precision" Property

When exposed the value in "precision" provides a +/- tolerance against the Properties in the Resource. Thus if a Property is UPDATED to a value and that Property then RETRIEVED, the RETRIEVED value is valid if in the range of the set value +/- precision

5.4.3 Basic Resource Schema

All Resource Types defined herein are represented as previously noted by OpenAPI Specification 2.0 files.

5.4.4 CRUDN Operation Response Codes

A Resource can be created or updated depending on the Resource Type definition and the allowed CRUDN operations. The operation may have different response codes with different meanings. This is explained in Table 4.

Table 4 – Return codes behaviour in OpenAPI Specification 2.0

Response Code	Meaning
200	Payload of the response will confirm the change. The OpenAPI Specification 2.0 definition will contain a schema to define the payload.
201	Payload is the URL of the Resource that was created by the Server as a result of a CREATE operation. The OpenAPI Specification 2.0 definition will contain schema to define the payload.
204	Ok, everything went well, no payload provided. The OpenAPI Specification 2.0 definition does not contain a schema. The OpenAPI Specification 2.0 definition may even omit this value, since it is regarded as default behaviour of a Server.
403	Case 1: In the case of a RETRIEVE on a Resource with the use of a query parameter selecting specific Property values; if the Server does not support the values provided then this response should be returned. The response payload should include the allowed values for the query parameter. Case 2: The Server could not CREATE or UPDATE the Resource due to a problem with the provided payload. For an UPDATE, unless otherwise stated in the Resource Type definition, the response payload should include the same schema defined for a 200; indicating the current Resource Property value(s).

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5.5 Example Resource Definitions

Please see the Resource Types in Clause 6 for examples of Resource Definitions. For an example Resource Type that models an actuator refer to the definition of Dimming; for an example Resource Type that models a sensor refer to the definition of an Illuminance Sensor.

5.6 Observable Resource Types

5.6.1 Introduction

ISO/IEC 30118-1 defines a mechanism by which Resources can advertise themselves as “Observable” to a Client. All Resource Types defined in this document may be observed. Whether or not a Resource Type is made observable via use of the Policy Link Parameter is entirely implementation dependent.

5.6.2 Conditional Notification

5.6.2.1 General

All observable Resources may apply conditions to the generation of notifications that result from the observe action, these conditions can be time based or value based or time and value based. This is achieved by composing the Conditional Notification (oic.r.value.conditional) Resource Type with an instance of an observable Resource; that is the Resource that is exposed by the Server has an “rt” of “[“oic.r.<resource>”,“oic.r.value.conditional”]”.

5.6.2.2 Conditional Notification Property Summary

Table 5 summarizes the Properties provided by the Conditional Notification Resource Type. At least one Property from the table shall be present in an instance of the Resource Type.

Table 5 – Conditional Notification Properties

Name	Type	R/W	Required	Description
threshold	number	RW	No	Amount by which the observed value changes before a notification is generated
minnotifyperiod	integer	RW	No	Minimum elapsed time in ms before a notification may be sent
maxnotifyperiod	integer	RW	No	Maximum elapsed time in ms after which a notification is sent

All Properties if exposed shall be set with initial values. All Properties may be exposed with a value of “0” (zero); this indicates that the functionality associated with the Property is not active. Any Client may update the exposed values subject to any ACL restrictions; such changes are global and apply to all notifications that are sent to all observers. A notifier may reject an update to the Property values; in such cases a diagnostic payload should be included in the rejection response indicating the valid ranges for the Properties.

5.6.2.3 Property Definition: threshold

Minimum value change between two notifications. A notification shall be sent (within the constraints of “minnotifyperiod”) when the change since the last notification is greater than or equal to this value. The measurement is done against the value in the last notification that was sent; thus all notifications (within any “maxnotifyperiod” constraints that may be present) will carry values that differ by at least “threshold”. A “threshold” value of “0” means that no “threshold” is applied.

5.6.2.4 Property Definition: minnotifyperiod

Minimum time (in ms) that shall occur between notifications. If a value change condition is met ("threshold" equalled or exceeded or any change in value if threshold is not present) before expiration the notification shall not be sent till the period expires. If the Property is present and set to "0" then no minimum notify period timer is run; if the Property is present and with a value greater than "0" then a minimum notify period timer shall be run equal to the value. The Property value itself is initially populated by the notifier. If the Property is not present, the minimum notify period is up to the notifier. The timer shall be reset each time a notification is sent.

5.6.2.5 Property Definition: maxnotifyperiod

Maximum time (in ms) that the notifier shall not exceed between notifications. When the timer expires a notification shall be sent. If present and set to "0" then no maximum notify period timer is run; if present and with a value greater than 0 then a maximum notify period timer shall be run equal to the value. The Property value itself shall be initially populated by the notifier. When both "minnotifyperiod" and "maxnotifyperiod" are present and both are non-zero the value of "maxnotifyperiod" shall be larger than the "minnotifyperiod". If not present, the value shall be set by the notifier. The timer shall be reset each time a notification is sent.

5.6.2.6 Governing State Machine

The "minnotifyperiod" and "maxnotifyperiod" timers are restarted each time a notification is sent (response to the Observe). A notification is sent when value change condition (threshold) and "minnotifyperiod" are both met if both are present. If the observed Property value subsequently drops beneath threshold before the expiration of "minnotifyperiod" the notifier may take no action or a notification may be sent on expiration of "minnotifyperiod" containing the current observed Property value (at the time of the notification). If there are no timer constraints; then notifications are sent whenever the observed Property value has changed by an amount greater than or equal to "threshold".

Overall logic is defined in Figure 1. Figure 2 provides an illustrative sequence.

```
graph TD
    A[If minnotifyperiod expired:] --> B[If observed value changed:]
    B --> C[If change amount >= threshold:]
    C --> D[Send notification with current value]
    D --> E[Reset minnotifyperiod , maxnotifyperiod]
    E --> F[If maxnotifyperiod expired:]
    F --> G[Get current value]
    G --> H[Send notification with current value]
    H --> I[Reset minnotifyperiod , maxnotifyperiod]
```

Figure 1 – Overall conditional notification logic

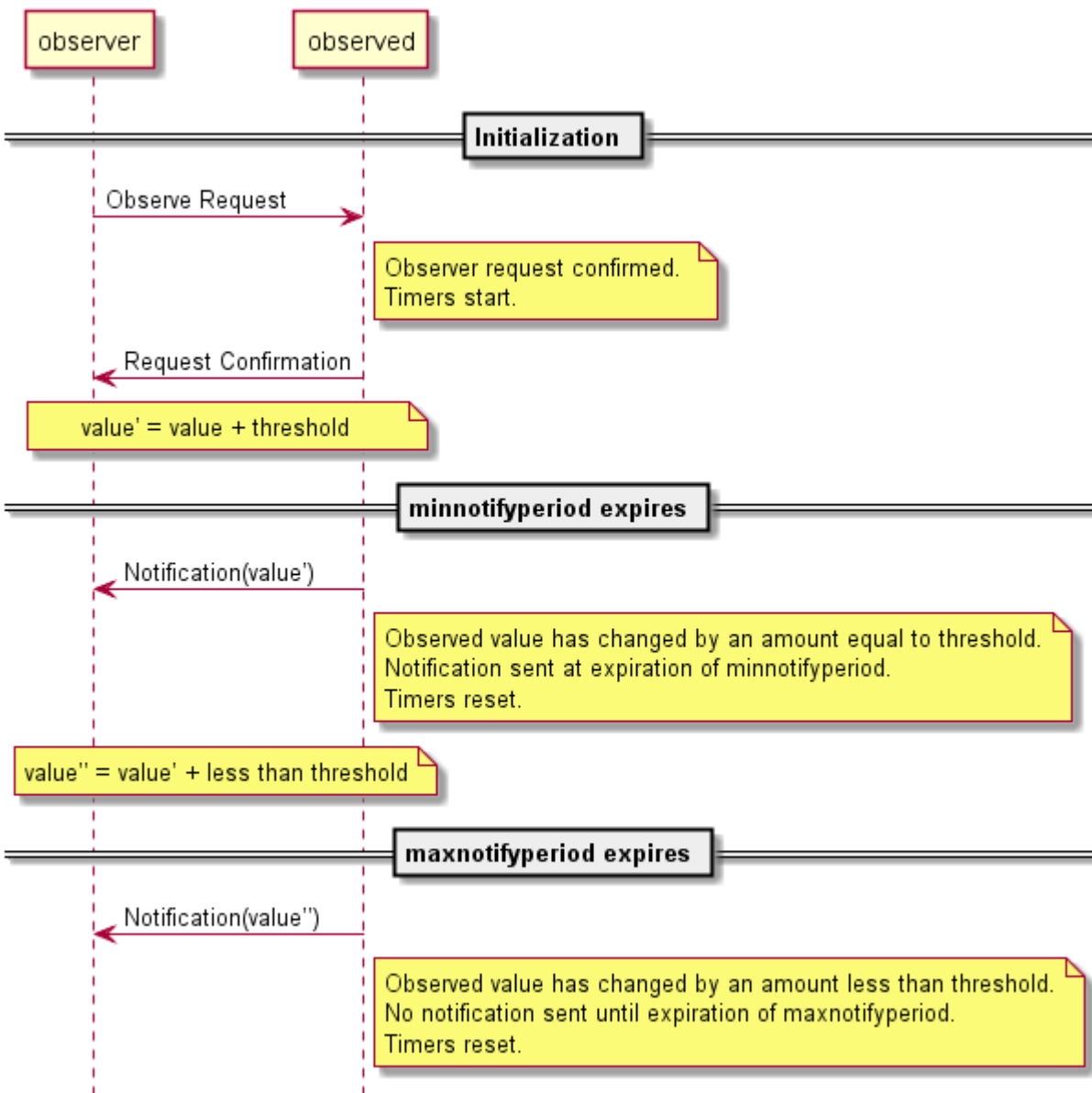


Figure 2 – Conditional Notification Example Flow

5.7 Composite Resource Types

Composite Resource Types are Resources that comprises of one or more single or other composite Resource Types, an example of which is shown in Figure 3. The Composite Resource Type can be viewed upon as a new single Resource Type. The Composite Resource Type mechanism is a powerful concept since it uses existing Resource Types in a new combination to express more contexts to a Resource without specifying new single unit Resource Types.

Composite Resource Types are defined by linking the referenced existing Resource values in to a Collection.

The linking is done by using an array of Links; refer to ISO/IEC 30118-1 clause 7.8.2 for more details. Note that the example in Figure 3 contains a partial schema of this definition as it is for descriptive purpose only. The Property name of the array in the example is “resources”.

The contents of the listed Resources can be achieved in a single operation by using the ISO/IEC 30118-1 defined oic.if.b interface.

```
{
  "swagger": "2.0",
  "info": {
    "title": "Compsite Example",
    "version": "v1.1.0-2018",
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/CompositeResURI?if=oic.if.baseline" : {
      "get": {
        "description": "Composite Resource.\n",
        "parameters": [
          {"$ref": "#/parameters/interface-baseline"}
        ],
        "responses": {
          "200": {
            "description": "Success path response for the Resource",
            "x-example": {
              "rt": ["oic.r.example"],
              "if": ["oic.if.ll", "oic.if.b", "oic.if.baseline"],
              "id": "unique_example_id",
              "resources": [
                {
                  "href": "/TimeIntervalResURI",
                  "rt": ["oic.r.time.period"],
                  "if": ["oic.if.a", "oic.if.baseline"],
                  "eps": [{"ep": "coaps://[fe80::bld6]:1122"}]
                },
                {
                  "href": "/GasConsumptionResURI",
                  "rt": ["oic.r.gas.consumption"],
                  "if": ["oic.if.s", "oic.if.baseline"],
                  "eps": [{"ep": "coaps://[fe80::bld6]:1122"}]
                }
              ]
            },
            "schema": {"$ref": "#/definitions/composite"}
          }
        }
      }
    }
  }
}
```

Figure 3 – Composite Resource Example

5.8 Document Version

Devices conformant to this document version shall add the string “ocf.res.1.3.0” to the dmV Property in “oic.wk.d”. This Property is for legacy Device support only and will no longer be revised in alignment with document versions.

5.9 Data types

This document adopts the types defined in ISO/IEC 30118-1 with the exceptions defined in this clause

2075 All Properties in this document that are defined as JSON number type shall be transmitted encoded
 2076 as floating point values and not integer values. Reception of Properties defined as JSON number
 2077 type shall be as defined in ISO/IEC 30118-1. See ISO/IEC 30118-1 clause 12.4 for specifics.

2078 **6 Resource Type definitions**

2079 **6.1 Introduction**

2080 This clause contains definitions for all Resource Types; the complete set is listed in Table 6 –
 2081 Alphabetical list of Resource Types.

2082 All Resource Types shall be created in accordance with ISO/IEC 30118-1 clause 7.4. All
 2083 comparisons against a Resource Type shall be case insensitive.

2084 All Resource Types in this document are prefixed with “oic.r” denoting that it is an OCF defined
 2085 Resource Type.

2086 **Table 6 – Alphabetical list of Resource Types**

Friendly Name (informative)	Resource Type (rt)	Clause
3D Printer	oic.r.printer.3d	6.88
Acceleration Sensor	oic.r.sensor.acceleration	6.56
Activity	oic.r.activity	6.127
Activity Count	oic.r.sensor.activity.count	6.24
Activity Tracker Atomic Measurement	oic.r.activitytracker-am	6.128
Air Flow	oic.r.airflow	6.2
Air Flow Control	oic.r.airflowcontrol	6.3
Air Quality	oic.r.airquality	6.66
Air Quality Collection	oic.r.airqualitycollection	6.67
Alarm	oic.r.alarm	6.129
Altimeter	oic.r.altimeter	6.61
Atmospheric Pressure	oic.r.sensor.atmosphericpressure	6.25
Audio Controls	oic.r.audio	6.26
Auto Focus	oic.r.autofocus	6.27
Automatic Document Feeder	oic.r.automaticdocumentfeeder	6.28
Auto White Balance	oic.r.colour.autowhitebalance	6.32
Battery	oic.r.energy.battery	6.4
Battery Material	oic.r.batterymaterial	6.79
Body Composition Analyser Atomic Measurement	oic.r.bodycompositionanalyser-am	6.155
Binary switch	oic.r.switch.binary	6.5
Blood Pressure	oic.r.blood.pressure	6.89
Blood Pressure Monitor Atomic Measurement	oic.r.bloodpressuremonitor-am	6.90
BMI	oic.r.bmi	6.91
Body Fat	oic.r.body.fat	6.92
Body Fat Free Mass	oic.r.body.ffm	6.93
Body Location Temperature	oic.r.body.location.temperature	6.94

Body Scale Atomic Measurement	oic.r.body.scale-am	6.95
Body Soft Lean Mass	oic.r.body.slm	6.96
Body Thermometer Atomic Measurement	oic.r.bodythermometer-am	6.97
Body Water	oic.r.body.water	6.98
Brewing	oic.r.brewing	6.80
Brightness	oic.r.light.brightness	6.6
Button Switch	oic.r.button	6.29
Cadence	oic.r.cadence	6.144
Calibrate for Continuous Glucose Meter (CGM)	oic.r.cgm.calibrate	6.131
Calorific Value	oic.r.calorificvalue	6.116
Carbon Dioxide Sensor	oic.r.sensor.carbondioxide	6.30
Carbon Monoxide Sensor	oic.r.sensor.carbonmonoxide	6.31
Circuit Breaker (IEC 61850)	oic.r.circuitbreaker	6.145
Civic Location	oic.r.location.civic	6.176
Clock	oic.r.clock	6.62
Colour Chroma	oic.r.colour.chroma	6.7
Colour Hue Saturation	oic.r.colour.hs	6.78
Colour RGB	oic.r.colour.rgb	6.8
Colour Rendering Index	oic.r.colour.renderingindex	6.173
Colour Saturation	oic.r.colour.saturation	6.33
Colour Space Coordinates	oic.r.colour.csc	6.76
Colour Temperature	oic.r.colour.colourtemperature	6.77
Consumable	oic.r.consumable	6.68
Consumable Collection	oic.r.consumablecollection	6.69
Contact Sensor	oic.r.sensor.contact	6.34
Continuous Glucose Meter (CGM) Atomic Measurement	oic.r.cgm-am	6.130
Conversion Factor	oic.r.conversionfactor	6.117
Cycling Power	oic.r.cyclingpower	6.146
Delay Defrost	oic.r.delaydefrost	6.70
Demand Response Load Control (DRLC)	oic.r.energy.drlc	6.35
Deodorization	oic.r.deodorization	6.152
Device Settings - Accessibility	oic.r.settings.accessibility	6.164
Device Settings - Broadcasting	oic.r.settings.broadcasting	6.165
Device Settings - Picture	oic.r.settings.picture	6.166
Device Settings - Sound	oic.r.settings.sound	6.167
Device Settings - Support	oic.r.settings.support	6.168
Device Settings - System	oic.r.settings.system	6.169
Dimming	oic.r.light.dimming	6.9
Door	oic.r.door	6.10

Ecomode	oic.r.ecomode	6.71
Electric Vehicle Connector	oic.r.vehicle.connector	6.86
Electrical Energy	oic.r.energy.electrical	6.81
Energy Consumption	oic.r.energy.consumption	6.11
Energy Generation	oic.r.energy.generation	6.82
Energy Overload/Circuit Breaker	oic.r.energy.overload	6.36
Energy Usage	oic.r.energy.usage	6.12
Gas Consumption	oic.r.gas.consumption	6.118
Gas Usage	oic.r.gas.usage	6.119
Fault Interrupter Switch	oic.r.switch.fault	6.156
Foaming	oic.r.foaming	6.83
Generic Sensor	oic.r.sensor	6.37
Generic Measurement Sensor	oic.r.sensor.measurement	6.170
Geolocation Sensor	oic.r.sensor.geolocation	6.63
Glass Break Sensor	oic.r.sensor.glassbreak	6.38
Glucose	oic.r.glucose	6.99
Glucose Meter Complex Carbohydrates	oic.r.glucose.carb	6.100
Glucose Meter Exercise	oic.r.glucose.exercise	6.101
Glucose Meter HbA1c	oic.r.glucose.hba1c	6.102
Glucose Meter Context Health	oic.r.glucose.health	6.103
Glucose Meter Context Meal	oic.r.glucose.meal	6.104
Glucose Meter Context Medication	oic.r.glucose.medication	6.105
Glucose Meter Atomic Measurement	oic.r.glucosemeter-am	6.106
Glucose Meter Context Sample Location	oic.r.glucose.samplelocation	6.107
Glucose Meter Context Tester	oic.r.glucose.testers	6.108
Grinder	oic.r.grinder	6.84
HVAC Capacity	oic.r.hvac.capacity	6.157
Heart Rate	oic.r.heartrate	6.136
Heart Rate Monitor Atomic Measurement Representation	oic.r.heartratemonitor-am	6.137
Heart Rate Zone Sensor	oic.r.sensor.heart.zone	6.39
Heating Zone	oic.r.heatingzone	6.72
Heating Zone Collection	oic.r.heatingzonecollection	6.73
Height	oic.r.height	6.64
Humidity	oic.r.humidity	6.13
IAS Zone Info	oic.r.iaszoneinfo	6.124
IAS Zone Collection	oic.r.iaszone	6.125
Icemaker	oic.r.icemaker	6.14
Illuminance Sensor	oic.r.sensor.illuminance	6.40
Impact Sensor	oic.r.impactsensor	6.120

Inverter (IEC 61850)	oic.r.inverter	6.147
KeyCard Switch	oic.r.keycardswitch	6.153
Keypad Character	oic.r.keypadchar	6.121
Liquid Level	oic.r.liquid.level	6.85
Lock	oic.r.lock.status	6.15
Lock Code	oic.r.lock.code	6.16
Magnetic Field Direction	oic.r.sensor.magneticfielddirection	6.41
Media	oic.r.media	6.42
Media Audio	oic.r.media.audio	6.158
Media Core	oic.r.media.core	6.159
Media Image	oic.r.media.image	6.160
Media Source	oic.r.mediasource	6.43
Media Source List	oic.r.mediasourcelist	6.44
Media Source Input	oic.r.media.input	6.45
Media Source Output	oic.r.media.output	6.46
Media Text	oic.r.media.text	6.161
Media Video	oic.r.media.video	6.162
Mode	oic.r.mode	6.17
Movement	oic.r.movement.linear	6.57
Motion Sensor	oic.r.sensor.motion	6.47
Muscle Oxygen Saturation	oic.r.muscleoxygensaturation	6.154
Night Mode	oic.r.nightmode	6.48
Opaque Data	oic.r.opaquedata	6.122
Open Level	oic.r.openlevel	6.18
Operational State	oic.r.operational.state	6.19
Optical RFID Station	oic.r.orfid.station	6.109
Optical RFID Tag	oic.r.orfid.tag	6.110
Pan Tilt Zoom Movement	oic.r.ptz	6.50
Power Source	oic.r.powersource	6.111
Presence Sensor	oic.r.sensor.presence	6.49
Print Queue	oic.r.printer.queue	6.112
Pulsatile Characteristic for Pulse Oximeter	oic.r.pulsatilecharacteristic	6.138
Pulsatile Occurrence for Pulse Oximeter	oic.r.pulsatileoccurrence	6.139
Pulse Oximeter Atomic Measurement Representation	oic.r.pulseoximeter-am	6.140
Pulse Rate	oic.r.pulserate	6.113
PV array system connection terminal (IEC 61850)	oic.r.pvconnectionterminal	6.148
Ramp Time	oic.r.light.ramptime	6.20
Refrigeration	oic.r.refrigeration	6.21
Restricted Switch	oic.r.switch.restricted	6.163

Sampling Interface for Continuous Glucose Meter (CGM)	oic.r.cgm.samplinginterval	6.132
Selectable Levels	oic.r.selectablelevels	6.74
Sensor for Continuous Glucose Meter (CGM)	oic.r.cgm.sensor	6.133
Sensor Properties	oic.r.sensor.props	6.114
Signal Strength	oic.r.signalstrength	6.51
Sleep	oic.r.sleep	6.141
Sleep Monitor Atomic Measurement Batch Representation	oic.r.sleepmonitor-am	6.142
Sleep Sensor	oic.r.sensor.sleep	6.58
Smoke Sensor	oic.r.sensor.smoke	6.59
Sound Pressure - dB	oic.r.sound.pressurelevel	6.175
Sound Pressure - Pascal	oic.r.sound.pressure	6.174
Speech Synthesis	oic.r.speech.tts	6.52
Speed	oic.r.speed	6.149
SpO2 for Pulse Oximeter	oic.r.spo2	6.143
Status for Continuous Glucose Meter (CGM)	oic.r.cgm.status	6.134
Temperature	oic.r.temperature	6.22
Three Axis Sensor	oic.r.sensor.threeaxis	6.60
Threshold for Continuous Glucose Meter (CGM)	oic.r.cgm.threshold	6.135
Time Period	oic.r.time.period	6.23
Time Stamp	oic.r.time.stamp	6.87
Torque	oic.r.torque	6.150
Touch Sensor	oic.r.sensor.touch	6.53
UV Radiation	oic.r.sensor.radiation.uv	6.54
UVA Radiation	oic.r.sensor.radiation.uva	6.171
UVB Radiation	oic.r.sensor.radiation.uvb	6.172
User ID	oic.r.userid	6.115
User Info for Application Layer	oic.r.userinfo	6.123
Value Conditional	oic.r.value.conditional	6.75
Water Info	oic.r.waterinfo	6.151
Water Sensor	oic.r.sensor.water	6.55
Weight	oic.r.weight	6.65
Window Covering	oic.r.windowcovering	6.126

2087

2088 6.2 Air Flow

2089 6.2.1 Introduction

2090 This Resource describes Properties associated with air flow.

2091 The Property "supporteddirections" is the set of valid values for the direction property for a
2092 particular instance of this Resource Type.

The Property "direction" is the directionality of the air flow if applicable, if Property "supporteddirections" is also present it must be a value from that set.

The values of Property "direction" are dependent on the capabilities of the unit.

The Property "speed" is an integer representing the current speed level for the unit.

The Property "range" is an array of the min,max values for the speed level. If not present the "range" defaults to [0,100].

Property "automode" is the status of the automode feature; Off means automode is not enabled, On means automode is active and the speed is automatically controlled by the Device.

6.2.2 Example URI

/AirFlowResURI

6.2.3 Resource type

The Resource Type is defined as: "oic.r.airflow".

6.2.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Air Flow",
    "version": "20190215",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/AirFlowResURI" : {
      "get": {
        "description": "This Resource describes Properties associated with air flow.\nThe Property
\"supporteddirections\" is the set of valid values for the direction property for a particular
instance of this Resource Type.\nThe Property \"direction\" is the directionality of the air flow if
applicable, if Property \"supporteddirections\" is also present it must be a value from that set.\n
The values of Property \"direction\" are dependent on the capabilities of the unit.\nThe Property
\"speed\" is an integer representing the current speed level for the unit.\nThe Property \"range\"
is an array of the min,max values for the speed level. If not present the \"range\" defaults to
[0,100].\nProperty \"automode\" is the status of the automode feature; Off means automode is not
enabled, On means automode is active and the speed is automatically controlled by the Device.",
        "parameters": [
          {"$ref": "#/parameters/interface"}
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example":
{
      "rt": ["oic.r.airflow"],
      "if": ["oic.if.a", "oic.if.baseline"],
      "supporteddirections": ["left", "right", "centre"],
      "direction": "left",
      "speed": 5,
      "range": [1, 7],
      "automode": "Off"
    },
            "schema": { "$ref": "#/definitions/AirFlow" }
          }
        }
      },
      "post": {
```

```

2157         "description": "When \"automode\" is set to true, \"direction\" and \"speed\" are not
2158 utilized by the device.",
2159         "parameters": [
2160             { "$ref": "#/parameters/interface" },
2161             {
2162                 "name": "body",
2163                 "in": "body",
2164                 "required": true,
2165                 "schema": { "$ref": "#/definitions/AirFlow" },
2166                 "x-example":
2167                     {
2168                         "direction": "right",
2169                         "speed": 3
2170                     }
2171             }
2172         ],
2173         "responses": {
2174             "200": {
2175                 "description": "",
2176                 "x-example":
2177                     {
2178                         "direction": "right",
2179                         "speed": 3
2180                     },
2181                 "schema": { "$ref": "#/definitions/AirFlow" }
2182             },
2183             "403": {
2184                 "description": "This response is generated by the OCF Server when the client sends:\n
2185 An UPDATE with an invalid Property value for direction.\n An UPDATE with an out of range property
2186 value for speed.\nThe server may respond with the current resource representation.\n",
2187                 "x-example":
2188                     {
2189                         "supporteddirections": ["left", "right", "centre"],
2190                         "direction": "right",
2191                         "speed": 3
2192                     },
2193                 "schema": { "$ref": "#/definitions/AirFlow" }
2194             }
2195         }
2196     }
2197 }
2198 },
2199 "parameters": {
2200     "interface": {
2201         "in": "query",
2202         "name": "if",
2203         "type": "string",
2204         "enum": ["oic.if.a", "oic.if.baseline"]
2205     }
2206 },
2207 "definitions": {
2208     "AirFlow": {
2209         "properties": {
2210             "rt": {
2211                 "description": "The Resource Type",
2212                 "items": {
2213                     "enum": ["oic.r.airflow"],
2214                     "maxLength": 64,
2215                     "type": "string"
2216                 },
2217                 "minItems": 1,
2218                 "uniqueItems": true,
2219                 "readOnly": true,
2220                 "type": "array"
2221             },
2222             "speed": {
2223                 "description": "The current speed level.",
2224                 "type": "integer"
2225             },
2226             "direction": {
2227                 "description": "The directionality of the air flow, a value indicated by
2228 \"supporteddirections\".",

```

```

2229         "type": "string"
2230     },
2231     "automode" : {
2232         "description": "The status of the automode feature, if on speed is set by the Device.",
2233         "enum": [
2234             "On",
2235             "Off"
2236         ],
2237         "type": "string"
2238     },
2239     "supporteddirections" : {
2240         "description": "The array of possible direction settings for this instance of the Resource
Type.",
2241         "items": {
2242             "minItems": 1,
2243             "type": "string",
2244             "uniqueItems": true
2245         },
2246         "readOnly": true,
2247         "type": "array"
2248     },
2249     "n": {
2250         "$ref":
2251         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
schema.json#/definitions/n"
2252     },
2253     "id": {
2254         "$ref":
2255         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
schema.json#/definitions/id"
2256     },
2257     "range": {
2258         "$ref":
2259         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
schema.json#/definitions/range_integer"
2260     },
2261     "step": {
2262         "$ref":
2263         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
schema.json#/definitions/step_integer"
2264     },
2265     "if": {
2266         "description": "The OCF Interface set supported by this Resource.",
2267         "items": {
2268             "enum": [
2269                 "oic.if.a",
2270                 "oic.if.baseline"
2271             ],
2272             "type": "string"
2273         },
2274         "minItems": 2,
2275         "uniqueItems": true,
2276         "readOnly": true,
2277         "type": "array"
2278     }
2279 },
2280 "type": "object",
2281 "required": ["speed"]
2282 }
2283 }
2284 }
2285 }
2286 }
2287 }
2288 }
2289 }
2290

```

6.2.5 Property definition

Table 7 defines the Properties that are part of the "oic.r.airflow" Resource Type.

Table 7 – The Property definitions of the Resource with type "rt" = "oic.r.airflow".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type

speed	integer	Yes	Read Write	The current speed level.
direction	string	No	Read Write	The directionality of the air flow, a value indicated by "supporteddirections".
automode	string	No	Read Write	The status of the automode feature, if on speed is set by the Device.
supporteddirections	array: see schema	No	Read Only	The array of possible direction settings for this instance of the Resource Type.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

6.2.6 CRUDN behaviour

Table 8 defines the CRUDN operations that are supported on the "oic.r.airflow" Resource Type.

Table 8 – The CRUDN operations of the Resource with type "rt" = "oic.r.airflow".

Create	Read	Update	Delete	Notify
	get	post		observe

6.3 Air Flow Control

6.3.1 Introduction

This Resource describes the attributes associated with control of air flow, for example as modelled by a Thermostat (fan), Room A/C or other device. The Resource is a Collection of:

- AirFlow Resource

- BinarySwitch Resource

6.3.2 Example URI

/AirFlowControlResURI

6.3.3 Resource type

The Resource Type is defined as: "oic.r.airflowcontrol".

6.3.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Air Flow Control",
    "version": "20190307",
    "license": {
      "name": "OCF Data Model License",
```

```

2317         "url":
2318         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
2319         CENSE.md",
2320         "x-copyright": "copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
2321     },
2322     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
2323 },
2324 "schemes": ["http"],
2325 "consumes": ["application/json"],
2326 "produces": ["application/json"],
2327 "paths": {
2328     "/AirFlowControlResURI?if=oic.if.ll" : {
2329         "get": {
2330             "description": "This Resource describes the attributes associated with control of air
2331             flow,\nfor example as modelled by a Thermostat (fan), Room A/C or other device.\nThe Resource is a
2332             Collection of:\n AirFlow Resource\n BinarySwitch Resource\n",
2333             "parameters": [
2334                 {"$ref": "#/parameters/interface-all"}
2335             ],
2336             "responses": {
2337                 "200": {
2338                     "description": "",
2339                     "x-example": [
2340                         {"href": "/BinarySwitchResURI", "rt":["oic.r.switch.binary"],
2341                         "if":["oic.if.a","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80:b1d6]:1122"}]},
2342                         {"href": "/AirFlowResURI", "rt":["oic.r.airflow"],
2343                         "if":["oic.if.a","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80:b1d6]:1122"}]}
2344                     ],
2345                     "schema": { "$ref": "#/definitions/AirFlowControl-ll" }
2346                 }
2347             }
2348         },
2349     },
2350     "/AirFlowControlResURI?if=oic.if.b": {
2351         "get": {
2352             "description": "This Resource describes the attributes associated with control of air
2353             flow,\nfor example as modelled by a Thermostat (fan), Room A/C or other device.\nThe Resource is a
2354             Collection of:\n AirFlow Resource\n BinarySwitch Resource\n",
2355             "parameters": [
2356                 {"$ref": "#/parameters/interface-all"}
2357             ],
2358             "responses": {
2359                 "200": {
2360                     "description": "",
2361                     "x-example": [
2362                         {
2363                             "href": "/BinarySwitchResURI",
2364                             "rep": {
2365                                 "value": true
2366                             }
2367                         },
2368                         {
2369                             "href": "/AirFlowResURI",
2370                             "rep": {
2371                                 "supporteddirections": ["left","right","centre"],
2372                                 "direction": "right",
2373                                 "speed": 3,
2374                                 "range": [1,7],
2375                                 "automode": "Off"
2376                             }
2377                         }
2378                     ],
2379                     "schema": { "$ref": "#/definitions/AirFlowControlBatch-Retrieve" }
2380                 }
2381             }
2382         },
2383     },
2384     "post": {
2385         "description": "Sets the current air flow control values using the batch OCF Interface\n",
2386         "parameters": [
2387             {"$ref": "#/parameters/interface-b"},
2388             {
2389                 "name": "body",

```



```

2389         "in": "body",
2390         "required": true,
2391         "schema": { "$ref": "#/definitions/AirFlowControlBatch-Update" },
2392         "x-example": [
2393             {
2394                 "href": "/AirFlowResURI",
2395                 "rep": {
2396                     "direction": "left",
2397                     "speed": 4
2398                 }
2399             }
2400         ]
2401     },
2402 ],
2403 "responses": {
2404     "200": {
2405         "description": "",
2406         "x-example": [
2407             {
2408                 "href": "/BinarySwitchResURI",
2409                 "rep": {
2410                     "value": true
2411                 }
2412             },
2413             {
2414                 "href": "/AirFlowResURI",
2415                 "rep": {
2416                     "supporteddirections": ["left", "right", "centre"],
2417                     "direction": "left",
2418                     "speed": 4,
2419                     "range": [1, 7],
2420                     "automode": "Off"
2421                 }
2422             }
2423         ],
2424         "schema": { "$ref": "#/definitions/AirFlowControlBatch-Retrieve" }
2425     }
2426 }
2427 },
2428 ],
2429 "/AirFlowControlResURI?if=oic.if.baseline" : {
2430     "get": {
2431         "description": "This Resource describes the attributes associated with control of air
2432 flow,\nfor example as modelled by a Thermostat (fan), Room A/C or other device.\nThe Resource is a
2433 Collection of:\n AirFlow Resource\n BinarySwitch Resource\n",
2434         "parameters": [
2435             { "$ref": "#/parameters/interface-all" }
2436         ],
2437         "responses": {
2438             "200": {
2439                 "description": "",
2440                 "x-example": {
2441                     "rt": ["oic.r.airflowcontrol"],
2442                     "rts": ["oic.r.airflow", "oic.r.switch.binary"],
2443                     "if": ["oic.if.ll", "oic.if.b", "oic.if.baseline"],
2444                     "links": [
2445                         { "href": "/BinarySwitchResURI", "rt": ["oic.r.switch.binary"],
2446 "if": ["oic.if.a", "oic.if.baseline"], "eps": [{ "ep": "coaps://[fe80::b1d6]:1122" } ] },
2447                         { "href": "/AirFlowResURI", "rt": ["oic.r.airflow"],
2448 "if": ["oic.if.a", "oic.if.baseline"], "eps": [{ "ep": "coaps://[fe80::b1d6]:1122" } ] }
2449                     ]
2450                 },
2451                 "schema": { "$ref": "#/definitions/AirFlowControl-baseline" }
2452             }
2453         }
2454     }
2455 },
2456 ],
2457 "parameters": {
2458     "interface-b" : {
2459         "in" : "query",
2460         "name" : "if",

```

```

2461         "type" : "string",
2462         "enum" : ["oic.if.b"]
2463     },
2464     "interface-all" : {
2465         "in" : "query",
2466         "name" : "if",
2467         "type" : "string",
2468         "enum" : ["oic.if.ll", "oic.if.b", "oic.if.baseline"]
2469     }
2470 },
2471 "definitions": {
2472     "AirFlowControl-ll" : {
2473         "type": "array",
2474         "minItems": 2,
2475         "uniqueItems": true,
2476         "readOnly": true,
2477         "items": {
2478             "$ref": "#/definitions/oic.oic-link"
2479         }
2480     },
2481     "oic.oic-link": {
2482         "type": "object",
2483         "properties": {
2484             "anchor": {
2485                 "$ref":
2486 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2487 schema.json#/definitions/anchor"
2488             },
2489             "di": {
2490                 "$ref":
2491 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2492 schema.json#/definitions/di"
2493             },
2494             "eps": {
2495                 "$ref":
2496 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2497 schema.json#/definitions/eps"
2498             },
2499             "href": {
2500                 "$ref":
2501 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2502 schema.json#/definitions/href"
2503             },
2504             "ins": {
2505                 "$ref":
2506 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2507 schema.json#/definitions/ins"
2508             },
2509             "p": {
2510                 "$ref":
2511 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2512 schema.json#/definitions/p"
2513             },
2514             "rel": {
2515                 "$ref":
2516 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2517 schema.json#/definitions/rel_array"
2518             },
2519             "title": {
2520                 "$ref":
2521 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2522 schema.json#/definitions/title"
2523             },
2524             "type": {
2525                 "$ref":
2526 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2527 schema.json#/definitions/type"
2528             },
2529             "if": {
2530                 "description": "The OCF Interfaces supported by the target Resource",
2531                 "items": {
2532                     "enum": [

```

```

2533         "oic.if.a",
2534         "oic.if.baseline"
2535     ],
2536     "type": "string",
2537     "maxLength": 64
2538 },
2539 "minItems": 2,
2540 "uniqueItems": true,
2541 "type": "array",
2542 "readOnly": true
2543 },
2544 "rt": {
2545     "description": "Resource Type of the target Resource",
2546     "items": {
2547         "maxLength": 64,
2548         "type": "string",
2549         "enum": ["oic.r.switch.binary", "oic.r.airflow"]
2550     },
2551     "minItems": 1,
2552     "type": "array",
2553     "uniqueItems": true,
2554     "readOnly": true
2555     },
2556 },
2557 "required": [
2558     "href",
2559     "rt",
2560     "if"
2561 ],
2562 },
2563 "AirFlowControl-baseline" : {
2564     "properties": {
2565         "n": {
2566             "$ref" :
2567             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2568             schema.json#/definitions/n"
2569         },
2570         "id": {
2571             "$ref" :
2572             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2573             schema.json#/definitions/id"
2574         },
2575         "rt": {
2576             "description": "Resource Type of this Resource",
2577             "items": {
2578                 "maxLength": 64,
2579                 "type": "string",
2580                 "enum": ["oic.r.airflowcontrol"]
2581             },
2582             "minItems": 1,
2583             "uniqueItems": true,
2584             "readOnly": true,
2585             "type": "array"
2586         },
2587         "rts": {
2588             "items": {
2589                 "type": "string",
2590                 "enum": ["oic.r.airflow", "oic.r.switch.binary"],
2591                 "maxLength": 64
2592             },
2593             "minItems": 1,
2594             "type": "array",
2595             "uniqueItems": true,
2596             "readOnly": true
2597         },
2598         "if": {
2599             "description": "The OCF Interfaces supported by this Resource",
2600             "items": {
2601                 "enum": [
2602                     "oic.if.ll",
2603                     "oic.if.b",
2604                     "oic.if.baseline"

```

```

2605         ],
2606         "type": "string",
2607         "maxLength": 64
2608     },
2609     "minItems": 1,
2610     "readOnly": true,
2611     "uniqueItems": true,
2612     "type": "array"
2613 },
2614 "links": {
2615     "description": "A set of simple or individual OCF Links.",
2616     "items": {
2617         "$ref": "#/definitions/oic.oic-link"
2618     },
2619     "type": "array",
2620     "minItems": 2,
2621     "uniqueItems": true,
2622     "readOnly": true
2623 },
2624 },
2625 "type": "object",
2626 "required": ["rt", "rts", "if", "links"]
2627 },
2628 "AirFlowControlBatch-Retrieve" : {
2629     "type": "array",
2630     "minItems": 2,
2631     "uniqueItems": true,
2632     "items": {
2633         "type": "object",
2634         "additionalProperties": true,
2635         "properties": {
2636             "href": {
2637                 "$ref":
2638 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2639 schema.json#/definitions/href"
2640             },
2641             "rep": {
2642                 "anyOf": [
2643                     { "$ref":
2644 "https://openconnectivityfoundation.github.io/IoTDataModels/AirFlowResURI.swagger.json#/definitions/
2645 AirFlow" },
2646                     { "$ref":
2647 "https://openconnectivityfoundation.github.io/IoTDataModels/BinarySwitchResURI.swagger.json#/definit
2648 ions/BinarySwitch" }
2649                 ]
2650             }
2651         },
2652         "required": [
2653             "href",
2654             "rep"
2655         ]
2656     },
2657 },
2658 "AirFlowControlBatch-Update" : {
2659     "type": "array",
2660     "minItems": 1,
2661     "uniqueItems": true,
2662     "items": {
2663         "type": "object",
2664         "additionalProperties": true,
2665         "properties": {
2666             "href": {
2667                 "$ref":
2668 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
2669 schema.json#/definitions/href"
2670             },
2671             "rep": {
2672                 "anyOf": [
2673                     { "$ref":
2674 "https://openconnectivityfoundation.github.io/IoTDataModels/AirFlowResURI.swagger.json#/definitions/
2675 AirFlow" },
2676                     { "$ref":

```

```

2677 "https://openconnectivityfoundation.github.io/IoTDataModels/BinarySwitchResURI.swagger.json#/definit
2678 ions/BinarySwitch"}
2679     ]
2680   }
2681 },
2682   "required": [
2683     "href",
2684     "rep"
2685   ]
2686 }
2687 }
2688 }
2689 }
2690

```

2691 6.3.5 Property definition

2692 Table 9 defines the Properties that are part of the "oic.r.airflowcontrol" Resource Type.

2693 **Table 9 – The Property definitions of the Resource with type "rt" = "oic.r.airflowcontrol".**

Property name	Value type	Mandatory	Access mode	Description
anchor	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
ins	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
rel	multiple types: see schema	No	Read Write	
title	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	
if	array: see schema	Yes	Read Only	The OCF Interfaces supported by the target Resource
rt	array: see schema	Yes	Read Only	Resource Type of the target Resource
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
rt	array: see schema	Yes	Read Only	Resource Type of this Resource
rts	array: see schema	Yes	Read Only	
if	array: see schema	Yes	Read Only	The OCF Interfaces supported by this Resource
links	array: see schema	Yes	Read Only	A set of simple or individual OCF Links.

href	multiple types: see schema	Yes	Read Write	
rep	multiple types: see schema	Yes	Read Write	
href	multiple types: see schema	Yes	Read Write	
rep	multiple types: see schema	Yes	Read Write	

6.3.6 CRUDN behaviour

Table 10 defines the CRUDN operations that are supported on the "oic.r.airflowcontrol" Resource Type.

Table 10 – The CRUDN operations of the Resource with type "rt" = "oic.r.airflowcontrol".

Create	Read	Update	Delete	Notify
	get			observe

6.4 Battery

6.4.1 Introduction

This Resource describes the attributes associated with a battery. The Property "charge" is an integer showing the current battery charge level as a percentage in the range 0 (fully discharged) to 100 (fully charged). The Property "capacity" represents the total capacity of battery in Amp Hours (Ah). The "charging" status and "discharging" status are represented by boolean values set to "true" indicating enabled and "false" indicating disabled. Low battery status is represented by a boolean value set to "true" indicating low charge level and "false" indicating otherwise, based upon the battery threshold represented as a percentage.

6.4.2 Example URI

/BatteryResURI

6.4.3 Resource type

The Resource Type is defined as: "oic.r.energy.battery".

6.4.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Battery",
    "version": "20190618",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/BatteryResURI" : {
      "get": {
        "description": "This Resource describes the attributes associated with a battery. The
Property \"charge\" is an integer showing the current battery charge level as a percentage in the
range 0 (fully discharged) to 100 (fully charged). The Property \"capacity\" represents the total
capacity of battery in Amp Hours (Ah). The \"charging\" status and \"discharging\" status are
represented by boolean values set to \"true\" indicating enabled and \"false\" indicating disabled.
```

```

2737 Low battery status is represented by a boolean value set to \"true\" indicating low charge level and
2738 \"false\" indicating otherwise, based upon the battery threshold represented as a percentage.\",
2739     \"parameters\": [
2740         { \"$ref\": \"#/parameters/interface\"}
2741     ],
2742     \"responses\": {
2743         \"200\": {
2744             \"description\" : \"\",
2745             \"x-example\":
2746                 {
2747                     \"rt\": [\"oic.r.energy.battery\"],
2748                     \"if\": [\"oic.if.rw\", \"oic.if.baseline\"],
2749                     \"charge\": 50,
2750                     \"capacity\": 3000,
2751                     \"charging\": true,
2752                     \"discharging\": false,
2753                     \"lowbattery\": false,
2754                     \"batterythreshold\": 20,
2755                     \"defect\": false,
2756                     \"timestamp\": \"2015-11-05T14:30:00.20Z\"
2757                 },
2758             \"schema\": { \"$ref\": \"#/definitions/Battery\" }
2759         }
2760     },
2761 },
2762 \"post\": {
2763     \"description\": \"Sets current battery values\\n\",
2764     \"parameters\": [
2765         { \"$ref\": \"#/parameters/interface\"},
2766         {
2767             \"name\": \"body\",
2768             \"in\": \"body\",
2769             \"required\": true,
2770             \"schema\": { \"$ref\": \"#/definitions/BatteryUpdate\" },
2771             \"x-example\":
2772                 {
2773                     \"batterythreshold\": 20
2774                 }
2775         }
2776     ],
2777     \"responses\": {
2778         \"200\": {
2779             \"description\" : \"\",
2780             \"x-example\":
2781                 {
2782                     \"batterythreshold\": 20
2783                 },
2784             \"schema\": { \"$ref\": \"#/definitions/BatteryUpdate\" }
2785         }
2786     }
2787 },
2788 },
2789 },
2790 \"parameters\": {
2791     \"interface\" : {
2792         \"in\": \"query\",
2793         \"name\": \"if\",
2794         \"type\": \"string\",
2795         \"enum\": [\"oic.if.rw\", \"oic.if.baseline\"]
2796     }
2797 },
2798 \"definitions\": {
2799     \"Battery\" : {
2800         \"properties\": {
2801             \"rt\": {
2802                 \"description\": \"The Resource Type.\",
2803                 \"items\": {
2804                     \"enum\": [\"oic.r.energy.battery\"],
2805                     \"maxLength\": 64,
2806                     \"type\": \"string\"
2807                 },
2808                 \"minItems\": 1,

```

```

2809         "uniqueItems": true,
2810         "readOnly": true,
2811         "type": "array"
2812     },
2813     "discharging": {
2814         "description": "The status of discharging.",
2815         "readOnly": true,
2816         "type": "boolean"
2817     },
2818     "lowbattery": {
2819         "description": "The status of the low battery warning based upon the defined threshold.",
2820         "readOnly": true,
2821         "type": "boolean"
2822     },
2823     "capacity": {
2824         "description": "The total capacity in Amp-hours (Ah).",
2825         "readOnly": true,
2826         "type": "number"
2827     },
2828     "batterythreshold": {
2829         "description": "The threshold percentage for the low battery warning.",
2830         "maximum": 100,
2831         "minimum": 0,
2832         "type": "integer"
2833     },
2834     "charge": {
2835         "description": "The current charge percentage.",
2836         "maximum": 100,
2837         "minimum": 0,
2838         "readOnly": true,
2839         "type": "integer"
2840     },
2841     "charging": {
2842         "description": "The status of charging.",
2843         "readOnly": true,
2844         "type": "boolean"
2845     },
2846     "defect": {
2847         "description": "Battery defect detected. True = defect, False = no defect",
2848         "readOnly": true,
2849         "type": "boolean"
2850     },
2851     "timestamp": {
2852         "description": "An RFC3339 formatted time indicating when the data was observed (e.g.:
2853 2016-02-15T09:19Z, 1996-12-19T16:39:57-08:00). Note that 1/100 time resolution should be used.",
2854         "format": "date-time",
2855         "readOnly": true,
2856         "type": "string"
2857     },
2858     "n": {
2859         "$ref":
2860 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2861 schema.json#/definitions/n"
2862     },
2863     "id": {
2864         "$ref":
2865 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
2866 schema.json#/definitions/id"
2867     },
2868     "if": {
2869         "description": "The OCF Interface set supported by this Resource.",
2870         "items": {
2871             "enum": [
2872                 "oic.if.rw",
2873                 "oic.if.baseline"
2874             ],
2875             "type": "string"
2876         },
2877         "minItems": 2,
2878         "uniqueItems": true,
2879         "readOnly": true,
2880         "type": "array"

```



```

2881     }
2882   },
2883   "type" : "object",
2884   "required": ["charge"]
2885 },
2886 "BatteryUpdate": {
2887   "properties": {
2888     "batterythreshold": {
2889       "description": "The threshold percentage for the low battery warning.",
2890       "maximum": 100,
2891       "minimum": 0,
2892       "type": "integer"
2893     }
2894   },
2895   "type" : "object",
2896   "required": ["batterythreshold"]
2897 }
2898 }
2899 }
2900

```

6.4.5 Property definition

Table 11 defines the Properties that are part of the "oic.r.energy.battery" Resource Type.

Table 11 – The Property definitions of the Resource with type "rt" = "oic.r.energy.battery".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
discharging	boolean	No	Read Only	The status of discharging.
lowbattery	boolean	No	Read Only	The status of the low battery warning based upon the defined threshold.
capacity	number	No	Read Only	The total capacity in Amp-hours (Ah).
batterythreshold	integer	No	Read Write	The threshold percentage for the low battery warning.
charge	integer	Yes	Read Only	The current charge percentage.
charging	boolean	No	Read Only	The status of charging.
defect	boolean	No	Read Only	Battery defect detected. True = defect, False = no defect
timestamp	string	No	Read Only	An RFC3339 formatted time indicating when the data was observed (e.g.: 2016-02-15T09:19Z, 1996-12-19T16:39:57-08:00). Note that 1/100 time resolution should be used.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	

if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
batterythreshold	integer	Yes	Read Write	The threshold percentage for the low battery warning.

6.4.6 CRUDN behaviour

Table 12 defines the CRUDN operations that are supported on the "oic.r.energy.battery" Resource Type.

Table 12 – The CRUDN operations of the Resource with type "rt" = "oic.r.energy.battery".

Create	Read	Update	Delete	Notify
	get	post		observe

6.5 Binary Switch

6.5.1 Introduction

This Resource describes a binary switch (on/off).

The Property "value" is a boolean.

A value of 'true' means that the switch is on.

A value of 'false' means that the switch is off.

6.5.2 Example URI

/BinarySwitchResURI

6.5.3 Resource type

The Resource Type is defined as: "oic.r.switch.binary".

6.5.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Binary Switch",
    "version": "20190222",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/BinarySwitchResURI" : {
      "get": {
        "description": "This Resource describes a binary switch (on/off).\n\nThe Property \"value\" is
a boolean.\n\nA value of 'true' means that the switch is on.\n\nA value of 'false' means that the switch
is off.\n",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example":

```

```

2951         "rt": ["oic.r.switch.binary"],
2952         "if": ["oic.if.a", "oic.if.baseline"],
2953         "value": false
2954     },
2955     "schema": { "$ref": "#/definitions/BinarySwitch" }
2956 }
2957 },
2958 },
2959 "post": {
2960     "description": "",
2961     "parameters": [
2962         { "$ref": "#/parameters/interface" },
2963         {
2964             "name": "body",
2965             "in": "body",
2966             "required": true,
2967             "schema": { "$ref": "#/definitions/BinarySwitch" },
2968             "x-example":
2969                 {
2970                     "value": true
2971                 }
2972         }
2973     ],
2974     "responses": {
2975         "200": {
2976             "description": "",
2977             "x-example":
2978                 {
2979                     "value": true
2980                 },
2981             "schema": { "$ref": "#/definitions/BinarySwitch" }
2982         }
2983     }
2984 }
2985 },
2986 },
2987 "parameters": {
2988     "interface": {
2989         "in": "query",
2990         "name": "if",
2991         "type": "string",
2992         "enum": ["oic.if.a", "oic.if.baseline"]
2993     }
2994 },
2995 "definitions": {
2996     "BinarySwitch": {
2997         "properties": {
2998             "rt": {
2999                 "description": "The Resource Type.",
3000                 "items": {
3001                     "enum": ["oic.r.switch.binary"],
3002                     "maxLength": 64,
3003                     "type": "string"
3004                 },
3005                 "minItems": 1,
3006                 "uniqueItems": true,
3007                 "readOnly": true,
3008                 "type": "array"
3009             },
3010             "value": {
3011                 "description": "The status of the switch.",
3012                 "type": "boolean"
3013             },
3014             "n": {
3015                 "$ref":
3016                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3017                 schema.json#/definitions/n"
3018             },
3019             "id": {
3020                 "$ref":
3021                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3022                 schema.json#/definitions/id"

```

```

3023     },
3024     "if": {
3025         "description": "The OCF Interface set supported by this Resource.",
3026         "items": {
3027             "enum": [
3028                 "oic.if.a",
3029                 "oic.if.baseline"
3030             ],
3031             "type": "string"
3032         },
3033         "minItems": 2,
3034         "uniqueItems": true,
3035         "readOnly": true,
3036         "type": "array"
3037     }
3038 },
3039 "type": "object",
3040 "required": ["value"]
3041 }
3042 }
3043 }
3044

```

3045 6.5.5 Property definition

3046 Table 13 defines the Properties that are part of the "oic.r.switch.binary" Resource Type.

3047 **Table 13 – The Property definitions of the Resource with type "rt" = "oic.r.switch.binary".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
value	boolean	Yes	Read Write	The status of the switch.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

3048 6.5.6 CRUDN behaviour

3049 Table 14 defines the CRUDN operations that are supported on the "oic.r.switch.binary" Resource
3050 Type.

3051 **Table 14 – The CRUDN operations of the Resource with type "rt" = "oic.r.switch.binary".**

Create	Read	Update	Delete	Notify
	get	post		observe

3052 6.6 Brightness

3053 6.6.1 Introduction

3054 This Resource describes the brightness of a light or lamp.

3055 The Property "brightness" is an integer showing the current brightness level as a quantized
3056 representation in the range 0-100.

3057 A brightness of 0 is the minimum for the resource.

3058 A brightness of 100 is the maximum for the resource.

3059 6.6.2 Example URI

3060 /BrightnessResURI

6.6.3 Resource type

The Resource Type is defined as: "oic.r.light.brightness".

6.6.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Brightness",
    "version": "20190222",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/BrightnessResURI" : {
      "get": {
        "description": "This Resource describes the brightness of a light or lamp.\n\nThe Property  
\"brightness\" is an integer showing the current brightness level as a quantized representation in  
the range 0-100.\n\nA brightness of 0 is the minimum for the resource.\n\nA brightness of 100 is the  
maximum for the resource.",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example":
            {
              "rt": ["oic.r.light.brightness"],
              "if": ["oic.if.a", "oic.if.baseline"],
              "brightness": 50
            },
            "schema": { "$ref": "#/definitions/Brightness" }
          }
        }
      },
      "post": {
        "description": "Sets the desired brightness level.\n",
        "parameters": [
          { "$ref": "#/parameters/interface" },
          {
            "name": "body",
            "in": "body",
            "required": true,
            "schema": { "$ref": "#/definitions/Brightness" },
            "x-example":
            {
              "brightness": 10
            }
          }
        ],
        "responses": {
          "200": {
            "description": "Indicates that the brightness was changed.\n\nThe new brightness level  
is provided in the response.\n",
            "x-example":
            {
              "brightness": 10
            },
            "schema": { "$ref": "#/definitions/Brightness" }
          }
        }
      }
    }
  }
}
```

```

3130     }
3131   }
3132 },
3133 "parameters": {
3134   "interface" : {
3135     "in": "query",
3136     "name": "if",
3137     "type": "string",
3138     "enum": ["oic.if.a", "oic.if.baseline"]
3139   }
3140 },
3141 "definitions": {
3142   "Brightness" : {
3143     "properties": {
3144       "rt": {
3145         "description": "The Resource Type.",
3146         "items": {
3147           "enum": ["oic.r.light.brightness"],
3148           "maxLength": 64,
3149           "type": "string"
3150         },
3151         "minItems": 1,
3152         "uniqueItems": true,
3153         "readOnly": true,
3154         "type": "array"
3155       },
3156       "brightness": {
3157         "description": "The Quantized representation in the range 0-100 of the current sensed or
3158 set value for Brightness.",
3159         "maximum": 100,
3160         "minimum": 0,
3161         "type": "integer"
3162       },
3163       "n": {
3164         "$ref":
3165 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3166 schema.json#/definitions/n"
3167       },
3168       "id": {
3169         "$ref":
3170 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3171 schema.json#/definitions/id"
3172       },
3173       "if": {
3174         "description": "The OCF Interface set supported by this Resource.",
3175         "items": {
3176           "enum": [
3177             "oic.if.a",
3178             "oic.if.baseline"
3179           ],
3180           "type": "string"
3181         },
3182         "minItems": 2,
3183         "uniqueItems": true,
3184         "readOnly": true,
3185         "type": "array"
3186       }
3187     },
3188     "type": "object",
3189     "required": ["brightness"]
3190   }
3191 }
3192 }
3193

```

6.6.5 Property definition

Table 15 defines the Properties that are part of the "oic.r.light.brightness" Resource Type.

3196
3197

Table 15 – The Property definitions of the Resource with type "rt" = "oic.r.light.brightness".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
brightness	integer	Yes	Read Write	The Quantized representation in the range 0-100 of the current sensed or set value for Brightness.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

3198 6.6.6 CRUDN behaviour

3199 Table 16 defines the CRUDN operations that are supported on the "oic.r.light.brightness" Resource
3200 Type.

3201 **Table 16 – The CRUDN operations of the Resource with type "rt" = "oic.r.light.brightness".**

Create	Read	Update	Delete	Notify
	get	post		observe

3202 6.7 Colour Chroma

3203 6.7.1 Introduction

3204 This Resource describes the colour using chroma conventions.

3205 Properties are "hue", "saturation", "csc", and "ct".

3206 The Property "hue" is the hue angle, it is an integer value as defined by the CIECAM02 model
3207 definition (see reference [CIE CIE159:2004]).

3208 The Property "saturation" is an integer value as defined by the CIECAM02 model definition (see
3209 reference [CIE CIE159:2004]).

3210 The Property "maximumsaturation" is the upper bound on the saturation supported by the Device.
3211 If not present the maximum value for "saturation" is 32767.

3212 The Property "csc" is the colour space coordinates in CIE colour space.

3213 The first item in the array is the X coordinate.

3214 The second item in the array is the Y coordinate.

3215 The Property "nct" is the Mired colour temperature.

3216 The Resource provides the colour using chroma conventions.

3217 6.7.2 Example URI

3218 /example/ColourChromaResURI

3219 6.7.3 Resource type

3220 The Resource Type is defined as: "oic.r.colour.chroma".

3221 6.7.4 OpenAPI 2.0 definition

```
3222 {
3223   "swagger": "2.0",
3224   "info": {
3225     "title": "Colour Chroma",
3226     "version": "20190215",
```

```

3227     "license": {
3228         "name": "OCF Data Model License",
3229         "url":
3230 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
3231 CENSE.md",
3232         "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
3233 reserved.",
3234     },
3235     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
3236 },
3237     "schemas": ["http"],
3238     "consumes": ["application/json"],
3239     "produces": ["application/json"],
3240     "paths": {
3241         "/example/ColourChromaResURI" : {
3242             "get": {
3243                 "description": "This Resource describes the colour using chroma conventions.\nProperties are
3244 \n\"hue\", \"saturation\", \"csc\", and \"ct\".\n\nThe Property \"hue\" is the hue angle, it is an
3245 integer value as defined by the CIECAM02 model definition (see reference [CIE CIE159:2004]).\n\nThe
3246 Property \"saturation\" is an integer value as defined by the CIECAM02 model definition (see
3247 reference [CIE CIE159:2004]).\n\nThe Property \"maximumsaturation\" is the upper bound on the
3248 saturation supported by the Device.\n\nIf not present the maximum value for \"saturation\" is
3249 32767.\n\nThe Property \"csc\" is the colour space coordinates in CIE colour space.\n\nThe first item
3250 in the array is the X coordinate.\n\nThe second item in the array is the Y coordinate.\n\nThe Property
3251 \"nct\" is the Mired colour temperature.\n\nThe Resource provides the colour using chroma
3252 conventions.",
3253                 "parameters": [
3254                     { "$ref": "#/parameters/interface" }
3255                 ],
3256                 "responses": {
3257                     "200": {
3258                         "description": "",
3259                         "x-example":
3260 {
3261                 "rt": ["oic.r.colour.chroma"],
3262                 "if": [ "oic.if.a", "oic.if.baseline"],
3263                 "hue": 256.0,
3264                 "saturation": 212,
3265                 "maximumsaturation": 1000,
3266                 "csc": [0.41, 0.51],
3267                 "ct": 457
3268             },
3269                     "schema": { "$ref": "#/definitions/ColourChroma" }
3270                 }
3271             }
3272         },
3273         "post": {
3274             "description": "Sets current colour chroma values\n",
3275             "parameters": [
3276                 { "$ref": "#/parameters/interface" },
3277                 {
3278                     "name": "body",
3279                     "in": "body",
3280                     "required": true,
3281                     "schema": { "$ref": "#/definitions/ColourChroma" },
3282                     "x-example":
3283 {
3284                 "hue": 300.0,
3285                 "saturation": 212,
3286                 "csc": [0.41, 0.51],
3287                 "ct": 457
3288             }
3289                 }
3290             ],
3291             "responses": {
3292                 "200": {
3293                     "description": "",
3294                     "x-example":
3295 {
3296                 "hue": 300.0,
3297                 "saturation": 212,
3298                 "csc": [0.41, 0.51],

```



```

3299         "ct": 467
3300     },
3301     "schema": { "$ref": "#/definitions/ColourChroma" }
3302 }
3303 }
3304 }
3305 }
3306 },
3307 "parameters": {
3308     "interface": {
3309         "in": "query",
3310         "name": "if",
3311         "type": "string",
3312         "enum": ["oic.if.a", "oic.if.baseline"]
3313     }
3314 },
3315 "definitions": {
3316     "ColourChroma": {
3317         "properties": {
3318             "rt": {
3319                 "description": "The Resource Type.",
3320                 "items": {
3321                     "enum": ["oic.r.colour.chroma"],
3322                     "maxLength": 64,
3323                     "type": "string"
3324                 },
3325                 "minItems": 1,
3326                 "uniqueItems": true,
3327                 "readOnly": true,
3328                 "type": "array"
3329             },
3330             "ct": {
3331                 "description": "The Mired colour temperature.",
3332                 "minimum": 0,
3333                 "type": "integer"
3334             },
3335             "hue": {
3336                 "description": "The hue angle as defined by the CIECAM02 model definition.",
3337                 "maximum": 360.0,
3338                 "minimum": 0.0,
3339                 "type": "number"
3340             },
3341             "saturation": {
3342                 "description": "The saturation as defined by the CIECAM02 model definition.",
3343                 "maximum": 32767,
3344                 "minimum": 0,
3345                 "type": "integer"
3346             },
3347             "maximumsaturation": {
3348                 "description": "The maximum supported value of \"saturation\" for this Device.",
3349                 "maximum": 32767,
3350                 "minimum": 0,
3351                 "readOnly": true,
3352                 "type": "integer"
3353             },
3354             "csc": {
3355                 "description": "The X and Y coordinates of the colour in CIE colour space",
3356                 "items": {
3357                     "maximum": 1,
3358                     "minimum": 0,
3359                     "type": "number"
3360                 },
3361                 "maxItems": 2,
3362                 "minItems": 2,
3363                 "type": "array"
3364             },
3365             "n": {
3366                 "$ref":
3367 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3368 schema.json#/definitions/n"
3369             },
3370             "id": {

```

```

3371         "$ref":
3372         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3373         schema.json#/definitions/id"
3374     },
3375     "if" : {
3376         "description": "The OCF Interface set supported by this Resource.",
3377         "items": {
3378             "enum": [
3379                 "oic.if.a",
3380                 "oic.if.baseline"
3381             ],
3382             "maxLength": 64,
3383             "type": "string"
3384         },
3385         "minItems": 2,
3386         "uniqueItems": true,
3387         "readOnly": true,
3388         "type": "array"
3389     },
3390 },
3391 "type" : "object",
3392 "required": ["hue", "saturation", "csc"]
3393 }
3394 }
3395 }
3396

```

3397 6.7.5 Property definition

3398 Table 17 defines the Properties that are part of the "oic.r.colour.chroma" Resource Type.

3399 **Table 17 – The Property definitions of the Resource with type "rt" = "oic.r.colour.chroma".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
ct	integer	No	Read Write	The Mired colour temperature.
hue	number	Yes	Read Write	The hue angle as defined by the CIECAM02 model definition.
saturation	integer	Yes	Read Write	The saturation as defined by the CIECAM02 model definition.
maximumsaturation	integer	No	Read Only	The maximum supported value of "saturation" for this Device.
csc	array: see schema	Yes	Read Write	The X and Y coordinates of the colour in CIE colour space
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

3400 6.7.6 CRUDN behaviour

3401 Table 18 defines the CRUDN operations that are supported on the "oic.r.colour.chroma" Resource
3402 Type.

3403 **Table 18 – The CRUDN operations of the Resource with type "rt" = "oic.r.colour.chroma".**

Create	Read	Update	Delete	Notify
	get	post		observe

3404 **6.8 Colour RGB**

3405 **6.8.1 Introduction**

3406 This Resource specifies the actual colour in the RGB space represented as an array of integers.
 3407 Each colour value is described with a Red, Green, Blue component.
 3408 These colour values are encoded as an array of integer values ([R,G,B]).
 3409 The minimum and maximum colour value per component may be described by the Property
 3410 "range".
 3411 When "range" is omitted, then the "range" is [0,255].

3412 **6.8.2 Example URI**

3413 /ColourRGBResURI

3414 **6.8.3 Resource type**

3415 The Resource Type is defined as: "oic.r.colour.rgb".

3416 **6.8.4 OpenAPI 2.0 definition**

```

3417 {
3418   "swagger": "2.0",
3419   "info": {
3420     "title": "Colour RGB",
3421     "version": "20190215",
3422     "license": {
3423       "name": "OCF Data Model License",
3424       "url":
3425         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
3426         CENSE.md",
3427       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
3428       reserved."
3429     },
3430     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
3431   },
3432   "schemes": ["http"],
3433   "consumes": ["application/json"],
3434   "produces": ["application/json"],
3435   "paths": {
3436     "/ColourRGBResURI" : {
3437       "get": {
3438         "description": "This Resource specifies the actual colour in the RGB space represented as an
3439         array of integers.\nEach colour value is described with a Red, Green, Blue component.\nThese colour
3440         values are encoded as an array of integer values ([R,G,B]).\nThe minimum and maximum colour value
3441         per component may be described by the Property \"range\".\nWhen \"range\" is omitted, then the
3442         \"range\" is [0,255].",
3443         "parameters": [
3444           { "$ref": "#/parameters/interface" }
3445         ],
3446         "responses": {
3447           "200": {
3448             "description": "",
3449             "x-example":
3450               {
3451                 "rt": ["oic.r.colour.rgb"],
3452                 "if": ["oic.if.a", "oic.if.baseline"],
3453                 "rgbValue": [255, 255, 255],
3454                 "range": [0, 255]
3455               },
3456             "schema": { "$ref": "#/definitions/ColourRGB" }
3457           }
3458         }
3459       }
3460     }
  
```

```

3460     "post": {
3461       "description": "Sets the current colourRGB value\n",
3462       "parameters": [
3463         { "$ref": "#/parameters/interface" },
3464         {
3465           "name": "body",
3466           "in": "body",
3467           "required": true,
3468           "schema": { "$ref": "#/definitions/ColourRGB" },
3469           "x-example":
3470             {
3471               "rgbValue": [255, 0, 0]
3472             }
3473         },
3474       ],
3475       "responses": {
3476         "200": {
3477           "description": "",
3478           "x-example":
3479             {
3480               "rgbValue": [255, 0, 0]
3481             },
3482           "schema": { "$ref": "#/definitions/ColourRGB" }
3483         }
3484       }
3485     },
3486   },
3487 },
3488 "parameters": {
3489   "interface": {
3490     "in": "query",
3491     "name": "if",
3492     "type": "string",
3493     "enum": ["oic.if.a", "oic.if.baseline"]
3494   }
3495 },
3496 "definitions": {
3497   "ColourRGB": {
3498     "properties": {
3499       "rt": {
3500         "description": "The Resource Type.",
3501         "items": {
3502           "enum": ["oic.r.colour.rgb"],
3503           "maxLength": 64,
3504           "type": "string"
3505         },
3506         "minItems": 1,
3507         "uniqueItems": true,
3508         "readOnly": true,
3509         "type": "array"
3510       },
3511       "rgbValue": {
3512         "description": "The RGB value; the first item is the R, second the G, third the B.",
3513         "items": {
3514           "type": "integer"
3515         },
3516         "maxItems": 3,
3517         "minItems": 3,
3518         "type": "array"
3519       },
3520       "n": {
3521         "$ref":
3522           "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3523           schema.json#/definitions/n"
3524       },
3525       "id": {
3526         "$ref":
3527           "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3528           schema.json#/definitions/id"
3529       },
3530       "range": {
3531         "$ref":

```

```

3532 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
3533 schema.json#/definitions/range_integer"
3534 },
3535 "step": {
3536   "$ref":
3537 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
3538 schema.json#/definitions/step_integer"
3539 },
3540 "if": {
3541   "description": "The OCF Interface set supported by this Resource.",
3542   "items": {
3543     "enum": [
3544       "oic.if.a",
3545       "oic.if.baseline"
3546     ],
3547     "type": "string"
3548   },
3549   "minItems": 2,
3550   "uniqueItems": true,
3551   "readOnly": true,
3552   "type": "array"
3553 },
3554 },
3555 "type": "object",
3556 "required": ["rgbValue"]
3557 }
3558 }
3559 }
3560

```

3561 6.8.5 Property definition

3562 Table 19 defines the Properties that are part of the "oic.r.colour.rgb" Resource Type.

3563 **Table 19 – The Property definitions of the Resource with type "rt" = "oic.r.colour.rgb".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
rgbValue	array: see schema	Yes	Read Write	The RGB value; the first item is the R, second the G, third the B.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

3564 6.8.6 CRUDN behaviour

3565 Table 20 defines the CRUDN operations that are supported on the "oic.r.colour.rgb" Resource Type.

3566 **Table 20 – The CRUDN operations of the Resource with type "rt" = "oic.r.colour.rgb".**

Create	Read	Update	Delete	Notify
	get	post		observe

6.9 Dimming

6.9.1 Introduction

This Resource describes a dimming function.

The Property "dimmingSetting" is an integer showing the current dimming level.

If Property "step" is present then it represents the increment between dimmer values.

When the Property "range" is omitted, then the range is [0,100].

A value of 0 means total dimming; a value of 100 means no dimming.

6.9.2 Example URI

/DimmingResURI

6.9.3 Resource type

The Resource Type is defined as: "oic.r.light.dimming".

6.9.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Dimming",
    "version": "20190215",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/DimmingResURI" : {
      "get": {
        "description": "This Resource describes a dimming function.\n\nThe Property \"dimmingSetting\"
is an integer showing the current dimming level.\n\nIf Property \"step\" is present then it represents
the increment between dimmer values.\n\nWhen the Property \"range\" is omitted, then the range is
[0,100].\n\nA value of 0 means total dimming; a value of 100 means no dimming.",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example":
{
  "rt": ["oic.r.light.dimming"],
  "if": ["oic.if.a", "oic.if.baseline"],
  "dimmingSetting": 30,
  "step": 5,
  "range": [0, 100]
}
            "schema": { "$ref": "#/definitions/Dimming" }
          }
        }
      },
      "post": {
        "description": "Sets the desired dimming level.\n",
        "parameters": [
          { "$ref": "#/parameters/interface" },
          {
            "name": "body",
            "in": "body",
            "required": true,
```

```

3630         "schema": { "$ref": "#/definitions/Dimming" },
3631         "x-example":
3632             {
3633                 "dimmingSetting": 40
3634             }
3635     },
3636     "responses": {
3637         "200": {
3638             "description": "Indicates that the dimming was changed.\n\nThe new dimming level is
3639 provided in the response.\n",
3640             "x-example":
3641                 {
3642                     "dimmingSetting": 40
3643                 },
3644             "schema": { "$ref": "#/definitions/Dimming" }
3645         },
3646         "403": {
3647             "description": "This response is generated by the OCF Server when the client sends:\n\n
3648 An update with an out of range property value for dimmingSetting.\n\nThe server responds with the
3649 current resource representation.\n",
3650             "x-example":
3651                 {
3652                     "dimmingSetting": 40
3653                 },
3654             "schema": { "$ref": "#/definitions/Dimming" }
3655         }
3656     }
3657 },
3658 },
3659 },
3660 },
3661 "parameters": {
3662     "interface": {
3663         "in": "query",
3664         "name": "if",
3665         "type": "string",
3666         "enum": ["oic.if.a", "oic.if.baseline"]
3667     }
3668 },
3669 "definitions": {
3670     "Dimming": {
3671         "properties": {
3672             "rt": {
3673                 "description": "The Resource Type.",
3674                 "items": {
3675                     "enum": ["oic.r.light.dimming"],
3676                     "maxLength": 64,
3677                     "type": "string"
3678                 },
3679                 "minItems": 1,
3680                 "uniqueItems": true,
3681                 "readOnly": true,
3682                 "type": "array"
3683             },
3684             "dimmingSetting": {
3685                 "description": "The current dimming value.",
3686                 "type": "integer"
3687             },
3688             "n": {
3689                 "$ref":
3690 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3691 schema.json#/definitions/n"
3692             },
3693             "id": {
3694                 "$ref":
3695 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3696 schema.json#/definitions/id"
3697             },
3698             "range": {
3699                 "$ref":
3700 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
3701 schema.json#/definitions/range_integer"

```

```

3702     },
3703     "step": {
3704         "$ref":
3705         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
3706         schema.json#/definitions/step_integer"
3707     },
3708     "if": {
3709         "description": "The OCF Interface set supported by this Resource.",
3710         "items": {
3711             "enum": [
3712                 "oic.if.a",
3713                 "oic.if.baseline"
3714             ],
3715             "type": "string"
3716         },
3717         "minItems": 2,
3718         "uniqueItems": true,
3719         "readOnly": true,
3720         "type": "array"
3721     }
3722 },
3723 "type": "object",
3724 "required": ["dimmingSetting"]
3725 }
3726 }
3727 }
3728

```

3729 6.9.5 Property definition

3730 Table 21 defines the Properties that are part of the "oic.r.light.dimming" Resource Type.

3731 **Table 21 – The Property definitions of the Resource with type "rt" = "oic.r.light.dimming".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
dimmingSetting	integer	Yes	Read Write	The current dimming value.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

3732 6.9.6 CRUDN behaviour

3733 Table 22 defines the CRUDN operations that are supported on the "oic.r.light.dimming" Resource
3734 Type.

3735 **Table 22 – The CRUDN operations of the Resource with type "rt" = "oic.r.light.dimming".**

Create	Read	Update	Delete	Notify
	get	post		observe

6.10 Door

6.10.1 Introduction

This Resource describes the open state of the door.

A door is modelled by means of openState (Open/Closed), openDuration (ISO 8601 Time), and openAlarm (boolean).

For Property "openState", the value 'Open' indicates the door is open.

The value 'Closed' indicates the door is closed.

The type of Property "openDuration" is an RFC Time encoded string.

The Property "openAlarm" value 'true' indicates that the open alarm is active.

The openAlarm value 'false' indicates that open alarm is not active.

retrieves the state of the Door.

6.10.2 Example URI

/DoorResURI

6.10.3 Resource type

The Resource Type is defined as: "oic.r.door".

6.10.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Door",
    "version": "20190215",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/DoorResURI" : {
      "get": {
        "description": "This Resource describes the open state of the door.\nA door is modelled by
means of openState (Open/Closed), openDuration (ISO 8601 Time), and openAlarm (boolean).\nFor
Property \"openState\", the value 'Open' indicates the door is open.\nThe value 'Closed' indicates
the door is closed.\nThe type of Property \"openDuration\" is an RFC Time encoded string.\nThe
Property \"openAlarm\" value 'true' indicates that the open alarm is active.\nThe openAlarm value
'false' indicates that open alarm is not active.\nretrieves the state of the Door.",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.door"],
              "if": ["oic.if.a", "oic.if.baseline"],
              "openState": "Open",
              "openDuration": "P0Y0M0DT2H25M5S",
              "openAlarm": true
            },
            "schema": { "$ref": "#/definitions/Door" }
          }
        }
      },
      "post": {
        "description": "Sets the current Door properties.\nThe only property that can be set as part
```

```

3798 of an update operation is\n the openAlarm.\nThis can be made active (true) or inactive (false)\n",
3799     "parameters": [
3800         { "$ref": "#/parameters/interface" },
3801         {
3802             "name": "body",
3803             "in": "body",
3804             "required": true,
3805             "schema": { "$ref": "#/definitions/DoorUpdate" },
3806             "x-example": {
3807                 "openAlarm": false
3808             }
3809         }
3810     ],
3811     "responses": {
3812         "200": {
3813             "description": "",
3814             "x-example": {
3815                 "openAlarm": false
3816             },
3817             "schema": { "$ref": "#/definitions/DoorUpdate" }
3818         }
3819     }
3820 },
3821 },
3822 },
3823 "parameters": {
3824     "interface": {
3825         "in": "query",
3826         "name": "if",
3827         "type": "string",
3828         "enum": ["oic.if.a", "oic.if.baseline"]
3829     }
3830 },
3831 "definitions": {
3832     "Door": {
3833         "properties": {
3834             "rt": {
3835                 "description": "The Resource Type.",
3836                 "items": {
3837                     "enum": ["oic.r.door"],
3838                     "maxLength": 64,
3839                     "type": "string"
3840                 },
3841                 "minItems": 1,
3842                 "uniqueItems": true,
3843                 "readOnly": true,
3844                 "type": "array"
3845             },
3846             "openDuration": {
3847                 "$ref": "https://openconnectivityfoundation.github.io/core/schemas/oic.types-
3848 schema.json#/definitions/duration"
3849             },
3850             "openState": {
3851                 "description": "The state of the door (open or closed).",
3852                 "enum": [
3853                     "Open",
3854                     "Closed"
3855                 ],
3856                 "readOnly": true,
3857                 "type": "string"
3858             },
3859             "openAlarm": {
3860                 "description": "The state of the door open alarm.",
3861                 "type": "boolean"
3862             },
3863             "n": {
3864                 "$ref":
3865 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3866 schema.json#/definitions/n"
3867             },
3868             "id": {
3869                 "$ref":

```

```

3870 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
3871 schema.json#/definitions/id"
3872 },
3873 "if": {
3874   "description": "The OCF Interface set supported by this Resource.",
3875   "items": {
3876     "enum": [
3877       "oic.if.a",
3878       "oic.if.baseline"
3879     ],
3880     "type": "string"
3881   },
3882   "minItems": 2,
3883   "uniqueItems": true,
3884   "readOnly": true,
3885   "type": "array"
3886 },
3887 },
3888 "type": "object",
3889 "required": ["openState"]
3890 },
3891 "DoorUpdate" : {
3892   "properties": {
3893     "openAlarm": {
3894       "description": "The state of the door open alarm.",
3895       "type": "boolean"
3896     }
3897   },
3898   "type": "object",
3899   "required": ["openAlarm"]
3900 }
3901 }
3902 }
3903

```

3904 6.10.5 Property definition

3905 Table 23 defines the Properties that are part of the "oic.r.door" Resource Type.

3906 **Table 23 – The Property definitions of the Resource with type "rt" = "oic.r.door".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
openDuration	multiple types: see schema	No	Read Write	
openState	string	Yes	Read Only	The state of the door (open or closed).
openAlarm	boolean	No	Read Write	The state of the door open alarm.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
openAlarm	boolean	Yes	Read Write	The state of the door open alarm.

3907 6.10.6 CRUDN behaviour

3908 Table 24 defines the CRUDN operations that are supported on the "oic.r.door" Resource Type.

3909 **Table 24 – The CRUDN operations of the Resource with type "rt" = "oic.r.door".**

Create	Read	Update	Delete	Notify
	get	post		observe

3910 **6.11 Energy Consumption**

3911 **6.11.1 Introduction**

3912 This Resource describes the energy consumed by the Device since power up (the energy value is
3913 in Watt Hours [Wh])

3914 and the instantaneous power draw of the device (the power value is in Watts [W]) at the time the
3915 resource was queried.

3916 The Property "power" value is in Watts [W].

3917 The Property "energy" value is in Watt Hours [Wh].

3918 The Resource provides the current power draw and cumulative energy usage.

3919 **6.11.2 Example URI**

3920 /EnergyConsumptionResURI

3921 **6.11.3 Resource type**

3922 The Resource Type is defined as: "oic.r.energy.consumption".

3923 **6.11.4 OpenAPI 2.0 definition**

```

3924 {
3925   "swagger": "2.0",
3926   "info": {
3927     "title": "Energy Consumption",
3928     "version": "20190215",
3929     "license": {
3930       "name": "OCF Data Model License",
3931       "url":
3932         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
3933         CENSE.md",
3934       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
3935         reserved."
3936     },
3937     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
3938   },
3939   "schemes": ["http"],
3940   "consumes": ["application/json"],
3941   "produces": ["application/json"],
3942   "paths": {
3943     "/EnergyConsumptionResURI" : {
3944       "get": {
3945         "description": "This Resource describes the energy consumed by the Device since power up
3946         (the energy value is in Watt Hours [Wh]) \nand the instantaneous power draw of the device (the power
3947         value is in Watts [W]) at the time the resource was queried.\nThe Property \"power\" value is in
3948         Watts [W].\nThe Property \"energy\" value is in Watt Hours [Wh].\nThe Resource provides the current
3949         power draw and cumulative energy usage.",
3950         "parameters": [
3951           { "$ref": "#/parameters/interface" }
3952         ],
3953         "responses": {
3954           "200": {
3955             "description": "",
3956             "x-example":
3957               {
3958                 "rt": ["oic.r.energy.consumption"],
3959                 "if": ["oic.if.s", "oic.if.baseline"],
3960                 "power": 2000.1,
3961                 "energy": 3500.4
3962               },
3963             "schema": { "$ref": "#/definitions/Consumption" }
3964           }
3965         }
3966       }
3967     }
3968   }

```

```

3966     }
3967   }
3968 },
3969 "parameters": {
3970   "interface" : {
3971     "in" : "query",
3972     "name" : "if",
3973     "type" : "string",
3974     "enum" : ["oic.if.s", "oic.if.baseline"]
3975   }
3976 },
3977 "definitions": {
3978   "Consumption" : {
3979     "properties": {
3980       "rt": {
3981         "description": "The Resource Type.",
3982         "items": {
3983           "enum": ["oic.r.energy.consumption"],
3984           "maxLength": 64,
3985           "type": "string"
3986         },
3987         "minItems": 1,
3988         "uniqueItems": true,
3989         "readOnly": true,
3990         "type": "array"
3991       },
3992       "power": {
3993         "description": "The instantaneous Power.",
3994         "readOnly": true,
3995         "type": "number"
3996       },
3997       "energy": {
3998         "description": "The energy consumed.",
3999         "readOnly": true,
4000         "type": "number"
4001       },
4002       "n": {
4003         "$ref":
4004         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4005         schema.json#/definitions/n"
4006       },
4007       "id": {
4008         "$ref":
4009         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4010         schema.json#/definitions/id"
4011       },
4012       "if": {
4013         "description": "The OCF Interface set supported by this Resource.",
4014         "items": {
4015           "enum": [
4016             "oic.if.s",
4017             "oic.if.baseline"
4018           ],
4019           "type": "string"
4020         },
4021         "minItems": 2,
4022         "uniqueItems": true,
4023         "readOnly": true,
4024         "type": "array"
4025       }
4026     },
4027     "type": "object",
4028     "required": ["power", "energy"]
4029   }
4030 }
4031 }
4032

```

4033 6.11.5 Property definition

4034 Table 25 defines the Properties that are part of the "oic.r.energy.consumption" Resource Type.

4035
4036

Table 25 – The Property definitions of the Resource with type "rt" = "oic.r.energy.consumption".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
power	number	Yes	Read Only	The instantaneous Power.
energy	number	Yes	Read Only	The energy consumed.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

4037 **6.11.6 CRUDN behaviour**

4038 Table 26 defines the CRUDN operations that are supported on the "oic.r.energy.consumption"
4039 Resource Type.

4040
4041

Table 26 – The CRUDN operations of the Resource with type "rt" = "oic.r.energy.consumption".

Create	Read	Update	Delete	Notify
	get			observe

4042 **6.12 Energy Usage**

4043 **6.12.1 Introduction**

4044 This Resource describes a cumulative time-based energy usage query..
4045 The Resource is a Collection of:
4046 TimePeriod Resource
4047 EnergyConsumption Resource
4048

4049 **6.12.2 Example URI**

4050 /EnergyUsageResURI

4051 **6.12.3 Resource type**

4052 The Resource Type is defined as: "oic.r.energy.usage".

4053 **6.12.4 OpenAPI 2.0 definition**

```

4054 {
4055   "swagger": "2.0",
4056   "info": {
4057     "title": "Energy Usage",
4058     "version": "20190307",
4059     "license": {
4060       "name": "OCF Data Model License",
4061       "url":
4062         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
4063         CENSE.md",
4064       "x-copyright": "copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
4065     },
4066     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
4067   },
4068   "schemes": ["http"],

```

```

4069     "consumes": ["application/json"],
4070     "produces": ["application/json"],
4071     "paths": {
4072         "/EnergyUsageResURI?if=oic.if.ll": {
4073             "get": {
4074                 "description": "This Resource describes a cumulative time-based energy usage query.\nThe
4075 Resource is a Collection of:\n TimePeriod Resource\n EnergyConsumption Resource\n",
4076                 "parameters": [
4077                     {"$ref": "#/parameters/interface"}
4078                 ],
4079                 "responses": {
4080                     "200": {
4081                         "description": "",
4082                         "x-example": [
4083                             {
4084                                 "href": "/TimePeriodResURI", "rt":["oic.r.time.period"],
4085                                 "if":["oic.if.a","oic.if.baseline"], "eps":[{"ep": "coaps://[fe80::b1d6]:1122"}]},
4086                                 {"href": "/EnergyConsumptionResURI", "rt":["oic.r.energy.consumption"],
4087                                 "if":["oic.if.s","oic.if.baseline"], "eps":[{"ep": "coaps://[fe80::b1d6]:1122"}]}
4088                             ],
4089                             "schema": { "$ref": "#/definitions/Usage-ll" }
4090                         }
4091                     }
4092                 }
4093             },
4094             "/EnergyUsageResURI?if=oic.if.b" : {
4095                 "get": {
4096                     "description": "This Resource describes a cumulative time-based energy usage query.\nThe
4097 Resource is a Collection of:\n TimePeriod Resource\n EnergyConsumption Resource\n",
4098                     "parameters": [
4099                         {"$ref": "#/parameters/interface"}
4100                     ],
4101                     "responses": {
4102                         "200": {
4103                             "description": "",
4104                             "x-example": [
4105                                 {
4106                                     "href": "/TimePeriodResURI",
4107                                     "rep": {
4108                                         "startTime": "2015-01-09T14:30Z",
4109                                         "stopTime": "2015-01-09T14:45Z"
4110                                     }
4111                                 },
4112                                 {
4113                                     "href": "/EnergyConsumptionResURI",
4114                                     "rep": {
4115                                         "power": 2000.1,
4116                                         "energy": 3500.4
4117                                     }
4118                                 }
4119                             ],
4120                             "schema": { "$ref": "#/definitions/EnergyUsageBatch-Retrieve" }
4121                         }
4122                     }
4123                 },
4124                 "post": {
4125                     "description": "Sets the timer period of the query using the batch OCF Interface\n",
4126                     "parameters": [
4127                         {"$ref": "#/parameters/interface-b"},
4128                     ],
4129                     "name": "body",
4130                     "in": "body",
4131                     "required": true,
4132                     "schema": { "$ref": "#/definitions/EnergyUsageBatch-Update" },
4133                     "x-example": [
4134                         {
4135                             "href": "/TimePeriodResURI",
4136                             "rep": {
4137                                 "startTime": "2015-03-15T10:30Z",
4138                                 "stopTime": "2015-03-15T10:45Z"
4139                             }
4140                         }

```

```

4141     ]
4142   }
4143 ],
4144   "responses": {
4145     "200": {
4146       "description" : "",
4147       "x-example": [
4148         {
4149           "href": "/TimePeriodResURI",
4150           "rep": {
4151             "startTime": "2015-03-15T10:30Z",
4152             "stopTime": "2015-03-15T10:45Z"
4153           }
4154         },
4155         {
4156           "href": "/EnergyConsumptionResURI",
4157           "rep": {
4158             "power": 1500.1,
4159             "energy": 2200.4
4160           }
4161         }
4162       ],
4163       "schema": { "$ref": "#/definitions/EnergyUsageBatch-Retrieve" }
4164     }
4165   }
4166 },
4167 "/EnergyUsageResURI?if=oic.if.baseline" : {
4168   "get": {
4169     "description": "This Resource describes a cumulative time-based energy usage query..\n\nThe
4170 Resource is a Collection of:\n  TimePeriod Resource\n  EnergyConsumption Resource\n",
4171     "parameters": [
4172       { "$ref": "#/parameters/interface" }
4173     ],
4174     "responses": {
4175       "200": {
4176         "description" : "",
4177         "x-example":
4178           {
4179             "rt": ["oic.r.energy.usage"],
4180             "if": ["oic.if.ll", "oic.if.b", "oic.if.baseline"],
4181             "rts": ["oic.r.time.period", "oic.r.energy.consumption"],
4182             "links": [
4183               { "href": "/TimePeriodResURI", "rt": ["oic.r.time.period"],
4184                 "if": ["oic.if.a", "oic.if.baseline"], "eps": [{ "ep": "coaps://[fe80::b1d6]:1122" } ] },
4185               { "href": "/EnergyConsumptionResURI", "rt": ["oic.r.energy.consumption"],
4186                 "if": ["oic.if.s", "oic.if.baseline"], "eps": [{ "ep": "coaps://[fe80::b1d6]:1122" } ] }
4187             ]
4188           },
4189       },
4190       "schema": { "$ref": "#/definitions/Usage-baseline" }
4191     }
4192   }
4193 },
4194 },
4195 "parameters": {
4196   "interface" : {
4197     "in" : "query",
4198     "name" : "if",
4199     "type" : "string",
4200     "enum" : ["oic.if.ll", "oic.if.b", "oic.if.baseline"]
4201   },
4202   "interface-b" : {
4203     "in" : "query",
4204     "name" : "if",
4205     "type" : "string",
4206     "enum" : ["oic.if.b"]
4207   }
4208 },
4209 "definitions": {
4210   "Usage-ll": {
4211     "items": {
4212

```



```

4213         "$ref": "#/definitions/oic.oic-link"
4214     },
4215     "type": "array"
4216 },
4217 "oic.oic-link": {
4218     "type": "object",
4219     "properties": {
4220         "anchor": {
4221             "$ref":
4222 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
4223 schema.json#/definitions/anchor"
4224         },
4225         "di": {
4226             "$ref":
4227 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
4228 schema.json#/definitions/di"
4229         },
4230         "eps": {
4231             "$ref":
4232 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
4233 schema.json#/definitions/eps"
4234         },
4235         "href": {
4236             "$ref":
4237 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
4238 schema.json#/definitions/href"
4239         },
4240         "ins": {
4241             "$ref":
4242 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
4243 schema.json#/definitions/ins"
4244         },
4245         "p": {
4246             "$ref":
4247 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
4248 schema.json#/definitions/p"
4249         },
4250         "rel": {
4251             "$ref":
4252 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
4253 schema.json#/definitions/rel_array"
4254         },
4255         "title": {
4256             "$ref":
4257 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
4258 schema.json#/definitions/title"
4259         },
4260         "type": {
4261             "$ref":
4262 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
4263 schema.json#/definitions/type"
4264         },
4265         "if": {
4266             "description": "The OCF Interfaces supported by the target Resource",
4267             "items": {
4268                 "enum": [
4269                     "oic.if.a",
4270                     "oic.if.s",
4271                     "oic.if.baseline"
4272                 ],
4273                 "type": "string",
4274                 "maxLength": 64
4275             },
4276             "minItems": 2,
4277             "uniqueItems": true,
4278             "type": "array",
4279             "readOnly": true
4280         },
4281         "rt": {
4282             "description": "Resource Type of the target Resource",
4283             "items": {
4284                 "maxLength": 64,

```

```

4285         "type": "string",
4286         "enum": ["oic.r.time.period", "oic.r.energy.consumption"]
4287     },
4288     "minItems": 1,
4289     "type": "array",
4290     "uniqueItems": true,
4291     "readOnly": true
4292 }
4293 },
4294 "required": [
4295     "href",
4296     "rt",
4297     "if"
4298 ]
4299 },
4300 "Usage-baseline": {
4301     "properties": {
4302         "rt": {
4303             "description": "Resource Type of this Resource",
4304             "items": {
4305                 "maxLength": 64,
4306                 "type": "string",
4307                 "enum": ["oic.r.energy.usage"]
4308             },
4309             "minItems": 1,
4310             "readOnly": true,
4311             "uniqueItems": true,
4312             "type": "array"
4313         },
4314         "rts": {
4315             "items": {
4316                 "enum": [
4317                     "oic.r.time.period",
4318                     "oic.r.energy.consumption"
4319                 ],
4320                 "type": "string",
4321                 "maxLength": 64
4322             },
4323             "minItems": 1,
4324             "type": "array",
4325             "readOnly": true,
4326             "uniqueItems": true
4327         },
4328         "links": {
4329             "description": "A set of simple or individual OCF Links.",
4330             "type": "array",
4331             "items": {
4332                 "$ref": "#/definitions/oic.oic-link"
4333             }
4334         },
4335         "n": {
4336             "$ref": "
4337 https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4338 schema.json#/definitions/n"
4339         },
4340         "id": {
4341             "$ref": "
4342 https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4343 schema.json#/definitions/id"
4344         },
4345         "if": {
4346             "description": "The OCF Interfaces supported by this Resource",
4347             "items": {
4348                 "enum": [
4349                     "oic.if.ll",
4350                     "oic.if.b",
4351                     "oic.if.baseline"
4352                 ],
4353                 "type": "string",
4354                 "maxLength": 64
4355             },
4356             "minItems": 1,

```

```

4357         "readOnly": true,
4358         "uniqueItems": true,
4359         "type": "array"
4360     },
4361 },
4362 "type": "object",
4363 "required": ["rt", "if", "links"]
4364 },
4365 "EnergyUsageBatch-Retrieve" : {
4366     "type": "array",
4367     "minItems": 2,
4368     "uniqueItems": true,
4369     "items": {
4370         "type": "object",
4371         "additionalProperties": true,
4372         "properties": {
4373             "href": {
4374                 "$ref":
4375 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
4376 schema.json#/definitions/href"
4377             },
4378             "rep": {
4379                 "anyOf": [
4380                     {"$ref":
4381 "https://openconnectivityfoundation.github.io/IoTDataModels/TimePeriodResURI.swagger.json#/definitio
4382 ns/TimePeriod"}},
4383                     {"$ref":
4384 "https://openconnectivityfoundation.github.io/IoTDataModels/EnergyConsumptionResURI.swagger.json#/de
4385 finitions/Consumption"}
4386                 ]
4387             }
4388         },
4389         "required": [
4390             "href",
4391             "rep"
4392         ]
4393     }
4394 },
4395 "EnergyUsageBatch-Update" : {
4396     "type": "array",
4397     "minItems": 1,
4398     "uniqueItems": true,
4399     "items": {
4400         "type": "object",
4401         "additionalProperties": true,
4402         "properties": {
4403             "href": {
4404                 "$ref":
4405 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
4406 schema.json#/definitions/href"
4407             },
4408             "rep": {
4409                 "anyOf": [
4410                     {"$ref":
4411 "https://openconnectivityfoundation.github.io/IoTDataModels/TimePeriodResURI.swagger.json#/definitio
4412 ns/TimePeriod"}},
4413                     {}
4414                 ]
4415             },
4416             "required": [
4417                 "href",
4418                 "rep"
4419             ]
4420         }
4421     }
4422 }
4423 }
4424

```

6.12.5 Property definition

Table 27 defines the Properties that are part of the "oic.r.energy.usage" Resource Type.

4427 **Table 27 – The Property definitions of the Resource with type "rt" = "oic.r.energy.usage".**

Property name	Value type	Mandatory	Access mode	Description
anchor	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
ins	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
rel	multiple types: see schema	No	Read Write	
title	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	
if	array: see schema	Yes	Read Only	The OCF Interfaces supported by the target Resource
rt	array: see schema	Yes	Read Only	Resource Type of the target Resource
rt	array: see schema	Yes	Read Only	Resource Type of this Resource
rts	array: see schema	No	Read Only	
links	array: see schema	Yes	Read Write	A set of simple or individual OCF Links.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	Yes	Read Only	The OCF Interfaces supported by this Resource
href	multiple types: see schema	Yes	Read Write	
rep	multiple types: see schema	Yes	Read Write	
href	multiple types: see schema	Yes	Read Write	
rep	multiple types: see schema	Yes	Read Write	

4428 **6.12.6 CRUDN behaviour**

4429 Table 28 defines the CRUDN operations that are supported on the "oic.r.energy.usage" Resource
4430 Type.

4431 **Table 28 – The CRUDN operations of the Resource with type "rt" = "oic.r.energy.usage".**

Create	Read	Update	Delete	Notify
	get			observe

4432 6.13 Humidity

4433 6.13.1 Introduction

4434 This Resource describes a sensed or desired humidity.

4435 The Property "humidity" is an integer describing the percentage measured relative humidity.

4436 The Property "desiredHumidity" is an integer showing the desired target relative humidity.

4437 6.13.2 Example URI

4438 /HumidityResURI

4439 6.13.3 Resource type

4440 The Resource Type is defined as: "oic.r.humidity".

4441 6.13.4 OpenAPI 2.0 definition

```

4442 {
4443   "swagger": "2.0",
4444   "info": {
4445     "title": "Humidity",
4446     "version": "20190215",
4447     "license": {
4448       "name": "OCF Data Model License",
4449       "url":
4450         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
4451         CENSE.md",
4452       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
4453         reserved."
4454     },
4455     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
4456   },
4457   "schemes": ["http"],
4458   "consumes": ["application/json"],
4459   "produces": ["application/json"],
4460   "paths": {
4461     "/HumidityResURI" : {
4462       "get": {
4463         "description": "This Resource describes a sensed or desired humidity.\n
4464         The Property \"humidity\" is an integer describing the percentage measured relative humidity.\n
4465         The Property \"desiredHumidity\" is an integer showing the desired target relative humidity.",
4466         "parameters": [
4467           {"$ref": "#/parameters/interface"}
4468         ],
4469         "responses": {
4470           "200": {
4471             "description": "RETRIEVES the current (relative) humidity level.",
4472             "x-example":
4473               {
4474                 "rt": ["oic.r.humidity"],
4475                 "if": ["oic.if.a", "oic.if.baseline"],
4476                 "humidity": 40,
4477                 "desiredHumidity": 40
4478               },
4479             "schema": { "$ref": "#/definitions/Humidity" }
4480           }
4481         }
4482       },
4483       "post": {
4484         "description": "Sets the desired relative humidity level.",
4485         "parameters": [
4486           {"$ref": "#/parameters/interface"},
4487           {
4488             "name": "body",

```

```

4489         "in": "body",
4490         "required": true,
4491         "schema": { "$ref": "#/definitions/HumidityUpdate" },
4492         "x-example":
4493             {
4494                 "desiredHumidity" : 45
4495             }
4496     },
4497 ],
4498     "responses": {
4499         "200": {
4500             "description": "Indicates that the relative humidity level was changed.\nThe new
4501 relative humidity level is provided in the response.",
4502             "x-example":
4503                 {
4504                     "desiredHumidity": 45
4505                 },
4506             "schema": { "$ref": "#/definitions/HumidityUpdate" }
4507         }
4508     }
4509 },
4510 },
4511 },
4512 "parameters": {
4513     "interface": {
4514         "in": "query",
4515         "name": "if",
4516         "type": "string",
4517         "enum": ["oic.if.a", "oic.if.s", "oic.if.baseline"]
4518     }
4519 },
4520 "definitions": {
4521     "Humidity" : {
4522         "properties": {
4523             "rt": {
4524                 "description": "The Resource Type.",
4525                 "items": {
4526                     "enum": ["oic.r.humidity"],
4527                     "maxLength": 64,
4528                     "type": "string"
4529                 },
4530                 "minItems": 1,
4531                 "uniqueItems": true,
4532                 "readOnly": true,
4533                 "type": "array"
4534             },
4535             "desiredHumidity": {
4536                 "description": "The desired value for humidity.",
4537                 "maximum": 100,
4538                 "minimum": 0,
4539                 "type": "integer"
4540             },
4541             "humidity": {
4542                 "description": "The current sensed value for humidity.",
4543                 "maximum": 100,
4544                 "minimum": 0,
4545                 "readOnly": true,
4546                 "type": "integer"
4547             },
4548             "n": {
4549                 "$ref":
4550 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4551 schema.json#/definitions/n"
4552             },
4553             "id": {
4554                 "$ref":
4555 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4556 schema.json#/definitions/id"
4557             },
4558             "if": {
4559                 "description": "The OCF Interface set supported by this Resource.",
4560                 "items": {

```

```

4561         "enum": [
4562             "oic.if.a",
4563             "oic.if.s",
4564             "oic.if.baseline"
4565         ],
4566         "type": "string"
4567     },
4568     "minItems": 2,
4569     "uniqueItems": true,
4570     "readOnly": true,
4571     "type": "array"
4572 }
4573 },
4574 "type": "object",
4575 "required": ["humidity"]
4576 },
4577 "HumidityUpdate" : {
4578     "properties": {
4579         "desiredHumidity": {
4580             "description": "Desired value for Humidity",
4581             "maximum": 100,
4582             "minimum": 0,
4583             "type": "integer"
4584         }
4585     },
4586     "type": "object",
4587     "required": ["desiredHumidity"]
4588 }
4589 }
4590 }
4591

```

4592 6.13.5 Property definition

4593 Table 29 defines the Properties that are part of the "oic.r.humidity" Resource Type.

4594 **Table 29 – The Property definitions of the Resource with type "rt" = "oic.r.humidity".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
desiredHumidity	integer	No	Read Write	The desired value for humidity.
humidity	integer	Yes	Read Only	The current sensed value for humidity.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
desiredHumidity	integer	Yes	Read Write	Desired value for Humidity

4595 6.13.6 CRUDN behaviour

4596 Table 30 defines the CRUDN operations that are supported on the "oic.r.humidity" Resource Type.

4597 **Table 30 – The CRUDN operations of the Resource with type "rt" = "oic.r.humidity".**

Create	Read	Update	Delete	Notify
	get	post		observe

6.14 Ice Maker

6.14.1 Introduction

This Resource describes an the operational state of an Ice Maker.

The Property "status" is a string containing a value from the set of possible ice maker statuses.

The possible statuses are defined by the enumeration ["on", "off", "full"]

A status of "on" means that the Ice Maker is operating.

A status of "off" means that the Ice Maker is not operating.

A status of "full" means that the ice collection bin is full (Ice Maker is operating).

6.14.2 Example URI

/IceMakerResURI

6.14.3 Resource type

The Resource Type is defined as: "oic.r.icemaker".

6.14.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Ice Maker",
    "version": "20190215",
    "license": {
      "name": "OCF Data Model License",
      "url":
        "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
        CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
        reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/IceMakerResURI" : {
      "get": {
        "description": "This Resource describes an the operational state of an Ice Maker.\nThe
        Property \"status\" is a string containing a value from the set of possible ice maker statuses.\nThe
        possible statuses are defined by the enumeration [\"on\", \"off\", \"full\"]\nA status of \"on\"
        means that the Ice Maker is operating.\nA status of \"off\" means that the Ice Maker is not
        operating.\nA status of \"full\" means that the ice collection bin is full (Ice Maker is
        operating).",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "RETRIEVES the current Ice Maker status.",
            "x-example": {
              "rt": ["oic.r.icemaker"],
              "if": ["oic.if.a", "oic.if.baseline"],
              "status": "on"
            },
            "schema": { "$ref": "#/definitions/IceMaker" }
          }
        }
      },
      "post": {
        "description": "Sets the desired Ice Maker status.\nOnly valid settings for \"status\" in a
        UPDATE shall be \"on\" or \"off\".",
        "parameters": [
          { "$ref": "#/parameters/interface" },
          {
            "name": "body",
```



```

4661         "in": "body",
4662         "required": true,
4663         "schema": { "$ref": "#/definitions/IceMakerUpdate" },
4664         "x-example":
4665             {
4666                 "status": "off"
4667             }
4668     },
4669 ],
4670     "responses": {
4671         "200": {
4672             "description": "Indicates that the Ice Maker status was changed.\n\nThe new status is
4673 provided in the response.\n",
4674             "x-example":
4675                 {
4676                     "status": "off"
4677                 },
4678             "schema": { "$ref": "#/definitions/IceMakerUpdate" }
4679         },
4680         "403": {
4681             "description": "This response is generated by the OCF Server when the client sends:\n
4682 An UPDATE with an invalid property value for \"status\".\n\nThe OCF Server responds with the current
4683 resource representation.\n",
4684             "x-example":
4685                 {
4686                     "status": "off"
4687                 },
4688             "schema": { "$ref": "#/definitions/IceMakerUpdate" }
4689         }
4690     }
4691 },
4692 },
4693 },
4694 "parameters": {
4695     "interface": {
4696         "in": "query",
4697         "name": "if",
4698         "type": "string",
4699         "enum": ["oic.if.a", "oic.if.baseline"]
4700     }
4701 },
4702 "definitions": {
4703     "IceMaker": {
4704         "properties": {
4705             "rt": {
4706                 "description": "The Resource Type.",
4707                 "items": {
4708                     "enum": ["oic.r.icemaker"],
4709                     "maxLength": 64,
4710                     "type": "string"
4711                 },
4712                 "minItems": 1,
4713                 "uniqueItems": true,
4714                 "readOnly": true,
4715                 "type": "array"
4716             },
4717             "status": {
4718                 "description": "The status of the Ice Maker.",
4719                 "enum": [
4720                     "on",
4721                     "off",
4722                     "full"
4723                 ],
4724                 "type": "string"
4725             },
4726             "n": {
4727                 "$ref":
4728 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4729 schema.json#/definitions/n"
4730             },
4731             "id": {
4732                 "$ref":

```

```

4733 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4734 schema.json#/definitions/id"
4735 },
4736 "if": {
4737   "description": "The OCF Interface set supported by this Resource.",
4738   "items": {
4739     "enum": [
4740       "oic.if.a",
4741       "oic.if.baseline"
4742     ],
4743     "type": "string"
4744   },
4745   "minItems": 2,
4746   "uniqueItems": true,
4747   "readOnly": true,
4748   "type": "array"
4749 },
4750 },
4751 "type": "object",
4752 "required": ["status"]
4753 },
4754 "IceMakerUpdate" : {
4755   "properties": {
4756     "status": {
4757       "description": "Set the status of the Ice Maker.",
4758       "enum": [
4759         "on",
4760         "off"
4761       ]
4762     }
4763   },
4764   "type": "object",
4765   "required": ["status"]
4766 }
4767 }
4768 }
4769

```

4770 6.14.5 Property definition

4771 Table 31 defines the Properties that are part of the "oic.r.icemaker" Resource Type.

4772 **Table 31 – The Property definitions of the Resource with type "rt" = "oic.r.icemaker".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
status	string	Yes	Read Write	The status of the Ice Maker.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
status	multiple types: see schema	Yes	Read Write	Set the status of the Ice Maker.

4773 6.14.6 CRUDN behaviour

4774 Table 32 defines the CRUDN operations that are supported on the "oic.r.icemaker" Resource Type.

4775 **Table 32 – The CRUDN operations of the Resource with type "rt" = "oic.r.icemaker".**

Create	Read	Update	Delete	Notify
	get	post		observe

4776 **6.15 Lock**

4777 **6.15.1 Introduction**

4778 The Resource describing a lock.

4779 The Property "lockState" is a string. The value 'Locked' indicates that the door is Locked.

4780 The value 'Unlocked' indicates that the door is Unlocked.

4781 **6.15.2 Example URI**

4782 /LockStatusResURI

4783 **6.15.3 Resource type**

4784 The Resource Type is defined as: "oic.r.lock.status".

4785 **6.15.4 OpenAPI 2.0 definition**

```

4786 {
4787   "swagger": "2.0",
4788   "info": {
4789     "title": "Lock",
4790     "version": "20190215",
4791     "license": {
4792       "name": "OCF Data Model License",
4793       "url":
4794         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
4795         CENSE.md",
4796       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
4797         reserved."
4798     },
4799     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
4800   },
4801   "schemes": ["http"],
4802   "consumes": ["application/json"],
4803   "produces": ["application/json"],
4804   "paths": {
4805     "/LockStatusResURI" : {
4806       "get": {
4807         "description": "The Resource describing a lock.\nThe Property \"lockState\" is a string. The
4808         value 'Locked' indicates that the door is Locked.\nThe value 'Unlocked' indicates that the door is
4809         Unlocked.",
4810         "parameters": [
4811           {"$ref": "#/parameters/interface"}
4812         ],
4813         "responses": {
4814           "200": {
4815             "description": "RETRIEVES the state of the lock.",
4816             "x-example":
4817               {
4818                 "rt": ["oic.r.lock.status"],
4819                 "if": ["oic.if.a", "oic.if.baseline"],
4820                 "lockState": "Locked"
4821               },
4822             "schema": { "$ref": "#/definitions/Lock" }
4823           }
4824         },
4825         "post": {
4826           "description": "Sets the current lock state.\n",
4827           "parameters": [
4828             {"$ref": "#/parameters/interface"},
4829             {
4830               "name": "body",
4831               "in": "body",

```

```

4833         "required": true,
4834         "schema": { "$ref": "#/definitions/Lock" },
4835         "x-example":
4836             {
4837                 "lockState": "Unlocked"
4838             }
4839     },
4840 ],
4841 "responses": {
4842     "200": {
4843         "description" : "",
4844         "x-example":
4845             {
4846                 "lockState": "Unlocked"
4847             },
4848         "schema": { "$ref": "#/definitions/Lock" }
4849     },
4850     "403": {
4851         "description" : "This response is generated by the OCF Server when the client sends:\n
4852 An UPDATE with an invalid property value for \"lockState\".\n
4853 The server responds with the current
4854 resource representation.\n",
4855         "x-example":
4856             {
4857                 "lockState": "Unlocked"
4858             },
4859         "schema": { "$ref": "#/definitions/Lock" }
4860     }
4861 },
4862 },
4863 },
4864 "parameters": {
4865     "interface" : {
4866         "in" : "query",
4867         "name" : "if",
4868         "type" : "string",
4869         "enum" : ["oic.if.a", "oic.if.baseline"]
4870     }
4871 },
4872 "definitions": {
4873     "Lock" : {
4874         "properties": {
4875             "rt": {
4876                 "description": "Resource Type",
4877                 "items": {
4878                     "enum": ["oic.r.lock.status"],
4879                     "maxLength": 64,
4880                     "type": "string"
4881                 },
4882                 "minItems": 1,
4883                 "uniqueItems": true,
4884                 "readOnly": true,
4885                 "type": "array"
4886             },
4887             "lockState": {
4888                 "description": "The state of the lock.",
4889                 "enum": [
4890                     "Locked",
4891                     "Unlocked"
4892                 ],
4893                 "type": "string"
4894             },
4895             "n": {
4896                 "$ref":
4897 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4898 schema.json#/definitions/n"
4899             },
4900             "id": {
4901                 "$ref":
4902 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
4903 schema.json#/definitions/id"
4904             },

```

```

4905     "if": {
4906         "description": "The OCF Interface set supported by this Resource.",
4907         "items": {
4908             "enum": [
4909                 "oic.if.a",
4910                 "oic.if.baseline"
4911             ],
4912             "type": "string"
4913         },
4914         "minItems": 2,
4915         "uniqueItems": true,
4916         "readOnly": true,
4917         "type": "array"
4918     },
4919     "type": "object",
4920     "required": ["lockState"]
4921 }
4922 }
4923 }
4924 }
4925

```

4926 6.15.5 Property definition

4927 Table 33 defines the Properties that are part of the "oic.r.lock.status" Resource Type.

4928 **Table 33 – The Property definitions of the Resource with type "rt" = "oic.r.lock.status".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
lockState	string	Yes	Read Write	The state of the lock.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

4929 6.15.6 CRUDN behaviour

4930 Table 34 defines the CRUDN operations that are supported on the "oic.r.lock.status" Resource
 4931 Type.

4932 **Table 34 – The CRUDN operations of the Resource with type "rt" = "oic.r.lock.status".**

Create	Read	Update	Delete	Notify
	get	post		observe

4933 6.16 Lock Code

4934 6.16.1 Introduction

4935 The Resource describing a lock code.

4936 The Property "lockCodeList" is an array of possible codes that may be associated with a lock.

4937 The codes are all presented as strings.

4938 6.16.2 Example URI

4939 /LockCodeResURI

4940 6.16.3 Resource type

4941 The Resource Type is defined as: "oic.r.lock.code".

6.16.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Lock Code",
    "version": "20190215",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/LockCodeResURI" : {
      "get": {
        "description": "The Resource describing a lock code.\n\nThe Property \"lockCodeList\" is an
array of possible codes that may be associated with a lock.\n\nThe codes are all presented as
strings.",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "RETRIEVES the current lock code values.",
            "x-example":
            {
              "rt": ["oic.r.lock.code"],
              "if": ["oic.if.a", "oic.if.baseline"],
              "lockCodeList": ["012345", "112233"]
            },
            "schema": { "$ref": "#/definitions/LockCode" }
          }
        }
      },
      "post": {
        "description": "Updates the current lock code values. e.g. all value in the property
\"lockCodeList\"",
        "parameters": [
          { "$ref": "#/parameters/interface" },
          {
            "name": "body",
            "in": "body",
            "required": true,
            "schema": { "$ref": "#/definitions/LockCode" },
            "x-example":
            {
              "lockCodeList": ["543210", "332211"]
            }
          }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example":
            {
              "lockCodeList": ["543210", "332211"]
            },
            "schema": { "$ref": "#/definitions/LockCode" }
          }
        }
      }
    }
  },
  "parameters": {
```

```

5013     "interface" : {
5014         "in" : "query",
5015         "name" : "if",
5016         "type" : "string",
5017         "enum" : ["oic.if.a", "oic.if.baseline"]
5018     }
5019 },
5020 "definitions": {
5021     "LockCode" : {
5022         "properties": {
5023             "rt": {
5024                 "description": "The Resource Type.",
5025                 "items": {
5026                     "enum": ["oic.r.lock.code"],
5027                     "maxLength": 64,
5028                     "type": "string"
5029                 },
5030                 "minItems": 1,
5031                 "uniqueItems": true,
5032                 "readOnly": true,
5033                 "type": "array"
5034             },
5035             "lockCodeList": {
5036                 "items": {
5037                     "description": "The value for the lock code.",
5038                     "type": "string"
5039                 },
5040                 "type": "array"
5041             },
5042             "n": {
5043                 "$ref":
5044 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5045 schema.json#/definitions/n"
5046             },
5047             "id": {
5048                 "$ref":
5049 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5050 schema.json#/definitions/id"
5051             },
5052             "if": {
5053                 "description": "The OCF Interface set supported by this Resource.",
5054                 "items": {
5055                     "enum": [
5056                         "oic.if.a",
5057                         "oic.if.baseline"
5058                     ],
5059                     "type": "string"
5060                 },
5061                 "minItems": 2,
5062                 "uniqueItems": true,
5063                 "readOnly": true,
5064                 "type": "array"
5065             }
5066         },
5067         "type": "object",
5068         "required": ["lockCodeList"]
5069     }
5070 }
5071 }
5072

```

6.16.5 Property definition

Table 35 defines the Properties that are part of the "oic.r.lock.code" Resource Type.

Table 35 – The Property definitions of the Resource with type "rt" = "oic.r.lock.code".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
lockCodeList	array: see schema	Yes	Read Write	

n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

6.16.6 CRUDN behaviour

Table 36 defines the CRUDN operations that are supported on the "oic.r.lock.code" Resource Type.

Table 36 – The CRUDN operations of the Resource with type "rt" = "oic.r.lock.code".

Create	Read	Update	Delete	Notify
	get	post		observe

6.17 Mode

6.17.1 Introduction

This Resource describes the modes of operation that a Device can provide.

The mode can be read or set.

The Property "supportedModes" is an array of possible modes the device supports.

The Property "modes" is an array of the currently active mode(s).

6.17.2 Example URI

/ModeResURI

6.17.3 Resource type

The Resource Type is defined as: "oic.r.mode".

6.17.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Mode",
    "version": "20190215",
    "license": {
      "name": "OCF Data Model License",
      "url":
        "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
        CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
        reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/ModeResURI" : {
      "get": {
        "description": "This Resource describes the modes of operation that a Device can
        provide.\n\nThe mode can be read or set.\n\nThe Property \"supportedModes\" is an array of possible
        modes the device supports.\n\nThe Property \"modes\" is an array of the currently active mode(s).",
        "parameters": [
          {
            "$ref": "#/parameters/interface"
          }
        ],
        "responses": {
          "200": {
            "description": "RETRIEVES the current mode.",
            "x-example":

```



```

5122         "rt": ["oic.r.mode"],
5123         "if": ["oic.if.a", "oic.if.baseline"],
5124         "supportedModes": ["active", "armedAway", "armedStay", "armedInstant"],
5125         "modes": ["active"]
5126     },
5127     "schema": { "$ref": "#/definitions/Mode" }
5128 }
5129 },
5130 },
5131 "post": {
5132     "description": "Sets the desired mode.",
5133     "parameters": [
5134         { "$ref": "#/parameters/interface",
5135           {
5136             "name": "body",
5137             "in": "body",
5138             "required": true,
5139             "schema": { "$ref": "#/definitions/ModeUpdate" },
5140             "x-example":
5141                 {
5142                     "modes": ["armedAway"]
5143                 }
5144             },
5145     ],
5146     "responses": {
5147         "200": {
5148             "description": "",
5149             "x-example":
5150                 {
5151                     "modes": ["armedAway"]
5152                 }
5153             ,
5154             "schema": { "$ref": "#/definitions/ModeUpdate" }
5155         },
5156         "403": {
5157             "description": "This response is generated by the OCF Server when the client sends:\n
5158 An UPDATE with an value for \"modes\" that is not found in \"supportedModes\".\n
5159 The server responds with the current resource representation.\n",
5160             "x-example":
5161                 {
5162                     "supportedModes": ["active", "armedAway", "armedStay", "armedInstant"],
5163                     "modes": ["active"]
5164                 },
5165             "schema": { "$ref": "#/definitions/Mode" }
5166         }
5167     }
5168 },
5169 },
5170 },
5171 "parameters": {
5172     "interface": {
5173         "in": "query",
5174         "name": "if",
5175         "type": "string",
5176         "enum": ["oic.if.a", "oic.if.baseline"]
5177     }
5178 },
5179 "definitions": {
5180     "Mode": {
5181         "properties": {
5182             "rt": {
5183                 "description": "The Resource Type.",
5184                 "items": {
5185                     "enum": ["oic.r.mode"],
5186                     "maxLength": 64,
5187                     "type": "string"
5188                 },
5189                 "minItems": 1,
5190                 "uniqueItems": true,
5191                 "readOnly": true,
5192                 "type": "array"
5193             },

```

```

5194     "modes": {
5195         "description": "The array of the currently active mode(s).",
5196         "items": {
5197             "type": "string"
5198         },
5199         "type": "array"
5200     },
5201     "supportedModes": {
5202         "description": "The array of possible modes the device supports.",
5203         "items": {
5204             "type": "string"
5205         },
5206         "readOnly": true,
5207         "type": "array"
5208     },
5209     "n": {
5210         "$ref":
5211         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5212         schema.json#/definitions/n"
5213     },
5214     "id": {
5215         "$ref":
5216         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5217         schema.json#/definitions/id"
5218     },
5219     "if": {
5220         "description": "The OCF Interface set supported by this Resource.",
5221         "items": {
5222             "enum": [
5223                 "oic.if.a",
5224                 "oic.if.baseline"
5225             ],
5226             "type": "string"
5227         },
5228         "minItems": 2,
5229         "uniqueItems": true,
5230         "readOnly": true,
5231         "type": "array"
5232     }
5233 },
5234 "type": "object",
5235 "required": ["supportedModes", "modes"]
5236 },
5237 "ModeUpdate" : {
5238     "properties": {
5239         "modes": {
5240             "description": "Desired mode",
5241             "items": {
5242                 "type": "string"
5243             },
5244             "type": "array"
5245         }
5246     },
5247     "type": "object",
5248     "required": ["modes"]
5249 }
5250 }
5251 }
5252

```

5253 6.17.5 Property definition

5254 Table 37 defines the Properties that are part of the "oic.r.mode" Resource Type.

5255 **Table 37 – The Property definitions of the Resource with type "rt" = "oic.r.mode".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.

modes	array: see schema	Yes	Read Write	The array of the currently active mode(s).
supportedModes	array: see schema	Yes	Read Only	The array of possible modes the device supports.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
modes	array: see schema	Yes	Read Write	Desired mode

6.17.6 CRUDN behaviour

Table 38 defines the CRUDN operations that are supported on the "oic.r.mode" Resource Type.

Table 38 – The CRUDN operations of the Resource with type "rt" = "oic.r.mode".

Create	Read	Update	Delete	Notify
	get	post		observe

6.18 Open Level

6.18.1 Introduction

This Resource describes how open or ajar an entity such as a window, door, blind or shutter is.

The Property "openLevel" can be read (acting as a sensor).

The "openLevel" can also be set (acting as an actuator).

The "openLevel" is device dependent across the range provided.

When the Property "range" is omitted then 0 to 100 is assumed where 0 means closed, 100 means fully open.

If a "range" is provided then the lower bound=closed, upper bound=open.

If Property "step" is present then it represents the increment between possible values; if not provided 1 is assumed.

6.18.2 Example URI

/OpenLevelResURI

6.18.3 Resource type

The Resource Type is defined as: "oic.r.openlevel".

6.18.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Open Level",
    "version": "20190215",
    "license": {
      "name": "OCF Data Model License",
      "url":
        "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
        CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
        reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
```

```

5291     "consumes": ["application/json"],
5292     "produces": ["application/json"],
5293     "paths": {
5294         "/OpenLevelResURI" : {
5295             "get": {
5296                 "description": "This Resource describes how open or ajar an entity such as a window, door,
5297 blind or shutter is.\nThe Property \"openLevel\" can be read (acting as a sensor).\nThe
5298 \"openLevel\" can also be set (acting as an actuator).\nThe \"openLevel\" is device dependent across
5299 the range provided.\nWhen the Property \"range\" is omitted then 0 to 100 is assumed where 0 means
5300 closed, 100 means fully open.\nIf a \"range\" is provided then the lower bound=closed, upper
5301 bound=open.\nIf Property \"step\" is present then it represents the increment between possible
5302 values; if not provided 1 is assumed.",
5303                 "parameters": [
5304                     { "$ref": "#/parameters/interface" }
5305                 ],
5306                 "responses": {
5307                     "200": {
5308                         "description": "RETRIEVES the current openLevel.",
5309                         "x-example":
5310                             {
5311                                 "rt": ["oic.r.openlevel"],
5312                                 "if": ["oic.if.a", "oic.if.baseline"],
5313                                 "openLevel": 50,
5314                                 "step": 2,
5315                                 "range": [0, 100]
5316                             },
5317                         "schema": { "$ref": "#/definitions/OpenLevel" }
5318                     }
5319                 }
5320             },
5321             "post": {
5322                 "description": "Sets the desired openLevel.",
5323                 "parameters": [
5324                     { "$ref": "#/parameters/interface" },
5325                     {
5326                         "name": "body",
5327                         "in": "body",
5328                         "required": true,
5329                         "schema": { "$ref": "#/definitions/OpenLevel" },
5330                         "x-example":
5331                             {
5332                                 "openLevel": 0
5333                             }
5334                     }
5335                 ],
5336                 "responses": {
5337                     "200": {
5338                         "description": "",
5339                         "x-example":
5340                             {
5341                                 "openLevel": 0
5342                             },
5343                         "schema": { "$ref": "#/definitions/OpenLevel" }
5344                     },
5345                     "403": {
5346                         "description": "This response is generated by the OCF Server when the client sends:\n
5347 An UPDATE with an out of range property value for \"openLevel\".\nThe OCF Server responds with the
5348 current resource representation.\n",
5349                         "x-example":
5350                             {
5351                                 "openLevel": 50,
5352                                 "step": 2,
5353                                 "range": [0, 100]
5354                             },
5355                         "schema": { "$ref": "#/definitions/OpenLevel" }
5356                     }
5357                 }
5358             }
5359         }
5360     },
5361     "parameters": {
5362         "interface": {

```

```

5363     "in": "query",
5364     "name": "if",
5365     "type": "string",
5366     "enum": ["oic.if.a", "oic.if.baseline"]
5367   }
5368 },
5369 "definitions": {
5370   "OpenLevel": {
5371     "properties": {
5372       "rt": {
5373         "description": "The Resource Type.",
5374         "items": {
5375           "maxLength": 64,
5376           "type": "string",
5377           "enum": ["oic.r.openlevel"]
5378         },
5379         "minItems": 1,
5380         "uniqueItems": true,
5381         "readOnly": true,
5382         "type": "array"
5383       },
5384       "openLevel": {
5385         "description": "How open or ajar the entity is.",
5386         "type": "integer"
5387       },
5388       "n": {
5389         "$ref":
5390 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5391 schema.json#/definitions/n"
5392       },
5393       "id": {
5394         "$ref":
5395 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5396 schema.json#/definitions/id"
5397       },
5398       "range": {
5399         "$ref":
5400 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
5401 schema.json#/definitions/range_integer"
5402       },
5403       "step": {
5404         "$ref":
5405 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
5406 schema.json#/definitions/step_integer"
5407       },
5408       "if": {
5409         "description": "The OCF Interface set supported by this Resource.",
5410         "items": {
5411           "enum": [
5412             "oic.if.a",
5413             "oic.if.baseline"
5414           ],
5415           "type": "string"
5416         },
5417         "minItems": 2,
5418         "uniqueItems": true,
5419         "readOnly": true,
5420         "type": "array"
5421       }
5422     },
5423     "type": "object",
5424     "required": ["openLevel"]
5425   }
5426 }
5427 }
5428

```

6.18.5 Property definition

Table 39 defines the Properties that are part of the "oic.r.openlevel" Resource Type.

5431 **Table 39 – The Property definitions of the Resource with type "rt" = "oic.r.openlevel".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
openLevel	integer	Yes	Read Write	How open or ajar the entity is.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

5432 **6.18.6 CRUDN behaviour**

5433 Table 40 defines the CRUDN operations that are supported on the "oic.r.openlevel" Resource Type.

5434 **Table 40 – The CRUDN operations of the Resource with type "rt" = "oic.r.openlevel".**

Create	Read	Update	Delete	Notify
	get	post		observe

5435 **6.19 Operational State**

5436 **6.19.1 Introduction**

5437 This Resource describes the operational and job states on a device.

5438 The states can be read or set, setting indicates a desired state.

5439 A device may reject an attempt to set a state that would result
5440 in adverse operational characteristics.

5441 The Property "machineStates" is an array of the possible operational states.

5442 The Property "currentMachineState" is the current state of operation of the device.

5443 The Property "jobStates" is an array of the possible job states.

5444 The Property "currentJobState" is the currently active jobState.

5445 The Property "runningTime" is the ISO8601 encoded elapsed time in the current operational
5446 state.

5447 The Property "remainingTime" is the ISO8601 encoded time till completion of the current
5448 operational state.

5449 The Property "progressPercentage" is the percentage completeness of the current jobState.

5450 **6.19.2 Example URI**

5451 /OperationalStateResURI

5452 **6.19.3 Resource type**

5453 The Resource Type is defined as: "oic.r.operational.state".

5454 **6.19.4 OpenAPI 2.0 definition**

```
5455 {
5456   "swagger": "2.0",
5457   "info": {
5458     "title": "Operational State",
5459     "version": "20190215",
5460     "license": {
```

```

5461         "name": "OCF Data Model License",
5462         "url":
5463 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
5464 CENSE.md",
5465         "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
5466 reserved.",
5467     },
5468     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
5469 },
5470 "schemas": ["http"],
5471 "consumes": ["application/json"],
5472 "produces": ["application/json"],
5473 "paths": {
5474     "/OperationalStateResURI": {
5475         "get": {
5476             "description": "This Resource describes the operational and job states on a device.\nThe
5477 states can be read or set, setting indicates a desired state.\nA device may reject an attempt to set
5478 a state that would result\nin adverse operational characteristics.\nThe Property \"machineStates\"
5479 is an array of the possible operational states.\nThe Property \"currentMachineState\" is the current
5480 state of operation of the device.\nThe Property \"jobStates\" is an array of the possible job
5481 states.\nThe Property \"currentJobState\" is the currently active jobState.\nThe Property
5482 \"runningTime\" is the ISO8601 encoded elapsed time in the current operational state.\nThe Property
5483 \"remainingTime\" is the ISO8601 encoded time till completion of the current operational state.\nThe
5484 Property \"progressPercentage\" is the percentage completeness of the current jobState.",
5485             "parameters": [
5486                 { "$ref": "#/parameters/interface" }
5487             ],
5488             "responses": {
5489                 "200": {
5490                     "description": "RETRIEVES the current operational and job states.",
5491                     "x-example": {
5492                         "rt": ["oic.r.operational.state"],
5493                         "if": ["oic.if.a", "oic.if.baseline"],
5494                         "machineStates": ["pause", "stopped", "idle", "active"],
5495                         "currentMachineState": "active",
5496                         "jobStates": ["preWash", "wash", "rinse", "spin", "dry", "airDry", "wrinklePrevent"],
5497                         "currentJobState": "rinse",
5498                         "runningTime": "PT15M20S",
5499                         "remainingTime": "PT10M40S",
5500                         "progressPercentage": 75
5501                     },
5502                     "schema": { "$ref": "#/definitions/Operation" }
5503                 }
5504             }
5505         },
5506         "post": {
5507             "description": "Sets the desired operational or job state.",
5508             "parameters": [
5509                 { "$ref": "#/parameters/interface" },
5510                 {
5511                     "name": "body",
5512                     "in": "body",
5513                     "required": true,
5514                     "schema": { "$ref": "#/definitions/OperationUpdate" },
5515                     "x-example": {
5516                         "currentMachineState": "pause",
5517                         "currentJobState": "wash"
5518                     }
5519                 }
5520             ],
5521             "responses": {
5522                 "200": {
5523                     "description": "",
5524                     "x-example": {
5525                         "currentMachineState": "pause",
5526                         "currentJobState": "wash"
5527                     },
5528                     "schema": { "$ref": "#/definitions/OperationUpdate" }
5529                 },
5530                 "403": {
5531                     "description": "This response is generated by the OCF Server when the client sends:\n
5532 An UPDATE with an value for \"currentMachineState\" that is not found in \"machineStates\".\n An

```

```

5533 UPDATE with an value for \"currentJobState\" that is not found in \"jobStates\".\n\nThe OCF Server
5534 responds with the current resource representation.\n\",
5535     \"x-example\": {
5536         \"machineStates\": [\"pause\", \"stopped\", \"idle\", \"active\"],
5537         \"currentMachineState\": \"active\",
5538         \"jobStates\": [\"preWash\", \"wash\", \"rinse\", \"spin\", \"dry\", \"airDry\", \"wrinklePrevent\"],
5539         \"currentJobState\": \"rinse\",
5540         \"runningTime\": \"PT15M20S\",
5541         \"remainingTime\": \"PT10M40S\",
5542         \"progressPercentage\": 75
5543     },
5544     \"schema\": { \"$ref\": \"#/definitions/Operation\" }
5545 }
5546 }
5547 }
5548 }
5549 },
5550 \"parameters\": {
5551     \"interface\": {
5552         \"in\": \"query\",
5553         \"name\": \"if\",
5554         \"type\": \"string\",
5555         \"enum\": [\"oic.if.a\", \"oic.if.baseline\"]
5556     }
5557 },
5558 \"definitions\": {
5559     \"Operation\" : {
5560         \"properties\": {
5561             \"rt\": {
5562                 \"description\": \"The Resource Type.\",
5563                 \"items\": {
5564                     \"enum\": [\"oic.r.operational.state\"],
5565                     \"maxLength\": 64,
5566                     \"type\": \"string\"
5567                 },
5568                 \"minItems\": 1,
5569                 \"uniqueItems\": true,
5570                 \"readOnly\": true,
5571                 \"type\": \"array\"
5572             },
5573             \"currentMachineState\": {
5574                 \"description\": \"The current state of operation of the device.\",
5575                 \"type\": \"string\"
5576             },
5577             \"currentJobState\": {
5578                 \"description\": \"The currently active jobState.\",
5579                 \"type\": \"string\"
5580             },
5581             \"machineStates\": {
5582                 \"description\": \"The array of the possible operational states.\",
5583                 \"items\": {
5584                     \"type\": \"string\"
5585                 },
5586                 \"readOnly\": true,
5587                 \"type\": \"array\"
5588             },
5589             \"runningTime\": {
5590                 \"$ref\": \"https://openconnectivityfoundation.github.io/core/schemas/oic.types-
5591 schema.json#/definitions/duration\"
5592             },
5593             \"remainingTime\": {
5594                 \"$ref\": \"https://openconnectivityfoundation.github.io/core/schemas/oic.types-
5595 schema.json#/definitions/duration\"
5596             },
5597             \"progressPercentage\": {
5598                 \"description\": \"The percentage completeness of the current jobState.\",
5599                 \"maximum\": 100,
5600                 \"minimum\": 0,
5601                 \"readOnly\": true,
5602                 \"type\": \"integer\"
5603             },
5604             \"jobStates\": {

```



```

5605         "description": "The Array of the possible job states.",
5606         "items": {
5607             "type": "string"
5608         },
5609         "readOnly": true,
5610         "type": "array"
5611     },
5612     "n": {
5613         "$ref":
5614         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5615         schema.json#/definitions/n"
5616     },
5617     "id": {
5618         "$ref":
5619         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5620         schema.json#/definitions/id"
5621     },
5622     "if": {
5623         "description": "The OCF Interface set supported by this Resource.",
5624         "items": {
5625             "enum": [
5626                 "oic.if.a",
5627                 "oic.if.baseline"
5628             ],
5629             "type": "string"
5630         },
5631         "minItems": 2,
5632         "uniqueItems": true,
5633         "readOnly": true,
5634         "type": "array"
5635     }
5636 },
5637 "type": "object",
5638 "required": ["machineStates", "currentMachineState"]
5639 },
5640 "OperationUpdate" : {
5641     "properties": {
5642         "currentMachineState": {
5643             "description": "The current state of operation of the device.",
5644             "type": "string"
5645         },
5646         "currentJobState": {
5647             "description": "The currently active jobState.",
5648             "type": "string"
5649         }
5650     },
5651     "type": "object"
5652 }
5653 }
5654 }
5655

```

6.19.5 Property definition

Table 41 defines the Properties that are part of the "oic.r.operational.state" Resource Type.

Table 41 – The Property definitions of the Resource with type "rt" = "oic.r.operational.state".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
currentMachineState	string	Yes	Read Write	The current state of operation of the device.
currentJobState	string	No	Read Write	The currently active jobState.

machineStates	array: see schema	Yes	Read Only	The array of the possible operational states.
runningTime	multiple types: see schema	No	Read Write	
remainingTime	multiple types: see schema	No	Read Write	
progressPercentage	integer	No	Read Only	The percentage completeness of the current jobState.
jobStates	array: see schema	No	Read Only	The Array of the possible job states.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
currentMachineState	string		Read Write	The current state of operation of the device.
currentJobState	string		Read Write	The currently active jobState.

6.19.6 CRUDN behaviour

Table 42 defines the CRUDN operations that are supported on the "oic.r.operational.state" Resource Type.

Table 42 – The CRUDN operations of the Resource with type "rt" = "oic.r.operational.state".

Create	Read	Update	Delete	Notify
	get	post		observe

6.20 Ramp Time

6.20.1 Introduction

This Resource that describes the ramp time of a dimming function. It specifies the actual speed of changing between 2 dimming values. The Property "ramptime" is specified in milliseconds [ms]. When range is omitted the maximum value is 100 ms. The ramp time of 0ms indicates the minimal delay possible by the implementation.

6.20.2 Example URI

/RampTimeResURI

6.20.3 Resource type

The Resource Type is defined as: "oic.r.light.ramptime".

6.20.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Ramp Time",
    "version": "20190215",
    "license": {
      "name": "OCF Data Model License",
```

```

5683         "url":
5684         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
5685         CENSE.md",
5686         "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
5687         reserved.",
5688     },
5689     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
5690 },
5691 "schemes": ["http"],
5692 "consumes": ["application/json"],
5693 "produces": ["application/json"],
5694 "paths": {
5695     "/RampTimeResURI" : {
5696         "get": {
5697             "description": "This Resource that describes the ramp time of a dimming function.\nIt
5698             specifies the actual speed of changing between 2 dimming values.\nThe Property \"ramptime\" is
5699             specified in milliseconds [ms].\nWhen range is omitted the maximum value is 100 ms.\nThe ramp time
5700             of 0ms indicates the minimal delay possible by the implementation.",
5701             "parameters": [
5702                 { "$ref": "#/parameters/interface" }
5703             ],
5704             "responses": {
5705                 "200": {
5706                     "description": "RETRIEVES the current RampTime.",
5707                     "x-example":
5708                     {
5709                         "rt": ["oic.r.light.ramptime"],
5710                         "if": ["oic.if.a", "oic.if.baseline"],
5711                         "rampTime": 40,
5712                         "range": [0, 100]
5713                     },
5714                     "schema": { "$ref": "#/definitions/RampTime" }
5715                 }
5716             },
5717         },
5718         "post": {
5719             "description": "Sets the current RampTime.\n",
5720             "parameters": [
5721                 { "$ref": "#/parameters/interface" },
5722                 {
5723                     "name": "body",
5724                     "in": "body",
5725                     "required": true,
5726                     "schema": { "$ref": "#/definitions/RampTime" },
5727                     "x-example":
5728                     {
5729                         "rampTime": 50
5730                     }
5731                 }
5732             ],
5733             "responses": {
5734                 "200": {
5735                     "description": "This response is generated by the OCF Server when the client sends an
5736                     UPDATE with an in range Property value for \"rampTime\". The OCF Server responds with the current
5737                     resource representation.",
5738                     "x-example":
5739                     {
5740                         "rampTime": 50,
5741                         "range": [0, 100]
5742                     },
5743                     "schema": { "$ref": "#/definitions/RampTime" }
5744                 },
5745                 "403": {
5746                     "description": "Error response. This response is generated by the OCF Server when the
5747                     client sends an UPDATE with an out of range Property value for \"rampTime\".",
5748                     "x-example":
5749                     {
5750                         "rampTime": 40,
5751                         "range": [0, 100]
5752                     },
5753                     "schema": { "$ref": "#/definitions/RampTime" }
5754                 }
5755             }
5756         }
5757     }
5758 }

```

```

5755     }
5756   }
5757 }
5758 },
5759 "parameters": {
5760   "interface": {
5761     "in": "query",
5762     "name": "if",
5763     "type": "string",
5764     "enum": ["oic.if.a", "oic.if.baseline"]
5765   }
5766 },
5767 "definitions": {
5768   "RampTime" : {
5769     "properties": {
5770       "rt": {
5771         "description": "The Resource Type.",
5772         "items": {
5773           "enum": ["oic.r.light.ramptime"],
5774           "maxLength": 64,
5775           "type": "string"
5776         },
5777         "minItems": 1,
5778         "uniqueItems": true,
5779         "readOnly": true,
5780         "type": "array"
5781       },
5782       "rampTime" :
5783         {
5784           "description": "The actual speed of changing between 2 dimming values.",
5785           "type": "integer"
5786         },
5787       "n": {
5788         "$ref":
5789           "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5790           schema.json#/definitions/n"
5791       },
5792       "id": {
5793         "$ref":
5794           "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5795           schema.json#/definitions/id"
5796       },
5797       "range": {
5798         "$ref":
5799           "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
5800           schema.json#/definitions/range_integer"
5801       },
5802       "step": {
5803         "$ref":
5804           "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
5805           schema.json#/definitions/step_integer"
5806       },
5807       "precision": {
5808         "$ref":
5809           "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
5810           schema.json#/definitions/precision"
5811       },
5812       "if": {
5813         "description": "The OCF Interface set supported by this Resource.",
5814         "items": {
5815           "enum": [
5816             "oic.if.a",
5817             "oic.if.baseline"
5818           ],
5819           "type": "string"
5820         },
5821         "minItems": 2,
5822         "uniqueItems": true,
5823         "readOnly": true,
5824         "type": "array"
5825       }
5826     },

```

```

5827         "type": "object",
5828         "required": ["rampTime"]
5829     }
5830 }
5831 }
5832

```

5833 6.20.5 Property definition

5834 Table 43 defines the Properties that are part of the "oic.r.light.ramptime" Resource Type.

5835 **Table 43 – The Property definitions of the Resource with type "rt" = "oic.r.light.ramptime".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
rampTime	integer	Yes	Read Write	The actual speed of changing between 2 dimming values.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

5836 6.20.6 CRUDN behaviour

5837 Table 44 defines the CRUDN operations that are supported on the "oic.r.light.ramptime" Resource
5838 Type.

5839 **Table 44 – The CRUDN operations of the Resource with type "rt" = "oic.r.light.ramptime".**

Create	Read	Update	Delete	Notify
	get	post		observe

5840 6.21 Refrigeration

5841 6.21.1 Introduction

5842 This Resource describes a refrigeration function.

5843 The Property "filter" is a read-only value providing the percentage life time remaining for the
5844 water filter.

5845 The Property "rapidFreeze" is a boolean that controls the rapid freeze capability if present.

5846 The Property "rapidCool" is a boolean that controls the rapid cool capability if present.

5847 The Property "defrost" is a boolean that controls the defrost cycle if present.

5848 At least one of the listed Properties shall be present in a Resource Instance.

5849 6.21.2 Example URI

5850 /RefrigerationResURI

5851 6.21.3 Resource type

5852 The Resource Type is defined as: "oic.r.refrigeration".

6.21.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Refrigeration",
    "version": "20190215",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/RefrigerationResURI" : {
      "get": {
        "description": "This Resource describes a refrigeration function.\n\nThe Property \"filter\"
is a read-only value providing the percentage life time remaining for the water filter.\n\nThe
Property \"rapidFreeze\" is a boolean that controls the rapid freeze capability if present.\n\nThe
Property \"rapidCool\" is a boolean that controls the rapid cool capability if present.\n\nThe
Property \"defrost\" is a boolean that controls the defrost cycle if present.\n\nAt least one of the
listed Properties shall be present in a Resource Instance.",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "Retrieves the current Refrigeration function status; all Properties
supported by the Device are returned.",
            "x-example":
              {
                "rt": ["oic.r.refrigeration"],
                "if": ["oic.if.a", "oic.if.baseline"],
                "filter": 75,
                "rapidFreeze": false,
                "rapidCool": false,
                "defrost": true
              },
            "schema": { "$ref": "#/definitions/Refrigeration" }
          }
        }
      },
      "post": {
        "description": "Activates the desired Refrigeration functions.\n\nSupported values are
\"rapidFreeze\", \"rapidCool\" and \"defrost\".\n\nAt least one of the supported values shall be
provided.\n",
        "parameters": [
          { "$ref": "#/parameters/interface" },
          {
            "name": "body",
            "in": "body",
            "required": true,
            "schema": { "$ref": "#/definitions/RefrigerationUpdate" },
            "x-example":
              {
                "rapidFreeze": true
              }
          }
        ],
        "responses": {
          "200": {
            "description": "Indicates that the Refrigeration function was changed.\n\nThe new
status can be provided in the response.\n",
            "x-example":
              {

```

```

5924         "rapidFreeze": true
5925     },
5926     "schema": { "$ref": "#/definitions/RefrigerationUpdate" }
5927 }
5928 }
5929 }
5930 }
5931 },
5932 "parameters": {
5933     "interface": {
5934         "in": "query",
5935         "name": "if",
5936         "type": "string",
5937         "enum": ["oic.if.a", "oic.if.baseline"]
5938     }
5939 },
5940 "definitions": {
5941     "Refrigeration" : {
5942         "properties": {
5943             "rt": {
5944                 "description": "The Resource Type.",
5945                 "items": {
5946                     "enum": ["oic.r.refrigeration"],
5947                     "maxLength": 64,
5948                     "type": "string"
5949                 },
5950                 "minItems": 1,
5951                 "uniqueItems": true,
5952                 "readOnly": true,
5953                 "type": "array"
5954             },
5955             "rapidFreeze": {
5956                 "description": "Indicates whether the unit has a rapid freeze capability active.",
5957                 "type": "boolean"
5958             },
5959             "defrost": {
5960                 "description": "Indicates whether a defrost cycle is currently active.",
5961                 "type": "boolean"
5962             },
5963             "filter": {
5964                 "description": "Percentage life time remaining for the water filter.",
5965                 "maximum": 100,
5966                 "minimum": 0,
5967                 "readOnly": true,
5968                 "type": "integer"
5969             },
5970             "rapidCool": {
5971                 "description": "Indicates whether the unit has a rapid cool capability active.",
5972                 "type": "boolean"
5973             },
5974             "n": {
5975                 "$ref":
5976 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5977 schema.json#/definitions/n"
5978             },
5979             "id": {
5980                 "$ref":
5981 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
5982 schema.json#/definitions/id"
5983             },
5984             "if": {
5985                 "description": "The OCF Interface set supported by this Resource.",
5986                 "items": {
5987                     "enum": [
5988                         "oic.if.a",
5989                         "oic.if.baseline"
5990                     ],
5991                     "type": "string"
5992                 },
5993                 "minItems": 2,
5994                 "readOnly": true,
5995                 "type": "array"

```

```

5996     }
5997   },
5998   "anyOf": [
5999     {
6000       "required": ["filter"]
6001     },
6002     {
6003       "required": ["rapidFreeze"]
6004     },
6005     {
6006       "required": ["rapidCool"]
6007     },
6008     {
6009       "required": ["defrost"]
6010     }
6011   ],
6012   "type": "object"
6013 },
6014 "RefrigerationUpdate": {
6015   "properties": {
6016     "rapidFreeze": {
6017       "description": "Indicates whether the unit has a rapid freeze capability active.",
6018       "type": "boolean"
6019     },
6020     "defrost": {
6021       "description": "Indicates whether a defrost cycle is currently active.",
6022       "type": "boolean"
6023     },
6024     "rapidCool": {
6025       "description": "Indicates whether the unit has a rapid cool capability active.",
6026       "type": "boolean"
6027     }
6028   },
6029   "anyOf": [
6030     {
6031       "required": ["rapidFreeze"]
6032     },
6033     {
6034       "required": ["rapidCool"]
6035     },
6036     {
6037       "required": ["defrost"]
6038     }
6039   ],
6040   "type": "object"
6041 }
6042 }
6043 }
6044

```

6.21.5 Property definition

Table 45 defines the Properties that are part of the "oic.r.refrigeration" Resource Type.

Table 45 – The Property definitions of the Resource with type "rt" = "oic.r.refrigeration".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
rapidFreeze	boolean	No	Read Write	Indicates whether the unit has a rapid freeze capability active.
defrost	boolean	Yes	Read Write	Indicates whether a defrost cycle is currently active.
filter	integer	No	Read Only	Percentage life time remaining for the water filter.

rapidCool	boolean	No	Read Write	Indicates whether the unit has a rapid cool capability active.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
rapidFreeze	boolean	No	Read Write	Indicates whether the unit has a rapid freeze capability active.
defrost	boolean	Yes	Read Write	Indicates whether a defrost cycle is currently active.
rapidCool	boolean	No	Read Write	Indicates whether the unit has a rapid cool capability active.

6.21.6 CRUDN behaviour

Table 46 defines the CRUDN operations that are supported on the "oic.r.refrigeration" Resource Type.

Table 46 – The CRUDN operations of the Resource with type "rt" = "oic.r.refrigeration".

Create	Read	Update	Delete	Notify
	get	post		observe

6.22 Temperature

6.22.1 Introduction

This Resource describes a sensed or actuated Temperature value.
The Property "temperature" describes the current value measured.
The Property "units" is a single value that is one of "C", "F" or "K".
It provides the unit of measurement for the "temperature" value.
It is a read-only value that is provided by the server.
If the "units" Property is missing the default is Celsius [C].
When the Property "range" is omitted the default is +/- MAXINT.
A client can specify the units for the requested temperature by use of a query parameter.
If no query parameter is provided the server provides its default measure or set value.
It is recommended to return always the units Property in the result.

6.22.2 Example URI

/TemperatureResURI

6.22.3 Resource type

The Resource Type is defined as: "oic.r.temperature".

6.22.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Temperature",
    "version": "20190215",
```

```

6074     "license": {
6075         "name": "OCF Data Model License",
6076         "url":
6077     "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
6078     CENSE.md",
6079         "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
6080     reserved."
6081     },
6082     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
6083 },
6084 "schemas": ["http"],
6085 "consumes": ["application/json"],
6086 "produces": ["application/json"],
6087 "paths": {
6088     "/TemperatureResURI" : {
6089         "get": {
6090             "description": "This Resource describes a sensed or actuated Temperature value.\nThe
6091     Property \"temperature\" describes the current value measured.\nThe Property \"units\" is a single
6092     value that is one of \"C\", \"F\" or \"K\".\nIt provides the unit of measurement for the
6093     \"temperature\" value.\nIt is a read-only value that is provided by the server.\nIf the \"units\"
6094     Property is missing the default is Celsius [C].\nWhen the Property \"range\" is omitted the default
6095     is +/- MAXINT.\nA client can specify the units for the requested temperature by use of a query
6096     parameter.\nIf no query parameter is provided the server provides its default measure or set
6097     value.\nIt is recommended to return always the units Property in the result.",
6098             "parameters": [
6099                 { "$ref": "#/parameters/interface" },
6100                 { "$ref": "#/parameters/unit" }
6101             ],
6102             "responses": {
6103                 "200": {
6104                     "description": "Retrieves the current temperature value.",
6105                     "x-example":
6106                     {
6107                         "rt": ["oic.r.temperature"],
6108                         "if": [ "oic.if.a", "oic.if.baseline"],
6109                         "temperature": 20.0,
6110                         "units": "C"
6111                     }
6112                     ,
6113                     "schema": { "$ref": "#/definitions/Temperature" }
6114                 },
6115                 "403": {
6116                     "description": "This response is generated by the OCF Server when the client sends:\n
6117     A RETRIEVE with queryParameter indicating a unit that the server does not support.\nThe server
6118     responds with the current resource representation including the\n\"units\" property illustrating the
6119     supported units and the error.",
6120                     "x-example":
6121                     {
6122                         "temperature": 20.0,
6123                         "units": "C"
6124                     },
6125                     "schema": { "$ref": "#/definitions/Temperature" }
6126                 }
6127             }
6128         },
6129         "post": {
6130             "description": "Sets the desired temperature value.\nIf a \"unit\" is included and the
6131     server may not support the unit indicated the request will fail.\nIf the units are omitted value is
6132     taken to be in C.",
6133             "parameters": [
6134                 { "$ref": "#/parameters/interface" },
6135                 {
6136                     "name": "body",
6137                     "in": "body",
6138                     "required": true,
6139                     "schema": { "$ref": "#/definitions/Temperature" },
6140                     "x-example":
6141                     {
6142                         "temperature": 18.0,
6143                         "units": "F"
6144                     }
6145                 }
6146             ]
6147         }
6148     }
6149 }

```

```

6146     ],
6147     "responses": {
6148         "200": {
6149             "description": "",
6150             "x-example":
6151                 {
6152                     "temperature": 18.0,
6153                     "units": "F"
6154                 },
6155             "schema": { "$ref": "#/definitions/Temperature" }
6156         },
6157         "403": {
6158             "description": "This response is generated by the OCF Server when the client sends:\n
6159 An UPDATE with an out of range property value for temperature.\n An UPDATE with an unsupported unit
6160 for this server.\nThe OCF Server responds with the current resource representation including\nthe
6161 \"range\" property illustrating the supported range and the error.",
6162             "x-example":
6163                 {
6164                     "temperature": 20.0,
6165                     "units": "C"
6166                 },
6167             "schema": { "$ref": "#/definitions/Temperature" }
6168         }
6169     }
6170 },
6171 {
6172     "parameters": {
6173         "interface": {
6174             "in": "query",
6175             "name": "if",
6176             "type": "string",
6177             "enum": ["oic.if.a", "oic.if.s", "oic.if.baseline"]
6178         },
6179         "unit": {
6180             "in": "query",
6181             "description": "Units",
6182             "type": "string",
6183             "enum": ["C", "F", "K"],
6184             "name": "units",
6185             "x-queryexample": "/TemperatureResURI?units=C"
6186         }
6187     },
6188     "definitions": {
6189         "Temperature": {
6190             "properties": {
6191                 "rt": {
6192                     "description": "The Resource Type.",
6193                     "items": {
6194                         "maxLength": 64,
6195                         "type": "string",
6196                         "enum": ["oic.r.temperature"]
6197                     },
6198                     "minItems": 1,
6199                     "uniqueItems": true,
6200                     "readOnly": true,
6201                     "type": "array"
6202                 },
6203                 "temperature": {
6204                     "description": "The current temperature setting or measurement.",
6205                     "type": "number"
6206                 },
6207                 "units": {
6208                     "description": "The unit for the conveyed temperature value, Note that when doing an
6209 UPDATE, the unit on the device does NOT change, it only indicates the unit of the conveyed value
6210 during the UPDATE operation.",
6211                     "enum": [
6212                         "C",
6213                         "F",
6214                         "K"
6215                     ]
6216                 }
6217             }
6218         }
6219     }
6220 }

```

```

6218         },
6219         "type": "string"
6220     },
6221     "n": {
6222         "$ref":
6223         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6224         schema.json#/definitions/n"
6225     },
6226     "id": {
6227         "$ref":
6228         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6229         schema.json#/definitions/id"
6230     },
6231     "range" : {
6232         "$ref":
6233         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6234         schema.json#/definitions/range_number"
6235     },
6236     "step" : {
6237         "$ref":
6238         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6239         schema.json#/definitions/step_number"
6240     },
6241     "precision" : {
6242         "$ref":
6243         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6244         schema.json#/definitions/precision"
6245     },
6246     "if" : {
6247         "description": "The OCF Interface set supported by this Resource.",
6248         "items": {
6249             "enum": [
6250                 "oic.if.baseline",
6251                 "oic.if.s",
6252                 "oic.if.a"
6253             ],
6254             "maxLength": 64,
6255             "type": "string"
6256         },
6257         "minItems": 2,
6258         "uniqueItems": true,
6259         "readOnly": true,
6260         "type": "array"
6261     }
6262 },
6263 "type" : "object",
6264 "required": ["temperature"]
6265 }
6266 }
6267 }

```

6.22.5 Property definition

Table 47 defines the Properties that are part of the "oic.r.temperature" Resource Type.

Table 47 – The Property definitions of the Resource with type "rt" = "oic.r.temperature".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
temperature	number	Yes	Read Write	The current temperature setting or measurement.
units	string	No	Read Write	The unit for the conveyed temperature value, Note that when doing an UPDATE, the unit on the device does NOT

				change, it only indicates the unit of the conveyed value during the UPDATE operation.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

6.22.6 CRUDN behaviour

Table 48 defines the CRUDN operations that are supported on the "oic.r.temperature" Resource Type.

Table 48 – The CRUDN operations of the Resource with type "rt" = "oic.r.temperature".

Create	Read	Update	Delete	Notify
	get	post		observe

6.23 Time Period

6.23.1 Introduction

This Resource describes the time period over which any additionally provided information is derived or bounded.

The Property "startTime" and "stopTime" are RFC3339 encoded strings. The Property "startTime" must be present.

The interval is the interval of the time period in minutes, if present this value must be no less than 0 minute.

The intervalsecond is the interval of the time period in seconds, if present this value must be numerical zero or greater.

The repeat is the number of the time period's iteration, which means how many times to repeat the time period. The Property "repeat" accepts only negative one, numerical zero, and positive number. When this value is numerical zero, the time period will be repeated infinitely until a client makes it stop by inputting negative one for the value.

The Property "stoptime" and "interval" are mutually exclusive; both Properties cannot be present in a Resource instance.

The Property "intervalsecond" cannot be presented with the Property "stopTime". In case of both the Property "interval" and "intervalsecond" are presented together, the total time interval is the sum of "interval" and "intervalsecond".

The Property "triggertiming" describes a specific time to execute an action. This property must have one of the values among "startTime", "stopTime", and "totalInterval". The totalInterval means the sum of the Property "interval" and "intervalsecond". If one of the properties does not exist, the value of the unexpressed property is taken as a numerical zero.

The Property "state" describes a state of time interval. This property must have one of the values among "preInterval", "inInterval", and "postInterval".

The Resource defines a time period for information retrieval, action or other behaviour.

6.23.2 Example URI

/TimePeriodResURI

6.23.3 Resource type

The Resource Type is defined as: "oic.r.time.period".

6.23.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Time Period",
    "version": "20191001",
    "license": {
      "name": "OCF Data Model License",
      "url":
        "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
        CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
        reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/TimePeriodResURI" : {
      "get": {
        "description": "This Resource describes the time period over which any additionally provided
        information is derived or bounded.\n\nThe Property \"startTime\" and \"stopTime\" are RFC3339 encoded
        strings. The Property \"startTime\" must be present.\n\nThe interval is the interval of the time
        period in minutes, if present this value must be no less than 0 minute.\n\nThe intervalsecond is the
        interval of the time period in seconds, if present this value must be numerical zero or
        greater.\n\nThe repeat is the number of the time period's iteration, which means how many times to
        repeat the time period. The Property \"repeat\" accepts only negative one, numerical zero, and
        positive number. When this value is numerical zero, the time period will be repeated infinitely
        until a client makes it stop by inputting negative one for the value.\n\nThe Property \"stopTime\" and
        \"interval\" are mutually exclusive; both Properties cannot be present in a Resource instance.\n\nThe
        Property \"intervalsecond\" cannot be presented with the Property \"stopTime\". In case of both the
        Property \"interval\" and \"intervalsecond\" are presented together, the total time interval is the
        sum of \"interval\" and \"intervalsecond\".\n\nThe Property \"triggertiming\" describes a specific
        time to execute an action. This property must have one of the values among \"startTime\",
        \"stopTime\", and \"totalInterval\". The totalInterval means the sum of the Property \"interval\"
        and \"intervalsecond\". If one of the properties does not exist, the value of the unexpressed
        property is taken as a numerical zero.\n\nThe Property \"state\" describes a state of time interval.
        This property must have one of the values among \"preInterval\", \"inInterval\", and
        \"postInterval\".\n\nThe Resource defines a time period for information retrieval, action or other
        behaviour.",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.time.period"],
              "if": ["oic.if.a", "oic.if.baseline"],
              "startTime": "2015-01-09T14:30:00Z",
              "stopTime": "2015-01-09T14:45:00Z"
            },
            "schema": { "$ref": "#/definitions/TimePeriod" }
          }
        }
      },
      "post": {
        "description": "Sets or updates a time period for information retrieval, action or other
        behavior.",
        "parameters": [
```

```

6368         {"$ref": "#/parameters/interface"},
6369         {
6370             "name": "body",
6371             "in": "body",
6372             "required": true,
6373             "schema": { "$ref": "#/definitions/TimePeriod" },
6374             "x-example":
6375                 {
6376                     "startTime": "2015-01-09T14:30:00Z",
6377                     "stopTime": "2015-01-09T14:45:00Z"
6378                 }
6379         },
6380     ],
6381     "responses": {
6382         "200": {
6383             "description": "",
6384             "x-example":
6385                 {
6386                     "startTime": "2015-01-09T14:30:00Z",
6387                     "stopTime": "2015-01-09T14:45:00Z"
6388                 },
6389             "schema": { "$ref": "#/definitions/TimePeriod" }
6390         }
6391     },
6392 },
6393 },
6394 },
6395 "parameters": {
6396     "interface": {
6397         "in": "query",
6398         "name": "if",
6399         "type": "string",
6400         "enum": ["oic.if.a", "oic.if.baseline"]
6401     }
6402 },
6403 "definitions": {
6404     "TimePeriod": {
6405         "properties": {
6406             "rt": {
6407                 "description": "The Resource Type.",
6408                 "items": {
6409                     "enum": ["oic.r.time.period"],
6410                     "maxLength": 64,
6411                     "type": "string"
6412                 },
6413                 "minItems": 1,
6414                 "uniqueItems": true,
6415                 "readOnly": true,
6416                 "type": "array"
6417             },
6418             "interval": {
6419                 "description": "The time interval in minutes after the \"startTime\", if present the
6420 Property \"stopTime\" cannot be present.",
6421                 "type": "integer",
6422                 "minimum": 0
6423             },
6424             "intervalsecond": {
6425                 "description": "The time interval in seconds after the \"startTime\", if present the
6426 Property \"stopTime\" cannot be present.",
6427                 "type": "integer",
6428                 "minimum": 0
6429             },
6430             "stopTime": {
6431                 "description": "The stop time for the time period, if present the Property \"interval\" or
6432 \"intervalsecond\" cannot be present.",
6433                 "type": "string",
6434                 "format": "date-time"
6435             },
6436             "startTime": {
6437                 "description": "The start time for the time period.",
6438                 "type": "string",
6439                 "format": "date-time"

```

```

6440     },
6441     "repeat": {
6442         "description": "The number of times to repeat the time period",
6443         "type": "integer",
6444         "minimum": -1
6445     },
6446     "triggertiming": {
6447         "description": "The desired timing to trigger an action execution",
6448         "type": "string",
6449         "enum": [
6450             "startTime",
6451             "stopTime",
6452             "totalInterval"
6453         ]
6454     },
6455     "state": {
6456         "description": "The current state of the time interval",
6457         "type": "string",
6458         "readOnly": true,
6459         "enum": [
6460             "preInterval",
6461             "inInterval",
6462             "postInterval"
6463         ]
6464     },
6465     "n": {
6466         "$ref":
6467         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6468         schema.json#/definitions/n"
6469     },
6470     "id": {
6471         "$ref":
6472         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6473         schema.json#/definitions/id"
6474     },
6475     "if": {
6476         "description": "The OCF Interface set supported by this Resource.",
6477         "items": {
6478             "enum": [
6479                 "oic.if.a",
6480                 "oic.if.baseline"
6481             ],
6482             "type": "string"
6483         },
6484         "minItems": 2,
6485         "uniqueItems": true,
6486         "readOnly": true,
6487         "type": "array"
6488     }
6489 },
6490 "type": "object",
6491 "required": ["startTime"]
6492 }
6493 }
6494 }
6495

```

6.23.5 Property definition

Table 49 defines the Properties that are part of the "oic.r.time.period" Resource Type.

Table 49 – The Property definitions of the Resource with type "rt" = "oic.r.time.period".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
interval	integer	No	Read Write	The time interval in minutes after the "startTime", if present the Property

				"stopTime" cannot be present.
intervalsecond	integer	No	Read Write	The time interval in seconds after the "startTime", if present the Property "stopTime" cannot be present.
stopTime	string	No	Read Write	The stop time for the time period, if present the Property "interval" or "intervalsecond" cannot be present.
startTime	string	Yes	Read Write	The start time for the time period.
Repeat	integer	No	Read Write	The number of times to repeat the time period
triggertiming	string	No	Read Write	The desired timing to trigger an action execution
State	string	No	Read Only	The current state of the time interval
n	multiple types: see schema	No	Read Write	
Id	multiple types: see schema	No	Read Write	
If	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

6.23.6 CRUDN behaviour

Table 50 defines the CRUDN operations that are supported on the "oic.r.time.period" Resource Type.

Table 50 – The CRUDN operations of the Resource with type "rt" = "oic.r.time.period".

Create	Read	Update	Delete	Notify
	get	post		observe

6.24 Activity Count

6.24.1 Introduction

This Resource specifies an activity count.

The Resource can be readonly (oic.if.s interface) in which instance it represents a count.

The Resource can be readwrite (oic.if.a interface) in which instance it represents a goal or target for a count.

The Property "count" is an integer representing either the current count or goal value.

6.24.2 Example URI

/ActivityCountResURI

6.24.3 Resource type

The Resource Type is defined as: "oic.r.sensor.activity.count".

6.24.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Activity Count",
    "version": "20190222",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/ActivityCountResURI" : {
      "get": {
        "description": "This Resource specifies an activity count.\n\nThe Resource can be readonly
(oic.if.s interface) in which instance it represents a count.\n\nThe Resource can be readwrite
(oic.if.a interface) in which instance it represents a goal or target for a count.\n\nThe Property
\"count\" is an integer representing either the current count or goal value.",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example":
              {
                "rt": ["oic.r.sensor.activity.count"],
                "if": ["oic.if.a", "oic.if.baseline"],
                "count": 2500
              },
            "schema": { "$ref": "#/definitions/Count" }
          }
        }
      },
      "post": {
        "description": "Sets the \"count\" target.",
        "parameters": [
          { "$ref": "#/parameters/interface" },
          {
            "name": "body",
            "in": "body",
            "required": true,
            "schema": { "$ref": "#/definitions/Count" },
            "x-example":
              {
                "count": 5000
              }
          }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example":
              {
                "count": 5000
              },
            "schema": { "$ref": "#/definitions/Count" }
          }
        }
      }
    }
  },
  "parameters": {
    "interface" : {
```

```

6586         "in": "query",
6587         "name": "if",
6588         "type": "string",
6589         "enum": ["oic.if.a", "oic.if.s", "oic.if.baseline"]
6590     }
6591 },
6592 "definitions": {
6593     "Count": {
6594         "properties": {
6595             "rt": {
6596                 "description": "The Resource Type.",
6597                 "items": {
6598                     "maxLength": 64,
6599                     "type": "string",
6600                     "enum": ["oic.r.sensor.activity.count"]
6601                 },
6602                 "minItems": 1,
6603                 "uniqueItems": true,
6604                 "readOnly": true,
6605                 "type": "array"
6606             },
6607             "count": {
6608                 "description": "The current or Target count.",
6609                 "type": "integer"
6610             },
6611             "n": {
6612                 "$ref":
6613 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6614 schema.json#/definitions/n"
6615             },
6616             "id": {
6617                 "$ref":
6618 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6619 schema.json#/definitions/id"
6620             },
6621             "range": {
6622                 "$ref":
6623 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6624 schema.json#/definitions/range_integer"
6625             },
6626             "step": {
6627                 "$ref":
6628 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6629 schema.json#/definitions/step_integer"
6630             },
6631             "if": {
6632                 "description": "The OCF Interface set supported by this Resource.",
6633                 "items": {
6634                     "enum": [
6635                         "oic.if.a",
6636                         "oic.if.s",
6637                         "oic.if.baseline"
6638                     ],
6639                     "type": "string"
6640                 },
6641                 "minItems": 2,
6642                 "readOnly": true,
6643                 "uniqueItems": true,
6644                 "type": "array"
6645             }
6646         },
6647         "type": "object",
6648         "required": ["count"]
6649     }
6650 }
6651 }
6652

```

6.24.5 Property definition

Table 51 defines the Properties that are part of the "oic.r.sensor.activity.count" Resource Type.

6655
6656

Table 51 – The Property definitions of the Resource with type "rt" = "oic.r.sensor.activity.count".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
count	integer	Yes	Read Write	The current or Target count.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

6657 **6.24.6 CRUDN behaviour**

6658 Table 52 defines the CRUDN operations that are supported on the "oic.r.sensor.activity.count"
6659 Resource Type.

6660
6661

Table 52 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.activity.count".

Create	Read	Update	Delete	Notify
	get	post		observe

6662 **6.25 Atmospheric Pressure Sensor**

6663 **6.25.1 Introduction**

6664 This Resource provides a measurement of Mean Sea Level Pressure experienced at the
6665 measuring point expressed in millibars.
6666 The Property "atmosphericPressure" is a float which describes the atmospheric pressure in hPa
6667 (hectoPascals).
6668 Note that hPa and the also commonly used unit of millibars (mbar) are numerically equivalent.

6669 **6.25.2 Example URI**

6670 /AtmosphericPressureResURI

6671 **6.25.3 Resource type**

6672 The Resource Type is defined as: "oic.r.sensor.atmosphericpressure".

6673 **6.25.4 OpenAPI 2.0 definition**

```
6674 {  
6675   "swagger": "2.0",  
6676   "info": {  
6677     "title": "Atmospheric Pressure Sensor",  
6678     "version": "20190225",  
6679     "license": {  
6680       "name": "OCF Data Model License",  
6681       "url":  
6682         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
6683         CENSE.md",  
6684       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
6685       reserved."  
6686     },  
6687   },  
6688 }
```

```

6687     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
6688 },
6689 "schemas": ["http"],
6690 "consumes": ["application/json"],
6691 "produces": ["application/json"],
6692 "paths": {
6693     "/AtmosphericPressureResURI" : {
6694         "get": {
6695             "description": "This Resource provides a measurement of Mean Sea Level Pressure experienced
6696 at the measuring point expressed in millibars.\nThe Property \"atmosphericPressure\" is a float
6697 which describes the atmospheric pressure in hPa (hectoPascals).\nNote that hPa and the also commonly
6698 used unit of millibars (mbar) are numerically equivalent.",
6699             "parameters": [
6700                 { "$ref": "#/parameters/interface" }
6701             ],
6702             "responses": {
6703                 "200": {
6704                     "description": "",
6705                     "x-example":
6706                         {
6707                             "rt": ["oic.r.sensor.atmosphericpressure"],
6708                             "if": ["oic.if.s", "oic.if.baseline"],
6709                             "atmosphericPressure": 1000.4
6710                         },
6711                     "schema": { "$ref": "#/definitions/atmosphericPressure" }
6712                 }
6713             }
6714         }
6715     }
6716 },
6717 "parameters": {
6718     "interface" : {
6719         "in": "query",
6720         "name": "if",
6721         "type": "string",
6722         "enum": ["oic.if.s", "oic.if.baseline"]
6723     }
6724 },
6725 "definitions": {
6726     "atmosphericPressure" : {
6727         "properties": {
6728             "rt" : {
6729                 "description": "The Resource Type.",
6730                 "items": {
6731                     "enum": ["oic.r.sensor.atmosphericpressure"],
6732                     "maxLength": 64,
6733                     "type": "string"
6734                 },
6735                 "minItems": 1,
6736                 "uniqueItems": true,
6737                 "readOnly": true,
6738                 "type": "array"
6739             },
6740             "atmosphericPressure": {
6741                 "description": "The current atmospheric pressure in hPa.",
6742                 "readOnly": true,
6743                 "type": "number"
6744             },
6745             "n": {
6746                 "$ref":
6747 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6748 schema.json#/definitions/n"
6749             },
6750             "id": {
6751                 "$ref":
6752 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6753 schema.json#/definitions/id"
6754             },
6755             "precision": {
6756                 "$ref":
6757 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6758 schema.json#/definitions/precision"

```

```

6759     },
6760     "range": {
6761         "$ref":
6762         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6763         schema.json#/definitions/range_number"
6764     },
6765     "step": {
6766         "$ref":
6767         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6768         schema.json#/definitions/step_number"
6769     },
6770     "if": {
6771         "description": "The OCF Interface set supported by this Resource.",
6772         "items": {
6773             "enum": [
6774                 "oic.if.s",
6775                 "oic.if.baseline"
6776             ],
6777             "type": "string"
6778         },
6779         "minItems": 2,
6780         "uniqueItems": true,
6781         "readOnly": true,
6782         "type": "array"
6783     }
6784 },
6785 "type": "object",
6786 "required": ["atmosphericPressure"]
6787 }
6788 }
6789 }
6790

```

6.25.5 Property definition

Table 53 defines the Properties that are part of the "oic.r.sensor.atmosphericpressure" Resource Type.

Table 53 – The Property definitions of the Resource with type "rt" = "oic.r.sensor.atmosphericpressure".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
atmosphericPressure	number	Yes	Read Only	The current atmospheric pressure in hPa.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

6.25.6 CRUDN behaviour

Table 54 defines the CRUDN operations that are supported on the "oic.r.sensor.atmosphericpressure" Resource Type.

6799
6800

**Table 54 – The CRUDN operations of the Resource with type "rt" =
"oic.r.sensor.atmosphericpressure".**

Create	Read	Update	Delete	Notify
	get			observe

6801 **6.26 Audio Controls**

6802 **6.26.1 Introduction**

6803 This Resource defines basic audio control functions.
6804 The Property "volume" is an integer containing a percentage [0,100].
6805 A volume of 0 (zero) means no sound produced.
6806 A volume of 100 means maximum sound production.
6807 The Property "mute" is implemented as a boolean.
6808 A mute value of true means that the device is muted (no audio).
6809 A mute value of false means that the device is not muted (audio).

6810 **6.26.2 Example URI**

6811 /AudioResURI

6812 **6.26.3 Resource type**

6813 The Resource Type is defined as: "oic.r.audio".

6814 **6.26.4 OpenAPI 2.0 definition**

```
6815 {  
6816   "swagger": "2.0",  
6817   "info": {  
6818     "title": "Audio Controls",  
6819     "version": "20190620",  
6820     "license": {  
6821       "name": "OCF Data Model License",  
6822       "url":  
6823         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
6824         CENSE.md",  
6825       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
6826       reserved."  
6827     },  
6828     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
6829   },  
6830   "schemes": ["http"],  
6831   "consumes": ["application/json"],  
6832   "produces": ["application/json"],  
6833   "paths": {  
6834     "/AudioResURI" : {  
6835       "get": {  
6836         "description": "This Resource defines basic audio control functions.\nThe Property  
6837         \"volume\" is an integer containing a percentage [0,100].\nA volume of 0 (zero) means no sound  
6838         produced.\nA volume of 100 means maximum sound production.\nThe Property \"mute\" is implemented as  
6839         a boolean.\nA mute value of true means that the device is muted (no audio).\nA mute value of false  
6840         means that the device is not muted (audio).",  
6841         "parameters": [  
6842           { "$ref": "#/parameters/interface" }  
6843         ],  
6844         "responses": {  
6845           "200": {  
6846             "description": "",  
6847             "x-example":  
6848               {  
6849                 "rt": ["oic.r.audio"],  
6850                 "if": ["oic.if.a", "oic.if.baseline"],  
6851                 "volume": 50,  
6852                 "mute": false  
6853               },  
6854             "schema": { "$ref": "#/definitions/Audio" }  
6855           }  
6856         }  
6857       }  
6858     }  
6859   }  
6860 }
```

```

6856     }
6857   },
6858   "post": {
6859     "description": "",
6860     "parameters": [
6861       { "$ref": "#/parameters/interface" },
6862       {
6863         "name": "body",
6864         "in": "body",
6865         "required": true,
6866         "schema": { "$ref": "#/definitions/Audio-update" },
6867         "x-example":
6868           {
6869             "volume": 75
6870           }
6871       ]
6872     },
6873     "responses": {
6874       "200": {
6875         "description": "",
6876         "x-example":
6877           {
6878             "volume": 75,
6879             "mute": false
6880           },
6881         "schema": { "$ref": "#/definitions/Audio" }
6882       }
6883     }
6884   }
6885 },
6886 "parameters": {
6887   "interface": {
6888     "in": "query",
6889     "name": "if",
6890     "type": "string",
6891     "enum": ["oic.if.a", "oic.if.baseline"]
6892   }
6893 },
6894 "definitions": {
6895   "Audio": {
6896     "properties": {
6897       "rt": {
6898         "description": "The Resource Type.",
6899         "items": {
6900           "enum": ["oic.r.audio"],
6901           "maxLength": 64,
6902           "type": "string"
6903         },
6904         "minItems": 1,
6905         "uniqueItems": true,
6906         "readOnly": true,
6907         "type": "array"
6908       },
6909       "mute": {
6910         "description": "The mute setting of an audio rendering device.",
6911         "type": "boolean"
6912       },
6913       "volume": {
6914         "description": "The volume setting of an audio rendering device.",
6915         "maximum": 100,
6916         "minimum": 0,
6917         "type": "integer"
6918       }
6919     },
6920     "n": {
6921       "$ref":
6922         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
6923         schema.json#/definitions/n"
6924     },
6925     "id": {
6926       "$ref":
6927         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-

```



```

6928 schema.json#/definitions/id"
6929     },
6930     "range": {
6931         "$ref":
6932         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6933         schema.json#/definitions/range_integer"
6934     },
6935     "step": {
6936         "$ref":
6937         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
6938         schema.json#/definitions/step_integer"
6939     },
6940     "if": {
6941         "description": "The OCF Interface set supported by this Resource.",
6942         "items": {
6943             "enum": [
6944                 "oic.if.a",
6945                 "oic.if.baseline"
6946             ],
6947             "type": "string"
6948         },
6949         "minItems": 2,
6950         "uniqueItems": true,
6951         "readOnly": true,
6952         "type": "array"
6953     }
6954 },
6955 "type" : "object",
6956 "required": ["volume", "mute"]
6957 },
6958 "Audio-update" : {
6959     "properties": {
6960         "mute": {
6961             "description": "The mute setting of an audio rendering device.",
6962             "type": "boolean"
6963         },
6964         "volume": {
6965             "description": "The volume setting of an audio rendering device.",
6966             "maximum": 100,
6967             "minimum": 0,
6968             "type": "integer"
6969         }
6970     }
6971 }
6972 }
6973 }
6974

```

6975 6.26.5 Property definition

6976 Table 55 defines the Properties that are part of the "oic.r.audio" Resource Type.

6977 **Table 55 – The Property definitions of the Resource with type "rt" = "oic.r.audio".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
mute	boolean	Yes	Read Write	The mute setting of an audio rendering device.
volume	integer	Yes	Read Write	The volume setting of an audio rendering device.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	

range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
mute	boolean		Read Write	The mute setting of an audio rendering device.
volume	integer		Read Write	The volume setting of an audio rendering device.

6.26.6 CRUDN behaviour

Table 56 defines the CRUDN operations that are supported on the "oic.r.audio" Resource Type.

Table 56 – The CRUDN operations of the Resource with type "rt" = "oic.r.audio".

Create	Read	Update	Delete	Notify
	get	post		observe

6.27 Auto Focus

6.27.1 Introduction

This Resource describes an auto focus on/off feature.

The Property "autoFocus" is a boolean.

An "autoFocus" value of 'true' means that the auto focus feature is on.

An "autoFocus" value of 'false' means that the auto focus feature is off.

Note that when Pan Tilt Zoom (see 'Pan Tilt Zoom' Resource definition) is used the autofocus works only in the selected area.

6.27.2 Example URI

/AutoFocusResURI

6.27.3 Resource type

The Resource Type is defined as: "oic.r.autofocus".

6.27.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Auto Focus",
    "version": "20190222",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/AutoFocusResURI" : {
      "get": {
        "description": "This Resource describes an auto focus on/off feature.\n
The Property \"autoFocus\" is a boolean.\n
An \"autoFocus\" value of 'true' means that the auto focus feature is
on.\n
An \"autoFocus\" value of 'false' means that the auto focus feature is off."
      }
    }
  }
}
```

```

7016 on.\nAn \"autoFocus\" value of 'false' means that the auto focus feature is off.\nNote that when Pan
7017 Tilt Zoom (see 'Pan Tilt Zoom' Resource definition) is used the autofocus works only in the selected
7018 area.\",
7019     \"parameters\": [
7020         { \"$ref\": \"#/parameters/interface\"}
7021     ],
7022     \"responses\": {
7023         \"200\": {
7024             \"description\" : \"\",
7025             \"x-example\":
7026                 {
7027                     \"rt\": [\"oic.r.autofocus\"],
7028                     \"if\": [\"oic.if.a\", \"oic.if.baseline\"],
7029                     \"autoFocus\": false
7030                 },
7031             \"schema\": { \"$ref\": \"#/definitions/AutoFocus\" }
7032         }
7033     },
7034     \"post\": {
7035         \"description\": \"\",
7036         \"parameters\": [
7037             { \"$ref\": \"#/parameters/interface\"},
7038             {
7039                 \"name\": \"body\",
7040                 \"in\": \"body\",
7041                 \"required\": true,
7042                 \"schema\": { \"$ref\": \"#/definitions/AutoFocus\" },
7043                 \"x-example\":
7044                     {
7045                         \"autoFocus\": true
7046                     }
7047             }
7048         ],
7049         \"responses\": {
7050             \"200\": {
7051                 \"description\" : \"\",
7052                 \"x-example\":
7053                     {
7054                         \"autoFocus\": true
7055                     },
7056                 \"schema\": { \"$ref\": \"#/definitions/AutoFocus\" }
7057             }
7058         }
7059     }
7060 },
7061 },
7062 },
7063 \"parameters\": {
7064     \"interface\" : {
7065         \"in\": \"query\",
7066         \"name\": \"if\",
7067         \"type\": \"string\",
7068         \"enum\": [\"oic.if.a\", \"oic.if.baseline\"]
7069     }
7070 },
7071 \"definitions\": {
7072     \"AutoFocus\" : {
7073         \"properties\": {
7074             \"rt\": {
7075                 \"description\": \"The Resource Type.\",
7076                 \"items\": {
7077                     \"enum\": [\"oic.r.autofocus\"],
7078                     \"maxLength\": 64,
7079                     \"type\": \"string\"
7080                 },
7081                 \"minItems\": 1,
7082                 \"uniqueItems\": true,
7083                 \"readOnly\": true,
7084                 \"type\": \"array\"
7085             },
7086             \"autoFocus\": {
7087                 \"description\": \"The status of the Auto Focus feature.\",

```

```

7088         "type": "boolean"
7089     },
7090     "n": {
7091         "$ref":
7092         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7093         schema.json#/definitions/n"
7094     },
7095     "id": {
7096         "$ref":
7097         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7098         schema.json#/definitions/id"
7099     },
7100     "if": {
7101         "description": "The OCF Interface set supported by this Resource.",
7102         "items": {
7103             "enum": [
7104                 "oic.if.a",
7105                 "oic.if.baseline"
7106             ],
7107             "type": "string"
7108         },
7109         "minItems": 2,
7110         "readOnly": true,
7111         "uniqueItems": true,
7112         "type": "array"
7113     }
7114 },
7115 "type": "object",
7116 "required": ["autoFocus"]
7117 }
7118 }
7119 }
7120

```

6.27.5 Property definition

Table 57 defines the Properties that are part of the "oic.r.autofocus" Resource Type.

Table 57 – The Property definitions of the Resource with type "rt" = "oic.r.autofocus".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
autoFocus	boolean	Yes	Read Write	The status of the Auto Focus feature.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

6.27.6 CRUDN behaviour

Table 58 defines the CRUDN operations that are supported on the "oic.r.autofocus" Resource Type.

Table 58 – The CRUDN operations of the Resource with type "rt" = "oic.r.autofocus".

Create	Read	Update	Delete	Notify
	get	post		observe

6.28 Automatic Document Feeder

6.28.1 Introduction

This Resource describes the state of an automatic document feeder, typically used with a scanner.

The Property "adfstates" and "currentAdfState" are read only.

The Property "adfStates" is an array of the possible operational states.

The Property "adfProcessing" is the OK state, other states are errors or require 'user attention'.

The currentAdfState is the current value of the ADF state on the device.

6.28.2 Example URI

/AutomaticDocumentFeederResURI

6.28.3 Resource type

The Resource Type is defined as: "oic.r.automaticdocumentfeeder".

6.28.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Automatic Document Feeder",
    "version": "20190222",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/AutomaticDocumentFeederResURI" : {
      "get": {
        "description": "This Resource describes the state of an automatic document feeder, typically
used with a scanner.\nThe Property \"adfstates\" and \"currentAdfState\" are read only.\nThe
Property \"adfStates\" is an array of the possible operational states.\nThe Property
\"adfProcessing\" is the OK state, other states are errors or require 'user attention'.The
currentAdfState is the current value of the ADF state on the device.",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.automaticdocumentfeeder"],
              "if": ["oic.if.s", "oic.if.baseline"],
              "adfStates": ["adfProcessing", "adfEmpty", "adfJam", "adfLoaded", "adfMispick",
"adfHatchOpen", "adfDuplexPageTooShort", "adfDuplexPageTooLong", "adfMultipickDetected",
"adfInputTrayFailed", "adfInputTrayOverloaded"],
              "currentAdfState": "adfProcessing"
            },
            "schema": { "$ref": "#/definitions/AutomaticDocumentFeeder" }
          }
        }
      }
    }
  },
  "parameters": {
    "interface" : {
      "in": "query",
      "name": "if",

```

```

7190         "type": "string",
7191         "enum": ["oic.if.s", "oic.if.baseline"]
7192     },
7193 },
7194 "definitions": {
7195     "AutomaticDocumentFeeder" : {
7196         "properties": {
7197             "rt": {
7198                 "description": "The Resource Type.",
7199                 "items": {
7200                     "enum": ["oic.r.automaticdocumentfeeder"],
7201                     "maxLength": 64,
7202                     "type": "string"
7203                 },
7204                 "minItems": 1,
7205                 "uniqueItems": true,
7206                 "readOnly": true,
7207                 "type": "array"
7208             },
7209             "adfStates": {
7210                 "description": "The array of the possible adf states.",
7211                 "items": {
7212                     "type": "string"
7213                 },
7214                 "readOnly": true,
7215                 "uniqueItems": true,
7216                 "type": "array"
7217             },
7218             "currentAdfState": {
7219                 "description": "The current adf state.",
7220                 "readOnly": true,
7221                 "type": "string"
7222             },
7223             "n": {
7224                 "$ref":
7225                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7226                 schema.json#/definitions/n"
7227             },
7228             "id": {
7229                 "$ref":
7230                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7231                 schema.json#/definitions/id"
7232             },
7233             "if": {
7234                 "description": "The OCF Interface set supported by this Resource.",
7235                 "items": {
7236                     "enum": [
7237                         "oic.if.s",
7238                         "oic.if.baseline"
7239                     ],
7240                     "type": "string"
7241                 },
7242                 "minItems": 2,
7243                 "uniqueItems": true,
7244                 "readOnly": true,
7245                 "type": "array"
7246             }
7247         },
7248         "type": "object",
7249         "required": ["adfStates", "currentAdfState"]
7250     }
7251 }
7252 }
7253

```

6.28.5 Property definition

Table 59 defines the Properties that are part of the "oic.r.automaticdocumentfeeder" Resource Type.

7257
7258

Table 59 – The Property definitions of the Resource with type "rt" = "oic.r.automaticdocumentfeeder".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
adfStates	array: see schema	Yes	Read Only	The array of the possible adf states.
currentAdfState	string	Yes	Read Only	The current adf state.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

7259 6.28.6 CRUDN behaviour

7260 Table 60 defines the CRUDN operations that are supported on the "oic.r.automaticdocumentfeeder"
7261 Resource Type.

7262
7263

Table 60 – The CRUDN operations of the Resource with type "rt" = "oic.r.automaticdocumentfeeder".

Create	Read	Update	Delete	Notify
	get			observe

7264 6.29 Button Switch

7265 6.29.1 Introduction

7266 This Resource describes the operation of a button style switch.
7267 The Property "value" is a boolean.
7268 A value of 'true' means that the button is being pushed/pressed.
7269 A value of 'false' means that the button is not being pushed/pressed.

7270 6.29.2 Example URI

7271 /ButtonResURI

7272 6.29.3 Resource type

7273 The Resource Type is defined as: "oic.r.button".

7274 6.29.4 OpenAPI 2.0 definition

```

7275 {
7276   "swagger": "2.0",
7277   "info": {
7278     "title": "Button Switch",
7279     "version": "20190222",
7280     "license": {
7281       "name": "OCF Data Model License",
7282       "url":
7283         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
7284         CENSE.md",
7285       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
7286     },
7287     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
7288   },
7289   "schemes": ["http"],
7290   "consumes": ["application/json"],
7291   "produces": ["application/json"],

```

```

7292     "paths": {
7293         "/ButtonResURI" : {
7294             "get": {
7295                 "description": "This Resource describes the operation of a button style switch.\n\nThe
7296 Property \"value\" is a boolean.\n\nA value of 'true' means that the button is being
7297 pushed/pressed.\n\nA value of 'false' means that the button is not being pushed/pressed.",
7298                 "parameters": [
7299                     { "$ref": "#/parameters/interface" }
7300                 ],
7301                 "responses": {
7302                     "200": {
7303                         "description": "",
7304                         "x-example":
7305                         {
7306                             "rt": ["oic.r.button"],
7307                             "if": ["oic.if.s", "oic.if.baseline"],
7308                             "value": true
7309                         }
7310                     },
7311                     "schema": { "$ref": "#/definitions/Button" }
7312                 }
7313             }
7314         }
7315     },
7316     "parameters": {
7317         "interface" : {
7318             "in": "query",
7319             "name": "if",
7320             "type": "string",
7321             "enum": ["oic.if.s", "oic.if.baseline"]
7322         }
7323     },
7324     "definitions": {
7325         "Button" : {
7326             "properties": {
7327                 "rt": {
7328                     "description": "The Resource Type.",
7329                     "items": {
7330                         "enum": ["oic.r.button"],
7331                         "maxLength": 64,
7332                         "type": "string"
7333                     },
7334                     "minItems": 1,
7335                     "uniqueItems": true,
7336                     "readOnly": true,
7337                     "type": "array"
7338                 },
7339                 "value": {
7340                     "description": "The status of the button",
7341                     "readOnly": true,
7342                     "type": "boolean"
7343                 },
7344                 "n": {
7345                     "$ref":
7346                     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7347 schema.json#/definitions/n"
7348                 },
7349                 "id": {
7350                     "$ref":
7351                     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7352 schema.json#/definitions/id"
7353                 },
7354                 "if": {
7355                     "description": "The OCF Interface set supported by this Resource.",
7356                     "items": {
7357                         "enum": [
7358                             "oic.if.s",
7359                             "oic.if.baseline"
7360                         ],
7361                         "type": "string"
7362                     }
7363                 }

```



```

7364         "minItems": 2,
7365         "uniqueItems": true,
7366         "readOnly": true,
7367         "type": "array"
7368     },
7369     },
7370     "type": "object",
7371     "required": ["value"]
7372 }
7373 }
7374 }
7375

```

7376 6.29.5 Property definition

7377 Table 61 defines the Properties that are part of the "oic.r.button" Resource Type.

7378 **Table 61 – The Property definitions of the Resource with type "rt" = "oic.r.button".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
value	boolean	Yes	Read Only	The status of the button
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

7379 6.29.6 CRUDN behaviour

7380 Table 62 defines the CRUDN operations that are supported on the "oic.r.button" Resource Type.

7381 **Table 62 – The CRUDN operations of the Resource with type "rt" = "oic.r.button".**

Create	Read	Update	Delete	Notify
	get			observe

7382 6.30 Carbon Dioxide Sensor

7383 6.30.1 Introduction

7384 This Resource describes whether carbon dioxide has been sensed or not.

7385 The Property "value" is a boolean.

7386 A value of 'true' means that carbon dioxide has been detected.

7387 A value of 'false' means that carbon dioxide has not been detected.

7388 6.30.2 Example URI

7389 /CarbonDioxideResURI

7390 6.30.3 Resource type

7391 The Resource Type is defined as: "oic.r.sensor.carbondioxide".

7392 6.30.4 OpenAPI 2.0 definition

```

7393 {
7394     "swagger": "2.0",
7395     "info": {
7396         "title": "Carbon Dioxide Sensor",
7397         "version": "20191118",
7398         "license": {

```

```

7399         "name": "OCF Data Model License",
7400         "url":
7401 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
7402 CENSE.md",
7403         "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
7404     },
7405     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
7406 },
7407 "schemes": ["http"],
7408 "consumes": ["application/json"],
7409 "produces": ["application/json"],
7410 "paths": {
7411     "/CarbonDioxideResURI" : {
7412         "get": {
7413             "description": "This Resource describes whether carbon dioxide has been sensed or not.\nThe
7414 Property \"value\" is a boolean.\nA value of 'true' means that carbon dioxide has been detected.\nA
7415 value of 'false' means that carbon dioxide has not been detected.",
7416             "parameters": [
7417                 {"$ref": "#/parameters/interface"}
7418             ],
7419             "responses": {
7420                 "200": {
7421                     "description": "",
7422                     "x-example":
7423                     {
7424                         "rt": ["oic.r.sensor.carbondioxide"],
7425                         "id": "unique_example_id",
7426                         "value": true
7427                     },
7428                     "schema": { "$ref": "#/definitions/CO2" }
7429                 }
7430             }
7431         }
7432     }
7433 },
7434 "parameters": {
7435     "interface" : {
7436         "in" : "query",
7437         "name" : "if",
7438         "type" : "string",
7439         "enum" : ["oic.if.s", "oic.if.baseline"]
7440     }
7441 },
7442 "definitions": {
7443     "CO2": {
7444         "properties": {
7445             "rt": {
7446                 "description": "The Resource Type",
7447                 "items": {
7448                     "maxLength": 64,
7449                     "type": "string",
7450                     "enum": ["oic.r.sensor.carbondioxide"]
7451                 },
7452                 "minItems": 1,
7453                 "readOnly": true,
7454                 "uniqueItems": true,
7455                 "type": "array"
7456             },
7457             "value": {
7458                 "description": "The carbon dioxide indicator, true = sensed, false = not sensed.",
7459                 "readOnly": true,
7460                 "type": "boolean"
7461             },
7462             "measurement": {
7463                 "type": "number",
7464                 "description": "Measured value for this sensor, units are in ppm",
7465                 "readOnly": true
7466             },
7467             "precision": {
7468                 "$ref":
7469 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
7470 schema.json#/definitions/precision"

```

```

7471     },
7472     "n": {
7473       "$ref":
7474       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7475       schema.json#/definitions/n"
7476     },
7477     "range": {
7478       "$ref":
7479       "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
7480       schema.json#/definitions/range_number"
7481     },
7482     "step": {
7483       "$ref":
7484       "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
7485       schema.json#/definitions/step_number"
7486     },
7487     "id": {
7488       "$ref":
7489       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7490       schema.json#/definitions/id"
7491     },
7492     "if": {
7493       "description": "The OCF Interface set supported by this Resource",
7494       "items": {
7495         "enum": [
7496           "oic.if.baseline",
7497           "oic.if.s"
7498         ],
7499         "maxLength": 64,
7500         "type": "string"
7501       },
7502       "minItems": 2,
7503       "readOnly": true,
7504       "uniqueItems": true,
7505       "type": "array"
7506     }
7507   },
7508   "type" : "object",
7509   "required": ["value"]
7510 }
7511 }
7512 }
7513

```

7514 6.30.5 Property definition

7515 Table 63 defines the Properties that are part of the "oic.r.sensor.carbondioxide" Resource Type.

7516 **Table 63 – The Property definitions of the Resource with type "rt" =**
7517 **"oic.r.sensor.carbondioxide".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type
value	boolean	Yes	Read Only	The carbon dioxide indicator, true = sensed, false = not sensed.
measurement	number	No	Read Only	Measured value for this sensor, units are in ppm
precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	

step	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

6.30.6 CRUDN behaviour

Table 64 defines the CRUDN operations that are supported on the "oic.r.sensor.carbondioxide" Resource Type.

Table 64 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.carbondioxide".

Create	Read	Update	Delete	Notify
	get			observe

6.31 Carbon Monoxide Sensor

6.31.1 Introduction

This Resource describes whether carbon monoxide has been sensed or not.

The Property "value" is a boolean.

A value of 'true' means that carbon monoxide has been detected.

A value of 'false' means that carbon monoxide has not been detected.

6.31.2 Example URI

/CarbonMonoxideResURI

6.31.3 Resource type

The Resource Type is defined as: "oic.r.sensor.carbonmonoxide".

6.31.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Carbon Monoxide Sensor",
    "version": "20191118",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/CarbonMonoxideResURI" : {
      "get": {
        "description": "This Resource describes whether carbon monoxide has been sensed or not.\nThe
Property \"value\" is a boolean.\nA value of 'true' means that carbon monoxide has been detected.\nA
value of 'false' means that carbon monoxide has not been detected.",
        "parameters": [
          {"$ref": "#/parameters/interface"}
        ],
        "responses": {
          "200": {
```

```

7563         "description" : "",
7564         "x-example":
7565             {
7566                 "rt":      ["oic.r.sensor.carbonmonoxide"],
7567                 "id":      "unique_example_id",
7568                 "value":    true
7569             },
7570         "schema": { "$ref": "#/definitions/CO" }
7571     }
7572 }
7573 }
7574 }
7575 },
7576 "parameters": {
7577     "interface" : {
7578         "in" : "query",
7579         "name" : "if",
7580         "type" : "string",
7581         "enum" : ["oic.if.s", "oic.if.baseline"]
7582     }
7583 },
7584 "definitions": {
7585     "CO": {
7586         "properties": {
7587             "rt": {
7588                 "description": "Resource Type",
7589                 "items": {
7590                     "maxLength": 64,
7591                     "type": "string",
7592                     "enum": ["oic.r.sensor.carbonmonoxide"]
7593                 },
7594                 "minItems": 1,
7595                 "readOnly": true,
7596                 "uniqueItems": true,
7597                 "type": "array"
7598             },
7599             "value": {
7600                 "description": "The carbon monoxide indicator, true = sensed, false = not sensed.",
7601                 "readOnly": true,
7602                 "type": "boolean"
7603             },
7604             "measurement": {
7605                 "type": "number",
7606                 "description": "Measured value for this sensor, units are in ppm",
7607                 "readOnly": true
7608             },
7609             "precision": {
7610                 "$ref":
7611 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
7612 schema.json#/definitions/precision"
7613             },
7614             "n": {
7615                 "$ref":
7616 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7617 schema.json#/definitions/n"
7618             },
7619             "range": {
7620                 "$ref":
7621 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
7622 schema.json#/definitions/range_number"
7623             },
7624             "step": {
7625                 "$ref":
7626 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
7627 schema.json#/definitions/step_number"
7628             },
7629             "id": {
7630                 "$ref":
7631 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7632 schema.json#/definitions/id"
7633             },
7634             "if": {

```

```

7635         "description": "The OCF Interface set supported by this Resource",
7636         "items": {
7637             "enum": [
7638                 "oic.if.baseline",
7639                 "oic.if.s"
7640             ],
7641             "maxLength": 64,
7642             "type": "string"
7643         },
7644         "minItems": 1,
7645         "uniqueItems": true,
7646         "readOnly": true,
7647         "type": "array"
7648     },
7649     },
7650     "type" : "object",
7651     "required": ["value"]
7652 }
7653 }
7654 }
7655

```

7656 6.31.5 Property definition

7657 Table 65 defines the Properties that are part of the "oic.r.sensor.carbonmonoxide" Resource Type.

7658 **Table 65 – The Property definitions of the Resource with type "rt" =**
7659 **"oic.r.sensor.carbonmonoxide".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
value	boolean	Yes	Read Only	The carbon monoxide indicator, true = sensed, false = not sensed.
measurement	number	No	Read Only	Measured value for this sensor, units are in ppm
precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

7660 6.31.6 CRUDN behaviour

7661 Table 66 defines the CRUDN operations that are supported on the "oic.r.sensor.carbonmonoxide"
7662 Resource Type.

7663 **Table 66 – The CRUDN operations of the Resource with type "rt" =**
7664 **"oic.r.sensor.carbonmonoxide".**

Create	Read	Update	Delete	Notify
	get			observe

6.32 Auto White Balance

6.32.1 Introduction

This Resource describes an auto balance on/off feature.

The Property "autoWhiteBalance" is a boolean.

An AutoWhiteBalance value of 'true' means that the auto white balance feature is on.

An AutoWhiteBalance value of 'false' means that the auto white balance feature is off.

6.32.2 Example URI

/AutoWhiteBalanceResURI

6.32.3 Resource type

The Resource Type is defined as: "oic.r.colour.autowhitebalance".

6.32.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Auto White Balance",
    "version": "20190222",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/AutoWhiteBalanceResURI" : {
      "get": {
        "description": "This Resource describes an auto balance on/off feature.\n\nThe Property\n\n\"autoWhiteBalance\" is a boolean.\n\nAn AutoWhiteBalance value of 'true' means that the auto white\n\nbalance feature is on.\n\nAn AutoWhiteBalance value of 'false' means that the auto white balance\n\nfeature is off.\n\n",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example":
              {
                "rt": ["oic.r.colour.autowhitebalance"],
                "if": ["oic.if.a", "oic.if.baseline"],
                "autoWhiteBalance": false
              },
            "schema": { "$ref": "#/definitions/AutoWhiteBalance" }
          }
        }
      },
      "post": {
        "description": "",
        "parameters": [
          { "$ref": "#/parameters/interface" },
          {
            "name": "body",
            "in": "body",
            "required": true,
            "schema": { "$ref": "#/definitions/AutoWhiteBalance" },
            "x-example":
              {
```

```

7728         "autoWhiteBalance": true
7729     }
7730 }
7731 ],
7732 "responses": {
7733     "200": {
7734         "description": "",
7735         "x-example":
7736             {
7737                 "autoWhiteBalance": true
7738             },
7739         "schema": { "$ref": "#/definitions/AutoWhiteBalance" }
7740     }
7741 }
7742 }
7743 }
7744 },
7745 "parameters": {
7746     "interface": {
7747         "in": "query",
7748         "name": "if",
7749         "type": "string",
7750         "enum": ["oic.if.a", "oic.if.baseline"]
7751     }
7752 },
7753 "definitions": {
7754     "AutoWhiteBalance": {
7755         "properties": {
7756             "rt": {
7757                 "description": "The Resource Type.",
7758                 "items": {
7759                     "enum": ["oic.r.colour.autowhitebalance"],
7760                     "maxLength": 64,
7761                     "type": "string"
7762                 },
7763                 "minItems": 1,
7764                 "uniqueItems": true,
7765                 "readOnly": true,
7766                 "type": "array"
7767             },
7768             "autoWhiteBalance": {
7769                 "description": "The status of the Auto White balance feature.",
7770                 "type": "boolean"
7771             },
7772             "n": {
7773                 "$ref":
7774                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7775                 schema.json#/definitions/n"
7776             },
7777             "id": {
7778                 "$ref":
7779                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7780                 schema.json#/definitions/id"
7781             },
7782             "if": {
7783                 "description": "The OCF Interface set supported by this Resource.",
7784                 "items": {
7785                     "enum": [
7786                         "oic.if.a",
7787                         "oic.if.baseline"
7788                     ],
7789                     "type": "string"
7790                 },
7791                 "minItems": 2,
7792                 "uniqueItems": true,
7793                 "readOnly": true,
7794                 "type": "array"
7795             }
7796         },
7797         "type": "object",
7798         "required": ["autoWhiteBalance"]
7799     }

```


7800 }
7801 }
7802

7803 6.32.5 Property definition

7804 Table 67 defines the Properties that are part of the "oic.r.colour.autowhitebalance" Resource Type.

7805 **Table 67 – The Property definitions of the Resource with type "rt" =**
7806 **"oic.r.colour.autowhitebalance".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
autoWhiteBalance	boolean	Yes	Read Write	The status of the Auto White balance feature.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

7807 6.32.6 CRUDN behaviour

7808 Table 68 defines the CRUDN operations that are supported on the "oic.r.colour.autowhitebalance"
7809 Resource Type.

7810 **Table 68 – The CRUDN operations of the Resource with type "rt" =**
7811 **"oic.r.colour.autowhitebalance".**

Create	Read	Update	Delete	Notify
	get	post		observe

7812 6.33 Colour Saturation

7813 6.33.1 Introduction

7814 This Resource describes a Colour saturation value.

7815 The Property "colourSaturation" is an integer.

7816 A "colourSaturation" has a range of [0,100].

7817 A "colourSaturation" value of 0 means producing black and white images.

7818 A "colourSaturation" value of 50 means producing device specific normal colour images.

7819 A "colourSaturation" value of 100 means producing device very full colour images.

7820

7821 6.33.2 Example URI

7822 /ColourSaturationResURI

7823 6.33.3 Resource type

7824 The Resource Type is defined as: "oic.r.colour.saturation".

7825 6.33.4 OpenAPI 2.0 definition

7826 {
7827 "swagger": "2.0",
7828 "info": {
7829 "title": "Colour Saturation",
7830 "version": "20190215",
7831 "license": {
7832 "name": "OCF Data Model License",

```

7833         "url":
7834         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
7835         CENSE.md",
7836         "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
7837         reserved."
7838     },
7839     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
7840 },
7841 "schemes": ["http"],
7842 "consumes": ["application/json"],
7843 "produces": ["application/json"],
7844 "paths": {
7845     "/ColourSaturationResURI" : {
7846         "get": {
7847             "description": "This Resource describes a Colour saturation value.\n\nThe Property
7848             \"colourSaturation\" is an integer.\n\nA \"colourSaturation\" has a range of [0,100].\n\nA
7849             \"colourSaturation\" value of 0 means producing black and white images.\n\nA \"colourSaturation\"
7850             value of 50 means producing device specific normal colour images.\n\nA \"colourSaturation\" value of
7851             100 means producing device very full colour images.\n",
7852             "parameters": [
7853                 { "$ref": "#/parameters/interface" }
7854             ],
7855             "responses": {
7856                 "200": {
7857                     "description": "",
7858                     "x-example":
7859                     {
7860                         "rt": ["oic.r.colour.saturation"],
7861                         "if": ["oic.if.a", "oic.if.baseline"],
7862                         "colourSaturation": 50
7863                     },
7864                     "schema": { "$ref": "#/definitions/Saturation" }
7865                 }
7866             },
7867         },
7868         "post": {
7869             "description": "",
7870             "parameters": [
7871                 { "$ref": "#/parameters/interface" },
7872                 {
7873                     "name": "body",
7874                     "in": "body",
7875                     "required": true,
7876                     "schema": { "$ref": "#/definitions/Saturation" },
7877                     "x-example":
7878                     {
7879                         "colourSaturation": 60
7880                     }
7881                 }
7882             ],
7883             "responses": {
7884                 "200": {
7885                     "description": "",
7886                     "x-example":
7887                     {
7888                         "colourSaturation": 60
7889                     },
7890                     "schema": { "$ref": "#/definitions/Saturation" }
7891                 }
7892             }
7893         }
7894     }
7895 },
7896 "parameters": {
7897     "interface" : {
7898         "in": "query",
7899         "name": "if",
7900         "type": "string",
7901         "enum": ["oic.if.a", "oic.if.baseline"]
7902     }
7903 },
7904 },

```

```

7905     "definitions": {
7906       "Saturation" : {
7907         "properties": {
7908           "rt": {
7909             "description": "The Resource Type.",
7910             "items": {
7911               "enum": ["oic.r.colour.saturation"],
7912               "maxLength": 64,
7913               "type": "string"
7914             },
7915             "minItems": 1,
7916             "uniqueItems": true,
7917             "readOnly": true,
7918             "type": "array"
7919           },
7920           "colourSaturation": {
7921             "description": "The colour saturation value.",
7922             "maximum": 100,
7923             "minimum": 0,
7924             "type": "integer"
7925           },
7926           "n": {
7927             "$ref":
7928 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7929 schema.json#/definitions/n"
7930           },
7931           "id": {
7932             "$ref":
7933 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
7934 schema.json#/definitions/id"
7935           },
7936           "if": {
7937             "description": "The OCF Interface set supported by this Resource.",
7938             "items": {
7939               "enum": [
7940                 "oic.if.a",
7941                 "oic.if.baseline"
7942               ],
7943               "type": "string"
7944             },
7945             "minItems": 2,
7946             "uniqueItems": true,
7947             "readOnly": true,
7948             "type": "array"
7949           }
7950         },
7951         "type": "object",
7952         "required": ["colourSaturation"]
7953       }
7954     }
7955   }
7956

```

6.33.5 Property definition

Table 69 defines the Properties that are part of the "oic.r.colour.saturation" Resource Type.

Table 69 – The Property definitions of the Resource with type "rt" = "oic.r.colour.saturation".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
colourSaturation	integer	Yes	Read Write	The colour saturation value.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	

if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
----	-------------------	----	-----------	---

6.33.6 CRUDN behaviour

Table 70 defines the CRUDN operations that are supported on the "oic.r.colour.saturation" Resource Type.

Table 70 – The CRUDN operations of the Resource with type "rt" = "oic.r.colour.saturation".

Create	Read	Update	Delete	Notify
	get	post		observe

6.34 Contact Sensor

6.34.1 Introduction

This Resource describes whether a contact sensor has been tripped or not. Typical use case is in Security Systems detecting window or door open. The Property "value" is a boolean. A value of 'true' means that contact has been broken (open). A value of 'false' means that contact is in place (closed).

6.34.2 Example URI

/ContactResURI

6.34.3 Resource type

The Resource Type is defined as: "oic.r.sensor.contact".

6.34.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Contact Sensor",
    "version": "20190215",
    "license": {
      "name": "OCF Data Model License",
      "url":
        "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
        CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
        reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/ContactResURI" : {
      "get": {
        "description": "This Resource describes whether a contact sensor has been tripped or
not.\nTypical use case is in Security Systems detecting window or door open.\nThe Property \"value\"
is a boolean.\nA value of 'true' means that contact has been broken (open).\nA value of 'false'
means that contact is in place (closed).",
        "parameters": [
          {"$ref": "#/parameters/interface"}
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example":

```

```

8011         {
8012             "rt": ["oic.r.sensor.contact"],
8013             "if": ["oic.if.s", "oic.if.baseline"],
8014             "value": true
8015         },
8016         "schema": { "$ref": "#/definitions/Contact" }
8017     }
8018 }
8019 }
8020 }
8021 },
8022 "parameters": {
8023     "interface" : {
8024         "in": "query",
8025         "name": "if",
8026         "type": "string",
8027         "enum": ["oic.if.s", "oic.if.baseline"]
8028     }
8029 },
8030 "definitions": {
8031     "Contact" : {
8032         "properties": {
8033             "rt": {
8034                 "description": "The Resource Type.",
8035                 "items": {
8036                     "enum": ["oic.r.sensor.contact"],
8037                     "maxLength": 64,
8038                     "type": "string"
8039                 },
8040                 "minItems": 1,
8041                 "uniqueItems": true,
8042                 "readOnly": true,
8043                 "type": "array"
8044             },
8045             "value": {
8046                 "description": "The contact indication, true = broken (open), false = in place (closed).",
8047                 "readOnly": true,
8048                 "type": "boolean"
8049             },
8050             "n": {
8051                 "$ref":
8052 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8053 schema.json#/definitions/n"
8054             },
8055             "id": {
8056                 "$ref":
8057 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8058 schema.json#/definitions/id"
8059             },
8060             "if": {
8061                 "description": "The OCF Interface set supported by this Resource.",
8062                 "items": {
8063                     "enum": [
8064                         "oic.if.s",
8065                         "oic.if.baseline"
8066                     ],
8067                     "type": "string"
8068                 },
8069                 "minItems": 2,
8070                 "uniqueItems": true,
8071                 "readOnly": true,
8072                 "type": "array"
8073             }
8074         },
8075         "type": "object",
8076         "required": ["value"]
8077     }
8078 }
8079 }
8080

```

6.34.5 Property definition

Table 71 defines the Properties that are part of the "oic.r.sensor.contact" Resource Type.

Table 71 – The Property definitions of the Resource with type "rt" = "oic.r.sensor.contact".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
value	boolean	Yes	Read Only	The contact indication, true = broken (open), false = in place (closed).
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

6.34.6 CRUDN behaviour

Table 72 defines the CRUDN operations that are supported on the "oic.r.sensor.contact" Resource Type.

Table 72 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.contact".

Create	Read	Update	Delete	Notify
	get			observe

6.35 Demand Response Load Control (DRLC).

6.35.1 Introduction

This Resource describes any to be applied or currently being applied DRLC signal.

The Property "DRType" is the ApplianceLoadReductionType defined in Zigbee/HA Smart Energy Profile 2.0.

The Property "start" is a string containing an RFC3339 encoded start time.

The Property "duration" value is in minutes.

The Property "Override" indicates whether the consumer has overridden the request (true) or not (false).

The Resource provides the current DRLC action that is being applied.

A duration of 0 (zero) means that no DRLC is currently active.

6.35.2 Example URI

/DRLCResURI

6.35.3 Resource type

The Resource Type is defined as: "oic.r.energy.drlc".

6.35.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Demand Response Load Control (DRLC).",
    "version": "20190709",
    "license": {
      "name": "OCF Data Model License",
      "url":
        "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
```

```

8113 CENSE.md",
8114     "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
8115 reserved."
8116 },
8117     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
8118 },
8119     "schemes": ["http"],
8120     "consumes": ["application/json"],
8121     "produces": ["application/json"],
8122     "paths": {
8123         "/DRLCResURI" : {
8124             "get": {
8125                 "description": "This Resource describes any to be applied or currently being applied DRLC
8126 signal.\n\nThe Property \"DRTType\" is the ApplianceLoadReductionType defined in Zigbee/HA Smart Energy
8127 Profile 2.0.\n\nThe Property \"start\" is a string containing an RFC3339 encoded start time.\n\nThe
8128 Property \"duration\" value is in minutes.\n\nThe Property \"Override\" indicates whether the consumer
8129 has overridden the request (true) or not (false).\n\nThe Resource provides the current DRLC action
8130 that is being applied.\n\nA duration of 0 (zero) means that no DRLC is currently active.",
8131                 "parameters": [
8132                     { "$ref": "#/parameters/interface" }
8133                 ],
8134                 "responses": {
8135                     "200": {
8136                         "description": "",
8137                         "x-example": {
8138                             {
8139                                 "rt": ["oic.r.energy.drlc"],
8140                                 "if": ["oic.if.a", "oic.if.baseline"],
8141                                 "DRTType": 1,
8142                                 "start": "2015-01-09T16:45:00Z",
8143                                 "duration": 10,
8144                                 "override": false,
8145                                 "drlevel": 2,
8146                                 "mandate": true
8147                             },
8148                             "schema": { "$ref": "#/definitions/DRLC" }
8149                         }
8150                     }
8151                 },
8152                 "post": {
8153                     "description": "Provides the DRLC action to be applied to the device or updates an existing
8154 action.",
8155                     "parameters": [
8156                         { "$ref": "#/parameters/interface" },
8157                         {
8158                             "name": "body",
8159                             "in": "body",
8160                             "required": true,
8161                             "schema": { "$ref": "#/definitions/DRLC" },
8162                             "x-example": {
8163                                 "DRTType": 1,
8164                                 "start": "2015-01-09T17:00:00Z",
8165                                 "duration": 10
8166                             }
8167                         }
8168                     ],
8169                     "responses": {
8170                         "200": {
8171                             "description": "Indicates that the target DRLC resource was changed.\n\nThe new resource
8172 attributes are provided in the response.",
8173                             "x-example": {
8174                                 "DRTType": 1,
8175                                 "start": "2015-01-09T17:00:00Z",
8176                                 "duration": 15,
8177                                 "override": false
8178                             },
8179                             "schema": { "$ref": "#/definitions/DRLC" }
8180                         }
8181                     }
8182                 }
8183             }
8184         }

```

```

8185     "parameters": {
8186       "interface" : {
8187         "in" : "query",
8188         "name" : "if",
8189         "type" : "string",
8190         "enum" : ["oic.if.a", "oic.if.baseline"]
8191       }
8192     },
8193     "definitions": {
8194       "DRLC" : {
8195         "properties": {
8196           "rt": {
8197             "description": "The Resource Type.",
8198             "items": {
8199               "enum": ["oic.r.energy.drlc"],
8200               "maxLength": 64,
8201               "type": "string"
8202             },
8203             "minItems": 1,
8204             "uniqueItems": true,
8205             "readOnly": true,
8206             "type": "array"
8207           },
8208           "start": {
8209             "description": "The start time for the application of DR.",
8210             "type": "string",
8211             "format": "date-time"
8212           },
8213           "duration": {
8214             "description": "The duration of the to be applied DR type in minutes. A value of 0 means
8215 no applied DR.",
8216             "type": "integer",
8217             "minimum": 0
8218           },
8219           "override": {
8220             "description": "Whether the consumer has overridden the application of DR.",
8221             "type": "boolean"
8222           },
8223           "DRType": {
8224             "description": "The to be applied demand-response type.",
8225             "type": "integer"
8226           },
8227           "drlevel": {
8228             "type": "integer",
8229             "minimum": 0,
8230             "maximum": 3,
8231             "description": "Indicator of the strength of the DR response that is requested; 0-0%, 1-
8232 30%, 2-50%, 3-70%"
8233           },
8234           "mandate" : {
8235             "type": "boolean",
8236             "description": "Whether overriding the DR request by the consumer is allowed"
8237           },
8238           "n": {
8239             "$ref":
8240 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8241 schema.json#/definitions/n"
8242           },
8243           "id": {
8244             "$ref":
8245 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8246 schema.json#/definitions/id"
8247           },
8248           "if": {
8249             "description": "The OCF Interface set supported by this Resource.",
8250             "items": {
8251               "enum": [
8252                 "oic.if.a",
8253                 "oic.if.baseline"
8254               ],
8255               "type": "string"
8256             }

```



```

8257         "minItems": 2,
8258         "uniqueItems": true,
8259         "readOnly": true,
8260         "type": "array"
8261     },
8262     },
8263     "type": "object",
8264     "required": ["DRType"]
8265 }
8266 }
8267 }
8268

```

8269 6.35.5 Property definition

8270 Table 73 defines the Properties that are part of the "oic.r.energy.drlc" Resource Type.

8271 **Table 73 – The Property definitions of the Resource with type "rt" = "oic.r.energy.drlc".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
start	string	No	Read Write	The start time for the application of DR.
duration	integer	No	Read Write	The duration of the to be applied DR type in minutes. A value of 0 means no applied DR.
override	boolean	No	Read Write	Whether the consumer has overridden the application of DR.
DRType	integer	Yes	Read Write	The to be applied demand-response type.
drlevel	integer	No	Read Write	Indicator of the strength of the DR response that is requested; 0-0%, 1-30%, 2-50%, 3-70%
mandate	boolean	No	Read Write	Whether overriding the DR request by the consumer is allowed
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

8272 6.35.6 CRUDN behaviour

8273 Table 74 defines the CRUDN operations that are supported on the "oic.r.energy.drlc" Resource
8274 Type.

8275 **Table 74 – The CRUDN operations of the Resource with type "rt" = "oic.r.energy.drlc".**

Create	Read	Update	Delete	Notify
	get	post		observe

6.36 Energy Overload/Circuit Breaker

6.36.1 Introduction

This Resource describes whether an energy overload detector/circuit breaker is currently tripped.

The Property "value" is a boolean.

A value of 'true' means that energy overload has been tripped.

A value of 'false' means that energy overload has not been tripped.

6.36.2 Example URI

/EnergyOverloadResURI

6.36.3 Resource type

The Resource Type is defined as: "oic.r.energy.overload".

6.36.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Energy Overload/Circuit Breaker",
    "version": "20190215",
    "license": {
      "name": "OCF Data Model License",
      "url":
        "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
        CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
        reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/EnergyOverloadResURI" : {
      "get": {
        "description": "This Resource describes whether an energy overload detector/circuit breaker
          is currently tripped.\n\nThe Property \"value\" is a boolean.\n\nA value of 'true' means that energy
          overload has been tripped.\n\nA value of 'false' means that energy overload has not been tripped.\n\n",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.energy.overload"],
              "if": ["oic.if.s", "oic.if.baseline"],
              "value": true
            },
            "schema": { "$ref": "#/definitions/EnergyOverload" }
          }
        }
      }
    }
  },
  "parameters": {
    "interface": {
      "in": "query",
      "name": "if",
      "type": "string",
      "enum": ["oic.if.s", "oic.if.baseline"]
    }
  },
  "definitions": {
```

```

8339     "EnergyOverload" : {
8340       "properties": {
8341         "rt": {
8342           "description": "The Resource Type.",
8343           "items": {
8344             "enum": ["oic.r.energy.overload"],
8345             "maxLength": 64,
8346             "type": "string"
8347           },
8348           "minItems": 1,
8349           "uniqueItems": true,
8350           "readOnly": true,
8351           "type": "array"
8352         },
8353         "value": {
8354           "description": "The energy overload indication,true = tripped, false = not tripped.",
8355           "readOnly": true,
8356           "type": "boolean"
8357         },
8358         "n": {
8359           "$ref":
8360             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8361             schema.json#/definitions/n"
8362         },
8363         "id": {
8364           "$ref":
8365             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8366             schema.json#/definitions/id"
8367         },
8368         "if": {
8369           "description": "The OCF Interface set supported by this Resource.",
8370           "items": {
8371             "enum": [
8372               "oic.if.s",
8373               "oic.if.baseline"
8374             ],
8375             "type": "string"
8376           },
8377           "minItems": 2,
8378           "uniqueItems": true,
8379           "readOnly": true,
8380           "type": "array"
8381         }
8382       },
8383       "type": "object",
8384       "required": ["value"]
8385     }
8386   }
8387 }
8388

```

6.36.5 Property definition

Table 75 defines the Properties that are part of the "oic.r.energy.overload" Resource Type.

Table 75 – The Property definitions of the Resource with type "rt" = "oic.r.energy.overload".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
value	boolean	Yes	Read Only	The energy overload indication,true = tripped, false = not tripped.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	

if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
----	-------------------	----	-----------	---

6.36.6 CRUDN behaviour

Table 76 defines the CRUDN operations that are supported on the "oic.r.energy.overload" Resource Type.

Table 76 – The CRUDN operations of the Resource with type "rt" = "oic.r.energy.overload".

Create	Read	Update	Delete	Notify
	get			observe

6.37 Generic Sensor

6.37.1 Introduction

This Resource describes whether some value or property or entity has been sensed or not. The Property "value" is a boolean.

A value of 'true' means that the target has been sensed.

A value of 'false' means that the target has not been sensed.

6.37.2 Example URI

/GenericSensorResURI

6.37.3 Resource type

The Resource Type is defined as: "oic.r.sensor".

6.37.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Generic Sensor",
    "version": "20191118",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/GenericSensorResURI" : {
      "get": {
        "description": "This Resource describes whether some value or property or entity has been
sensed or not.\nThe Property \"value\" is a boolean.\nA value of 'true' means that the target has
been sensed.\nA value of 'false' means that the target has not been sensed.",
        "parameters": [
          {"$ref": "#/parameters/interface"}
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.sensor"],
              "id": "unique_example_id",
              "value": true
            },
            "schema": { "$ref": "#/definitions/Sensor" }
          }
        }
      }
    }
  }
}
```

```

8444     }
8445   }
8446 }
8447 }
8448 },
8449 "parameters": {
8450   "interface": {
8451     "in": "query",
8452     "name": "if",
8453     "type": "string",
8454     "enum": ["oic.if.s", "oic.if.baseline"]
8455   }
8456 },
8457 "definitions": {
8458   "Sensor": {
8459     "properties": {
8460       "rt": {
8461         "description": "The Resource Type",
8462         "items": {
8463           "maxLength": 64,
8464           "type": "string",
8465           "enum": ["oic.r.sensor"]
8466         },
8467         "minItems": 1,
8468         "uniqueItems": true,
8469         "readOnly": true,
8470         "type": "array"
8471       },
8472       "value": {
8473         "description": "true = sensed, false = not sensed.",
8474         "readOnly": true,
8475         "type": "boolean"
8476       },
8477       "measurement": {
8478         "type": "number",
8479         "description": "Measured value for this sensor, units depend on the specific type of
8480 sensor",
8481         "readOnly": true
8482       },
8483       "precision": {
8484         "$ref":
8485 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
8486 schema.json#/definitions/precision"
8487       },
8488       "n": {
8489         "$ref":
8490 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8491 schema.json#/definitions/n"
8492       },
8493       "range": {
8494         "$ref":
8495 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
8496 schema.json#/definitions/range_number"
8497       },
8498       "step": {
8499         "$ref":
8500 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
8501 schema.json#/definitions/step_number"
8502       },
8503       "id": {
8504         "$ref":
8505 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8506 schema.json#/definitions/id"
8507       },
8508       "if": {
8509         "description": "The OCF Interface set supported by this Resource",
8510         "items": {
8511           "enum": [
8512             "oic.if.baseline",
8513             "oic.if.s"
8514           ],
8515           "maxLength": 64,

```

```

8516         "type": "string"
8517     },
8518     "minItems": 1,
8519     "uniqueItems": true,
8520     "readOnly": true,
8521     "type": "array"
8522 }
8523 },
8524 "type" : "object",
8525 "required": ["value"]
8526 }
8527 }
8528 }
8529

```

8530 6.37.5 Property definition

8531 Table 77 defines the Properties that are part of the "oic.r.sensor" Resource Type.

8532 **Table 77 – The Property definitions of the Resource with type "rt" = "oic.r.sensor".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type
value	boolean	Yes	Read Only	true = sensed, false = not sensed.
measurement	number	No	Read Only	Measured value for this sensor, units depend on the specific type of sensor
precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

8533 6.37.6 CRUDN behaviour

8534 Table 78 defines the CRUDN operations that are supported on the "oic.r.sensor" Resource Type.

8535 **Table 78 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor".**

Create	Read	Update	Delete	Notify
	get			observe

8536 6.38 Glass Break Sensor

8537 6.38.1 Introduction

8538 This Resource describes a glass break sensor.

8539 The Property "value" is a boolean.

8540 A value of 'true' means that glass break has been sensed.

8541 A value of 'false' means that glass break not been sensed.

6.38.2 Example URI

/GlassBreakResURI

6.38.3 Resource type

The Resource Type is defined as: "oic.r.sensor.glassbreak".

6.38.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Glass Break Sensor",
    "version": "20190215",
    "license": {
      "name": "OCF Data Model License",
      "url":
        "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
        CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
        reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/GlassBreakResURI" : {
      "get": {
        "description": "This Resource describes a glass break sensor.\n\nThe Property \"value\" is a
        boolean.\n\nA value of 'true' means that glass break has been sensed.\n\nA value of 'false' means that
        glass break not been sensed.",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.sensor.glassbreak"],
              "if": ["oic.if.s", "oic.if.baseline"],
              "value": true
            },
            "schema": { "$ref": "#/definitions/GlassBreak" }
          }
        }
      }
    }
  },
  "parameters": {
    "interface": {
      "in": "query",
      "name": "if",
      "type": "string",
      "enum": ["oic.if.s", "oic.if.baseline"]
    }
  },
  "definitions": {
    "GlassBreak" : {
      "properties": {
        "rt": {
          "description": "The Resource Type.",
          "items": {
            "enum": ["oic.r.sensor.glassbreak"],
            "maxLength": 64,
            "type": "string"
          },
          "minItems": 1,
          "uniqueItems": true,
```

```
8609         "readOnly": true,
8610         "type": "array"
8611     },
8612     "value": {
8613         "description": "The glassbreak indication, true = glass break sensed, false = glass break
8614 not sensed.",
8615         "readOnly": true,
8616         "type": "boolean"
8617     },
8618     "n": {
8619         "$ref":
8620 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8621 schema.json#/definitions/n"
8622     },
8623     "id": {
8624         "$ref":
8625 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8626 schema.json#/definitions/id"
8627     },
8628     "if": {
8629         "description": "The OCF Interface set supported by this Resource.",
8630         "items": {
8631             "enum": [
8632                 "oic.if.s",
8633                 "oic.if.baseline"
8634             ],
8635             "type": "string"
8636         },
8637         "minItems": 2,
8638         "uniqueItems": true,
8639         "readOnly": true,
8640         "type": "array"
8641     }
8642 },
8643 "type": "object",
8644 "required": ["value"]
8645 }
8646 }
8647 }
8648 }
```

8649 **6.38.5 Property definition**

8650 Table 79 defines the Properties that are part of the "oic.r.sensor.glassbreak" Resource Type.

8651 **Table 79 – The Property definitions of the Resource with type "rt" =**
8652 **"oic.r.sensor.glassbreak".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
value	boolean	Yes	Read Only	The glassbreak indication, true = glass break sensed, false = glass break not sensed.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

8653 **6.38.6 CRUDN behaviour**

8654 Table 80 defines the CRUDN operations that are supported on the "oic.r.sensor.glassbreak"
8655 Resource Type.

8656
8657

Table 80 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.glassbreak".

Create	Read	Update	Delete	Notify
	get			observe

8658 **6.39 Heart Rate Zone**

8659 **6.39.1 Introduction**

8660 This Resource describes a measured heart rate by the current Zone using the Zoladz method.
8661 The Zoladz method defines Zones based on maximum heart rate; Zone 1 is the lowest, Zone 5 is
8662 the highest.
8663 The heartRateZone is an enumeration containing one of: "Zone1", "Zone2", "Zone3", "Zone4",
8664 and "Zone5".
8665

8666 **6.39.2 Example URI**

8667 /HeartRateZoneResURI

8668 **6.39.3 Resource type**

8669 The Resource Type is defined as: "oic.r.sensor.heart.zone".

8670 **6.39.4 OpenAPI 2.0 definition**

```
8671 {  
8672   "swagger": "2.0",  
8673   "info": {  
8674     "title": "Heart Rate Zone",  
8675     "version": "2019-03-28",  
8676     "license": {  
8677       "name": "OCF Data Model License",  
8678       "url":  
8679       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
8680       CENSE.md",  
8681       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
8682       reserved."  
8683     },  
8684     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
8685   },  
8686   "schemes": ["http"],  
8687   "consumes": ["application/json"],  
8688   "produces": ["application/json"],  
8689   "paths": {  
8690     "/HeartRateZoneResURI" : {  
8691       "get": {  
8692         "description": "This Resource describes a measured heart rate by the current Zone using the  
8693         Zoladz method. The Zoladz method defines Zones based on maximum heart rate; Zone 1 is the lowest,  
8694         Zone 5 is the highest.\n\nThe heartRateZone is an enumeration containing one of: \"Zone1\", \"Zone2\",  
8695         \"Zone3\", \"Zone4\", and \"Zone5\".\n\n",  
8696         "parameters": [  
8697           { "$ref": "#/parameters/interface" }  
8698         ],  
8699         "responses": {  
8700           "200": {  
8701             "description": "",  
8702             "x-example":  
8703             {  
8704               "rt": ["oic.r.sensor.heart.zone"],  
8705               "heartRateZone": "Zone3"  
8706             },  
8707             "schema": { "$ref": "#/definitions/heartRateZone" }  
8708           }  
8709         }  
8710       }  
8711     }  
8712   },
```

```

8713     "parameters": {
8714         "interface" : {
8715             "in" : "query",
8716             "name" : "if",
8717             "type" : "string",
8718             "enum" : ["oic.if.s", "oic.if.baseline"]
8719         }
8720     },
8721     "definitions": {
8722         "heartRateZone" : {
8723             "properties": {
8724                 "rt": {
8725                     "description": "Resource Type",
8726                     "items": {
8727                         "enum": ["oic.r.sensor.heart.zone"],
8728                         "maxLength": 64,
8729                         "type": "string"
8730                     },
8731                     "minItems": 1,
8732                     "readOnly": true,
8733                     "uniqueItems": true,
8734                     "type": "array"
8735                 },
8736                 "n": {
8737                     "$ref":
8738 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8739 schema.json#/definitions/n"
8740                 },
8741                 "id": {
8742                     "$ref":
8743 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8744 schema.json#/definitions/id"
8745                 },
8746                 "heartRateZone": {
8747                     "description": "Current heart rate zone based on the Zoladz system.",
8748                     "enum": [
8749                         "Zone1",
8750                         "Zone2",
8751                         "Zone3",
8752                         "Zone4",
8753                         "Zone5"
8754                     ],
8755                     "readOnly": true,
8756                     "type": "string"
8757                 },
8758                 "if": {
8759                     "description": "The OCF Interface set supported by this Resource",
8760                     "items": {
8761                         "enum": [
8762                             "oic.if.s",
8763                             "oic.if.baseline"
8764                         ],
8765                         "type": "string",
8766                         "maxLength": 64
8767                     },
8768                     "minItems": 1,
8769                     "readOnly": true,
8770                     "uniqueItems": true,
8771                     "type": "array"
8772                 }
8773             },
8774             "type" : "object",
8775             "required": ["heartRateZone"]
8776         }
8777     }
8778 }
8779

```

8780 6.39.5 Property definition

8781 Table 81 defines the Properties that are part of the "oic.r.sensor.heart.zone" Resource Type.

8782
8783

Table 81 – The Property definitions of the Resource with type "rt" = "oic.r.sensor.heart.zone".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
heartRateZone	string	Yes	Read Only	Current heart rate zone based on the Zoladz system.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

8784 6.39.6 CRUDN behaviour

8785 Table 82 defines the CRUDN operations that are supported on the "oic.r.sensor.heart.zone"
8786 Resource Type.

8787 **Table 82 – The CRUDN operations of the Resource with type "rt" =**
8788 **"oic.r.sensor.heart.zone".**

Create	Read	Update	Delete	Notify
	get			observe

8789 6.40 Illuminance Sensor

8790 6.40.1 Introduction

8791 This Resource describes an illuminance sensor.
8792 The Property "illuminance" is a float and represents the sensed luminous flux per unit area in lux.

8793 6.40.2 Example URI

8794 /IlluminanceSensorResURI

8795 6.40.3 Resource type

8796 The Resource Type is defined as: "oic.r.sensor.illuminance".

8797 6.40.4 OpenAPI 2.0 definition

```

8798 {
8799     "swagger": "2.0",
8800     "info": {
8801         "title": "Illuminance Sensor",
8802         "version": "20190808",
8803         "license": {
8804             "name": "OCF Data Model License",
8805             "url":
8806 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
8807 CENSE.md",
8808             "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc.
8809 All rights reserved."
8810         },
8811         "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
8812     },
8813     "schemes": ["http"],
8814     "consumes": ["application/json"],
8815     "produces": ["application/json"],
8816     "paths": {
8817         "/IlluminanceSensorResURI": {
8818             "get": {

```

```

8819         "description": "This Resource describes an illuminance sensor.\nThe
8820 Property \"illuminance\" is a float and represents the sensed luminous flux per unit area in lux.",
8821         "parameters": [
8822             { "$ref": "#/parameters/interface" }
8823         ],
8824         "responses": {
8825             "200": {
8826                 "description": "",
8827                 "x-example": {
8828                     "rt": ["oic.r.sensor.illuminance"],
8829                     "if": ["oic.if.s", "oic.if.baseline"],
8830                     "illuminance": 450.0,
8831                     "range": [100.0, 500.0]
8832                 },
8833                 "schema": { "$ref": "#/definitions/Illuminance" }
8834             }
8835         }
8836     },
8837     },
8838 },
8839 "parameters": {
8840     "interface": {
8841         "in": "query",
8842         "name": "if",
8843         "type": "string",
8844         "enum": ["oic.if.s", "oic.if.baseline"]
8845     }
8846 },
8847 "definitions": {
8848     "Illuminance": {
8849         "properties": {
8850             "rt": {
8851                 "description": "The Resource Type.",
8852                 "items": {
8853                     "enum": ["oic.r.sensor.illuminance"],
8854                     "maxLength": 64,
8855                     "type": "string"
8856                 },
8857                 "minItems": 1,
8858                 "uniqueItems": true,
8859                 "readOnly": true,
8860                 "type": "array"
8861             },
8862             "illuminance": {
8863                 "description": "The sensed luminous flux per unit area in
8864 lux.",
8865                 "readOnly": true,
8866                 "type": "number"
8867             },
8868             "n": {
8869                 "$ref":
8870 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8871 schema.json#/definitions/n"
8872             },
8873             "id": {
8874                 "$ref":
8875 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
8876 schema.json#/definitions/id"
8877             },
8878             "range": {
8879                 "$ref":
8880 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
8881 schema.json#/definitions/range_number"
8882             },
8883             "if": {
8884                 "description": "The OCF Interface set supported by this
8885 Resource.",
8886                 "items": {
8887                     "enum": [
8888                         "oic.if.s",
8889                         "oic.if.baseline"
8890                     ],

```

```

8891         "type": "string"
8892     },
8893     "minItems": 2,
8894     "uniqueItems": true,
8895     "readOnly": true,
8896     "type": "array"
8897 }
8898 },
8899 "type": "object",
8900 "required": ["illuminance"]
8901 }
8902 }
8903 }

```

8904 6.40.5 Property definition

8905 Table 83 defines the Properties that are part of the "oic.r.sensor.illuminance" Resource Type.

8906 **Table 83 – The Property definitions of the Resource with type "rt" =**
8907 **"oic.r.sensor.illuminance".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
illuminance	number	Yes	Read Only	The sensed luminous flux per unit area in lux.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

8908 6.40.6 CRUDN behaviour

8909 Table 84 defines the CRUDN operations that are supported on the "oic.r.sensor.illuminance"
8910 Resource Type.

8911 **Table 84 – The CRUDN operations of the Resource with type "rt" =**
8912 **"oic.r.sensor.illuminance".**

Create	Read	Update	Delete	Notify
	get			observe

8913 6.41 Magnetic Field Direction Sensor

8914 6.41.1 Introduction

8915 This Resource describes the direction of the Earth's magnetic field at the observer's current point
8916 in space.

8917 Typical use case includes measurement of compass readings on a personal device.

8918 The Property "value" is an array containing Hx, Hy, Hz (in that order) each of which are floats.

8919 Each of Hx, Hy and Hz are expressed in A/m (Amperes per metre).

8920 6.41.2 Example URI

8921 /MagneticFieldDirectionResURI

6.41.3 Resource type

The Resource Type is defined as: "oic.r.sensor.magneticfielddirection".

6.41.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Magnetic Field Direction Sensor",
    "version": "20190215",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/MagneticFieldDirectionResURI" : {
      "get": {
        "description": "This Resource describes the direction of the Earth's magnetic field at the
observer's current point in space.\nTypical use case includes measurement of compass readings on a
personal device.\nThe Property \"value\" is an array containing Hx, Hy, Hz (in that order) each of
which are floats.\nEach of Hx, Hy and Hz are expressed in A/m (Amperes per metre).",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.sensor.magneticfielddirection"],
              "if": ["oic.if.s", "oic.if.baseline"],
              "value": [100.0, 15.0, 90.0]
            },
            "schema": { "$ref": "#/definitions/magneticFieldDirection" }
          }
        }
      }
    }
  },
  "parameters": {
    "interface" : {
      "in" : "query",
      "name" : "if",
      "type" : "string",
      "enum" : ["oic.if.s", "oic.if.baseline"]
    }
  },
  "definitions": {
    "magneticFieldDirection" : {
      "properties": {
        "rt": {
          "description": "The Resource Type.",
          "items": {
            "enum": ["oic.r.sensor.magneticfielddirection"],
            "maxLength": 64,
            "type": "string"
          },
          "minItems": 1,
          "uniqueItems": true,
          "readOnly": true,
          "type": "array"
        }
      }
    }
  }
}
```

```

8991     "value": {
8992         "description": "The array containing Hx, Hy, Hz.",
8993         "items": {
8994             "type": "number"
8995         },
8996         "maxItems": 3,
8997         "minItems": 3,
8998         "readOnly": true,
8999         "type": "array"
9000     },
9001     "n": {
9002         "$ref":
9003         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9004         schema.json#/definitions/n"
9005     },
9006     "id": {
9007         "$ref":
9008         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9009         schema.json#/definitions/id"
9010     },
9011     "if": {
9012         "description": "The OCF Interface set supported by this Resource.",
9013         "items": {
9014             "enum": [
9015                 "oic.if.s",
9016                 "oic.if.baseline"
9017             ],
9018             "type": "string"
9019         },
9020         "minItems": 2,
9021         "uniqueItems": true,
9022         "readOnly": true,
9023         "type": "array"
9024     }
9025 },
9026 "type": "object",
9027 "required": ["value"]
9028 }
9029 }
9030 }
9031

```

6.41.5 Property definition

Table 85 defines the Properties that are part of the "oic.r.sensor.magneticfielddirection" Resource Type.

Table 85 – The Property definitions of the Resource with type "rt" = "oic.r.sensor.magneticfielddirection".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
value	array: see schema	Yes	Read Only	The array containing Hx, Hy, Hz.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

6.41.6 CRUDN behaviour

Table 86 defines the CRUDN operations that are supported on the "oic.r.sensor.magneticfielddirection" Resource Type.

9040
9041

Table 86 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.magneticfielddirection".

Create	Read	Update	Delete	Notify
	get			observe

9042 **6.42 Media**

9043 **6.42.1 Introduction**

9044 This Resource specifies the media types that an OCF Server supports.
9045 The resource is an array of media elements. Each element contains:
9046 A URL at which the specified media type can be accessed.
9047 A string array containing the definition of the media using SDP.
9048 Each entry in the sdp array is an SDP line.
9049 Each line shall follow the SDP description syntax as defined in the SDP specification.
9050 The SDP specification can be found at <http://tools.ietf.org/html/rfc4566>.

9051 **6.42.2 Example URI**

9052 /MediaResURI

9053 **6.42.3 Resource type**

9054 The Resource Type is defined as: "oic.r.media".

9055 **6.42.4 OpenAPI 2.0 definition**

```
9056 {
9057   "swagger": "2.0",
9058   "info": {
9059     "title": "Media",
9060     "version": "20190508",
9061     "license": {
9062       "name": "OCF Data Model License",
9063       "url":
9064         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
9065         CENSE.md",
9066       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
9067       reserved."
9068     },
9069     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
9070   },
9071   "schemes": ["http"],
9072   "consumes": ["application/json"],
9073   "produces": ["application/json"],
9074   "paths": {
9075     "/MediaResURI" : {
9076       "get": {
9077         "description": "This Resource specifies the media types that an OCF Server supports.\nThe
9078         resource is an array of media elements. Each element contains:\n  A URL at which the specified
9079         media type can be accessed.\n  A string array containing the definition of the media using SDP.\n
9080         Each entry in the sdp array is an SDP line.\n  Each line shall follow the SDP description syntax
9081         as defined in the SDP specification.\nThe SDP specification can be found at
9082         http://tools.ietf.org/html/rfc4566.",
9083         "parameters": [
9084           {"$ref": "#/parameters/interface"}
9085         ],
9086         "responses": {
9087           "200": {
9088             "description": "RETRIEVES the current media resource.",
9089             "x-example":
9090               {
9091                 "rt": ["oic.r.media"],
9092                 "if": ["oic.if.a", "oic.if.baseline"],
9093                 "media": [
9094                   {
9095                     "url": "some example url",
9096                     "sdp": [
```



```

9097         "m=video 1 RTP/AVP 96",
9098         "a=rtpmap:96 H264/9000",
9099         "a=fmtp:96 profile-level-id=42A028;packetization-mode=1"
9100     ]
9101 },
9102 {
9103     "url": "some other example1 url",
9104     "sdp": [
9105         "m=audio 2 RTP/AVP 97",
9106         "a=rtpmap:97 MP4A-LATM/90000"
9107     ]
9108 },
9109 {
9110     "url": "some other example2 url",
9111     "sdp": [
9112         "m=video 3 RTP/AVP 98",
9113         "a=rtpmap:98 jpeg/90000",
9114         "a=fmtp:98 sampling=YCbCr-4:2:0;width=256;height=256"
9115     ]
9116 }
9117 ]
9118 },
9119 "schema": { "$ref": "#/definitions/Media" }
9120 }
9121 }
9122 },
9123 "post": {
9124     "description": "This is to change the URL that can be played back by the device. Note that
9125 some devices do not have the capability to set the URL to be played back",
9126     "parameters": [
9127         { "$ref": "#/parameters/interface" },
9128         {
9129             "name": "body",
9130             "in": "body",
9131             "required": true,
9132             "schema": { "$ref": "#/definitions/Media" },
9133             "x-example":
9134                 {
9135                     "media": [
9136                         {
9137                             "url": "new example url for playback",
9138                             "sdp": [
9139                                 "m=video 1 RTP/AVP 100",
9140                                 "a=rtpmap:100 H264/9000",
9141                                 "a=fmtp:100 profile-level-id=42A028;packetization-mode=1"
9142                             ]
9143                         }
9144                     ]
9145                 }
9146         }
9147     ],
9148     "responses": {
9149         "200": {
9150             "description": "The current media resource.",
9151             "x-example":
9152                 {
9153                     "rt": ["oic.r.media"],
9154                     "if": ["oic.if.a", "oic.if.baseline"],
9155                     "media": [
9156                         {
9157                             "url": "new example url for playback",
9158                             "sdp": [
9159                                 "m=video 1 RTP/AVP 100",
9160                                 "a=rtpmap:100 H264/9000",
9161                                 "a=fmtp:100 profile-level-id=42A028;packetization-mode=1"
9162                             ]
9163                         }
9164                     ]
9165                 }
9166             "schema": { "$ref": "#/definitions/Media" }
9167         }
9168     }

```

```

9169     }
9170   }
9171 },
9172 "parameters": {
9173   "interface": {
9174     "in": "query",
9175     "name": "if",
9176     "type": "string",
9177     "enum": ["oic.if.a", "oic.if.baseline"]
9178   }
9179 },
9180 "definitions": {
9181   "Media" : {
9182     "properties": {
9183       "rt": {
9184         "description": "The Resource Type.",
9185         "items": {
9186           "enum": ["oic.r.media"],
9187           "maxLength": 64,
9188           "type": "string"
9189         },
9190         "minItems": 1,
9191         "uniqueItems": true,
9192         "readOnly": true,
9193         "type": "array"
9194       },
9195       "media": {
9196         "items": {
9197           "properties": {
9198             "sdp": {
9199               "description": "The array of strings, one per SDP line.",
9200               "items": {
9201                 "description": "SDP media or attribute line",
9202                 "type": "string"
9203               },
9204               "type": "array"
9205             },
9206             "url": {
9207               "description": "The url for the media instance.",
9208               "type": "string"
9209             }
9210           },
9211           "type": "object"
9212         },
9213         "type": "array"
9214       },
9215       "n": {
9216         "$ref":
9217 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9218 schema.json#/definitions/n"
9219       },
9220       "id": {
9221         "$ref":
9222 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9223 schema.json#/definitions/id"
9224       },
9225       "if": {
9226         "description": "The OCF Interface set supported by this Resource.",
9227         "items": {
9228           "enum": [
9229             "oic.if.a",
9230             "oic.if.s",
9231             "oic.if.baseline"
9232           ],
9233           "type": "string"
9234         },
9235         "minItems": 2,
9236         "uniqueItems": true,
9237         "readOnly": true,
9238         "type": "array"
9239       }
9240     },

```

```

9241         "type": "object",
9242         "required": ["media"]
9243     }
9244 }
9245 }
9246

```

9247 6.42.5 Property definition

9248 Table 87 defines the Properties that are part of the "oic.r.media" Resource Type.

9249 **Table 87 – The Property definitions of the Resource with type "rt" = "oic.r.media".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
media	array: see schema	Yes	Read Write	
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

9250 6.42.6 CRUDN behaviour

9251 Table 88 defines the CRUDN operations that are supported on the "oic.r.media" Resource Type.

9252 **Table 88 – The CRUDN operations of the Resource with type "rt" = "oic.r.media".**

Create	Read	Update	Delete	Notify
	get	post		observe

9253 6.43 Media Source

9254 6.43.1 Introduction

9255 This Resource defines a single media source that exists on a device.

9256 The source can be an input source or output source, this resource is agnostic of that.

9257 The Property "sourceName" specifies a pre-defined media input or output (e.g. "HDMI", "DVI").

9258 The Property "sourceNumber" is a label to specify the instance (e.g. "PC", "1").

9259 The Property "sourceType" is an enumeration defining whether the source is audio, video or both.

9260 The Property "status" is a boolean that determines if the specific source instance is selected or not.

9261 A status of true means that the source instance is selected.

9262 A status of false means that the source instance is not selected.

9264 6.43.2 Example URI

9265 /mediaSourceResURI

9266 6.43.3 Resource type

9267 The Resource Type is defined as: "oic.r.mediasource".

9268 6.43.4 OpenAPI 2.0 definition

```

9269 {
9270     "swagger": "2.0",
9271     "info": {
9272         "title": "Media Source",
9273         "version": "20190215",
9274         "license": {
9275             "name": "OCF Data Model License",

```

```

9276         "url":
9277         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
9278         CENSE.md",
9279         "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
9280         reserved.",
9281     },
9282     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
9283 },
9284 "schemes": ["http"],
9285 "consumes": ["application/json"],
9286 "produces": ["application/json"],
9287 "paths": {
9288     "/mediaSourceResURI" : {
9289         "get": {
9290             "description": "This Resource defines a single media source that exists on a device.\nThe
9291             source can be an input source or output source, this resource is agnostic of that.\nThe Property
9292             \"sourceName\" specifies a pre-defined media input or output (e.g. \"HDMI\", \"DVI\").\nThe Property
9293             \"sourceNumber\" is a label to specify the instance (e.g. \"PC\", \"1\").\nThe Property
9294             \"sourceType\" is an enumeration defining whether the source is audio, video or both.\nThe Property
9295             \"status\" is a boolean that determines if the specific source instance is selected or not.\nA
9296             status of true means that the source instance is selected.\nA status of false means that the source
9297             instance is not selected.",
9298             "parameters": [
9299                 { "$ref": "#/parameters/interface" }
9300             ],
9301             "responses": {
9302                 "200": {
9303                     "description": "",
9304                     "x-example":
9305                     {
9306                         "rt": ["oic.r.mediasource"],
9307                         "if": ["oic.if.a", "oic.if.baseline"],
9308                         "sourceName": "HDMI-CEC",
9309                         "sourceNumber": "1",
9310                         "sourceType": "audioPlusVideo",
9311                         "status": true
9312                     },
9313                     "schema": { "$ref": "#/definitions/mediaSource" }
9314                 }
9315             }
9316         },
9317         "post": {
9318             "description": "Changes the status of the source.\nAllows changes of the \"sourceName\" and
9319             the \"status\".",
9320             "parameters": [
9321                 { "$ref": "#/parameters/interface" },
9322                 {
9323                     "name": "body",
9324                     "in": "body",
9325                     "required": true,
9326                     "schema": { "$ref": "#/definitions/mediaSource" },
9327                     "x-example":
9328                     {
9329                         "sourceName": "my new name",
9330                         "status": true
9331                     }
9332                 }
9333             ],
9334             "responses": {
9335                 "200": {
9336                     "description": "",
9337                     "x-example":
9338                     {
9339                         "sourceName": "my new name",
9340                         "sourceNumber": "1",
9341                         "sourceType": "audioPlusVideo",
9342                         "status": true
9343                     },
9344                     "schema": { "$ref": "#/definitions/mediaSource" }
9345                 }
9346             }
9347         }
9348     }
9349 }

```

```

9348     }
9349   },
9350   "parameters": {
9351     "interface": {
9352       "in": "query",
9353       "name": "if",
9354       "type": "string",
9355       "enum": ["oic.if.a", "oic.if.baseline"]
9356     }
9357   },
9358   "definitions": {
9359     "mediaSource": {
9360       "properties": {
9361         "rt": {
9362           "description": "The Resource Type.",
9363           "items": {
9364             "enum": ["oic.r.mediasource"],
9365             "maxLength": 64,
9366             "type": "string"
9367           },
9368           "minItems": 1,
9369           "uniqueItems": true,
9370           "readOnly": true,
9371           "type": "array"
9372         },
9373         "status": {
9374           "description": "Specifies if the specific source instance is selected or not.",
9375           "type": "boolean"
9376         },
9377         "sourceType": {
9378           "description": "Specifies the type of the source.",
9379           "enum": [
9380             "audioOnly",
9381             "videoOnly",
9382             "audioPlusVideo"
9383           ],
9384           "readOnly": true,
9385           "type": "string"
9386         },
9387         "sourceName": {
9388           "description": "Specifies a pre-defined media input or output.",
9389           "type": "string"
9390         },
9391         "sourceNumber": {
9392           "description": "Label to specify the instance.",
9393           "type": "string"
9394         },
9395         "n": {
9396           "$ref":
9397             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9398             schema.json#/definitions/n"
9399         },
9400         "id": {
9401           "$ref":
9402             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9403             schema.json#/definitions/id"
9404         },
9405         "if": {
9406           "description": "The OCF Interface set supported by this Resource.",
9407           "items": {
9408             "enum": [
9409               "oic.if.a",
9410               "oic.if.baseline"
9411             ],
9412             "type": "string"
9413           },
9414           "minItems": 2,
9415           "uniqueItems": true,
9416           "readOnly": true,
9417           "type": "array"
9418         }
9419       },

```

```

9420     "type": "object",
9421     "required": ["sourceName", "status"]
9422   }
9423 }
9424 }
9425

```

9426 6.43.5 Property definition

9427 Table 89 defines the Properties that are part of the "oic.r.mediasource" Resource Type.

9428 **Table 89 – The Property definitions of the Resource with type "rt" = "oic.r.mediasource".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
status	boolean	Yes	Read Write	Specifies if the specific source instance is selected or not.
sourceType	string	No	Read Only	Specifies the type of the source.
sourceName	string	Yes	Read Write	Specifies a pre-defined media input or output.
sourceNumber	string	No	Read Write	Label to specify the instance.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

9429 6.43.6 CRUDN behaviour

9430 Table 90 defines the CRUDN operations that are supported on the "oic.r.mediasource" Resource
 9431 Type.

9432 **Table 90 – The CRUDN operations of the Resource with type "rt" = "oic.r.mediasource".**

Create	Read	Update	Delete	Notify
	get	post		observe

9433 6.44 Media Source List

9434 6.44.1 Introduction

9435 This Resource provides the list of all media sources available on the Device (input and/or output).
 9436 The sources are an array of mediaSource(s) as separately defined see Resource Type
 9437 "oic.r.mediasource"

9438 6.44.2 Example URI

9439 /mediaSourceListResURI

9440 6.44.3 Resource type

9441 The Resource Type is defined as: "oic.r.mediasourcelist".

6.44.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Media Source List",
    "version": "20190729",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/mediaSourceListResURI" : {
      "get": {
        "description": "This Resource provides the list of all media sources available on the Device
(input and/or output).\nThe sources are an array of mediaSource(s) as separately defined see
Resource Type \"oic.r.mediasource\",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example":
            {
              "rt": ["oic.r.mediasourcelist"],
              "if": ["oic.if.a", "oic.if.baseline"],
              "sources": [
                {
                  "sourceName": "HDMI-CEC",
                  "sourceNumber": "1",
                  "sourceType": "audioPlusVideo",
                  "status": true
                },
                {
                  "sourceName": "dualRCA",
                  "sourceNumber": "1",
                  "sourceType": "audioOnly",
                  "status": false
                }
              ]
            }
          },
          "schema": { "$ref": "#/definitions/mediaSourceList" }
        }
      },
      "post": {
        "description": "Changes the status of the source(s).\nAllows changes of the sourceName and
the status.",
        "parameters": [
          { "$ref": "#/parameters/interface" },
          {
            "name": "body",
            "in": "body",
            "required": true,
            "schema": { "$ref": "#/definitions/mediaSourceList" },
            "x-example":
            {
              "sources": [
                {
                  "sourceName": "my new name",
                  "status": true
                }
              ],

```

```

9513         {
9514             "sourceName": "dualRCA"
9515         }
9516     ]
9517 }
9518 },
9519 ],
9520 "responses": {
9521     "200": {
9522         "description": "",
9523         "x-example":
9524             {
9525                 "sources": [
9526                     {
9527                         "sourceName": "my new name",
9528                         "sourceNumber": "1",
9529                         "sourceType": "audioPlusVideo",
9530                         "status": true
9531                     },
9532                     {
9533                         "sourceName": "dualRCA",
9534                         "sourceNumber": "1",
9535                         "sourceType": "audioOnly",
9536                         "status": false
9537                     }
9538                 ]
9539             },
9540     "schema": { "$ref": "#/definitions/mediaSourceList" }
9541     }
9542 }
9543 }
9544 },
9545 },
9546 "parameters": {
9547     "interface": {
9548         "in": "query",
9549         "name": "if",
9550         "type": "string",
9551         "enum": ["oic.if.a", "oic.if.baseline"]
9552     }
9553 },
9554 "definitions": {
9555     "mediaSourceList" : {
9556         "properties": {
9557             "rt": {
9558                 "description": "The Resource Type.",
9559                 "items": {
9560                     "enum": ["oic.r.mediasourcelist"],
9561                     "maxLength": 64,
9562                     "type": "string"
9563                 },
9564                 "minItems": 1,
9565                 "uniqueItems": true,
9566                 "readOnly": true,
9567                 "type": "array"
9568             },
9569             "sources": {
9570                 "items": {
9571                     "properties": {
9572                         "sourceName": {
9573                             "description": "Specifies a pre-defined media input or output.",
9574                             "type": "string"
9575                         },
9576                         "sourceNumber": {
9577                             "description": "Label to specify the instance.",
9578                             "readOnly": true,
9579                             "type": "string"
9580                         },
9581                         "sourceType": {
9582                             "description": "Specifies the type of the source.",
9583                             "enum": [
9584                                 "audioOnly",

```



```

9585         "videoOnly",
9586         "audioPlusVideo"
9587     ],
9588     "readOnly": true,
9589     "type": "string"
9590 },
9591     "status": {
9592         "description": "Specifies if the specific source instance is selected or not.",
9593         "type": "boolean"
9594     }
9595 },
9596     "type": "object"
9597 },
9598     "type": "array"
9599 },
9600     "n": {
9601         "$ref":
9602         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9603         schema.json#/definitions/n"
9604     },
9605     "id": {
9606         "$ref":
9607         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9608         schema.json#/definitions/id"
9609     },
9610     "if": {
9611         "description": "The OCF Interface set supported by this Resource.",
9612         "items": {
9613             "enum": [
9614                 "oic.if.a",
9615                 "oic.if.baseline"
9616             ],
9617             "type": "string"
9618         },
9619         "minItems": 2,
9620         "uniqueItems": true,
9621         "readOnly": true,
9622         "type": "array"
9623     }
9624 },
9625     "type": "object",
9626     "required": ["sources"]
9627 }
9628 }
9629 }
9630

```

9631 6.44.5 Property definition

9632 Table 91 defines the Properties that are part of the "oic.r.mediasourcelist" Resource Type.

9633 **Table 91 – The Property definitions of the Resource with type "rt" =**
9634 **"oic.r.mediasourcelist".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
sources	array: see schema	Yes	Read Write	
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

6.44.6 CRUDN behaviour

Table 92 defines the CRUDN operations that are supported on the "oic.r.mediasourcelist" Resource Type.

Table 92 – The CRUDN operations of the Resource with type "rt" = "oic.r.mediasourcelist".

Create	Read	Update	Delete	Notify
	get	post		observe

6.45 Media Source Input

6.45.1 Introduction

This Resource provides the list of input media sources available on the device.
The sources are an array of Media Source(s) see Resource Type "oic.r.mediasource"

6.45.2 Example URI

/mediaSourceInputResURI

6.45.3 Resource type

The Resource Type is defined as: "oic.r.media.input".

6.45.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Media Source Input",
    "version": "20190729",
    "license": {
      "name": "OCF Data Model License",
      "url":
        "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
        CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
        reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/mediaSourceInputResURI" : {
      "get": {
        "description": "This Resource provides the list of input media sources available on the
        device.\nThe sources are an array of Media Source(s) see Resource Type \"oic.r.mediasource\"\\n",
        "parameters": [
          {"$ref": "#/parameters/interface"}
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.media.input"],
              "if": ["oic.if.a", "oic.if.baseline"],
              "sources": [
                {
                  "sourceName": "HDMI-CEC",
                  "sourceNumber": "1",
                  "sourceType": "audioPlusVideo",
                  "status": true
                },
                {
                  "sourceName": "dualRCA",
                  "sourceNumber": "1",
```

```

9691         "sourceType": "audioOnly",
9692         "status": false
9693     }
9694 ],
9695 },
9696     "schema": { "$ref": "#/definitions/mediaSourceList" }
9697 }
9698 },
9699 },
9700     "post": {
9701         "description": "Changes the status of the source(s).\nAllows changes of the sourceName and
9702 the status.",
9703         "parameters": [
9704             { "$ref": "#/parameters/interface" },
9705             {
9706                 "name": "body",
9707                 "in": "body",
9708                 "required": true,
9709                 "schema": { "$ref": "#/definitions/mediaSourceList" },
9710                 "x-example": {
9711                     "sources": [
9712                         {
9713                             "sourceName": "my new name",
9714                             "status": true
9715                         },
9716                         {
9717                             "sourceName": "dualRCA"
9718                         }
9719                     ]
9720                 }
9721             }
9722         ],
9723         "responses": {
9724             "200": {
9725                 "description": "",
9726                 "x-example": {
9727                     "sources": [
9728                         {
9729                             "sourceName": "my new name",
9730                             "sourceNumber": "1",
9731                             "sourceType": "audioPlusVideo",
9732                             "status": true
9733                         },
9734                         {
9735                             "sourceName": "dualRCA",
9736                             "sourceNumber": "1",
9737                             "sourceType": "audioOnly",
9738                             "status": false
9739                         }
9740                     ]
9741                 },
9742                 "schema": { "$ref": "#/definitions/mediaSourceList" }
9743             }
9744         }
9745     }
9746 },
9747 },
9748     "parameters": {
9749         "interface": {
9750             "in": "query",
9751             "name": "if",
9752             "type": "string",
9753             "enum": ["oic.if.a", "oic.if.baseline"]
9754         }
9755     },
9756     "definitions": {
9757         "mediaSourceList" : {
9758             "properties": {
9759                 "rt": {
9760                     "description": "Resource Type",
9761                     "items": {
9762                         "enum": ["oic.r.media.input"],

```

```

9763         "maxLength": 64,
9764         "type": "string"
9765     },
9766     "minItems": 1,
9767     "uniqueItems": true,
9768     "readOnly": true,
9769     "type": "array"
9770 },
9771 "sources": {
9772     "items": {
9773         "properties": {
9774             "sourceName": {
9775                 "description": "Specifies a pre-defined media input or output",
9776                 "type": "string"
9777             },
9778             "sourceNumber": {
9779                 "description": "Label to specify the instance",
9780                 "readOnly": true,
9781                 "type": "string"
9782             },
9783             "sourceType": {
9784                 "description": "Specifies the type of the source",
9785                 "enum": [
9786                     "audioOnly",
9787                     "videoOnly",
9788                     "audioPlusVideo"
9789                 ],
9790                 "readOnly": true,
9791                 "type": "string"
9792             },
9793             "status": {
9794                 "description": "Specifies if the specific source instance is selected or not",
9795                 "type": "boolean"
9796             }
9797         },
9798         "type": "object"
9799     },
9800     "type": "array"
9801 },
9802 "n": {
9803     "$ref":
9804     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9805     schema.json#/definitions/n"
9806 },
9807 "id": {
9808     "$ref":
9809     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
9810     schema.json#/definitions/id"
9811 },
9812 "if": {
9813     "description": "The OCF Interface set supported by this Resource",
9814     "items": {
9815         "enum": [
9816             "oic.if.a",
9817             "oic.if.baseline"
9818         ],
9819         "type": "string"
9820     },
9821     "minItems": 2,
9822     "uniqueItems": true,
9823     "readOnly": true,
9824     "type": "array"
9825 }
9826 },
9827 "type": "object",
9828 "required": ["sources"]
9829 }
9830 }
9831 }
9832

```

6.45.5 Property definition

Table 93 defines the Properties that are part of the "oic.r.media.input" Resource Type.

Table 93 – The Property definitions of the Resource with type "rt" = "oic.r.media.input".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
sources	array: see schema	Yes	Read Write	
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

6.45.6 CRUDN behaviour

Table 94 defines the CRUDN operations that are supported on the "oic.r.media.input" Resource Type.

Table 94 – The CRUDN operations of the Resource with type "rt" = "oic.r.media.input".

Create	Read	Update	Delete	Notify
	get	post		observe

6.46 Media Source Output

6.46.1 Introduction

This Resource provides the list of output media sources available on the device.
The sources are an array of Media Source(s) see Resource Type "oic.r.mediasource"

6.46.2 Example URI

/mediaSourceOutputResURI

6.46.3 Resource type

The Resource Type is defined as: "oic.r.media.output".

6.46.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Media Source Output",
    "version": "20190729",
    "license": {
      "name": "OCF Data Model License",
      "url": "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/mediaSourceOutputResURI" : {
```

```

9870     "get": {
9871         "description": "This Resource provides the list of output media sources available on the
9872 device.\n\nThe sources are an array of Media Source(s) see Resource Type \"oic.r.mediasource\"\n",
9873         "parameters": [
9874             { "$ref": "#/parameters/interface" }
9875         ],
9876         "responses": {
9877             "200": {
9878                 "description": "",
9879                 "x-example": {
9880                     "rt": ["oic.r.media.output"],
9881                     "if": ["oic.if.a", "oic.if.baseline"],
9882                     "sources": [
9883                         {
9884                             "sourceName": "HDMI-CEC",
9885                             "sourceNumber": "1",
9886                             "sourceType": "audioPlusVideo",
9887                             "status": true
9888                         },
9889                         {
9890                             "sourceName": "dualRCA",
9891                             "sourceNumber": "1",
9892                             "sourceType": "audioOnly",
9893                             "status": false
9894                         }
9895                     ]
9896                 },
9897                 "schema": { "$ref": "#/definitions/mediaSourceList" }
9898             }
9899         },
9900     },
9901     "post": {
9902         "description": "Changes the status of the source(s).\n\nAllows changes of the sourceName and
9903 the status.",
9904         "parameters": [
9905             { "$ref": "#/parameters/interface" },
9906             {
9907                 "name": "body",
9908                 "in": "body",
9909                 "required": true,
9910                 "schema": { "$ref": "#/definitions/mediaSourceList" },
9911                 "x-example": {
9912                     "sources": [
9913                         {
9914                             "sourceName": "my new name",
9915                             "status": true
9916                         },
9917                         {
9918                             "sourceName": "dualRCA"
9919                         }
9920                     ]
9921                 }
9922             }
9923         ],
9924         "responses": {
9925             "200": {
9926                 "description": "",
9927                 "x-example": {
9928                     "sources": [
9929                         {
9930                             "sourceName": "my new name",
9931                             "sourceNumber": "1",
9932                             "sourceType": "audioPlusVideo",
9933                             "status": true
9934                         },
9935                         {
9936                             "sourceName": "dualRCA",
9937                             "sourceNumber": "1",
9938                             "sourceType": "audioOnly",
9939                             "status": false
9940                         }
9941                     ]

```

```

9942         },
9943         "schema": { "$ref": "#/definitions/mediaSourceList" }
9944     }
9945 }
9946 }
9947 }
9948 },
9949 "parameters": {
9950     "interface": {
9951         "in": "query",
9952         "name": "if",
9953         "type": "string",
9954         "enum": ["oic.if.a", "oic.if.baseline"]
9955     }
9956 },
9957 "definitions": {
9958     "mediaSourceList" : {
9959         "properties": {
9960             "rt": {
9961                 "description": "Resource Type",
9962                 "items": {
9963                     "enum": ["oic.r.media.output"],
9964                     "maxLength": 64,
9965                     "type": "string"
9966                 },
9967                 "minItems": 1,
9968                 "uniqueItems": true,
9969                 "readOnly": true,
9970                 "type": "array"
9971             },
9972             "sources": {
9973                 "items": {
9974                     "properties": {
9975                         "sourceName": {
9976                             "description": "Specifies a pre-defined media input or output",
9977                             "type": "string"
9978                         },
9979                         "sourceNumber": {
9980                             "description": "Label to specify the instance",
9981                             "readOnly": true,
9982                             "type": "string"
9983                         },
9984                         "sourceType": {
9985                             "description": "Specifies the type of the source",
9986                             "enum": [
9987                                 "audioOnly",
9988                                 "videoOnly",
9989                                 "audioPlusVideo"
9990                             ],
9991                             "readOnly": true,
9992                             "type": "string"
9993                         },
9994                         "status": {
9995                             "description": "Specifies if the specific source instance is selected or not",
9996                             "type": "boolean"
9997                         }
9998                     },
9999                     "type": "object"
10000                 },
10001                 "type": "array"
10002             },
10003             "n": {
10004                 "$ref":
10005                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10006                 schema.json#/definitions/n"
10007             },
10008             "id": {
10009                 "$ref":
10010                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10011                 schema.json#/definitions/id"
10012             },
10013             "if": {

```

```

10014         "description": "The OCF Interface set supported by this Resource",
10015         "items": {
10016             "enum": [
10017                 "oic.if.a",
10018                 "oic.if.baseline"
10019             ],
10020             "type": "string"
10021         },
10022         "minItems": 2,
10023         "uniqueItems": true,
10024         "readOnly": true,
10025         "type": "array"
10026     },
10027 },
10028 "type": "object",
10029 "required": ["sources"]
10030 }
10031 }
10032 }
10033

```

10034 6.46.5 Property definition

10035 Table 95 defines the Properties that are part of the "oic.r.media.output" Resource Type.

10036 **Table 95 – The Property definitions of the Resource with type "rt" = "oic.r.media.output".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
sources	array: see schema	Yes	Read Write	
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

10037 6.46.6 CRUDN behaviour

10038 Table 96 defines the CRUDN operations that are supported on the "oic.r.media.output" Resource
10039 Type.

10040 **Table 96 – The CRUDN operations of the Resource with type "rt" = "oic.r.media.output".**

Create	Read	Update	Delete	Notify
	get	post		observe

10041 6.47 Motion Sensor

10042 6.47.1 Introduction

10043 This Resource describes whether motion has been sensed or not.

10044 The Property "value" is a boolean.

10045 A value of 'true' means that motion has been sensed.

10046 A value of 'false' means that motion not been sensed.

10047

10048 6.47.2 Example URI

10049 /MotionResURI

10050 6.47.3 Resource type

10051 The Resource Type is defined as: "oic.r.sensor.motion".

6.47.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Motion Sensor",
    "version": "20190215",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/MotionResURI" : {
      "get": {
        "description": "This Resource describes whether motion has been sensed or not.\nThe Property
\"value\" is a boolean.\nA value of 'true' means that motion has been sensed.\nA value of 'false'
means that motion not been sensed.\n",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example":
            {
              "rt": ["oic.r.sensor.motion"],
              "if": ["oic.if.s", "oic.if.baseline"],
              "value": true
            },
            "schema": { "$ref": "#/definitions/Motion" }
          }
        }
      }
    }
  },
  "parameters": {
    "interface" : {
      "in" : "query",
      "name" : "if",
      "type" : "string",
      "enum" : ["oic.if.s", "oic.if.baseline"]
    }
  },
  "definitions": {
    "Motion" : {
      "properties": {
        "rt": {
          "description": "The Resource Type.",
          "items": {
            "enum": ["oic.r.sensor.motion"],
            "maxLength": 64,
            "type": "string"
          },
          "minItems": 1,
          "uniqueItems": true,
          "readOnly": true,
          "type": "array"
        },
        "value": {
          "description": "The motion sensor, true = motion sensed, false = motion not sensed.",
          "readOnly": true,
          "type": "boolean"
        }
      }
    }
  }
}
```

```

10123         "n": {
10124             "$ref":
10125             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10126             schema.json#/definitions/n"
10127         },
10128         "id": {
10129             "$ref":
10130             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10131             schema.json#/definitions/id"
10132         },
10133         "if": {
10134             "description": "The OCF Interface set supported by this Resource.",
10135             "items": {
10136                 "enum": [
10137                     "oic.if.s",
10138                     "oic.if.baseline"
10139                 ],
10140                 "type": "string"
10141             },
10142             "minItems": 2,
10143             "uniqueItems": true,
10144             "readOnly": true,
10145             "type": "array"
10146         }
10147     },
10148     "type": "object",
10149     "required": ["value"]
10150 }
10151 }
10152 }
10153

```

10154 6.47.5 Property definition

10155 Table 97 defines the Properties that are part of the "oic.r.sensor.motion" Resource Type.

10156 **Table 97 – The Property definitions of the Resource with type "rt" = "oic.r.sensor.motion".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
value	boolean	Yes	Read Only	The motion sensor, true = motion sensed, false = motion not sensed.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

10157 6.47.6 CRUDN behaviour

10158 Table 98 defines the CRUDN operations that are supported on the "oic.r.sensor.motion" Resource Type.
10159

10160 **Table 98 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.motion".**

Create	Read	Update	Delete	Notify
	get			observe

6.48 Night Mode

6.48.1 Introduction

This Resource describes a night mode on/off feature.
A nightMode value of 'true' means that the feature is on.
A nightMode value of 'false' means that the feature is off.

6.48.2 Example URI

/NightModeResURI

6.48.3 Resource type

The Resource Type is defined as: "oic.r.nightmode".

6.48.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Night Mode",
    "version": "20190215",
    "license": {
      "name": "OCF Data Model License",
      "url":
        "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
        CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
        reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/NightModeResURI" : {
      "get": {
        "description": "This Resource describes a night mode on/off feature.\nA nightMode value of
        'true' means that the feature is on.\nA nightMode value of 'false' means that the feature is off.",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example":
              {
                "rt": ["oic.r.nightmode"],
                "if": ["oic.if.a", "oic.if.baseline"],
                "nightMode": false
              },
            "schema": { "$ref": "#/definitions/NightMode" }
          }
        }
      },
      "post": {
        "description": "",
        "parameters": [
          { "$ref": "#/parameters/interface" },
          {
            "name": "body",
            "in": "body",
            "required": true,
            "schema": { "$ref": "#/definitions/NightMode" },
            "x-example":
              {
                "nightMode": true
              }
          }
        ]
      }
    }
  }
}
```

```

10225         "responses": {
10226             "200": {
10227                 "description": "",
10228                 "x-example":
10229                     {
10230                         "nightMode": true
10231                     },
10232                 "schema": { "$ref": "#/definitions/NightMode" }
10233             }
10234         }
10235     },
10236 },
10237 },
10238 "parameters": {
10239     "interface": {
10240         "in": "query",
10241         "name": "if",
10242         "type": "string",
10243         "enum": ["oic.if.a", "oic.if.baseline"]
10244     }
10245 },
10246 "definitions": {
10247     "NightMode": {
10248         "properties": {
10249             "rt": {
10250                 "description": "The Resource Type.",
10251                 "items": {
10252                     "enum": ["oic.r.nightmode"],
10253                     "maxLength": 64,
10254                     "type": "string"
10255                 },
10256                 "minItems": 1,
10257                 "uniqueItems": true,
10258                 "readOnly": true,
10259                 "type": "array"
10260             },
10261             "nightMode": {
10262                 "description": "The status of the Night Mode.",
10263                 "type": "boolean"
10264             },
10265             "n": {
10266                 "$ref":
10267                     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10268                     schema.json#/definitions/n"
10269             },
10270             "id": {
10271                 "$ref":
10272                     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10273                     schema.json#/definitions/id"
10274             },
10275             "if": {
10276                 "description": "The OCF Interface set supported by this Resource.",
10277                 "items": {
10278                     "enum": [
10279                         "oic.if.a",
10280                         "oic.if.baseline"
10281                     ],
10282                     "type": "string"
10283                 },
10284                 "minItems": 2,
10285                 "uniqueItems": true,
10286                 "readOnly": true,
10287                 "type": "array"
10288             }
10289         },
10290         "type": "object",
10291         "required": ["nightMode"]
10292     }
10293 }
10294 }
10295

```

6.48.5 Property definition

Table 99 defines the Properties that are part of the "oic.r.nightmode" Resource Type.

Table 99 – The Property definitions of the Resource with type "rt" = "oic.r.nightmode".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
nightMode	boolean	Yes	Read Write	The status of the Night Mode.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

6.48.6 CRUDN behaviour

Table 100 defines the CRUDN operations that are supported on the "oic.r.nightmode" Resource Type.

Table 100 – The CRUDN operations of the Resource with type "rt" = "oic.r.nightmode".

Create	Read	Update	Delete	Notify
	get	post		observe

6.49 Presence Sensor

6.49.1 Introduction

This Resource describes whether presence has been sensed or not.

The Property "value" is a boolean.

A value of 'true' means that presence has been sensed.

A value of 'false' means that presence not been sensed.

6.49.2 Example URI

/PresenceResURI

6.49.3 Resource type

The Resource Type is defined as: "oic.r.sensor.presence".

6.49.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Presence Sensor",
    "version": "20190215",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
```

```

10332     "paths": {
10333         "/PresenceResURI" : {
10334             "get": {
10335                 "description": "This Resource describes whether presence has been sensed or not.\nThe
10336 Property \"value\" is a boolean.\nA value of 'true' means that presence has been sensed.\nA value of
10337 'false' means that presence not been sensed.",
10338                 "parameters": [
10339                     {"$ref": "#/parameters/interface"}
10340                 ],
10341                 "responses": {
10342                     "200": {
10343                         "description": "",
10344                         "x-example":
10345                             {
10346                                 "rt": ["oic.r.sensor.presence"],
10347                                 "if": ["oic.if.s", "oic.if.baseline"],
10348                                 "value": true
10349                             },
10350                     },
10351                     "schema": { "$ref": "#/definitions/Presence" }
10352                 }
10353             }
10354         },
10355     },
10356     "parameters": {
10357         "interface": {
10358             "in": "query",
10359             "name": "if",
10360             "type": "string",
10361             "enum": ["oic.if.s", "oic.if.baseline"]
10362         }
10363     },
10364     "definitions": {
10365         "Presence" : {
10366             "properties": {
10367                 "rt": {
10368                     "description": "The Resource Type.",
10369                     "items": {
10370                         "enum": ["oic.r.sensor.presence"],
10371                         "maxLength": 64,
10372                         "type": "string"
10373                     },
10374                     "minItems": 1,
10375                     "uniqueItems": true,
10376                     "readOnly": true,
10377                     "type": "array"
10378                 },
10379                 "value": {
10380                     "description": "The presences sensor, true = precense sensed, false = precensenot
10381 sensed.",
10382                     "readOnly": true,
10383                     "type": "boolean"
10384                 },
10385                 "n": {
10386                     "$ref":
10387 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10388 schema.json#/definitions/n"
10389                 },
10390                 "id": {
10391                     "$ref":
10392 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10393 schema.json#/definitions/id"
10394                 },
10395                 "if": {
10396                     "description": "The OCF Interface set supported by this Resource.",
10397                     "items": {
10398                         "enum": [
10399                             "oic.if.s",
10400                             "oic.if.baseline"
10401                         ],
10402                         "type": "string"
10403                     }

```

```

10404         "minItems": 2,
10405         "uniqueItems": true,
10406         "readOnly": true,
10407         "type": "array"
10408     },
10409 },
10410     "type": "object",
10411     "required": ["value"]
10412 }
10413 }
10414 }
10415

```

10416 6.49.5 Property definition

10417 Table 101 defines the Properties that are part of the "oic.r.sensor.presence" Resource Type.

10418 **Table 101 – The Property definitions of the Resource with type "rt" =**
10419 **"oic.r.sensor.presence".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
value	boolean	Yes	Read Only	The presences sensor, true = presence sensed, false = presence not sensed.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

10420 6.49.6 CRUDN behaviour

10421 Table 102 defines the CRUDN operations that are supported on the "oic.r.sensor.presence"
10422 Resource Type.

10423 **Table 102 – The CRUDN operations of the Resource with type "rt" =**
10424 **"oic.r.sensor.presence".**

Create	Read	Update	Delete	Notify
	get			observe

10425 6.50 Pan Tilt Zoom Movement

10426 6.50.1 Introduction

10427 This Resource specifies the pan tilt and zoom capabilities of a device.
10428 The Resource Type is dynamic and reflects whether the values apply to
10429 physical movement of the device or digital/virtual enhancements to the image.
10430 For physical movement the Resource Type is "oic.r.movement.ptz".
10431 For digital/virtual image enhancements the Resource Type is "oic.r.image.ptz".
10432 The Properties "pan" and "tilt" are specified in degrees.
10433 The Property "zoomFactor" is a value in the range 1-100 for linear (optical) zoom.
10434 The zoom factor is a value in the range [1x, 2x, 4x, 8x, 16x, 32x] for digital zoom.
10435 If there is no zoom value to set the zoom factor shall be '1x'.
10436 The value 0 degrees means neutral, this is a vendor defined setting.
10437 Note that this resource also can be used to create an offset for physical movement.
10438 When that is the case, the Resource Type value is: "oic.r.movement.offset.ptz"

10439 Note that this resource also can be used to create an offset for image movement.
 10440 When that is the case, the Resource Type value is: "oic.r.image.offset.ptz".
 10441 When the Property "pan_range" value is omitted, then the range is [-180.0,180.0].
 10442 If "pan" is not supported then the range shall be [0.0,0.0]
 10443 When the Property "tilt_range" value is omitted, then the range is [-180.0,180.0].
 10444 If "tilt" is not supported then the range shall be [0.0,0.0].

10445 6.50.2 Example URI

10446 /PanTiltZoomResURI

10447 6.50.3 Resource type

10448 The Resource Type is defined as: "oic.r.ptz".

10449 6.50.4 OpenAPI 2.0 definition

```
10450 {
10451   "swagger": "2.0",
10452   "info": {
10453     "title": "Pan Tilt Zoom Movement",
10454     "version": "20190215",
10455     "license": {
10456       "name": "OCF Data Model License",
10457       "url":
10458         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
10459         CENSE.md",
10460       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
10461         reserved."
10462     },
10463     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
10464   },
10465   "schemes": ["http"],
10466   "consumes": ["application/json"],
10467   "produces": ["application/json"],
10468   "paths": {
10469     "/PanTiltZoomResURI" : {
10470       "get": {
10471         "description": "This Resource specifies the pan tilt and zoom capabilities of a device.\nThe
10472         Resource Type is dynamic and reflects whether the values apply to\n physical movement of the device
10473         or digital/virtual enhancements to the image.\nFor physical movement the Resource Type is
10474         \"oic.r.movement.ptz\".\nFor digital/virtual image enhancements the Resource Type is
10475         \"oic.r.image.ptz\".\n\nThe Properties \"pan\" and \"tilt\" are specified in degrees.\n\nThe Property
10476         \"zoomFactor\" is a value in the range 1-100 for linear (optical) zoom.\n\nThe zoom factor is a value
10477         in the range [1x, 2x, 4x, 8x, 16x, 32x] for digital zoom.\n\nIf there is no zoom value to set the zoom
10478         factor shall be '1x'.\n\nThe value 0 degrees means neutral, this is a vendor defined setting.\n\nNote
10479         that this resource also can be used to create an offset for physical movement.\n\nWhen that is the
10480         case, the Resource Type value is: \"oic.r.movement.offset.ptz\".\n\nNote that this resource also can be
10481         used to create an offset for image movement.\n\nWhen that is the case, the Resource Type value is:
10482         \"oic.r.image.offset.ptz\".\n\nWhen the Property \"pan_range\" value is omitted, then the range is [-
10483         180.0,180.0].\n\nIf \"pan\" is not supported then the range shall be [0.0,0.0]\n\nWhen the Property
10484         \"tilt_range\" value is omitted, then the range is [-180.0,180.0].\n\nIf \"tilt\" is not supported
10485         then the range shall be [0.0,0.0].",
10486         "parameters": [
10487           { "$ref": "#/parameters/interface" }
10488         ],
10489         "responses": {
10490           "200": {
10491             "description": "Retrieves the current pan, tilt and zoom setting.",
10492             "x-example":
10493               {
10494                 "rt": ["oic.r.ptz"],
10495                 "if": ["oic.if.a", "oic.if.baseline"],
10496                 "pan": 0.0,
10497                 "tilt": 0.0,
10498                 "zoomFactor": "2x"
10499               },
10500             "schema": { "$ref": "#/definitions/PanTiltZoom" }
10501           }
10502         }
10503       }
10504     }
10505   }
```



```

10503     },
10504     "post": {
10505         "description": "Sets the current pan, tilt and zoom value.",
10506         "parameters": [
10507             { "$ref": "#/parameters/interface" },
10508             {
10509                 "name": "body",
10510                 "in": "body",
10511                 "required": true,
10512                 "schema": { "$ref": "#/definitions/PanTiltZoom" },
10513                 "x-example":
10514                     {
10515                         "pan": 10.0,
10516                         "tilt": -10.0,
10517                         "zoomFactor": "4x"
10518                     }
10519             }
10520         ],
10521         "responses": {
10522             "200": {
10523                 "description": "",
10524                 "x-example":
10525                     {
10526                         "pan": 10.0,
10527                         "tilt": -10.0,
10528                         "zoomFactor": "4x"
10529                     },
10530                 "schema": { "$ref": "#/definitions/PanTiltZoom" }
10531             }
10532         }
10533     }
10534 },
10535 "parameters": {
10536     "interface": {
10537         "in": "query",
10538         "name": "if",
10539         "type": "string",
10540         "enum": ["oic.if.a", "oic.if.baseline"]
10541     }
10542 },
10543 "definitions": {
10544     "PanTiltZoom": {
10545         "properties": {
10546             "rt": {
10547                 "description": "The Resource Type.",
10548                 "items": {
10549                     "enum": ["oic.r.ptz"],
10550                     "maxLength": 64,
10551                     "type": "string"
10552                 },
10553                 "minItems": 1,
10554                 "uniqueItems": true,
10555                 "readOnly": true,
10556                 "type": "array"
10557             },
10558             "tilt_range": {
10559                 "$ref":
10560                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
10561                 schema.json#/definitions/range_number"
10562             },
10563             "zoomFactor": {
10564                 "description": "The zoom factor value.",
10565                 "type": "string"
10566             },
10567             "tilt": {
10568                 "description": "The vertical tilt in degrees.",
10569                 "type": "number"
10570             },
10571             "precision": {
10572                 "$ref":
10573                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-

```

```

10575 schema.json#/definitions/precision"
10576     },
10577     "pan_range": {
10578         "$ref":
10579         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
10580         schema.json#/definitions/range_number"
10581     },
10582     "zoomFactorRange": {
10583         "description": "The allowed Zoom Factor values. Linear equates to a 1-100 min/max.",
10584         "enum": [
10585             "linear",
10586             "1x",
10587             "2x",
10588             "4x",
10589             "8x",
10590             "16x",
10591             "32x"
10592         ],
10593         "readOnly": true,
10594         "type": "string"
10595     },
10596     "pan": {
10597         "description": "The horizontal pan in degrees.",
10598         "type": "number"
10599     },
10600     "n": {
10601         "$ref":
10602         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10603         schema.json#/definitions/n"
10604     },
10605     "id": {
10606         "$ref":
10607         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10608         schema.json#/definitions/id"
10609     },
10610     "if": {
10611         "description": "The OCF Interface set supported by this Resource.",
10612         "items": {
10613             "enum": [
10614                 "oic.if.a",
10615                 "oic.if.baseline"
10616             ],
10617             "type": "string"
10618         },
10619         "minItems": 2,
10620         "uniqueItems": true,
10621         "readOnly": true,
10622         "type": "array"
10623     }
10624 },
10625 "type": "object",
10626 "required": ["pan", "tilt", "zoomFactor"]
10627 }
10628 }
10629 }
10630

```

6.50.5 Property definition

Table 103 defines the Properties that are part of the "oic.r.ptz" Resource Type.

Table 103 – The Property definitions of the Resource with type "rt" = "oic.r.ptz".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
tilt_range	multiple types: see schema	No	Read Write	
zoomFactor	string	Yes	Read Write	The zoom factor value.

tilt	number	Yes	Read Write	The vertical tilt in degrees.
precision	multiple types: see schema	No	Read Write	
pan_range	multiple types: see schema	No	Read Write	
zoomFactorRange	string	No	Read Only	The allowed Zoom Factor values. Linear equates to a 1-100 min/max.
pan	number	Yes	Read Write	The horizontal pan in degrees.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

6.50.6 CRUDN behaviour

Table 104 defines the CRUDN operations that are supported on the "oic.r.ptz" Resource Type.

Table 104 – The CRUDN operations of the Resource with type "rt" = "oic.r.ptz".

Create	Read	Update	Delete	Notify
	get	post		observe

6.51 Signal Strength

6.51.1 Introduction

This Resource describes the strength of a signal by means of lqi and rssi.

The Property "lqi" is a floating point number that represents Link Quality Indicator.

The Property "rssi" is a floating point number that represents the received signal strength indicator.

6.51.2 Example URI

/SignalStrengthResURI

6.51.3 Resource type

The Resource Type is defined as: "oic.r.signalstrength".

6.51.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Signal Strength",
    "version": "20190215",
    "license": {
      "name": "OCF Data Model License",
      "url": "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
```

```

10664     "consumes": ["application/json"],
10665     "produces": ["application/json"],
10666     "paths": {
10667         "/SignalStrengthResURI" : {
10668             "get": {
10669                 "description": "This Resource describes the strength of a signal by means of lqi and
10670 rssi.\nProperty \"lqi\" is a floating point number that represents Link Quality Indicator.\nProperty \"rssi\" is a floating point number that represents the received signal strength
10671 indicator.",
10672                 "parameters": [
10673                     { "$ref": "#/parameters/interface" }
10674                 ],
10675                 "responses": {
10676                     "200": {
10677                         "description": "",
10678                         "x-example":
10679                             {
10680                                 "rt": ["oic.r.signalstrength"],
10681                                 "if": ["oic.if.s", "oic.if.baseline"],
10682                                 "lqi": 10.0,
10683                                 "rssi": 55.0
10684                             }
10685                         ,
10686                         "schema": { "$ref": "#/definitions/SignalStrength" }
10687                     }
10688                 }
10689             }
10690         }
10691     },
10692     "parameters": {
10693         "interface": {
10694             "in": "query",
10695             "name": "if",
10696             "type": "string",
10697             "enum": ["oic.if.s", "oic.if.baseline"]
10698         }
10699     },
10700     "definitions": {
10701         "SignalStrength" : {
10702             "properties": {
10703                 "rt": {
10704                     "description": "The Resource Type.",
10705                     "items": {
10706                         "enum": ["oic.r.signalstrength"],
10707                         "maxLength": 64,
10708                         "type": "string"
10709                     },
10710                     "minItems": 1,
10711                     "uniqueItems": true,
10712                     "readOnly": true,
10713                     "type": "array"
10714                 },
10715                 "lqi": {
10716                     "description": "The current value of Link Quality Indicator.",
10717                     "readOnly": true,
10718                     "type": "number"
10719                 },
10720                 "rssi": {
10721                     "description": "The current value of Received Signal Strength Indicator.",
10722                     "readOnly": true,
10723                     "type": "number"
10724                 },
10725                 "n": {
10726                     "$ref":
10727                         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10728 schema.json#/definitions/n"
10729                 },
10730                 "id": {
10731                     "$ref":
10732                         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10733 schema.json#/definitions/id"
10734                 }
10735             }

```

```

10736     "if": {
10737         "description": "The OCF Interface set supported by this Resource.",
10738         "items": {
10739             "enum": [
10740                 "oic.if.s",
10741                 "oic.if.baseline"
10742             ],
10743             "type": "string"
10744         },
10745         "minItems": 2,
10746         "uniqueItems": true,
10747         "readOnly": true,
10748         "type": "array"
10749     },
10750     "type": "object",
10751     "required": ["lqi", "rssi"]
10752 }
10753 }
10754 }
10755 }
10756

```

10757 6.51.5 Property definition

10758 Table 105 defines the Properties that are part of the "oic.r.signalstrength" Resource Type.

10759 **Table 105 – The Property definitions of the Resource with type "rt" = "oic.r.signalstrength".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
lqi	number	Yes	Read Only	The current value of Link Quality Indicator.
rssi	number	Yes	Read Only	The current value of Received Signal Strength Indicator.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

10760 6.51.6 CRUDN behaviour

10761 Table 106 defines the CRUDN operations that are supported on the "oic.r.signalstrength" Resource
10762 Type.

10763 **Table 106 – The CRUDN operations of the Resource with type "rt" = "oic.r.signalstrength".**

Create	Read	Update	Delete	Notify
	get			observe

10764 6.52 Speech Synthesis-TTS

10765 6.52.1 Introduction

10766 This Resource may be created on the OCF Server that is capable of rendering speech by an OCF
10767 Client and allows the client to provide an SSML document with text to render

10768 or may be created on the OIC Server by some resident application.

10769 The audio rendered is at this stage local to the Server (i.e. not streamed).

10770 The utterance is an SSML document.

10771 The supportedLanguages is an array of the RFC5646 defined language tags that are supported.

The supportedVoices is an SSML document fragment indicating the voices that are supported. Utterance in the example shall be a properly escaped (JSON rules) SSML document. An example:

```
<?xml version="1.0" encoding="ISO-8859-1"?>

<speak version="1.1" xmlns="http://www.w3.org/2001/10/synthesis"

    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

    xsi:schemaLocation="http://www.w3.org/2001/10/synthesis

        http://www.w3.org/TR/speech-synthesis11/synthesis.xsd"

    xml:lang="en-US">

    The title of the movie is:

    "Monty Pythons The Meaning of Life"

    which is directed by Terry Jones.

</speak"
```

6.52.2 Example URI

/SpeechTTSResURI

6.52.3 Resource type

The Resource Type is defined as: "oic.r.speech.tts".

6.52.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Speech Synthesis-TTS",
    "version": "20190215",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
```

```

10829     "produces": ["application/json"],
10830     "paths": {
10831         "/SpeechTTSResURI" : {
10832             "get": {
10833                 "description": "This Resource may be created on the OCF Server that is capable of rendering
10834 speech by an OCF Client and allows the client to provide an SSML document with text to render\n or
10835 may be created on the OIC Server by some resident application.\nThe audio rendered is at this stage
10836 local to the Server (i.e. not streamed).\nThe utterance is an SSML document.\nThe supportedLanguages
10837 is an array of the RFC5646 defined language tags that are supported.\nThe supportedVoices is an SSML
10838 document fragment indicating the voices that are supported.\nUtterance in the example shall be a
10839 properly escaped (JSON rules) SSML document. An example:\n \n<?xml version=\"1.0\" encoding=\"ISO-
10840 8859-1\"?>\n\r\n <speak version=\"1.1\" xmlns=\"http://www.w3.org/2001/10/synthesis\" \n\r\n
10841 \txmlns:xsi=\"http://www.w3.org/2001/XMLSchema-instance\" \n\r\n
10842 \txsi:schemaLocation=\"http://www.w3.org/2001/10/synthesis\n\r\n
10843 \thttp://www.w3.org/TR/speech-synthesis11/synthesis.xsd\" \n\r\n \txml:lang=\"en-US\">\n\r\n
10844 \n\r\n \tThe title of the movie is:\n\r\n \t\"Monty Pythons The Meaning of Life\" \n\r\n \twhich
10845 is directed by Terry Jones.\n\r\n </speak\" \n\",
10846         "parameters": [
10847             { "$ref": "#/parameters/interface" }
10848         ],
10849         "responses": {
10850             "200": {
10851                 "description": "",
10852                 "x-example":
10853                     {
10854                         "rt": ["oic.r.speech.tts"],
10855                         "if": ["oic.if.a", "oic.if.baseline"],
10856                         "utterance": "Strange women lying in ponds distributing swords is no basis for a
10857 system of government.",
10858                         "supportedLanguages": ["en-US", "en-GB", "fr-CA"],
10859                         "supportedVoices": "<voice gender=\"female\" variant=\"2\"></voice>\n\r<voice
10860 name=\"Mike\"></voice>"
10861                     },
10862                 "schema": { "$ref": "#/definitions/Speech" }
10863             }
10864         },
10865     },
10866     "post": {
10867         "description": "Changes the utterance being rendered.\nExample shows a change in language
10868 selected.\n",
10869         "parameters": [
10870             { "$ref": "#/parameters/interface" },
10871             {
10872                 "name": "body",
10873                 "in": "body",
10874                 "required": true,
10875                 "schema": { "$ref": "#/definitions/Speech" },
10876                 "x-example":
10877                     {
10878                         "utterance": "Alright, but apart from the sanitation, the medicine, education, wine,
10879 public order, irrigation, roads, the fresh-water system, and public health, what have the Romans
10880 ever done for us?"
10881                     }
10882             },
10883         ],
10884         "responses": {
10885             "200": {
10886                 "description": "",
10887                 "x-example":
10888                     {
10889                         "utterance": "Alright, but apart from the sanitation, the medicine, education,
10890 wine, public order, irrigation, roads, the fresh-water system, and public health, what have the
10891 Romans ever done for us?"
10892                     },
10893                 "schema": { "$ref": "#/definitions/Speech" }
10894             }
10895         },
10896     },
10897 },
10898 },
10899     "parameters": {
10900         "interface": {

```

```

10901         "in": "query",
10902         "name": "if",
10903         "type": "string",
10904         "enum": ["oic.if.a", "oic.if.baseline"]
10905     }
10906 },
10907 "definitions": {
10908     "Speech": {
10909         "properties": {
10910             "rt": {
10911                 "description": "The Resource Type.",
10912                 "items": {
10913                     "enum": ["oic.r.speech.tts"],
10914                     "maxLength": 64,
10915                     "type": "string"
10916                 },
10917                 "minItems": 1,
10918                 "uniqueItems": true,
10919                 "readOnly": true,
10920                 "type": "array"
10921             },
10922             "supportedLanguages": {
10923                 "description": "The array of supported language tags.",
10924                 "items": {
10925                     "type": "string"
10926                 },
10927                 "readOnly": true,
10928                 "type": "array"
10929             },
10930             "supportedVoices": {
10931                 "description": "The SSML document fragment indicating supported voices.",
10932                 "readOnly": true,
10933                 "maxLength": 1024,
10934                 "type": "string"
10935             },
10936             "utterance": {
10937                 "description": "The SSML document including the speech body.",
10938                 "maxLength": 1024,
10939                 "type": "string"
10940             },
10941             "n": {
10942                 "$ref":
10943                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10944                 schema.json#/definitions/n"
10945             },
10946             "id": {
10947                 "$ref":
10948                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
10949                 schema.json#/definitions/id"
10950             },
10951             "if": {
10952                 "description": "The OCF Interface set supported by this Resource.",
10953                 "items": {
10954                     "enum": [
10955                         "oic.if.a",
10956                         "oic.if.baseline"
10957                     ],
10958                     "type": "string"
10959                 },
10960                 "minItems": 2,
10961                 "uniqueItems": true,
10962                 "readOnly": true,
10963                 "type": "array"
10964             }
10965         },
10966         "type": "object",
10967         "required": ["utterance"]
10968     }
10969 }
10970 }
10971

```


6.52.5 Property definition

Table 107 defines the Properties that are part of the "oic.r.speech.tts" Resource Type.

Table 107 – The Property definitions of the Resource with type "rt" = "oic.r.speech.tts".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
supportedLanguages	array: see schema	No	Read Only	The array of supported language tags.
supportedVoices	string	No	Read Only	The SSML document fragment indicating supported voices.
utterance	string	Yes	Read Write	The SSML document including the speech body.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

6.52.6 CRUDN behaviour

Table 108 defines the CRUDN operations that are supported on the "oic.r.speech.tts" Resource Type.

Table 108 – The CRUDN operations of the Resource with type "rt" = "oic.r.speech.tts".

Create	Read	Update	Delete	Notify
	get	post		observe

6.53 Touch Sensor

6.53.1 Introduction

This Resource describes whether a touch has been sensed or not.

The Property "value" is a boolean.

A value of 'true' means that touch has been sensed.

A value of 'false' means that touch not been sensed.

6.53.2 Example URI

/TouchResURI

6.53.3 Resource type

The Resource Type is defined as: "oic.r.sensor.touch".

6.53.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Touch Sensor",
    "version": "20190215",
    "license": {
      "name": "OCF Data Model License",
      "url":
```

```

10999 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
11000 CENSE.md",
11001   "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
11002 reserved.",
11003   },
11004   "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
11005 },
11006 "schemes": ["http"],
11007 "consumes": ["application/json"],
11008 "produces": ["application/json"],
11009 "paths": {
11010   "/TouchResURI" : {
11011     "get": {
11012       "description": "This Resource describes whether a touch has been sensed or not.\n\nThe
11013 Property \"value\" is a boolean.\n\nA value of 'true' means that touch has been sensed.\n\nA value of
11014 'false' means that touch not been sensed.\n\n",
11015       "parameters": [
11016         { "$ref": "#/parameters/interface" }
11017       ],
11018       "responses": {
11019         "200": {
11020           "description": "",
11021           "x-example":
11022             {
11023               "rt": ["oic.r.sensor.touch"],
11024               "if": ["oic.if.s", "oic.if.baseline"],
11025               "value": true
11026             },
11027           "schema": { "$ref": "#/definitions/Touch" }
11028         }
11029       }
11030     }
11031   }
11032 },
11033 "parameters": {
11034   "interface" : {
11035     "in" : "query",
11036     "name" : "if",
11037     "type" : "string",
11038     "enum" : ["oic.if.s", "oic.if.baseline"]
11039   }
11040 },
11041 "definitions": {
11042   "Touch" : {
11043     "properties": {
11044       "rt": {
11045         "description": "The Resource Type.",
11046         "items": {
11047           "enum": ["oic.r.sensor.touch"],
11048           "maxLength": 64,
11049           "type": "string"
11050         },
11051         "minItems": 1,
11052         "uniqueItems": true,
11053         "readOnly": true,
11054         "type": "array"
11055       },
11056       "value": {
11057         "description": "The touch sensor, true = sensed, false = not sensed.",
11058         "readOnly": true,
11059         "type": "boolean"
11060       },
11061       "n": {
11062         "$ref":
11063           "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11064 schema.json#/definitions/n"
11065       },
11066       "id": {
11067         "$ref":
11068           "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11069 schema.json#/definitions/id"
11070       }
11071     }

```

```

11071         "if": {
11072             "description": "The OCF Interface set supported by this Resource.",
11073             "items": {
11074                 "enum": [
11075                     "oic.if.s",
11076                     "oic.if.baseline"
11077                 ],
11078                 "type": "string"
11079             },
11080             "minItems": 2,
11081             "uniqueItems": true,
11082             "readOnly": true,
11083             "type": "array"
11084         },
11085     },
11086     "type": "object",
11087     "required": ["value"]
11088 }
11089 }
11090 }
11091

```

11092 6.53.5 Property definition

11093 Table 109 defines the Properties that are part of the "oic.r.sensor.touch" Resource Type.

11094 **Table 109 – The Property definitions of the Resource with type "rt" = "oic.r.sensor.touch".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
value	boolean	Yes	Read Only	The touch sensor, true = sensed, false = not sensed.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

11095 6.53.6 CRUDN behaviour

11096 Table 110 defines the CRUDN operations that are supported on the "oic.r.sensor.touch" Resource
11097 Type.

11098 **Table 110 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.touch".**

Create	Read	Update	Delete	Notify
	get			observe

11099 6.54 UV Radiation

11100 6.54.1 Introduction

11101 This Resource specifies UV radiation measurement.

11102 The Property "measurement" is the current measured UV Index

11103 6.54.2 Example URI

11104 /UVRadiationResURI

11105 6.54.3 Resource type

11106 The Resource Type is defined as: "oic.r.sensor.radiation.uv".

6.54.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "UV Radiation",
    "version": "20190215",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/UVRadiationResURI" : {
      "get": {
        "description": "This Resource specifies UV radiation measurement.\n\nThe Property
\"measurement\" is the current measured UV Index",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example":
              {
                "rt": ["oic.r.sensor.radiation.uv"],
                "if": ["oic.if.s", "oic.if.baseline"],
                "measurement": 3.5
              },
            "schema": { "$ref": "#/definitions/UVRadiation" }
          }
        }
      }
    }
  },
  "parameters": {
    "interface": {
      "in": "query",
      "name": "if",
      "type": "string",
      "enum": ["oic.if.s", "oic.if.baseline"]
    }
  },
  "definitions": {
    "UVRadiation" : {
      "properties": {
        "rt": {
          "description": "The Resource Type.",
          "items": {
            "enum": ["oic.r.sensor.radiation.uv"],
            "maxLength": 64,
            "type": "string"
          },
          "minItems": 1,
          "uniqueItems": true,
          "readOnly": true,
          "type": "array"
        },
        "measurement": {
          "description": "The measured UV Index.",
          "readOnly": true,
          "type": "number"
        }
      }
    }
  }
}
```

```

11178         "n": {
11179             "$ref":
11180             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11181             schema.json#/definitions/n"
11182         },
11183         "id": {
11184             "$ref":
11185             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11186             schema.json#/definitions/id"
11187         },
11188         "if" :
11189         {
11190             "description": "The OCF Interface set supported by this Resource.",
11191             "items": {
11192                 "enum": [
11193                     "oic.if.s",
11194                     "oic.if.baseline"
11195                 ],
11196                 "type": "string"
11197             },
11198             "minItems": 2,
11199             "uniqueItems": true,
11200             "readOnly": true,
11201             "type": "array"
11202         }
11203     },
11204     "type": "object",
11205     "required": ["measurement"]
11206 }
11207 }
11208 }
11209

```

6.54.5 Property definition

Table 111 defines the Properties that are part of the "oic.r.sensor.radiation.uv" Resource Type.

Table 111 – The Property definitions of the Resource with type "rt" = "oic.r.sensor.radiation.uv".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
measurement	number	Yes	Read Only	The measured UV Index.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

6.54.6 CRUDN behaviour

Table 112 defines the CRUDN operations that are supported on the "oic.r.sensor.radiation.uv" Resource Type.

Table 112 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.radiation.uv".

Create	Read	Update	Delete	Notify
	get			observe

11219 6.55 Water Sensor

11220 6.55.1 Introduction

11221 This Resource describes whether water has been sensed or not.

11222 The Property "value" is a boolean.

11223 A value of 'true' means that water has been sensed.

11224 A value of 'false' means that water not been sensed.

11225 6.55.2 Example URI

11226 /WaterResURI

11227 6.55.3 Resource type

11228 The Resource Type is defined as: "oic.r.sensor.water".

11229 6.55.4 OpenAPI 2.0 definition

```
11230 {
11231   "swagger": "2.0",
11232   "info": {
11233     "title": "Water Sensor",
11234     "version": "20191118",
11235     "license": {
11236       "name": "OCF Data Model License",
11237       "url":
11238         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
11239         CENSE.md",
11240       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
11241         reserved."
11242     },
11243     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
11244   },
11245   "schemes": ["http"],
11246   "consumes": ["application/json"],
11247   "produces": ["application/json"],
11248   "paths": {
11249     "/WaterResURI" : {
11250       "get": {
11251         "description": "This Resource describes whether water has been sensed or not.\n\nThe Property
11252         \"value\" is a boolean.\n\nA value of 'true' means that water has been sensed.\n\nA value of 'false'
11253         means that water not been sensed.",
11254         "parameters": [
11255           { "$ref": "#/parameters/interface" }
11256         ],
11257         "responses": {
11258           "200": {
11259             "description" : "",
11260             "x-example": {
11261               "rt": ["oic.r.sensor.water"],
11262               "id": "unique_example_id",
11263               "value": true
11264             },
11265             "schema": { "$ref": "#/definitions/Water" }
11266           }
11267         }
11268       }
11269     }
11270   },
11271   "parameters": {
11272     "interface" : {
11273       "in" : "query",
11274       "name" : "if",
11275       "type" : "string",
11276       "enum" : ["oic.if.s", "oic.if.baseline"]
11277     }
11278   },
11279   "definitions": {
11280     "Water": {
11281       "properties": {
```

```

11282     "rt": {
11283         "description": "The Resource Type",
11284         "items": {
11285             "maxLength": 64,
11286             "type": "string",
11287             "enum": ["oic.r.sensor.water"]
11288         },
11289         "minItems": 1,
11290         "uniqueItems": true,
11291         "readOnly": true,
11292         "type": "array"
11293     },
11294     "value": {
11295         "description": "true = sensed, false = not sensed.",
11296         "readOnly": true,
11297         "type": "boolean"
11298     },
11299     "measurement": {
11300         "type": "number",
11301         "description": "Measured value for this sensor in units of litres/hr",
11302         "readOnly": true
11303     },
11304     "precision": {
11305         "$ref":
11306         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
11307         schema.json#/definitions/precision"
11308     },
11309     "n": {
11310         "$ref":
11311         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11312         schema.json#/definitions/n"
11313     },
11314     "range": {
11315         "$ref":
11316         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
11317         schema.json#/definitions/range_number"
11318     },
11319     "step": {
11320         "$ref":
11321         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
11322         schema.json#/definitions/step_number"
11323     },
11324     "id": {
11325         "$ref":
11326         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11327         schema.json#/definitions/id"
11328     },
11329     "if": {
11330         "description": "The OCF Interface set supported by this Resource",
11331         "items": {
11332             "enum": [
11333                 "oic.if.baseline",
11334                 "oic.if.s"
11335             ],
11336             "maxLength": 64,
11337             "type": "string"
11338         },
11339         "minItems": 1,
11340         "uniqueItems": true,
11341         "readOnly": true,
11342         "type": "array"
11343     }
11344 },
11345 "type" : "object",
11346 "required": ["value"]
11347 }
11348 }
11349 }
11350

```

11351 6.55.5 Property definition

11352 Table 113 defines the Properties that are part of the "oic.r.sensor.water" Resource Type.
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11353 **Table 113 – The Property definitions of the Resource with type "rt" = "oic.r.sensor.water".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type
value	boolean	Yes	Read Only	true = sensed, false = not sensed.
measurement	number	No	Read Only	Measured value for this sensor in units of litres/hr
precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

11354 6.55.6 CRUDN behaviour

11355 Table 114 defines the CRUDN operations that are supported on the "oic.r.sensor.water" Resource
11356 Type.

11357 **Table 114 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.water".**

Create	Read	Update	Delete	Notify
	get			observe

11358 6.56 Acceleration Sensor

11359 6.56.1 Introduction

11360 This Resource provides a measure of proper acceleration (g force) as opposed to co-ordinate
11361 acceleration (which is dependent on the co-ordinate system and the observer).
11362 The Property "value" is a float which describes the acceleration experienced by the object in "g".

11363 6.56.2 Example URI

11364 /AccelerationResURI

11365 6.56.3 Resource type

11366 The Resource Type is defined as: "oic.r.sensor.acceleration".

11367 6.56.4 OpenAPI 2.0 definition

```

11368 {
11369   "swagger": "2.0",
11370   "info": {
11371     "title": "Acceleration Sensor",
11372     "version": "20190215",
11373     "license": {
11374       "name": "OCF Data Model License",
11375       "url":
11376         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
11377         CENSE.md",
11378       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
11379     }
11380   }

```



```

11379         },
11380         "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
11381     },
11382     "schemes": ["http"],
11383     "consumes": ["application/json"],
11384     "produces": ["application/json"],
11385     "paths": {
11386         "/AccelerationResURI" : {
11387             "get": {
11388                 "description": "This Resource provides a measure of proper acceleration (g force) as opposed
11389 to co-ordinate acceleration (which is dependent on the co-ordinate system and the observer).\nThe
11390 Property \"value\" is a float which describes the acceleration experienced by the object in \"g\".",
11391                 "parameters": [
11392                     { "$ref": "#/parameters/interface" }
11393                 ],
11394                 "responses": {
11395                     "200": {
11396                         "description": "",
11397                         "x-example":
11398                             {
11399                                 "rt": ["oic.r.sensor.acceleration"],
11400                                 "if": ["oic.if.s", "oic.if.baseline"],
11401                                 "acceleration": 0.5
11402                             },
11403                         "schema": { "$ref": "#/definitions/acceleration" }
11404                     }
11405                 }
11406             }
11407         }
11408     },
11409     "parameters": {
11410         "interface" : {
11411             "in": "query",
11412             "name": "if",
11413             "type": "string",
11414             "enum": ["oic.if.s", "oic.if.baseline"]
11415         }
11416     },
11417     "definitions": {
11418         "acceleration" : {
11419             "properties": {
11420                 "rt": {
11421                     "description": "Resource Type",
11422                     "items": {
11423                         "maxLength": 64,
11424                         "type": "string",
11425                         "enum": ["oic.r.sensor.acceleration"]
11426                     },
11427                     "minItems": 1,
11428                     "uniqueItems": true,
11429                     "readOnly": true,
11430                     "type": "array"
11431                 },
11432                 "acceleration": {
11433                     "description": "The sensed acceleration experienced in 'g'.",
11434                     "readOnly": true,
11435                     "type": "number"
11436                 },
11437                 "n": {
11438                     "$ref":
11439 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11440 schema.json#/definitions/n"
11441                 },
11442                 "id": {
11443                     "$ref":
11444 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11445 schema.json#/definitions/id"
11446                 },
11447                 "range": {
11448                     "$ref":
11449 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
11450 schema.json#/definitions/range_number"

```

```

11451     },
11452     "step": {
11453         "$ref":
11454         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
11455         schema.json#/definitions/step_number"
11456     },
11457     "precision": {
11458         "$ref":
11459         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
11460         schema.json#/definitions/precision"
11461     },
11462     "if": {
11463         "description": "The OCF Interface set supported by this Resource.",
11464         "items": {
11465             "enum": [
11466                 "oic.if.s",
11467                 "oic.if.baseline"
11468             ],
11469             "type": "string"
11470         },
11471         "minItems": 2,
11472         "readOnly": true,
11473         "uniqueItems": true,
11474         "type": "array"
11475     }
11476 },
11477 "type": "object",
11478 "required": ["acceleration"]
11479 }
11480 }
11481 }
11482

```

6.56.5 Property definition

Table 115 defines the Properties that are part of the "oic.r.sensor.acceleration" Resource Type.

Table 115 – The Property definitions of the Resource with type "rt" = "oic.r.sensor.acceleration".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
acceleration	number	Yes	Read Only	The sensed acceleration experienced in 'g'.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

6.56.6 CRUDN behaviour

Table 116 defines the CRUDN operations that are supported on the "oic.r.sensor.acceleration" Resource Type.

11490
11491

Table 116 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.acceleration".

Create	Read	Update	Delete	Notify
	get			observe

11492 **6.57 Movement**

11493 **6.57.1 Introduction**

11494 This Resource specifies linear movement.
11495 The Property "movementSettings" is an array of strings containing possible movement values
11496 (e.g. spin, stop, left, right).
11497 The Property "movement" is the currently selected movement value.
11498 The Property "movementModifier" is a modifier to the movement value (e.g. "spin", "90")
11499

11500 **6.57.2 Example URI**

11501 /MovementResURI

11502 **6.57.3 Resource type**

11503 The Resource Type is defined as: "oic.r.movement.linear".

11504 **6.57.4 OpenAPI 2.0 definition**

```
11505 {  
11506   "swagger": "2.0",  
11507   "info": {  
11508     "title": "Movement",  
11509     "version": "20190215",  
11510     "license": {  
11511       "name": "OCF Data Model License",  
11512       "url":  
11513         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
11514         CENSE.md",  
11515       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
11516       reserved."  
11517     },  
11518     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
11519   },  
11520   "schemes": ["http"],  
11521   "consumes": ["application/json"],  
11522   "produces": ["application/json"],  
11523   "paths": {  
11524     "/MovementResURI" : {  
11525       "get": {  
11526         "description": "This Resource specifies linear movement.\nThe Property \"movementSettings\"  
11527         is an array of strings containing possible movement values (e.g. spin, stop, left, right).\nThe  
11528         Property \"movement\" is the currently selected movement value.\nThe Property \"movementModifier\"  
11529         is a modifier to the movement value (e.g. \"spin\", \"90\")\n",  
11530         "parameters": [  
11531           {"$ref": "#/parameters/interface"}  
11532         ],  
11533         "responses": {  
11534           "200": {  
11535             "description": "",  
11536             "x-example":  
11537               {  
11538                 "rt": ["oic.r.movement.linear"],  
11539                 "if": ["oic.if.s", "oic.if.baseline"],  
11540                 "movementSettings": ["stop", "left", "right", "rotate", "forward", "backward"],  
11541                 "movement": "rotate",  
11542                 "movementModifier": "90"  
11543               },  
11544             "schema": { "$ref": "#/definitions/movement" }  
11545           }  
11546         }  
11547       }  
11548     }  
11549   }  
11550 }
```

```

11547 },
11548 "post": {
11549     "description": "Sets the current device movement.",
11550     "parameters": [
11551         { "$ref": "#/parameters/interface" },
11552         {
11553             "name": "body",
11554             "in": "body",
11555             "required": true,
11556             "schema": { "$ref": "#/definitions/movement" },
11557             "x-example":
11558                 {
11559                     "movementSettings": ["stop", "left", "right", "rotate", "forward", "backward"],
11560                     "movement": "stop"
11561                 }
11562         },
11563     ],
11564     "responses": {
11565         "200": {
11566             "description": "",
11567             "x-example":
11568                 {
11569                     "movementSettings": ["stop", "left", "right", "rotate", "forward", "backward"],
11570                     "movement": "stop"
11571                 },
11572             "schema": { "$ref": "#/definitions/movement" }
11573         }
11574     }
11575 },
11576 },
11577 },
11578 "parameters": {
11579     "interface": {
11580         "in": "query",
11581         "name": "if",
11582         "type": "string",
11583         "enum": ["oic.if.s", "oic.if.baseline"]
11584     }
11585 },
11586 "definitions": {
11587     "movement": {
11588         "properties": {
11589             "rt": {
11590                 "description": "The Resource Type.",
11591                 "items": {
11592                     "enum": ["oic.r.movement.linear"],
11593                     "maxLength": 64,
11594                     "type": "string"
11595                 },
11596                 "minItems": 1,
11597                 "uniqueItems": true,
11598                 "readOnly": true,
11599                 "type": "array"
11600             },
11601             "movementSettings": {
11602                 "description": "The array of possible movement values.",
11603                 "items": {
11604                     "type": "string"
11605                 },
11606                 "readOnly": true,
11607                 "type": "array"
11608             },
11609             "movementModifier": {
11610                 "description": "The modifier to the movement value (e.g. spin-90, left-20), units are
11611 device dependent.",
11612                 "type": "string"
11613             },
11614             "movement": {
11615                 "description": "The current movement value.",
11616                 "type": "string"
11617             },
11618             "n": {

```

```

11619         "$ref":
11620         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11621         schema.json#/definitions/n"
11622     },
11623     "id": {
11624         "$ref":
11625         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11626         schema.json#/definitions/id"
11627     },
11628     "if": {
11629         "description": "The OCF Interface set supported by this Resource.",
11630         "items": {
11631             "enum": [
11632                 "oic.if.s",
11633                 "oic.if.baseline"
11634             ],
11635             "type": "string"
11636         },
11637         "minItems": 2,
11638         "uniqueItems": true,
11639         "readOnly": true,
11640         "type": "array"
11641     }
11642 },
11643 "type": "object",
11644 "required": ["movementSettings", "movement"]
11645 }
11646 }
11647 }
11648

```

11649 6.57.5 Property definition

11650 Table 117 defines the Properties that are part of the "oic.r.movement.linear" Resource Type.

11651 **Table 117 – The Property definitions of the Resource with type "rt" =**
11652 **"oic.r.movement.linear".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
movementSettings	array: see schema	Yes	Read Only	The array of possible movement values.
movementModifier	string	No	Read Write	The modifier to the movement value (e.g. spin-90, left-20), units are device dependent.
movement	string	Yes	Read Write	The current movement value.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

11653 6.57.6 CRUDN behaviour

11654 Table 118 defines the CRUDN operations that are supported on the "oic.r.movement.linear"
11655 Resource Type.

11656
11657

Table 118 – The CRUDN operations of the Resource with type "rt" = "oic.r.movement.linear".

Create	Read	Update	Delete	Notify
	get	post		observe

11658

6.58 Sleep Sensor

11659

6.58.1 Introduction

11660

This Resource describes whether human sleep has been sensed or not.

11661

The Property "value" is a boolean.

11662

A value of 'true' means that sleep has been sensed.

11663

A value of 'false' means that sleep not been sensed.

11664

11665

6.58.2 Example URI

11666

/SleepSensorResURI

11667

6.58.3 Resource type

11668

The Resource Type is defined as: "oic.r.sensor.sleep".

11669

6.58.4 OpenAPI 2.0 definition

11670

```
{
  "swagger": "2.0",
  "info": {
    "title": "Sleep Sensor",
    "version": "20190215",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/SleepSensorResURI" : {
      "get": {
        "description": "This Resource describes whether human sleep has been sensed or not.\nThe
Property \"value\" is a boolean.\nA value of 'true' means that sleep has been sensed.\nA value of
'false' means that sleep not been sensed.\n",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example":
              {
                "rt": ["oic.r.sensor.sleep"],
                "if": ["oic.if.s", "oic.if.baseline"],
                "value": true
              },
            "schema": { "$ref": "#/definitions/sleep" }
          }
        }
      }
    }
  },
  "parameters": {
```

11712

```

11713     "interface": {
11714         "in": "query",
11715         "name": "if",
11716         "type": "string",
11717         "enum": ["oic.if.s", "oic.if.baseline"]
11718     }
11719 },
11720 "definitions": {
11721     "sleep" : {
11722         "properties": {
11723             "rt": {
11724                 "description": "The Resource Type.",
11725                 "items": {
11726                     "enum": ["oic.r.sensor.sleep"],
11727                     "maxLength": 64,
11728                     "type": "string"
11729                 },
11730                 "minItems": 1,
11731                 "uniqueItems": true,
11732                 "readOnly": true,
11733                 "type": "array"
11734             },
11735             "value": {
11736                 "description": "The sleep sensor, true = sleep sensed, false = sleep not sensed.",
11737                 "readOnly": true,
11738                 "type": "boolean"
11739             },
11740             "n": {
11741                 "$ref":
11742                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11743                 schema.json#/definitions/n"
11744             },
11745             "id": {
11746                 "$ref":
11747                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11748                 schema.json#/definitions/id"
11749             },
11750             "if": {
11751                 "description": "The OCF Interface set supported by this Resource.",
11752                 "items": {
11753                     "enum": [
11754                         "oic.if.s",
11755                         "oic.if.baseline"
11756                     ],
11757                     "type": "string"
11758                 },
11759                 "minItems": 2,
11760                 "uniqueItems": true,
11761                 "readOnly": true,
11762                 "type": "array"
11763             }
11764         },
11765         "type": "object",
11766         "required": ["value"]
11767     }
11768 }
11769 }
11770

```

6.58.5 Property definition

Table 119 defines the Properties that are part of the "oic.r.sensor.sleep" Resource Type.

Table 119 – The Property definitions of the Resource with type "rt" = "oic.r.sensor.sleep".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
value	boolean	Yes	Read Only	The sleep sensor, true = sleep sensed,

				false = sleep not sensed.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

11774 6.58.6 CRUDN behaviour

11775 Table 120 defines the CRUDN operations that are supported on the "oic.r.sensor.sleep" Resource
11776 Type.

11777 **Table 120 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.sleep".**

Create	Read	Update	Delete	Notify
	get			observe

11778 6.59 Smoke Sensor

11779 6.59.1 Introduction

11780 This Resource describes whether smoke has been sensed or not.

11781 The Property "value" is a boolean.

11782 A value of 'true' means that smoke has been sensed.

11783 A value of 'false' means that smoke not been sensed.

11784 6.59.2 Example URI

11785 /SmokeSensorResURI

11786 6.59.3 Resource type

11787 The Resource Type is defined as: "oic.r.sensor.smoke".

11788 6.59.4 OpenAPI 2.0 definition

```

11789 {
11790   "swagger": "2.0",
11791   "info": {
11792     "title": "Smoke Sensor",
11793     "version": "20191118",
11794     "license": {
11795       "name": "OCF Data Model License",
11796       "url":
11797         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
11798 CENSE.md",
11799       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
11800 reserved."
11801     },
11802     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
11803   },
11804   "schemes": ["http"],
11805   "consumes": ["application/json"],
11806   "produces": ["application/json"],
11807   "paths": {
11808     "/SmokeSensorResURI" : {
11809       "get": {
11810         "description": "This Resource describes whether smoke has been sensed or not.\nThe Property
11811 \"value\" is a boolean.\nA value of 'true' means that smoke has been sensed.\nA value of 'false'
11812 means that smoke not been sensed.",
11813         "parameters": [
11814           {"$ref": "#/parameters/interface"}
11815         ],
11816         "responses": {
```



```

11817         "200": {
11818             "description" : "",
11819             "x-example": {
11820                 "rt": ["oic.r.sensor.smoke"],
11821                 "id": "unique_example_id",
11822                 "value": true
11823             },
11824             "schema": { "$ref": "#/definitions/smoke" }
11825         }
11826     }
11827 }
11828 },
11829 },
11830 "parameters": {
11831     "interface" : {
11832         "in" : "query",
11833         "name" : "if",
11834         "type" : "string",
11835         "enum" : ["oic.if.s", "oic.if.baseline"]
11836     }
11837 },
11838 "definitions": {
11839     "smoke": {
11840         "properties": {
11841             "rt": {
11842                 "description": "The Resource Type",
11843                 "items": {
11844                     "maxLength": 64,
11845                     "type": "string",
11846                     "enum": ["oic.r.sensor.smoke"]
11847                 },
11848                 "minItems": 1,
11849                 "uniqueItems": true,
11850                 "readOnly": true,
11851                 "type": "array"
11852             },
11853             "value": {
11854                 "description": "The smoke indicator, true = sensed, false = not sensed.",
11855                 "readOnly": true,
11856                 "type": "boolean"
11857             },
11858             "measurement": {
11859                 "type": "number",
11860                 "description": "Measured value for this sensor, this is a percentage",
11861                 "readOnly": true
11862             },
11863             "precision": {
11864                 "$ref":
11865 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
11866 schema.json#/definitions/precision"
11867             },
11868             "n": {
11869                 "$ref":
11870 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11871 schema.json#/definitions/n"
11872             },
11873             "range": {
11874                 "$ref":
11875 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
11876 schema.json#/definitions/range_number"
11877             },
11878             "step": {
11879                 "$ref":
11880 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
11881 schema.json#/definitions/step_number"
11882             },
11883             "id": {
11884                 "$ref":
11885 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
11886 schema.json#/definitions/id"
11887             },
11888             "if": {

```

```

11889         "description": "The OCF Interface set supported by this Resource",
11890         "items": {
11891             "enum": [
11892                 "oic.if.baseline",
11893                 "oic.if.s"
11894             ],
11895             "type": "string",
11896             "maxLength": 64
11897         },
11898         "minItems": 1,
11899         "readOnly": true,
11900         "uniqueItems": true,
11901         "type": "array"
11902     },
11903     },
11904     "type": "object",
11905     "required": ["value"]
11906 }
11907 }
11908 }
11909

```

11910 6.59.5 Property definition

11911 Table 121 defines the Properties that are part of the "oic.r.sensor.smoke" Resource Type.

11912 **Table 121 – The Property definitions of the Resource with type "rt" = "oic.r.sensor.smoke".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type
value	boolean	Yes	Read Only	The smoke indicator, true = sensed, false = not sensed.
measurement	number	No	Read Only	Measured value for this sensor, this is a percentage
precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

11913 6.59.6 CRUDN behaviour

11914 Table 122 defines the CRUDN operations that are supported on the "oic.r.sensor.smoke" Resource
11915 Type.

11916 **Table 122 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.smoke".**

Create	Read	Update	Delete	Notify
	get			observe

11917 **6.60 Three Axis Sensor**

11918 **6.60.1 Introduction**

11919 This Resource provides a representation of the measurement from a three-axis sensor.
11920 The Property "orientation" is an array of numbers representing x-plane, y-plane and z-plane
11921 values.

11922 The unit of measurement for each pane is 'g'.

11923 **6.60.2 Example URI**

11924 /ThreeAxisResURI

11925 **6.60.3 Resource type**

11926 The Resource Type is defined as: "oic.r.sensor.threeaxis".

11927 **6.60.4 OpenAPI 2.0 definition**

```
11928 {  
11929   "swagger": "2.0",  
11930   "info": {  
11931     "title": "Three Axis Sensor",  
11932     "version": "20190215",  
11933     "license": {  
11934       "name": "OCF Data Model License",  
11935       "url":  
11936         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
11937         CENSE.md",  
11938       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
11939         reserved."  
11940     },  
11941     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
11942   },  
11943   "schemes": ["http"],  
11944   "consumes": ["application/json"],  
11945   "produces": ["application/json"],  
11946   "paths": {  
11947     "/ThreeAxisResURI" : {  
11948       "get": {  
11949         "description": "This Resource provides a representation of the measurement from a three-axis  
11950         sensor.\nThe Property \"orientation\" is an array of numbers representing x-plane, y-plane and z-  
11951         plane values.\nThe unit of measurement for each pane is 'g'.",  
11952         "parameters": [  
11953           { "$ref": "#/parameters/interface" }  
11954         ],  
11955         "responses": {  
11956           "200": {  
11957             "description": "",  
11958             "x-example":  
11959               {  
11960                 "rt": ["oic.r.sensor.threeaxis"],  
11961                 "if": ["oic.if.s", "oic.if.baseline"],  
11962                 "orientation": [0.7, 1.1, -0.2]  
11963               },  
11964               "schema": { "$ref": "#/definitions/threeAxis" }  
11965             }  
11966           }  
11967         }  
11968       }  
11969     },  
11970     "parameters": {  
11971       "interface": {  
11972         "in": "query",  
11973         "name": "if",  
11974         "type": "string",  
11975         "enum": ["oic.if.s", "oic.if.baseline"]  
11976       }  
11977     },  
11978     "definitions": {  
11979       "threeAxis" : {
```

```

11980     "properties": {
11981       "rt": {
11982         "description": "The Resource Type.",
11983         "items": {
11984           "enum": ["oic.r.sensor.threeaxis"],
11985           "maxLength": 64,
11986           "type": "string"
11987         },
11988         "minItems": 1,
11989         "uniqueItems": true,
11990         "readOnly": true,
11991         "type": "array"
11992       },
11993       "orientation": {
11994         "description": "The array containing x-plane, y-plane and z-plane orientation in 'g'.",
11995         "items": {
11996           "type": "number"
11997         },
11998         "maxItems": 3,
11999         "minItems": 3,
12000         "readOnly": true,
12001         "type": "array"
12002       },
12003       "n": {
12004         "$ref":
12005         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12006         schema.json#/definitions/n"
12007       },
12008       "id": {
12009         "$ref":
12010         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12011         schema.json#/definitions/id"
12012       },
12013       "if": {
12014         "description": "The OCF Interface set supported by this Resource.",
12015         "items": {
12016           "enum": [
12017             "oic.if.s",
12018             "oic.if.baseline"
12019           ],
12020           "type": "string"
12021         },
12022         "minItems": 2,
12023         "uniqueItems": true,
12024         "readOnly": true,
12025         "type": "array"
12026       }
12027     },
12028     "type": "object",
12029     "required": ["orientation"]
12030   }
12031 }
12032 }
12033

```

6.60.5 Property definition

Table 123 defines the Properties that are part of the "oic.r.sensor.threeaxis" Resource Type.

Table 123 – The Property definitions of the Resource with type "rt" = "oic.r.sensor.threeaxis".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
orientation	array: see schema	Yes	Read Only	The array containing x-plane, y-plane and z-plane orientation in 'g'.

n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

6.60.6 CRUDN behaviour

Table 124 defines the CRUDN operations that are supported on the "oic.r.sensor.threeaxis" Resource Type.

Table 124 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.threeaxis".

Create	Read	Update	Delete	Notify
	get			observe

6.61 Altimeter

6.61.1 Introduction

This Resource describes the properties associated with altimeter.

The Property "alt" is the distance (metres) above or below 'local' sea-level.

6.61.2 Example URI

/AltimeterResURI

6.61.3 Resource type

The Resource Type is defined as: "oic.r.altimeter".

6.61.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Altimeter",
    "version": "20190225",
    "license": {
      "name": "OCF Data Model License",
      "url": "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/AltimeterResURI" : {
      "get": {
        "description": "This Resource describes the properties associated with altimeter.\nThe
Property \"alt\" is the distance (metres) above or below 'local' sea-level.",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "RETRIEVES the current the distance (metres) above or below 'local'
sea-level.",
            "x-example":
            {
```

```

12084         "rt": ["oic.r.altimeter"],
12085         "if": ["oic.if.s", "oic.if.baseline"],
12086         "alt": 1500.0
12087     },
12088     "schema": { "$ref": "#/definitions/Altimeter" }
12089 }
12090 }
12091 }
12092 },
12093 },
12094 "parameters": {
12095     "interface": {
12096         "in": "query",
12097         "name": "if",
12098         "type": "string",
12099         "enum": ["oic.if.s", "oic.if.baseline"]
12100     }
12101 },
12102 "definitions": {
12103     "Altimeter": {
12104         "properties": {
12105             "rt": {
12106                 "description": "The Resource Type.",
12107                 "items": {
12108                     "enum": ["oic.r.altimeter"],
12109                     "maxLength": 64,
12110                     "type": "string"
12111                 },
12112                 "minItems": 1,
12113                 "uniqueItems": true,
12114                 "readOnly": true,
12115                 "type": "array"
12116             },
12117             "alt": {
12118                 "description": "The current distance (metres) above or below 'local' sea-level.",
12119                 "readOnly": true,
12120                 "type": "number"
12121             },
12122             "n": {
12123                 "$ref":
12124                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12125                 schema.json#/definitions/n"
12126             },
12127             "id": {
12128                 "$ref":
12129                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12130                 schema.json#/definitions/id"
12131             },
12132             "precision": {
12133                 "$ref":
12134                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
12135                 schema.json#/definitions/precision"
12136             },
12137             "range": {
12138                 "$ref":
12139                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
12140                 schema.json#/definitions/range_number"
12141             },
12142             "step": {
12143                 "$ref":
12144                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
12145                 schema.json#/definitions/step_number"
12146             },
12147             "if": {
12148                 "description": "The OCF Interface set supported by this Resource.",
12149                 "items": {
12150                     "enum": [
12151                         "oic.if.s",
12152                         "oic.if.baseline"
12153                     ],
12154                     "type": "string"
12155                 }
12156             }
12157         }
12158     }
12159 }

```

```

12156         },
12157         "minItems": 2,
12158         "uniqueItems": true,
12159         "readOnly": true,
12160         "type": "array"
12161     },
12162     },
12163     "type": "object",
12164     "required": ["alt"]
12165 }
12166 }
12167 }
12168

```

12169 6.61.5 Property definition

12170 Table 125 defines the Properties that are part of the "oic.r.altimeter" Resource Type.

12171 **Table 125 – The Property definitions of the Resource with type "rt" = "oic.r.altimeter".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
alt	number	Yes	Read Only	The current distance (metres) above or below 'local' sea-level.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

12172 6.61.6 CRUDN behaviour

12173 Table 126 defines the CRUDN operations that are supported on the "oic.r.altimeter" Resource Type.

12174 **Table 126 – The CRUDN operations of the Resource with type "rt" = "oic.r.altimeter".**

Create	Read	Update	Delete	Notify
	get			observe

12175 6.62 Clock

12176 6.62.1 Introduction

12177 This Resource describes the properties associated with clock and time.

12178 Clock is a time information.

12179 The Property "datetime" is using RFC3339 datetime format (e.g: "2007-04-05T14:30Z")
 12180 (Time+Date+Timezone)

12181 The Property "countdown" is the desired total seconds for countdown.

12182 6.62.2 Example URI

12183 /ClockResURI

6.62.3 Resource type

The Resource Type is defined as: "oic.r.clock".

6.62.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Clock",
    "version": "20190327",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/ClockResURI" : {
      "get": {
        "description": "This Resource describes the properties associated with clock and
time.\nClock is a time information.\nThe Property \"datetime\" is using RFC3339 datetime format
(e.g: \"2007-04-05T14:30Z\") (Time+Date+Timezone)\nThe Property \"countdown\" is the desired total
seconds for countdown.",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example":
            {
              "rt": ["oic.r.clock"],
              "if": ["oic.if.a", "oic.if.baseline"],
              "datetime": "2015-11-05T14:30:00Z",
              "countdown": 0.0
            },
            "schema": { "$ref": "#/definitions/Clock" }
          }
        }
      },
      "post": {
        "description": "Sets the desired datetime.\n",
        "parameters": [
          { "$ref": "#/parameters/interface" },
          {
            "name": "body",
            "in": "body",
            "required": true,
            "schema": { "$ref": "#/definitions/Clock" },
            "x-example":
            {
              "datetime": "2015-11-05T14:30:00Z",
              "countdown": 0.0
            }
          }
        ],
        "responses": {
          "200": {
            "description": "Indicates that the datetime value was successfully changed.\nThe new
datetime value is provided in the response.\n",
            "x-example":
            {
              "datetime": "2015-11-05T14:30:00Z",
              "countdown": 0.0
            }
          }
        }
      }
    }
  }
}
```



```

12253         }
12254     },
12255     "schema": { "$ref": "#/definitions/Clock" }
12256 },
12257 "403": {
12258     "description": "Indicates that OIC client sent an invalid property value to the
12259 server.\nThe server responds with the required input representation.\n",
12260     "x-example":
12261     {
12262         "datetime": "2015-11-05T14:30:00Z",
12263         "countdown": 0.0
12264     },
12265     "schema": { "$ref": "#/definitions/Clock" }
12266 },
12267 },
12268 },
12269 },
12270 },
12271 },
12272 "parameters": {
12273     "interface": {
12274         "in": "query",
12275         "name": "if",
12276         "type": "string",
12277         "enum": ["oic.if.a", "oic.if.baseline"]
12278     },
12279 },
12280 "definitions": {
12281     "Clock": {
12282         "properties": {
12283             "rt": {
12284                 "description": "The Resource Type.",
12285                 "items": {
12286                     "enum": ["oic.r.clock"],
12287                     "maxLength": 64,
12288                     "type": "string"
12289                 },
12290                 "minItems": 1,
12291                 "readOnly": true,
12292                 "type": "array"
12293             },
12294             "countdown": {
12295                 "description": "The desired total seconds for countdown.",
12296                 "minimum": 0,
12297                 "type": "number"
12298             },
12299             "datetime": {
12300                 "description": "Rhe date time using RFC3339 datetime format (e.g: 2007-04-05T14:30:00Z,
12301 2007-04-05T14:30:00+09:00).",
12302                 "type": "string",
12303                 "format": "date-time"
12304             },
12305             "n": {
12306                 "$ref":
12307 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12308 schema.json#/definitions/n"
12309             },
12310             "id": {
12311                 "$ref":
12312 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12313 schema.json#/definitions/id"
12314             },
12315             "if": {
12316                 "description": "The OCF Interface set supported by this Resource.",
12317                 "items": {
12318                     "enum": [
12319                         "oic.if.a",
12320                         "oic.if.baseline"
12321                     ],
12322                     "type": "string"
12323                 },
12324                 "minItems": 2,

```

```

12325         "uniqueItems": true,
12326         "readOnly": true,
12327         "type": "array"
12328     },
12329 },
12330 "type": "object",
12331 "required": ["datetime"]
12332 }
12333 }
12334 }
12335

```

12336 6.62.5 Property definition

12337 Table 127 defines the Properties that are part of the "oic.r.clock" Resource Type.

12338 **Table 127 – The Property definitions of the Resource with type "rt" = "oic.r.clock".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
countdown	number	No	Read Write	The desired total seconds for countdown.
datetime	string	Yes	Read Write	Rhe date time using RFC3339 datetime format (e.g: 2007-04-05T14:30:00Z, 2007-04-05T14:30:00+09:00).
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

12339 6.62.6 CRUDN behaviour

12340 Table 128 defines the CRUDN operations that are supported on the "oic.r.clock" Resource Type.

12341 **Table 128 – The CRUDN operations of the Resource with type "rt" = "oic.r.clock".**

Create	Read	Update	Delete	Notify
	get	post		observe

12342 6.63 Geolocation

12343 6.63.1 Introduction

12344 This Resource describes the properties associated with the current geolocation coordinate.

12345 Geolocation is a geolocation coordinate data.

12346 The Property "latitude" is a device's current Latitude coordinate (degrees).

12347 The Property "longitude" is a device's current Longitude coordinate (degrees).

12348 The Property "alt" is a device's current distance (metres) above or below 'local' sea-level.

12349 The Property "accuracy" is the accuracy level of the latitude and longitude coordinates (metres).

12350 The Property "altitudeAccuracy" is the accuracy level of the altitude coordinates (metres).

12351 The Property "heading" is a direction of travel of device (degree).

12352 The Property "speed" is a device's current velocity (metres per second).

12353 6.63.2 Example URI

12354 /GeolocationResURI

6.63.3 Resource type

The Resource Type is defined as: "oic.r.sensor.geolocation".

6.63.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Geolocation",
    "version": "20190215",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/GeolocationResURI" : {
      "get": {
        "description": "This Resource describes the properties associated with the current
geolocation coordinate.\nGeolocation is a geolocation coordinate data.\nThe Property \"latitude\" is
a device's current Latitude coordinate (degrees).\nThe Property \"longitude\" is a device's current
Longitude coordinate (degrees).\nThe Property \"alt\" is a device's current distance (metres) above
or below 'local' sea-level.\nThe Property \"accuracy\" is the accuracy level of the latitude and
longitude coordinates (metres).\nThe Property \"altitudeAccuracy\" is the accuracy level of the
altitude coordinates (metres).\nThe Property \"heading\" is a direction of travel of device
(degree).\nThe Property \"speed\" is a device's current velocity (metres per second).",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "RETRIEVES the current geolocation coordinates.",
            "x-example":
{
  "rt": ["oic.r.sensor.geolocation"],
  "if": ["oic.if.s", "oic.if.baseline"],
  "latitude": 55.070859,
  "longitude": -3.60512,
  "alt": 12.07,
  "accuracy": 65.0,
  "altitudeAccuracy": 0.0,
  "heading": 90.0,
  "speed": 0.0
},
            "schema": { "$ref": "#/definitions/Geolocation" }
          }
        }
      }
    }
  },
  "parameters": {
    "interface": {
      "in": "query",
      "name": "if",
      "type": "string",
      "enum": ["oic.if.s", "oic.if.baseline"]
    }
  },
  "definitions": {
    "Geolocation" : {
      "properties": {
        "rt": {
          "description": "The Resource Type.",

```

```

12424         "items": {
12425             "enum": ["oic.r.sensor.geolocation"],
12426             "maxLength": 64,
12427             "type": "string"
12428         },
12429         "minItems": 1,
12430         "uniqueItems": true,
12431         "readOnly": true,
12432         "type": "array"
12433     },
12434     "longitude": {
12435         "description": "The Device's Current Longitude coordinate (degrees).",
12436         "readOnly": true,
12437         "type": "number"
12438     },
12439     "heading": {
12440         "description": "The direction of travel of the Device (degree).",
12441         "maximum": 360,
12442         "minimum": 0,
12443         "readOnly": true,
12444         "type": "number"
12445     },
12446     "latitude": {
12447         "description": "The Device's Current Latitude coordinate (degrees).",
12448         "readOnly": true,
12449         "type": "number"
12450     },
12451     "altitudeAccuracy": {
12452         "description": "The accuracy level of the altitude coordinates (metres).",
12453         "minimum": 0,
12454         "readOnly": true,
12455         "type": "number"
12456     },
12457     "alt": {
12458         "description": "The current distance (metres) above or below 'local' sea-level.",
12459         "readOnly": true,
12460         "type": "number"
12461     },
12462     "accuracy": {
12463         "description": "The accuracy level of the latitude and longitude coordinates (metres).",
12464         "minimum": 0,
12465         "readOnly": true,
12466         "type": "number"
12467     },
12468     "speed": {
12469         "description": "The Device's current velocity (metres per second).",
12470         "minimum": 0,
12471         "readOnly": true,
12472         "type": "number"
12473     },
12474     "n": {
12475         "$ref":
12476         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12477         schema.json#/definitions/n"
12478     },
12479     "id": {
12480         "$ref":
12481         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12482         schema.json#/definitions/id"
12483     },
12484     "if": {
12485         "description": "The OCF Interface set supported by this Resource.",
12486         "items": {
12487             "enum": [
12488                 "oic.if.s",
12489                 "oic.if.baseline"
12490             ],
12491             "type": "string"
12492         },
12493         "minItems": 2,
12494         "uniqueItems": true,
12495         "readOnly": true,

```

```

12496         "type": "array"
12497     },
12498 },
12499     "type": "object",
12500     "required": ["latitude", "longitude", "alt"]
12501 }
12502 }
12503 }
12504

```

12505 6.63.5 Property definition

12506 Table 129 defines the Properties that are part of the "oic.r.sensor.geolocation" Resource Type.

12507 **Table 129 – The Property definitions of the Resource with type "rt" =**
12508 **"oic.r.sensor.geolocation".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
longitude	number	Yes	Read Only	The Device's Current Longitude coordinate (degrees).
heading	number	No	Read Only	The direction of travel of the Device (degree).
latitude	number	Yes	Read Only	The Device's Current Latitude coordinate (degrees).
altitudeAccuracy	number	No	Read Only	The accuracy level of the altitude coordinates (metres).
alt	number	Yes	Read Only	The current distance (metres) above or below 'local' sea-level.
accuracy	number	No	Read Only	The accuracy level of the latitude and longitude coordinates (metres).
speed	number	No	Read Only	The Device's current velocity (metres per second).
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

12509 6.63.6 CRUDN behaviour

12510 Table 130 defines the CRUDN operations that are supported on the "oic.r.sensor.geolocation"
12511 Resource Type.

12512
12513

Table 130 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.geolocation".

Create	Read	Update	Delete	Notify
	get			observe

12514

6.64 Height

12515

6.64.1 Introduction

12516

This Resource describes the Properties associated with height of an object's physical size.

12517

The unit is a single value that is one of m, cm, ft or in.

12518

If the unit Property is missing the default is meters [m].

12519

The unit Property is a read-only value that is provided by the server.

12520

When range is omitted the default is 0 to +MAXFLOAT.

12521

6.64.2 Example URI

12522

/HeightResURI

12523

6.64.3 Resource type

12524

The Resource Type is defined as: "oic.r.height".

12525

6.64.4 OpenAPI 2.0 definition

12526

```
{
  "swagger": "2.0",
  "info": {
    "title": "Height",
    "version": "2019-03-22",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": [
    "http"
  ],
  "consumes": [
    "application/json"
  ],
  "produces": [
    "application/json"
  ],
  "paths": {
    "/HeightResURI": {
      "get": {
        "description": "This Resource describes the Properties associated with height of an object's
physical size.\nThe unit is a single value that is one of m, cm, ft or in.\nIf the unit Property is
missing the default is meters [m].\nThe unit Property is a read-only value that is provided by the
server.\nWhen range is omitted the default is 0 to +MAXFLOAT.",
        "parameters": [
          {
            "$ref": "#/parameters/interface"
          }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": [
                "oic.r.height"
              ],
              "height": 1.8,

```

```

12569         "units": "m"
12570     },
12571     "schema": {
12572         "$ref": "#/definitions/Height"
12573     }
12574 }
12575 }
12576 },
12577 "post": {
12578     "description": "Sets the height.",
12579     "parameters": [
12580         {
12581             "$ref": "#/parameters/interface"
12582         },
12583         {
12584             "name": "body",
12585             "in": "body",
12586             "required": true,
12587             "schema": {
12588                 "$ref": "#/definitions/Height"
12589             },
12590             "x-example": {
12591                 "height": 1.75,
12592                 "units": "m"
12593             }
12594         }
12595     ],
12596     "responses": {
12597         "200": {
12598             "description": "Indicates that the height was successfully changed.\n\nThe new height is
12599 provided in the response.",
12600             "x-example": {
12601                 "height": 1.75,
12602                 "units": "m"
12603             },
12604             "schema": {
12605                 "$ref": "#/definitions/Height"
12606             }
12607         },
12608         "403": {
12609             "description": "Indicates that OCF Client sent an invalid Property value to the
12610 Server.\n\nThe Server responds with the current Resource representation.",
12611             "x-example": {
12612                 "height": 1.8,
12613                 "units": "m"
12614             },
12615             "schema": {
12616                 "$ref": "#/definitions/Height"
12617             }
12618         }
12619     }
12620 }
12621 }
12622 },
12623 "parameters": {
12624     "interface": {
12625         "in": "query",
12626         "name": "if",
12627         "type": "string",
12628         "enum": [
12629             "oic.if.a",
12630             "oic.if.s",
12631             "oic.if.baseline"
12632         ]
12633     }
12634 },
12635 "definitions": {
12636     "Height": {
12637         "properties": {
12638             "rt": {
12639                 "description": "Resource Type",
12640                 "items": {

```

```

12641         "enum": [
12642             "oic.r.height"
12643         ],
12644         "type": "string",
12645         "maxLength": 64
12646     },
12647     "minItems": 1,
12648     "uniqueItems": true,
12649     "readOnly": true,
12650     "type": "array"
12651 },
12652 "height": {
12653     "description": "Height of an object",
12654     "minimum": 0,
12655     "type": "number"
12656 },
12657 "units": {
12658     "description": "Height unit",
12659     "enum": [
12660         "m",
12661         "cm",
12662         "ft",
12663         "in"
12664     ],
12665     "readOnly": true,
12666     "type": "string",
12667     "default": "m"
12668 },
12669 "range": {
12670     "$ref":
12671 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
12672 schema.json#/definitions/range_number"
12673 },
12674 "step": {
12675     "$ref":
12676 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
12677 schema.json#/definitions/step_number"
12678 },
12679 "precision": {
12680     "$ref":
12681 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
12682 schema.json#/definitions/precision"
12683 },
12684 "n": {
12685     "$ref":
12686 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12687 schema.json#/definitions/n"
12688 },
12689 "id": {
12690     "$ref":
12691 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12692 schema.json#/definitions/id"
12693 },
12694 "if": {
12695     "description": "The OCF Interface set supported by this Resource",
12696     "items": {
12697         "enum": [
12698             "oic.if.a",
12699             "oic.if.s",
12700             "oic.if.baseline"
12701         ],
12702         "type": "string",
12703         "maxLength": 64
12704     },
12705     "minItems": 1,
12706     "readOnly": true,
12707     "uniqueItems": true,
12708     "type": "array"
12709 }
12710 },
12711 "type": "object",
12712 "required": [

```



```

12713         "height"
12714     ]
12715 }
12716 }
12717 }
12718

```

12719 6.64.5 Property definition

12720 Table 131 defines the Properties that are part of the "oic.r.height" Resource Type.

12721 **Table 131 – The Property definitions of the Resource with type "rt" = "oic.r.height".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
height	number	Yes	Read Write	Height of an object
units	string	No	Read Only	Height unit
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

12722 6.64.6 CRUDN behaviour

12723 Table 132 defines the CRUDN operations that are supported on the "oic.r.height" Resource Type.

12724 **Table 132 – The CRUDN operations of the Resource with type "rt" = "oic.r.height".**

Create	Read	Update	Delete	Notify
	get	post		observe

12725 6.65 Weight

12726 6.65.1 Introduction

12727 This Resource describes the Properties associated with weight of an object.

12728 The unit is a single value that is one of kg, g, lb or oz.

12729 If the unit Property is missing the default is kilograms [kg].

12730 The unit Property is a read-only value that is provided by the server.

12731 When range is omitted the default is 0 to +MAXFLOAT.

12732 6.65.2 Example URI

12733 /WeightResURI

12734 6.65.3 Resource type

12735 The Resource Type is defined as: "oic.r.weight".

12736 6.65.4 OpenAPI 2.0 definition

```

12737 {
12738     "swagger": "2.0",

```

```

12739     "info": {
12740         "title": "Weight",
12741         "version": "2019-03-22",
12742         "license": {
12743             "name": "OCF Data Model License",
12744             "url":
12745 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
12746 CENSE.md",
12747             "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
12748         },
12749         "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
12750     },
12751     "schemes": [
12752         "http"
12753     ],
12754     "consumes": [
12755         "application/json"
12756     ],
12757     "produces": [
12758         "application/json"
12759     ],
12760     "paths": {
12761         "/WeightResURI": {
12762             "get": {
12763                 "description": "This Resource describes the Properties associated with weight of an
12764 object.\nThe unit is a single value that is one of kg, g, lb or oz.\nIf the unit Property is missing
12765 the default is kilograms [kg].\nThe unit Property is a read-only value that is provided by the
12766 server.\nWhen range is omitted the default is 0 to +MAXFLOAT.",
12767                 "parameters": [
12768                     {
12769                         "$ref": "#/parameters/interface"
12770                     }
12771                 ],
12772                 "responses": {
12773                     "200": {
12774                         "description": "",
12775                         "x-example": {
12776                             "rt": [
12777                                 "oic.r.weight"
12778                             ],
12779                             "weight": 80.0,
12780                             "units": "kg"
12781                         },
12782                         "schema": {
12783                             "$ref": "#/definitions/Weight"
12784                         }
12785                     }
12786                 }
12787             },
12788             "post": {
12789                 "description": "Sets the Weight.",
12790                 "parameters": [
12791                     {
12792                         "$ref": "#/parameters/interface"
12793                     },
12794                     {
12795                         "name": "body",
12796                         "in": "body",
12797                         "required": true,
12798                         "schema": {
12799                             "$ref": "#/definitions/Weight"
12800                         },
12801                         "x-example": {
12802                             "weight": 75.0,
12803                             "units": "kg"
12804                         }
12805                     }
12806                 ],
12807                 "responses": {
12808                     "200": {
12809                         "description": "Indicates that the weight was successfully changed.\nThe new weight is
12810 provided in the response.",

```

```

12811         "x-example": {
12812             "weight": 75.0,
12813             "units": "kg"
12814         },
12815         "schema": {
12816             "$ref": "#/definitions/Weight"
12817         }
12818     },
12819     "403": {
12820         "description": "Indicates that OCF client sent an invalid Property value to the
12821 Server.\nThe Server responds with the current resource representation.",
12822         "x-example": {
12823             "weight": 80.0,
12824             "units": "kg"
12825         },
12826         "schema": {
12827             "$ref": "#/definitions/Weight"
12828         }
12829     }
12830 }
12831 }
12832 }
12833 },
12834 "parameters": {
12835     "interface": {
12836         "in": "query",
12837         "name": "if",
12838         "type": "string",
12839         "enum": [
12840             "oic.if.s",
12841             "oic.if.a",
12842             "oic.if.baseline"
12843         ]
12844     }
12845 },
12846 "definitions": {
12847     "Weight": {
12848         "properties": {
12849             "rt": {
12850                 "description": "Resource Type",
12851                 "items": {
12852                     "enum": [
12853                         "oic.r.weight"
12854                     ],
12855                     "type": "string",
12856                     "maxLength": 64
12857                 },
12858                 "minItems": 1,
12859                 "uniqueItems": true,
12860                 "readOnly": true,
12861                 "type": "array"
12862             },
12863             "weight": {
12864                 "description": "Weight of an object",
12865                 "minimum": 0.0,
12866                 "type": "number"
12867             },
12868             "units": {
12869                 "description": "Weight unit",
12870                 "enum": [
12871                     "kg",
12872                     "g",
12873                     "lb",
12874                     "oz"
12875                 ],
12876                 "readOnly": true,
12877                 "type": "string",
12878                 "default": "kg"
12879             },
12880             "range": {
12881                 "$ref":
12882 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-

```

```

12883 schema.json#/definitions/range_number"
12884     },
12885     "step": {
12886         "$ref":
12887         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
12888         schema.json#/definitions/step_number"
12889     },
12890     "precision": {
12891         "$ref":
12892         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
12893         schema.json#/definitions/precision"
12894     },
12895     "n": {
12896         "$ref":
12897         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12898         schema.json#/definitions/n"
12899     },
12900     "id": {
12901         "$ref":
12902         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
12903         schema.json#/definitions/id"
12904     },
12905     "if": {
12906         "description": "The OCF Interface set supported by this Resource",
12907         "items": {
12908             "enum": [
12909                 "oic.if.s",
12910                 "oic.if.a",
12911                 "oic.if.baseline"
12912             ],
12913             "type": "string",
12914             "maxLength": 64
12915         },
12916         "minItems": 1,
12917         "readOnly": true,
12918         "uniqueItems": true,
12919         "type": "array"
12920     }
12921 },
12922 "type": "object",
12923 "required": [
12924     "weight",
12925     "units"
12926 ]
12927 }
12928 }
12929 }
12930

```

6.65.5 Property definition

Table 133 defines the Properties that are part of the "oic.r.weight" Resource Type.

Table 133 – The Property definitions of the Resource with type "rt" = "oic.r.weight".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
weight	number	Yes	Read Write	Weight of an object
units	string	Yes	Read Only	Weight unit
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	

n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

6.65.6 CRUDN behaviour

Table 134 defines the CRUDN operations that are supported on the "oic.r.weight" Resource Type.

Table 134 – The CRUDN operations of the Resource with type "rt" = "oic.r.weight".

Create	Read	Update	Delete	Notify
	Get	post		observe

6.66 Air Quality

6.66.1 Introduction

This Resource describes a qualitative or measured contaminant that can be used to infer Air Quality.

The Property "valueType" indicates a qualitative or measured reading within the contaminantvalue Property.

The Property "contaminantvalue" can contain the actual sensed value with units per contaminant type.

Qualitative is a representative value within the range provided where the minimum value is minimum contamination and maximum value is maximum contamination for the specific contaminant.

The Property "contaminantvalue" contains the actual measured or qualitative level.

The Property "range" contains the allowed range for the value that is being reported.

If valueType is 'Measured' then the units for the contaminant types are as follows:

Methanol (also known as Formaldehyde): CH₂O (ug/m³),

Carbon Dioxide: CO₂ (ppm),

Carbon Monoxide: CO (ppm),

Particulate Matter (less than 1 micron in diameter): PM₁ (ug/m³),

Particulate Matter (less than 2.5 microns in diameter): PM_{2.5} (ug/m³),

Particulate Matter (less than 10 microns in diameter): PM₁₀ (ug/m³),

Volatile Organic Compounds: VOC (ug/m³),

Ozone: O₃ (ppm), Nitrogen dioxide: NO₂ (ppm), Sulphur dioxide: SO₂ (ppm)

6.66.2 Example URI

/AirQualityResURI

6.66.3 Resource type

The Resource Type is defined as: "oic.r.airquality".

6.66.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Air Quality",
    "version": "2020-08-13",
    "license": {
      "name": "OCF Data Model License",
      "url":
        "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
        CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019, 2020 Open Connectivity Foundation, Inc. All rights
```

```

12975 reserved."
12976 },
12977 "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
12978 },
12979 "schemes": ["http"],
12980 "consumes": ["application/json"],
12981 "produces": ["application/json"],
12982 "paths": {
12983   "/AirQualityResURI" : {
12984     "get": {
12985       "description": "This Resource describes a qualitative or measured contaminant that can be
12986 used to infer Air Quality.\nThe Property \"valueType\" indicates a qualitative or measured reading
12987 within the contaminantvalue Property.\nThe Property \"contaminantvalue\" can contain the actual
12988 sensed value with units per contaminant type.\nQualitative is a representative value within the
12989 range provided where the minimum value is minimum contamination and maximum value is maximum
12990 contamination for the specific contaminant.\nThe Property \"contaminantvalue\" contains the actual
12991 measured or qualitative level.\nThe Property \"range\" contains the allowed range for the value that
12992 is being reported.\nIf valueType is 'Measured' then the units for the contaminant types are as
12993 follows:\nMethanol (also known as Formaldehyde): CH2O (ug/m^3),\nCarbon Dioxide: CO2 (ppm),\n
12994 Carbon Monoxide: CO (ppm),\nParticulate Matter (less than 1 micron in diameter): PM1 (ug/m^3),\n
12995 Particulate Matter (less than 2.5 microns in diameter): PM2.5 (ug/m^3),\nParticulate Matter (less
12996 than 10 microns in diameter): PM10 (ug/m^3),\nVolatile Organic Compounds: VOC (ug/m^3),\nOzone: O3
12997 (ppm), Nitrogen dioxide: NO2 (ppm), Sulphur dioxide: SO2 (ppm) ",
12998 "parameters": [
12999   { "$ref": "#/parameters/interface" }
13000 ],
13001 "responses": {
13002   "200": {
13003     "description": "",
13004     "x-example":
13005       {
13006         "rt": ["oic.r.airquality"],
13007         "if": ["oic.if.s", "oic.if.baseline"],
13008         "contaminanttype": "CO",
13009         "valuetype": "Measured",
13010         "contaminantvalue": 10,
13011         "range": [0,500]
13012       },
13013     "schema": { "$ref": "#/definitions/AirQuality" }
13014   }
13015 }
13016 },
13017 },
13018 },
13019 "parameters": {
13020   "interface" : {
13021     "in" : "query",
13022     "name" : "if",
13023     "type" : "string",
13024     "enum" : ["oic.if.s", "oic.if.baseline"]
13025   }
13026 },
13027 "definitions": {
13028   "AirQuality" : {
13029     "properties": {
13030       "rt" : {
13031         "description": "The Resource Type.",
13032         "items": {
13033           "enum": ["oic.r.airquality"],
13034           "maxLength": 64,
13035           "type": "string"
13036         },
13037         "minItems": 1,
13038         "uniqueItems": true,
13039         "readOnly": true,
13040         "type": "array"
13041       },
13042       "contaminanttype": {
13043         "description": "The contaminant being measured.",
13044         "enum": [
13045           "CH2O",
13046           "CO2",

```

```

13047         "CO",
13048         "PM1",
13049         "PM2.5",
13050         "PM10",
13051         "VOC",
13052         "Smoke",
13053         "Odor",
13054         "AirPollution",
13055         "NO2",
13056         "SO2",
13057         "O3"
13058     ],
13059     "readOnly": true,
13060     "type": "string"
13061 },
13062     "valuetype": {
13063         "description": "The property that indicates whether the provided value is qualitative or
13064 measured.",
13065         "enum": [
13066             "Qualitative",
13067             "Measured"
13068         ],
13069         "readOnly": true,
13070         "type": "string"
13071     },
13072     "contaminantvalue": {
13073         "description": "The measured or qualitative value for the contaminant.",
13074         "readOnly": true,
13075         "type": "integer"
13076     },
13077     "n": {
13078         "$ref":
13079 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13080 schema.json#/definitions/n"
13081     },
13082     "id": {
13083         "$ref":
13084 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13085 schema.json#/definitions/id"
13086     },
13087     "range": {
13088         "$ref":
13089 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
13090 schema.json#/definitions/range_integer"
13091     },
13092     "if" : {
13093         "description": "The OCF Interface set supported by this Resource.",
13094         "items": {
13095             "enum": [
13096                 "oic.if.s",
13097                 "oic.if.baseline"
13098             ],
13099             "type": "string"
13100         },
13101         "minItems": 2,
13102         "uniqueItems": true,
13103         "readOnly": true,
13104         "type": "array"
13105     }
13106 },
13107     "type": "object",
13108     "required": ["contaminantvalue", "contaminanttype", "valuetype"]
13109 }
13110 }
13111 }
13112

```

6.66.5 Property definition

Table 135 defines the Properties that are part of the "oic.r.airquality" Resource Type.

13115 **Table 135 – The Property definitions of the Resource with type "rt" = "oic.r.airquality".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
contaminanttype	string	Yes	Read Only	The contaminant being measured.
valuetype	string	Yes	Read Only	The property that indicates whether the provided value is qualitative or measured.
contaminantvalue	integer	Yes	Read Only	The measured or qualitative value for the contaminant.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

13116 **6.66.6 CRUDN behaviour**

13117 Table 136 defines the CRUDN operations that are supported on the "oic.r.airquality" Resource
13118 Type.

13119 **Table 136 – The CRUDN operations of the Resource with type "rt" = "oic.r.airquality".**

Create	Read	Update	Delete	Notify
	get			observe

13120 **6.67 Air Quality Collection**

13121 **6.67.1 Introduction**

13122 This resource describes a sensor that provides the qualitative or measured Air Quality.
13123 The resource is a collection of instances of oic.r.airquality detailing the individual exposed
13124 contaminant measures
13125 There is one collection entry per contaminant type supported by the device. A device must
13126 expose at least one measured or qualitative value.
13127 Retrieves the current air quality.
13128

13129 **6.67.2 Example URI**

13130 /AirQualityCollectionResURI

13131 **6.67.3 Resource type**

13132 The Resource Type is defined as: "oic.r.airqualitycollection, oic.wk.col".

13133 **6.67.4 OpenAPI 2.0 definition**

13134 {
13135 "swagger": "2.0",
13136 "info": {
13137 "title": "Air Quality Collection",
13138 "version": "20190307",
13139 "license": {


```

13140         "name": "OCF Data Model License",
13141         "url":
13142 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
13143 CENSE.md",
13144         "x-copyright": "copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
13145     },
13146     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
13147 },
13148 "schemes": ["http"],
13149 "consumes": ["application/json"],
13150 "produces": ["application/json"],
13151 "paths": {
13152     "/AirQualityCollectionResURI?if=oic.if.ll" : {
13153         "get": {
13154             "description": "This resource describes a sensor that provides the qualitative or measured
13155 Air Quality.\nThe resource is a collection of instances of oic.r.airquality detailing the individual
13156 exposed contaminant measures\nThere is one collection entry per contaminant type supported by the
13157 device. A device must expose at least one measured or qualitative value.\nRetrieves the current air
13158 quality.\n",
13159             "parameters": [
13160                 {"$ref": "#/parameters/interface-all"}
13161             ],
13162             "responses": {
13163                 "200": {
13164                     "description": "",
13165                     "x-example": [
13166                         [
13167                             {"href": "/myCOMeasureResURI", "rt": ["oic.r.airquality"], "if":
13168 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
13169                             {"href": "/myCO2ResURI", "rt": ["oic.r.airquality"], "if":
13170 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]}
13171                         ],
13172                     "schema": { "$ref": "#/definitions/AirQuality-ll" }
13173                 }
13174             }
13175         },
13176     },
13177     "/AirQualityCollectionResURI?if=oic.if.b": {
13178         "get": {
13179             "description": "This resource describes a sensor that provides the qualitative or measured
13180 Air Quality.\nThe resource is a collection of instances of oic.r.airquality detailing the individual
13181 exposed contaminant measures\nThere is one collection entry per contaminant type supported by the
13182 device. A device must expose at least one measured or qualitative value.\nRetrieves the current air
13183 quality.\n",
13184             "parameters": [
13185                 {"$ref": "#/parameters/interface-all"}
13186             ],
13187             "responses": {
13188                 "200": {
13189                     "description": "",
13190                     "x-example": [
13191                         {
13192                             "href": "/AirQualityCoresURI",
13193                             "rep": {
13194                                 "contaminanttype": "CO",
13195                                 "valuetype": "Measured",
13196                                 "contaminantvalue": 10,
13197                                 "range": [0,500]
13198                             }
13199                         },
13200                         {
13201                             "href": "/AirQualitySmokeResURI",
13202                             "rep": {
13203                                 "contaminanttype": "Smoke",
13204                                 "valuetype": "Measured",
13205                                 "contaminantvalue": 100,
13206                                 "range": [0,5000]
13207                             }
13208                         }
13209                     ],
13210                     "schema": { "$ref": "#/definitions/AirQualityCollectionBatch-Retrieve" }
13211                 }
13212             }
13213         }
13214     }
13215 }

```

```

13212     }
13213   },
13214 },
13215 "/AirQualityCollectionResURI?if=oic.if.baseline" : {
13216   "get": {
13217     "description": "This resource describes a sensor that provides the qualitative or measured
13218 Air Quality.\nThe resource is a collection of instances of oic.r.airquality detailing the individual
13219 exposed contaminant measures\nThere is one collection entry per contaminant type supported by the
13220 device. A device must expose at least one measured or qualitative value.\nRetrieves the current air
13221 quality.\n",
13222     "parameters": [
13223       { "$ref": "#/parameters/interface-all" }
13224     ],
13225     "responses": {
13226       "200": {
13227         "description": "",
13228         "x-example":
13229           {
13230             "rt": [ "oic.r.airqualitycollection", "oic.wk.col" ],
13231             "if": [ "oic.if.baseline", "oic.if.ll" ],
13232             "links": [
13233               { "href": "/myCOMeasureResURI", "rt": [ "oic.r.airquality" ], "if":
13234 [ "oic.if.s", "oic.if.baseline" ], "eps": [ { "ep": "coaps://[fe80::b1d6]:1122" } ] },
13235               { "href": "/myCO2ResURI", "rt": [ "oic.r.airquality" ], "if":
13236 [ "oic.if.s", "oic.if.baseline" ], "eps": [ { "ep": "coaps://[fe80::b1d6]:1122" } ] }
13237             ]
13238           },
13239       "schema": { "$ref": "#/definitions/AirQuality" }
13240     }
13241   }
13242 },
13243 },
13244 },
13245 "parameters": {
13246   "interface-all" : {
13247     "in" : "query",
13248     "name" : "if",
13249     "type" : "string",
13250     "enum" : [ "oic.if.ll", "oic.if.b", "oic.if.baseline" ]
13251   }
13252 },
13253 "definitions": {
13254   "AirQuality-ll": {
13255     "items": {
13256       "$ref": "#/definitions/oic.oic-link"
13257     },
13258     "type": "array"
13259   },
13260   "oic.oic-link": {
13261     "type": "object",
13262     "properties": {
13263       "anchor": {
13264         "$ref":
13265 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13266 schema.json#/definitions/anchor"
13267       },
13268       "di": {
13269         "$ref":
13270 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13271 schema.json#/definitions/di"
13272       },
13273       "eps": {
13274         "$ref":
13275 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13276 schema.json#/definitions/eps"
13277       },
13278       "href": {
13279         "$ref":
13280 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13281 schema.json#/definitions/href"
13282       },
13283       "ins": {

```

```

13284         "$ref":
13285         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13286         schema.json#/definitions/ins"
13287     },
13288     "p": {
13289         "$ref":
13290         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13291         schema.json#/definitions/p"
13292     },
13293     "rel": {
13294         "$ref":
13295         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13296         schema.json#/definitions/rel_array"
13297     },
13298     "title": {
13299         "$ref":
13300         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13301         schema.json#/definitions/title"
13302     },
13303     "type": {
13304         "$ref":
13305         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13306         schema.json#/definitions/type"
13307     },
13308     "if": {
13309         "description": "The OCF Interfaces supported by the target Resource",
13310         "items": {
13311             "enum": [
13312                 "oic.if.s",
13313                 "oic.if.baseline"
13314             ],
13315             "type": "string",
13316             "maxLength": 64
13317         },
13318         "minItems": 2,
13319         "uniqueItems": true,
13320         "type": "array",
13321         "readOnly": true
13322     },
13323     "rt": {
13324         "description": "Resource Type of the target Resource",
13325         "items": {
13326             "maxLength": 64,
13327             "type": "string",
13328             "enum": ["oic.r.airquality"]
13329         },
13330         "minItems": 1,
13331         "type": "array",
13332         "uniqueItems": true,
13333         "readOnly": true
13334     }
13335 },
13336 "required": [
13337     "href",
13338     "rt",
13339     "if"
13340 ],
13341 },
13342 "AirQuality": {
13343     "type": "object",
13344     "properties": {
13345         "rt": {
13346             "items": {
13347                 "enum": [
13348                     "oic.r.airqualitycollection",
13349                     "oic.wk.col"
13350                 ],
13351                 "type": "string",
13352                 "maxLength": 64
13353             },
13354             "minItems": 2,
13355             "type": "array",

```

```

13356         "uniqueItems": true
13357     },
13358     "links": {
13359         "description": "A set of simple or individual OCF Links.",
13360         "type": "array",
13361         "items": {
13362             "$ref": "#/definitions/oic.oic-link"
13363         }
13364     },
13365     "n": {
13366         "$ref":
13367         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13368         schema.json#/definitions/n"
13369     },
13370     "id": {
13371         "$ref":
13372         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13373         schema.json#/definitions/id"
13374     },
13375     "rts": {
13376         "items": {
13377             "enum": ["oic.r.airquality"],
13378             "type": "string",
13379             "maxLength": 64
13380         },
13381         "minItems": 1,
13382         "type": "array",
13383         "uniqueItems": true
13384     },
13385     "if": {
13386         "description": "The OCF Interfaces supported by this Resource",
13387         "items": {
13388             "enum": [
13389                 "oic.if.ll",
13390                 "oic.if.b",
13391                 "oic.if.baseline"
13392             ],
13393             "type": "string",
13394             "maxLength": 64
13395         },
13396         "minItems": 1,
13397         "readOnly": true,
13398         "uniqueItems": true,
13399         "type": "array"
13400     }
13401 },
13402 },
13403 "AirQualityCollectionBatch-Retrieve" : {
13404     "type": "array",
13405     "minItems": 1,
13406     "uniqueItems": true,
13407     "items": {
13408         "type": "object",
13409         "additionalProperties": true,
13410         "properties": {
13411             "href": {
13412                 "$ref":
13413                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13414                 schema.json#/definitions/href"
13415             },
13416             "rep": {
13417                 "$ref":
13418                 "https://openconnectivityfoundation.github.io/IoTDataModels/AirQualityResURI.swagger.json#/definitio
13419                 ns/AirQuality"
13420             }
13421         },
13422         "required": [
13423             "href",
13424             "rep"
13425         ]
13426     }
13427 }

```

13428 }
 13429 }
 13430

13431 6.67.5 Property definition

13432 Table 137 defines the Properties that are part of the "oic.r.airqualitycollection, oic.wk.col" Resource
 13433 Type.

13434 **Table 137 – The Property definitions of the Resource with type "rt" =**
 13435 **"oic.r.airqualitycollection, oic.wk.col".**

Property name	Value type	Mandatory	Access mode	Description
anchor	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
ins	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
rel	multiple types: see schema	No	Read Write	
title	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	
if	array: see schema	Yes	Read Only	The OCF Interfaces supported by the target Resource
rt	array: see schema	Yes	Read Only	Resource Type of the target Resource
rt	array: see schema		Read Write	
links	array: see schema		Read Write	A set of simple or individual OCF Links.
n	multiple types: see schema		Read Write	
id	multiple types: see schema		Read Write	
rts	array: see schema		Read Write	
if	array: see schema		Read Only	The OCF Interfaces supported by this Resource
href	multiple types: see schema	Yes	Read Write	
rep	multiple types: see schema	Yes	Read Write	

13436 6.67.6 CRUDN behaviour

13437 Table 138 defines the CRUDN operations that are supported on the "oic.r.airqualitycollection,
 13438 oic.wk.col" Resource Type.

13439
13440

Table 138 – The CRUDN operations of the Resource with type "rt" = "oic.r.airqualitycollection, oic.wk.col".

Create	Read	Update	Delete	Notify
	get			observe

13441

6.68 Consumable

13442

6.68.1 Introduction

13443 This Resource specifies a thing that can be consumed such as filter material, printer toner etc
13444 The Property "typeofconsumable" is an enumeration defining the thing being consumed as defined
13445 by the Smart Home Device Specification
13446 The Property "remaining" is an integer capturing the percentatge remaining life
13447 The Property "orderpercentage" is an integer capturing the percentage life at which replacement
13448 or replenishment is recommended by the manufacturer
13449 The Property "url" is a string containing a URL at which further information may be obtained with
13450 respect to the consumable.

13451

6.68.2 Example URI

13452

/ConsumableResURI

13453

6.68.3 Resource type

13454

The Resource Type is defined as: "oic.r.consumable".

13455

6.68.4 OpenAPI 2.0 definition

```
13456 {  
13457   "swagger": "2.0",  
13458   "info": {  
13459     "title": "Consumable",  
13460     "version": "20190215",  
13461     "license": {  
13462       "name": "OCF Data Model License",  
13463       "url":  
13464         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
13465         CENSE.md",  
13466       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
13467       reserved."  
13468     },  
13469     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
13470   },  
13471   "schemes": ["http"],  
13472   "consumes": ["application/json"],  
13473   "produces": ["application/json"],  
13474   "paths": {  
13475     "/ConsumableResURI" : {  
13476       "get": {  
13477         "description": "This Resource specifies a thing that can be consumed such as filter  
13478         material, printer toner etc\nThe Propert \"typeofconsumable\" is an enumeration defining the thing  
13479         being consumed as defined by the Smart Home Device Specification\nThe Property \"remaining\" is an  
13480         integer capturing the percentatge remaining life\nThe Property \"orderpercentage\" is an integer  
13481         capturing the percentage life at which replacement or replenishment is recommended by the  
13482         manufacturer\nThe Property \"url\" is a string containing a URL at which further information may be  
13483         obtained with respect to the consumable.",  
13484         "parameters": [  
13485           {"$ref": "#/parameters/interface"}  
13486         ],  
13487         "responses": {  
13488           "200": {  
13489             "description": "",  
13490             "x-example":  
13491               {  
13492                 "rt": ["oic.r.consumable"],  
13493                 "if": ["oic.if.s", "oic.if.baseline"],  
13494                 "typeofconsumable": "tonerBlack",
```

```

13495         "remaining": 20,
13496         "orderpercentage": 10,
13497         "url": "http://myreorderURL"
13498     },
13499     "schema": { "$ref": "#/definitions/consumable" }
13500 }
13501 }
13502 }
13503 },
13504 },
13505 "parameters": {
13506     "interface": {
13507         "in": "query",
13508         "name": "if",
13509         "type": "string",
13510         "enum": ["oic.if.s", "oic.if.baseline"]
13511     }
13512 },
13513 "definitions": {
13514     "consumable" : {
13515         "properties": {
13516             "rt": {
13517                 "description": "The Resource Type.",
13518                 "items": {
13519                     "enum": ["oic.r.consumable"],
13520                     "maxLength": 64,
13521                     "type": "string"
13522                 },
13523                 "minItems": 1,
13524                 "uniqueItems": true,
13525                 "readOnly": true,
13526                 "type": "array"
13527             },
13528             "remaining": {
13529                 "description": "The percentage remaining lifespan.",
13530                 "maximum": 100,
13531                 "minimum": 0,
13532                 "readOnly": true,
13533                 "type": "integer"
13534             },
13535             "typeofconsumable": {
13536                 "description": "The thing that is being consumed.",
13537                 "readOnly": true,
13538                 "type": "string"
13539             },
13540             "url": {
13541                 "description": "The URL at which additional ordering information may be found.",
13542                 "format": "uri",
13543                 "readOnly": true,
13544                 "type": "string"
13545             },
13546             "orderpercentage": {
13547                 "description": "The percentage at which re-ordering is recommended by the manufacturer.",
13548                 "maximum": 100,
13549                 "minimum": 0,
13550                 "readOnly": true,
13551                 "type": "integer"
13552             },
13553             "n": {
13554                 "$ref":
13555                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13556                 schema.json#/definitions/n"
13557             },
13558             "id": {
13559                 "$ref":
13560                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13561                 schema.json#/definitions/id"
13562             },
13563             "if": {
13564                 "description": "The OCF Interface set supported by this Resource.",
13565                 "items": {
13566                     "enum": [

```

```

13567         "oic.if.s",
13568         "oic.if.baseline"
13569     ],
13570     "type": "string"
13571 },
13572 "minItems": 2,
13573 "uniqueItems": true,
13574 "readOnly": true,
13575 "type": "array"
13576 }
13577 },
13578 "type": "object",
13579 "required": ["typeofconsumable", "remaining"]
13580 }
13581 }
13582 }
13583

```

13584 6.68.5 Property definition

13585 Table 139 defines the Properties that are part of the "oic.r.consumable" Resource Type.

13586 **Table 139 – The Property definitions of the Resource with type "rt" = "oic.r.consumable".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
remaining	integer	Yes	Read Only	The percentage remaining lifespan.
typeofconsumable	string	Yes	Read Only	The thing that is being consumed.
url	string	No	Read Only	The URL at which additional ordering information may be found.
orderpercentage	integer	No	Read Only	The percentage at which re-ordering is recommended by the manufacturer.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

13587 6.68.6 CRUDN behaviour

13588 Table 140 defines the CRUDN operations that are supported on the "oic.r.consumable" Resource
13589 Type.

13590 **Table 140 – The CRUDN operations of the Resource with type "rt" = "oic.r.consumable".**

Create	Read	Update	Delete	Notify
	get			observe

13591 6.69 Consumables

13592 6.69.1 Introduction

13593 This Resource specifies things that can be consumed such as filter material, printer toner etc
13594 The resource is a Collection of instances of oic.r.consumable detailing the individual consumed
13595 items

13596 supportedconsumables is the set of consumable types that this instance of the Resource
13597 supports
13598

13599 **6.69.2 Example URI**

13600 /ConsumablesResURI

13601 **6.69.3 Resource type**

13602 The Resource Type is defined as: "oic.r.consumablecollection, oic.wk.col".

13603 **6.69.4 OpenAPI 2.0 definition**

```
13604 {  
13605   "swagger": "2.0",  
13606   "info": {  
13607     "title": "Consumables",  
13608     "version": "20190613",  
13609     "license": {  
13610       "name": "OCF Data Model License",  
13611       "url":  
13612         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
13613         CENSE.md",  
13614       "x-copyright": "copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."  
13615     },  
13616     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
13617   },  
13618   "schemes": ["http"],  
13619   "consumes": ["application/json"],  
13620   "produces": ["application/json"],  
13621   "paths": {  
13622     "/ConsumablesResURI?if=oic.if.ll" : {  
13623       "get": {  
13624         "description": "This Resource specifies things that can be consumed such as filter material,  
13625         printer toner etc\nThe resource is a Collection of instances of oic.r.consumable detailing the  
13626         individual consumed items\nsupportedconsumables is the set of consumable types that this instance of  
13627         the Resource supports\n",  
13628         "parameters": [  
13629           {"$ref": "#/parameters/interface-all"}  
13630         ],  
13631         "responses": {  
13632           "200": {  
13633             "description": "",  
13634             "x-example":  
13635               [  
13636                 {"href": "/myTonerBlackResURI", "rt": ["oic.r.consumable"], "if":  
13637                 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},  
13638                 {"href": "/myTonerCyanResURI", "rt": ["oic.r.consumable"], "if":  
13639                 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},  
13640                 {"href": "/myTonerMagentaResURI", "rt": ["oic.r.consumable"], "if":  
13641                 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},  
13642                 {"href": "/myTonerYellowResURI", "rt": ["oic.r.consumable"], "if":  
13643                 ["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]}  
13644               ],  
13645             "schema": { "$ref": "#/definitions/consumables-ll" }  
13646           }  
13647         }  
13648       },  
13649     },  
13650     "/ConsumablesResURI?if=oic.if.b" : {  
13651       "get": {  
13652         "description": "This Resource specifies things that can be consumed such as filter material,  
13653         printer toner etc\nThe resource is a Collection of instances of oic.r.consumable detailing the  
13654         individual consumed items\nsupportedconsumables is the set of consumable types that this instance of  
13655         the Resource supports\n",  
13656         "parameters": [  
13657           {"$ref": "#/parameters/interface-all"}  
13658         ],  
13659         "responses": {  
13660           "200": {
```

```

13661         "description" : "",
13662         "x-example": [
13663             {
13664                 "href": "/tonerCyanResURI",
13665                 "rep": {
13666                     "typeofconsumable": "tonerCyan",
13667                     "remaining": 70,
13668                     "orderpercentage": 10,
13669                     "url": "http://myreorderURL"
13670                 }
13671             },
13672             {
13673                 "href": "/tonerBlackResURI",
13674                 "rep": {
13675                     "typeofconsumable": "tonerBlack",
13676                     "remaining": 20,
13677                     "orderpercentage": 10,
13678                     "url": "http://myreorderURL"
13679                 }
13680             }
13681         ],
13682         "schema": { "$ref": "#/definitions/ConsumableCollectionBatch-Retrieve" }
13683     }
13684 }
13685 },
13686 ],
13687 "/ConsumablesResURI?if=oic.if.baseline" : {
13688     "get": {
13689         "description": "This Resource specifies things that can be consumed such as filter material,
13690 printer toner etc\nThe resource is a Collection of instances of oic.r.consumable detailing the
13691 individual consumed items\nsupportedconsumables is the set of consumable types that this instance of
13692 the Resource supports\n",
13693         "parameters": [
13694             { "$ref": "#/parameters/interface-all" }
13695         ],
13696         "responses": {
13697             "200": {
13698                 "description" : "",
13699                 "x-example": {
13700                     "rt": [ "oic.r.consumablecollection", "oic.wk.col" ],
13701                     "if": [ "oic.if.ll", "oic.if.b", "oic.if.baseline" ],
13702                     "rts": [ "oic.r.consumable" ],
13703                     "supportedconsumables": [ "tonerBlack", "tonerCyan", "tonerMagenta", "tonerYellow" ],
13704                     "links": [
13705                         { "href": "/myTonerBlackResURI", "rt": [ "oic.r.consumable" ], "if":
13706 [ "oic.if.s", "oic.if.baseline" ], "eps": [ { "ep": "coaps://[fe80::b1d6]:1122" } ] },
13707                         { "href": "/myTonerCyanResURI", "rt": [ "oic.r.consumable" ], "if":
13708 [ "oic.if.s", "oic.if.baseline" ], "eps": [ { "ep": "coaps://[fe80::b1d6]:1122" } ] },
13709                         { "href": "/myTonerMagentaResURI", "rt": [ "oic.r.consumable" ], "if":
13710 [ "oic.if.s", "oic.if.baseline" ], "eps": [ { "ep": "coaps://[fe80::b1d6]:1122" } ] },
13711                         { "href": "/myTonerYellowResURI", "rt": [ "oic.r.consumable" ], "if":
13712 [ "oic.if.s", "oic.if.baseline" ], "eps": [ { "ep": "coaps://[fe80::b1d6]:1122" } ] }
13713                     ]
13714                 },
13715                 "schema": { "$ref": "#/definitions/consumables" }
13716             }
13717         }
13718     }
13719 },
13720 ],
13721 "parameters": {
13722     "interface-all" : {
13723         "in" : "query",
13724         "name" : "if",
13725         "type" : "string",
13726         "enum" : [ "oic.if.ll", "oic.if.b", "oic.if.baseline" ]
13727     }
13728 },
13729 "definitions": {
13730     "consumables-ll" : {
13731         "items": {
13732             "$ref": "#/definitions/oic.oic-link"
13733         }
13734     }
13735 }

```

```

13733     },
13734     "type": "array"
13735 },
13736 "consumables": {
13737     "properties": {
13738         "rt": {
13739             "items": {
13740                 "enum": [
13741                     "oic.r.consumablecollection",
13742                     "oic.wk.col"
13743                 ],
13744                 "type": "string",
13745                 "maxLength": 64
13746             },
13747             "minItems": 2,
13748             "type": "array",
13749             "readOnly": true,
13750             "uniqueItems": true
13751         },
13752         "supportedconsumables": {
13753             "description": "Array of possible consumables the device measures.",
13754             "items": {
13755                 "type": "string"
13756             },
13757             "readOnly": true,
13758             "type": "array"
13759         },
13760         "links": {
13761             "description": "A set of simple or individual OCF Links.",
13762             "items": {
13763                 "$ref": "#/definitions/oic.oic-link"
13764             },
13765             "type": "array"
13766         },
13767         "n": {
13768             "$ref": "
13769 https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13770 schema.json#/definitions/n"
13771         },
13772         "id": {
13773             "$ref": "
13774 https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
13775 schema.json#/definitions/id"
13776         },
13777         "rts": {
13778             "items": {
13779                 "enum": ["oic.r.consumable"],
13780                 "type": "string",
13781                 "maxLength": 64
13782             },
13783             "minItems": 1,
13784             "type": "array",
13785             "readOnly": true,
13786             "uniqueItems": true
13787         },
13788         "if": {
13789             "description": "The OCF Interfaces supported by this Resource",
13790             "items": {
13791                 "enum": [
13792                     "oic.if.ll",
13793                     "oic.if.b",
13794                     "oic.if.baseline"
13795                 ],
13796                 "type": "string",
13797                 "maxLength": 64
13798             },
13799             "minItems": 1,
13800             "readOnly": true,
13801             "uniqueItems": true,
13802             "type": "array"
13803         }
13804     },

```

```

13805         "type" : "object"
13806     },
13807     "ConsumableCollectionBatch-Retrieve" : {
13808         "type": "array",
13809         "minItems": 1,
13810         "uniqueItems": true,
13811         "items": {
13812             "type": "object",
13813             "additionalProperties": true,
13814             "properties": {
13815                 "href": {
13816                     "$ref":
13817 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13818 schema.json#/definitions/href"
13819                 },
13820                 "rep": {
13821                     "$ref":
13822 "https://openconnectivityfoundation.github.io/IoTDataModels/ConsumableResURI.swagger.json#/definitio
13823 ns/consumable"
13824                 }
13825             },
13826             "required": [
13827                 "href",
13828                 "rep"
13829             ]
13830         },
13831     },
13832     "oic.oic-link": {
13833         "type": "object",
13834         "properties": {
13835             "anchor": {
13836                 "$ref":
13837 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13838 schema.json#/definitions/anchor"
13839             },
13840             "di": {
13841                 "$ref":
13842 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13843 schema.json#/definitions/di"
13844             },
13845             "eps": {
13846                 "$ref":
13847 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13848 schema.json#/definitions/eps"
13849             },
13850             "href": {
13851                 "$ref":
13852 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13853 schema.json#/definitions/href"
13854             },
13855             "ins": {
13856                 "$ref":
13857 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13858 schema.json#/definitions/ins"
13859             },
13860             "p": {
13861                 "$ref":
13862 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13863 schema.json#/definitions/p"
13864             },
13865             "rel": {
13866                 "$ref":
13867 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13868 schema.json#/definitions/rel_array"
13869             },
13870             "title": {
13871                 "$ref":
13872 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13873 schema.json#/definitions/title"
13874             },
13875             "type": {
13876                 "$ref":

```

```

13877 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
13878 schema.json#/definitions/type"
13879 },
13880 "if": {
13881   "description": "The OCF Interfaces supported by the target Resource",
13882   "items": {
13883     "enum": [
13884       "oic.if.s",
13885       "oic.if.baseline"
13886     ],
13887     "type": "string",
13888     "maxLength": 64
13889   },
13890   "minItems": 2,
13891   "uniqueItems": true,
13892   "type": "array",
13893   "readOnly": true
13894 },
13895 "rt": {
13896   "description": "Resource Type of the target Resource",
13897   "items": {
13898     "maxLength": 64,
13899     "type": "string",
13900     "enum": ["oic.r.consumable"]
13901   },
13902   "minItems": 1,
13903   "type": "array",
13904   "uniqueItems": true,
13905   "readOnly": true
13906 },
13907 },
13908 "required": [
13909   "href",
13910   "rt",
13911   "if"
13912 ]
13913 }
13914 }
13915 }
13916

```

13917 6.69.5 Property definition

13918 Table 141 defines the Properties that are part of the "oic.r.consumablecollection, oic.wk.col"
 13919 Resource Type.

13920 **Table 141 – The Property definitions of the Resource with type "rt" =**
 13921 **"oic.r.consumablecollection, oic.wk.col".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema		Read Only	
supportedconsumables	array: see schema		Read Only	Array of possible consumables the device measures.
links	array: see schema		Read Write	A set of simple or individual OCF Links.
n	multiple types: see schema		Read Write	
id	multiple types: see schema		Read Write	
rts	array: see schema		Read Only	
if	array: see schema		Read Only	The OCF Interfaces supported by this Resource

href	multiple types: see schema	Yes	Read Write	
rep	multiple types: see schema	Yes	Read Write	
anchor	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
ins	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
rel	multiple types: see schema	No	Read Write	
title	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	
if	array: see schema	Yes	Read Only	The OCF Interfaces supported by the target Resource
rt	array: see schema	Yes	Read Only	Resource Type of the target Resource

6.69.6 CRUDN behaviour

Table 142 defines the CRUDN operations that are supported on the "oic.r.consumablecollection, oic.wk.col" Resource Type.

Table 142 – The CRUDN operations of the Resource with type "rt" = "oic.r.consumablecollection, oic.wk.col".

Create	Read	Update	Delete	Notify
	get			observe

6.70 Delay Defrost

6.70.1 Introduction

This Resource describes the delay defrost function as defined by the US Energy Star Specifications.

See Energy Star Refrigerator Requirements Version 5 Section 4).

(<https://www.energystar.gov/sites/default/files/specs//private/ENERGY%20STAR%20Final%20Version%205.0%20Residential%20Refrigerators%20and%20Freezers%20Program%20Requirements.pdf>)

The Property "status" is a boolean indicating whether the function is on, if off then defrost is scheduled as part of normal device operation.

The Property "startTime" is an ISO8601 encoded start time for the interval in which defrost shall not occur.

The Property "stopTime" is an ISO8601 encoded stop time for the interval in which defrost shall not occur.

The Property "interval" with additional range restrictions is the time in minutes of the period that starts at starttime (if not present the default is 240).

13943 The Properties "stopTime" and "interval" are mutually exclusive; they cannot both be present in a
13944 Resource instance.

13945 **6.70.2 Example URI**

13946 /DelayDefrostResURI

13947 **6.70.3 Resource type**

13948 The Resource Type is defined as: "oic.r.delaydefrost".

13949 **6.70.4 OpenAPI 2.0 definition**

```
13950 {  
13951   "swagger": "2.0",  
13952   "info": {  
13953     "title": "Delay Defrost",  
13954     "version": "20190215",  
13955     "license": {  
13956       "name": "OCF Data Model License",  
13957       "url":  
13958         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
13959         CENSE.md",  
13960       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
13961       reserved."  
13962     },  
13963     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
13964   },  
13965   "schemes": ["http"],  
13966   "consumes": ["application/json"],  
13967   "produces": ["application/json"],  
13968   "paths": {  
13969     "/DelayDefrostResURI" : {  
13970       "get": {  
13971         "description": "This Resource describes the delay defrost function as defined by the US  
13972         Energy Star Specifications.\nSee Energy Star Refrigerator Requirements Version 5 Section  
13973         4).\n(https://www.energystar.gov/sites/default/files/specs//private/ENERGY%20STAR%20Final%20Version%  
13974         205.0%20Residential%20Refrigerators%20and%20Freezers%20Program%20Requirements.pdf)\nThe Property  
13975         \"status\" is a boolean indicating whether the function is on, if off then defrost is scheduled as  
13976         part of normal device operation.\nThe Property \"startTime\" is an ISO8601 encoded start time for  
13977         the interval in which defrost shall not occur.\nThe Property \"stopTime\" is an ISO8601 encoded stop  
13978         time for the interval in which defrost shall not occur.\nThe Property \"interval\" with additional  
13979         range restrictions is the time in minutes of the period that starts at starttime (if not present the  
13980         default is 240).\nThe Properties \"stopTime\" and \"interval\" are mutually exclusive; they cannot  
13981         both be present in a Resource instance.",  
13982         "parameters": [  
13983           { "$ref": "#/parameters/interface" }  
13984         ],  
13985         "responses": {  
13986           "200": {  
13987             "description": "",  
13988             "x-example":  
13989               {  
13990                 "rt": ["oic.r.delaydefrost"],  
13991                 "if": ["oic.if.a", "oic.if.baseline"],  
13992                 "startTime": "T06:00:00Z",  
13993                 "status": false  
13994               },  
13995             "schema": { "$ref": "#/definitions/DelayDefrost" }  
13996           }  
13997         }  
13998       },  
13999       "post": {  
14000         "description": "Activates the desired Delay Defrost functions\n",  
14001         "parameters": [  
14002           { "$ref": "#/parameters/interface" },  
14003           {  
14004             "name": "body",  
14005             "in": "body",  
14006             "required": true,  
14007             "schema": { "$ref": "#/definitions/DelayDefrost" }  
14008           }  
14009         ]  
14010       }  
14011     }  
14012   }  
14013 }
```

```

14008         "x-example":
14009             {
14010                 "status": true,
14011                 "startTime": "T06:00:00Z",
14012                 "interval": 180
14013             }
14014     },
14015     "responses": {
14016         "200": {
14017             "description": "Indicates that the DelayDefrost function was changed.\n\nThe new
14018 representation may be provided in the response.\n",
14019             "x-example":
14020                 {
14021                     "status": true,
14022                     "startTime": "T06:00:00Z",
14023                     "interval": 180
14024                 }
14025             ,
14026             "schema": { "$ref": "#/definitions/DelayDefrost" }
14027         },
14028         "403": {
14029             "description": "Indicates the update to the time properties was rejected.\n\nReasons
14030 for rejection:\n\n invalid time entry\n\nThe current unchanged representation may be provided in the
14031 response.\n",
14032             "x-example":
14033                 {
14034                     "status": true,
14035                     "startTime": "T06:00:00Z",
14036                     "interval": 180
14037                 }
14038             ,
14039             "schema": { "$ref": "#/definitions/DelayDefrost" }
14040         }
14041     }
14042 },
14043 {
14044 },
14045 "parameters": {
14046     "interface": {
14047         "in": "query",
14048         "name": "if",
14049         "type": "string",
14050         "enum": ["oic.if.a", "oic.if.baseline"]
14051     }
14052 },
14053 "definitions": {
14054     "DelayDefrost" : {
14055         "properties": {
14056             "rt": {
14057                 "description": "The Resource Type.",
14058                 "items": {
14059                     "enum": ["oic.r.delaydefrost"],
14060                     "maxLength": 64,
14061                     "type": "string"
14062                 },
14063                 "minItems": 1,
14064                 "uniqueItems": true,
14065                 "readOnly": true,
14066                 "type": "array"
14067             },
14068             "status": {
14069                 "description": "Indicates whether any supported delay defrost function is active.",
14070                 "type": "boolean"
14071             },
14072             "interval": {
14073                 "description": "Defrost interval as defined by Energy Star.",
14074                 "minimum": 1,
14075                 "maximum": 1440,
14076                 "default": 240,
14077                 "type": "integer"
14078             },
14079             "stopTime": {

```



```

14080         "description": "Stop time for the time period, if present interval cannot be present.
14081 This is the time of day at which the delay interval stops.",
14082         "type": "string",
14083         "pattern": "^T([0-2][0-9]:[0-5][0-9]:[0-5][0-9])([zZ]|([\\+|-])([01]\\d|2[0-3]))?([0-
14084 5]\\d))$"
14085     },
14086     "startTime": {
14087         "description": "Start time for the time period. This is the time of day at which the delay
14088 interval starts.",
14089         "type": "string",
14090         "pattern": "^T([0-2][0-9]:[0-5][0-9]:[0-5][0-9])([zZ]|([\\+|-])([01]\\d|2[0-3]))?([0-
14091 5]\\d))$"
14092     },
14093     "n": {
14094         "$ref":
14095 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14096 schema.json#/definitions/n"
14097     },
14098     "id": {
14099         "$ref":
14100 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14101 schema.json#/definitions/id"
14102     },
14103     "if": {
14104         "description": "The OCF Interface set supported by this Resource.",
14105         "items": {
14106             "enum": [
14107                 "oic.if.a",
14108                 "oic.if.baseline"
14109             ],
14110             "type": "string"
14111         },
14112         "minItems": 2,
14113         "uniqueItems": true,
14114         "readOnly": true,
14115         "type": "array"
14116     }
14117 },
14118 "type": "object"
14119 }
14120 }
14121 }
14122

```

6.70.5 Property definition

Table 143 defines the Properties that are part of the "oic.r.delaydefrost" Resource Type.

Table 143 – The Property definitions of the Resource with type "rt" = "oic.r.delaydefrost".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema		Read Only	The Resource Type.
status	boolean		Read Write	Indicates whether any supported delay defrost function is active.
interval	integer		Read Write	Defrost interval as defined by Energy Star.
stopTime	string		Read Write	Stop time for the time period, if present interval cannot be present. This is the time of day at which the delay interval stops.
startTime	string		Read Write	Start time for the time period. This is

				the time of day at which the delay interval starts.
n	multiple types: see schema		Read Write	
id	multiple types: see schema		Read Write	
if	array: see schema		Read Only	The OCF Interface set supported by this Resource.

6.70.6 CRUDN behaviour

Table 144 defines the CRUDN operations that are supported on the "oic.r.delaydefrost" Resource Type.

Table 144 – The CRUDN operations of the Resource with type "rt" = "oic.r.delaydefrost".

Create	Read	Update	Delete	Notify
	get	post		observe

6.71 Eco Mode

6.71.1 Introduction

This Resource specifies the supported and currently active Eco Mode of a Device

The Resource is a derivative of the Mode Resource (oic.r.mode) with a restriction that the population of supportedmodes and modes Properties is restricted to the set of values:

"disabled","enabled","notsupported".

The adminforced Property indicates that the value has been set by another party (e.g. via some offboard Smart Energy interaction)

6.71.2 Example URI

/EcomodeResURI

6.71.3 Resource type

The Resource Type is defined as: "oic.r.ecomode".

6.71.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Eco Mode",
    "version": "20190215",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/EcomodeResURI" : {
      "get": {
        "description": "This Resource specifies the supported and currently active Eco Mode of a
Device\nThe Resource is a derivative of the Mode Resource (oic.r.mode) with a restriction that the
```

```

14167 population of supportedmodes and modes Properties is restricted to the set of
14168 values:\n\"disabled\", \"enabled\", \"notsupported\".\n\nThe adminforced Property indicates that the
14169 value has been set by another party (e.g. via some offboard Smart Energy interaction)\n\",
14170     \"parameters\": [
14171         { \"$ref\": \"#/parameters/interface\"}
14172     ],
14173     \"responses\": {
14174         \"200\": {
14175             \"description\" : \"\",
14176             \"x-example\":
14177                 {
14178                     \"rt\": [\"oic.r.ecomode\"],
14179                     \"if\": [\"oic.if.a\", \"oic.if.baseline\"],
14180                     \"supportedModes\": [\"disabled\", \"enabled\"],
14181                     \"modes\": [\"disabled\"],
14182                     \"adminforced\": false
14183                 },
14184             \"schema\": { \"$ref\": \"#/definitions/ecomode\" }
14185         }
14186     },
14187 },
14188 \"post\": {
14189     \"description\": \"\",
14190     \"parameters\": [
14191         { \"$ref\": \"#/parameters/interface\"},
14192         {
14193             \"name\": \"body\",
14194             \"in\": \"body\",
14195             \"required\": true,
14196             \"schema\": { \"$ref\": \"#/definitions/ecomode-update\" },
14197             \"x-example\":
14198                 {
14199                     \"modes\": [\"enabled\"]
14200                 }
14201         }
14202     ],
14203     \"responses\": {
14204         \"200\": {
14205             \"description\" : \"\",
14206             \"x-example\":
14207                 {
14208                     \"modes\": [\"enabled\"]
14209                 },
14210             \"schema\": { \"$ref\": \"#/definitions/ecomode-update\" }
14211         }
14212     }
14213 },
14214 },
14215 },
14216 \"parameters\": {
14217     \"interface\": {
14218         \"in\": \"query\",
14219         \"name\": \"if\",
14220         \"type\": \"string\",
14221         \"enum\": [\"oic.if.a\", \"oic.if.baseline\"]
14222     }
14223 },
14224 \"definitions\": {
14225     \"ecomode\" : {
14226         \"properties\": {
14227             \"rt\": {
14228                 \"description\": \"The Resource Type.\",
14229                 \"items\": {
14230                     \"enum\": [\"oic.r.ecomode\"],
14231                     \"maxLength\": 64,
14232                     \"type\": \"string\"
14233                 },
14234                 \"minItems\": 1,
14235                 \"uniqueItems\": true,
14236                 \"readOnly\": true,
14237                 \"type\": \"array\"
14238             },

```

```

14239     "modes": {
14240         "description": "The array of the currently active mode(s).",
14241         "items": {
14242             "enum": ["disabled", "enabled", "notsupported"],
14243             "type": "string"
14244         },
14245         "uniqueItems": true,
14246         "type": "array"
14247     },
14248     "supportedModes": {
14249         "description": "The array of possible modes the device supports.",
14250         "items": {
14251             "enum": ["disabled", "enabled", "notsupported"],
14252             "type": "string"
14253         },
14254         "readOnly": true,
14255         "type": "array"
14256     },
14257     "adminforced": {
14258         "description": "The indicator that the current mode of operation has been forced by admin
14259 action.",
14260         "readOnly": true,
14261         "type": "boolean"
14262     },
14263     "n": {
14264         "$ref":
14265         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14266         schema.json#/definitions/n"
14267     },
14268     "id": {
14269         "$ref":
14270         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14271         schema.json#/definitions/id"
14272     },
14273     "if": {
14274         "description": "The OCF Interface set supported by this Resource.",
14275         "items": {
14276             "enum": [
14277                 "oic.if.a",
14278                 "oic.if.baseline"
14279             ],
14280             "type": "string"
14281         },
14282         "minItems": 2,
14283         "uniqueItems": true,
14284         "readOnly": true,
14285         "type": "array"
14286     }
14287 },
14288 "type": "object",
14289 "required": ["supportedModes", "modes"]
14290 },
14291 "ecomode-update" : {
14292     "properties": {
14293         "modes": {
14294             "description": "The desired mode.",
14295             "items": {
14296                 "enum": ["disabled", "enabled", "notsupported"],
14297                 "type": "string"
14298             },
14299             "type": "array"
14300         }
14301     },
14302     "type": "object",
14303     "required": ["modes"]
14304 }
14305 }
14306 }
14307

```

6.71.5 Property definition

Table 145 defines the Properties that are part of the "oic.r.ecomode" Resource Type.
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14310 **Table 145 – The Property definitions of the Resource with type "rt" = "oic.r.ecomode".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
modes	array: see schema	Yes	Read Write	The array of the currently active mode(s).
supportedModes	array: see schema	Yes	Read Only	The array of possible modes the device supports.
adminforced	boolean	No	Read Only	The indicator that the current mode of operation has been forced by admin action.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
modes	array: see schema	Yes	Read Write	The desired mode.

14311 **6.71.6 CRUDN behaviour**

14312 Table 146 defines the CRUDN operations that are supported on the "oic.r.ecomode" Resource
 14313 Type.

14314 **Table 146 – The CRUDN operations of the Resource with type "rt" = "oic.r.ecomode".**

Create	Read	Update	Delete	Notify
	get	post		observe

14315 **6.72 Heating Zone**

14316 **6.72.1 Introduction**

14317 This Resource provides information about the status of a (single) heating zone of a Cook-Top.
 14318 It describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the device
 14319 implements pot recognition).

14320 The Property "maxheatinglevel" defines the max level for the heating zone

14321 The Property "heatinglevel" is the current heating level of the zone

14322 For each element, the value range is from 0 (indication that the zone is not heating) to
 14323 "maxheatinglevel".

14324 **6.72.2 Example URI**

14325 /HeatingZoneResURI

14326 **6.72.3 Resource type**

14327 The Resource Type is defined as: "oic.r.heatingzone".

14328 **6.72.4 OpenAPI 2.0 definition**

14329 {
 14330 "swagger": "2.0",
 14331 "info": {
 14332 "title": "Heating Zone",
 14333 "version": "20190215",
 14334 "license": {

```

14335         "name": "OCF Data Model License",
14336         "url":
14337 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
14338 CENSE.md",
14339         "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
14340 reserved.",
14341     },
14342     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
14343 },
14344 "schemas": ["http"],
14345 "consumes": ["application/json"],
14346 "produces": ["application/json"],
14347 "paths": {
14348     "/HeatingZoneResURI" : {
14349         "get": {
14350             "description": "This Resource provides information about the status of a (single) heating
14351 zone of a Cook-Top.\nIt describes the case of a Cook-Top whose zones can be activated dynamically
14352 (i.e. the device implements pot recognition).\nThe Property \"maxheatinglevel\" defines the max
14353 level for the heating zone\nThe Property \"heatinglevel\" is the current heating level of the zone\n
14354 For each element, the value range is from 0 (indication that the zone is not heating) to
14355 \"maxheatinglevel\".",
14356             "parameters": [
14357                 { "$ref": "#/parameters/interface" }
14358             ],
14359             "responses": {
14360                 "200": {
14361                     "description": "RETRIEVES the current heating zone information.",
14362                     "x-example":
14363                     {
14364                         "rt": ["oic.r.heatingzone"],
14365                         "if": ["oic.if.s", "oic.if.baseline"],
14366                         "maxheatinglevel": 6,
14367                         "heatinglevel": 0
14368                     },
14369                     "schema": { "$ref": "#/definitions/HeatingZone" }
14370                 }
14371             }
14372         }
14373     }
14374 },
14375 "parameters": {
14376     "interface": {
14377         "in": "query",
14378         "name": "if",
14379         "type": "string",
14380         "enum": ["oic.if.s", "oic.if.baseline"]
14381     }
14382 },
14383 "definitions": {
14384     "HeatingZone" : {
14385         "properties": {
14386             "rt": {
14387                 "description": "The Resource Type.",
14388                 "items": {
14389                     "enum": ["oic.r.heatingzone"],
14390                     "maxLength": 64,
14391                     "type": "string"
14392                 },
14393                 "minItems": 1,
14394                 "uniqueItems": true,
14395                 "readOnly": true,
14396                 "type": "array"
14397             },
14398             "heatinglevel": {
14399                 "description": "The current heating level for the zone.",
14400                 "readOnly": true,
14401                 "type": "integer"
14402             },
14403             "maxheatinglevel": {
14404                 "description": "The maximum heating level for the zone.",
14405                 "readOnly": true,
14406                 "type": "integer"

```

```

14407     },
14408     "n": {
14409         "$ref":
14410         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14411         schema.json#/definitions/n"
14412     },
14413     "id": {
14414         "$ref":
14415         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14416         schema.json#/definitions/id"
14417     },
14418     "if": {
14419         "description": "The OCF Interface set supported by this Resource.",
14420         "items": {
14421             "enum": [
14422                 "oic.if.s",
14423                 "oic.if.baseline"
14424             ],
14425             "type": "string"
14426         },
14427         "minItems": 2,
14428         "uniqueItems": true,
14429         "readOnly": true,
14430         "type": "array"
14431     }
14432 },
14433 "type": "object",
14434 "required": ["maxheatinglevel", "heatinglevel"]
14435 }
14436 }
14437 }
14438

```

14439 6.72.5 Property definition

14440 Table 147 defines the Properties that are part of the "oic.r.heatingzone" Resource Type.

14441 **Table 147 – The Property definitions of the Resource with type "rt" = "oic.r.heatingzone".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
heatinglevel	integer	Yes	Read Only	The current heating level for the zone.
maxheatinglevel	integer	Yes	Read Only	The maximum heating level for the zone.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

14442 6.72.6 CRUDN behaviour

14443 Table 148 defines the CRUDN operations that are supported on the "oic.r.heatingzone" Resource Type.
14444

14445 **Table 148 – The CRUDN operations of the Resource with type "rt" = "oic.r.heatingzone".**

Create	Read	Update	Delete	Notify
	get			observe

14446 6.73 Heating Zone Collection

14447 6.73.1 Introduction

14448 This Resource provides information about the status of the heating zones of a Cook-Top.
14449 It describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the device
14450 implements pot recognition).

14451 The resource is a Collection of instances of oic.r.heatingzone detailing the individual cooktop
14452 zones

14453 Retrieves the current heating zone information.

14454

14455 6.73.2 Example URI

14456 /HeatingZoneResURI

14457 6.73.3 Resource type

14458 The Resource Type is defined as: "oic.r.heatingzonecollection, oic.wk.col".

14459 6.73.4 OpenAPI 2.0 definition

```
14460 {
14461   "swagger": "2.0",
14462   "info": {
14463     "title": "Heating Zone Collection",
14464     "version": "20190613",
14465     "license": {
14466       "name": "OCF Data Model License",
14467       "url":
14468         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
14469         CENSE.md",
14470       "x-copyright": "copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
14471     },
14472     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
14473   },
14474   "schemes": ["http"],
14475   "consumes": ["application/json"],
14476   "produces": ["application/json"],
14477   "paths": {
14478     "/HeatingZoneResURI?if=oic.if.ll" : {
14479       "get": {
14480         "description": "This Resource provides information about the status of the heating zones of
14481         a Cook-Top.\nIt describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the
14482         device implements pot recognition).\nThe resource is a Collection of instances of oic.r.heatingzone
14483         detailing the individual cooktop zones\n",
14484         "parameters": [
14485           { "$ref": "#/parameters/interface-all" }
14486         ],
14487         "responses": {
14488           "200": {
14489             "description": "",
14490             "x-example":
14491               [
14492                 { "href": "/myZone1ResURI", "rt": ["oic.r.heatingzone"], "if":
14493                 ["oic.if.s","oic.if.baseline"], "eps": [{ "ep": "coaps://[fe80::b1d6]:1122"} ] },
14494                 { "href": "/myZone2ResURI", "rt": ["oic.r.heatingzone"], "if":
14495                 ["oic.if.s","oic.if.baseline"], "eps": [{ "ep": "coaps://[fe80::b1d6]:1122"} ] },
14496                 { "href": "/myZone3ResURI", "rt": ["oic.r.heatingzone"], "if":
14497                 ["oic.if.s","oic.if.baseline"], "eps": [{ "ep": "coaps://[fe80::b1d6]:1122"} ] },
14498                 { "href": "/myZone4ResURI", "rt": ["oic.r.heatingzone"], "if":
14499                 ["oic.if.s","oic.if.baseline"], "eps": [{ "ep": "coaps://[fe80::b1d6]:1122"} ] }
14500               ],
14501             "schema": { "$ref": "#/definitions/HeatingZone-ll" }
14502           }
14503         }
14504       }
14505     },
14506     "/HeatingZoneResURI?if=oic.if.b": {
14507       "get": {
```



```

14508         "description": "This Resource provides information about the status of the heating zones of
14509 a Cook-Top.\nIt describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the
14510 device implements pot recognition).\nThe resource is a Collection of instances of oic.r.heatingzone
14511 detailing the individual cooktop zones\n",
14512         "parameters": [
14513             { "$ref": "#/parameters/interface-all" }
14514         ],
14515         "responses": {
14516             "200": {
14517                 "description" : "",
14518                 "x-example": [
14519                     {
14520                         "href": "/heatingZoneLeftResURI",
14521                         "rep": {
14522                             "maxheatinglevel": 6,
14523                             "heatinglevel": 0
14524                         }
14525                     },
14526                     {
14527                         "href": "/heatingZoneRightResURI",
14528                         "rep": {
14529                             "maxheatinglevel": 6,
14530                             "heatinglevel": 3
14531                         }
14532                     }
14533                 ],
14534                 "schema": { "$ref": "#/definitions/HeatingZoneCollectionBatch-Retrieve" }
14535             }
14536         }
14537     },
14538     "/HeatingZoneResURI?if=oic.if.baseline" : {
14539         "get": {
14540             "description": "This Resource provides information about the status of the heating zones of
14541 a Cook-Top.\nIt describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the
14542 device implements pot recognition).\nThe resource is a Collection of instances of oic.r.heatingzone
14543 detailing the individual cooktop zones\nRetrieves the current heating zone information.\n",
14544             "parameters": [
14545                 { "$ref": "#/parameters/interface-all" }
14546             ],
14547             "responses": {
14548                 "200": {
14549                     "description" : "",
14550                     "x-example":
14551                     {
14552                         "rt": [ "oic.r.heatingzonecollection", "oic.wk.col" ],
14553                         "if": [ "oic.if.ll", "oic.if.b", "oic.if.baseline" ],
14554                         "rts": [ "oic.r.heatingzone" ],
14555                         "links": [
14556                             { "href": "/myZone1ResURI", "rt": [ "oic.r.heatingzone" ], "if":
14557 ["oic.if.s", "oic.if.baseline"], "eps": [ { "ep": "coaps://[fe80::b1d6]:1122" } ] },
14558                             { "href": "/myZone2ResURI", "rt": [ "oic.r.heatingzone" ], "if":
14559 ["oic.if.s", "oic.if.baseline"], "eps": [ { "ep": "coaps://[fe80::b1d6]:1122" } ] },
14560                             { "href": "/myZone3ResURI", "rt": [ "oic.r.heatingzone" ], "if":
14561 ["oic.if.s", "oic.if.baseline"], "eps": [ { "ep": "coaps://[fe80::b1d6]:1122" } ] },
14562                             { "href": "/myZone4ResURI", "rt": [ "oic.r.heatingzone" ], "if":
14563 ["oic.if.s", "oic.if.baseline"], "eps": [ { "ep": "coaps://[fe80::b1d6]:1122" } ] }
14564                         ]
14565                     },
14566                     "schema": { "$ref": "#/definitions/HeatingZone" }
14567                 }
14568             }
14569         }
14570     }
14571 },
14572 {
14573     "parameters": {
14574         "interface-all" : {
14575             "in" : "query",
14576             "name" : "if",
14577             "type" : "string",
14578             "enum" : [ "oic.if.ll", "oic.if.b", "oic.if.baseline" ]
14579         }
14580     }

```

```

14580 },
14581 "definitions": {
14582   "HeatingZone-ll" : {
14583     "items": {
14584       "$ref": "#/definitions/oic.oic-link"
14585     },
14586     "type": "array",
14587     "minItems": 1,
14588     "uniqueItems": true,
14589     "readOnly": true
14590   },
14591   "oic.oic-link": {
14592     "type": "object",
14593     "properties": {
14594       "anchor": {
14595         "$ref":
14596 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14597 schema.json#/definitions/anchor"
14598       },
14599       "di": {
14600         "$ref":
14601 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14602 schema.json#/definitions/di"
14603       },
14604       "eps": {
14605         "$ref":
14606 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14607 schema.json#/definitions/eps"
14608       },
14609       "href": {
14610         "$ref":
14611 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14612 schema.json#/definitions/href"
14613       },
14614       "ins": {
14615         "$ref":
14616 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14617 schema.json#/definitions/ins"
14618       },
14619       "p": {
14620         "$ref":
14621 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14622 schema.json#/definitions/p"
14623       },
14624       "rel": {
14625         "$ref":
14626 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14627 schema.json#/definitions/rel_array"
14628       },
14629       "title": {
14630         "$ref":
14631 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14632 schema.json#/definitions/title"
14633       },
14634       "type": {
14635         "$ref":
14636 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14637 schema.json#/definitions/type"
14638       },
14639       "if": {
14640         "description": "The OCF Interfaces supported by the target Resource",
14641         "items": {
14642           "enum": [
14643             "oic.if.s",
14644             "oic.if.baseline"
14645           ],
14646           "type": "string",
14647           "maxLength": 64
14648         },
14649         "minItems": 2,
14650         "uniqueItems": true,
14651         "type": "array",

```

```

14652         "readOnly": true
14653     },
14654     "rt": {
14655         "description": "Resource Type of the target Resource",
14656         "items": {
14657             "maxLength": 64,
14658             "type": "string",
14659             "enum": ["oic.r.heatingzone"]
14660         },
14661         "minItems": 1,
14662         "type": "array",
14663         "uniqueItems": true,
14664         "readOnly": true
14665     }
14666 },
14667 "required": [
14668     "href",
14669     "rt",
14670     "if"
14671 ],
14672 },
14673 "HeatingZone" : {
14674     "properties": {
14675         "rt": {
14676             "items": {
14677                 "enum": [
14678                     "oic.r.heatingzonecollection",
14679                     "oic.wk.col"
14680                 ],
14681                 "type": "string",
14682                 "maxLength": 64
14683             },
14684             "minItems": 2,
14685             "type": "array",
14686             "uniqueItems": true
14687         },
14688         "links": {
14689             "items": {
14690                 "$ref": "#/definitions/oic.oic-link"
14691             },
14692             "type": "array",
14693             "minItems": 1,
14694             "uniqueItems": true,
14695             "readOnly": true
14696         },
14697         "n": {
14698             "$ref" :
14699 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14700 schema.json#/definitions/n"
14701         },
14702         "id": {
14703             "$ref" :
14704 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
14705 schema.json#/definitions/id"
14706         },
14707         "rts": {
14708             "items": {
14709                 "enum": ["oic.r.heatingzone"],
14710                 "type": "string",
14711                 "maxLength": 64
14712             },
14713             "minItems": 1,
14714             "type": "array",
14715             "readOnly": true,
14716             "uniqueItems": true
14717         },
14718         "if": {
14719             "description": "The OCF Interfaces supported by this Resource",
14720             "items": {
14721                 "enum": [
14722                     "oic.if.ll",
14723                     "oic.if.b",

```

```

14724         "oic.if.baseline"
14725     ],
14726     "type": "string",
14727     "maxLength": 64
14728 },
14729     "minItems": 1,
14730     "readOnly": true,
14731     "uniqueItems": true,
14732     "type": "array"
14733 }
14734 },
14735 "type" : "object"
14736 },
14737 "HeatingZoneCollectionBatch-Retrieve" : {
14738     "type": "array",
14739     "minItems": 1,
14740     "uniqueItems": true,
14741     "items": {
14742         "type": "object",
14743         "additionalProperties": true,
14744         "properties": {
14745             "href": {
14746                 "$ref":
14747 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
14748 schema.json#/definitions/href"
14749             },
14750             "rep": {
14751                 "$ref":
14752 "https://openconnectivityfoundation.github.io/IoTDataModels/HeatingZoneResURI.swagger.json#/definiti
14753 ons/HeatingZone"
14754             }
14755         },
14756         "required": [
14757             "href",
14758             "rep"
14759         ]
14760     }
14761 }
14762 }
14763 }
14764

```

6.73.5 Property definition

Table 149 defines the Properties that are part of the "oic.r.heatingzonecollection, oic.wk.col" Resource Type.

Table 149 – The Property definitions of the Resource with type "rt" = "oic.r.heatingzonecollection, oic.wk.col".

Property name	Value type	Mandatory	Access mode	Description
anchor	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
ins	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
rel	multiple types: see schema	No	Read Write	

title	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	
if	array: see schema	Yes	Read Only	The OCF Interfaces supported by the target Resource
rt	array: see schema	Yes	Read Only	Resource Type of the target Resource
rt	array: see schema		Read Write	
links	array: see schema		Read Only	
n	multiple types: see schema		Read Write	
id	multiple types: see schema		Read Write	
rts	array: see schema		Read Only	
if	array: see schema		Read Only	The OCF Interfaces supported by this Resource
href	multiple types: see schema	Yes	Read Write	
rep	multiple types: see schema	Yes	Read Write	

14770 6.73.6 CRUDN behaviour

14771 Table 150 defines the CRUDN operations that are supported on the "oic.r.heatingzonecollection,
14772 oic.wk.col" Resource Type.

Table 150 – The CRUDN operations of the Resource with type "rt" = "oic.r.heatingzonecollection, oic.wk.col".

Create	Read	Update	Delete	Notify
	get			observe

14775 6.74 Selectable Levels

14776 6.74.1 Introduction

14777 This Resource provides a set of device defined levels that can be selected for an operation.
14778 For example where a humidifier has a discrete set that model different humidity levels that can be
14779 set.

14780 The Property "availablelevels" is an array of the levels that can be selected, these can be a
14781 number or an integer (as subset of integer).

14782 The Property "targetlevel" is the level that has currently been selected and is written to in order to
14783 select a new level.

14784 When retrieved the targetlevel provides the actual value that has been selected.

14785 6.74.2 Example URI

14786 /SelectableLevelsResURI

14787 6.74.3 Resource type

14788 The Resource Type is defined as: "oic.r.selectablelevels".

6.74.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Selectable Levels",
    "version": "20190215",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/SelectableLevelsResURI" : {
      "get": {
        "description": "This Resource provides a set of device defined levels that can be selected
for an operation.\nFor example where a humidifier has a discrete set that model different humidity
levels that can be set.\nThe Property \"availablelevels\" is an array of the levels that can be
selected, these can be a number or an integer (as subset of integer).\nThe Property \"targetlevel\"
is the level that has currently been selected and is written to in order to select a new
level.\nWhen retrieved the targetlevel provides the actual value that has been selected.",
        "parameters": [
          {"$ref": "#/parameters/interface"}
        ],
        "responses": {
          "200": {
            "description": "Example is using integers for selection levels.",
            "x-example":
{
          "rt": ["oic.r.selectablelevels"],
          "if": ["oic.if.a", "oic.if.baseline"],
          "availablelevels": [0, 2, 4, 6, 8],
          "targetlevel": 2
        },
            "schema": { "$ref": "#/definitions/SelectableLevels" }
          }
        },
        "post": {
          "description": "Sets the current level from the set \"availablelevels\".",
          "parameters": [
            {"$ref": "#/parameters/interface"},
            {
              "name": "body",
              "in": "body",
              "required": true,
              "schema": { "$ref": "#/definitions/UpdateSchema" },
              "x-example":
{
                "targetlevel": 4
              }
            }
          ],
          "responses": {
            "200": {
              "description": "",
              "x-example":
{
                "targetlevel": 4
              },
              "schema": { "$ref": "#/definitions/UpdateSchema" }
            },
            "403": {
              "description": "Generated by a OCF Server when an attempt is made to update to a
```

```

14860 targetlevel that is not in the set of availablelevels",
14861     "x-example":
14862     {
14863         "availablelevels": [0, 2, 4, 6, 8],
14864         "targetlevel": 2
14865     },
14866     "schema": { "$ref": "#/definitions/SelectableLevels" }
14867 }
14868 }
14869 }
14870 }
14871 },
14872 "parameters": {
14873     "interface": {
14874         "in": "query",
14875         "name": "if",
14876         "type": "string",
14877         "enum": ["oic.if.a", "oic.if.baseline"]
14878     }
14879 },
14880 "definitions": {
14881     "SelectableLevels" : {
14882         "properties": {
14883             "rt": {
14884                 "description": "The Resource Type.",
14885                 "items": {
14886                     "enum": ["oic.r.selectablelevels"],
14887                     "maxLength": 64,
14888                     "type": "string"
14889                 },
14890                 "minItems": 1,
14891                 "uniqueItems": true,
14892                 "readOnly": true,
14893                 "type": "array"
14894             },
14895             "targetlevel": {
14896                 "description": "The target level from the available selectable set.",
14897                 "type": "number"
14898             },
14899             "availablelevels": {
14900                 "description": "The set of levels to select from.",
14901                 "items": {
14902                     "type": "number"
14903                 },
14904                 "readOnly": true,
14905                 "type": "array"
14906             },
14907             "if": {
14908                 "description": "The OCF Interface set supported by this Resource.",
14909                 "items": {
14910                     "enum": [
14911                         "oic.if.a",
14912                         "oic.if.baseline"
14913                     ],
14914                     "type": "string"
14915                 },
14916                 "minItems": 2,
14917                 "uniqueItems": true,
14918                 "readOnly": true,
14919                 "type": "array"
14920             }
14921         },
14922         "type": "object",
14923         "required": ["availablelevels", "targetlevel"]
14924     },
14925     "UpdateSchema" : {
14926         "properties": {
14927             "targetlevel": {
14928                 "description": "The target level from the available selectable set",
14929                 "type": "number"
14930             }
14931         },

```

```

14932     "type": "object",
14933     "required": ["targetlevel"]
14934   }
14935 }
14936 }
14937

```

6.74.5 Property definition

Table 151 defines the Properties that are part of the "oic.r.selectablelevels" Resource Type.

Table 151 – The Property definitions of the Resource with type "rt" = "oic.r.selectablelevels".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
targetlevel	number	Yes	Read Write	The target level from the available selectable set.
availablelevels	array: see schema	Yes	Read Only	The set of levels to select from.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
targetlevel	number	Yes	Read Write	The target level from the available selectable set

6.74.6 CRUDN behaviour

Table 152 defines the CRUDN operations that are supported on the "oic.r.selectablelevels" Resource Type.

Table 152 – The CRUDN operations of the Resource with type "rt" = "oic.r.selectablelevels".

Create	Read	Update	Delete	Notify
	get	post		observe

6.75 Value Conditional

6.75.1 Introduction

This Resource specifies conditions that can be applied to an observed value in any Resource.

These conditions are applied by the OCF Server exposing the Resource to any generated notifications because of subscriptions to the Resource.

A unicast RETRIEVE to the Resource will receive the most recent value; which may not be the most recent notified value.

An OCF Server exposes this Resource in association with the Resource conveying the observed value.

This is done by means of a new Resource instance with an RT of ["oic.r.<thing being observed>", "oic.r.value.conditional"], e.g ["oic.r.temperature", "oic.r.value.conditional"].

The Property "threshold" is the amount by which the thing being observed must change before a notification is sent.

The Property "minnotifyperiod" is the minimum time in ms (milliseconds) that must elapse before a notification is sent.

If the maxnotifyperiod (time in ms (milliseconds)) elapses then a notification must be sent.

The Property "maxnotifyperiod" is a timer that resets each time a notification is sent.

A value of '0' for any of "threshold", "minnotifyperiod" or "maxnotifyperiod" means that the capability is supported but not active.

14966 6.75.2 Example URI

14967 /ValueConditionalResURI

14968 6.75.3 Resource type

14969 The Resource Type is defined as: "oic.r.value.conditional".

14970 6.75.4 OpenAPI 2.0 definition

```
14971 {
14972   "swagger": "2.0",
14973   "info": {
14974     "title": "Value Conditional",
14975     "version": "20190215",
14976     "license": {
14977       "name": "OCF Data Model License",
14978       "url":
14979         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
14980 CENSE.md",
14981       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
14982 reserved."
14983     },
14984     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
14985   },
14986   "schemes": ["http"],
14987   "consumes": ["application/json"],
14988   "produces": ["application/json"],
14989   "paths": {
14990     "/ValueConditionalResURI" : {
14991       "get": {
14992         "description": "This Resource specifies conditions that can be applied to an observed value
14993 in any Resource.\nThese conditions are applied by the OCF Server exposing the Resource to any
14994 generated notifications because of subscriptions to the Resource.\nA unicast RETRIEVE to the
14995 Resource will receive the most recent value; which may not be the most recent notified value.\nAn
14996 OCF Server exposes this Resource in association with the Resource conveying the observed
14997 value.\nThis is done by means of a new Resource instance with an RT of [\"oic.r.<thing being
14998 observed>\", \"oic.r.value.conditional\"], e.g [\"oic.r.temperature\",
14999 \"oic.r.value.conditional\"].\nThe Property \"threshold\" is the amount by which the thing being
15000 observed must change before a notification is sent.\nThe Property \"minnotifyperiod\" is the minimum
15001 time in ms (milliseconds) that must elapse before a notification is sent.\nIf the maxnotifyperiod
15002 (time in ms (milliseconds)) elapses then a notification must be sent.\nThe Property
15003 \"maxnotifyperiod\" is a timer that resets each time a notification is sent.\nA value of '0' for any
15004 of \"threshold\", \"minnotifyperiod\" or \"maxnotifyperiod\" means that the capability is supported
15005 but not active.",
15006         "parameters": [
15007           { "$ref": "#/parameters/interface" }
15008         ],
15009         "responses": {
15010           "200": {
15011             "description": "",
15012             "x-example":
15013               {
15014                 "rt": ["oic.r.value.conditional"],
15015                 "if": ["oic.if.rw", "oic.if.baseline"],
15016                 "threshold": 2,
15017                 "minnotifyperiod": 2000,
15018                 "maxnotifyperiod": 5000
15019               },
15020             "schema": { "$ref": "#/definitions/valueconditional" }
15021           }
15022         }
15023       },
15024       "post": {
15025         "description": "",
15026         "parameters": [
15027           { "$ref": "#/parameters/interface" },
15028           {
15029             "name": "body",
15030             "in": "body",
15031             "required": true,
15032             "schema": { "$ref": "#/definitions/valueconditional" },
15033           }
15034         ]
15035       }
15036     }
15037   }
15038 }
```

```

15033         "x-example":
15034             {
15035                 "threshold": 2,
15036                 "minnotifyperiod": 1500
15037             }
15038     },
15039     "responses": {
15040         "200": {
15041             "description": "",
15042             "x-example":
15043                 {
15044                     "threshold": 2,
15045                     "minnotifyperiod": 1500
15046                 },
15047             "schema": { "$ref": "#/definitions/valueconditional" }
15048         }
15049     }
15050 },
15051 },
15052 },
15053 },
15054 "parameters": {
15055     "interface": {
15056         "in": "query",
15057         "name": "if",
15058         "type": "string",
15059         "enum": ["oic.if.rw", "oic.if.baseline"]
15060     }
15061 },
15062 "definitions": {
15063     "valueconditional": {
15064         "properties": {
15065             "rt": {
15066                 "description": "The Resource Type.",
15067                 "items": {
15068                     "maxLength": 64,
15069                     "type": "string",
15070                     "enum": ["oic.r.value.conditional"]
15071                 },
15072                 "minItems": 1,
15073                 "uniqueItems": true,
15074                 "readOnly": true,
15075                 "type": "array"
15076             },
15077             "maxnotifyperiod": {
15078                 "description": "The maximum elapsed time in ms before a notification must be sent.",
15079                 "minimum": 0,
15080                 "type": "integer"
15081             },
15082             "minnotifyperiod": {
15083                 "description": "The minimum elapsed time in ms before a notification is sent.",
15084                 "minimum": 0,
15085                 "type": "integer"
15086             },
15087             "threshold": {
15088                 "description": "The amount by which the measured value must change before a notification
15089 is sent.",
15090                 "minimum": 0,
15091                 "type": "number"
15092             },
15093             "n": {
15094                 "$ref":
15095 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15096 schema.json#/definitions/n"
15097             },
15098             "id": {
15099                 "$ref":
15100 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15101 schema.json#/definitions/id"
15102             },
15103             "if": {
15104                 "description": "The OCF Interface set supported by this Resource.",

```

```
15105         "items": {
15106             "enum": [
15107                 "oic.if.rw",
15108                 "oic.if.baseline"
15109             ],
15110             "type": "string",
15111             "maxLength": 64
15112         },
15113         "minItems": 2,
15114         "uniqueItems": true,
15115         "readOnly": true,
15116         "type": "array"
15117     },
15118 },
15119 "anyOf": [
15120     {
15121         "required": ["threshold"]
15122     },
15123     {
15124         "required": ["minnotifyperiod"]
15125     },
15126     {
15127         "required": ["maxnotifyperiod"]
15128     }
15129 ],
15130 "type": "object"
15131 }
15132 }
15133 }
```

15135 **6.75.5 Property definition**

15136 Table 153 defines the Properties that are part of the "oic.r.value.conditional" Resource Type.

15137 **Table 153 – The Property definitions of the Resource with type "rt" =**
15138 **"oic.r.value.conditional".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
maxnotifyperiod	integer	Yes	Read Write	The maximum elapsed time in ms before a notification must be sent.
minnotifyperiod	integer	No	Read Write	The minimum elapsed time in ms before a notification is sent.
threshold	number	No	Read Write	The amount by which the measured value must change before a notification is sent.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

15139 **6.75.6 CRUDN behaviour**

15140 Table 154 defines the CRUDN operations that are supported on the "oic.r.value.conditional"
15141 Resource Type.

15142
15143

Table 154 – The CRUDN operations of the Resource with type "rt" = "oic.r.value.conditional".

Create	Read	Update	Delete	Notify
	get	post		observe

15144

6.76 Colour Space Coordinates

15145

6.76.1 Introduction

15146

This Resource describes the colour using colour space co-ordinates.

15147

The Property "csc" is the colour space coordinates in CIE colour space.

15148

The first item in the array is the X coordinate.

15149

The second item in the array is the Y coordinate.

15150

If the Property "precision" is provided it applies to both the X and Y coordinates.

15151

The Resource provides the colour using colour space coordinates.

15152

15153

6.76.2 Example URI

15154

/example/ColourSpaceCoordinatesResURI

15155

6.76.3 Resource type

15156

The Resource Type is defined as: "oic.r.colour.csc".

15157

6.76.4 OpenAPI 2.0 definition

15158

```
{
  "swagger": "2.0",
  "info": {
    "title": "Colour Space Coordinates",
    "version": "20190215",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/example/ColourSpaceCoordinatesResURI" : {
      "get": {
        "description": "This Resource describes the colour using colour space co-ordinates.\nThe
Property \"csc\" is the colour space coordinates in CIE colour space.\n The first item in the array
is the X coordinate.\n The second item in the array is the Y coordinate.\n If the Property
\"precision\" is provided it applies to both the X and Y coordinates.\nThe Resource provides the
colour using colour space coordinates.\n",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example":
{
  "rt": ["oic.r.colour.csc"],
  "if": ["oic.if.a", "oic.if.baseline"],
  "csc": [0.41, 0.51]
},
            "schema": { "$ref": "#/definitions/ColourCSC" }
          }
        }
      }
    }
  }
}
```

15198

```

15199 },
15200 "post": {
15201   "description": "Sets current colour space coordinates\n",
15202   "parameters": [
15203     { "$ref": "#/parameters/interface" },
15204     {
15205       "name": "body",
15206       "in": "body",
15207       "required": true,
15208       "schema": { "$ref": "#/definitions/ColourCSC" },
15209       "x-example":
15210         {
15211           "csc": [0.40, 0.70]
15212         }
15213     }
15214   ],
15215   "responses": {
15216     "200": {
15217       "description": "",
15218       "x-example":
15219         {
15220           "csc": [0.40, 0.70]
15221         },
15222       "schema": { "$ref": "#/definitions/ColourCSC" }
15223     }
15224   }
15225 },
15226 },
15227 },
15228 "parameters": {
15229   "interface": {
15230     "in": "query",
15231     "name": "if",
15232     "type": "string",
15233     "enum": ["oic.if.a", "oic.if.baseline"]
15234   }
15235 },
15236 "definitions": {
15237   "ColourCSC": {
15238     "properties": {
15239       "rt": {
15240         "description": "The Resource Type.",
15241         "items": {
15242           "enum": ["oic.r.colour.csc"],
15243           "maxLength": 64,
15244           "type": "string"
15245         },
15246         "minItems": 1,
15247         "uniqueItems": true,
15248         "readOnly": true,
15249         "type": "array"
15250       },
15251       "csc": {
15252         "description": "The X and Y coordinates of the colour in CIE colour space.",
15253         "items": {
15254           "maximum": 1,
15255           "minimum": 0,
15256           "type": "number"
15257         },
15258         "maxItems": 2,
15259         "minItems": 2,
15260         "type": "array"
15261       },
15262       "n": {
15263         "$ref":
15264           "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15265           schema.json#/definitions/n"
15266       },
15267       "id": {
15268         "$ref":
15269           "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15270           schema.json#/definitions/id"

```

```

15271     },
15272     "precision": {
15273         "$ref":
15274         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
15275         schema.json#/definitions/precision"
15276     },
15277     "if": {
15278         "description": "The OCF Interface set supported by this Resource.",
15279         "items": {
15280             "enum": [
15281                 "oic.if.a",
15282                 "oic.if.baseline"
15283             ],
15284             "type": "string"
15285         },
15286         "minItems": 2,
15287         "uniqueItems": true,
15288         "readOnly": true,
15289         "type": "array"
15290     }
15291 },
15292 "type": "object",
15293 "required": ["csc"]
15294 }
15295 }
15296 }
15297

```

15298 6.76.5 Property definition

15299 Table 155 defines the Properties that are part of the "oic.r.colour.csc" Resource Type.

15300 **Table 155 – The Property definitions of the Resource with type "rt" = "oic.r.colour.csc".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
csc	array: see schema	Yes	Read Write	The X and Y coordinates of the colour in CIE colour space.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

15301 6.76.6 CRUDN behaviour

15302 Table 156 defines the CRUDN operations that are supported on the "oic.r.colour.csc" Resource
15303 Type.

15304 **Table 156 – The CRUDN operations of the Resource with type "rt" = "oic.r.colour.csc".**

Create	Read	Update	Delete	Notify
	get	post		observe

15305 6.77 Colour Temperature

15306 6.77.1 Introduction

15307 This Resource describes the colour using colour temperature conventions.
15308 The Property "ct" is the Mired colour temperature.
15309 The equivalent value in Kelvin is obtained by $\text{Colour Temp(K)} = 1,000,000/\text{Colour Temp(Mired)}$
15310 The Resource provides the colour using colour temperature conventions.

15311 6.77.2 Example URI

15312 /example/ColourTemperatureResURI

15313 6.77.3 Resource type

15314 The Resource Type is defined as: "oic.r.colour.colourtemperature".

15315 6.77.4 OpenAPI 2.0 definition

```
15316 {  
15317   "swagger": "2.0",  
15318   "info": {  
15319     "title": "Colour Temperature",  
15320     "version": "20190215",  
15321     "license": {  
15322       "name": "OCF Data Model License",  
15323       "url":  
15324         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
15325         CENSE.md",  
15326       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights  
15327         reserved."  
15328     },  
15329     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
15330   },  
15331   "schemes": ["http"],  
15332   "consumes": ["application/json"],  
15333   "produces": ["application/json"],  
15334   "paths": {  
15335     "/example/ColourTemperatureResURI" : {  
15336       "get": {  
15337         "description": "This Resource describes the colour using colour temperature  
15338         conventions.\n\nThe Property \"ct\" is the Mired colour temperature.\n\nThe equivalent value in Kelvin  
15339         is obtained by Colour Temp(K) = 1,000,000/Colour Temp(Mired)\n\nThe Resource provides the colour using  
15340         colour temperature conventions.",  
15341         "parameters": [  
15342           { "$ref": "#/parameters/interface" }  
15343         ],  
15344         "responses": {  
15345           "200": {  
15346             "description": "",  
15347             "x-example":  
15348               {  
15349                 "rt": ["oic.r.colour.colourtemperature"],  
15350                 "if": ["oic.if.a", "oic.if.baseline"],  
15351                 "ct": 457  
15352               },  
15353             "schema": { "$ref": "#/definitions/ColourTemp" }  
15354           }  
15355         }  
15356       },  
15357       "post": {  
15358         "description": "Sets current colour temperature value\n",  
15359         "parameters": [  
15360           { "$ref": "#/parameters/interface" },  
15361           {  
15362             "name": "body",  
15363             "in": "body",  
15364             "required": true,  
15365             "schema": { "$ref": "#/definitions/ColourTemp" },  
15366             "x-example":  
15367               {
```

```

15368         "ct": 457
15369     }
15370 }
15371 ],
15372 "responses": {
15373     "200": {
15374         "description": "",
15375         "x-example":
15376             {
15377                 "ct": 467
15378             },
15379         "schema": { "$ref": "#/definitions/ColourTemp" }
15380     }
15381 }
15382 }
15383 }
15384 },
15385 "parameters": {
15386     "interface": {
15387         "in": "query",
15388         "name": "if",
15389         "type": "string",
15390         "enum": ["oic.if.a", "oic.if.baseline"]
15391     }
15392 },
15393 "definitions": {
15394     "ColourTemp": {
15395         "properties": {
15396             "rt":
15397                 {
15398                     "description": "The Resource Type.",
15399                     "items": {
15400                         "maxLength": 64,
15401                         "type": "string",
15402                         "enum": ["oic.r.colour.colourtemperature"]
15403                     },
15404                     "minItems": 1,
15405                     "uniqueItems": true,
15406                     "readOnly": true,
15407                     "type": "array"
15408                 },
15409             "ct": {
15410                 "description": "The Mired colour temperature.",
15411                 "minimum": 0,
15412                 "type": "integer"
15413             },
15414             "n": {
15415                 "$ref":
15416                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15417                 schema.json#/definitions/n"
15418             },
15419             "id": {
15420                 "$ref":
15421                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15422                 schema.json#/definitions/id"
15423             },
15424             "range": {
15425                 "$ref":
15426                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
15427                 schema.json#/definitions/range_integer"
15428             },
15429             "step": {
15430                 "$ref":
15431                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
15432                 schema.json#/definitions/step_integer"
15433             },
15434             "if": {
15435                 "description": "The OCF Interface set supported by this Resource.",
15436                 "items": {
15437                     "enum": [
15438                         "oic.if.a",
15439                         "oic.if.baseline"

```



```

15440         ],
15441         "type": "string"
15442     },
15443     "minItems": 2,
15444     "uniqueItems": true,
15445     "readOnly": true,
15446     "type": "array"
15447 }
15448 },
15449 "type": "object",
15450 "required": ["ct"]
15451 }
15452 }
15453 }
15454

```

6.77.5 Property definition

Table 157 defines the Properties that are part of the "oic.r.colour.colourtemperature" Resource Type.

Table 157 – The Property definitions of the Resource with type "rt" = "oic.r.colour.colourtemperature".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
ct	integer	Yes	Read Write	The Mired colour temperature.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

6.77.6 CRUDN behaviour

Table 158 defines the CRUDN operations that are supported on the "oic.r.colour.colourtemperature" Resource Type.

Table 158 – The CRUDN operations of the Resource with type "rt" = "oic.r.colour.colourtemperature".

Create	Read	Update	Delete	Notify
	get	post		observe

6.78 Colour Hue and Saturation

6.78.1 Introduction

This Resource describes the colour using hue-saturation conventions.

The Property "hue" is the hue angle, it is a number value as defined by the CIECAM02 model definition (see reference [CIE CIE159:2004]).

A Device that does not support fractional hue angles can provide integer values.

If Property "precision" is provided it applies to the hue angle.

The Property "saturation" is an integer value as defined by the CIECAM02 model definition (see reference [CIE CIE159:2004]).

The Property "saturation" can be converted to a percentage by $\text{saturation}/\text{maximumsaturation} \times 100$; where maximumsaturation is 32767 if the Property itself is not present.
The Property "maximumsaturation" is the upper bound on the saturation supported by the Device.
If not present the maximum value for saturation is 32767.
The Resource provides the colour using hue and saturation conventions.

6.78.2 Example URI

/example/ColourHueSaturationResURI

6.78.3 Resource type

The Resource Type is defined as: "oic.r.colour.hs".

6.78.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Colour Hue and Saturation",
    "version": "20190215",
    "license": {
      "name": "OCF Data Model License",
      "url":
        "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
        CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
        reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/example/ColourHueSaturationResURI" : {
      "get": {
        "description": "This Resource describes the colour using hue-saturation conventions.\n\nThe
        Property \"hue\" is the hue angle, it is a number value as defined by the CIECAM02 model definition
        (see reference [CIE CIE159:2004]).\n\nA Device that does not support fractional hue angles can provide
        integer values.\n\nIf Property \"precision\" is provided it applies to the hue angle.\n\nThe Property
        \"saturation\" is an integer value as defined by the CIECAM02 model definition (see reference [CIE
        CIE159:2004]).\n\nThe Property \"saturation\" can be converted to a percentage by
        saturation/maximumsaturation X 100; where maximumsaturation is 32767 if the Property itself is not
        present.\n\nThe Property \"maximumsaturation\" is the upper bound on the saturation supported by the
        Device.\n\nIf not present the maximum value for saturation is 32767.\n\nThe Resource provides the colour
        using hue and saturation conventions.\n\n",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.colour.hs"],
              "if": ["oic.if.a", "oic.if.baseline"],
              "hue": 300.0,
              "saturation": 212,
              "maximumsaturation": 1000
            },
            "schema": { "$ref": "#/definitions/ColourHS" }
          }
        }
      },
      "post": {
        "description": "Sets current colour hue and saturation values.\n\nAt least one of hue or
        saturation shall be provided in the payload.\n\n",
        "parameters": [
```

```

15538         {"$ref": "#/parameters/interface"},
15539         {
15540             "name": "body",
15541             "in": "body",
15542             "required": true,
15543             "schema": { "$ref": "#/definitions/ColourHS" },
15544             "x-example":
15545                 {
15546                     "hue": 300.0,
15547                     "saturation": 212
15548                 }
15549         },
15550     ],
15551     "responses": {
15552         "200": {
15553             "description": "",
15554             "x-example":
15555                 {
15556                     "hue": 300.0,
15557                     "saturation": 212
15558                 },
15559             "schema": { "$ref": "#/definitions/ColourHS" }
15560         }
15561     },
15562 },
15563 },
15564 },
15565 "parameters": {
15566     "interface": {
15567         "in": "query",
15568         "name": "if",
15569         "type": "string",
15570         "enum": ["oic.if.a", "oic.if.baseline"]
15571     }
15572 },
15573 "definitions": {
15574     "ColourHS": {
15575         "properties": {
15576             "rt": {
15577                 "description": "The Resource Type.",
15578                 "items": {
15579                     "enum": ["oic.r.colour.hs"],
15580                     "maxLength": 64,
15581                     "type": "string"
15582                 },
15583                 "minItems": 1,
15584                 "uniqueItems": true,
15585                 "readOnly": true,
15586                 "type": "array"
15587             },
15588             "hue": {
15589                 "description": "The hue angle as defined by the CIECAM02 model definition.",
15590                 "maximum": 360.0,
15591                 "minimum": 0.0,
15592                 "type": "number"
15593             },
15594             "saturation": {
15595                 "description": "The saturation as defined by the CIECAM02 model definition.",
15596                 "maximum": 32767,
15597                 "minimum": 0,
15598                 "type": "integer"
15599             },
15600             "maximumsaturation": {
15601                 "description": "The maximum supported value of \"saturation\" for this Device.",
15602                 "maximum": 32767,
15603                 "minimum": 0,
15604                 "readOnly": true,
15605                 "type": "integer"
15606             },
15607             "n": {
15608                 "$ref":
15609                     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-

```

```

15610 schema.json#/definitions/n"
15611     },
15612     "id": {
15613         "$ref":
15614         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15615         schema.json#/definitions/id"
15616     },
15617     "precision": {
15618         "$ref":
15619         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
15620         schema.json#/definitions/precision"
15621     },
15622     "if": {
15623         "description": "The OCF Interface set supported by this Resource.",
15624         "items": {
15625             "enum": [
15626                 "oic.if.a",
15627                 "oic.if.baseline"
15628             ],
15629             "type": "string"
15630         },
15631         "minItems": 2,
15632         "uniqueItems": true,
15633         "readOnly": true,
15634         "type": "array"
15635     }
15636 },
15637 "type": "object",
15638 "required": ["hue", "saturation"]
15639 }
15640 }
15641 }
15642

```

15643 6.78.5 Property definition

15644 Table 159 defines the Properties that are part of the "oic.r.colour.hs" Resource Type.

15645 **Table 159 – The Property definitions of the Resource with type "rt" = "oic.r.colour.hs".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
hue	number	Yes	Read Write	The hue angle as defined by the CIECAM02 model definition.
saturation	integer	Yes	Read Write	The saturation as defined by the CIECAM02 model definition.
maximumsaturation	integer	No	Read Only	The maximum supported value of "saturation" for this Device.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

6.78.6 CRUDN behaviour

Table 160 defines the CRUDN operations that are supported on the "oic.r.colour.hs" Resource Type.

Table 160 – The CRUDN operations of the Resource with type "rt" = "oic.r.colour.hs".

Create	Read	Update	Delete	Notify
	get	post		observe

6.79 Battery Material

6.79.1 Introduction

This Resource describes the battery material represented as an enumerated set of strings.

6.79.2 Example URI

/BatteryMaterialResURI

6.79.3 Resource type

The Resource Type is defined as: "oic.r.batterymaterial".

6.79.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Battery Material",
    "version": "20190222",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/BatteryMaterialResURI" : {
      "get": {
        "description": "This Resource describes the battery material represented as an enumerated
set of strings.",
        "parameters": [
          {"$ref": "#/parameters/interface"}
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example":
              {
                "rt": ["oic.r.batterymaterial"],
                "if": ["oic.if.s", "oic.if.baseline"],
                "material": "Alkaline"
              },
            "schema": { "$ref": "#/definitions/BatteryMaterial" }
          }
        }
      }
    }
  },
  "parameters": {
    "interface" : {
      "in": "query",
      "name": "if",
```

```

15702         "type": "string",
15703         "enum": ["oic.if.s", "oic.if.baseline"]
15704     },
15705 },
15706 "definitions": {
15707     "BatteryMaterial" : {
15708         "properties": {
15709             "rt": {
15710                 "description": "The Resource Type.",
15711                 "items": {
15712                     "enum": ["oic.r.batterymaterial"],
15713                     "maxLength": 64,
15714                     "type": "string"
15715                 },
15716                 "minItems": 1,
15717                 "uniqueItems": true,
15718                 "readOnly": true,
15719                 "type": "array"
15720             },
15721             "material": {
15722                 "description": "The battery construction material (type).",
15723                 "enum": [
15724                     "Alkaline",
15725                     "Aluminium Air",
15726                     "Aluminium Ion",
15727                     "Atomic Betavoltaics",
15728                     "Atomic Optoelectric Nuclear",
15729                     "Atomic Nuclear",
15730                     "Bunsen Cell",
15731                     "Chromic Acid Cell",
15732                     "Poggendorff Cell",
15733                     "Clark Cell",
15734                     "Daniell Cell",
15735                     "Dry Cell",
15736                     "Earth",
15737                     "Flow",
15738                     "Flow Vanadium Redox",
15739                     "Flow Zinc Bromine",
15740                     "Flow Zinc Cerium",
15741                     "Frog",
15742                     "Fuel",
15743                     "Galvanic Cell",
15744                     "Glass",
15745                     "Grove Cell",
15746                     "Lead Acid",
15747                     "Lead Acid Deep Cycle",
15748                     "Lead Acid VRLA",
15749                     "Lead Acid AGM",
15750                     "Lead Acid Gel",
15751                     "Leclanche Cell",
15752                     "Lemon Potato",
15753                     "Lithium",
15754                     "Lithium Air",
15755                     "Lithium Ion",
15756                     "Lithium Ion Cobalt Oxide (ICR)",
15757                     "Lithium Ion Manganese Oxide (IMR)",
15758                     "Lithium Ion Polymer",
15759                     "Lithium Iron Phosphate",
15760                     "Lithium Sulfur",
15761                     "Lithium Titanate",
15762                     "Lithium Ion Thin Film",
15763                     "Magnesium",
15764                     "Magnesium Ion",
15765                     "Mercury",
15766                     "Molten Salt",
15767                     "Nickel Cadmium",
15768                     "Nickel Cadmium Vented Cell",
15769                     "Nickel Hydrogen",
15770                     "Nickel Iron ",
15771                     "Nickel Metal Hydride",
15772                     "Nickel Metal Hydride Low Self-Discharge",
15773                     "Nickel Oxyhydroxide",

```

```

15774         "Nickel Oxyride",
15775         "Nickel Zinc",
15776         "Organic Radical",
15777         "Paper",
15778         "Polymer Based",
15779         "Polysulfide Bromide",
15780         "Potassium Ion",
15781         "Pulvermachers Chain",
15782         "Silicon Air",
15783         "Silver Calcium",
15784         "Silver Oxide",
15785         "Silver Zinc",
15786         "Sodium Ion",
15787         "Sodium Sulfur",
15788         "Solid State",
15789         "Sugar",
15790         "Super Iron",
15791         "UltraBattery",
15792         "Voltaic Pile",
15793         "Voltaic Pile Penny",
15794         "Voltaic Pile Trough",
15795         "Water Activated",
15796         "Weston Cell",
15797         "Zinc Air",
15798         "Zinc Carbon",
15799         "Zinc Chloride",
15800         "Zinc Ion",
15801         "Unknown"
15802     ],
15803     "readOnly": true,
15804     "type": "string"
15805 },
15806 "n": {
15807     "$ref":
15808     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15809     schema.json#/definitions/n"
15810 },
15811 "id": {
15812     "$ref":
15813     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15814     schema.json#/definitions/id"
15815 },
15816 "if": {
15817     "description": "The OCF Interface set supported by this Resource.",
15818     "items": {
15819         "enum": [
15820             "oic.if.s",
15821             "oic.if.baseline"
15822         ],
15823         "type": "string"
15824     },
15825     "minItems": 2,
15826     "uniqueItems": true,
15827     "readOnly": true,
15828     "type": "array"
15829 },
15830 },
15831 "type": "object",
15832 "required": ["material"]
15833 }
15834 }
15835 }
15836

```

15837 6.79.5 Property definition

15838 Table 161 defines the Properties that are part of the "oic.r.batterymaterial" Resource Type.

15839
15840

Table 161 – The Property definitions of the Resource with type "rt" = "oic.r.batterymaterial".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
material	string	Yes	Read Only	The battery construction material (type).
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

15841

6.79.6 CRUDN behaviour

15842 Table 162 defines the CRUDN operations that are supported on the "oic.r.batterymaterial"
15843 Resource Type.

15844 **Table 162 – The CRUDN operations of the Resource with type "rt" = "oic.r.batterymaterial".**

Create	Read	Update	Delete	Notify
	get			observe

15845

6.80 Brewing

15846

6.80.1 Introduction

15847 This Resource describes the attributes associated with brewing. This resource is used for
15848 configuration only. The Operation of the Device is handled independently of this Resource. The
15849 amount requested is in ml. The strength of a brewed drink is an integer, the range of which may
15850 be enforced by the presence of a strengthrange Property.

6.80.2 Example URI

15852 /BrewingResURI

6.80.3 Resource type

15854 The Resource Type is defined as: "oic.r.brewing".

6.80.4 OpenAPI 2.0 definition

```
15856 {  
15857   "swagger": "2.0",  
15858   "info": {  
15859     "title": "Brewing",  
15860     "version": "20190222",  
15861     "license": {  
15862       "name": "OCF Data Model License",  
15863       "url":  
15864         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
15865         CENSE.md",  
15866       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."  
15867     },  
15868     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
15869   },  
15870   "schemes": ["http"],  
15871   "consumes": ["application/json"],  
15872   "produces": ["application/json"],  
15873   "paths": {  
15874     "/BrewingResURI" : {  
15875       "get": {
```



```

15876         "description": "This Resource describes the attributes associated with brewing. This
15877 resource is used for configuration only. The Operation of the Device is handled independently of
15878 this Resource. The amount requested is in ml. The strength of a brewed drink is an integer, the
15879 range of which may be enforced by the presence of a strengthrange Property.",
15880         "parameters": [
15881             { "$ref": "#/parameters/interface" }
15882         ],
15883         "responses": {
15884             "200": {
15885                 "description": "",
15886                 "x-example":
15887                     {
15888                         "rt": ["oic.r.brewing"],
15889                         "if": ["oic.if.rw", "oic.if.baseline"],
15890                         "amountrequested": 120,
15891                         "strength": 8,
15892                         "strengthrange": [1, 10]
15893                     },
15894                 "schema": { "$ref": "#/definitions/Brewing" }
15895             }
15896         },
15897     },
15898     "post": {
15899         "description": "Sets the brewing values\n",
15900         "parameters": [
15901             { "$ref": "#/parameters/interface" },
15902             {
15903                 "name": "body",
15904                 "in": "body",
15905                 "required": true,
15906                 "schema": { "$ref": "#/definitions/Brewing" },
15907                 "x-example":
15908                     {
15909                         "amountrequested": 120,
15910                         "strength": 8
15911                     }
15912             }
15913         ],
15914         "responses": {
15915             "200": {
15916                 "description": "",
15917                 "x-example":
15918                     {
15919                         "amountrequested": 120,
15920                         "strength": 8
15921                     }
15922             }
15923         }
15924     },
15925 },
15926 {
15927     "parameters": {
15928         "interface": {
15929             "in": "query",
15930             "name": "if",
15931             "type": "string",
15932             "enum": ["oic.if.rw", "oic.if.baseline"]
15933         }
15934     },
15935     "definitions": {
15936         "Brewing": {
15937             "properties": {
15938                 "rt": {
15939                     "description": "The Resource Type.",
15940                     "items": {
15941                         "enum": ["oic.r.brewing"],
15942                         "maxLength": 64,
15943                         "type": "string"
15944                     },
15945                     "minItems": 1,
15946                     "uniqueItems": true,
15947                     "readOnly": true,

```

```

15948         "type": "array"
15949     },
15950     "strength": {
15951         "description": "The strength of a brewed drink.",
15952         "type": "integer"
15953     },
15954     "amountrequested": {
15955         "description": "The amount requested in ml.",
15956         "type": "integer"
15957     },
15958     "strengthrange": {
15959         "items": {
15960             "type": "integer"
15961         },
15962         "maxItems": 2,
15963         "minItems": 2,
15964         "readOnly": true,
15965         "type": "array"
15966     },
15967     "n": {
15968         "$ref":
15969         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15970         schema.json#/definitions/n"
15971     },
15972     "id": {
15973         "$ref":
15974         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
15975         schema.json#/definitions/id"
15976     },
15977     "if": {
15978         "description": "The OCF Interface set supported by this Resource.",
15979         "items": {
15980             "enum": [
15981                 "oic.if.rw",
15982                 "oic.if.baseline"
15983             ],
15984             "type": "string"
15985         },
15986         "minItems": 2,
15987         "uniqueItems": true,
15988         "readOnly": true,
15989         "type": "array"
15990     }
15991 },
15992 "type": "object",
15993 "required": ["amountrequested"]
15994 }
15995 }
15996 }
15997

```

6.80.5 Property definition

Table 163 defines the Properties that are part of the "oic.r.brewing" Resource Type.

Table 163 – The Property definitions of the Resource with type "rt" = "oic.r.brewing".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
strength	integer	No	Read Write	The strength of a brewed drink.
amountrequested	integer	Yes	Read Write	The amount requested in ml.
strengthrange	array: see schema	No	Read Only	
n	multiple types: see schema	No	Read Write	

id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

6.80.6 CRUDN behaviour

Table 164 defines the CRUDN operations that are supported on the "oic.r.brewing" Resource Type.

Table 164 – The CRUDN operations of the Resource with type "rt" = "oic.r.brewing".

Create	Read	Update	Delete	Notify
	get	post		observe

6.81 Energy

6.81.1 Introduction

This Resource describes the attributes associated with electrical energy. This Resource can be used for either rated (read-only), desired (read-write) or measured (read-only) energy. The Property "voltage" is in Volts (V), The Property "current" in Amps (A), and The Property "frequency" is in Hertz (Hz).

6.81.2 Example URI

/EnergyResURI

6.81.3 Resource type

The Resource Type is defined as: "oic.r.energy.electrical".

6.81.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Energy",
    "version": "20190215",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/EnergyResURI" : {
      "get": {
        "description": "This Resource describes the attributes associated with electrical energy.
This Resource can be used for either rated (read-only), desired (read-write) or measured (read-only)
energy. The Property \"voltage\" is in Volts (V), The Property \"current\" in Amps (A), and The
Property \"frequency\" is in Hertz (Hz).",
        "parameters": [
          {
            "$ref": "#/parameters/interface"
          }
        ],
        "responses": {
          "200": {
            "description": "Retrieves the current energy.",
            "x-example":
{
  "rt": ["oic.r.energy.electrical"],

```

```

16049         "if": ["oic.if.rw", "oic.if.baseline"],
16050         "voltage": 120.0,
16051         "current": 5.0,
16052         "frequency": 60.0
16053     },
16054     "schema": { "$ref": "#/definitions/Energy" }
16055 }
16056 },
16057 },
16058 "post": {
16059     "description": "Sets the desired energy values\n",
16060     "parameters": [
16061         { "$ref": "#/parameters/interface",
16062           {
16063             "name": "body",
16064             "in": "body",
16065             "required": true,
16066             "schema": { "$ref": "#/definitions/EnergyUpdate" },
16067             "x-example":
16068               {
16069                 "desiredvoltage": 130.0,
16070                 "desiredcurrent": 6.0
16071               }
16072           }
16073     ],
16074     "responses": {
16075         "200": {
16076             "description": "",
16077             "x-example":
16078               {
16079                 "desiredvoltage": 130.0,
16080                 "desiredcurrent": 6.0
16081               }
16082         }
16083     }
16084 }
16085 },
16086 },
16087 "parameters": {
16088     "interface": {
16089         "in": "query",
16090         "name": "if",
16091         "type": "string",
16092         "enum": ["oic.if.rw", "oic.if.baseline"]
16093     }
16094 },
16095 "definitions": {
16096     "Energy": {
16097         "properties": {
16098             "rt": {
16099                 "description": "The Resource Type.",
16100                 "items": {
16101                     "enum": ["oic.r.energy.electrical"],
16102                     "maxLength": 64,
16103                     "type": "string"
16104                 },
16105                 "minItems": 1,
16106                 "uniqueItems": true,
16107                 "readOnly": true,
16108                 "type": "array"
16109             },
16110             "desiredcurrent": {
16111                 "description": "The desired electric current in Amps (A).",
16112                 "type": "number"
16113             },
16114             "current": {
16115                 "description": "The electric current in Amps (A).",
16116                 "readOnly": true,
16117                 "type": "number"
16118             },
16119             "frequency": {
16120                 "description": "The electric frequency in Hertz (Hz).",

```

```

16121         "readOnly": true,
16122         "type": "number"
16123     },
16124     "voltage": {
16125         "description": "The electric voltage in Volts (V).",
16126         "readOnly": true,
16127         "type": "number"
16128     },
16129     "desiredfrequency": {
16130         "description": "The desired electric frequency in Hertz (Hz).",
16131         "type": "number"
16132     },
16133     "desiredvoltage": {
16134         "description": "The desired electric voltage in Volts (V).",
16135         "type": "number"
16136     },
16137     "n": {
16138         "$ref":
16139         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16140         schema.json#/definitions/n"
16141     },
16142     "id": {
16143         "$ref":
16144         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16145         schema.json#/definitions/id"
16146     },
16147     "if": {
16148         "description": "The OCF Interface set supported by this Resource.",
16149         "items": {
16150             "enum": [
16151                 "oic.if.rw",
16152                 "oic.if.baseline"
16153             ],
16154             "type": "string"
16155         },
16156         "minItems": 2,
16157         "uniqueItems": true,
16158         "readOnly": true,
16159         "type": "array"
16160     }
16161 },
16162 "type" : "object",
16163 "required": ["voltage", "current", "frequency"]
16164 }
16165 ,
16166 "EnergyUpdate" : {
16167     "properties": {
16168         "desiredcurrent": {
16169             "description": "The desired electric current in Amps (A).",
16170             "type": "number"
16171         },
16172         "desiredfrequency": {
16173             "description": "The desired electric frequency in Hertz (Hz).",
16174             "type": "number"
16175         },
16176         "desiredvoltage": {
16177             "description": "The desired electric voltage in Volts (V).",
16178             "type": "number"
16179         }
16180     },
16181     "anyOf": [
16182         {
16183             "required": ["desiredvoltage"]
16184         },
16185         {
16186             "required": ["desiredcurrent"]
16187         },
16188         {
16189             "required": ["desiredfrequency"]
16190         }
16191     ],
16192     "type": "object"

```

16193 }
 16194 }
 16195 }
 16196 }

16197 6.81.5 Property definition

16198 Table 165 defines the Properties that are part of the "oic.r.energy.electrical" Resource Type.

16199 **Table 165 – The Property definitions of the Resource with type "rt" =**
 16200 **"oic.r.energy.electrical".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
desiredcurrent	number	No	Read Write	The desired electric current in Amps (A).
current	number	Yes	Read Only	The electric current in Amps (A).
frequency	number	Yes	Read Only	The electric frequency in Hertz (Hz).
voltage	number	Yes	Read Only	The electric voltage in Volts (V).
desiredfrequency	number	No	Read Write	The desired electric frequency in Hertz (Hz).
desiredvoltage	number	No	Read Write	The desired electric voltage in Volts (V).
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
desiredcurrent	number	No	Read Write	The desired electric current in Amps (A).
desiredfrequency	number	Yes	Read Write	The desired electric frequency in Hertz (Hz).
desiredvoltage	number	No	Read Write	The desired electric voltage in Volts (V).

16201 6.81.6 CRUDN behaviour

16202 Table 166 defines the CRUDN operations that are supported on the "oic.r.energy.electrical"
 16203 Resource Type.

16204 **Table 166 – The CRUDN operations of the Resource with type "rt" =**
 16205 **"oic.r.energy.electrical".**

Create	Read	Update	Delete	Notify
	get	post		observe

6.82 Energy Generation

6.82.1 Introduction

This Resource describes the attributes associated with energy generation
The Property "energygenerated" is a number that provides the energy generated in Watt-hour(Wh).

6.82.2 Example URI

/EnergyGenerationResURI

6.82.3 Resource type

The Resource Type is defined as: "oic.r.energy.generation".

6.82.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Energy Generation",
    "version": "20190215",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/EnergyGenerationResURI" : {
      "get": {
        "description": "This Resource describes the attributes associated with energy
generation\nThe Property \"energygenerated\" is a number that provides the energy generated in Watt-
hour(Wh).",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example":
              {
                "rt": ["oic.r.energy.generation"],
                "if": ["oic.if.s", "oic.if.baseline"],
                "energygenerated": 3000.00
              },
            "schema": { "$ref": "#/definitions/EnergyGeneration" }
          }
        }
      }
    }
  },
  "parameters": {
    "interface" : {
      "in" : "query",
      "name" : "if",
      "type" : "string",
      "enum" : ["oic.if.s", "oic.if.baseline"]
    }
  },
  "definitions": {
    "EnergyGeneration" : {
      "properties": {
        "rt": {
```

```

16270         "description": "The Resource Type.",
16271         "items": {
16272             "enum": ["oic.r.energy.generation"],
16273             "maxLength": 64,
16274             "type": "string"
16275         },
16276         "minItems": 1,
16277         "uniqueItems": true,
16278         "readOnly": true,
16279         "type": "array"
16280     },
16281     "energygenerated": {
16282         "description": "The energy generated in Watt-hour(Wh).",
16283         "readOnly": true,
16284         "type": "number"
16285     },
16286     "n": {
16287         "$ref":
16288         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16289         schema.json#/definitions/n"
16290     },
16291     "id": {
16292         "$ref":
16293         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16294         schema.json#/definitions/id"
16295     },
16296     "if": {
16297         "description": "The OCF Interface set supported by this Resource.",
16298         "items": {
16299             "enum": [
16300                 "oic.if.s",
16301                 "oic.if.baseline"
16302             ],
16303             "type": "string"
16304         },
16305         "minItems": 2,
16306         "uniqueItems": true,
16307         "readOnly": true,
16308         "type": "array"
16309     }
16310 },
16311 "type": "object",
16312 "required": ["energygenerated"]
16313 }
16314 }
16315 }
16316

```

6.82.5 Property definition

Table 167 defines the Properties that are part of the "oic.r.energy.generation" Resource Type.

Table 167 – The Property definitions of the Resource with type "rt" = "oic.r.energy.generation".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
energygenerated	number	Yes	Read Only	The energy generated in Watt-hour(Wh).
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

6.82.6 CRUDN behaviour

Table 168 defines the CRUDN operations that are supported on the "oic.r.energy.generation" Resource Type.

Table 168 – The CRUDN operations of the Resource with type "rt" = "oic.r.energy.generation".

Create	Read	Update	Delete	Notify
	get			observe

6.83 Foaming

6.83.1 Introduction

This Resource describes the attributes associated with foaming. The Property "foamstrength" of the liquid is represented as an integer.

The foam strength is an integer, the range of which may be enforced by the presence of the Property "range".

6.83.2 Example URI

/FoamingResURI

6.83.3 Resource type

The Resource Type is defined as: "oic.r.foaming".

6.83.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Foaming",
    "version": "20190215",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/FoamingResURI" : {
      "get": {
        "description": "This Resource describes the attributes associated with foaming. The Property
\"foamstrength\" of the liquid is represented as an integer.\nThe foam strength is an integer, the
range of which may be enforced by the presence of the Property \"range\".",
        "parameters": [
          {"$ref": "#/parameters/interface"}
        ],
        "responses": {
          "200": {
            "description": "RETRIEVES the state of foaming.",
            "x-example":
              {
                "rt": ["oic.r.foaming"],
                "if": ["oic.if.rw", "oic.if.baseline"],
                "foamstrength": 50,
                "range": [0, 100]
              },
            "schema": { "$ref": "#/definitions/Foaming" }
          }
        }
      }
    }
  }
}
```

```

16376     }
16377   },
16378   "post": {
16379     "description": "Sets foaming value\n",
16380     "parameters": [
16381       { "$ref": "#/parameters/interface" },
16382       {
16383         "name": "body",
16384         "in": "body",
16385         "required": true,
16386         "schema": { "$ref": "#/definitions/Foaming" },
16387         "x-example":
16388           {
16389             "foamstrength": 50
16390           }
16391       }
16392     ],
16393     "responses": {
16394       "200": {
16395         "description": "",
16396         "x-example":
16397           {
16398             "foamstrength": 50
16399           },
16400         "schema": { "$ref": "#/definitions/Foaming" }
16401       }
16402     }
16403   }
16404 },
16405 "parameters": {
16406   "interface": {
16407     "in": "query",
16408     "name": "if",
16409     "type": "string",
16410     "enum": ["oic.if.rw", "oic.if.baseline"]
16411   }
16412 },
16413 "definitions": {
16414   "Foaming": {
16415     "properties": {
16416       "rt": {
16417         "description": "Resource Type",
16418         "items": {
16419           "enum": ["oic.r.foaming"],
16420           "maxLength": 64,
16421           "type": "string"
16422         },
16423         "minItems": 1,
16424         "uniqueItems": true,
16425         "readOnly": true,
16426         "type": "array"
16427       },
16428       "foamstrength": {
16429         "description": "The desired foaminess of the liquid.",
16430         "type": "integer"
16431       }
16432     },
16433     "n": {
16434       "$ref":
16435         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16436         schema.json#/definitions/n"
16437     },
16438     "id": {
16439       "$ref":
16440         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16441         schema.json#/definitions/id"
16442     },
16443     "range": {
16444       "$ref":
16445         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
16446         schema.json#/definitions/range_integer"
16447     }
16448   }
16449 }

```

```

16448         "step": {
16449             "$ref":
16450             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
16451             schema.json#/definitions/step_integer"
16452         },
16453         "if": {
16454             "description": "The interface set supported by this resource",
16455             "items": {
16456                 "enum": [
16457                     "oic.if.rw",
16458                     "oic.if.baseline"
16459                 ],
16460                 "type": "string"
16461             },
16462             "minItems": 2,
16463             "uniqueItems": true,
16464             "readOnly": true,
16465             "type": "array"
16466         }
16467     },
16468     "type": "object",
16469     "required": ["foamstrength"]
16470 }
16471 }
16472 }
16473

```

6.83.5 Property definition

Table 169 defines the Properties that are part of the "oic.r.foaming" Resource Type.

Table 169 – The Property definitions of the Resource with type "rt" = "oic.r.foaming".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
foamstrength	integer	Yes	Read Write	The desired foaminess of the liquid.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The interface set supported by this resource

6.83.6 CRUDN behaviour

Table 170 defines the CRUDN operations that are supported on the "oic.r.foaming" Resource Type.

Table 170 – The CRUDN operations of the Resource with type "rt" = "oic.r.foaming".

Create	Read	Update	Delete	Notify
	get	post		observe

6.84 Grinder

6.84.1 Introduction

This Resource describes the attributes associated with a grinder. The Property "coarseness" of the grounds is an integer. The higher the value, the less coarse. The Property "remaining" is a percentage that represents the unground material left.

6.84.2 Example URI

/GrinderResURI

6.84.3 Resource type

The Resource Type is defined as: "oic.r.grinder".

6.84.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Grinder",
    "version": "20190215",
    "license": {
      "name": "OCF Data Model License",
      "url":
        "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
        CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
        reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/GrinderResURI" : {
      "get": {
        "description": "This Resource describes the attributes associated with a grinder. The
        Property \"coarseness\" of the grounds is an integer. The higher the value, the less coarse. The
        Property \"remaining\" is a percentage that represents the unground material left.",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "RETRIEVES the state of a grinder.",
            "x-example":
              {
                "rt": ["oic.r.grinder"],
                "if": ["oic.if.rw", "oic.if.baseline"],
                "coarseness": 10,
                "remaining": 50
              },
            "schema": { "$ref": "#/definitions/Grinder" }
          }
        }
      },
      "post": {
        "description": "Sets grinding values.",
        "parameters": [
          { "$ref": "#/parameters/interface" },
          {
            "name": "body",
            "in": "body",
            "required": true,
            "schema": { "$ref": "#/definitions/GrinderUpdate" },
            "x-example":
              {
                "coarseness": 10
              }
          }
        ]
      }
    }
  }
}
```

```

16544     }
16545   ],
16546   "responses": {
16547     "200": {
16548       "description": "",
16549       "x-example":
16550         {
16551           "coarseness": 10
16552         },
16553       "schema": { "$ref": "#/definitions/GrinderUpdate" }
16554     }
16555   }
16556 }
16557 },
16558 },
16559 "parameters": {
16560   "interface": {
16561     "in": "query",
16562     "name": "if",
16563     "type": "string",
16564     "enum": ["oic.if.rw", "oic.if.baseline"]
16565   }
16566 },
16567 "definitions": {
16568   "Grinder": {
16569     "properties": {
16570       "rt": {
16571         "description": "Resource Type",
16572         "items": {
16573           "enum": ["oic.r.grinder"],
16574           "maxLength": 64,
16575           "type": "string"
16576         },
16577         "minItems": 1,
16578         "uniqueItems": true,
16579         "readOnly": true,
16580         "type": "array"
16581       },
16582       "coarseness": {
16583         "description": "The desired coarseness when grinding.",
16584         "type": "integer"
16585       },
16586       "remaining": {
16587         "description": "The percentage of unground material left.",
16588         "maximum": 100,
16589         "minimum": 0,
16590         "readOnly": true,
16591         "type": "integer"
16592       },
16593       "n": {
16594         "$ref":
16595           "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16596           schema.json#/definitions/n"
16597       },
16598       "id": {
16599         "$ref":
16600           "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16601           schema.json#/definitions/id"
16602       },
16603       "range": {
16604         "$ref":
16605           "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
16606           schema.json#/definitions/range_integer"
16607       },
16608       "step": {
16609         "$ref":
16610           "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
16611           schema.json#/definitions/step_integer"
16612       },
16613       "if": {
16614         "description": "The OCF Interface set supported by this Resource.",
16615         "items": {

```

```

16616         "enum": [
16617             "oic.if.rw",
16618             "oic.if.baseline"
16619         ],
16620         "type": "string"
16621     },
16622     "minItems": 2,
16623     "uniqueItems": true,
16624     "readOnly": true,
16625     "type": "array"
16626 }
16627 },
16628 "type": "object",
16629 "required": ["coarseness"]
16630 },
16631 "GrinderUpdate" : {
16632     "properties": {
16633         "coarseness": {
16634             "description": "The desired coarseness when grinding.",
16635             "type": "integer"
16636         }
16637     },
16638     "type": "object",
16639     "required": ["coarseness"]
16640 }
16641 }
16642 }
16643

```

6.84.5 Property definition

Table 171 defines the Properties that are part of the "oic.r.grinder" Resource Type.

Table 171 – The Property definitions of the Resource with type "rt" = "oic.r.grinder".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
coarseness	integer	Yes	Read Write	The desired coarseness when grinding.
remaining	integer	No	Read Only	The percentage of unground material left.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
coarseness	integer	Yes	Read Write	The desired coarseness when grinding.

6.84.6 CRUDN behaviour

Table 172 defines the CRUDN operations that are supported on the "oic.r.grinder" Resource Type.

Table 172 – The CRUDN operations of the Resource with type "rt" = "oic.r.grinder".

Create	Read	Update	Delete	Notify
	get	post		observe

6.85 Liquid Level

6.85.1 Introduction

This Resource describes the attributes associated with liquid level. The Property "currentlevel" and "desiredlevel" are defined in terms of a percentage. The behaviour of when the currentlevel and desiredlevel are not equal is determined by the device manufacturer.

6.85.2 Example URI

/LiquidLevelResURI

6.85.3 Resource type

The Resource Type is defined as: "oic.r.liquid.level".

6.85.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Liquid Level",
    "version": "20190215",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/LiquidLevelResURI" : {
      "get": {
        "description": "This Resource describes the attributes associated with liquid level. The
Property \"currentlevel\" and \"desiredlevel\" are defined in terms of a percentage. The behaviour
of when the currentlevel and desiredlevel are not equal is determined by the device manufacturer.",
        "parameters": [
          {"$ref": "#/parameters/interface"}
        ],
        "responses": {
          "200": {
            "description": "RETRIEVES the state of liquid level.",
            "x-example":
{
  "rt": ["oic.r.liquid.level"],
  "if": ["oic.if.rw", "oic.if.r", "oic.if.baseline"],
  "currentlevel": 60,
  "desiredlevel": 80
},
            "schema": { "$ref": "#/definitions/LiquidLevel" }
          }
        },
      "post": {
        "description": "Sets liquid level value.",
        "parameters": [
          {"$ref": "#/parameters/interface-rw"},
          {
            "name": "body",

```

```

16707         "in": "body",
16708         "required": true,
16709         "schema": { "$ref": "#/definitions/LiquidLevelUpdate" },
16710         "x-example":
16711             {
16712                 "desiredlevel": 80
16713             }
16714     },
16715     ],
16716     "responses": {
16717         "200": {
16718             "description": "",
16719             "x-example":
16720                 {
16721                     "desiredlevel": 80
16722                 },
16723             "schema": { "$ref": "#/definitions/LiquidLevelUpdate" }
16724         }
16725     }
16726 },
16727 },
16728 },
16729 "parameters": {
16730     "interface" : {
16731         "in" : "query",
16732         "name" : "if",
16733         "type" : "string",
16734         "enum" : ["oic.if.rw", "oic.if.r", "oic.if.baseline"]
16735     },
16736     "interface-rw" : {
16737         "in" : "query",
16738         "name" : "if",
16739         "type" : "string",
16740         "enum" : ["oic.if.rw", "oic.if.baseline"]
16741     }
16742 },
16743 "definitions": {
16744     "LiquidLevel" : {
16745         "properties": {
16746             "rt": {
16747                 "description": "The Resource Type.",
16748                 "items": {
16749                     "enum": ["oic.r.liquid.level"],
16750                     "maxLength": 64,
16751                     "type": "string"
16752                 },
16753                 "minItems": 1,
16754                 "uniqueItems": true,
16755                 "readOnly": true,
16756                 "type": "array"
16757             },
16758             "currentlevel": {
16759                 "description": "The current level of the liquid in percentage.",
16760                 "maximum": 100,
16761                 "minimum": 0,
16762                 "readOnly": true,
16763                 "type": "integer"
16764             },
16765             "desiredlevel": {
16766                 "description": "The desired level of the liquid in percentage.",
16767                 "maximum": 100,
16768                 "minimum": 0,
16769                 "type": "integer"
16770             },
16771             "n": {
16772                 "$ref":
16773                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16774                 schema.json#/definitions/n"
16775             },
16776             "id": {
16777                 "$ref":
16778                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-

```



```

16779 schema.json#/definitions/id"
16780     },
16781     "step": {
16782         "$ref":
16783         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
16784         schema.json#/definitions/step_integer"
16785     },
16786     "if": {
16787         "description": "The OCF Interface set supported by this Resource.",
16788         "items": {
16789             "enum": [
16790                 "oic.if.rw",
16791                 "oic.if.r",
16792                 "oic.if.baseline"
16793             ],
16794             "type": "string"
16795         },
16796         "minItems": 2,
16797         "uniqueItems": true,
16798         "readOnly": true,
16799         "type": "array"
16800     }
16801 },
16802 "type": "object",
16803 "required": ["currentlevel"]
16804 },
16805 "LiquidLevelUpdate" : {
16806     "properties": {
16807         "desiredlevel": {
16808             "description": "The desired level of the liquid in percentage.",
16809             "maximum": 100,
16810             "minimum": 0,
16811             "type": "integer"
16812         }
16813     },
16814     "type": "object",
16815     "required": ["desiredlevel"]
16816 }
16817 }
16818 }
16819

```

16820 6.85.5 Property definition

16821 Table 173 defines the Properties that are part of the "oic.r.liquid.level" Resource Type.

16822 **Table 173 – The Property definitions of the Resource with type "rt" = "oic.r.liquid.level".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
currentlevel	integer	Yes	Read Only	The current level of the liquid in percentage.
desiredlevel	integer	No	Read Write	The desired level of the liquid in percentage.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

desiredlevel	integer	Yes	Read Write	The desired level of the liquid in percentage.
--------------	---------	-----	------------	--

6.85.6 CRUDN behaviour

Table 174 defines the CRUDN operations that are supported on the "oic.r.liquid.level" Resource Type.

Table 174 – The CRUDN operations of the Resource with type "rt" = "oic.r.liquid.level".

Create	Read	Update	Delete	Notify
	get	post		observe

6.86 Vehicle Connector

6.86.1 Introduction

This Resource describes the attributes associated with an electric vehicle charging connector. The Property "connected" is a boolean indicating the status of the connector (False = disconnected, True = connected). The Property "ratedchargingcapacity" and "rateddischargingcapacity" are in Amps (A).

6.86.2 Example URI

/VehicleConnectorResURI

6.86.3 Resource type

The Resource Type is defined as: "oic.r.vehicle.connector".

6.86.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Vehicle Connector",
    "version": "20190215",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/VehicleConnectorResURI" : {
      "get": {
        "description": "This Resource describes the attributes associated with an electric vehicle
charging connector. The Property \"connected\" is a boolean indicating the status of the connector
(False = disconnected, True = connected). The Property \"ratedchargingcapacity\" and
\"rateddischargingcapacity\" are in Amps (A).",
        "parameters": [
          {"$ref": "#/parameters/interface"}
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.vehicle.connector"],
              "if": ["oic.if.s", "oic.if.baseline"],
              "connected": true,

```

```

16874         "ratedchargingcapacity": 20.0,
16875         "rateddischargingcapacity": 5.0
16876     },
16877     "schema": { "$ref": "#/definitions/VehicleConnector" }
16878 }
16879 }
16880 }
16881 }
16882 },
16883 "parameters": {
16884     "interface": {
16885         "in": "query",
16886         "name": "if",
16887         "type": "string",
16888         "enum": ["oic.if.s", "oic.if.baseline"]
16889     }
16890 },
16891 "definitions": {
16892     "VehicleConnector" : {
16893         "properties": {
16894             "rt": {
16895                 "description": "The Resource Type.",
16896                 "items": {
16897                     "enum": ["oic.r.vehicle.connector"],
16898                     "maxLength": 64,
16899                     "type": "string"
16900                 },
16901                 "minItems": 1,
16902                 "uniqueItems": true,
16903                 "readOnly": true,
16904                 "type": "array"
16905             },
16906             "connected": {
16907                 "description": "The connection state.",
16908                 "readOnly": true,
16909                 "type": "boolean"
16910             },
16911             "ratedchargingcapacity": {
16912                 "description": "The rated charging capacity in Amps (A).",
16913                 "readOnly": true,
16914                 "type": "number"
16915             },
16916             "rateddischargingcapacity": {
16917                 "description": "The rated discharging capacity in Amps (A).",
16918                 "readOnly": true,
16919                 "type": "number"
16920             },
16921             "n": {
16922                 "$ref":
16923 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16924 schema.json#/definitions/n"
16925             },
16926             "id": {
16927                 "$ref":
16928 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
16929 schema.json#/definitions/id"
16930             },
16931             "if": {
16932                 "description": "The OCF Interface set supported by this Resource.",
16933                 "items": {
16934                     "enum": [
16935                         "oic.if.s",
16936                         "oic.if.baseline"
16937                     ],
16938                     "type": "string"
16939                 },
16940                 "minItems": 2,
16941                 "uniqueItems": true,
16942                 "readOnly": true,
16943                 "type": "array"
16944             }
16945         },

```

```

16946     "type": "object",
16947     "required": ["connected"]
16948   }
16949 }
16950 }
16951

```

16952 6.86.5 Property definition

16953 Table 175 defines the Properties that are part of the "oic.r.vehicle.connector" Resource Type.

16954 **Table 175 – The Property definitions of the Resource with type "rt" =**
16955 **"oic.r.vehicle.connector".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
connected	boolean	Yes	Read Only	The connection state.
ratedchargingcapacity	number	No	Read Only	The rated charging capacity in Amps (A).
rateddischargingcapacity	number	No	Read Only	The rated discharging capacity in Amps (A).
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

16956 6.86.6 CRUDN behaviour

16957 Table 176 defines the CRUDN operations that are supported on the "oic.r.vehicle.connector"
16958 Resource Type.

16959 **Table 176 – The CRUDN operations of the Resource with type "rt" =**
16960 **"oic.r.vehicle.connector".**

Create	Read	Update	Delete	Notify
	get			observe

16961 6.87 Time Stamp

16962 6.87.1 Introduction

16963 This Resource describes Properties associated with a timestamp.
16964 The "timestamp" Property is a string that captures a timestamp using the RFC3339 datetime
16965 format (e.g: 2007-04-05T14:30Z) (Time+Date+Timezone).

16966 6.87.2 Example URI

16967 /TimeStampResURI

16968 6.87.3 Resource type

16969 The Resource Type is defined as: "oic.r.time.stamp".

6.87.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Time Stamp",
    "version": "20190327",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/TimeStampResURI" : {
      "get": {
        "description": "This Resource describes Properties associated with a timestamp.\n\nThe
\"timestamp\" Property is a string that captures a timestamp using the RFC3339 datetime format (e.g:
2007-04-05T14:30Z) (Time+Date+Timezone).",
        "parameters": [
          {
            "$ref": "#/parameters/interface"
          }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example":
              {
                "rt": ["oic.r.time.stamp"],
                "if": ["oic.if.s", "oic.if.r", "oic.if.baseline"],
                "timestamp": "2015-11-05T14:30:00Z"
              },
            "schema": { "$ref": "#/definitions/TimeStamp" }
          }
        }
      }
    }
  },
  "parameters": {
    "interface": {
      "in": "query",
      "name": "if",
      "type": "string",
      "enum": ["oic.if.s", "oic.if.r", "oic.if.baseline"]
    }
  },
  "definitions": {
    "TimeStamp" : {
      "properties": {
        "rt": {
          "description": "The Resource Type.",
          "items": {
            "enum": ["oic.r.time.stamp"],
            "maxLength": 64,
            "type": "string"
          },
          "minItems": 1,
          "uniqueItems": true,
          "readOnly": true,
          "type": "array"
        },
        "timestamp": {
          "description": "An RFC3339 formatted time indicating when the data was observed (e.g.:
2016-02-15T09:19Z, 1996-12-19T16:39:57-08:00).",
          "format": "date-time",
          "readOnly": true,

```

```

17041         "type": "string"
17042     },
17043     "n": {
17044         "$ref":
17045         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17046         schema.json#/definitions/n"
17047     },
17048     "id": {
17049         "$ref":
17050         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17051         schema.json#/definitions/id"
17052     },
17053     "if": {
17054         "description": "The OCF Interface set supported by this Resource.",
17055         "items": {
17056             "enum": [
17057                 "oic.if.s",
17058                 "oic.if.r",
17059                 "oic.if.baseline"
17060             ],
17061             "type": "string"
17062         },
17063         "minItems": 2,
17064         "uniqueItems": true,
17065         "readOnly": true,
17066         "type": "array"
17067     }
17068 },
17069 "type": "object",
17070 "required": ["timestamp"]
17071 }
17072 }
17073 }
17074

```

17075 6.87.5 Property definition

17076 Table 177 defines the Properties that are part of the "oic.r.time.stamp" Resource Type.

17077 **Table 177 – The Property definitions of the Resource with type "rt" = "oic.r.time.stamp".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
timestamp	string	Yes	Read Only	An RFC3339 formatted time indicating when the data was observed (e.g.: 2016-02-15T09:19Z, 1996-12-19T16:39:57-08:00).
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

17078 6.87.6 CRUDN behaviour

17079 Table 178 defines the CRUDN operations that are supported on the "oic.r.time.stamp" Resource
17080 Type.

Table 178 – The CRUDN operations of the Resource with type "rt" = "oic.r.time.stamp".

Create	Read	Update	Delete	Notify
	get			observe

6.88 3D Printer

6.88.1 Introduction

This Resource describes the attributes associated with 3D Printer. The type of 3D printing technology is specified by an enumerated string value. The maximum sizes in mm are included for the x, y, and z dimensions. A designation of whether the device is capable of WAN connectivity is represented in a boolean. The memory capacity is captured in MB.

6.88.2 Example URI

/3DPrinterResURI

6.88.3 Resource type

The Resource Type is defined as: "oic.r.printer.3d".

6.88.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "3D Printer",
    "version": "20190222",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/3DPrinterResURI" : {
      "get": {
        "description": "This Resource describes the attributes associated with 3D Printer. The type
of 3D printing technology is specified by an enumerated string value. The maximum sizes in mm are
included for the x, y, and z dimensions. A designation of whether the device is capable of WAN
connectivity is represented in a boolean. The memory capacity is captured in MB.",
        "parameters": [
          {"$ref": "#/parameters/interface"}
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example":
{
  "rt" : ["oic.r.printer.3d"],
  "if" : ["oic.if.r", "oic.if.baseline"],
  "3dprinttype" : "Digital Light Processing",
  "printsizex" : 300.00,
  "printsizex" : 200.50,
  "printsizex" : 250.75,
  "wanconnected" : false,
  "memorysize" : 120.5
}
          },
          "schema": { "$ref": "#/definitions/3DPrinter" }
        }
      }
    }
  }
}
```

```

17139 },
17140 "parameters": {
17141     "interface" : {
17142         "in": "query",
17143         "name": "if",
17144         "type": "string",
17145         "enum": ["oic.if.r", "oic.if.baseline"]
17146     }
17147 },
17148 "definitions": {
17149     "3DPrinter": {
17150         "properties": {
17151             "rt": {
17152                 "description": "The Resource Type",
17153                 "items": {
17154                     "maxLength": 64,
17155                     "type": "string",
17156                     "enum": ["oic.r.printer.3d"]
17157                 },
17158                 "minItems": 1,
17159                 "uniqueItems": true,
17160                 "readOnly": true,
17161                 "type": "array"
17162             },
17163             "printsizex": {
17164                 "description": "This Property represents the maximum size of printing object in the
17165 direction of Y-axis. The unit is mm.",
17166                 "readOnly": true,
17167                 "type": "number"
17168             },
17169             "memorysize": {
17170                 "description": "This Property represents the total memory size of the printer. The unit is
17171 MB(Mega Bytes)",
17172                 "readOnly": true,
17173                 "type": "number"
17174             },
17175             "3dprinttype": {
17176                 "description": "The type of 3D printing technology.",
17177                 "enum": [
17178                     "Fused Filament Fabrication",
17179                     "Fused Deposition Modeling",
17180                     "Digital Light Processing",
17181                     "Powder Bed & inkjet head 3D Printing",
17182                     "Photopolymer Jetting Technology",
17183                     "Laminated Object Manufacturing",
17184                     "Stereolithography Apparatus",
17185                     "Selective Laser Sintering",
17186                     "Unknown"
17187                 ],
17188                 "readOnly": true,
17189                 "type": "string"
17190             },
17191             "wanconnected": {
17192                 "description": "This Property indicates the connectivity capability of the 3D printer. If
17193 the value is false, the printer does not have network facility to Wide Area Network such as internet
17194 and GSM. If the value is true, the printer has network connectivity",
17195                 "readOnly": true,
17196                 "type": "boolean"
17197             },
17198             "printsizex": {
17199                 "description": "This Property represents the maximum size of printing object in the
17200 direction of X-axis. The unit is mm.",
17201                 "readOnly": true,
17202                 "type": "number"
17203             },
17204             "printsizex": {
17205                 "description": "This Property represents the maximum size of printing object in the
17206 direction of Z-axis. The unit is mm.",
17207                 "readOnly": true,
17208                 "type": "number"
17209             },
17210             "n": {

```



```

17211         "$ref":
17212         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17213         schema.json#/definitions/n"
17214     },
17215     "id": {
17216         "$ref":
17217         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17218         schema.json#/definitions/id"
17219     },
17220     "if": {
17221         "description": "The OCF Interface set supported by this Resource.",
17222         "items": {
17223             "enum": [
17224                 "oic.if.r",
17225                 "oic.if.baseline"
17226             ],
17227             "type": "string"
17228         },
17229         "minItems": 2,
17230         "readOnly": true,
17231         "uniqueItems": true,
17232         "type": "array"
17233     }
17234 },
17235 "type": "object",
17236 "required": ["3dprinttype", "printsizey", "printsizey", "printsizey", "wanconnected",
17237 "memorysize"]
17238 }
17239 }
17240 }
17241

```

17242 6.88.5 Property definition

17243 Table 179 defines the Properties that are part of the "oic.r.printer.3d" Resource Type.

17244 **Table 179 – The Property definitions of the Resource with type "rt" = "oic.r.printer.3d".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type
printsizey	number	Yes	Read Only	This Property represents the maximum size of printing object in the direction of Y-axis. The unit is mm.
memorysize	number	Yes	Read Only	This Property represents the total memory size of the printer. The unit is MB(Mega Bytes)
3dprinttype	string	Yes	Read Only	The type of 3D printing technology.
wanconnected	boolean	Yes	Read Only	This Property indicates the connectivity capability of the 3D printer. If the value is false, the printer does not have network facility to Wide Area Network such as internet and GSM. If the value is true, the printer has network connectivity

printsizeX	number	Yes	Read Only	This Property represents the maximum size of printing object in the direction of X-axis. The unit is mm.
printsizeZ	number	Yes	Read Only	This Property represents the maximum size of printing object in the direction of Z-axis. The unit is mm.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

6.88.6 CRUDN behaviour

Table 180 defines the CRUDN operations that are supported on the "oic.r.printer.3d" Resource Type.

Table 180 – The CRUDN operations of the Resource with type "rt" = "oic.r.printer.3d".

Create	Read	Update	Delete	Notify
	get			observe

6.89 Blood Pressure

6.89.1 Introduction

This Resource describes the Properties associated with a person's blood pressure.

The unit is a single value that is one of mmHg or kPa.

If the unit Property is missing the default is a millimeter of mercury [mmHg].

The bloodpressure and unit Properties are read-only values that are provided by the Server.

When range is omitted the default is 0 to +MAXFLOAT.

6.89.2 Example URI

/BloodPressureResURI

6.89.3 Resource type

The Resource Type is defined as: "oic.r.blood.pressure".

6.89.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Blood Pressure",
    "version": "2019-03-22",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": [
    "http"
  ]
}
```

```

17277 ],
17278 "consumes": [
17279   "application/json"
17280 ],
17281 "produces": [
17282   "application/json"
17283 ],
17284 "paths": {
17285   "/BloodPressureResURI": {
17286     "get": {
17287       "description": "This Resource describes the Properties associated with a person's blood
17288 pressure.\n\nThe unit is a single value that is one of mmHg or kPa.\n\nIf the unit Property is missing
17289 the default is a millimeter of mercury [mmHg].\n\nThe bloodpressure and unit Properties are read-only
17290 values that are provided by the Server.\n\nWhen range is omitted the default is 0 to +MAXFLOAT.",
17291       "parameters": [
17292         {
17293           "$ref": "#/parameters/interface"
17294         }
17295       ],
17296       "responses": {
17297         "200": {
17298           "description": "",
17299           "x-example": {
17300             "rt": [
17301               "oic.r.blood.pressure"
17302             ],
17303             "systolic": 110.0,
17304             "diastolic": 85.0,
17305             "map": 93.0,
17306             "range": [20.0, 300.0],
17307             "step": 1.0,
17308             "units": "mmHg"
17309           },
17310           "schema": {
17311             "$ref": "#/definitions/BloodPressure"
17312           }
17313         }
17314       }
17315     }
17316   },
17317 },
17318 "parameters": {
17319   "interface": {
17320     "in": "query",
17321     "name": "if",
17322     "type": "string",
17323     "enum": [
17324       "oic.if.s",
17325       "oic.if.baseline"
17326     ]
17327   }
17328 },
17329 "definitions": {
17330   "BloodPressure": {
17331     "properties": {
17332       "rt": {
17333         "description": "Resource Type",
17334         "items": {
17335           "enum": [
17336             "oic.r.blood.pressure"
17337           ],
17338           "type": "string",
17339           "maxLength": 64
17340         },
17341         "minItems": 1,
17342         "uniqueItems": true,
17343         "readOnly": true,
17344         "type": "array"
17345       },
17346       "map": {
17347         "description": "Mean arterial pressure (MAP)",
17348         "minimum": 0.0,

```

```

17349         "readOnly": true,
17350         "type": "number"
17351     },
17352     "units": {
17353         "description": "Blood pressure unit",
17354         "enum": [
17355             "mmHg",
17356             "kPa"
17357         ],
17358         "readOnly": true,
17359         "type": "string",
17360         "default": "mmHg"
17361     },
17362     "systolic": {
17363         "description": "Systolic blood pressure",
17364         "minimum": 0.0,
17365         "readOnly": true,
17366         "type": "number"
17367     },
17368     "diastolic": {
17369         "description": "Diastolic blood pressure",
17370         "minimum": 0.0,
17371         "readOnly": true,
17372         "type": "number"
17373     },
17374     "if": {
17375         "description": "The OCF Interface set supported by this Resource",
17376         "items": {
17377             "enum": [
17378                 "oic.if.s",
17379                 "oic.if.baseline"
17380             ],
17381             "type": "string",
17382             "maxLength": 64
17383         },
17384         "minItems": 1,
17385         "readOnly": true,
17386         "uniqueItems": true,
17387         "type": "array"
17388     },
17389     "range": {
17390         "$ref":
17391         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17392         schema.json#/definitions/range_number"
17393     },
17394     "step": {
17395         "$ref":
17396         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17397         schema.json#/definitions/step_number"
17398     },
17399     "precision": {
17400         "$ref":
17401         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
17402         schema.json#/definitions/precision"
17403     },
17404     "n": {
17405         "$ref":
17406         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17407         schema.json#/definitions/n"
17408     }
17409 },
17410 "type": "object",
17411 "required": [
17412     "systolic",
17413     "diastolic"
17414 ]
17415 }
17416 }
17417 }
17418

```

6.89.5 Property definition

Table 181 defines the Properties that are part of the "oic.r.blood.pressure" Resource Type.

Table 181 – The Property definitions of the Resource with type "rt" = "oic.r.blood.pressure".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
map	number	No	Read Only	Mean arterial pressure (MAP)
units	string	No	Read Only	Blood pressure unit
systolic	number	Yes	Read Only	Systolic blood pressure
diastolic	number	Yes	Read Only	Diastolic blood pressure
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	

6.89.6 CRUDN behaviour

Table 182 defines the CRUDN operations that are supported on the "oic.r.blood.pressure" Resource Type.

Table 182 – The CRUDN operations of the Resource with type "rt" = "oic.r.blood.pressure".

Create	Read	Update	Delete	Notify
	get			observe

6.90 Blood Pressure Monitor Atomic Measurement

6.90.1 Introduction

This Resource describes the Properties associated with a blood pressure monitor. The Resource is an Atomic Measurement of blood pressure (oic.r.blood.pressure), pulse rate (oic.r.pulserate), observed time (oic.r.time.stamp), and user id (oic.r.userid).

6.90.2 Example URI

/BloodPressureMonitorAMResURI

6.90.3 Resource type

The Resource Type is defined as: "oic.r.bloodpressuremonitor-am, oic.wk.atomicmeasurement".

6.90.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Blood Pressure Monitor Atomic Measurement",
    "version": "2019-03-22",
```

```

17442     "license": {
17443         "name": "OCF Data Model License",
17444         "url":
17445 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
17446 CENSE.md",
17447         "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
17448     },
17449     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
17450 },
17451 "schemas": [
17452     "http"
17453 ],
17454 "consumes": [
17455     "application/json"
17456 ],
17457 "produces": [
17458     "application/json"
17459 ],
17460 "paths": {
17461     "/BloodPressureMonitorAMResURI?if=oic.if.b": {
17462         "get": {
17463             "description": "This Resource describes the Properties associated with a blood pressure
17464 monitor.\nThe Resource is an Atomic Measurement of blood pressure (oic.r.blood.pressure), pulse
17465 rate (oic.r.pulserate), observed time (oic.r.time.stamp), and user id (oic.r.userid).",
17466             "parameters": [
17467                 {
17468                     "$ref": "#/parameters/interface-all"
17469                 }
17470             ],
17471             "responses": {
17472                 "200": {
17473                     "description": "",
17474                     "x-example": [
17475                         {
17476                             "href": "/myBloodPressureResURI",
17477                             "rep": {
17478                                 "systolic": 120.0,
17479                                 "diastolic": 80.0,
17480                                 "map": 93.0,
17481                                 "range": [20.0, 300.0],
17482                                 "step": 1,
17483                                 "units": "mmHg"
17484                             }
17485                         },
17486                         {
17487                             "href": "/myPulseRateResURI",
17488                             "rep": {
17489                                 "pulserate": 70,
17490                                 "range": [20, 220],
17491                                 "step": 1
17492                             }
17493                         },
17494                         {
17495                             "href": "/myUserId",
17496                             "rep": {
17497                                 "userid": "USER1"
17498                             }
17499                         },
17500                         {
17501                             "href": "/myTimeStamp",
17502                             "rep": {
17503                                 "timestamp": "2018-11-08T21:00+08:00"
17504                             }
17505                         }
17506                     ],
17507                     "schema": {
17508                         "$ref": "#/definitions/batch-retrieve"
17509                     }
17510                 }
17511             }
17512         }
17513     },

```

```

17514     "/BloodPressureMonitorAMResURI?if=oic.if.ll": {
17515         "get": {
17516             "description": "This Resource describes the Properties associated with a blood pressure
17517 monitor.\nThe Resource is an Atomic Measurement of blood pressure (oic.r.blood.pressure), pulse
17518 rate (oic.r.pulserate), observed time (oic.r.time.stamp), and user id (oic.r.userid).",
17519             "parameters": [
17520                 {
17521                     "$ref": "#/parameters/interface-all"
17522                 }
17523             ],
17524             "responses": {
17525                 "200": {
17526                     "description": "",
17527                     "x-example": [
17528                         {
17529                             "href": "/myBloodPressureResURI",
17530                             "rt": [
17531                                 "oic.r.blood.pressure"
17532                             ],
17533                             "if": [
17534                                 "oic.if.s",
17535                                 "oic.if.baseline"
17536                             ]
17537                         },
17538                         {
17539                             "href": "/myPulseRateResURI",
17540                             "rt": [
17541                                 "oic.r.pulserate"
17542                             ],
17543                             "if": [
17544                                 "oic.if.s",
17545                                 "oic.if.baseline"
17546                             ]
17547                         },
17548                         {
17549                             "href": "/myUserId",
17550                             "rt": [
17551                                 "oic.r.userid"
17552                             ],
17553                             "if": [
17554                                 "oic.if.r",
17555                                 "oic.if.baseline"
17556                             ]
17557                         },
17558                         {
17559                             "href": "/myTimeStamp",
17560                             "rt": [
17561                                 "oic.r.time.stamp"
17562                             ],
17563                             "if": [
17564                                 "oic.if.r",
17565                                 "oic.if.baseline"
17566                             ]
17567                         }
17568                     ],
17569                     "schema": {
17570                         "$ref": "#/definitions/links"
17571                     }
17572                 }
17573             }
17574         },
17575     },
17576     "/BloodPressureMonitorAMResURI?if=oic.if.baseline": {
17577         "get": {
17578             "description": "This Resource describes the Properties associated with a blood pressure
17579 monitor.\nThe Resource is an Atomic Measurement of blood pressure (oic.r.blood.pressure), pulse
17580 rate (oic.r.pulserate), observed time (oic.r.time.stamp), and user id (oic.r.userid).",
17581             "parameters": [
17582                 {
17583                     "$ref": "#/parameters/interface-all"
17584                 }
17585             ],

```

```

17586 "responses": {
17587   "200": {
17588     "description": "",
17589     "x-example": {
17590       "rt": [
17591         "oic.r.bloodpressuremonitor-am",
17592         "oic.wk.atomicmeasurement"
17593       ],
17594       "if": [
17595         "oic.if.b",
17596         "oic.if.ll",
17597         "oic.if.baseline"
17598       ],
17599       "rts-m": [
17600         "oic.r.blood.pressure"
17601       ],
17602       "rts": [
17603         "oic.r.blood.pressure",
17604         "oic.r.pulserate",
17605         "oic.r.userid",
17606         "oic.r.time.stamp"
17607       ],
17608       "links": [
17609         {
17610           "href": "/myBloodPressureResURI",
17611           "rt": [
17612             "oic.r.blood.pressure"
17613           ],
17614           "if": [
17615             "oic.if.s",
17616             "oic.if.baseline"
17617           ]
17618         },
17619         {
17620           "href": "/myPulseRateResURI",
17621           "rt": [
17622             "oic.r.pulserate"
17623           ],
17624           "if": [
17625             "oic.if.s",
17626             "oic.if.baseline"
17627           ]
17628         },
17629         {
17630           "href": "/myUserId",
17631           "rt": [
17632             "oic.r.userid"
17633           ],
17634           "if": [
17635             "oic.if.r",
17636             "oic.if.baseline"
17637           ]
17638         },
17639         {
17640           "href": "/myTimeStamp",
17641           "rt": [
17642             "oic.r.time.stamp"
17643           ],
17644           "if": [
17645             "oic.if.r",
17646             "oic.if.baseline"
17647           ]
17648         }
17649       ]
17650     },
17651     "schema": {
17652       "$ref": "#/definitions/baseline"
17653     }
17654   }
17655 }
17656
17657

```



```

17658 },
17659 "parameters": {
17660   "interface-all": {
17661     "in": "query",
17662     "name": "if",
17663     "type": "string",
17664     "enum": [
17665       "oic.if.b",
17666       "oic.if.ll",
17667       "oic.if.baseline"
17668     ]
17669   }
17670 },
17671 "definitions": {
17672   "batch-retrieve": {
17673     "minItems": 1,
17674     "items": {
17675       "properties": {
17676         "href": {
17677           "$ref":
17678 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17679 schema.json#/definitions/href"
17680         },
17681         "rep": {
17682           "type": "object",
17683           "anyOf": [
17684             {
17685               "$ref":
17686 "https://openconnectivityfoundation.github.io/IoTDataModels/BloodPressureResURI.swagger.json#/defini-
17687 tions/BloodPressure"
17688             },
17689             {
17690               "$ref":
17691 "https://openconnectivityfoundation.github.io/IoTDataModels/PulseRateResURI.swagger.json#/definition-
17692 s/PulseRate"
17693             },
17694             {
17695               "$ref":
17696 "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/U-
17697 serID"
17698             },
17699             {
17700               "$ref":
17701 "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definition-
17702 s/TimeStamp"
17703             }
17704           ]
17705         }
17706       },
17707       "required": [
17708         "href",
17709         "rep"
17710       ],
17711       "type": "object"
17712     },
17713     "type": "array"
17714   },
17715   "links": {
17716     "type": "array",
17717     "items": {
17718       "$ref": "#/definitions/oic.oic-link"
17719     }
17720   },
17721   "baseline": {
17722     "properties": {
17723       "rt": {
17724         "items": {
17725           "enum": [
17726             "oic.r.bloodpressuremonitor-am",
17727             "oic.wk.atomicmeasurement"
17728           ],
17729           "type": "string",

```

```

17730         "maxLength": 64
17731     },
17732     "minItems": 2,
17733     "uniqueItems": true,
17734     "readOnly": true,
17735     "type": "array"
17736 },
17737 "rts": {
17738     "description": "This contains all possible Resource Types for this Atomic Measurement.",
17739     "items": {
17740         "enum": [
17741             "oic.r.blood.pressure",
17742             "oic.r.pulserate",
17743             "oic.r.userid",
17744             "oic.r.time.stamp"
17745         ],
17746         "type": "string",
17747         "maxLength": 64
17748     },
17749     "minItems": 1,
17750     "uniqueItems": true,
17751     "readOnly": true,
17752     "type": "array"
17753 },
17754 "rts-m": {
17755     "description": "This contains all mandatory Resource Types for this Atomic Measurement.",
17756     "items": {
17757         "enum": [
17758             "oic.r.blood.pressure"
17759         ],
17760         "type": "string",
17761         "maxLength": 64
17762     },
17763     "maxItems": 1,
17764     "minItems": 1,
17765     "uniqueItems": true,
17766     "readOnly": true,
17767     "type": "array"
17768 },
17769 "if": {
17770     "description": "The OCF Interface set supported by this Resource",
17771     "items": {
17772         "enum": [
17773             "oic.if.b",
17774             "oic.if.ll",
17775             "oic.if.baseline"
17776         ],
17777         "type": "string"
17778     },
17779     "minItems": 3,
17780     "uniqueItems": true,
17781     "readOnly": true,
17782     "type": "array"
17783 },
17784 "n": {
17785     "$ref":
17786     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17787     schema.json#/definitions/n"
17788 },
17789 "id": {
17790     "$ref":
17791     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
17792     schema.json#/definitions/id"
17793 },
17794 "links": {
17795     "$ref": "#/definitions/links"
17796 }
17797 },
17798 "type": "object",
17799 "required": [
17800     "rt", "if", "rts", "rts-m", "links"
17801 ]

```

```

17802     },
17803     "oic.oic-link": {
17804       "properties": {
17805         "if": {
17806           "type": "array",
17807           "readOnly": true,
17808           "uniqueItems": true,
17809           "minItems": 1,
17810           "items": {
17811             "type": "string",
17812             "maxLength": 64,
17813             "enum": [
17814               "oic.if.s",
17815               "oic.if.r",
17816               "oic.if.baseline"
17817             ]
17818           }
17819         },
17820         "rt": {
17821           "type": "array",
17822           "readOnly": true,
17823           "uniqueItems": true,
17824           "minItems": 1,
17825           "items": {
17826             "type": "string",
17827             "maxLength": 64,
17828             "enum": [
17829               "oic.r.blood.pressure",
17830               "oic.r.pulserate",
17831               "oic.r.userid",
17832               "oic.r.time.stamp"
17833             ]
17834           }
17835         },
17836         "anchor": {
17837           "$ref":
17838             "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17839             schema.json#/definitions/anchor"
17840         },
17841         "di": {
17842           "$ref":
17843             "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17844             schema.json#/definitions/di"
17845         },
17846         "eps": {
17847           "$ref":
17848             "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17849             schema.json#/definitions/eps"
17850         },
17851         "href": {
17852           "$ref":
17853             "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17854             schema.json#/definitions/href"
17855         },
17856         "ins": {
17857           "$ref":
17858             "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17859             schema.json#/definitions/ins"
17860         },
17861         "p": {
17862           "$ref":
17863             "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17864             schema.json#/definitions/p"
17865         },
17866         "rel": {
17867           "$ref":
17868             "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17869             schema.json#/definitions/rel_array"
17870         },
17871         "title": {
17872           "$ref":
17873             "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-

```

```

17874 schema.json#/definitions/title"
17875     },
17876     "type": {
17877         "$ref":
17878         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
17879         schema.json#/definitions/type"
17880     }
17881 },
17882 "required": [
17883     "href",
17884     "rt",
17885     "if"
17886 ],
17887 "type": "object"
17888 }
17889 }
17890 }
17891

```

17892 6.90.5 Property definition

17893 Table 183 defines the Properties that are part of the "oic.r.bloodpressuremonitor-am,
17894 oic.wk.atomicmeasurement" Resource Type.

17895 **Table 183 – The Property definitions of the Resource with type "rt" =**
17896 **"oic.r.bloodpressuremonitor-am, oic.wk.atomicmeasurement".**

Property name	Value type	Mandatory	Access mode	Description
href	multiple types: see schema	Yes	Read Write	
rep	object: see schema	Yes	Read Write	
rt	array: see schema	Yes	Read Only	
rts	array: see schema	Yes	Read Only	This contains all possible Resource Types for this Atomic Measurement.
rts-m	array: see schema	Yes	Read Only	This contains all mandatory Resource Types for this Atomic Measurement.
if	array: see schema	Yes	Read Only	The OCF Interface set supported by this Resource
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
links	multiple types: see schema	Yes	Read Write	
if	array: see schema	Yes	Read Only	
rt	array: see schema	Yes	Read Only	
anchor	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	

href	multiple types: see schema	Yes	Read Write	
ins	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
rel	multiple types: see schema	No	Read Write	
title	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	

6.90.6 CRUDN behaviour

Table 184 defines the CRUDN operations that are supported on the "oic.r.bloodpressuremonitor-am, oic.wk.atomicmeasurement" Resource Type.

Table 184 – The CRUDN operations of the Resource with type "rt" = "oic.r.bloodpressuremonitor-am, oic.wk.atomicmeasurement".

Create	Read	Update	Delete	Notify
	get			observe

6.91 Body Mass Index(BMI)

6.91.1 Introduction

This Resource describes the Properties associated with a person's Body Mass Index (BMI). The unit, which is the default unit, is kg/m². The bmi and unit Properties are read-only values that are provided by the server. When range is omitted the default is 0 to +MAXFLOAT.

6.91.2 Example URI

/BMIResURI

6.91.3 Resource type

The Resource Type is defined as: "oic.r.bmi".

6.91.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Body Mass Index(BMI)",
    "version": "2019-03-22",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": [
    "http"
  ],
  "consumes": [
    "application/json"
  ],
  "produces": [
    "application/json"
  ]
}
```

```

17935 ],
17936 "paths": {
17937   "/BMIResURI": {
17938     "get": {
17939       "description": "This Resource describes the Properties associated with a person's Body Mass
17940 Index (BMI).\n\nThe unit, which is the default unit, is kg/m^2.\n\nThe bmi and unit Properties are read-
17941 only values that are provided by the server.\n\nWhen range is omitted the default is 0 to +MAXFLOAT.",
17942       "parameters": [
17943         {
17944           "$ref": "#/parameters/interface"
17945         }
17946       ],
17947       "responses": {
17948         "200": {
17949           "description": "",
17950           "x-example": {
17951             "rt": [
17952               "oic.r.bmi"
17953             ],
17954             "bmi": 20.0
17955           },
17956           "schema": {
17957             "$ref": "#/definitions/BMI"
17958           }
17959         }
17960       }
17961     }
17962   },
17963 },
17964 "parameters": {
17965   "interface": {
17966     "in": "query",
17967     "name": "if",
17968     "type": "string",
17969     "enum": [
17970       "oic.if.s",
17971       "oic.if.baseline"
17972     ]
17973   }
17974 },
17975 "definitions": {
17976   "BMI": {
17977     "properties": {
17978       "rt": {
17979         "description": "Resource Type",
17980         "items": {
17981           "enum": [
17982             "oic.r.bmi"
17983           ],
17984           "type": "string",
17985           "maxLength": 64
17986         },
17987         "minItems": 1,
17988         "uniqueItems": true,
17989         "readOnly": true,
17990         "type": "array"
17991       },
17992       "bmi": {
17993         "description": "Body Mass Index (BMI) in kg/m^2",
17994         "minimum": 0.0,
17995         "readOnly": true,
17996         "type": "number"
17997       },
17998       "range": {
17999         "$ref":
18000 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
18001 schema.json#/definitions/range_number"
18002       },
18003       "step": {
18004         "$ref":
18005 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
18006 schema.json#/definitions/step_number"

```

```

18007     },
18008     "precision": {
18009       "$ref":
18010       "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
18011       schema.json#/definitions/precision"
18012     },
18013     "n": {
18014       "$ref":
18015       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
18016       schema.json#/definitions/n"
18017     },
18018     "id": {
18019       "$ref":
18020       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
18021       schema.json#/definitions/id"
18022     },
18023     "if": {
18024       "description": "The OCF Interface set supported by this Resource",
18025       "items": {
18026         "enum": [
18027           "oic.if.s",
18028           "oic.if.baseline"
18029         ],
18030         "type": "string",
18031         "maxLength": 64
18032       },
18033       "minItems": 1,
18034       "readOnly": true,
18035       "uniqueItems": true,
18036       "type": "array"
18037     }
18038   },
18039   "type": "object",
18040   "required": [
18041     "bmi"
18042   ]
18043 }
18044 }
18045 }
18046

```

6.91.5 Property definition

Table 185 defines the Properties that are part of the "oic.r.bmi" Resource Type.

Table 185 – The Property definitions of the Resource with "rt" = "oic.r.bmi".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
bmi	number	Yes	Read Only	Body Mass Index (BMI) in kg/m ²
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

6.91.6 CRUDN behaviour

Table 186 defines the CRUDN operations that are supported on the "oic.r.bmi" Resource Type.

Table 186 – The CRUDN operations of the Resource with type "rt" = "oic.r.bmi".

Create	Read	Update	Delete	Notify
	get			observe

6.92 Body Fat

6.92.1 Introduction

This Resource describes the Properties associated with a person's body fat.

The unit is a single value that is one of kg, lb or percent.

If the unit Property is missing the default is kilograms [kg].

The bodyfat and unit Properties are read-only values that are provided by the Server.

When range is omitted the default is 0 to +MAXFLOAT.

6.92.2 Example URI

/BodyFatResURI

6.92.3 Resource type

The Resource Type is defined as: "oic.r.body.fat".

6.92.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Body Fat",
    "version": "2019-03-22",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": [
    "http"
  ],
  "consumes": [
    "application/json"
  ],
  "produces": [
    "application/json"
  ],
  "paths": {
    "/BodyFatResURI": {
      "get": {
        "description": "This Resource describes the Properties associated with a person's body
fat.\nThe unit is a single value that is one of kg, lb or percent.\nIf the unit Property is missing
the default is kilograms [kg].\nThe bodyfat and unit Properties are read-only values that are
provided by the Server.\nWhen range is omitted the default is 0 to +MAXFLOAT.",
        "parameters": [
          {
            "$ref": "#/parameters/interface"
          }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": [
```



```

18105         "oic.r.body.fat"
18106     ],
18107     "bodyfat": 20.0,
18108     "units": "kg"
18109 },
18110 "schema": {
18111     "$ref": "#/definitions/BodyFat"
18112 }
18113 }
18114 }
18115 }
18116 },
18117 {
18118     "parameters": {
18119         "interface": {
18120             "in": "query",
18121             "name": "if",
18122             "type": "string",
18123             "enum": [
18124                 "oic.if.s",
18125                 "oic.if.baseline"
18126             ]
18127         }
18128     },
18129     "definitions": {
18130         "BodyFat": {
18131             "properties": {
18132                 "rt": {
18133                     "description": "Resource Type",
18134                     "items": {
18135                         "enum": [
18136                             "oic.r.body.fat"
18137                         ],
18138                         "type": "string",
18139                         "maxLength": 64
18140                     },
18141                     "minItems": 1,
18142                     "uniqueItems": true,
18143                     "readOnly": true,
18144                     "type": "array"
18145                 },
18146                 "bodyfat": {
18147                     "description": "Body fat.",
18148                     "minimum": 0.0,
18149                     "readOnly": true,
18150                     "type": "number"
18151                 },
18152                 "units": {
18153                     "description": "Body fat units",
18154                     "enum": [
18155                         "kg",
18156                         "lb",
18157                         "percent"
18158                     ],
18159                     "readOnly": true,
18160                     "type": "string",
18161                     "default": "kg"
18162                 },
18163                 "range": {
18164                     "$ref":
18165 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
18166 schema.json#/definitions/range_number"
18167                 },
18168                 "step": {
18169                     "$ref":
18170 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
18171 schema.json#/definitions/step_number"
18172                 },
18173                 "precision": {
18174                     "$ref":
18175 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
18176 schema.json#/definitions/precision"

```

```

18177     },
18178     "n": {
18179       "$ref":
18180       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
18181       schema.json#/definitions/n"
18182     },
18183     "id": {
18184       "$ref":
18185       "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
18186       schema.json#/definitions/id"
18187     },
18188     "if": {
18189       "description": "The OCF Interface set supported by this Resource",
18190       "items": {
18191         "enum": [
18192           "oic.if.s",
18193           "oic.if.baseline"
18194         ],
18195         "type": "string",
18196         "maxLength": 64
18197       },
18198       "minItems": 1,
18199       "readOnly": true,
18200       "type": "array"
18201     }
18202   },
18203   "type": "object",
18204   "required": [
18205     "bodyfat"
18206   ]
18207 }
18208 }
18209 }
18210

```

18211 6.92.5 Property definition

18212 Table 187 defines the Properties that are part of the "oic.r.body.fat" Resource Type.

18213 **Table 187 – The Property definitions of the Resource with type "rt" = "oic.r.body.fat".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
bodyfat	number	Yes	Read Only	Body fat.
units	string	No	Read Only	Body fat units
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

18214 6.92.6 CRUDN behaviour

18215 Table 188 defines the CRUDN operations that are supported on the "oic.r.body.fat" Resource Type.

Table 188 – The CRUDN operations of the Resource with type "rt" = "oic.r.body.fat".

Create	Read	Update	Delete	Notify
	get			observe

6.93 Body Fat Free Mass

6.93.1 Introduction

This Resource describes the Properties associated with a person's body fat free mass.

The unit is a single value that is one of kg, lb or percent.

If the unit Property is missing the default is kilograms [kg].

The ffm and unit Properties are read-only values that are provided by the Server.

When range is omitted the default is 0 to +MAXFLOAT.

6.93.2 Example URI

/BodyFatFreeMassResURI

6.93.3 Resource type

The Resource Type is defined as: "oic.r.body.ffm".

6.93.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Body Fat Free Mass",
    "version": "2019-03-22",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": [
    "http"
  ],
  "consumes": [
    "application/json"
  ],
  "produces": [
    "application/json"
  ],
  "paths": {
    "/BodyFatFreeMassResURI": {
      "get": {
        "description": "This Resource describes the Properties associated with a person's body fat
free mass.\nThe unit is a single value that is one of kg, lb or percent.\nIf the unit Property is
missing the default is kilograms [kg].\nThe ffm and unit Properties are read-only values that are
provided by the Server.\nWhen range is omitted the default is 0 to +MAXFLOAT.",
        "parameters": [
          {
            "$ref": "#/parameters/interface"
          }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": [
                "oic.r.body.ffm"
              ],
              "ffm": 40.0,
              "units": "kg"
            }
          }
        }
      }
    }
  }
}
```

```

18274         "schema": {
18275             "$ref": "#/definitions/BodyFatFreeMass"
18276         }
18277     }
18278 }
18279 }
18280 }
18281 },
18282 "parameters": {
18283     "interface": {
18284         "in": "query",
18285         "name": "if",
18286         "type": "string",
18287         "enum": [
18288             "oic.if.s",
18289             "oic.if.baseline"
18290         ]
18291     }
18292 },
18293 "definitions": {
18294     "BodyFatFreeMass": {
18295         "properties": {
18296             "rt": {
18297                 "description": "Resource Type",
18298                 "items": {
18299                     "enum": [
18300                         "oic.r.body.ffm"
18301                     ],
18302                     "type": "string",
18303                     "maxLength": 64
18304                 },
18305                 "minItems": 1,
18306                 "uniqueItems": true,
18307                 "readOnly": true,
18308                 "type": "array"
18309             },
18310             "ffm": {
18311                 "description": "Body fat free mass.",
18312                 "minimum": 0.0,
18313                 "readOnly": true,
18314                 "type": "number"
18315             },
18316             "units": {
18317                 "description": "Body fat free mass units",
18318                 "enum": [
18319                     "kg",
18320                     "lb",
18321                     "percent"
18322                 ],
18323                 "readOnly": true,
18324                 "type": "string",
18325                 "default": "kg"
18326             },
18327             "range": {
18328                 "$ref":
18329 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
18330 schema.json#/definitions/range_number"
18331             },
18332             "step": {
18333                 "$ref":
18334 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
18335 schema.json#/definitions/step_number"
18336             },
18337             "precision": {
18338                 "$ref":
18339 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
18340 schema.json#/definitions/precision"
18341             },
18342             "n": {
18343                 "$ref":
18344 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
18345 schema.json#/definitions/n"

```

```

18346     },
18347     "id": {
18348         "$ref":
18349         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
18350         schema.json#/definitions/id"
18351     },
18352     "if": {
18353         "description": "The OCF Interface set supported by this Resource",
18354         "items": {
18355             "enum": [
18356                 "oic.if.s",
18357                 "oic.if.baseline"
18358             ],
18359             "type": "string",
18360             "maxLength": 64
18361         },
18362         "minItems": 1,
18363         "readOnly": true,
18364         "uniqueItems": true,
18365         "type": "array"
18366     }
18367 },
18368 "type": "object",
18369 "required": [
18370     "ffm"
18371 ]
18372 }
18373 }
18374 }
18375

```

18376 6.93.5 Property definition

18377 Table 189 defines the Properties that are part of the "oic.r.body.ffm" Resource Type.

18378 **Table 189 – The Property definitions of the Resource with type "rt" = "oic.r.body.ffm".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
ffm	number	Yes	Read Only	Body fat free mass.
units	string	No	Read Only	Body fat free mass units
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

18379 6.93.6 CRUDN behaviour

18380 Table 190 defines the CRUDN operations that are supported on the "oic.r.body.ffm" Resource Type.

18381 **Table 190 – The CRUDN operations of the Resource with type "rt" = "oic.r.body.ffm".**

Create	Read	Update	Delete	Notify
	get			observe

18382 **6.94 Body Location Temperature**

18383 **6.94.1 Introduction**

18384 This Resource describes the Properties associated with body location for temperature
18385 measurement of a person.

18386 The bloc Property is a read-only value that is provided by the Server.

18387 **6.94.2 Example URI**

18388 /BodyLocationTemperatureResURI

18389 **6.94.3 Resource type**

18390 The Resource Type is defined as: "oic.r.body.location.temperature".

18391 **6.94.4 OpenAPI 2.0 definition**

```

18392 {
18393   "swagger": "2.0",
18394   "info": {
18395     "title": "Body Location Temperature",
18396     "version": "2019-03-22",
18397     "license": {
18398       "name": "OCF Data Model License",
18399       "url":
18400         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
18401         CENSE.md",
18402       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
18403     },
18404     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
18405   },
18406   "schemes": [
18407     "http"
18408   ],
18409   "consumes": [
18410     "application/json"
18411   ],
18412   "produces": [
18413     "application/json"
18414   ],
18415   "paths": {
18416     "/BodyLocationTemperatureResURI": {
18417       "get": {
18418         "description": "This Resource describes the Properties associated with body location for
18419         temperature measurement of a person.\n\nThe bloc Property is a read-only value that is provided by the
18420         Server.",
18421         "parameters": [
18422           {
18423             "$ref": "#/parameters/interface"
18424           }
18425         ],
18426         "responses": {
18427           "200": {
18428             "description": "",
18429             "x-example": {
18430               "rt": [
18431                 "oic.r.body.location.temperature"
18432               ],
18433               "bloc": "ear"
18434             },
18435             "schema": {
18436               "$ref": "#/definitions/BodyLocationTemperature"
18437             }
18438           }
18439         }
18440       }
18441     }
18442   }

```

```

18439     }
18440   }
18441 }
18442 },
18443 "parameters": {
18444   "interface": {
18445     "in": "query",
18446     "name": "if",
18447     "type": "string",
18448     "enum": [
18449       "oic.if.s",
18450       "oic.if.baseline"
18451     ]
18452   }
18453 },
18454 "definitions": {
18455   "BodyLocationTemperature": {
18456     "properties": {
18457       "rt": {
18458         "description": "Resource Type",
18459         "items": {
18460           "enum": [
18461             "oic.r.body.location.temperature"
18462           ],
18463           "type": "string",
18464           "maxLength": 64
18465         },
18466         "minItems": 1,
18467         "uniqueItems": true,
18468         "readOnly": true,
18469         "type": "array"
18470       },
18471       "bloc": {
18472         "description": "A list specific to temperature site",
18473         "enum": [
18474           "axillary",
18475           "body",
18476           "ear",
18477           "finger",
18478           "gitract",
18479           "mouth",
18480           "rectum",
18481           "toe",
18482           "tympanum"
18483         ],
18484         "readOnly": true,
18485         "type": "string"
18486       },
18487       "n": {
18488         "$ref":
18489         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
18490         schema.json#/definitions/n"
18491       },
18492       "id": {
18493         "$ref":
18494         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
18495         schema.json#/definitions/id"
18496       },
18497       "if": {
18498         "description": "The OCF Interface set supported by this Resource",
18499         "items": {
18500           "enum": [
18501             "oic.if.s",
18502             "oic.if.baseline"
18503           ],
18504           "type": "string",
18505           "maxLength": 64
18506         },
18507         "minItems": 1,
18508         "readOnly": true,
18509         "uniqueItems": true,
18510         "type": "array"

```

```

18511     },
18512     },
18513     "type": "object",
18514     "required": [
18515         "bloc"
18516     ]
18517 }
18518 }
18519 }
18520

```

18521 6.94.5 Property definition

18522 Table 191 defines the Properties that are part of the "oic.r.body.location.temperature" Resource
 18523 Type.

18524 **Table 191 – The Property definitions of the Resource with type "rt" =**
 18525 **"oic.r.body.location.temperature".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
bloc	string	Yes	Read Only	A list specific to temperature site
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

18526 6.94.6 CRUDN behaviour

18527 Table 192 defines the CRUDN operations that are supported on the
 18528 "oic.r.body.location.temperature" Resource Type.

18529 **Table 192 – The CRUDN operations of the Resource with type "rt" =**
 18530 **"oic.r.body.location.temperature".**

Create	Read	Update	Delete	Notify
	get			observe

18531 6.95 Body Scale Atomic Measurement

18532 6.95.1 Introduction

18533 This Resource describes the Properties associated with body scale.
 18534 The Resource is an Atomic Measurement of weight (oic.r.weight), body mass index (BMI)
 18535 (oic.r.bmi), height (oic.r.height), body fat (oic.r.body.fat), body water (oic.r.body.water), body soft
 18536 lean mass (oic.r.body.slm), body fat free mass (oic.r.body.ffmpeg), observed time (oic.r.time.stamp),
 18537 and user id (oic.r.userid).

18538 6.95.2 Example URI

18539 /BodyScaleAMResURI

18540 6.95.3 Resource type

18541 The Resource Type is defined as: "oic.r.bodyscale-am, oic.wk.atomicmeasurement".

18542 6.95.4 OpenAPI 2.0 definition

```

18543 {
18544     "swagger": "2.0",

```



```

18545     "info": {
18546         "title": "Body Scale Atomic Measurement",
18547         "version": "2019-03-22",
18548         "license": {
18549             "name": "OCF Data Model License",
18550             "url":
18551 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
18552 CENSE.md",
18553             "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
18554         },
18555         "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
18556     },
18557     "schemes": [
18558         "http"
18559     ],
18560     "consumes": [
18561         "application/json"
18562     ],
18563     "produces": [
18564         "application/json"
18565     ],
18566     "paths": {
18567         "/BodyScaleAMResURI?if=oic.if.b": {
18568             "get": {
18569                 "description": "This Resource describes the Properties associated with body scale.\nThe
18570 Resource is an Atomic Measurement of weight (oic.r.weight), body mass index (BMI) (oic.r.bmi),
18571 height (oic.r.height), body fat (oic.r.body.fat), body water (oic.r.body.water), body soft lean mass
18572 (oic.r.body.slm), body fat free mass (oic.r.body.ffm), observed time (oic.r.time.stamp), and user id
18573 (oic.r.userid).",
18574                 "parameters": [
18575                     {
18576                         "$ref": "#/parameters/interface-all"
18577                     }
18578                 ],
18579                 "responses": {
18580                     "200": {
18581                         "description": "",
18582                         "x-example": [
18583                             {
18584                                 "href": "/myWeight",
18585                                 "rep": {
18586                                     "weight": 80.0,
18587                                     "units": "kg"
18588                                 }
18589                             },
18590                             {
18591                                 "href": "/myBMI",
18592                                 "rep": {
18593                                     "bmi": 20.0
18594                                 }
18595                             },
18596                             {
18597                                 "href": "/myHeight",
18598                                 "rep": {
18599                                     "height": 1.8,
18600                                     "units": "m"
18601                                 }
18602                             },
18603                             {
18604                                 "href": "/myBodyFat",
18605                                 "rep": {
18606                                     "bodyfat": 20.0,
18607                                     "units": "kg"
18608                                 }
18609                             },
18610                             {
18611                                 "href": "/myBodyWater",
18612                                 "rep": {
18613                                     "bwater": 20.0,
18614                                     "units": "kg"
18615                                 }
18616                             }
18617                         ]
18618                     }
18619                 }
18620             }
18621         }
18622     }

```

```

18617         {
18618             "href": "/myBodySoftLeanMass",
18619             "rep": {
18620                 "slm": 20.0,
18621                 "units": "kg"
18622             }
18623         },
18624         {
18625             "href": "/myBodyFatFreeMass",
18626             "rep": {
18627                 "ffm": 40.0,
18628                 "units": "kg"
18629             }
18630         },
18631         {
18632             "href": "/myUserId",
18633             "rep": {
18634                 "userid": "USER1"
18635             }
18636         },
18637         {
18638             "href": "/myTimeStamp",
18639             "rep": {
18640                 "timestamp": "2018-11-09T12:15+08:00"
18641             }
18642         }
18643     ],
18644     "schema": {
18645         "$ref": "#/definitions/batch-retrieve"
18646     }
18647 }
18648 }
18649 }
18650 },
18651 "/BodyScaleAMResURI?if=oic.if.ll": {
18652     "get": {
18653         "description": "This Resource describes the Properties associated with body scale.\n\nThe
18654 Resource is an Atomic Measurement of weight (oic.r.weight), body mass index (BMI) (oic.r.bmi),
18655 height (oic.r.height), body fat (oic.r.body.fat), body water (oic.r.body.water), body soft lean mass
18656 (oic.r.body.slm), body fat free mass (oic.r.body.ffm), observed time (oic.r.time.stamp), and user id
18657 (oic.r.userid).",
18658         "parameters": [
18659             {
18660                 "$ref": "#/parameters/interface-all"
18661             }
18662         ],
18663         "responses": {
18664             "200": {
18665                 "description": "",
18666                 "x-example": [
18667                     {
18668                         "href": "/myWeight",
18669                         "rt": [
18670                             "oic.r.weight"
18671                         ],
18672                         "if": [
18673                             "oic.if.s",
18674                             "oic.if.baseline"
18675                         ]
18676                     },
18677                     {
18678                         "href": "/myBMI",
18679                         "rt": [
18680                             "oic.r.bmi"
18681                         ],
18682                         "if": [
18683                             "oic.if.s",
18684                             "oic.if.baseline"
18685                         ]
18686                     }
18687                 ],
18688                 {
18689                     "href": "/myHeight",

```

```

18689         "rt": [
18690             "oic.r.height"
18691         ],
18692         "if": [
18693             "oic.if.s",
18694             "oic.if.baseline"
18695         ]
18696     },
18697     {
18698         "href": "/myBodyFat",
18699         "rt": [
18700             "oic.r.body.fat"
18701         ],
18702         "if": [
18703             "oic.if.s",
18704             "oic.if.baseline"
18705         ]
18706     },
18707     {
18708         "href": "/myBodyWater",
18709         "rt": [
18710             "oic.r.body.water"
18711         ],
18712         "if": [
18713             "oic.if.s",
18714             "oic.if.baseline"
18715         ]
18716     },
18717     {
18718         "href": "/myBodySoftLeanMass",
18719         "rt": [
18720             "oic.r.body.slm"
18721         ],
18722         "if": [
18723             "oic.if.s",
18724             "oic.if.baseline"
18725         ]
18726     },
18727     {
18728         "href": "/myBodyFatFreeMass",
18729         "rt": [
18730             "oic.r.body.ffm"
18731         ],
18732         "if": [
18733             "oic.if.s",
18734             "oic.if.baseline"
18735         ]
18736     },
18737     {
18738         "href": "/myUserId",
18739         "rt": [
18740             "oic.r.userid"
18741         ],
18742         "if": [
18743             "oic.if.r",
18744             "oic.if.baseline"
18745         ]
18746     },
18747     {
18748         "href": "/myTimeStamp",
18749         "rt": [
18750             "oic.r.time.stamp"
18751         ],
18752         "if": [
18753             "oic.if.r",
18754             "oic.if.baseline"
18755         ]
18756     }
18757 ],
18758 "schema": {
18759     "$ref": "#/definitions/links"
18760 }

```

```

18761     }
18762   }
18763 }
18764 },
18765 "/BodyScaleAMResURI?if=oic.if.baseline": {
18766   "get": {
18767     "description": "This Resource describes the Properties associated with body scale.\nThe
18768 Resource is an Atomic Measurement of weight (oic.r.weight), body mass index (BMI) (oic.r.bmi),
18769 height (oic.r.height), body fat (oic.r.body.fat), body water (oic.r.body.water), body soft lean mass
18770 (oic.r.body.slm), body fat free mass (oic.r.body.ffmpeg), observed time (oic.r.time.stamp), and user id
18771 (oic.r.userid).",
18772     "parameters": [
18773       {
18774         "$ref": "#/parameters/interface-all"
18775       }
18776     ],
18777     "responses": {
18778       "200": {
18779         "description": "",
18780         "x-example": {
18781           "rt": [
18782             "oic.r.bodyscale-am",
18783             "oic.wk.atomicmeasurement"
18784           ],
18785           "if": [
18786             "oic.if.b",
18787             "oic.if.ll",
18788             "oic.if.baseline"
18789           ],
18790           "rts": [
18791             "oic.r.weight",
18792             "oic.r.bmi",
18793             "oic.r.height",
18794             "oic.r.body.fat",
18795             "oic.r.body.water",
18796             "oic.r.body.slm",
18797             "oic.r.body.ffmpeg",
18798             "oic.r.userid",
18799             "oic.r.time.stamp"
18800           ],
18801           "rts-m": [
18802             "oic.r.weight"
18803           ],
18804           "links": [
18805             {
18806               "href": "/myWeight",
18807               "rt": [
18808                 "oic.r.weight"
18809               ],
18810               "if": [
18811                 "oic.if.s",
18812                 "oic.if.baseline"
18813               ]
18814             },
18815             {
18816               "href": "/myBMI",
18817               "rt": [
18818                 "oic.r.bmi"
18819               ],
18820               "if": [
18821                 "oic.if.s",
18822                 "oic.if.baseline"
18823               ]
18824             },
18825             {
18826               "href": "/myHeight",
18827               "rt": [
18828                 "oic.r.height"
18829               ],
18830               "if": [
18831                 "oic.if.s",
18832                 "oic.if.baseline"

```

```

18833     ]
18834   },
18835   {
18836     "href": "/myBodyFat",
18837     "rt": [
18838       "oic.r.body.fat"
18839     ],
18840     "if": [
18841       "oic.if.s",
18842       "oic.if.baseline"
18843     ]
18844   },
18845   {
18846     "href": "/myBodyWater",
18847     "rt": [
18848       "oic.r.body.water"
18849     ],
18850     "if": [
18851       "oic.if.s",
18852       "oic.if.baseline"
18853     ]
18854   },
18855   {
18856     "href": "/myBodySoftLeanMass",
18857     "rt": [
18858       "oic.r.body.slm"
18859     ],
18860     "if": [
18861       "oic.if.s",
18862       "oic.if.baseline"
18863     ]
18864   },
18865   {
18866     "href": "/myBodyFatFreeMass",
18867     "rt": [
18868       "oic.r.body ffm"
18869     ],
18870     "if": [
18871       "oic.if.s",
18872       "oic.if.baseline"
18873     ]
18874   },
18875   {
18876     "href": "/myUserId",
18877     "rt": [
18878       "oic.r.userid"
18879     ],
18880     "if": [
18881       "oic.if.r",
18882       "oic.if.baseline"
18883     ]
18884   },
18885   {
18886     "href": "/myTimeStamp",
18887     "rt": [
18888       "oic.r.time.stamp"
18889     ],
18890     "if": [
18891       "oic.if.r",
18892       "oic.if.baseline"
18893     ]
18894   }
18895 ],
18896 },
18897 "schema": {
18898   "$ref": "#/definitions/baseline"
18899 }
18900 }
18901 }
18902 }
18903 }
18904 },

```

```

18905 "parameters": {
18906   "interface-all": {
18907     "in": "query",
18908     "name": "if",
18909     "type": "string",
18910     "enum": [
18911       "oic.if.b",
18912       "oic.if.ll",
18913       "oic.if.baseline"
18914     ]
18915   },
18916 },
18917 "definitions": {
18918   "links": {
18919     "type": "array",
18920     "items": {
18921       "$ref": "#/definitions/oic.oic-link"
18922     }
18923   },
18924   "baseline": {
18925     "properties": {
18926       "rt": {
18927         "items": {
18928           "enum": [
18929             "oic.r.bodyscale-am",
18930             "oic.wk.atomicmeasurement"
18931           ],
18932           "type": "string",
18933           "maxLength": 64
18934         },
18935         "minItems": 2,
18936         "uniqueItems": true,
18937         "readOnly": true,
18938         "type": "array"
18939       },
18940       "rts": {
18941         "description": "This contains all possible Resource Types for this Atomic Measurement.",
18942         "items": {
18943           "enum": [
18944             "oic.r.weight",
18945             "oic.r.bmi",
18946             "oic.r.height",
18947             "oic.r.body.fat",
18948             "oic.r.body.water",
18949             "oic.r.body.slm",
18950             "oic.r.body.ffmpeg",
18951             "oic.r.time.stamp",
18952             "oic.r.userid"
18953           ],
18954           "type": "string",
18955           "maxLength": 64
18956         },
18957         "minItems": 1,
18958         "uniqueItems": true,
18959         "readOnly": true,
18960         "type": "array"
18961       },
18962       "rts-m": {
18963         "description": "This contains all mandatory Resource Types for this Atomic Measurement.",
18964         "items": {
18965           "enum": [
18966             "oic.r.weight"
18967           ],
18968           "type": "string",
18969           "maxLength": 64
18970         },
18971         "maxItems": 1,
18972         "minItems": 1,
18973         "uniqueItems": true,
18974         "readOnly": true,
18975         "type": "array"
18976       },

```

```

18977     "if": {
18978         "description": "The OCF Interface set supported by this Resource",
18979         "items": {
18980             "enum": [
18981                 "oic.if.b",
18982                 "oic.if.ll",
18983                 "oic.if.baseline"
18984             ],
18985             "type": "string",
18986             "maxLength": 64
18987         },
18988         "minItems": 3,
18989         "uniqueItems": true,
18990         "readOnly": true,
18991         "type": "array"
18992     },
18993     "n": {
18994         "$ref":
18995         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
18996         schema.json#/definitions/n"
18997     },
18998     "id": {
18999         "$ref":
19000         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19001         schema.json#/definitions/id"
19002     },
19003     "links": {
19004         "$ref": "#/definitions/links"
19005     }
19006 },
19007 "type": "object",
19008 "required": [
19009     "rt", "if", "links", "rts", "rts-m"
19010 ],
19011 },
19012 "batch-retrieve": {
19013     "minItems": 1,
19014     "items": {
19015         "properties": {
19016             "href": {
19017                 "$ref":
19018                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19019                 schema.json#/definitions/href"
19020             },
19021             "rep": {
19022                 "type": "object",
19023                 "anyOf": [
19024                     {
19025                         "$ref":
19026                         "https://openconnectivityfoundation.github.io/IoTDataModels/WeightResURI.swagger.json#/definitions/W
19027                         eight"
19028                     },
19029                     {
19030                         "$ref":
19031                         "https://openconnectivityfoundation.github.io/IoTDataModels/BMIResURI.swagger.json#/definitions/BMI"
19032                     },
19033                     {
19034                         "$ref":
19035                         "https://openconnectivityfoundation.github.io/IoTDataModels/HeightResURI.swagger.json#/definitions/H
19036                         eight"
19037                     },
19038                     {
19039                         "$ref":
19040                         "https://openconnectivityfoundation.github.io/IoTDataModels/BodyFatResURI.swagger.json#/definitions/
19041                         BodyFat"
19042                     },
19043                     {
19044                         "$ref":
19045                         "https://openconnectivityfoundation.github.io/IoTDataModels/BodyWaterResURI.swagger.json#/definition
19046                         s/BodyWater"
19047                     }
19048                 ]

```

```

19049         "$ref":
19050         "https://openconnectivityfoundation.github.io/IoTDataModels/BodySoftLeanMassResURI.swagger.json#/def
19051         initions/BodySoftLeanMass"
19052     },
19053     {
19054         "$ref":
19055         "https://openconnectivityfoundation.github.io/IoTDataModels/BodyFatFreeMassResURI.swagger.json#/defi
19056         nitions/BodyFatFreeMass"
19057     },
19058     {
19059         "$ref":
19060         "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/U
19061         serID"
19062     },
19063     {
19064         "$ref":
19065         "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definition
19066         s/TimeStamp"
19067     }
19068 ]
19069 },
19070 {
19071     "required": [
19072         "href",
19073         "rep"
19074     ],
19075     "type": "object"
19076 },
19077 {
19078     "type": "array"
19079 },
19080 {
19081     "oic.oic-link": {
19082         "properties": {
19083             "rt": {
19084                 "description": "Resource Type of the target Resource",
19085                 "items": {
19086                     "enum": [
19087                         "oic.r.weight",
19088                         "oic.r.bmi",
19089                         "oic.r.height",
19090                         "oic.r.body.fat",
19091                         "oic.r.body.water",
19092                         "oic.r.body.slm",
19093                         "oic.r.body.ffmpeg",
19094                         "oic.r.time.stamp",
19095                         "oic.r.userid"
19096                     ],
19097                     "type": "string",
19098                     "maxLength": 64
19099                 },
19100                 "minItems": 1,
19101                 "uniqueItems": true,
19102                 "readOnly": true,
19103                 "type": "array"
19104             },
19105             "if": {
19106                 "description": "The OCF Interface set supported by the target Resource",
19107                 "items": {
19108                     "enum": [
19109                         "oic.if.s",
19110                         "oic.if.r",
19111                         "oic.if.baseline"
19112                     ],
19113                     "type": "string",
19114                     "maxLength": 64
19115                 },
19116                 "minItems": 1,
19117                 "uniqueItems": true,
19118                 "readOnly": true,
19119                 "type": "array"
19120             },
19121             "anchor": {
19122                 "$ref":

```



```

19121 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19122 schema.json#/definitions/anchor"
19123 },
19124 "di": {
19125     "$ref":
19126     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19127     schema.json#/definitions/di"
19128 },
19129 "eps": {
19130     "$ref":
19131     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19132     schema.json#/definitions/eps"
19133 },
19134 "href": {
19135     "$ref":
19136     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19137     schema.json#/definitions/href"
19138 },
19139 "ins": {
19140     "$ref":
19141     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19142     schema.json#/definitions/ins"
19143 },
19144 "p": {
19145     "$ref":
19146     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19147     schema.json#/definitions/p"
19148 },
19149 "rel": {
19150     "$ref":
19151     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19152     schema.json#/definitions/rel_array"
19153 },
19154 "title": {
19155     "$ref":
19156     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19157     schema.json#/definitions/title"
19158 },
19159 "type": {
19160     "$ref":
19161     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19162     schema.json#/definitions/type"
19163 }
19164 },
19165 "required": [
19166     "href",
19167     "rt",
19168     "if"
19169 ],
19170 "type": "object"
19171 }
19172 }
19173 }
19174

```

19175 6.95.5 Property definition

19176 Table 193 defines the Properties that are part of the "oic.r.bodyscale-am,
19177 oic.wk.atomicmeasurement" Resource Type.

19178 **Table 193 – The Property definitions of the Resource with type "rt" = "oic.r.bodyscale-am,**
19179 **oic.wk.atomicmeasurement".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	Yes	Read Only	
rts	array: see schema	Yes	Read Only	This contains all possible Resource Types for this

				Atomic Measurement.
rts-m	array: see schema	Yes	Read Only	This contains all mandatory Resource Types for this Atomic Measurement.
if	array: see schema	Yes	Read Only	The OCF Interface set supported by this Resource
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
links	multiple types: see schema	Yes	Read Write	
href	multiple types: see schema	Yes	Read Write	
rep	object: see schema	Yes	Read Write	
rt	array: see schema	Yes	Read Only	Resource Type of the target Resource
if	array: see schema	Yes	Read Only	The OCF Interface set supported by the target Resource
anchor	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
ins	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
rel	multiple types: see schema	No	Read Write	
title	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	

19180 **6.95.6 CRUDN behaviour**

19181 Table 194 defines the CRUDN operations that are supported on the "oic.r.bodyscale-am,
19182 oic.wk.atomicmeasurement" Resource Type.

19183 **Table 194 – The CRUDN operations of the Resource with type "rt" = "oic.r.bodyscale-am,**
19184 **oic.wk.atomicmeasurement".**

Create	Read	Update	Delete	Notify
	get			observe

19185 **6.96 Body Soft Lean Mass**

19186 **6.96.1 Introduction**

19187 This Resource describes the Properties associated with a person's body soft lean mass.

19188 The unit is a single value that is one of kg, lb or percent.

19189 If the unit Property is missing the default is kilograms [kg].

19190 The slm and unit Properties are read-only values that are provided by the Server.

19191 When range is omitted the default is 0 to +MAXFLOAT.

19192 **6.96.2 Example URI**

19193 /BodySoftLeanMassResURI

19194 **6.96.3 Resource type**

19195 The Resource Type is defined as: "oic.r.body.slm".

19196 **6.96.4 OpenAPI 2.0 definition**

```
19197 {
19198   "swagger": "2.0",
19199   "info": {
19200     "title": "Body Soft Lean Mass",
19201     "version": "2019-03-22",
19202     "license": {
19203       "name": "OCF Data Model License",
19204       "url":
19205         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
19206         CENSE.md",
19207       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
19208     },
19209     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
19210   },
19211   "schemes": [
19212     "http"
19213   ],
19214   "consumes": [
19215     "application/json"
19216   ],
19217   "produces": [
19218     "application/json"
19219   ],
19220   "paths": {
19221     "/BodySoftLeanMassResURI": {
19222       "get": {
19223         "description": "This Resource describes the Properties associated with a person's body soft
19224         lean mass.\n\nThe unit is a single value that is one of kg, lb or percent.\n\nIf the unit Property is
19225         missing the default is kilograms [kg].\n\nThe slm and unit Properties are read-only values that are
19226         provided by the Server.\n\nWhen range is omitted the default is 0 to +MAXFLOAT.",
19227         "parameters": [
19228           {
19229             "$ref": "#/parameters/interface"
19230           }
19231         ],
19232         "responses": {
19233           "200": {
19234             "description": "",
19235             "x-example": {
19236               "rt": [
19237                 "oic.r.body.slm"
19238               ],
19239               "slm": 20.0,
19240               "units": "kg"
19241             },
19242             "schema": {
19243               "$ref": "#/definitions/BodySoftLeanMass"
19244             }
19245           }
19246         }
19247       }
19248     }
19249   }
19250 }
```

```

19248     }
19249   },
19250   "parameters": {
19251     "interface": {
19252       "in": "query",
19253       "name": "if",
19254       "type": "string",
19255       "enum": [
19256         "oic.if.s",
19257         "oic.if.baseline"
19258       ]
19259     }
19260   },
19261   "definitions": {
19262     "BodySoftLeanMass": {
19263       "properties": {
19264         "rt": {
19265           "description": "Resource Type",
19266           "items": {
19267             "enum": [
19268               "oic.r.body.slm"
19269             ],
19270             "type": "string",
19271             "maxLength": 64
19272           },
19273           "minItems": 1,
19274           "uniqueItems": true,
19275           "readOnly": true,
19276           "type": "array"
19277         },
19278         "slm": {
19279           "description": "Body soft lean mass.",
19280           "minimum": 0.0,
19281           "readOnly": true,
19282           "type": "number"
19283         },
19284         "units": {
19285           "description": "Body soft lean mass units",
19286           "enum": [
19287             "kg",
19288             "lb",
19289             "percent"
19290           ],
19291           "readOnly": true,
19292           "type": "string",
19293           "default": "kg"
19294         },
19295         "range": {
19296           "$ref":
19297             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19298             schema.json#/definitions/range_number"
19299         },
19300         "step": {
19301           "$ref":
19302             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19303             schema.json#/definitions/step_number"
19304         },
19305         "precision": {
19306           "$ref":
19307             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19308             schema.json#/definitions/precision"
19309         },
19310         "n": {
19311           "$ref":
19312             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19313             schema.json#/definitions/n"
19314         },
19315         "id": {
19316           "$ref":
19317             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19318             schema.json#/definitions/id"
19319         },

```

```

19320     "if": {
19321         "description": "The OCF Interface set supported by this Resource",
19322         "items": {
19323             "enum": [
19324                 "oic.if.s",
19325                 "oic.if.baseline"
19326             ],
19327             "type": "string",
19328             "maxLength": 64
19329         },
19330         "minItems": 1,
19331         "readOnly": true,
19332         "uniqueItems": true,
19333         "type": "array"
19334     },
19335 },
19336 "type": "object",
19337 "required": [
19338     "slm"
19339 ]
19340 }
19341 }
19342 }
19343

```

19344 6.96.5 Property definition

19345 Table 195 defines the Properties that are part of the "oic.r.body.slm" Resource Type.

19346 **Table 195 – The Property definitions of the Resource with type "rt" = "oic.r.body.slm".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
slm	number	Yes	Read Only	Body soft lean mass.
units	string	No	Read Only	Body soft lean mass units
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

19347 6.96.6 CRUDN behaviour

19348 Table 196 defines the CRUDN operations that are supported on the "oic.r.body.slm" Resource Type.

19349 **Table 196 – The CRUDN operations of the Resource with type "rt" = "oic.r.body.slm".**

Create	Read	Update	Delete	Notify
	get			observe

6.97 Body Thermometer Atomic Measurement

6.97.1 Introduction

This Resource describes the Properties associated with body thermometer. The Resource is an Atomic Measurement of temperature (oic.r.temperature), body location for temperature (oic.r.body.location.temperature), observed time (oic.r.time.stamp), and user id (oic.r.userid).

6.97.2 Example URI

/BodyThermometerAMResURI

6.97.3 Resource type

The Resource Type is defined as: "oic.r.bodythermometer-am, oic.wk.atomicmeasurement".

6.97.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Body Thermometer Atomic Measurement",
    "version": "2019-03-22",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": [
    "http"
  ],
  "consumes": [
    "application/json"
  ],
  "produces": [
    "application/json"
  ],
  "paths": {
    "/BodyThermometerAMResURI?if=oic.if.b": {
      "get": {
        "description": "This Resource describes the Properties associated with body
thermometer.\n\nThe Resource is an Atomic Measurement of temperature (oic.r.temperature), body
location for temperature (oic.r.body.location.temperature), observed time (oic.r.time.stamp), and
user id (oic.r.userid).",
        "parameters": [
          {
            "$ref": "#/parameters/interface-all"
          }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": [
              {
                "href": "/myTemperature",
                "rep": {
                  "temperature": 38.0,
                  "units": "C"
                }
              },
              {
                "href": "/myBodyLocationForTemperature",
                "rep": {
                  "bloc": "mouth"
                }
              }
            ]
          }
        }
      }
    }
  }
}
```

```

19413         {
19414             "href": "/myUserId",
19415             "rep": {
19416                 "userid": "USER1"
19417             }
19418         },
19419         {
19420             "href": "/myTimeStamp",
19421             "rep": {
19422                 "timestamp": "2018-11-09T12:15+08:00"
19423             }
19424         }
19425     ],
19426     "schema": {
19427         "$ref": "#/definitions/batch-retrieve"
19428     }
19429 }
19430 }
19431 }
19432 },
19433 "/BodyThermometerAMResURI?if=oic.if.ll": {
19434     "get": {
19435         "description": "This Resource describes the Properties associated with body
19436 thermometer.\n\nThe Resource is an Atomic Measurement of temperature (oic.r.temperature), body
19437 location for temperature (oic.r.body.location.temperature), observed time (oic.r.time.stamp), and
19438 user id (oic.r.userid).",
19439         "parameters": [
19440             {
19441                 "$ref": "#/parameters/interface-all"
19442             }
19443         ],
19444         "responses": {
19445             "200": {
19446                 "description": "",
19447                 "x-example": [
19448                     {
19449                         "href": "/myTemperature",
19450                         "rt": [
19451                             "oic.r.temperature"
19452                         ],
19453                         "if": [
19454                             "oic.if.s",
19455                             "oic.if.baseline"
19456                         ]
19457                     },
19458                     {
19459                         "href": "/myBodyLocationForTemperature",
19460                         "rt": [
19461                             "oic.r.body.location.temperature"
19462                         ],
19463                         "if": [
19464                             "oic.if.s",
19465                             "oic.if.baseline"
19466                         ]
19467                     },
19468                     {
19469                         "href": "/myUserId",
19470                         "rt": [
19471                             "oic.r.userid"
19472                         ],
19473                         "if": [
19474                             "oic.if.r",
19475                             "oic.if.baseline"
19476                         ]
19477                     },
19478                     {
19479                         "href": "/myTimeStamp",
19480                         "rt": [
19481                             "oic.r.time.stamp"
19482                         ],
19483                         "if": [
19484                             "oic.if.r",

```

```

19485         "oic.if.baseline"
19486     ]
19487 }
19488 ],
19489 "schema": {
19490     "$ref": "#/definitions/links"
19491 }
19492 }
19493 }
19494 },
19495 },
19496 "/BodyThermometerAMResURI?if=oic.if.baseline": {
19497     "get": {
19498         "description": "This Resource describes the Properties associated with body
19499 thermometer.\nThe Resource is an Atomic Measurement of temperature (oic.r.temperature), body
19500 location for temperature (oic.r.body.location.temperature), observed time (oic.r.time.stamp), and
19501 user id (oic.r.userid).",
19502         "parameters": [
19503             {
19504                 "$ref": "#/parameters/interface-all"
19505             }
19506         ],
19507         "responses": {
19508             "200": {
19509                 "description": "",
19510                 "x-example": {
19511                     "rt": [
19512                         "oic.r.bodythermometer-am",
19513                         "oic.wk.atomicmeasurement"
19514                     ],
19515                     "if": [
19516                         "oic.if.b",
19517                         "oic.if.ll",
19518                         "oic.if.baseline"
19519                     ],
19520                     "rts": [
19521                         "oic.r.temperature",
19522                         "oic.r.body.location.temperature",
19523                         "oic.r.userid",
19524                         "oic.r.time.stamp"
19525                     ],
19526                     "rts-m": [
19527                         "oic.r.temperature"
19528                     ],
19529                     "links": [
19530                         {
19531                             "href": "/myTemperature",
19532                             "rt": [
19533                                 "oic.r.temperature"
19534                             ],
19535                             "if": [
19536                                 "oic.if.s",
19537                                 "oic.if.baseline"
19538                             ]
19539                         },
19540                         {
19541                             "href": "/myBodyLocationForTemperature",
19542                             "rt": [
19543                                 "oic.r.body.location.temperature"
19544                             ],
19545                             "if": [
19546                                 "oic.if.s",
19547                                 "oic.if.baseline"
19548                             ]
19549                         },
19550                         {
19551                             "href": "/myUserId",
19552                             "rt": [
19553                                 "oic.r.userid"
19554                             ],
19555                             "if": [
19556                                 "oic.if.r",

```



```

19557         "oic.if.baseline"
19558     ]
19559 },
19560 {
19561     "href": "/myTimeStamp",
19562     "rt": [
19563         "oic.r.time.stamp"
19564     ],
19565     "if": [
19566         "oic.if.x",
19567         "oic.if.baseline"
19568     ]
19569 }
19570 ]
19571 },
19572 "schema": {
19573     "$ref": "#/definitions/baseline"
19574 }
19575 }
19576 }
19577 }
19578 },
19579 "parameters": {
19580     "interface-all": {
19581         "in": "query",
19582         "name": "if",
19583         "type": "string",
19584         "enum": [
19585             "oic.if.b",
19586             "oic.if.ll",
19587             "oic.if.baseline"
19588         ]
19589     }
19590 },
19591 "definitions": {
19592     "batch-retrieve": {
19593         "minItems": 1,
19594         "items": {
19595             "properties": {
19596                 "href": {
19597                     "$ref":
19598 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19599 schema.json#/definitions/href"
19600                 },
19601                 "rep": {
19602                     "type": "object",
19603                     "anyOf": [
19604                         {
19605                             "$ref":
19606 "https://openconnectivityfoundation.github.io/IoTDataModels/TemperatureResURI.swagger.json#/definiti
19607 ons/Temperature"
19608                         },
19609                         {
19610                             "$ref":
19611 "https://openconnectivityfoundation.github.io/IoTDataModels/BodyLocationTemperatureResURI.swagger.js
19612 on#/definitions/BodyLocationTemperature"
19613                         },
19614                         {
19615                             "$ref":
19616 "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/U
19617 serID"
19618                         }
19619                     ],
19620                     {
19621                         "$ref":
19622 "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definition
19623 s/TimeStamp"
19624                     }
19625                 ]
19626             }
19627         },
19628         "required": [

```

```

19629         "href",
19630         "rep"
19631     ],
19632     "type": "object"
19633 },
19634 "type": "array"
19635 },
19636 "links": {
19637     "type": "array",
19638     "items": {
19639         "$ref": "#/definitions/oic.oic-link"
19640     }
19641 },
19642 "baseline": {
19643     "properties": {
19644         "rt": {
19645             "items": {
19646                 "enum": [
19647                     "oic.r.bodythermometer-am",
19648                     "oic.wk.atomicmeasurement"
19649                 ],
19650                 "type": "string",
19651                 "maxLength": 64
19652             },
19653             "minItems": 2,
19654             "uniqueItems": true,
19655             "readOnly": true,
19656             "type": "array"
19657         },
19658         "rts": {
19659             "description": "This contains all possible Resource Types for this Atomic Measurement.",
19660             "items": {
19661                 "enum": [
19662                     "oic.r.temperature",
19663                     "oic.r.body.location.temperature",
19664                     "oic.r.time.stamp",
19665                     "oic.r.userid"
19666                 ],
19667                 "type": "string",
19668                 "maxLength": 64
19669             },
19670             "minItems": 1,
19671             "uniqueItems": true,
19672             "readOnly": true,
19673             "type": "array"
19674         },
19675         "rts-m": {
19676             "description": "This contains all mandatory Resource Types for this Atomic Measurement.",
19677             "items": {
19678                 "enum": [
19679                     "oic.r.temperature"
19680                 ],
19681                 "type": "string",
19682                 "maxLength": 64
19683             },
19684             "maxItems": 1,
19685             "minItems": 1,
19686             "uniqueItems": true,
19687             "readOnly": true,
19688             "type": "array"
19689         },
19690         "if": {
19691             "description": "The OC Interface set supported by this Resource",
19692             "items": {
19693                 "enum": [
19694                     "oic.if.b",
19695                     "oic.if.ll",
19696                     "oic.if.baseline"
19697                 ],
19698                 "type": "string",
19699                 "maxLength": 64
19700             },

```

```

19701         "minItems": 3,
19702         "uniqueItems": true,
19703         "readOnly": true,
19704         "type": "array"
19705     },
19706     "n": {
19707         "$ref":
19708 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19709 schema.json#/definitions/n"
19710     },
19711     "id": {
19712         "$ref":
19713 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19714 schema.json#/definitions/id"
19715     },
19716     "links": {
19717         "$ref": "#/definitions/links"
19718     }
19719 },
19720 "type": "object",
19721 "required": [
19722     "rt", "if", "links", "rts", "rts-m"
19723 ],
19724 },
19725 "oic.oic-link": {
19726     "properties": {
19727         "if": {
19728             "description": "The OCF Interface set supported by target Resource",
19729             "items": {
19730                 "enum": [
19731                     "oic.if.baseline",
19732                     "oic.if.s",
19733                     "oic.if.r"
19734                 ],
19735                 "type": "string",
19736                 "maxLength": 64
19737             },
19738             "minItems": 1,
19739             "uniqueItems": true,
19740             "readOnly": true,
19741             "type": "array"
19742         },
19743         "rt": {
19744             "description": "Resource Type of the target Resource",
19745             "items": {
19746                 "enum": [
19747                     "oic.r.temperature",
19748                     "oic.r.body.location.temperature",
19749                     "oic.r.time.stamp",
19750                     "oic.r.userid"
19751                 ],
19752                 "type": "string",
19753                 "maxLength": 64
19754             },
19755             "minItems": 1,
19756             "uniqueItems": true,
19757             "readOnly": true,
19758             "type": "array"
19759         },
19760         "anchor": {
19761             "$ref":
19762 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19763 schema.json#/definitions/anchor"
19764         },
19765         "di": {
19766             "$ref":
19767 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19768 schema.json#/definitions/di"
19769         },
19770         "eps": {
19771             "$ref":
19772 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-

```

```

19773 schema.json#/definitions/eps"
19774     },
19775     "href": {
19776         "$ref":
19777         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19778         schema.json#/definitions/href"
19779     },
19780     "ins": {
19781         "$ref":
19782         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19783         schema.json#/definitions/ins"
19784     },
19785     "p": {
19786         "$ref":
19787         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19788         schema.json#/definitions/p"
19789     },
19790     "rel": {
19791         "$ref":
19792         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19793         schema.json#/definitions/rel_array"
19794     },
19795     "title": {
19796         "$ref":
19797         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19798         schema.json#/definitions/title"
19799     },
19800     "type": {
19801         "$ref":
19802         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
19803         schema.json#/definitions/type"
19804     }
19805 },
19806 "required": [
19807     "href",
19808     "rt",
19809     "if"
19810 ],
19811 "type": "object"
19812 }
19813 }
19814 }
19815

```

19816 6.97.5 Property definition

19817 Table 197 defines the Properties that are part of the "oic.r.bodythermometer-am,
19818 oic.wk.atomicmeasurement" Resource Type.

19819 **Table 197 – The Property definitions of the Resource with type "rt" =**
19820 **"oic.r.bodythermometer-am, oic.wk.atomicmeasurement".**

Property name	Value type	Mandatory	Access mode	Description
href	multiple types: see schema	Yes	Read Write	
rep	object: see schema	Yes	Read Write	
rt	array: see schema	Yes	Read Only	
rts	array: see schema	Yes	Read Only	This contains all possible Resource Types for this Atomic Measurement.
rts-m	array: see schema	Yes	Read Only	This contains all mandatory Resource Types for this Atomic Measurement.

if	array: see schema	Yes	Read Only	The OC Interface set supported by this Resource
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
links	multiple types: see schema	Yes	Read Write	
if	array: see schema	Yes	Read Only	The OCF Interface set supported by target Resource
rt	array: see schema	Yes	Read Only	Resource Type of the target Resource
anchor	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
ins	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
rel	multiple types: see schema	No	Read Write	
title	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	

6.97.6 CRUDN behaviour

Table 198 defines the CRUDN operations that are supported on the "oic.r.bodythermometer-am, oic.wk.atomicmeasurement" Resource Type.

Table 198 – The CRUDN operations of the Resource with type "rt" = "oic.r.bodythermometer-am, oic.wk.atomicmeasurement".

Create	Read	Update	Delete	Notify
	get			observe

6.98 Body Water

6.98.1 Introduction

This Resource describes the Properties associated with a person's body water.

The unit is a single value that is one of kg or lb.

If the unit Property is missing the default is kilograms [kg].

The bwater and unit Properties are read-only values that are provided by the Server.

When range is omitted the default is 0 to +MAXFLOAT.

6.98.2 Example URI

/BodyWaterResURI

6.98.3 Resource type

The Resource Type is defined as: "oic.r.body.water".

6.98.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Body Water",
    "version": "2019-03-22",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": [
    "http"
  ],
  "consumes": [
    "application/json"
  ],
  "produces": [
    "application/json"
  ],
  "paths": {
    "/BodyWaterResURI": {
      "get": {
        "description": "This Resource describes the Properties associated with a person's body
water.\n\nThe unit is a single value that is one of kg or lb.\n\nIf the unit Property is missing the
default is kilograms [kg].\n\nThe bwater and unit Properties are read-only values that are provided by
the Server.\n\nWhen range is omitted the default is 0 to +MAXFLOAT.",
        "parameters": [
          {
            "$ref": "#/parameters/interface"
          }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": [
                "oic.r.body.water"
              ],
              "bwater": 20.0,
              "units": "kg"
            },
            "schema": {
              "$ref": "#/definitions/BodyWater"
            }
          }
        }
      }
    }
  },
  "parameters": {
    "interface": {
      "in": "query",
      "name": "if",
      "type": "string",
      "enum": [
        "oic.if.s",
        "oic.if.baseline"
      ]
    }
  },
  "definitions": {
    "BodyWater": {
```

```

19904     "properties": {
19905         "rt": {
19906             "description": "Resource Type",
19907             "items": {
19908                 "enum": [
19909                     "oic.r.body.water"
19910                 ],
19911                 "type": "string",
19912                 "maxLength": 64
19913             },
19914             "minItems": 1,
19915             "uniqueItems": true,
19916             "readOnly": true,
19917             "type": "array"
19918         },
19919         "bwater": {
19920             "description": "Body water.",
19921             "minimum": 0.0,
19922             "readOnly": true,
19923             "type": "number"
19924         },
19925         "units": {
19926             "description": "Body water unit",
19927             "enum": [
19928                 "kg",
19929                 "lb"
19930             ],
19931             "readOnly": true,
19932             "type": "string",
19933             "default": "kg"
19934         },
19935         "range": {
19936             "$ref":
19937 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19938 schema.json#/definitions/range_number"
19939         },
19940         "step": {
19941             "$ref":
19942 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19943 schema.json#/definitions/step_number"
19944         },
19945         "precision": {
19946             "$ref":
19947 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
19948 schema.json#/definitions/precision"
19949         },
19950         "n": {
19951             "$ref":
19952 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19953 schema.json#/definitions/n"
19954         },
19955         "id": {
19956             "$ref":
19957 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
19958 schema.json#/definitions/id"
19959         },
19960         "if": {
19961             "description": "The OCF Interface set supported by this Resource",
19962             "items": {
19963                 "enum": [
19964                     "oic.if.s",
19965                     "oic.if.baseline"
19966                 ],
19967                 "type": "string",
19968                 "maxLength": 64
19969             },
19970             "minItems": 1,
19971             "readOnly": true,
19972             "uniqueItems": true,
19973             "type": "array"
19974         }
19975     },

```

```

19976     "type": "object",
19977     "required": [
19978         "bwater"
19979     ]
19980 }
19981 }
19982 }
19983

```

19984 6.98.5 Property definition

19985 Table 199 defines the Properties that are part of the "oic.r.body.water" Resource Type.

19986 **Table 199 – The Property definitions of the Resource with type "rt" = "oic.r.body.water".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
bwater	number	Yes	Read Only	Body water.
units	string	No	Read Only	Body water unit
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

19987 6.98.6 CRUDN behaviour

19988 Table 200 defines the CRUDN operations that are supported on the "oic.r.body.water" Resource
19989 Type.

19990 **Table 200 – The CRUDN operations of the Resource with type "rt" = "oic.r.body.water".**

Create	Read	Update	Delete	Notify
	get			observe

19991 6.99 Glucose

19992 6.99.1 Introduction

19993 This Resource describes the Properties associated with a person's glucose level.

19994 The unit is a single value that is one of mg/dL, mmol/L.

19995 If the unit Property is missing the default is milligrams per decilitre [mg/dL].

19996 The glucose and unit Properties are read-only values that are provided by the Server.

19997 When range is omitted the default is 0 to +MAXFLOAT.

19998 6.99.2 Example URI

19999 /GlucoseResURI

20000 6.99.3 Resource type

20001 The Resource Type is defined as: "oic.r.glucose".

6.99.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Glucose",
    "version": "2019-03-22",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": [
    "http"
  ],
  "consumes": [
    "application/json"
  ],
  "produces": [
    "application/json"
  ],
  "paths": {
    "/GlucoseResURI": {
      "get": {
        "description": "This Resource describes the Properties associated with a person's glucose
level.\n\nThe unit is a single value that is one of mg/dL, mmol/L.\n\nIf the unit Property is missing
the default is milligrams per decilitre [mg/dL].\n\nThe glucose and unit Properties are read-only
values that are provided by the Server.\n\nWhen range is omitted the default is 0 to +MAXFLOAT.",
        "parameters": [
          {
            "$ref": "#/parameters/interface"
          }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": [
                "oic.r.glucose"
              ],
              "glucose": 90.0,
              "units": "mg/dL",
              "range": [
                20.0,
                600.0
              ],
              "step": 1
            },
            "schema": {
              "$ref": "#/definitions/Glucose"
            }
          }
        }
      }
    }
  },
  "parameters": {
    "interface": {
      "in": "query",
      "name": "if",
      "type": "string",
      "enum": [
        "oic.if.s",
        "oic.if.baseline"
      ]
    }
  },
  "definitions": {
```

```

20073     "Glucose": {
20074         "properties": {
20075             "rt": {
20076                 "description": "Resource Type",
20077                 "items": {
20078                     "enum": [
20079                         "oic.r.glucose"
20080                     ],
20081                     "type": "string",
20082                     "maxLength": 64
20083                 },
20084                 "minItems": 1,
20085                 "uniqueItems": true,
20086                 "readOnly": true,
20087                 "type": "array"
20088             },
20089             "glucose": {
20090                 "description": "A measurement of glucose concentration in the blood",
20091                 "minimum": 0.0,
20092                 "readOnly": true,
20093                 "type": "number"
20094             },
20095             "units": {
20096                 "description": "Glucose unit",
20097                 "enum": [
20098                     "mg/dL",
20099                     "mmol/L"
20100                 ],
20101                 "readOnly": true,
20102                 "type": "string",
20103                 "default": "mg/dL"
20104             },
20105             "range": {
20106                 "$ref":
20107                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20108                 schema.json#/definitions/range_number"
20109             },
20110             "step": {
20111                 "$ref":
20112                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20113                 schema.json#/definitions/step_number"
20114             },
20115             "precision": {
20116                 "$ref":
20117                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20118                 schema.json#/definitions/precision"
20119             },
20120             "n": {
20121                 "$ref":
20122                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20123                 schema.json#/definitions/n"
20124             },
20125             "id": {
20126                 "$ref":
20127                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20128                 schema.json#/definitions/id"
20129             },
20130             "if": {
20131                 "description": "The OCF Interface set supported by this Resource",
20132                 "items": {
20133                     "enum": [
20134                         "oic.if.s",
20135                         "oic.if.baseline"
20136                     ],
20137                     "type": "string",
20138                     "maxLength": 64
20139                 },
20140                 "minItems": 1,
20141                 "readOnly": true,
20142                 "uniqueItems": true,
20143                 "type": "array"
20144             }

```

```

20145     },
20146     "type": "object",
20147     "required": [
20148         "glucose"
20149     ]
20150 }
20151 }
20152 }
20153

```

20154 6.99.5 Property definition

20155 Table 201 defines the Properties that are part of the "oic.r.glucose" Resource Type.

20156 **Table 201 – The Property definitions of the Resource with type "rt" = "oic.r.glucose".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
glucose	number	Yes	Read Only	A measurement of glucose concentration in the blood
units	string	No	Read Only	Glucose unit
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

20157 6.99.6 CRUDN behaviour

20158 Table 202 defines the CRUDN operations that are supported on the "oic.r.glucose" Resource Type.

20159 **Table 202 – The CRUDN operations of the Resource with type "rt" = "oic.r.glucose".**

Create	Read	Update	Delete	Notify
	get			observe

20160 6.100 Context Carbohydrates for Glucose Meter

20161 6.100.1 Introduction

20162 This Resource describes the Properties associated with a context carbohydrates.

20163 The carb Property has a default unit of grams[g].

20164 The carb and meal Properties are read-only values that are provided by the Server.

20165 When range is omitted the default is 0 to +MAXFLOAT.

20166 6.100.2 Example URI

20167 /GlucoseCarbResURI

20168 6.100.3 Resource type

20169 The Resource Type is defined as: "oic.r.glucose.carb".

6.100.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Context Carbohydrates for Glucose Meter",
    "version": "2019-03-22",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": [
    "http"
  ],
  "consumes": [
    "application/json"
  ],
  "produces": [
    "application/json"
  ],
  "paths": {
    "/GlucoseCarbResURI": {
      "get": {
        "description": "This Resource describes the Properties associated with a context
carbohydrates.\nThe carb Property has a default unit of grams[g].\nThe carb and meal Properties are
read-only values that are provided by the Server.\nWhen range is omitted the default is 0 to
+MAXFLOAT.",
        "parameters": [
          {
            "$ref": "#/parameters/interface"
          }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": [
                "oic.r.glucose.carb"
              ],
              "carb": 100.0,
              "meal": "breakfast"
            },
            "schema": {
              "$ref": "#/definitions/GlucoseCarb"
            }
          }
        }
      }
    }
  },
  "parameters": {
    "interface": {
      "in": "query",
      "name": "if",
      "type": "string",
      "enum": [
        "oic.if.s",
        "oic.if.baseline"
      ]
    }
  },
  "definitions": {
    "GlucoseCarb": {
      "properties": {
        "rt": {
          "description": "Resource Type",
          "items": {
```

```

20241         "enum": [
20242             "oic.r.glucose.carb"
20243         ],
20244         "type": "string",
20245         "maxLength": 64
20246     },
20247     "minItems": 1,
20248     "uniqueItems": true,
20249     "readOnly": true,
20250     "type": "array"
20251 },
20252 "carb": {
20253     "description": "The amount of carbohydrates undertaken in grams",
20254     "readOnly": true,
20255     "type": "number",
20256     "minimum": 0.0
20257 },
20258 "meal": {
20259     "description": "Recorded time of carbohydrates intake",
20260     "enum": [
20261         "breakfast",
20262         "lunch",
20263         "dinner",
20264         "snack",
20265         "drink",
20266         "supper",
20267         "brunch",
20268         "undetermined",
20269         "other",
20270         "no_entry",
20271         "no_ingestion"
20272     ],
20273     "readOnly": true,
20274     "type": "string"
20275 },
20276 "range": {
20277     "description": "The range applies to the carb property only",
20278     "$ref":
20279 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20280 schema.json#/definitions/range_number"
20281 },
20282 "step": {
20283     "description": "The step applies to the carb property only",
20284     "$ref":
20285 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20286 schema.json#/definitions/step_number"
20287 },
20288 "precision": {
20289     "description": "The precision applies to the carb property only",
20290     "$ref":
20291 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20292 schema.json#/definitions/precision"
20293 },
20294 "n": {
20295     "$ref":
20296 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20297 schema.json#/definitions/n"
20298 },
20299 "id": {
20300     "$ref":
20301 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20302 schema.json#/definitions/id"
20303 },
20304 "if": {
20305     "description": "The OCF Interface set supported by this Resource",
20306     "items": {
20307         "enum": [
20308             "oic.if.s",
20309             "oic.if.baseline"
20310         ],
20311         "type": "string",
20312         "maxLength": 64

```

```

20313         },
20314         "minItems": 1,
20315         "readOnly": true,
20316         "uniqueItems": true,
20317         "type": "array"
20318     },
20319 },
20320 "type": "object",
20321 "required": [
20322     "carb",
20323     "meal"
20324 ]
20325 }
20326 }
20327 }
20328

```

20329 6.100.5 Property definition

20330 Table 203 defines the Properties that are part of the "oic.r.glucose.carb" Resource Type.

20331 **Table 203 – The Property definitions of the Resource with type "rt" = "oic.r.glucose.carb".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
carb	number	Yes	Read Only	The amount of carbohydrates undertaken in grams
meal	string	Yes	Read Only	Recorded time of carbohydrates intake
range	multiple types: see schema	No	Read Write	The range applies to the carb property only
step	multiple types: see schema	No	Read Write	The step applies to the carb property only
precision	multiple types: see schema	No	Read Write	The precision applies to the carb property only
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

20332 6.100.6 CRUDN behaviour

20333 Table 204 defines the CRUDN operations that are supported on the "oic.r.glucose.carb" Resource Type.

20335 **Table 204 – The CRUDN operations of the Resource with type "rt" = "oic.r.glucose.carb".**

Create	Read	Update	Delete	Notify
	get			observe

20336 6.101 Exercise for Glucose Meter

20337 6.101.1 Introduction

20338 This Resource describes the Properties associated with glucose exercise.

20339 The exercise Property has a default unit of percentage.

20340 The exercise Property is a read-only value that is provided by the Server.

20341 6.101.2 Example URI

20342 /ExerciseResURI

20343 6.101.3 Resource type

20344 The Resource Type is defined as: "oic.r.glucose.exercise".

20345 6.101.4 OpenAPI 2.0 definition

```
20346 {
20347   "swagger": "2.0",
20348   "info": {
20349     "title": "Exercise for Glucose Meter",
20350     "version": "2019-03-22",
20351     "license": {
20352       "name": "OCF Data Model License",
20353       "url":
20354         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
20355         CENSE.md",
20356       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
20357     },
20358     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
20359   },
20360   "schemes": [
20361     "http"
20362   ],
20363   "consumes": [
20364     "application/json"
20365   ],
20366   "produces": [
20367     "application/json"
20368   ],
20369   "paths": {
20370     "/ExerciseResURI": {
20371       "get": {
20372         "description": "This Resource describes the Properties associated with glucose
20373         exercise.\nThe exercise Property has a default unit of percentage.\nThe exercise Property is a read-
20374         only value that is provided by the Server.",
20375         "parameters": [
20376           {
20377             "$ref": "#/parameters/interface"
20378           }
20379         ],
20380         "responses": {
20381           "200": {
20382             "description": "",
20383             "x-example": {
20384               "rt": [
20385                 "oic.r.glucose.exercise"
20386               ],
20387               "exercise": 30.0
20388             },
20389             "schema": {
20390               "$ref": "#/definitions/Exercise"
20391             }
20392           }
20393         }
20394       }
20395     }
20396   },
20397   "parameters": {
20398     "interface": {
20399       "in": "query",
```

```

20400         "name": "if",
20401         "type": "string",
20402         "enum": [
20403             "oic.if.s",
20404             "oic.if.baseline"
20405         ]
20406     },
20407 },
20408 "definitions": {
20409     "Exercise": {
20410         "properties": {
20411             "rt": {
20412                 "description": "Resource Type",
20413                 "items": {
20414                     "enum": [
20415                         "oic.r.glucose.exercise"
20416                     ],
20417                     "type": "string",
20418                     "maxLength": 64
20419                 },
20420                 "minItems": 1,
20421                 "uniqueItems": true,
20422                 "readOnly": true,
20423                 "type": "array"
20424             },
20425             "exercise": {
20426                 "description": "The level of exercise undertaken in percentage",
20427                 "maximum": 100.0,
20428                 "minimum": 0.0,
20429                 "readOnly": true,
20430                 "type": "number"
20431             },
20432             "range": {
20433                 "$ref":
20434                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20435                 schema.json#/definitions/range_number"
20436             },
20437             "step": {
20438                 "$ref":
20439                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20440                 schema.json#/definitions/step_number"
20441             },
20442             "precision": {
20443                 "$ref":
20444                 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20445                 schema.json#/definitions/precision"
20446             },
20447             "n": {
20448                 "$ref":
20449                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20450                 schema.json#/definitions/n"
20451             },
20452             "id": {
20453                 "$ref":
20454                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20455                 schema.json#/definitions/id"
20456             },
20457             "if": {
20458                 "description": "The OCF Interface set supported by this Resource",
20459                 "items": {
20460                     "enum": [
20461                         "oic.if.s",
20462                         "oic.if.baseline"
20463                     ],
20464                     "type": "string",
20465                     "maxLength": 64
20466                 },
20467                 "minItems": 1,
20468                 "readOnly": true,
20469                 "uniqueItems": true,
20470                 "type": "array"
20471             }

```



```

20472     },
20473     "type": "object",
20474     "required": [
20475         "exercise"
20476     ]
20477 }
20478 }
20479 }
20480

```

20481 6.101.5 Property definition

20482 Table 205 defines the Properties that are part of the "oic.r.glucose.exercise" Resource Type.

20483 **Table 205 – The Property definitions of the Resource with type "rt" =**
20484 **"oic.r.glucose.exercise".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
exercise	number	Yes	Read Only	The level of exercise undertaken in percentage
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

20485 6.101.6 CRUDN behaviour

20486 Table 206 defines the CRUDN operations that are supported on the "oic.r.glucose.exercise"
20487 Resource Type.

20488 **Table 206 – The CRUDN operations of the Resource with type "rt" =**
20489 **"oic.r.glucose.exercise".**

Create	Read	Update	Delete	Notify
	get			observe

20490 6.102 Hemoglobin Bound to Glucose A1c Form (HbA1c) for Glucose Meter

20491 6.102.1 Introduction

20492 This Resource describes the Properties associated with a person's hba1c level.
20493 The unit is a single value that is percentage.
20494 The hba1c Property is a read-only value that is provided by the Server.

20495 6.102.2 Example URI

20496 /GlucoseHbA1cResURI

20497 6.102.3 Resource type

20498 The Resource Type is defined as: "oic.r.glucose.hba1c".

6.102.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Hemoglobin Bound to Glucose Alc Form (HbAlc) for Glucose Meter",
    "version": "2019-03-22",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": [
    "http"
  ],
  "consumes": [
    "application/json"
  ],
  "produces": [
    "application/json"
  ],
  "paths": {
    "/GlucoseHbAlcResURI": {
      "get": {
        "description": "This Resource describes the Properties associated with a person's hbalc
level.\nThe unit is a single value that is percentage.\nThe hbalc Property is a read-only value that
is provided by the Server.",
        "parameters": [
          {
            "$ref": "#/parameters/interface"
          }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": [
                "oic.r.glucose.hbalc"
              ],
              "hbalc": 5.0
            },
            "schema": {
              "$ref": "#/definitions/HbAlc"
            }
          }
        }
      }
    }
  },
  "parameters": {
    "interface": {
      "in": "query",
      "name": "if",
      "type": "string",
      "enum": [
        "oic.if.s",
        "oic.if.baseline"
      ]
    }
  },
  "definitions": {
    "HbAlc": {
      "properties": {
        "rt": {
          "description": "Resource Type",
          "items": {
            "enum": [
              "oic.r.glucose.hbalc"
            ]
          }
        }
      }
    }
  }
}
```

```

20570         ],
20571         "type": "string",
20572         "maxLength": 64
20573     },
20574     "minItems": 1,
20575     "uniqueItems": true,
20576     "readOnly": true,
20577     "type": "array"
20578 },
20579 "hbalc": {
20580     "description": "Current HbA1c measurement in percentage",
20581     "maximum": 100.0,
20582     "minimum": 0.0,
20583     "readOnly": true,
20584     "type": "number"
20585 },
20586 "range": {
20587     "$ref":
20588 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20589 schema.json#/definitions/range_number"
20590 },
20591 "step": {
20592     "$ref":
20593 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20594 schema.json#/definitions/step_number"
20595 },
20596 "precision": {
20597     "$ref":
20598 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
20599 schema.json#/definitions/precision"
20600 },
20601 "n": {
20602     "$ref":
20603 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20604 schema.json#/definitions/n"
20605 },
20606 "id": {
20607     "$ref":
20608 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20609 schema.json#/definitions/id"
20610 },
20611 "if": {
20612     "description": "The OCF Interface set supported by this Resource",
20613     "items": {
20614         "enum": [
20615             "oic.if.s",
20616             "oic.if.baseline"
20617         ],
20618         "type": "string",
20619         "maxLength": 64
20620     },
20621     "minItems": 1,
20622     "readOnly": true,
20623     "uniqueItems": true,
20624     "type": "array"
20625 }
20626 },
20627 "type": "object",
20628 "required": [
20629     "hbalc"
20630 ]
20631 }
20632 }
20633 }

```

6.102.5 Property definition

Table 207 defines the Properties that are part of the "oic.r.glucose.hba1c" Resource Type.

20637 **Table 207 – The Property definitions of the Resource with type "rt" = "oic.r.glucose.hba1c".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
hba1c	number	Yes	Read Only	Current HbA1c measurement in percentage
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

20638 6.102.6 CRUDN behaviour

20639 Table 208 defines the CRUDN operations that are supported on the "oic.r.glucose.hba1c" Resource
20640 Type.

20641 **Table 208 – The CRUDN operations of the Resource with type "rt" = "oic.r.glucose.hba1c".**

Create	Read	Update	Delete	Notify
	get			observe

20642 6.103 Context Health for Glucose Meter

20643 6.103.1 Introduction

20644 This Resource describes the Properties associated with context health.
20645 The health Property is a read-only value that is provided by the Server where
20646 minor and major are related to the general health or the level of illness of the person;
20647 menses refers to the female menstrual cycle;
20648 stress refers to physiological or psychological stress.

20649 6.103.2 Example URI

20650 /GlucoseHealthResURI

20651 6.103.3 Resource type

20652 The Resource Type is defined as: "oic.r.glucose.health".

20653 6.103.4 OpenAPI 2.0 definition

```
20654 {
20655   "swagger": "2.0",
20656   "info": {
20657     "title": "Context Health for Glucose Meter",
20658     "version": "2019-03-22",
20659     "license": {
20660       "name": "OCF Data Model License",
20661       "url":
20662         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
20663         CENSE.md",
20664       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
```

```

20665     },
20666     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
20667 },
20668 "schemes": [
20669     "http"
20670 ],
20671 "consumes": [
20672     "application/json"
20673 ],
20674 "produces": [
20675     "application/json"
20676 ],
20677 "paths": {
20678     "/GlucoseHealthResURI": {
20679         "get": {
20680             "description": "This Resource describes the Properties associated with context health.\nThe
20681 health Property is a read-only value that is provided by the Server where\nminor and major are
20682 related to the general health or the level of illness of the person;\nmenses refers to the female
20683 menstrual cycle;\nstress refers to physiological or psychological stress.",
20684             "parameters": [
20685                 {
20686                     "$ref": "#/parameters/interface"
20687                 }
20688             ],
20689             "responses": {
20690                 "200": {
20691                     "description": "",
20692                     "x-example": {
20693                         "rt": [
20694                             "oic.r.glucose.health"
20695                         ],
20696                         "health": "major"
20697                     },
20698                     "schema": {
20699                         "$ref": "#/definitions/GlucoseHealth"
20700                     }
20701                 }
20702             }
20703         }
20704     }
20705 },
20706 "parameters": {
20707     "interface": {
20708         "in": "query",
20709         "name": "if",
20710         "type": "string",
20711         "enum": [
20712             "oic.if.s",
20713             "oic.if.baseline"
20714         ]
20715     }
20716 },
20717 "definitions": {
20718     "GlucoseHealth": {
20719         "properties": {
20720             "rt": {
20721                 "description": "Resource Type",
20722                 "items": {
20723                     "enum": [
20724                         "oic.r.glucose.health"
20725                     ],
20726                     "type": "string",
20727                     "maxLength": 64
20728                 },
20729                 "minItems": 1,
20730                 "readOnly": true,
20731                 "type": "array"
20732             },
20733             "health": {
20734                 "description": "The various levels of health a person feels when taking a glucose.",
20735                 "enum": [
20736                     "minor",

```

```

20737         "major",
20738         "menses",
20739         "stress",
20740         "none"
20741     ],
20742     "readOnly": true,
20743     "type": "string"
20744 },
20745 "n": {
20746     "$ref":
20747     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20748     schema.json#/definitions/n"
20749 },
20750 "id": {
20751     "$ref":
20752     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20753     schema.json#/definitions/id"
20754 },
20755 "if": {
20756     "description": "The OCF Interface set supported by this Resource",
20757     "items": {
20758         "enum": [
20759             "oic.if.s",
20760             "oic.if.baseline"
20761         ],
20762         "type": "string",
20763         "maxLength": 64
20764     },
20765     "minItems": 1,
20766     "readOnly": true,
20767     "uniqueItems": true,
20768     "type": "array"
20769 }
20770 },
20771 "type": "object",
20772 "required": [
20773     "health"
20774 ]
20775 }
20776 }
20777 }
20778

```

20779 6.103.5 Property definition

20780 Table 209 defines the Properties that are part of the "oic.r.glucose.health" Resource Type.

20781 **Table 209 – The Property definitions of the Resource with type "rt" =**
20782 **"oic.r.glucose.health".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
health	string	Yes	Read Only	The various levels of health a person feels when taking a glucose.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

6.103.6 CRUDN behaviour

Table 210 defines the CRUDN operations that are supported on the "oic.r.glucose.health" Resource Type.

Table 210 – The CRUDN operations of the Resource with type "rt" = "oic.r.glucose.health".

Create	Read	Update	Delete	Notify
	get			observe

6.104 Context Meal for Glucose Meter

6.104.1 Introduction

This Resource describes the Properties associated with context meal.

Preprandial means pre-meal.

Postprandial means post-meal.

Fasting means the effect of long-term absence of food intake (overnight).

The meal Property is a read-only value that is provided by the Server.

6.104.2 Example URI

/GlucoseMealResURI

6.104.3 Resource type

The Resource Type is defined as: "oic.r.glucose.meal".

6.104.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Context Meal for Glucose Meter",
    "version": "2019-03-22",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": [
    "http"
  ],
  "consumes": [
    "application/json"
  ],
  "produces": [
    "application/json"
  ],
  "paths": {
    "/GlucoseMealResURI": {
      "get": {
        "description": "This Resource describes the Properties associated with context
meal.\nPreprandial means pre-meal.\nPostprandial means post-meal.\nFasting means the effect of long-
term absence of food intake (overnight).\nThe meal Property is a read-only value that is provided by
the Server.",
        "parameters": [
          {
            "$ref": "#/parameters/interface"
          }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
```

```

20838         "rt": [
20839             "oic.r.glucose.meal"
20840         ],
20841         "meal": "preprandial"
20842     },
20843     "schema": {
20844         "$ref": "#/definitions/GlucoseMeal"
20845     }
20846 }
20847 }
20848 }
20849 },
20850 },
20851 "parameters": {
20852     "interface": {
20853         "in": "query",
20854         "name": "if",
20855         "type": "string",
20856         "enum": [
20857             "oic.if.s",
20858             "oic.if.baseline"
20859         ]
20860     }
20861 },
20862 "definitions": {
20863     "GlucoseMeal": {
20864         "properties": {
20865             "rt": {
20866                 "description": "Resource Type",
20867                 "items": {
20868                     "enum": [
20869                         "oic.r.glucose.meal"
20870                     ],
20871                     "type": "string",
20872                     "maxLength": 64
20873                 },
20874                 "minItems": 1,
20875                 "uniqueItems": true,
20876                 "readOnly": true,
20877                 "type": "array"
20878             },
20879             "meal": {
20880                 "description": "Time of day when the measurement is taken.",
20881                 "enum": [
20882                     "preprandial",
20883                     "postprandial",
20884                     "fasting",
20885                     "bedtime",
20886                     "casual"
20887                 ],
20888                 "readOnly": true,
20889                 "type": "string"
20890             },
20891             "n": {
20892                 "$ref":
20893 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20894 schema.json#/definitions/n"
20895             },
20896             "id": {
20897                 "$ref":
20898 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
20899 schema.json#/definitions/id"
20900             },
20901             "if": {
20902                 "description": "The OCF Interface set supported by this Resource",
20903                 "items": {
20904                     "enum": [
20905                         "oic.if.s",
20906                         "oic.if.baseline"
20907                     ],
20908                     "type": "string",
20909                     "maxLength": 64

```



```

20910         },
20911         "minItems": 1,
20912         "readOnly": true,
20913         "uniqueItems": true,
20914         "type": "array"
20915     },
20916 },
20917 "type": "object",
20918 "required": [
20919     "meal"
20920 ]
20921 }
20922 }
20923 }
20924

```

20925 6.104.5 Property definition

20926 Table 211 defines the Properties that are part of the "oic.r.glucose.meal" Resource Type.

20927 **Table 211 – The Property definitions of the Resource with type "rt" = "oic.r.glucose.meal".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
meal	string	Yes	Read Only	Time of day when the measurement is taken.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

20928 6.104.6 CRUDN behaviour

20929 Table 212 defines the CRUDN operations that are supported on the "oic.r.glucose.meal" Resource
20930 Type.

20931 **Table 212 – The CRUDN operations of the Resource with type "rt" = "oic.r.glucose.meal".**

Create	Read	Update	Delete	Notify
	get			observe

20932 6.105 Context Medication for Glucose Meter

20933 6.105.1 Introduction

20934 This Resource describes the Properties associated with context medication.

20935 The unit is a single value that is one of mg and mL.

20936 The medication Property has a default unit of milligrams[mg].

20937 The medication, unit and regimen Properties are read-only values that are provided by the
20938 Server.

20939 When range is omitted the default is 0 to +MAXFLOAT.

20940 6.105.2 Example URI

20941 /GlucoseMedicationResURI

20942 6.105.3 Resource type

20943 The Resource Type is defined as: "oic.r.glucose.medication".

6.105.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Context Medication for Glucose Meter",
    "version": "2019-03-22",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": [
    "http"
  ],
  "consumes": [
    "application/json"
  ],
  "produces": [
    "application/json"
  ],
  "paths": {
    "/GlucoseMedicationResURI": {
      "get": {
        "description": "This Resource describes the Properties associated with context
medication.\n\nThe unit is a single value that is one of mg and mL.\n\nThe medication Property has a
default unit of milligrams[mg].\n\nThe medication, unit and regimen Properties are read-only values
that are provided by the Server.\n\nWhen range is omitted the default is 0 to +MAXFLOAT.",
        "parameters": [
          {
            "$ref": "#/parameters/interface"
          }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": [
                "oic.r.glucose.medication"
              ],
              "medication": 100.0,
              "units": "mg",
              "regimen": "rapidacting"
            },
            "schema": {
              "$ref": "#/definitions/GlucoseMedication"
            }
          }
        }
      }
    }
  },
  "parameters": {
    "interface": {
      "in": "query",
      "name": "if",
      "type": "string",
      "enum": [
        "oic.if.s",
        "oic.if.baseline"
      ]
    }
  },
  "definitions": {
    "GlucoseMedication": {
      "properties": {
        "rt": {
          "description": "Resource Type",
```

```

21015         "items": {
21016             "enum": [
21017                 "oic.r.glucose.medication"
21018             ],
21019             "type": "string",
21020             "maxLength": 64
21021         },
21022         "minItems": 1,
21023         "uniqueItems": true,
21024         "readOnly": true,
21025         "type": "array"
21026     },
21027     "regimen": {
21028         "description": "Medication regimen",
21029         "enum": [
21030             "rapidacting",
21031             "shortacting",
21032             "intermediateacting",
21033             "longacting",
21034             "premix"
21035         ],
21036         "readOnly": true,
21037         "type": "string"
21038     },
21039     "medication": {
21040         "description": "The amount of medication taken",
21041         "readOnly": true,
21042         "type": "number",
21043         "minimum": 0.0
21044     },
21045     "units": {
21046         "description": "Unit for the amount of medication taken",
21047         "enum": [
21048             "mg",
21049             "mL"
21050         ],
21051         "readOnly": true,
21052         "type": "string",
21053         "default": "mg"
21054     },
21055     "range": {
21056         "$ref":
21057         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
21058         schema.json#/definitions/range_number"
21059     },
21060     "step": {
21061         "$ref":
21062         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
21063         schema.json#/definitions/step_number"
21064     },
21065     "precision": {
21066         "$ref":
21067         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
21068         schema.json#/definitions/precision"
21069     },
21070     "n": {
21071         "$ref":
21072         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21073         schema.json#/definitions/n"
21074     },
21075     "id": {
21076         "$ref":
21077         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21078         schema.json#/definitions/id"
21079     },
21080     "if": {
21081         "description": "The OCF Interface set supported by this Resource",
21082         "items": {
21083             "enum": [
21084                 "oic.if.s",
21085                 "oic.if.baseline"
21086             ],

```

```

21087         "type": "string",
21088         "maxLength": 64
21089     },
21090     "minItems": 1,
21091     "readOnly": true,
21092     "uniqueItems": true,
21093     "type": "array"
21094 }
21095 },
21096 "type": "object",
21097 "required": [
21098     "medication"
21099 ]
21100 }
21101 }
21102 }
21103

```

21104 6.105.5 Property definition

21105 Table 213 defines the Properties that are part of the "oic.r.glucose.medication" Resource Type.

21106 **Table 213 – The Property definitions of the Resource with type "rt" =**
21107 **"oic.r.glucose.medication".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
regimen	string	No	Read Only	Medication regimen
medication	number	Yes	Read Only	The amount of medication taken
units	string	No	Read Only	Unit for the amount of medication taken
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

21108 6.105.6 CRUDN behaviour

21109 Table 214 defines the CRUDN operations that are supported on the "oic.r.glucose.medication"
21110 Resource Type.

21111 **Table 214 – The CRUDN operations of the Resource with type "rt" =**
21112 **"oic.r.glucose.medication".**

Create	Read	Update	Delete	Notify
	get			observe

21113 6.106 Glucose Meter Atomic Measurement

21114 6.106.1 Introduction

21115 This Resource describes the Properties associated with glucose meter.
21116 The Resource is an Atomic Measurement of glucose (oic.r.glucose), context carbohydrates
21117 (oic.r.glucose.carb), context exercise (oic.r.glucose.exercise), Hemoglobin Bound to glucose a1c
21118 Form (HbA1c) (oic.r.glucose.hba1c), context health (oic.r.glucose.health), context meal
21119 (oic.r.glucose.meal), context medication (oic.r.glucose.medication), context sample location
21120 (oic.r.glucose.samplelocation), context tester (oic.r.glucose.testers), observed time
21121 (oic.r.time.stamp), and user id (oic.r.userid).

21122 6.106.2 Example URI

21123 /GlucoseMeterAMResURI

21124 6.106.3 Resource type

21125 The Resource Type is defined as: "oic.r.glucosemeter-am, oic.wk.atomicmeasurement".

21126 6.106.4 OpenAPI 2.0 definition

```
21127 {
21128   "swagger": "2.0",
21129   "info": {
21130     "title": "Glucose Meter Atomic Measurement",
21131     "version": "2019-03-22",
21132     "license": {
21133       "name": "OCF Data Model License",
21134       "url":
21135         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
21136         CENSE.md",
21137       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
21138     },
21139     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
21140   },
21141   "schemes": [
21142     "http"
21143   ],
21144   "consumes": [
21145     "application/json"
21146   ],
21147   "produces": [
21148     "application/json"
21149   ],
21150   "paths": {
21151     "/GlucoseMeterAMResURI?if=oic.if.b": {
21152       "get": {
21153         "description": "This Resource describes the Properties associated with glucose meter.\n\nThe
21154         Resource is an Atomic Measurement of glucose (oic.r.glucose), context carbohydrates
21155         (oic.r.glucose.carb), context exercise (oic.r.glucose.exercise), hemoglobin bound to glucose alc
21156         Form (HbA1c) (oic.r.glucose.hba1c), context health (oic.r.glucose.health), context meal
21157         (oic.r.glucose.meal), context medication (oic.r.glucose.medication), context sample location
21158         (oic.r.glucose.samplelocation), context tester (oic.r.glucose.testers), observed time
21159         (oic.r.time.stamp), and user id (oic.r.userid).",
21160         "parameters": [
21161           {
21162             "$ref": "#/parameters/interface-all"
21163           }
21164         ],
21165         "responses": {
21166           "200": {
21167             "description": "",
21168             "x-example": [
21169               {
21170                 "href": "/myGlucose",
21171                 "rep": {
21172                   "glucose": 100.0,
21173                   "units": "mg/dL",
21174                   "range": [
```

```

21175         20.0,
21176         600.0
21177     ],
21178     "step": 1
21179 }
21180 },
21181 {
21182     "href": "/myGlucoseCarb",
21183     "rep": {
21184         "carb": 100.0,
21185         "meal": "breakfast"
21186     }
21187 },
21188 {
21189     "href": "/myGlucoseExercise",
21190     "rep": {
21191         "exercise": 30.0
21192     }
21193 },
21194 {
21195     "href": "/myGlucoseHbA1c",
21196     "rep": {
21197         "hba1c": 5.0
21198     }
21199 },
21200 {
21201     "href": "/myGlucoseHealth",
21202     "rep": {
21203         "health": "major"
21204     }
21205 },
21206 {
21207     "href": "/myGlucoseMeal",
21208     "rep": {
21209         "meal": "preprandial"
21210     }
21211 },
21212 {
21213     "href": "/myGlucoseMeditation",
21214     "rep": {
21215         "medication": 100.0,
21216         "units": "mg",
21217         "regimen": "rapidacting"
21218     }
21219 },
21220 {
21221     "href": "/myGlucoseSampleLocation",
21222     "rep": {
21223         "samplelocation": "finger"
21224     }
21225 },
21226 {
21227     "href": "/myGlucoseTester",
21228     "rep": {
21229         "tester": "self"
21230     }
21231 },
21232 {
21233     "href": "/myUserId",
21234     "rep": {
21235         "userid": "USER1"
21236     }
21237 },
21238 {
21239     "href": "/myTimeStamp",
21240     "rep": {
21241         "timestamp": "2018-11-09T12:15+08:00"
21242     }
21243 }
21244 ],
21245 "schema": {
21246     "$ref": "#/definitions/batch-retrieve"

```

```

21247     }
21248   }
21249 }
21250 },
21251 },
21252 "/GlucoseMeterAMResURI?if=oic.if.ll": {
21253   "get": {
21254     "description": "This Resource describes the Properties associated with glucose meter.\nThe
21255 Resource is an Atomic Measurement of glucose (oic.r.glucose), context carbohydrates
21256 (oic.r.glucose.carb), context exercise (oic.r.glucose.exercise), hemoglobin bound to glucose alc
21257 Form (HbA1c) (oic.r.glucose.hb1c), context health (oic.r.glucose.health), context meal
21258 (oic.r.glucose.meal), context medication (oic.r.glucose.medication), context sample location
21259 (oic.r.glucose.samplelocation), context tester (oic.r.glucose.tester), observed time
21260 (oic.r.time.stamp), and user id (oic.r.userid).",
21261     "parameters": [
21262       {
21263         "$ref": "#/parameters/interface-all"
21264       }
21265     ],
21266     "responses": {
21267       "200": {
21268         "description": "",
21269         "x-example": [
21270           {
21271             "href": "/myGlucose",
21272             "rt": [
21273               "oic.r.glucose"
21274             ],
21275             "if": [
21276               "oic.if.s",
21277               "oic.if.baseline"
21278             ]
21279           },
21280           {
21281             "href": "/myGlucoseCarb",
21282             "rt": [
21283               "oic.r.glucose.carb"
21284             ],
21285             "if": [
21286               "oic.if.s",
21287               "oic.if.baseline"
21288             ]
21289           },
21290           {
21291             "href": "/myGlucoseExercise",
21292             "rt": [
21293               "oic.r.glucose.exercise"
21294             ],
21295             "if": [
21296               "oic.if.s",
21297               "oic.if.baseline"
21298             ]
21299           },
21300           {
21301             "href": "/myGlucoseHbA1c",
21302             "rt": [
21303               "oic.r.glucose.hb1c"
21304             ],
21305             "if": [
21306               "oic.if.s",
21307               "oic.if.baseline"
21308             ]
21309           },
21310           {
21311             "href": "/myGlucoseHealth",
21312             "rt": [
21313               "oic.r.glucose.health"
21314             ],
21315             "if": [
21316               "oic.if.s",
21317               "oic.if.baseline"
21318             ]

```

```

21319     },
21320     {
21321         "href": "/myGlucoseMeal",
21322         "rt": [
21323             "oic.r.glucose.meal"
21324         ],
21325         "if": [
21326             "oic.if.s",
21327             "oic.if.baseline"
21328         ]
21329     },
21330     {
21331         "href": "/myGlucoseMedication",
21332         "rt": [
21333             "oic.r.glucose.medication"
21334         ],
21335         "if": [
21336             "oic.if.s",
21337             "oic.if.baseline"
21338         ]
21339     },
21340     {
21341         "href": "/myGlucoseSampleLocation",
21342         "rt": [
21343             "oic.r.glucose.samplelocation"
21344         ],
21345         "if": [
21346             "oic.if.r",
21347             "oic.if.baseline"
21348         ]
21349     },
21350     {
21351         "href": "/myGlucoseTester",
21352         "rt": [
21353             "oic.r.glucose.testers"
21354         ],
21355         "if": [
21356             "oic.if.r",
21357             "oic.if.baseline"
21358         ]
21359     },
21360     {
21361         "href": "/myUserId",
21362         "rt": [
21363             "oic.r.userid"
21364         ],
21365         "if": [
21366             "oic.if.r",
21367             "oic.if.baseline"
21368         ]
21369     },
21370     {
21371         "href": "/myTimeStamp",
21372         "rt": [
21373             "oic.r.time.stamp"
21374         ],
21375         "if": [
21376             "oic.if.r",
21377             "oic.if.baseline"
21378         ]
21379     }
21380 ],
21381 "schema": {
21382     "$ref": "#/definitions/links"
21383 }
21384 }
21385 }
21386 }
21387 },
21388 "/GlucoseMeterAMResURI?if=oic.if.baseline": {
21389     "get": {
21390         "description": "This Resource describes the Properties associated with glucose meter.\n\nThe

```



```

21391 Resource is an Atomic Measurement of glucose (oic.r.glucose), context carbohydrates
21392 (oic.r.glucose.carb), context exercise (oic.r.glucose.exercise), Hemoglobin Bound to glucose alc
21393 Form (HbA1c) (oic.r.glucose.hb1c), context health (oic.r.glucose.health), context meal
21394 (oic.r.glucose.meal), context medication (oic.r.glucose.medication), context sample location
21395 (oic.r.glucose.samplelocation), context tester (oic.r.glucose.tester), observed time
21396 (oic.r.time.stamp), and user id (oic.r.userid).",
21397     "parameters": [
21398         {
21399             "$ref": "#/parameters/interface-all"
21400         }
21401     ],
21402     "responses": {
21403         "200": {
21404             "description": "",
21405             "x-example": {
21406                 "rt": [
21407                     "oic.r.glucosemeter-am",
21408                     "oic.wk.atomicmeasurement"
21409                 ],
21410                 "if": [
21411                     "oic.if.b",
21412                     "oic.if.ll",
21413                     "oic.if.baseline"
21414                 ],
21415                 "rts": [
21416                     "oic.r.glucose",
21417                     "oic.r.glucose.carb",
21418                     "oic.r.glucose.exercise",
21419                     "oic.r.glucose.hb1c",
21420                     "oic.r.glucose.health",
21421                     "oic.r.glucose.meal",
21422                     "oic.r.glucose.medication",
21423                     "oic.r.glucose.samplelocation",
21424                     "oic.r.glucose.tester",
21425                     "oic.r.userid",
21426                     "oic.r.time.stamp"
21427                 ],
21428                 "rts-m": [
21429                     "oic.r.glucose"
21430                 ],
21431                 "links": [
21432                     {
21433                         "href": "/myGlucose",
21434                         "rt": [
21435                             "oic.r.glucose"
21436                         ],
21437                         "if": [
21438                             "oic.if.s",
21439                             "oic.if.baseline"
21440                         ]
21441                     },
21442                     {
21443                         "href": "/myGlucoseCarb",
21444                         "rt": [
21445                             "oic.r.glucose.carb"
21446                         ],
21447                         "if": [
21448                             "oic.if.s",
21449                             "oic.if.baseline"
21450                         ]
21451                     },
21452                     {
21453                         "href": "/myGlucoseExercise",
21454                         "rt": [
21455                             "oic.r.glucose.exercise"
21456                         ],
21457                         "if": [
21458                             "oic.if.s",
21459                             "oic.if.baseline"
21460                         ]
21461                     }
21462                 ]

```

```

21463         "href": "/myGlucoseHbA1c",
21464         "rt": [
21465             "oic.r.glucose.hbA1c"
21466         ],
21467         "if": [
21468             "oic.if.s",
21469             "oic.if.baseline"
21470         ]
21471     },
21472     {
21473         "href": "/myGlucoseHealth",
21474         "rt": [
21475             "oic.r.glucose.health"
21476         ],
21477         "if": [
21478             "oic.if.s",
21479             "oic.if.baseline"
21480         ]
21481     },
21482     {
21483         "href": "/myGlucoseMeal",
21484         "rt": [
21485             "oic.r.glucose.meal"
21486         ],
21487         "if": [
21488             "oic.if.s",
21489             "oic.if.baseline"
21490         ]
21491     },
21492     {
21493         "href": "/myGlucoseMedication",
21494         "rt": [
21495             "oic.r.glucose.medication"
21496         ],
21497         "if": [
21498             "oic.if.s",
21499             "oic.if.baseline"
21500         ]
21501     },
21502     {
21503         "href": "/myGlucoseSampleLocation",
21504         "rt": [
21505             "oic.r.glucose.samplelocation"
21506         ],
21507         "if": [
21508             "oic.if.r",
21509             "oic.if.baseline"
21510         ]
21511     },
21512     {
21513         "href": "/myGlucoseTester",
21514         "rt": [
21515             "oic.r.glucose.testers"
21516         ],
21517         "if": [
21518             "oic.if.r",
21519             "oic.if.baseline"
21520         ]
21521     },
21522     {
21523         "href": "/myUserId",
21524         "rt": [
21525             "oic.r.userid"
21526         ],
21527         "if": [
21528             "oic.if.r",
21529             "oic.if.baseline"
21530         ]
21531     },
21532     {
21533         "href": "/myTimeStamp",
21534         "rt": [

```

```

21535         "oic.r.time.stamp"
21536     ],
21537     "if": [
21538         "oic.if.x",
21539         "oic.if.baseline"
21540     ]
21541 }
21542 ]
21543 },
21544 "schema": {
21545     "$ref": "#/definitions/baseline"
21546 }
21547 }
21548 }
21549 }
21550 },
21551 },
21552 "parameters": {
21553     "interface-all": {
21554         "in": "query",
21555         "name": "if",
21556         "type": "string",
21557         "enum": [
21558             "oic.if.b",
21559             "oic.if.ll",
21560             "oic.if.baseline"
21561         ]
21562     }
21563 },
21564 "definitions": {
21565     "links": {
21566         "type": "array",
21567         "items": {
21568             "$ref": "#/definitions/oic.oic-link"
21569         }
21570     },
21571     "batch-retrieve": {
21572         "minItems": 1,
21573         "items": {
21574             "properties": {
21575                 "href": {
21576                     "$ref":
21577 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21578 schema.json#/definitions/href"
21579                 },
21580                 "rep": {
21581                     "type": "object",
21582                     "anyOf": [
21583                         {
21584                             "$ref":
21585 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseResURI.swagger.json#/definitions/
21586 Glucose"
21587                         },
21588                         {
21589                             "$ref":
21590 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseCarbResURI.swagger.json#/definiti
21591 ons/GlucoseCarb"
21592                         },
21593                         {
21594                             "$ref":
21595 "https://openconnectivityfoundation.github.io/IoTDataModels/ExerciseResURI.swagger.json#/definitions
21596 /Exercise"
21597                         },
21598                         {
21599                             "$ref":
21600 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseHbA1cResURI.swagger.json#/definit
21601 ions/HbA1c"
21602                         },
21603                         {
21604                             "$ref":
21605 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseHealthResURI.swagger.json#/defini
21606 tions/GlucoseHealth"

```

```

21607         },
21608         {
21609             "$ref":
21610 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseMealResURI.swagger.json#/definitions/GlucoseMeal"
21611         },
21612         {
21613             "$ref":
21614 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseMedicationResURI.swagger.json#/definitions/GlucoseMedication"
21615         },
21616         {
21617             "$ref":
21618 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseSampleLocationResURI.swagger.json#/definitions/GlucoseSampleLocation"
21619         },
21620         {
21621             "$ref":
21622 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseTesterResURI.swagger.json#/definitions/GlucoseTester"
21623         },
21624         {
21625             "$ref":
21626 "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/UserID"
21627         },
21628         {
21629             "$ref":
21630 "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definitions/TimeStamp"
21631         }
21632     ],
21633     "type": "array"
21634 },
21635 "required": [
21636     "href",
21637     "rep"
21638 ],
21639 "type": "object"
21640 },
21641 "type": "array"
21642 },
21643 "baseline": {
21644     "properties": {
21645         "rt": {
21646             "items": {
21647                 "enum": [
21648                     "oic.r.glucosemeter-am",
21649                     "oic.wk.atomicmeasurement"
21650                 ],
21651                 "type": "string",
21652                 "maxLength": 64
21653             },
21654             "minItems": 2,
21655             "uniqueItems": true,
21656             "readOnly": true,
21657             "type": "array"
21658         },
21659         "rts": {
21660             "description": "This contains all possible Resource Types for this Atomic Measurement.",
21661             "items": {
21662                 "enum": [
21663                     "oic.r.glucose",
21664                     "oic.r.glucose.carb",
21665                     "oic.r.glucose.exercise",
21666                     "oic.r.glucose.hbabc",
21667                     "oic.r.glucose.health",
21668                     "oic.r.glucose.meal",
21669                     "oic.r.glucose.medication",
21670                     "oic.r.glucose.samplelocation",
21671                     "oic.r.glucose.testers",
21672                     "oic.r.time.stamp",

```

```

21679         "oic.r.userid"
21680     ],
21681     "type": "string",
21682     "maxLength": 64
21683 },
21684     "minItems": 1,
21685     "uniqueItems": true,
21686     "readOnly": true,
21687     "type": "array"
21688 },
21689     "rts-m": {
21690         "description": "This contains all mandatory Resource Types for this Atomic Measurement.",
21691         "items": {
21692             "enum": [
21693                 "oic.r.glucose"
21694             ],
21695             "type": "string",
21696             "maxLength": 64
21697         },
21698         "maxItems": 1,
21699         "minItems": 1,
21700         "uniqueItems": true,
21701         "readOnly": true,
21702         "type": "array"
21703     },
21704     "if": {
21705         "description": "The OCF Interface set supported by this Resource",
21706         "items": {
21707             "enum": [
21708                 "oic.if.b",
21709                 "oic.if.ll",
21710                 "oic.if.baseline"
21711             ],
21712             "type": "string",
21713             "maxLength": 64
21714         },
21715         "minItems": 3,
21716         "uniqueItems": true,
21717         "readOnly": true,
21718         "type": "array"
21719     },
21720     "n": {
21721         "$ref":
21722         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21723         schema.json#/definitions/n"
21724     },
21725     "id": {
21726         "$ref":
21727         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21728         schema.json#/definitions/id"
21729     },
21730     "links": {
21731         "$ref": "#/definitions/links"
21732     }
21733 },
21734     "type": "object",
21735     "required": [
21736         "rt", "if", "links", "rts", "rts-m"
21737     ]
21738 },
21739     "oic.oic-link": {
21740         "properties": {
21741             "if": {
21742                 "description": "The OCF Interface set supported by the target Resource",
21743                 "items": {
21744                     "enum": [
21745                         "oic.if.s",
21746                         "oic.if.r",
21747                         "oic.if.baseline"
21748                     ],
21749                     "type": "string",
21750                     "maxLength": 64

```

```

21751     },
21752     "minItems": 1,
21753     "uniqueItems": true,
21754     "readOnly": true,
21755     "type": "array"
21756   },
21757   "rt": {
21758     "description": "Resource Type of the target Resource",
21759     "items": {
21760       "enum": [
21761         "oic.r.glucose",
21762         "oic.r.glucose.carb",
21763         "oic.r.glucose.exercise",
21764         "oic.r.glucose.hbabc",
21765         "oic.r.glucose.health",
21766         "oic.r.glucose.meal",
21767         "oic.r.glucose.medication",
21768         "oic.r.glucose.samplelocation",
21769         "oic.r.glucose.testers",
21770         "oic.r.time.stamp",
21771         "oic.r.userid"
21772       ],
21773       "type": "string",
21774       "maxLength": 64
21775     },
21776     "minItems": 1,
21777     "uniqueItems": true,
21778     "readOnly": true,
21779     "type": "array"
21780   },
21781   "anchor": {
21782     "$ref":
21783     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21784     schema.json#/definitions/anchor"
21785   },
21786   "di": {
21787     "$ref":
21788     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21789     schema.json#/definitions/di"
21790   },
21791   "eps": {
21792     "$ref":
21793     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21794     schema.json#/definitions/eps"
21795   },
21796   "href": {
21797     "$ref":
21798     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21799     schema.json#/definitions/href"
21800   },
21801   "ins": {
21802     "$ref":
21803     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21804     schema.json#/definitions/ins"
21805   },
21806   "p": {
21807     "$ref":
21808     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21809     schema.json#/definitions/p"
21810   },
21811   "rel": {
21812     "$ref":
21813     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21814     schema.json#/definitions/rel_array"
21815   },
21816   "title": {
21817     "$ref":
21818     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21819     schema.json#/definitions/title"
21820   },
21821   "type": {
21822     "$ref":

```

```

21823 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
21824 schema.json#/definitions/type"
21825     },
21826     },
21827     "required": [
21828         "href",
21829         "rt",
21830         "if"
21831     ],
21832     "type": "object"
21833 }
21834 }
21835 }
21836

```

21837 6.106.5 Property definition

21838 Table 215 defines the Properties that are part of the "oic.r.glucosemeter-am,
21839 oic.wk.atomicmeasurement" Resource Type.

21840 **Table 215 – The Property definitions of the Resource with type "rt" = "oic.r.glucosemeter-**
21841 **am, oic.wk.atomicmeasurement".**

Property name	Value type	Mandatory	Access mode	Description
href	multiple types: see schema	Yes	Read Write	
rep	object: see schema	Yes	Read Write	
rt	array: see schema	Yes	Read Only	
rts	array: see schema	Yes	Read Only	This contains all possible Resource Types for this Atomic Measurement.
rts-m	array: see schema	Yes	Read Only	This contains all mandatory Resource Types for this Atomic Measurement.
if	array: see schema	Yes	Read Only	The OCF Interface set supported by this Resource
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
links	multiple types: see schema	Yes	Read Write	
if	array: see schema	Yes	Read Only	The OCF Interface set supported by the target Resource
rt	array: see schema	Yes	Read Only	Resource Type of the target Resource
anchor	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	

ins	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
rel	multiple types: see schema	No	Read Write	
title	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	

6.106.6 CRUDN behaviour

Table 216 defines the CRUDN operations that are supported on the "oic.r.glucosemeter-am, oic.wk.atomicmeasurement" Resource Type.

Table 216 – The CRUDN operations of the Resource with type "rt" = "oic.r.glucosemeter-am, oic.wk.atomicmeasurement".

Create	Read	Update	Delete	Notify
	get			observe

6.107 Context Sample Location for Glucose Meter

6.107.1 Introduction

This Resource describes the Properties associated with context sample Location. AST means Alternative Site Test specifying that the location of test performed was from an alternative site on the body. The samplelocation Property is a read-only value that is provided by the Server.

6.107.2 Example URI

/GlucoseSampleLocationResURI

6.107.3 Resource type

The Resource Type is defined as: "oic.r.glucose.samplelocation".

6.107.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Context Sample Location for Glucose Meter",
    "version": "2019-03-22",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": [
    "http"
  ],
  "consumes": [
    "application/json"
  ],
  "produces": [
    "application/json"
  ],
  "paths": {
    "/GlucoseSampleLocationResURI": {
```



```

21883     "get": {
21884         "description": "This Resource describes the Properties associated with context sample
21885 Location.\nAST means Alternative Site Test specifying that the location of test performed was from
21886 an alternative site on the body.\nThe samplelocation Property is a read-only value that is provided
21887 by the Server.",
21888         "parameters": [
21889             {
21890                 "$ref": "#/parameters/interface"
21891             }
21892         ],
21893         "responses": {
21894             "200": {
21895                 "description": "",
21896                 "x-example": {
21897                     "rt": [
21898                         "oic.r.glucose.samplelocation"
21899                     ],
21900                     "samplelocation": "finger"
21901                 },
21902                 "schema": {
21903                     "$ref": "#/definitions/GlucoseSampleLocation"
21904                 }
21905             }
21906         }
21907     }
21908 },
21909 {
21910     "parameters": {
21911         "interface": {
21912             "in": "query",
21913             "name": "if",
21914             "type": "string",
21915             "enum": [
21916                 "oic.if.r",
21917                 "oic.if.baseline"
21918             ]
21919         }
21920     },
21921     "definitions": {
21922         "GlucoseSampleLocation": {
21923             "properties": {
21924                 "rt": {
21925                     "description": "Resource Type",
21926                     "items": {
21927                         "enum": [
21928                             "oic.r.glucose.samplelocation"
21929                         ],
21930                     },
21931                     "type": "string",
21932                     "maxLength": 64
21933                 },
21934                 "minItems": 1,
21935                 "uniqueItems": true,
21936                 "readOnly": true,
21937                 "type": "array"
21938             },
21939             "samplelocation": {
21940                 "description": "The possible blood locations where the blood sample may be taken.",
21941                 "enum": [
21942                     "finger",
21943                     "ast",
21944                     "earlobe",
21945                     "ctrlsolution"
21946                 ],
21947                 "readOnly": true,
21948                 "type": "string"
21949             },
21950             "n": {
21951                 "$ref":
21952 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21953 schema.json#/definitions/n"
21954             },
21955             "id": {

```

```
21955         "$ref":
21956         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
21957         schema.json#/definitions/id"
21958     },
21959     "if": {
21960         "description": "The OCF Interface set supported by this Resource",
21961         "items": {
21962             "enum": [
21963                 "oic.if.r",
21964                 "oic.if.baseline"
21965             ],
21966             "type": "string",
21967             "maxLength": 64
21968         },
21969         "minItems": 1,
21970         "readOnly": true,
21971         "uniqueItems": true,
21972         "type": "array"
21973     }
21974 },
21975 "type": "object",
21976 "required": [
21977     "samplelocation"
21978 ]
21979 }
21980 }
21981 }
21982 }
```

21983 **6.107.5 Property definition**

21984 Table 217 defines the Properties that are part of the "oic.r.glucose.samplelocation" Resource Type.

21985 **Table 217 – The Property definitions of the Resource with type "rt" =**
21986 **"oic.r.glucose.samplelocation".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
samplelocation	string	Yes	Read Only	The possible blood locations where the blood sample may be taken.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

21987 **6.107.6 CRUDN behaviour**

21988 Table 218 defines the CRUDN operations that are supported on the "oic.r.glucose.samplelocation"
21989 Resource Type.

21990 **Table 218 – The CRUDN operations of the Resource with type "rt" =**
21991 **"oic.r.glucose.samplelocation".**

Create	Read	Update	Delete	Notify
	get			observe

21992 **6.108 Context Tester for Glucose Meter**

21993 **6.108.1 Introduction**

21994 This Resource describes the Properties associated with context tester.

21995 The tester Property is a read-only value that is provided by the Server where especially
21996 hcp stands for HealthCare Professional.

21997 **6.108.2 Example URI**

21998 /GlucoseTesterResURI

21999 **6.108.3 Resource type**

22000 The Resource Type is defined as: "oic.r.glucose.tester".

22001 **6.108.4 OpenAPI 2.0 definition**

```
22002 {  
22003   "swagger": "2.0",  
22004   "info": {  
22005     "title": "Context Tester for Glucose Meter",  
22006     "version": "2019-03-22",  
22007     "license": {  
22008       "name": "OCF Data Model License",  
22009       "url":  
22010         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
22011         CENSE.md",  
22012       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."  
22013     },  
22014     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
22015   },  
22016   "schemes": [  
22017     "http"  
22018   ],  
22019   "consumes": [  
22020     "application/json"  
22021   ],  
22022   "produces": [  
22023     "application/json"  
22024   ],  
22025   "paths": {  
22026     "/GlucoseTesterResURI": {  
22027       "get": {  
22028         "description": "This Resource describes the Properties associated with context tester.\n\nThe  
22029         tester Property is a read-only value that is provided by the Server where especially\n\nhcp stands for  
22030         HealthCare Professional.",  
22031         "parameters": [  
22032           {  
22033             "$ref": "#/parameters/interface"  
22034           }  
22035         ],  
22036         "responses": {  
22037           "200": {  
22038             "description": "",  
22039             "x-example": {  
22040               "rt": [  
22041                 "oic.r.glucose.tester"  
22042               ],  
22043               "tester": "self"  
22044             },  
22045             "schema": {  
22046               "$ref": "#/definitions/GlucoseTester"  
22047             }  
22048           }  
22049         }  
22050       }  
22051     }  
22052   },  
22053   "parameters": {  
22054     "interface": {  
22055       "in": "query",
```

```

22056         "name": "if",
22057         "type": "string",
22058         "enum": [
22059             "oic.if.r",
22060             "oic.if.baseline"
22061         ]
22062     },
22063 },
22064 "definitions": {
22065     "GlucoseTester": {
22066         "properties": {
22067             "rt": {
22068                 "description": "Resource Type",
22069                 "items": {
22070                     "enum": [
22071                         "oic.r.glucose.testers"
22072                     ],
22073                     "type": "string",
22074                     "maxLength": 64
22075                 },
22076                 "minItems": 1,
22077                 "uniqueItems": true,
22078                 "readOnly": true,
22079                 "type": "array"
22080             },
22081             "tester": {
22082                 "description": "The possible cases of testers who may perform the blood sugar
22083 measurement.",
22084                 "enum": [
22085                     "self",
22086                     "hcp",
22087                     "lab"
22088                 ],
22089                 "readOnly": true,
22090                 "type": "string"
22091             },
22092             "n": {
22093                 "$ref":
22094 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22095 schema.json#/definitions/n"
22096             },
22097             "id": {
22098                 "$ref":
22099 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22100 schema.json#/definitions/id"
22101             },
22102             "if": {
22103                 "description": "The OCF Interface set supported by this Resource",
22104                 "items": {
22105                     "enum": [
22106                         "oic.if.r",
22107                         "oic.if.baseline"
22108                     ],
22109                     "type": "string",
22110                     "maxLength": 64
22111                 },
22112                 "minItems": 1,
22113                 "readOnly": true,
22114                 "uniqueItems": true,
22115                 "type": "array"
22116             }
22117         },
22118         "type": "object",
22119         "required": [
22120             "tester"
22121         ]
22122     }
22123 }
22124 }
22125

```

6.108.5 Property definition

Table 219 defines the Properties that are part of the "oic.r.glucose.tester" Resource Type.

Table 219 – The Property definitions of the Resource with type "rt" = "oic.r.glucose.tester".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
tester	string	Yes	Read Only	The possible cases of testers who may perform the blood sugar measurement.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

6.108.6 CRUDN behaviour

Table 220 defines the CRUDN operations that are supported on the "oic.r.glucose.tester" Resource Type.

Table 220 – The CRUDN operations of the Resource with type "rt" = "oic.r.glucose.tester".

Create	Read	Update	Delete	Notify
	get			observe

6.109 Optical RFID Station

6.109.1 Introduction

The Property "process" represents the stage of the product in the product line which has an optical RFID tag on its body.

The Property "event" is represented by a Boolean value set to "true" and "false" alarming the issue when additional action is requested for the tagged product.

The Property "actionrequest" represent necessary actions like the isolation of the product, to send the product back to other specific line to modify or fix the issue.

6.109.2 Example URI

/ORFIDStationResURI

6.109.3 Resource type

The Resource Type is defined as: "oic.r.orfid.station".

6.109.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Optical RFID Station",
    "version": "20190215",
    "license": {
      "name": "OCF Data Model License",
      "url":
        "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
        CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
        reserved."
    }
  },
```

```

22159     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
22160 },
22161 "schemas": ["http"],
22162 "consumes": ["application/json"],
22163 "produces": ["application/json"],
22164 "paths": {
22165     "/ORFIDStationResURI" : {
22166         "get": {
22167             "description": "The Property \"process\" represents the stage of the product in the product
22168 line which has an optical RFID tag on its body.\nThe Property \"event\" is represented by a Boolean
22169 value set to \"true\" and \"false\" alarming the issue when additional action is requested for the
22170 tagged product.\nThe Property \"actionrequest\" represent necessary actions like the isolation of
22171 the product, to send the product back to other specific line to modify or fix the issue.",
22172             "parameters": [
22173                 {"$ref": "#/parameters/interface"}
22174             ],
22175             "responses": {
22176                 "200": {
22177                     "description": "RETRIEVES the station information from optical augmented RFID reader
22178 in smart factory environment.",
22179                     "x-example":
22180                     {
22181                         "rt": ["oic.r.orfid.station"],
22182                         "if": ["oic.if.rw", "oic.if.baseline"],
22183                         "process": 17,
22184                         "event": true,
22185                         "actionrequest": 2
22186                     },
22187                     "schema": { "$ref": "#/definitions/ORFID" }
22188                 }
22189             }
22190         },
22191         "post": {
22192             "description": "Sets necessary action in accordance with Tag Information.",
22193             "parameters": [
22194                 {"$ref": "#/parameters/interface"},
22195                 {
22196                     "name": "body",
22197                     "in": "body",
22198                     "required": true,
22199                     "schema": { "$ref": "#/definitions/ORFID" },
22200                     "x-example":
22201                     {
22202                         "event": false,
22203                         "actionrequest": 0
22204                     }
22205                 }
22206             ],
22207             "responses": {
22208                 "200": {
22209                     "description": "",
22210                     "x-example":
22211                     {
22212                         "event": false,
22213                         "actionrequest": 0
22214                     },
22215                     "schema": { "$ref": "#/definitions/ORFID" }
22216                 }
22217             }
22218         }
22219     }
22220 },
22221 "parameters": {
22222     "interface": {
22223         "in": "query",
22224         "name": "if",
22225         "type": "string",
22226         "enum": ["oic.if.rw", "oic.if.baseline"]
22227     }
22228 },
22229 "definitions": {
22230     "ORFID" : {

```

```

22231     "properties": {
22232       "rt": {
22233         "description": "The Resource Type.",
22234         "items": {
22235           "enum": ["oic.r.orfid.station"],
22236           "maxLength": 64,
22237           "type": "string"
22238         },
22239         "minItems": 1,
22240         "uniqueItems": true,
22241         "readOnly": true,
22242         "type": "array"
22243       },
22244       "process": {
22245         "description": "The process step that is being performed at this station.",
22246         "readOnly": true,
22247         "type": "integer"
22248       },
22249       "actionrequest": {
22250         "description": "The action request identifier.",
22251         "type": "integer"
22252       },
22253       "event": {
22254         "description": "The Event indicator, when True, the action request should be applied to
the product identified by the tagid.",
22255         "type": "boolean"
22256       },
22257       "n": {
22258         "$ref":
22259         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
schema.json#/definitions/n"
22260       },
22261       "id": {
22262         "$ref":
22263         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
schema.json#/definitions/id"
22264       },
22265       "if": {
22266         "description": "The OCF Interface set supported by this Resource.",
22267         "items": {
22268           "enum": [
22269             "oic.if.rw",
22270             "oic.if.baseline"
22271           ],
22272           "type": "string"
22273         },
22274         "minItems": 2,
22275         "uniqueItems": true,
22276         "readOnly": true,
22277         "type": "array"
22278       }
22279     },
22280     "type": "object",
22281     "required": ["event", "actionrequest"]
22282   }
22283 }
22284 }
22285 }
22286 }
22287 }
22288

```

6.109.5 Property definition

Table 221 defines the Properties that are part of the "oic.r.orfid.station" Resource Type.

Table 221 – The Property definitions of the Resource with type "rt" = "oic.r.orfid.station".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
process	integer	No	Read Only	The process step that is being

				performed at this station.
actionrequest	integer	Yes	Read Write	The action request identifier.
event	boolean	Yes	Read Write	The Event indicator, when True, the action request should be applied to the product identified by the tagid.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

22292 6.109.6 CRUDN behaviour

22293 Table 222 defines the CRUDN operations that are supported on the "oic.r.orfid.station" Resource
22294 Type.

22295 **Table 222 – The CRUDN operations of the Resource with type "rt" = "oic.r.orfid.station".**

Create	Read	Update	Delete	Notify
	get	post		observe

22296 6.110 Optical RFID Tag

22297 6.110.1 Introduction

22298 The Property "tagid" is an integer showing the currently read optical augmented RFID tag's
22299 identity information.

22300 6.110.2 Example URI

22301 /ORFIDTagResURI

22302 6.110.3 Resource type

22303 The Resource Type is defined as: "oic.r.orfid.tag".

22304 6.110.4 OpenAPI 2.0 definition

```

22305 {
22306   "swagger": "2.0",
22307   "info": {
22308     "title": "Optical RFID Tag",
22309     "version": "20190215",
22310     "license": {
22311       "name": "OCF Data Model License",
22312       "url":
22313         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
22314 CENSE.md",
22315       "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
22316 reserved."
22317     },
22318     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
22319   },
22320   "schemes": ["http"],
22321   "consumes": ["application/json"],
22322   "produces": ["application/json"],
22323   "paths": {
22324     "/ORFIDTagResURI" : {

```



```

22325     "get": {
22326         "description": "The Property \"tagid\" is an integer showing the currently read optical
22327 augmented RFID tag's identity information.",
22328         "parameters": [
22329             { "$ref": "#/parameters/interface" }
22330         ],
22331         "responses": {
22332             "200": {
22333                 "description": "RETRIEVES the tag information from optical augmented RFID reader in
22334 smart factory environment.",
22335                 "x-example":
22336                     {
22337                         "rt": ["oic.r.orfid.tag"],
22338                         "if": ["oic.if.r", "oic.if.baseline"],
22339                         "tagid": 10965742,
22340                         "reading": true
22341                     },
22342                 "schema": { "$ref": "#/definitions/ORFID" }
22343             }
22344         }
22345     },
22346 },
22347 {
22348     "parameters": {
22349         "interface": {
22350             "in": "query",
22351             "name": "if",
22352             "type": "string",
22353             "enum": ["oic.if.r", "oic.if.baseline"]
22354         }
22355     },
22356     "definitions": {
22357         "ORFID": {
22358             "properties": {
22359                 "rt": {
22360                     "description": "The Resource Type.",
22361                     "items": {
22362                         "enum": ["oic.r.orfid.tag"],
22363                         "maxLength": 64,
22364                         "type": "string"
22365                     },
22366                     "minItems": 1,
22367                     "uniqueItems": true,
22368                     "readOnly": true,
22369                     "type": "array"
22370                 },
22371                 "tagid": {
22372                     "description": "The tag read by the RFID reader.",
22373                     "readOnly": true,
22374                     "type": "integer"
22375                 },
22376                 "reading": {
22377                     "description": "The reading indication. true: the tagid is read e.g. being valid. false:
22378 the tagid is invalid.",
22379                     "readOnly": true,
22380                     "type": "boolean"
22381                 },
22382                 "n": {
22383                     "$ref":
22384 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22385 schema.json#/definitions/n"
22386                 },
22387                 "id": {
22388                     "$ref":
22389 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22390 schema.json#/definitions/id"
22391                 },
22392                 "if": {
22393                     "description": "The OCF Interface set supported by this Resource.",
22394                     "items": {
22395                         "enum": [
22396                             "oic.if.r",

```

```

22397         "oic.if.baseline"
22398     ],
22399     "type": "string"
22400 },
22401     "minItems": 2,
22402     "uniqueItems": true,
22403     "readOnly": true,
22404     "type": "array"
22405 },
22406 },
22407     "type": "object",
22408     "required": ["tagid", "reading"]
22409 }
22410 }
22411 }
22412

```

22413 6.110.5 Property definition

22414 Table 223 defines the Properties that are part of the "oic.r.orfid.tag" Resource Type.

22415 **Table 223 – The Property definitions of the Resource with type "rt" = "oic.r.orfid.tag".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
tagid	integer	Yes	Read Only	The tag read by the RFID reader.
reading	boolean	Yes	Read Only	The reading indication. true: the tagid is read e.g. being valid. false: the tagid is invalid.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

22416 6.110.6 CRUDN behaviour

22417 Table 224 defines the CRUDN operations that are supported on the "oic.r.orfid.tag" Resource Type.

22418 **Table 224 – The CRUDN operations of the Resource with type "rt" = "oic.r.orfid.tag".**

Create	Read	Update	Delete	Notify
	get			observe

22419 6.111 PowerSource

22420 6.111.1 Introduction

22421 This Resource list the available power sources for the Device. The Property "powersources" is a
22422 list that is read only and is informative only.

22423 If there is more than 1 power source active, use multiple Resources to indicate the active power
22424 sources. If the power source is unknown use the value "unknown".

22425 6.111.2 Example URI

22426 /PowerSourceResURI

22427 6.111.3 Resource type

22428 The Resource Type is defined as: "oic.r.powersource".

6.111.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "PowerSource",
    "version": "20190513",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/PowerSourceResURI" : {
      "get": {
        "description": "This Resource list the available power sources for the Device. The Property
\"powersources\" is a list that is read only and is informative only.\nIf there is more than 1 power
source active, use multiple Resources to indicate the active power sources. If the power source is
unknown use the value \"unknown\".",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description" : "Retrieves the list of available power sources.",
            "x-example":
{
  "rt": ["oic.r.powersource"],
  "if": ["oic.if.r", "oic.if.baseline"],
  "powersources": [
    "DC power",
    "Internal Battery",
    "External Battery",
    "Power over Ethernet",
    "USB",
    "AC (Mains) Power",
    "Solar"
  ],
  "sourcefault": false
            },
            "schema": { "$ref": "#/definitions/powerSourceSchema" }
          }
        }
      }
    }
  },
  "parameters": {
    "interface": {
      "in": "query",
      "name": "if",
      "type": "string",
      "enum": ["oic.if.r", "oic.if.baseline"]
    }
  },
  "definitions": {
    "powerSourceSchema" : {
      "properties": {
        "rt": {
          "description": "The Resource Type.",
          "items": {
            "enum": ["oic.r.powersource"],
            "maxLength": 64,
            "type": "string"
          },
        },
      },
    },
  },
}
```

```

22500         "minItems": 1,
22501         "uniqueItems": true,
22502         "readOnly": true,
22503         "type": "array"
22504     },
22505     "powersources": {
22506         "items": {
22507             "enum": [
22508                 "unknown",
22509                 "DC power",
22510                 "Internal Battery",
22511                 "External Battery",
22512                 "Power over Ethernet",
22513                 "USB",
22514                 "AC (Mains) Power",
22515                 "Solar"
22516             ],
22517             "minItems": 1,
22518             "type": "string",
22519             "uniqueItems": true
22520         },
22521         "type": "array"
22522     },
22523     "sourcefault": {
22524         "description": "Fault detected in currently active power source. True = fault detected",
22525         "readOnly": true,
22526         "type": "boolean"
22527     },
22528     "n": {
22529         "$ref":
22530         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22531         schema.json#/definitions/n"
22532     },
22533     "id": {
22534         "$ref":
22535         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22536         schema.json#/definitions/id"
22537     },
22538     "if": {
22539         "description": "The OCF Interface set supported by this Resource.",
22540         "items": {
22541             "enum": [
22542                 "oic.if.r",
22543                 "oic.if.baseline"
22544             ],
22545             "type": "string"
22546         },
22547         "minItems": 2,
22548         "uniqueItems": true,
22549         "readOnly": true,
22550         "type": "array"
22551     }
22552 },
22553 "type": "object",
22554 "required": ["powersources"]
22555 }
22556 }
22557 }
22558

```

6.111.5 Property definition

Table 225 defines the Properties that are part of the "oic.r.powersource" Resource Type.

Table 225 – The Property definitions of the Resource with type "rt" = "oic.r.powersource".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
powersources	array: see schema	Yes	Read Write	

sourcefault	boolean	No	Read Only	Fault detected in currently active power source. True = fault detected
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

6.111.6 CRUDN behaviour

Table 226 defines the CRUDN operations that are supported on the "oic.r.powersource" Resource Type.

Table 226 – The CRUDN operations of the Resource with type "rt" = "oic.r.powersource".

Create	Read	Update	Delete	Notify
	get			observe

6.112 Print Queue

6.112.1 Introduction

This Resource describes the items in a Printer Queue. The Properties "uri" and "status" are read only items that cannot be changed through this resource.

6.112.2 Example URI

/PrintQueueResURI

6.112.3 Resource type

The Resource Type is defined as: "oic.r.printer.queue".

6.112.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Print Queue",
    "version": "20190215",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/PrintQueueResURI" : {
      "get": {
        "description": "This Resource describes the items in a Printer Queue. The Properties \"uri\"
and \"status\" are read only items that cannot be changed through this resource.",
        "parameters": [
          {"$ref": "#/parameters/interface"}
        ],
        "responses": {
          "200": {
```

```

22603         "description" : "Retrieves the current Print Queue.",
22604         "x-example": {
22605             "rt": ["oic.r.printer.queue"],
22606             "if": ["oic.if.r", "oic.if.baseline"],
22607             "queue": [
22608                 {
22609                     "uri": "file://10.10.10.10/3dprinter/queueitem/1",
22610                     "status": "Printing"
22611                 },
22612                 {
22613                     "uri": "file://10.10.10.10/3dprinter/queueitem/2",
22614                     "status": "Pending"
22615                 }
22616             ]
22617         },
22618         "schema": { "$ref": "#/definitions/PrintQueue" }
22619     }
22620 }
22621 }
22622 }
22623 },
22624 "parameters": {
22625     "interface": {
22626         "in": "query",
22627         "name": "if",
22628         "type": "string",
22629         "enum": ["oic.if.r", "oic.if.baseline"]
22630     }
22631 },
22632 "definitions": {
22633     "PrintQueue" : {
22634         "properties": {
22635             "rt": {
22636                 "description": "The Resource Type.",
22637                 "items": {
22638                     "enum": ["oic.r.printer.queue"],
22639                     "maxLength": 64,
22640                     "type": "string"
22641                 },
22642                 "minItems": 1,
22643                 "uniqueItems": true,
22644                 "readOnly": true,
22645                 "type": "array"
22646             },
22647             "queue": {
22648                 "description": "The array of queue items for the printer.",
22649                 "items": {
22650                     "properties": {
22651                         "status": {
22652                             "description": "The status of the queue item.",
22653                             "enum": [
22654                                 "Printing",
22655                                 "Pending",
22656                                 "Paused",
22657                                 "Error",
22658                                 "Unknown"
22659                             ],
22660                             "readOnly": true,
22661                             "type": "string"
22662                         },
22663                         "uri": {
22664                             "description": "The uri of the queue item (i.e. the actual file).",
22665                             "format": "uri",
22666                             "maxLength": 256,
22667                             "readOnly": true,
22668                             "type": "string"
22669                         }
22670                     },
22671                     "required": [
22672                         "uri",
22673                         "status"
22674                     ],

```

```
22675         "type": "object"
22676     },
22677     "readOnly": true,
22678     "type": "array"
22679 },
22680 "n": {
22681     "$ref":
22682 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22683 schema.json#/definitions/n"
22684 },
22685 "id": {
22686     "$ref":
22687 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22688 schema.json#/definitions/id"
22689 },
22690 "if": {
22691     "description": "The OCF Interface set supported by this Resource.",
22692     "items": {
22693         "enum": [
22694             "oic.if.r",
22695             "oic.if.baseline"
22696         ],
22697         "type": "string"
22698     },
22699     "minItems": 2,
22700     "uniqueItems": true,
22701     "readOnly": true,
22702     "type": "array"
22703 }
22704 },
22705 "type": "object",
22706 "required": ["queue"]
22707 }
22708 }
22709 }
22710 }
```

22711 **6.112.5 Property definition**

22712 Table 227 defines the Properties that are part of the "oic.r.printer.queue" Resource Type.

22713 **Table 227 – The Property definitions of the Resource with type "rt" = "oic.r.printer.queue".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
queue	array: see schema	Yes	Read Only	The array of queue items for the printer.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

22714 **6.112.6 CRUDN behaviour**

22715 Table 228 defines the CRUDN operations that are supported on the "oic.r.printer.queue" Resource
22716 Type.

22717 **Table 228 – The CRUDN operations of the Resource with type "rt" = "oic.r.printer.queue".**

Create	Read	Update	Delete	Notify
	get			observe

22718 6.113 Pulse Rate

22719 6.113.1 Introduction

22720 This Resource describes the Properties associated with a person's pulse rate.

22721 The unit, which is the default unit, is bpm.

22722 The pulserate and unit Properties are read-only values that are provided by the Server.

22723 When range is omitted the default is 0 to +MAXFLOAT.

22724 6.113.2 Example URI

22725 /PulseRateResURI

22726 6.113.3 Resource type

22727 The Resource Type is defined as: "oic.r.pulserate".

22728 6.113.4 OpenAPI 2.0 definition

```
22729 {
22730   "swagger": "2.0",
22731   "info": {
22732     "title": "Pulse Rate",
22733     "version": "2019-03-22",
22734     "license": {
22735       "name": "OCF Data Model License",
22736       "url":
22737         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
22738         CENSE.md",
22739       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
22740     },
22741     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
22742   },
22743   "schemes": [
22744     "http"
22745   ],
22746   "consumes": [
22747     "application/json"
22748   ],
22749   "produces": [
22750     "application/json"
22751   ],
22752   "paths": {
22753     "/PulseRateResURI": {
22754       "get": {
22755         "description": "This Resource describes the Properties associated with a person's pulse
22756         rate.\nThe unit, which is the default unit, is bpm.\nThe pulserate and unit Properties are read-only
22757         values that are provided by the Server.\nWhen range is omitted the default is 0 to +MAXFLOAT.",
22758         "parameters": [
22759           {
22760             "$ref": "#/parameters/interface"
22761           }
22762         ],
22763         "responses": {
22764           "200": {
22765             "description": "",
22766             "x-example": {
22767               "rt": [
22768                 "oic.r.pulserate"
22769               ],
22770               "pulserate": 80,
22771               "range": [20, 220],
22772               "step": 1
22773             },
22774             "schema": {
22775               "$ref": "#/definitions/PulseRate"
22776             }
22777           }
22778         }
22779       }
22780     }
  }
```



```

22781 },
22782 "parameters": {
22783   "interface": {
22784     "in": "query",
22785     "name": "if",
22786     "type": "string",
22787     "enum": [
22788       "oic.if.s",
22789       "oic.if.baseline"
22790     ]
22791   }
22792 },
22793 "definitions": {
22794   "PulseRate": {
22795     "properties": {
22796       "rt": {
22797         "description": "Resource Type",
22798         "items": {
22799           "enum": [
22800             "oic.r.pulserate"
22801           ],
22802           "type": "string",
22803           "maxLength": 64
22804         },
22805         "minItems": 1,
22806         "uniqueItems": true,
22807         "readOnly": true,
22808         "type": "array"
22809       },
22810       "pulserate": {
22811         "description": "Pulse rate in bpm.",
22812         "minimum": 0,
22813         "readOnly": true,
22814         "type": "integer"
22815       },
22816       "if": {
22817         "description": "The OCF Interface set supported by this Resource",
22818         "items": {
22819           "enum": [
22820             "oic.if.s",
22821             "oic.if.baseline"
22822           ],
22823           "type": "string",
22824           "maxLength": 64
22825         },
22826         "minItems": 1,
22827         "readOnly": true,
22828         "uniqueItems": true,
22829         "type": "array"
22830       },
22831       "range": {
22832         "$ref":
22833         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
22834         schema.json#/definitions/range_integer"
22835       },
22836       "step": {
22837         "$ref":
22838         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
22839         schema.json#/definitions/step_integer"
22840       },
22841       "n": {
22842         "$ref":
22843         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22844         schema.json#/definitions/n"
22845       }
22846     },
22847     "type": "object",
22848     "required": [
22849       "pulserate"
22850     ]
22851   }
22852 }

```

22853 }
22854

22855 6.113.5 Property definition

22856 Table 229 defines the Properties that are part of the "oic.r.pulserate" Resource Type.

22857 **Table 229 – The Property definitions of the Resource with type "rt" = "oic.r.pulserate".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
pulserate	integer	Yes	Read Only	Pulse rate in bpm.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	

22858 6.113.6 CRUDN behaviour

22859 Table 230 defines the CRUDN operations that are supported on the "oic.r.pulserate" Resource
22860 Type.

22861 **Table 230 – The CRUDN operations of the Resource with type "rt" = "oic.r.pulserate".**

Create	Read	Update	Delete	Notify
	get			observe

22862 6.114 Sensor Properties

22863 6.114.1 Introduction

22864 This Resource describes the properties which guide the reporting of a state change of a Sensor.
22865 The Property "silenttime" represents the period after which a state change report was sent where
22866 the Sensor state change is not reported.
22867 The Property "sensitivity" represents the level at which the sensor detects a state change.
22868 These values are completely dependent on the type of Sensor and the manufacturer capability, so
22869 no range restrictions are used.
22870 The Properties "range", "step" and "precision" are only applied to the "sensitivity" Property.

22871 6.114.2 Example URI

22872 /SensorPropsResURI

22873 6.114.3 Resource type

22874 The Resource Type is defined as: "oic.r.sensor.props".

22875 6.114.4 OpenAPI 2.0 definition

```
22876 {  
22877   "swagger": "2.0",  
22878   "info": {  
22879     "title": "Sensor Properties",  
22880     "version": "20190215",  
22881     "license": {  
22882       "name": "OCF Data Model License",  
22883       "url":  
22884         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
22885         CENSE.md",
```

```

22886         "x-copyright": "copyright 2016-2017, 2019 Open Connectivity Foundation, Inc. All rights
22887 reserved.",
22888     },
22889     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
22890 },
22891 "schemes": ["http"],
22892 "consumes": ["application/json"],
22893 "produces": ["application/json"],
22894 "paths": {
22895     "/SensorPropsResURI" : {
22896         "get": {
22897             "description": "This Resource describes the properties which guide the reporting of a state
22898 change of a Sensor.\n\nThe Property \"silenttime\" represents the period after which a state change
22899 report was sent where the Sensor state change is not reported.\n\nThe Property \"sensitivity\"
22900 represents the level at which the sensor detects a state change.\n\nThese values are completely
22901 dependent on the type of Sensor and the manufacturer capability, so no range restrictions are
22902 used.\n\nThe Properties \"range\", \"step\" and \"precision\" are only applied to the \"sensitivity\"
22903 Property.",
22904             "parameters": [
22905                 { "$ref": "#/parameters/interface" }
22906             ],
22907             "responses": {
22908                 "200": {
22909                     "description": "Gets current Sensor Property values.",
22910                     "x-example":
22911                         {
22912                             "rt": ["oic.r.sensor.props"],
22913                             "if": ["oic.if.rw", "oic.if.baseline"],
22914                             "silenttime": 10,
22915                             "sensitivity": 20.5
22916                         },
22917                     "schema": { "$ref": "#/definitions/SensorProps" }
22918                 }
22919             },
22920         },
22921         "post": {
22922             "description": "Sets Sensor Property values\n",
22923             "parameters": [
22924                 { "$ref": "#/parameters/interface" },
22925                 {
22926                     "name": "body",
22927                     "in": "body",
22928                     "required": true,
22929                     "schema": { "$ref": "#/definitions/SensorProps" },
22930                     "x-example":
22931                         {
22932                             "silenttime": 20,
22933                             "sensitivity": 10.75
22934                         }
22935                 }
22936             ],
22937             "responses": {
22938                 "200": {
22939                     "description": "",
22940                     "x-example":
22941                         {
22942                             "silenttime": 20,
22943                             "sensitivity": 10.75
22944                         },
22945                     "schema": { "$ref": "#/definitions/SensorProps" }
22946                 }
22947             }
22948         }
22949     },
22950 },
22951 "parameters": {
22952     "interface": {
22953         "in": "query",
22954         "name": "if",
22955         "type": "string",
22956         "enum": ["oic.if.rw", "oic.if.baseline"]
22957     }
22958 }

```

```

22958 },
22959 "definitions": {
22960   "SensorProps": {
22961     "properties": {
22962       "rt": {
22963         "description": "The Resource Type.",
22964         "items": {
22965           "enum": ["oic.r.sensor.props"],
22966           "maxLength": 64,
22967           "type": "string"
22968         },
22969         "minItems": 1,
22970         "uniqueItems": true,
22971         "readOnly": true,
22972         "type": "array"
22973       },
22974       "silenttime": {
22975         "description": "The time in seconds from the previous report that the Sensor restrains
22976 from sending a state change. This is used to avoid repeated state change reports.",
22977         "type": "integer"
22978       },
22979       "sensitivity": {
22980         "description": "The level of the detection accuracy of the Sensor. This is used to control
22981 the level at which the Sensor detects a state change. The \"range\" Property should be specified per
22982 manufacturer device capabilities.",
22983         "type": "number"
22984       },
22985       "n": {
22986         "$ref":
22987 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22988 schema.json#/definitions/n"
22989       },
22990       "id": {
22991         "$ref":
22992 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
22993 schema.json#/definitions/id"
22994       },
22995       "range": {
22996         "$ref":
22997 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
22998 schema.json#/definitions/range_number"
22999       },
23000       "step": {
23001         "$ref":
23002 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
23003 schema.json#/definitions/step_number"
23004       },
23005       "precision": {
23006         "$ref":
23007 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
23008 schema.json#/definitions/precision"
23009       },
23010       "if": {
23011         "description": "The OCF Interface set supported by this Resource.",
23012         "items": {
23013           "enum": [
23014             "oic.if.rw",
23015             "oic.if.baseline"
23016           ],
23017           "type": "string"
23018         },
23019         "minItems": 2,
23020         "uniqueItems": true,
23021         "readOnly": true,
23022         "type": "array"
23023       }
23024     },
23025     "type": "object",
23026     "required": ["silenttime", "sensitivity"]
23027   }
23028 }

```

23029 }
23030

23031 6.114.5 Property definition

23032 Table 231 defines the Properties that are part of the "oic.r.sensor.props" Resource Type.

23033 **Table 231 – The Property definitions of the Resource with type "rt" = "oic.r.sensor.props".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
silenttime	integer	Yes	Read Write	The time in seconds from the previous report that the Sensor restrains from sending a state change. This is used to avoid repeated state change reports.
sensitivity	number	Yes	Read Write	The level of the detection accuracy of the Sensor. This is used to control the level at which the Sensor detects a state change. The "range" Property should be specified per manufacturer device capabilities.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

23034 6.114.6 CRUDN behaviour

23035 Table 232 defines the CRUDN operations that are supported on the "oic.r.sensor.props" Resource
23036 Type.

23037 **Table 232 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.props".**

Create	Read	Update	Delete	Notify
	get	post		observe

23038 6.115 User ID

23039 6.115.1 Introduction

23040 This Resource describes the Properties associated with user id of an OCF Client.

23041 The userid Property is a single value of type string.

23042 The userid Property is a read-only value that is provided by the Server.

23043 6.115.2 Example URI

23044 /UserIDResURI

23045 6.115.3 Resource type

23046 The Resource Type is defined as: "oic.r.userid".

23047 6.115.4 OpenAPI 2.0 definition

```
23048 {
23049   "swagger": "2.0",
23050   "info": {
23051     "title": "User ID",
23052     "version": "2019-03-22",
23053     "license": {
23054       "name": "OCF Data Model License",
23055       "url":
23056         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
23057         CENSE.md",
23058       "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
23059     },
23060     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
23061   },
23062   "schemes": [
23063     "http"
23064   ],
23065   "consumes": [
23066     "application/json"
23067   ],
23068   "produces": [
23069     "application/json"
23070   ],
23071   "paths": {
23072     "/UserIDResURI": {
23073       "get": {
23074         "description": "This Resource describes the Properties associated with user id of an OCF
23075         Client.\nThe userid Property is a single value of type string.\nThe userid Property is a read-only
23076         value that is provided by the Server.",
23077         "parameters": [
23078           {
23079             "$ref": "#/parameters/interface"
23080           }
23081         ],
23082         "responses": {
23083           "200": {
23084             "description": "",
23085             "x-example": {
23086               "rt": [
23087                 "oic.r.userid"
23088               ],
23089               "userid": "USER1"
23090             },
23091             "schema": {
23092               "$ref": "#/definitions/UserID"
23093             }
23094           }
23095         }
23096       }
23097     }
23098   },
23099   "parameters": {
23100     "interface": {
23101       "in": "query",
23102       "name": "if",
23103       "type": "string",
23104       "enum": [
23105         "oic.if.r",
23106         "oic.if.baseline"
23107       ]
23108     }
23109   },
23109 }
```

```

23110     "definitions": {
23111       "UserID": {
23112         "properties": {
23113           "rt": {
23114             "description": "Resource Type",
23115             "items": {
23116               "enum": [
23117                 "oic.r.userid"
23118               ],
23119               "type": "string",
23120               "maxLength": 64
23121             },
23122             "minItems": 1,
23123             "uniqueItems": true,
23124             "readOnly": true,
23125             "type": "array"
23126           },
23127           "userid": {
23128             "description": "Id of a patient/user of healthcare devices",
23129             "readOnly": true,
23130             "type": "string"
23131           },
23132           "n": {
23133             "$ref":
23134             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
23135             schema.json#/definitions/n"
23136           },
23137           "if": {
23138             "description": "The OCF Interface set supported by this Resource",
23139             "items": {
23140               "enum": [
23141                 "oic.if.r",
23142                 "oic.if.baseline"
23143               ],
23144               "type": "string",
23145               "maxLength": 64
23146             },
23147             "minItems": 1,
23148             "readOnly": true,
23149             "uniqueItems": true,
23150             "type": "array"
23151           }
23152         },
23153         "type": "object",
23154         "required": [
23155           "userid"
23156         ]
23157       }
23158     }
23159   }
23160

```

6.115.5 Property definition

Table 233 defines the Properties that are part of the "oic.r.userid" Resource Type.

Table 233 – The Property definitions of the Resource with type "rt" = "oic.r.userid".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
userid	string	Yes	Read Only	Id of a patient/user of healthcare devices
n	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

6.115.6 CRUDN behaviour

Table 234 defines the CRUDN operations that are supported on the "oic.r.userid" Resource Type.

Table 234 – The CRUDN operations of the Resource with type "rt" = "oic.r.userid".

Create	Read	Update	Delete	Notify
	get			observe

6.116 Calorific Value

6.116.1 Introduction

This Resource describes Properties associated with the energy associated with the consumption of different fuels (including natural gas)

The calorific value is a number

the calorific value is a measure of the available heat energy, used as part of the calculation to convert a volume of a fuel (e.g. m3) to an energy value (e.g. KWh).

6.116.2 Example URI

/CalorificValueResURI

6.116.3 Resource type

The Resource Type is defined as: "oic.r.calorificvalue".

6.116.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Calorific Value",
    "version": "2019-03-18",
    "license": {
      "name": "OCF Data Model License",
      "url": "https://openconnectivityfoundation.github.io/core/LICENSE.md",
      "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/CalorificValueResURI" : {
      "get": {
        "description": "This Resource describes Properties associated with the energy associated with the consumption of different fuels (including natural gas)\nThe calorific value is a number\nthe calorific value is a measure of the available heat energy, used as part of the calculation to convert a volume of a fuel (e.g. m3) to an energy value (e.g. KWh).\n",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "Success path response for the Resource",
            "x-example": {
              "rt": ["oic.r.calorificvalue"],
              "calorific": 39.2
            },
            "schema": { "$ref": "#/definitions/Calorific" }
          }
        }
      }
    }
  },
  "parameters": {
```



```

23219     "interface" : {
23220         "in" : "query",
23221         "name" : "if",
23222         "type" : "string",
23223         "enum" : ["oic.if.r", "oic.if.baseline"]
23224     }
23225 },
23226 "definitions": {
23227     "Calorific" : {
23228         "properties": {
23229             "rt" : {
23230                 "description": "Resource Type",
23231                 "items": {
23232                     "maxLength": 64,
23233                     "type": "string",
23234                     "enum": ["oic.r.calorificvalue"]
23235                 },
23236                 "minItems": 1,
23237                 "readOnly": true,
23238                 "uniqueItems": true,
23239                 "type": "array"
23240             },
23241             "if" : {
23242                 "description": "The OCF Interfaces supported by this Resource",
23243                 "items": {
23244                     "enum": ["oic.if.baseline", "oic.if.r"],
23245                     "type": "string",
23246                     "maxLength": 64
23247                 },
23248                 "minItems": 2,
23249                 "readOnly": true,
23250                 "uniqueItems": true,
23251                 "type": "array"
23252             },
23253             "n": {
23254                 "$ref" :
23255                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
23256                 schema.json#/definitions/n"
23257             },
23258             "id": {
23259                 "$ref" :
23260                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
23261                 schema.json#/definitions/id"
23262             },
23263             "precision" : {
23264                 "description": "Accuracy granularity of the exposed value",
23265                 "readOnly": true,
23266                 "type": "number"
23267             },
23268             "calorific" : {
23269                 "description": "Calorific value of fuel",
23270                 "readOnly": true,
23271                 "type": "number",
23272                 "minimum": 0,
23273                 "exclusiveMinimum": true
23274             }
23275         },
23276         "type" : "object",
23277         "required": ["calorific"]
23278     }
23279 }
23280 }
23281

```

6.116.5 Property definition

Table 235 defines the Properties that are part of the "oic.r.calorificvalue" Resource Type.

23284 **Table 235 – The Property definitions of the Resource with type "rt" = "oic.r.calorificvalue".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
if	array: see schema	No	Read Only	The OCF Interfaces supported by this Resource
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
precision	number	No	Read Only	Accuracy granularity of the exposed value
calorific	number	Yes	Read Only	Calorific value of fuel

23285 6.116.6 CRUDN behaviour

23286 Table 236 defines the CRUDN operations that are supported on the "oic.r.calorificvalue" Resource
23287 Type.

23288 **Table 236 – The CRUDN operations of the Resource with type "rt" = "oic.r.calorificvalue".**

Create	Read	Update	Delete	Notify
	get			observe

23289 6.117 Conversion Factor

23290 6.117.1 Introduction

23291 This Resource describes Properties associated with the energy associated with the consumption
23292 of different fuels (including natural gas)

23293 The conversion factor is a number used as part of the calculation to convert gas volume to gas
23294 energy. The value used for this calculation is generally defined by local regulations and the
23295 conversion factor resource is therefore configurable.

23296 Provides the conversion factor used/required as part of the calculation to convert from fuel
23297 volume (m3) to fuel energy (kWh).
23298

23299 6.117.2 Example URI

23300 /ConversionFactorResURI

23301 6.117.3 Resource type

23302 The Resource Type is defined as: "oic.r.conversionfactor".

23303 6.117.4 OpenAPI 2.0 definition

```

23304 {
23305   "swagger": "2.0",
23306   "info": {
23307     "title": "Conversion Factor",
23308     "version": "2019-03-18",
23309     "license": {
23310       "name": "OCF Data Model License",
23311       "url": "https://openconnectivityfoundation.github.io/core/LICENSE.md",
23312       "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
23313     },
23314     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
23315   },
23316   "schemes": ["http"],
23317   "consumes": ["application/json"],

```

```

23318     "produces": ["application/json"],
23319     "paths": {
23320         "/ConversionFactorResURI" : {
23321             "get": {
23322                 "description": "This Resource describes Properties associated with the energy associated
23323 with the consumption of different fuels (including natural gas)\nThe conversion factor is a number
23324 used as part of the calculation to convert gas volume to gas energy. The value used for this
23325 calculation is generally defined by local regulations and the conversion factor resource is
23326 therefore configurable.\nProvides the conversion factor used/required as part of the calculation to
23327 convert from fuel volume (m3) to fuel energy (kWh).\n",
23328                 "parameters": [
23329                     { "$ref": "#/parameters/interface" }
23330                 ],
23331                 "responses": {
23332                     "200": {
23333                         "description" : "Success path response for the Resource",
23334                         "x-example": {
23335                             "rt": ["oic.r.conversionfactor"],
23336                             "conversion": 1.02264
23337                         },
23338                         "schema": { "$ref": "#/definitions/Conversion" }
23339                     }
23340                 }
23341             }
23342         }
23343     },
23344     "parameters": {
23345         "interface" : {
23346             "in" : "query",
23347             "name" : "if",
23348             "type" : "string",
23349             "enum" : ["oic.if.r", "oic.if.baseline"]
23350         }
23351     },
23352     "definitions": {
23353         "Conversion" : {
23354             "properties": {
23355                 "rt" : {
23356                     "description": "Resource Type",
23357                     "items": {
23358                         "maxLength": 64,
23359                         "type": "string",
23360                         "enum": ["oic.r.conversionfactor"]
23361                     },
23362                     "minItems": 1,
23363                     "readOnly": true,
23364                     "uniqueItems": true,
23365                     "type": "array"
23366                 },
23367                 "if" : {
23368                     "description": "The OCF Interfaces supported by this Resource",
23369                     "items": {
23370                         "enum": [
23371                             "oic.if.r",
23372                             "oic.if.baseline"
23373                         ],
23374                         "type": "string",
23375                         "maxLength": 64
23376                     },
23377                     "minItems": 2,
23378                     "readOnly": true,
23379                     "uniqueItems": true,
23380                     "type": "array"
23381                 },
23382                 "n": {
23383                     "$ref" :
23384 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
23385 schema.json#/definitions/n"
23386                 },
23387                 "id": {
23388                     "$ref" :
23389 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-

```

```
23390 schema.json#/definitions/id"
23391 },
23392 "conversion" : {
23393   "description": "Conversion factor to convert a volume of a fuel to energy consumption",
23394   "readOnly": true,
23395   "type": "number",
23396   "minimum": 0,
23397   "exclusiveMinimum": true
23398 },
23399 "precision" : {
23400   "description": "Accuracy granularity of the exposed value",
23401   "readOnly": true,
23402   "type": "number"
23403 }
23404 },
23405 "type" : "object",
23406 "required": ["conversion"]
23407 }
23408 }
23409 }
23410 }
```

23411 **6.117.5 Property definition**

23412 Table 237 defines the Properties that are part of the "oic.r.conversionfactor" Resource Type.

23413 **Table 237 – The Property definitions of the Resource with type "rt" =**
23414 **"oic.r.conversionfactor".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
if	array: see schema	No	Read Only	The OCF Interfaces supported by this Resource
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
conversion	number	Yes	Read Only	Conversion factor to convert a volume of a fuel to energy consumption
precision	number	No	Read Only	Accuracy granularity of the exposed value

23415 **6.117.6 CRUDN behaviour**

23416 Table 238 defines the CRUDN operations that are supported on the "oic.r.conversionfactor"
23417 Resource Type.

23418 **Table 238 – The CRUDN operations of the Resource with type "rt" =**
23419 **"oic.r.conversionfactor".**

Create	Read	Update	Delete	Notify
	get			observe

23420 **6.118 Gas Consumption**

23421 **6.118.1 Introduction**

23422 This Resource describes Properties associated with the energy associated with the consumption
23423 of natural gas

23424 The gas value is in kilowatt hours [kWh].

23425 The volume value is in metres cubed [m3].

23426 Provides the cumulative gas energy, the cumulative gas volume and the calorific value and
23427 conversion factor used/required to convert from gas volume (m3[TB1]) to gas energy (KWh).
23428

23429 **6.118.2 Example URI**

23430 /GasConsumptionResURI

23431 **6.118.3 Resource type**

23432 The Resource Type is defined as: "oic.r.gas.consumption".

23433 **6.118.4 OpenAPI 2.0 definition**

```
23434 {  
23435   "swagger": "2.0",  
23436   "info": {  
23437     "title": "Gas Consumption",  
23438     "version": "2019-03-18",  
23439     "license": {  
23440       "name": "OCF Data Model License",  
23441       "url": "https://openconnectivityfoundation.github.io/core/LICENSE.md",  
23442       "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."  
23443     },  
23444     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
23445   },  
23446   "schemes": ["http"],  
23447   "consumes": ["application/json"],  
23448   "produces": ["application/json"],  
23449   "paths": {  
23450     "/GasConsumptionResURI" : {  
23451       "get": {  
23452         "description": "This Resource describes Properties associated with the energy associated  
23453         with the consumption of natural gas\nThe gas value is in kilowatt hours [kWh].\nThe volume value is  
23454         in metres cubed [m3].\nProvides the cumulative gas energy, the cumulative gas volume and the  
23455         calorific value and conversion factor used/required to convert from gas volume (m3[TB1]) to gas  
23456         energy (KWh).\n",  
23457         "parameters": [  
23458           { "$ref": "#/parameters/interface" }  
23459         ],  
23460         "responses": {  
23461           "200": {  
23462             "description": "Success path response for the Resource",  
23463             "x-example": {  
23464               "rt": ["oic.r.gas.consumption"],  
23465               "gas": 11135.41,  
23466               "volume": 1000.0  
23467             },  
23468             "schema": { "$ref": "#/definitions/Consumption" }  
23469           }  
23470         }  
23471       }  
23472     }  
23473   },  
23474   "parameters": {  
23475     "interface" : {  
23476       "in" : "query",  
23477       "name" : "if",  
23478       "type" : "string",  
23479       "enum" : ["oic.if.s", "oic.if.baseline"]  
23480     }  
23481   },  
23482   "definitions": {  
23483     "Consumption" : {  
23484       "properties": {  
23485         "rt": {  
23486           "description": "Resource Type",  
23487           "items": {  
23488             "maxLength": 64,  
23489             "type": "string",  
23490             "enum": ["oic.r.gas.consumption"]
```

```

23491     },
23492     "minItems": 1,
23493     "uniqueItems": true,
23494     "readOnly": true,
23495     "type": "array"
23496   },
23497   "if": {
23498     "description": "The OCF Interfaces supported by this Resource",
23499     "items": {
23500       "enum": ["oic.if.r", "oic.if.baseline"],
23501       "type": "string"
23502     },
23503     "minItems": 1,
23504     "readOnly": true,
23505     "uniqueItems": true,
23506     "type": "array"
23507   },
23508   "n": {
23509     "$ref" :
23510     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
23511     schema.json#/definitions/n"
23512   },
23513   "id": {
23514     "$ref" :
23515     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
23516     schema.json#/definitions/id"
23517   },
23518   "gas" : {
23519     "description": "gas energy consumed in kWh",
23520     "readOnly": true,
23521     "type": "number",
23522     "minimum": 0
23523   },
23524   "precision" : {
23525     "description": "Accuracy granularity of the exposed value",
23526     "readOnly": true,
23527     "type": "number"
23528   },
23529   "volume" : {
23530     "description": "gas volume consumed in m3 (metres cubed)",
23531     "readOnly": true,
23532     "type": "number",
23533     "minimum": 0
23534   }
23535 },
23536 "type" : "object",
23537 "required": ["gas"]
23538 }
23539 }
23540 }
23541

```

6.118.5 Property definition

Table 239 defines the Properties that are part of the "oic.r.gas.consumption" Resource Type.

Table 239 – The Property definitions of the Resource with type "rt" = "oic.r.gas.consumption".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
if	array: see schema	No	Read Only	The OCF Interfaces supported by this Resource
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	

gas	number	Yes	Read Only	gas energy consumed in kWh
precision	number	No	Read Only	Accuracy granularity of the exposed value
volume	number	No	Read Only	gas volume consumed in m3 (metres cubed)

6.118.6 CRUDN behaviour

Table 240 defines the CRUDN operations that are supported on the "oic.r.gas.consumption" Resource Type.

Table 240 – The CRUDN operations of the Resource with type "rt" = "oic.r.gas.consumption".

Create	Read	Update	Delete	Notify
	get			observe

6.119 Gas Usage

6.119.1 Introduction

This Resource describes a cumulative time-based gas usage query.

The Resource is a Collection of:

- TimePeriod Resource

- Gas Consumption Resource

6.119.2 Example URI

/GasUsageResURI

6.119.3 Resource type

The Resource Type is defined as: "oic.r.gas.usage".

6.119.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Gas Usage",
    "version": "2019-03-18",
    "license": {
      "name": "OCF Data Model License",
      "url": "https://openconnectivityfoundation.github.io/core/LICENSE.md",
      "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/GasUsageResURI?if=oic.if.ll" : {
      "get": {
        "description": "This Resource describes a cumulative time-based gas usage query.\nThe Resource is a Collection of:\n TimePeriod Resource\n Gas Consumption Resource\nThe Collection has a single instance of a Link per Resource Type.\n",
        "parameters": [
          {
            "$ref": "#/parameters/interface-all"
          }
        ],
        "responses": {
          "200": {
            "description": "Success path response for the Resource",
            "x-example":
```

```

23591     [
23592     {
23593         "href": "/TimeIntervalResURI",
23594         "rt": ["oic.r.time.period"],
23595         "if": ["oic.if.a", "oic.if.baseline"],
23596         "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
23597     },
23598     {
23599         "href": "/GasConsumptionResURI",
23600         "rt": ["oic.r.gas.consumption"],
23601         "if": ["oic.if.s", "oic.if.baseline"],
23602         "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
23603     }
23604 ],
23605 "schema": { "$ref": "#/definitions/links" }
23606 }
23607 }
23608 }
23609 },
23610 "/GasUsageResURI?if=oic.if.baseline" : {
23611     "get": {
23612         "description": "This Resource describes a cumulative time-based gas usage query.\nThe
23613 Resource is a Collection of:\n  TimePeriod Resource\n  Gas Consumption Resource\n",
23614         "parameters": [
23615             {"$ref": "#/parameters/interface-all"}
23616         ],
23617         "responses": {
23618             "200": {
23619                 "description" : "Success path response for the Resource",
23620                 "x-example":
23621                 {
23622                     "rt": ["oic.r.gas.usage"],
23623                     "if": ["oic.if.ll", "oic.if.b", "oic.if.baseline"],
23624                     "resources": [
23625                         {
23626                             "href": "/TimeIntervalResURI",
23627                             "rt": ["oic.r.time.period"],
23628                             "if": ["oic.if.a", "oic.if.baseline"],
23629                             "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
23630                         },
23631                         {
23632                             "href": "/GasConsumptionResURI",
23633                             "rt": ["oic.r.gas.consumption"],
23634                             "if": ["oic.if.s", "oic.if.baseline"],
23635                             "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
23636                         }
23637                     ]
23638                 },
23639                 "schema": { "$ref": "#/definitions/Usage" }
23640             }
23641         }
23642     },
23643 },
23644 "/GasUsageResURI?if=oic.if.b" : {
23645     "get": {
23646         "description": "This Resource describes a cumulative time-based gas usage query.\nThe
23647 Resource is a Collection of:\n  TimePeriod Resource\n  Gas Consumption Resource\n",
23648         "parameters": [
23649             {"$ref": "#/parameters/interface-all"}
23650         ],
23651         "responses": {
23652             "200": {
23653                 "description" : "Success path response for the Resource",
23654                 "x-example":
23655                 [
23656                     {
23657                         "href": "/TimeIntervalResURI",
23658                         "rep": {
23659                             "startTime": "2018-01-09T14:30Z",
23660                             "stopTime": "2018-01-09T14:45Z"
23661                         }
23662                     }
23663                 ],

```



```

23663         {
23664             "href": "/GasConsumptionResURI",
23665             "rep": {
23666                 "gas": 11135.41,
23667                 "volume": 1000.0
23668             }
23669         },
23670     ],
23671     "schema": { "$ref": "#/definitions/batch" }
23672 }
23673 },
23674 },
23675 "post": {
23676     "description": "Sets the current time period. A Client may also post directly to the exposed
23677 URL for the Time Period Resource.\n",
23678     "x-method": ["optional"],
23679     "parameters": [
23680         { "$ref": "#/parameters/interface-b" },
23681         {
23682             "name": "body",
23683             "in": "body",
23684             "required": true,
23685             "schema": { "$ref": "#/definitions/batchupdate" },
23686             "x-example":
23687             [
23688                 {
23689                     "href": "/TimePeriodResURI",
23690                     "rep": {
23691                         "startTime": "2018-01-15T16:30Z",
23692                         "stopTime": "2018-01-16T16:30Z"
23693                     }
23694                 }
23695             ]
23696         }
23697     ],
23698     "responses": {
23699         "200": {
23700             "description": "Success path response code\n"
23701         }
23702     }
23703 },
23704 },
23705 },
23706 "parameters": {
23707     "interface-all" : {
23708         "in" : "query",
23709         "name" : "if",
23710         "type" : "string",
23711         "enum" : ["oic.if.ll", "oic.if.b", "oic.if.baseline"]
23712     },
23713     "interface-b" : {
23714         "in" : "query",
23715         "name" : "if",
23716         "type" : "string",
23717         "enum" : ["oic.if.b"]
23718     }
23719 },
23720 "definitions": {
23721     "links": {
23722         "type": "array",
23723         "items": {
23724             "$ref": "#/definitions/oic.oic-link"
23725         },
23726         "minItems": 2,
23727         "maxItems": 4
23728     },
23729     "oic.oic-link": {
23730         "properties": {
23731             "if": {
23732                 "description": "The interface set supported by the Linked Resource",
23733                 "items": {
23734                     "enum": [

```

```

23735         "oic.if.baseline",
23736         "oic.if.a",
23737         "oic.if.s"
23738     ],
23739     "type": "string"
23740 },
23741 "minItems": 1,
23742 "uniqueItems": true,
23743 "readOnly": true,
23744 "type": "array"
23745 },
23746 "rt": {
23747     "description": "Resource Type of the linked Resource",
23748     "items": {
23749         "enum": [
23750             "oic.r.time.period",
23751             "oic.r.gas.consumption",
23752             "oic.r.conversionfactor",
23753             "oic.r.calorificvalue"
23754         ],
23755         "type": "string",
23756         "maxLength": 64
23757     },
23758     "minItems": 1,
23759     "uniqueItems": true,
23760     "readOnly": true,
23761     "type": "array"
23762 },
23763 "anchor": {
23764     "$ref":
23765     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23766     schema.json#/definitions/anchor"
23767 },
23768 "di": {
23769     "$ref":
23770     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23771     schema.json#/definitions/di"
23772 },
23773 "eps": {
23774     "$ref":
23775     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23776     schema.json#/definitions/eps"
23777 },
23778 "href": {
23779     "$ref":
23780     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23781     schema.json#/definitions/href"
23782 },
23783 "ins": {
23784     "$ref":
23785     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23786     schema.json#/definitions/ins"
23787 },
23788 "p": {
23789     "$ref":
23790     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23791     schema.json#/definitions/p"
23792 },
23793 "rel": {
23794     "$ref":
23795     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23796     schema.json#/definitions/rel_array"
23797 },
23798 "title": {
23799     "$ref":
23800     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23801     schema.json#/definitions/title"
23802 },
23803 "type": {
23804     "$ref":
23805     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23806     schema.json#/definitions/type"

```

```

23807     }
23808   },
23809   "required": [
23810     "href",
23811     "rt",
23812     "if"
23813   ],
23814   "type": "object"
23815 },
23816 "batch": {
23817   "title": "Collection Batch Retrieve Format",
23818   "minItems": 2,
23819   "maxItems": 4,
23820   "type": "array",
23821   "items": {
23822     "additionalProperties": true,
23823     "type": "object",
23824     "properties": {
23825       "href": {
23826         "$ref":
23827 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23828 schema.json#/definitions/href"
23829       },
23830       "rep": {
23831         "anyOf": [
23832           {
23833             "$ref":
23834 "https://openconnectivityfoundation.github.io/IoTDataModels/TimePeriodResURI.swagger.json#/definitio
23835 ns/TimePeriod"
23836           },
23837           {
23838             "$ref":
23839 "https://openconnectivityfoundation.github.io/IoTDataModels/GasConsumptionResURI.swagger.json#/defin
23840 itions/Consumption"
23841           },
23842           {
23843             "$ref":
23844 "https://openconnectivityfoundation.github.io/IoTDataModels/CalorificValueResURI.swagger.json#/defin
23845 itions/Calorific"
23846           },
23847           {
23848             "$ref":
23849 "https://openconnectivityfoundation.github.io/IoTDataModels/ConversionFactorResURI.swagger.json#/def
23850 initions/Conversion"
23851           }
23852         ]
23853       }
23854     },
23855     "required": ["href", "rep"]
23856   }
23857 },
23858 "batchupdate" : {
23859   "title": "Collection Batch Update Format",
23860   "minItems": 1,
23861   "type": "array",
23862   "items": {
23863     "additionalProperties": true,
23864     "type": "object",
23865     "properties": {
23866       "href": {
23867         "$ref":
23868 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
23869 schema.json#/definitions/href"
23870       },
23871       "rep": {
23872         "$ref":
23873 "https://openconnectivityfoundation.github.io/IoTDataModels/TimePeriodResURI.swagger.json#/definitio
23874 ns/TimePeriod"
23875       }
23876     }
23877   }
23878 },

```

```

23879     "Usage" : {
23880         "properties": {
23881             "rt" : {
23882                 "description": "Resource Type",
23883                 "items": {
23884                     "type": "string",
23885                     "enum": ["oic.r.gas.usage"],
23886                     "maxLength": 64
23887                 },
23888                 "minItems": 1,
23889                 "readOnly": true,
23890                 "uniqueItems": true,
23891                 "type": "array"
23892             },
23893             "rts" : {
23894                 "description": "Allowed Resource Type",
23895                 "items": {
23896                     "type": "string",
23897                     "enum":
23898 ["oic.r.gas.consumption","oic.r.time.period","oic.r.calorificvalue","oic.r.conversionfactor"],
23899                     "maxLength": 64
23900                 },
23901                 "minItems": 2,
23902                 "readOnly": true,
23903                 "uniqueItems": true,
23904                 "type": "array"
23905             },
23906             "rts-m" : {
23907                 "description": "Mandatory Resource Type",
23908                 "items": {
23909                     "type": "string",
23910                     "enum": ["oic.r.gas.consumption","oic.r.time.period"],
23911                     "maxLength": 64
23912                 },
23913                 "minItems": 2,
23914                 "readOnly": true,
23915                 "uniqueItems": true,
23916                 "type": "array"
23917             },
23918             "n": {
23919                 "$ref" :
23920 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
23921 schema.json#/definitions/n"
23922             },
23923             "id": {
23924                 "$ref" :
23925 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
23926 schema.json#/definitions/id"
23927             },
23928             "resources" : {
23929                 "$ref": "#/definitions/links"
23930             },
23931             "if" : {
23932                 "description": "The interface set supported by this resource",
23933                 "items": {
23934                     "enum": [
23935                         "oic.if.ll",
23936                         "oic.if.b",
23937                         "oic.if.baseline"
23938                     ],
23939                     "type": "string",
23940                     "maxLength": 64
23941                 },
23942                 "minItems": 1,
23943                 "readOnly": true,
23944                 "uniqueItems": true,
23945                 "type": "array"
23946             }
23947         },
23948         "type" : "object",
23949         "required": ["resources"]
23950     }

```

23951 }
 23952 }
 23953 }

23954 6.119.5 Property definition

23955 Table 241 defines the Properties that are part of the "oic.r.gas.usage" Resource Type.

23956 **Table 241 – The Property definitions of the Resource with type "rt" = "oic.r.gas.usage".**

Property name	Value type	Mandatory	Access mode	Description
if	array: see schema	Yes	Read Only	The interface set supported by the Linked Resource
rt	array: see schema	Yes	Read Only	Resource Type of the linked Resource
anchor	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
ins	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
rel	multiple types: see schema	No	Read Write	
title	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
rep	multiple types: see schema	Yes	Read Write	
href	multiple types: see schema		Read Write	
rep	multiple types: see schema		Read Write	
rt	array: see schema	No	Read Only	Resource Type
rts	array: see schema	No	Read Only	Allowed Resource Type
rts-m	array: see schema	No	Read Only	Mandatory Resource Type
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
resources	multiple types: see schema	Yes	Read Write	

if	array: see schema	No	Read Only	The interface set supported by this resource
----	-------------------	----	-----------	--

6.119.6 CRUDN behaviour

Table 242 defines the CRUDN operations that are supported on the "oic.r.gas.usage" Resource Type.

Table 242 – The CRUDN operations of the Resource with type "rt" = "oic.r.gas.usage".

Create	Read	Update	Delete	Notify
	get			observe

6.120 Impact Sensor

6.120.1 Introduction

This Resource provides a status and properties of an impact sensor. Included is the current status (boolean), horizontal and vertical direction (in degrees) and impact level (g force).

6.120.2 Example URI

/ImpactSensorResURI

6.120.3 Resource type

The Resource Type is defined as: "oic.r.impactsensor".

6.120.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Impact Sensor",
    "version": "2019-03-21",
    "license": {
      "name": "OCF Data Model License",
      "url": "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/ImpactSensorResURI" : {
      "get": {
        "description": "This Resource provides a status and properties of an impact sensor. Included
is the current status (boolean), horizontal and vertical direction (in degrees) and impact level (g
force).",
        "parameters": [
          {"$ref": "#/parameters/interface"}
        ],
        "responses": {
          "200": {
            "description": "The success path response for the Resource.",
            "x-example": {
              "rt": ["oic.r.impactsensor"],
              "if": ["oic.if.s", "oic.if.baseline"],
              "impactstatus": true,
              "impactlevel": 2.25,
              "impactdirectionhorizontal": 120.0,
              "impactdirectionvertical": 240.0
            },
            "schema": { "$ref": "#/definitions/ImpactSensor" }
          }
        }
      }
    }
  }
}
```

```

24009     }
24010   }
24011 }
24012 }
24013 },
24014 "parameters": {
24015   "interface": {
24016     "in": "query",
24017     "name": "if",
24018     "type": "string",
24019     "enum": ["oic.if.s", "oic.if.baseline"]
24020   }
24021 },
24022 "definitions": {
24023   "ImpactSensor": {
24024     "properties": {
24025       "rt": {
24026         "description": "The Resource Type.",
24027         "items": {
24028           "maxLength": 64,
24029           "type": "string",
24030           "enum": ["oic.r.impactsensor"]
24031         },
24032         "minItems": 1,
24033         "uniqueItems": true,
24034         "readOnly": true,
24035         "type": "array"
24036       },
24037       "impactstatus": {
24038         "type": "boolean",
24039         "readOnly": true,
24040         "description": "The \"impactstatus\" Property indicates the impact as: \"true\" A physical
24041 impact is detected, \"false\" Normal status, an impact is not detected."
24042       },
24043       "impactlevel": {
24044         "type": "number",
24045         "readOnly": true,
24046         "description": "The \"impactlevel\" Property provides the level of impact. The unit is in
24047 \"G\" (G-force)."
24048       },
24049       "impactdirectionhorizontal": {
24050         "type": "number",
24051         "readOnly": true,
24052         "description": "The \"impactdirectionhorizontal\" Property shows a horizontal direction
24053 where the impact comes from. The value is 0 to 360 degrees. 0 is the front of the sensor and
24054 clockwise increment.",
24055         "minimum": 0,
24056         "maximum": 360
24057       },
24058       "impactdirectionvertical": {
24059         "type": "number",
24060         "readOnly": true,
24061         "description": "The \"impactdirectionvertical\" Property shows a vertical direction where
24062 the impact comes from. The value is 0 to 360 degrees. 0 is the front of the sensor and upward
24063 increment.",
24064         "minimum": 0,
24065         "maximum": 360
24066       },
24067       "n": {
24068         "$ref":
24069 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
24070 schema.json#/definitions/n"
24071       },
24072       "id": {
24073         "$ref":
24074 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
24075 schema.json#/definitions/id"
24076       },
24077       "if": {
24078         "description": "The OCF Interface set supported by this Resource.",
24079         "items": {
24080           "enum": [

```

```

24081         "oic.if.s",
24082         "oic.if.baseline"
24083     ],
24084     "type": "string"
24085 },
24086 "minItems": 2,
24087 "uniqueItems": true,
24088 "readOnly": true,
24089 "type": "array"
24090 }
24091 },
24092 "type": "object",
24093 "required": [ "impactstatus" ]
24094 }
24095 }
24096 }
24097

```

24098 6.120.5 Property definition

24099 Table 243 defines the Properties that are part of the "oic.r.impactsensor" Resource Type.

24100 **Table 243 – The Property definitions of the Resource with type "rt" = "oic.r.impactsensor".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
impactstatus	boolean	Yes	Read Only	The "impactstatus" Property indicates the impact as: "true" A physical impact is detected, "false" Normal status, an impact is not detected.
impactlevel	number	No	Read Only	The "impactlevel" Property provides the level of impact. The unit is in "G" (G-force).
impactdirectionhorizontal	number	No	Read Only	The "impactdirectionhorizontal" Property shows a horizontal direction where the impact comes from. The value is 0 to 360 degrees. 0 is the front of the sensor and clockwise increment.
impactdirectionvertical	number	No	Read Only	The "impactdirectionvertical" Property shows a vertical direction where the impact comes from. The value is 0 to 360 degrees. 0 is the front of the sensor and upward increment.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

6.120.6 CRUDN behaviour

Table 244 defines the CRUDN operations that are supported on the "oic.r.impactsensor" Resource Type.

Table 244 – The CRUDN operations of the Resource with type "rt" = "oic.r.impactsensor".

Create	Read	Update	Delete	Notify
	get			observe

6.121 KeyPadChar

6.121.1 Introduction

This Resource describes a char (0-9,*,#) which is selected on a number keypad.

6.121.2 Example URI

/KeyPadCharResURI

6.121.3 Resource type

The Resource Type is defined as: "oic.r.keypadchar".

6.121.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "KeyPadChar",
    "version": "12122018",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/KeyPadCharResURI" : {
      "get": {
        "description": "This Resource describes a char (0-9,*,#) which is selected on a number
keypad.",
        "parameters": [
          {"$ref": "#/parameters/interface"}
        ],
        "responses": {
          "200": {
            "description": "Success path response for the Resource",
            "x-example": {
              "rt": ["oic.r.keypadchar"],
              "if": ["oic.if.rw", "oic.if.baseline"],
              "keyvalue": "7"
            },
            "schema": { "$ref": "#/definitions/KeyPadChar" }
          }
        }
      },
      "post": {
        "description": "This Resource describes a char (0-9, *, #) which is selected on a number
keypad.\n",
        "parameters": [
          {"$ref": "#/parameters/interface"},
          {
```

```

24157         "name": "body",
24158         "in": "body",
24159         "required": true,
24160         "schema": { "$ref": "#/definitions/KeyPadChar" },
24161         "x-example":
24162             {
24163                 "keyvalue": "4"
24164             }
24165     },
24166 ],
24167     "responses": {
24168         "200": {
24169             "description": "",
24170             "x-example":
24171                 {
24172                     "keyvalue": "4"
24173                 },
24174             "schema": { "$ref": "#/definitions/KeyPadChar" }
24175         }
24176     }
24177 },
24178 },
24179 },
24180 "parameters": {
24181     "interface": {
24182         "in": "query",
24183         "name": "if",
24184         "type": "string",
24185         "enum": ["oic.if.rw", "oic.if.baseline"]
24186     }
24187 },
24188 "definitions": {
24189     "KeyPadChar": {
24190         "properties": {
24191             "rt": {
24192                 "description": "The Resource Type.",
24193                 "items": {
24194                     "maxLength": 64,
24195                     "type": "string",
24196                     "enum": ["oic.r.keypadchar"]
24197                 },
24198                 "minItems": 1,
24199                 "uniqueItems": true,
24200                 "readOnly": true,
24201                 "type": "array"
24202             },
24203             "keyvalue": {
24204                 "type": "string",
24205                 "enum": [
24206                     "0",
24207                     "1",
24208                     "2",
24209                     "3",
24210                     "4",
24211                     "5",
24212                     "6",
24213                     "7",
24214                     "8",
24215                     "9",
24216                     "*",
24217                     "#"
24218                 ],
24219                 "description": "The value of the key pad char."
24220             },
24221             "n": {
24222                 "$ref":
24223                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
24224                 schema.json#/definitions/n"
24225             },
24226             "id": {
24227                 "$ref":
24228                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-

```

```

24229 schema.json#/definitions/id"
24230 },
24231 "if": {
24232   "description": "The OCF Interface set supported by this Resource.",
24233   "items": {
24234     "enum": [
24235       "oic.if.baseline",
24236       "oic.if.rw"
24237     ],
24238     "type": "string"
24239   },
24240   "minItems": 2,
24241   "uniqueItems": true,
24242   "readOnly": true,
24243   "type": "array"
24244 },
24245 },
24246 "type": "object",
24247 "required": ["keyvalue"]
24248 }
24249 }
24250 }

```

24251 6.121.5 Property definition

24252 Table 245 defines the Properties that are part of the "oic.r.keypadchar" Resource Type.

24253 **Table 245 – The Property definitions of the Resource with type "rt" = "oic.r.keypadchar".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
keyvalue	string	Yes	Read Write	The value of the key pad char.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

24254 6.121.6 CRUDN behaviour

24255 Table 246 defines the CRUDN operations that are supported on the "oic.r.keypadchar" Resource
24256 Type.

24257 **Table 246 – The CRUDN operations of the Resource with type "rt" = "oic.r.keypadchar".**

Create	Read	Update	Delete	Notify
	get	post		observe

24258 6.122 Opaque Data

24259 6.122.1 Introduction

24260 This Resource defines opaque data that can be transfered between endpoints where the data
24261 itself is not interpretable by the OCF endpoints.
24262 The stringdata is a string of ASCII characters.

24263 6.122.2 Example URI

24264 /OpaqueDataResURI

6.122.3 Resource type

The Resource Type is defined as: "oic.r.opaquedata".

6.122.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Opaque Data",
    "version": "12122018",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/OpaqueDataResURI" : {
      "get": {
        "description": "This Resource defines opaque data that can be transfered between endpoints
where the data itself is not interpretable by the OCF endpoints.\nThe stringdata is a string of
ASCII characters.",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example":
{
  "rt": ["oic.r.opaquedata"],
  "if": ["oic.if.rw", "oic.if.baseline"],
  "payload": "asdf0123",
  "payloadtype": "switch-get",
  "encoding": "base64",
  "size": 8,
  "hash": "A1A1",
  "system": "foreign system"
},
            "schema": { "$ref": "#/definitions/OpaqueData" }
          }
        }
      },
      "post": {
        "description": "",
        "parameters": [
          { "$ref": "#/parameters/interface" },
          {
            "name": "body",
            "in": "body",
            "required": true,
            "schema": { "$ref": "#/definitions/OpaqueData" },
            "x-example":
{
  "payload": "asdf0123",
  "payloadtype": "switch-get",
  "encoding": "base64",
  "size": 8,
  "hash": "A1A1",
  "system": "foreign system"
}
          }
        ],
        "responses": {
          "200": {
```

```

24334         "description" : "",
24335         "x-example":
24336             {
24337                 "payload": "asdf0123",
24338                 "payloadtype": "switch-get",
24339                 "encoding": "base64",
24340                 "size": 8,
24341                 "hash": "AlAl",
24342                 "system": "foreign system"
24343             },
24344         "schema": { "$ref": "#/definitions/OpaqueData" }
24345     }
24346 }
24347 }
24348 },
24349 "parameters": {
24350     "interface": {
24351         "in": "query",
24352         "name": "if",
24353         "type": "string",
24354         "enum": ["oic.if.rw", "oic.if.baseline"]
24355     }
24356 },
24357 "definitions": {
24358     "OpaqueData" : {
24359         "properties": {
24360             "rt": {
24361                 "description": "The Resource Type.",
24362                 "items": {
24363                     "maxLength": 64,
24364                     "type": "string",
24365                     "enum": ["oic.r.opaquedata"]
24366                 },
24367                 "minItems": 1,
24368                 "uniqueItems": true,
24369                 "readOnly": true,
24370                 "type": "array"
24371             },
24372             "payload": {
24373                 "type": "string",
24374                 "description": "This Property contains the opaque data."
24375             },
24376             "encoding": {
24377                 "type": "string",
24378                 "description": "This Property describes the encoding of the payload, e.g. binary as
24379 base64, json, xml, utf-8."
24380             },
24381             "payloadtype": {
24382                 "type": "string",
24383                 "description": "This Property describes the identification of the payload, e.g. what the
24384 payload is representing ."
24385             },
24386             "size": {
24387                 "type": "integer",
24388                 "description": "The size in bytes of the decoded binary object."
24389             },
24390             "hash": {
24391                 "type": "string",
24392                 "description": "The hash code of the blob. If present, it is used to check the decoded
24393 content of the object data point for integrity. The algorithm used for generating the hash value is
24394 SHA-2 [15]. The data point contains the hash as a hex encoded value."
24395             },
24396             "system": {
24397                 "type": "string",
24398                 "description": "The eco system that is using the payload."
24399             },
24400             "if": {
24401                 "description": "The OCF Interface set supported by this Resource.",
24402                 "items": {
24403                     "enum": [
24404                         "oic.if.baseline",

```

```

24406         "oic.if.rw"
24407     ],
24408     "type": "string"
24409 },
24410     "minItems": 2,
24411     "uniqueItems": true,
24412     "readOnly": true,
24413     "type": "array"
24414 }
24415 },
24416 "type": "object",
24417 "required": [ "payload", "encoding", "system" ]
24418 }
24419 }
24420 }
24421

```

6.122.5 Property definition

Table 247 defines the Properties that are part of the "oic.r.opaquedata" Resource Type.

Table 247 – The Property definitions of the Resource with type "rt" = "oic.r.opaquedata".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
payload	string	Yes	Read Write	This Property contains the opaque data.
encoding	string	Yes	Read Write	This Property describes the encoding of the payload, e.g. binary as base64, json, xml, utf-8.
payloadtype	string	No	Read Write	This Property describes the identification of the payload, e.g. what the payload is representing .
size	integer	No	Read Write	The size in bytes of the decoded binary object.
hash	string	No	Read Write	The hash code of the blob. If present, it is used to check the decoded content of the object data point for integrity. The algorithm used for generating the hash value is SHA-2 [15]. The data point contains the hash as a hex encoded value.
system	string	Yes	Read Write	The eco system that is using the payload.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

6.122.6 CRUDN behaviour

Table 248 defines the CRUDN operations that are supported on the "oic.r.opaquedata" Resource Type.

Table 248 – The CRUDN operations of the Resource with type "rt" = "oic.r.opaquedata".

Create	Read	Update	Delete	Notify
	get	post		observe

6.123 User Info for Application Layer

6.123.1 Introduction

This Resource defines credentials for user to application layer login. This does not relate to OCF Device to Device or Device to Cloud authentication. The username, password and token are strings.

6.123.2 Example URI

/UserInfoResURI

6.123.3 Resource type

The Resource Type is defined as: "oic.r.userinfo".

6.123.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "User Info for Application Layer",
    "version": "12122018",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/UserInfoResURI" : {
      "get": {
        "description": "This Resource defines credentials for user to application layer login. This
does not relate to OCF Device to Device or Device to Cloud authentication. The username, password
and token are strings.",
        "parameters": [
          {"$ref": "#/parameters/interface"}
        ],
        "responses": {
          "200": {
            "description": "Success path response for the Resource, note that the info supplied
is NOT returned on RETRIEVE",
            "x-example":
              {
                "rt": ["oic.r.userinfo"],
                "if": ["oic.if.rw", "oic.if.baseline"]
              },
            "schema": { "$ref": "#/definitions/UserInfo-retrieve" }
          }
        }
      },
      "post": {
        "description": "This Resource defines credentials for user to application layer login. This
does not relate to OCF Device to Device or Device to Cloud authentication. The username, password
```

```

24481 and token are strings.",
24482     "parameters": [
24483         { "$ref": "#/parameters/interface" },
24484         {
24485             "name": "body",
24486             "in": "body",
24487             "required": true,
24488             "schema": { "$ref": "#/definitions/UserInfo-update" },
24489             "x-example":
24490                 {
24491                     "username": "username",
24492                     "password": "password",
24493                     "token": "AlAl"
24494                 }
24495         }
24496     ],
24497     "responses": {
24498         "200": {
24499             "description": "The success path response for the Resource.",
24500             "x-example":
24501                 {
24502                     "username": "username",
24503                     "password": "password",
24504                     "token": "AlAl"
24505                 },
24506             "schema": { "$ref": "#/definitions/UserInfo-update" }
24507         }
24508     }
24509 },
24510 },
24511 },
24512 "parameters": {
24513     "interface": {
24514         "in": "query",
24515         "name": "if",
24516         "type": "string",
24517         "enum": ["oic.if.rw", "oic.if.baseline"]
24518     }
24519 },
24520 "definitions": {
24521     "UserInfo-retrieve": {
24522         "properties": {
24523             "rt": {
24524                 "description": "The Resource Type.",
24525                 "items": {
24526                     "maxLength": 64,
24527                     "type": "string",
24528                     "enum": ["oic.r.userinfo"]
24529                 },
24530                 "minItems": 1,
24531                 "uniqueItems": true,
24532                 "readOnly": true,
24533                 "type": "array"
24534             },
24535             "n": {
24536                 "$ref":
24537                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
24538                 schema.json#/definitions/n"
24539             },
24540             "id": {
24541                 "$ref":
24542                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
24543                 schema.json#/definitions/id"
24544             },
24545             "if": {
24546                 "description": "The OCF Interface set supported by this Resource.",
24547                 "items": {
24548                     "enum": [
24549                         "oic.if.rw",
24550                         "oic.if.baseline"
24551                     ],
24552                     "type": "string"

```



```

24553         },
24554         "minItems": 2,
24555         "uniqueItems": true,
24556         "readOnly": true,
24557         "type": "array"
24558     },
24559 },
24560 "type": "object",
24561 "required": [ ]
24562 },
24563 "UserInfo-update": {
24564     "properties": {
24565         "username": {
24566             "type": "string",
24567             "description": "Login name."
24568         },
24569         "password": {
24570             "type": "string",
24571             "description": "Login password."
24572         },
24573         "token": {
24574             "type": "string",
24575             "description": "Authentication token."
24576         }
24577     },
24578     "type": "object",
24579     "required": [ ]
24580 }
24581 }
24582 }
24583

```

24584 6.123.5 Property definition

24585 Table 249 defines the Properties that are part of the "oic.r.userinfo" Resource Type.

24586 **Table 249 – The Property definitions of the Resource with type "rt" = "oic.r.userinfo".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
username	string	No	Read Write	Login name.
password	string	No	Read Write	Login password.
token	string	No	Read Write	Authentication token.

24587 6.123.6 CRUDN behaviour

24588 Table 250 defines the CRUDN operations that are supported on the "oic.r.userinfo" Resource Type.

24589 **Table 250 – The CRUDN operations of the Resource with type "rt" = "oic.r.userinfo".**

Create	Read	Update	Delete	Notify
	get	post		observe

24590 6.124 IAS Zone Info

24591 6.124.1 Introduction

24592 This Resource describes information associated with an Intruder Alert System (IAS) Zone.

24593 Zone Type provides the information about the type of device/alarm.

24594 Zone Status provides an array which has 10 items representing various status information(e.g.,
24595 battery status, mode, alarm (Up to two), supervision of IAS network, etc.

24596 A Device implementing this Resource can be enrolled to IAS Control and Indicator Equipment
24597 (CIE). IAS CIE can allocate an ID for the Device and update this Resource on the Device.

24598 This Resource may provide multiple sensitivity levels (>2).

24599 NumberofZoneSensitivityLevelSupported provides the number of the levels. A specific level can
24600 be selected as currentzonesensitivityLevel.

24601 6.124.2 Example URI

24602 /IASZoneInfoResURI

24603 6.124.3 Resource type

24604 The Resource Type is defined as: "oic.r.iaszoneinfo".

24605 6.124.4 OpenAPI 2.0 definition

```
24606 {  
24607   "swagger": "2.0",  
24608   "info": {  
24609     "title": "IAS Zone Info",  
24610     "version": "20190513",  
24611     "license": {  
24612       "name": "OCF Data Model License",  
24613       "url":  
24614       "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
24615       CENSE.md",  
24616       "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."  
24617     },  
24618     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
24619   },  
24620   "schemes": ["http"],  
24621   "consumes": ["application/json"],  
24622   "produces": ["application/json"],  
24623   "paths": {  
24624     "/IASZoneInfoResURI" : {  
24625       "get": {  
24626         "description": "This Resource describes information associated with an Intruder Alert System  
24627         (IAS) Zone.\nZone Type provides the information about the type of device/alarm.\nZone Status  
24628         provides an array which has 10 items representing various status information(e.g., battery status,  
24629         mode, alarm (Up to two), supervision of IAS network, etc.\nA Device implementing this Resource can  
24630         be enrolled to IAS Control and Indicator Equipment (CIE). IAS CIE can allocate an ID for the Device  
24631         and update this Resource on the Device.\nThis Resource may provide multiple sensitivity levels (>2).  
24632         NumberofZoneSensitivityLevelSupported provides the number of the levels. A specific level can be  
24633         selected as currentzonesensitivityLevel.",  
24634         "parameters": [  
24635           {"$ref": "#/parameters/interface-all"}  
24636         ],  
24637         "responses": {  
24638           "200": {  
24639             "description" : "",  
24640             "x-example":  
24641             {  
24642               "rt": ["oic.r.iaszoneinfo"],  
24643               "zonetype": "motionsensor",  
24644               "zonestatus": {  
24645                 "alarms": ["presence"],  
24646                 "tamper": false,  
24647                 "zonestatusreports": "statuschangeonly",  
24648                 "fault": false,  
24649                 "test": false  
24650               },  
24651               "iascieaddress": "ACDE9F56A3FE6B98",
```

```

24652         "zonestate": true,
24653         "zoneid": 64,
24654         "numzonesensitivitylevel": 3,
24655         "currentzonesensitivitylevel": 2
24656     },
24657     "schema": { "$ref": "#/definitions/IASZoneInfo" }
24658 }
24659 },
24660 },
24661 "post": {
24662     "description": "Sets the current sensitivity level of the IASZone.\n",
24663     "parameters": [
24664         { "$ref": "#/parameters/interface-rw" },
24665         {
24666             "name": "body",
24667             "in": "body",
24668             "required": true,
24669             "schema": { "$ref": "#/definitions/IASZoneInfo-Update" },
24670             "x-example":
24671                 {
24672                     "currentzonesensitivitylevel": 3
24673                 }
24674         },
24675     ],
24676     "responses": {
24677         "200": {
24678             "description": "Success path response code\n"
24679         }
24680     }
24681 },
24682 },
24683 },
24684 "parameters": {
24685     "interface-all" : {
24686         "in" : "query",
24687         "name" : "if",
24688         "type" : "string",
24689         "enum" : ["oic.if.rw", "oic.if.baseline"]
24690     },
24691     "interface-rw" : {
24692         "in" : "query",
24693         "name" : "if",
24694         "type" : "string",
24695         "enum" : ["oic.if.rw"]
24696     }
24697 },
24698 "definitions": {
24699     "IASZoneInfo" : {
24700         "properties": {
24701             "rt" : {
24702                 "description": "Resource Type",
24703                 "items": {
24704                     "type": "string",
24705                     "enum": ["oic.r.iaszoneinfo"]
24706                 },
24707                 "minItems": 1,
24708                 "readOnly": true,
24709                 "type": "array"
24710             },
24711             "zonestate" : {
24712                 "description": "The IAS zone state. True = enrolled, False = not enrolled.",
24713                 "readOnly": true,
24714                 "type": "boolean"
24715             },
24716             "zonestatus" : {
24717                 "description": "Set of alarm indicators.",
24718                 "properties": {
24719                     "alarms": {
24720                         "type": "array",
24721                         "description": "Array of alarms. The alarms exposed are dependent on the zonetype.",
24722                         "readOnly": true,
24723                         "minItems": 1,

```

```

24724         "maxItems": 2,
24725         "items": {
24726             "type": "string",
24727             "enum":
24728 ["system","intrusion","presence","1stportalopenclose","2ndportalopenclose","fire","wateroverflow","C
24729 O","cooking","fall","emergencybutton","movement","vibration","panic","emergency","glassbreak"]
24730         },
24731     },
24732     "zonestatusreports": {
24733         "description": "Controls the generation of status indications",
24734         "type": "string",
24735         "enum": ["none","statuschangeonly","alarmclearonly","statuschangeandalarmclear"]
24736     },
24737     "tamper": {
24738         "description": "Tamper status. True = tampered, False = not tampered.",
24739         "readOnly": true,
24740         "type": "boolean"
24741     },
24742     "test": {
24743         "description": "Test mode indicator. True = sensor is in test mode, False = sensor is
24744 in operational mode",
24745         "readOnly": true,
24746         "type": "boolean"
24747     },
24748     "fault": {
24749         "description": "Fault indicator. True = fault detected, False = no fault detected",
24750         "readOnly": true,
24751         "type": "boolean"
24752     },
24753 },
24754 "readOnly": true,
24755 "type": "object"
24756 },
24757 "numzonesensitivitylevel" : {
24758     "description": "Number of supported zone sensitivity levels",
24759     "minimum": 2,
24760     "readOnly": true,
24761     "type": "integer"
24762 },
24763 "zoneid" : {
24764     "description": "ID allocated by the IAS CIE",
24765     "readOnly": true,
24766     "type": "integer"
24767 },
24768 "iascieaddress" : {
24769     "description": "EUI-64 Address of the enrolled IAS Control and Indicating Equipment
24770 (CIE)",
24771     "readOnly": true,
24772     "type": "string"
24773 },
24774 "zonetype" : {
24775     "description": "IAS zone type. See OCF enumeration map for set of valid values.",
24776     "readOnly": true,
24777     "type": "string"
24778 },
24779 "currentzonesensitivitylevel" : {
24780     "description": "Current zone sensitivity level",
24781     "minimum": 0,
24782     "type": "integer"
24783 },
24784 "n": {
24785     "$ref":
24786 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
24787 schema.json#/definitions/n"
24788 },
24789 "id": {
24790     "$ref":
24791 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
24792 schema.json#/definitions/id"
24793 },
24794 "if" : {
24795     "description": "The OCF Interface set supported by this Resource",

```

```

24796         "items": {
24797             "enum": [
24798                 "oic.if.rw",
24799                 "oic.if.baseline"
24800             ],
24801             "type": "string"
24802         },
24803         "minItems": 2,
24804         "maxItems": 2,
24805         "readOnly": true,
24806         "type": "array"
24807     }
24808 },
24809     "required": ["zonetype", "zonestate", "zonestatus", "zoneid", "iascieaddress"]
24810 },
24811     "IASZoneInfo-Update" : {
24812         "properties": {
24813             "currentzonesensitivitylevel" : {
24814                 "description": "Current zone sensitivity level, Client can only set 1 or higher.",
24815                 "minimum": 1,
24816                 "type": "integer"
24817             }
24818         },
24819         "required": ["currentzonesensitivitylevel"]
24820     }
24821 }
24822 }
24823

```

6.124.5 Property definition

Table 251 defines the Properties that are part of the "oic.r.iaszoneinfo" Resource Type.

Table 251 – The Property definitions of the Resource with type "rt" = "oic.r.iaszoneinfo".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
zonestate	boolean	Yes	Read Only	The IAS zone state. True = enrolled, False = not enrolled.
zonestatus	object: see schema	Yes	Read Only	Set of alarm indicators.
numzonesensitivitylevel	integer	No	Read Only	Number of supported zone sensitivity levels
zoneid	integer	Yes	Read Only	ID allocated by the IAS CIE
iascieaddress	string	Yes	Read Only	EUI-64 Address of the enrolled IAS Control and Indicating Equipment (CIE)
zonetype	string	Yes	Read Only	IAS zone type. See OCF enumeration map for set of valid values.
currentzonesensitivitylevel	integer	No	Read Write	Current zone sensitivity level
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	

if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource
currentzonesensitivitylevel	integer	Yes	Read Write	Current zone sensitivity level, Client can only set 1 or higher.

6.124.6 CRUDN behaviour

Table 252 defines the CRUDN operations that are supported on the "oic.r.iaszoneinfo" Resource Type.

Table 252 – The CRUDN operations of the Resource with type "rt" = "oic.r.iaszoneinfo".

Create	Read	Update	Delete	Notify
	get	post		observe

6.125 IAS Zone Collection

6.125.1 Introduction

6.125.2 Example URI

/IASZoneCollectionResURI

6.125.3 Resource type

6.125.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "IAS Zone Collection",
    "version": "20190513",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/IASZoneResURI?if=oic.if.baseline" : {
      "get": {
        "description": "This Resource is Collection that fully describes an Intruder Alert System
(IAS) Zone. It is made up of an instance of IAS Zone Info, Battery, and Power Source.",
        "parameters": [
          { "$ref": "#/parameters/interface-baseline" }
        ],
        "responses": {
          "200": {
            "description": "",
            "schema": { "$ref": "#/definitions/baseline" },
            "x-example":
{
  "rt": ["oic.r.iaszone"],
  "if": ["oic.if.ll", "oic.if.b", "oic.if.baseline"],
  "links": [
    {
      "href": "/myIASZoneInfoResURI",
      "rt": ["oic.r.iaszoneinfo"],

```

```

24875         "if": ["oic.if.rw", "oic.if.baseline"]
24876     },
24877     {
24878         "href": "/myBatteryResURI",
24879         "rt": ["oic.r.energy.battery"],
24880         "if": ["oic.if.rw", "oic.if.baseline"]
24881     },
24882     {
24883         "href": "/myPowersourceResURI",
24884         "rt": ["oic.r.powersource"],
24885         "if": ["oic.if.r", "oic.if.baseline"]
24886     }
24887 ]
24888 }
24889 }
24890 }
24891 }
24892 },
24893 "/IASZoneResURI?if=oic.if.ll" : {
24894     "get": {
24895         "description": "This Resource is Collection that fully describes an Intruder Alert System
24896 (IAS) Zone. It is made up of an instance of IAS Zone Info, Battery, and Power Source.",
24897         "parameters": [
24898             {"$ref": "#/parameters/interface-ll"}
24899         ],
24900         "responses": {
24901             "200": {
24902                 "description": "",
24903                 "schema": {"$ref": "#/definitions/links"},
24904                 "x-example":
24905                     [
24906                         {
24907                             "href": "/myIASZoneInfoResURI",
24908                             "rt": ["oic.r.iaszoneinfo"],
24909                             "if": ["oic.if.rw", "oic.if.baseline"]
24910                         },
24911                         {
24912                             "href": "/myBatteryResURI",
24913                             "rt": ["oic.r.energy.battery"],
24914                             "if": ["oic.if.rw", "oic.if.baseline"]
24915                         },
24916                         {
24917                             "href": "/myPowersourceResURI",
24918                             "rt": ["oic.r.powersource"],
24919                             "if": ["oic.if.r", "oic.if.baseline"]
24920                         }
24921                     ]
24922             }
24923         }
24924     },
24925 },
24926 "/IASZoneResURI?if=oic.if.b" : {
24927     "get": {
24928         "description": "This Resource is Collection that fully describes an Intruder Alert System
24929 (IAS) Zone. It is made up of an instance of IAS Zone Info, Battery, and Power Source.",
24930         "parameters": [
24931             {"$ref": "#/parameters/interface-b"}
24932         ],
24933         "responses": {
24934             "200": {
24935                 "description": "",
24936                 "schema": {"$ref": "#/definitions/IASZoneCollectionBatch-Retrieve"},
24937                 "x-example":
24938                     [
24939                         {
24940                             "href": "/myIASZoneInfoResURI",
24941                             "rep": {
24942                                 "zonetype": "motionsensor",
24943                                 "zonestatus": {
24944                                     "alarms": ["presence"],
24945                                     "tamper": false,
24946                                     "zonestatusreports": "statuschangeonly",

```

```

24947         "fault": false,
24948         "test": false
24949     },
24950     "iascieaddress": "ACDE9F56A3FE6B98",
24951     "zonestate": true,
24952     "zoneid": 64,
24953     "numzonesensitivitylevel": 3,
24954     "currentzonesensitivitylevel": 2
24955 }
24956 },
24957 {
24958     "href": "/myBatteryResURI",
24959     "rep": {
24960         "charge": 70,
24961         "defect": false
24962     }
24963 },
24964 {
24965     "href": "/myPowersourceResURI",
24966     "rep": {
24967         "powerSources": ["AC (Mains) Power"],
24968         "sourcefault": false
24969     }
24970 }
24971 ]
24972 }
24973 }
24974 },
24975 "post": {
24976     "description": "Sets the current sensitivity level of the IASZone.\n",
24977     "parameters": [
24978         {"$ref": "#/parameters/interface-b"},
24979         {
24980             "name": "body",
24981             "in": "body",
24982             "required": true,
24983             "schema": { "$ref": "#/definitions/IASZoneCollectionBatch-Update" },
24984             "x-example":
24985             [
24986                 {
24987                     "href": "/myIASZoneInfoResURI",
24988                     "rep": {
24989                         "currentzonesensitivitylevel": 3
24990                     }
24991                 }
24992             ]
24993         }
24994     ],
24995     "responses": {
24996         "200": {
24997             "description": "Success path response code\n"
24998         }
24999     }
25000 }
25001 }
25002 },
25003 "parameters": {
25004     "interface-all" : {
25005         "in" : "query",
25006         "name" : "if",
25007         "type" : "string",
25008         "enum" : ["oic.if.ll", "oic.if.b", "oic.if.baseline"]
25009     },
25010     "interface-ll" : {
25011         "in" : "query",
25012         "name" : "if",
25013         "type" : "string",
25014         "enum" : ["oic.if.ll"]
25015     },
25016     "interface-b" : {
25017         "in" : "query",
25018         "name" : "if",

```



```

25019         "type" : "string",
25020         "enum" : ["oic.if.b"]
25021     },
25022     "interface-baseline" : {
25023         "in" : "query",
25024         "name" : "if",
25025         "type" : "string",
25026         "enum" : ["oic.if.baseline"]
25027     }
25028 },
25029 "definitions": {
25030     "baseline": {
25031         "properties": {
25032             "rt" : {
25033                 "description": "Resource Type",
25034                 "items": {
25035                     "type": "string",
25036                     "enum": ["oic.r.iaszone"]
25037                 },
25038                 "minItems": 1,
25039                 "readOnly": true,
25040                 "type": "array"
25041             },
25042             "rts" : {
25043                 "description": "Allowed Resources",
25044                 "type": "array",
25045                 "minItems": 3,
25046                 "maxItems": 3,
25047                 "items": {
25048                     "type": "string",
25049                     "enum": ["oic.r.iaszoneinfo", "oic.r.energy.battery", "oic.r.powersource"]
25050                 }
25051             },
25052             "rts-m" : {
25053                 "description": "Mandatory Resources",
25054                 "type": "array",
25055                 "minItems": 3,
25056                 "maxItems": 3,
25057                 "items": {
25058                     "type": "string",
25059                     "enum": ["oic.r.iaszoneinfo", "oic.r.energy.battery", "oic.r.powersource"]
25060                 }
25061             },
25062             "n": {
25063                 "$ref":
25064                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
25065                 schema.json#/definitions/n"
25066             },
25067             "id": {
25068                 "$ref":
25069                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
25070                 schema.json#/definitions/id"
25071             },
25072             "links" : {
25073                 "$ref": "#/definitions/links"
25074             },
25075             "if" : {
25076                 "description": "The OCF Interface set supported by this Resource",
25077                 "items": {
25078                     "enum": [
25079                         "oic.if.ll",
25080                         "oic.if.b",
25081                         "oic.if.baseline"
25082                     ],
25083                     "type": "string"
25084                 },
25085                 "minItems": 1,
25086                 "readOnly": true,
25087                 "type": "array"
25088             }
25089         },
25090         "type" : "object",

```

```

25091     "required": ["links"]
25092 },
25093 "links": {
25094     "type": "array",
25095     "items": {
25096         "$ref": "#/definitions/oic.oic-link"
25097     }
25098 },
25099 "oic.oic-link": {
25100     "properties": {
25101         "if": {
25102             "description": "The OCF Interface set supported by this resource",
25103             "items": {
25104                 "enum": [
25105                     "oic.if.baseline",
25106                     "oic.if.rw",
25107                     "oic.if.r"
25108                 ],
25109                 "type": "string"
25110             },
25111             "minItems": 1,
25112             "uniqueItems": true,
25113             "readOnly": true,
25114             "type": "array"
25115         },
25116         "rt": {
25117             "description": "Resource Type of the Resource",
25118             "items": {
25119                 "enum": [
25120                     "oic.r.iaszoneinfo",
25121                     "oic.r.energy.battery",
25122                     "oic.r.powersource"
25123                 ],
25124                 "type": "string"
25125             },
25126             "minItems": 1,
25127             "maxItems": 1,
25128             "uniqueItems": true,
25129             "readOnly": true,
25130             "type": "array"
25131         },
25132         "anchor": {
25133             "$ref":
25134 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25135 schema.json#/definitions/anchor"
25136         },
25137         "di": {
25138             "$ref":
25139 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25140 schema.json#/definitions/di"
25141         },
25142         "eps": {
25143             "$ref":
25144 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25145 schema.json#/definitions/eps"
25146         },
25147         "href": {
25148             "$ref":
25149 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25150 schema.json#/definitions/href"
25151         },
25152         "ins": {
25153             "$ref":
25154 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25155 schema.json#/definitions/ins"
25156         },
25157         "p": {
25158             "$ref":
25159 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25160 schema.json#/definitions/p"
25161         },
25162         "rel": {

```

```

25163         "$ref":
25164         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25165         schema.json#/definitions/rel_array"
25166     },
25167     "title": {
25168         "$ref":
25169         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25170         schema.json#/definitions/title"
25171     },
25172     "type": {
25173         "$ref":
25174         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25175         schema.json#/definitions/type"
25176     }
25177 },
25178 "required": [
25179     "href",
25180     "rt",
25181     "if"
25182 ],
25183 "type": "object"
25184 },
25185 "IASZoneCollectionBatch-Retrieve": {
25186     "title": "Collection Batch Retrieve Format",
25187     "minItems": 3,
25188     "maxItems": 3,
25189     "type": "array",
25190     "uniqueItems": true,
25191     "items": {
25192         "additionalProperties": true,
25193         "type": "object",
25194         "properties": {
25195             "href": {
25196                 "$ref":
25197                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25198                 schema.json#/definitions/href"
25199             },
25200             "rep": {
25201                 "anyOf": [
25202                     {
25203                         "$ref":
25204                         "https://openconnectivityfoundation.github.io/IoTDataModels/IASZoneInfoResURI.swagger.json#/definiti
25205                         ons/IASZoneInfo"
25206                     },
25207                     {
25208                         "$ref":
25209                         "https://openconnectivityfoundation.github.io/IoTDataModels/BatteryResURI.swagger.json#/definitions/
25210                         Battery"
25211                     },
25212                     {
25213                         "$ref":
25214                         "https://openconnectivityfoundation.github.io/IoTDataModels/PowerSourcesResourceURI.swagger.json#/de
25215                         finitions/powerSourceSchema"
25216                     }
25217                 ]
25218             }
25219         },
25220         "required": ["href", "rep"]
25221     }
25222 },
25223 "IASZoneCollectionBatch-Update" : {
25224     "title": "Collection Batch Update Format",
25225     "minItems": 1,
25226     "type": "array",
25227     "items": {
25228         "additionalProperties": true,
25229         "type": "object",
25230         "properties": {
25231             "href": {
25232                 "$ref":
25233                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
25234                 schema.json#/definitions/href"

```

```

25235     },
25236     "rep": {
25237       "type": "object",
25238       "anyOf": [
25239         {
25240           "$ref":
25241             "https://openconnectivityfoundation.github.io/IoTDataModels/IASZoneInfoResURI.swagger.json#/definitions/IASZoneInfo-Update"
25242         },
25243         {
25244           "$ref":
25245             "https://openconnectivityfoundation.github.io/IoTDataModels/BatteryResURI.swagger.json#/definitions/BatteryUpdate"
25246         }
25247       ]
25248     }
25249   }
25250 }
25251 }
25252 }
25253 }
25254 }
25255 }
25256

```

25257 6.125.5 Property definition

25258 Table 253 defines the Properties that are part of the "oic.r.iaszone" Resource Type.

25259 **Table 253 – The Property definitions of the Resource with type "rt" = "None".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
rts	array: see schema	No	Read Write	Allowed Resources
rts-m	array: see schema	No	Read Write	Mandatory Resources
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
links	multiple types: see schema	Yes	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource
if	array: see schema	Yes	Read Only	The OCF Interface set supported by this resource
rt	array: see schema	Yes	Read Only	Resource Type of the Resource
anchor	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
ins	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	

rel	multiple types: see schema	No	Read Write	
title	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
rep	multiple types: see schema	Yes	Read Write	
href	multiple types: see schema		Read Write	
rep	object: see schema		Read Write	

6.125.6 CRUDN behaviour

Table 254 defines the CRUDN operations that are supported on the "oic.r.iaszone" Resource Type.

Table 254 – The CRUDN operations of the Resource with type "rt" = "None".

Create	Read	Update	Delete	Notify

6.126 Window Covering

6.126.1 Introduction

This Resource describes the information of a window covering, i.e., type, configuration status, and mode.

Velocity associated with lifting the window covering can be changed by updating

Lift_Velocity(cm/sec).

Ramp up/down times to reaching the velocity setting can be changed by updating

Lift_Acceleration Time/Lift_Deceleration Time (0.1sec).

6.126.2 Example URI

/WindowCoveringResURI

6.126.3 Resource type

The Resource Type is defined as: "oic.r.windowcovering".

6.126.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Window Covering",
    "version": "20190513",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/WindowCoveringResURI" : {
      "get": {
        "description": "This Resource describes the information of a window covering, i.e., type,
```

```

25297 configuration status, and mode.\nVelocity associated with lifting the window covering can be changed
25298 by updating Lift_Velocity(cm/sec).\nRamp up/down times to reaching the velocity setting can be
25299 changed by updating Lift_Acceleration Time/Lift_Deceleration Time (0.1sec).",
25300     "parameters": [
25301         {"$ref": "#/parameters/interface-all"}
25302     ],
25303     "responses": {
25304         "200": {
25305             "description": "",
25306             "x-example":
25307             {
25308                 "rt": ["oic.r.windowcovering"],
25309                 "windowcoveringtype": "shutter",
25310                 "configstatus": {
25311                     "operational": true,
25312                     "online": true,
25313                     "rotationdirection": "normal",
25314                     "controllift": "closedloop",
25315                     "controltilt": "closedloop",
25316                     "closedloopliftcontrol": "encoder",
25317                     "closedlooptiltcontrol": "encoder"
25318                 },
25319                 "mode": {
25320                     "motordirection": false,
25321                     "calibration": false,
25322                     "maintenance": false,
25323                     "ledfeedback": true
25324                 },
25325                 "liftvelocity": 5,
25326                 "liftaccelerationtime": 200,
25327                 "liftdecelerationtime": 200
25328             },
25329             "schema": { "$ref": "#/definitions/WindowCovering" }
25330         }
25331     }
25332 },
25333 "post": {
25334     "description": "Update window covering settings.\n",
25335     "parameters": [
25336         {"$ref": "#/parameters/interface-all"},
25337         {
25338             "name": "body",
25339             "in": "body",
25340             "required": true,
25341             "schema": { "$ref": "#/definitions/WindowCovering-Update" },
25342             "x-example":
25343             {
25344                 "mode": {
25345                     "motordirection": true,
25346                     "calibration": false,
25347                     "maintenance": false,
25348                     "ledfeedback": true
25349                 },
25350                 "liftvelocity": 10,
25351                 "liftaccelerationtime": 500,
25352                 "liftdecelerationtime": 500
25353             }
25354         }
25355     ],
25356     "responses": {
25357         "200": {
25358             "description": "Success path response code\n"
25359         }
25360     }
25361 }
25362 },
25363 },
25364 "parameters": {
25365     "interface-all" : {
25366         "in" : "query",
25367         "name" : "if",
25368         "type" : "string",

```

```

25369         "enum" : ["oic.if.rw", "oic.if.baseline"]
25370     }
25371 },
25372 "definitions": {
25373     "WindowCovering" : {
25374         "properties": {
25375             "rt" : {
25376                 "description": "Resource Type",
25377                 "items": {
25378                     "maxLength": 64,
25379                     "type": "string",
25380                     "enum": ["oic.r.windowcovering"]
25381                 },
25382                 "minItems": 1,
25383                 "readOnly": true,
25384                 "type": "array"
25385             },
25386             "windowcoveringtype" : {
25387                 "description": "Window covering type. See OCF enumeration map for set of valid values.",
25388                 "readOnly": true,
25389                 "type": "string"
25390             },
25391             "liftvelocity" : {
25392                 "description": "Velocity in cm/sec associated with lifting the covering",
25393                 "type": "integer"
25394             },
25395             "configstatus" : {
25396                 "description": "Set of config status indicators.",
25397                 "properties": {
25398                     "controllift": {
25399                         "description": "Closed loop control allows for intermediate settings, open loop
25400 supports only up or down",
25401                         "readOnly": true,
25402                         "type": "string",
25403                         "enum": ["closedloop", "openloop"]
25404                     },
25405                     "controiltilt": {
25406                         "description": "Closed loop control allows for intermediate settings, open loop
25407 supports only tilted or not tilted",
25408                         "readOnly": true,
25409                         "type": "string",
25410                         "enum": ["closedloop", "openloop"]
25411                     },
25412                     "closedloopliftcontrol": {
25413                         "description": "Encoder or timer controlled",
25414                         "readOnly": true,
25415                         "type": "string",
25416                         "enum": ["encoder", "timer"]
25417                     },
25418                     "closedlooptiltcontrol": {
25419                         "description": "Encoder or timer controlled",
25420                         "readOnly": true,
25421                         "type": "string",
25422                         "enum": ["encoder", "timer"]
25423                     },
25424                     "online": {
25425                         "description": "True = online, False = not online",
25426                         "readOnly": true,
25427                         "type": "boolean"
25428                     },
25429                     "operational": {
25430                         "description": "True = operational, False = not operational",
25431                         "readOnly": true,
25432                         "type": "boolean"
25433                     },
25434                     "rotationdirection": {
25435                         "description": "Identifies if the direction of rotation has been reversed to match
25436 physical installation.",
25437                         "readOnly": true,
25438                         "type": "string",
25439                         "enum": ["normal", "reversed"]
25440                     }
25441                 }
25442             }
25443         }
25444     }

```

```

25441     },
25442     "readOnly": true,
25443     "type": "object"
25444 },
25445 "liftaccelerationtime" : {
25446     "description": "Ramp up time to reach lift velocity (ms)",
25447     "type": "integer"
25448 },
25449 "liftdecelerationtime" : {
25450     "description": "Ramp down time from the velocity setting (ms)",
25451     "type": "integer"
25452 },
25453 "mode" : {
25454     "description": "Set of operational modes.",
25455     "properties": {
25456         "calibration": {
25457             "description": "True = calibration mode, False = normal mode",
25458             "type": "boolean"
25459         },
25460         "ledfeedback": {
25461             "description": "True = feedback enabled, False = LEDs are off",
25462             "type": "boolean"
25463         },
25464         "maintenance": {
25465             "description": "True = maintenance mode, False = normal mode",
25466             "type": "boolean"
25467         },
25468         "motordirection": {
25469             "description": "True = direction reversed, False = direction normal",
25470             "type": "boolean"
25471         }
25472     },
25473     "type": "object"
25474 },
25475 "n": {
25476     "$ref":
25477     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
25478     schema.json#/definitions/n"
25479 },
25480 "id": {
25481     "$ref":
25482     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
25483     schema.json#/definitions/id"
25484 },
25485 "if" : {
25486     "description": "The interface set supported by this resource",
25487     "items": {
25488         "enum": [
25489             "oic.if.rw",
25490             "oic.if.baseline"
25491         ],
25492         "type": "string"
25493     },
25494     "minItems": 2,
25495     "maxItems": 2,
25496     "readOnly": true,
25497     "type": "array"
25498 }
25499 },
25500 "required": ["windowcoveringtype", "configstatus", "mode"]
25501 },
25502 "WindowCovering-Update" : {
25503     "properties": {
25504         "liftaccelerationtime" : {
25505             "description": "Ramp up time to reach lift velocity (ms)",
25506             "type": "integer"
25507         },
25508         "liftdecelerationtime" : {
25509             "description": "Ramp down time from the velocity setting (ms)",
25510             "type": "integer"
25511         },
25512         "liftvelocity" : {

```



```

25513         "description": "Velocity in cm/sec associated with lifting the covering",
25514         "type": "integer"
25515     },
25516     "mode" : {
25517         "description": "Set of operational modes.",
25518         "properties": {
25519             "calibration": {
25520                 "description": "True = calibration mode, False = normal mode",
25521                 "type": "boolean"
25522             },
25523             "ledfeedback": {
25524                 "description": "True = feedback enabled, False = LEDs are off",
25525                 "type": "boolean"
25526             },
25527             "maintenance": {
25528                 "description": "True = maintenance mode, False = normal mode",
25529                 "type": "boolean"
25530             },
25531             "motordirection": {
25532                 "description": "True = direction reversed, False = direction normal",
25533                 "type": "boolean"
25534             }
25535         },
25536         "type": "object"
25537     },
25538 },
25539 "required": ["mode"]
25540 }
25541 }
25542 }
25543

```

6.126.5 Property definition

Table 255 defines the Properties that are part of the "oic.r.windowcovering" Resource Type.

Table 255 – The Property definitions of the Resource with type "rt" = "oic.r.windowcovering".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	Resource Type
windowcoveringtype	string	Yes	Read Only	Window covering type. See OCF enumeration map for set of valid values.
liftvelocity	integer	No	Read Write	Velocity in cm/sec associated with lifting the covering
configstatus	object: see schema	Yes	Read Only	Set of config status indicators.
liftaccelerationtime	integer	No	Read Write	Ramp up time to reach lift velocity (ms)
liftdecelerationtime	integer	No	Read Write	Ramp down time from the velocity setting (ms)
mode	object: see schema	Yes	Read Write	Set of operational modes.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	

if	array: see schema	No	Read Only	The interface set supported by this resource
liftaccelerationtime	integer	No	Read Write	Ramp up time to reach lift velocity (ms)
liftdecelerationtime	integer	No	Read Write	Ramp down time from the velocity setting (ms)
liftvelocity	integer	No	Read Write	Velocity in cm/sec associated with lifting the covering
mode	object: see schema	Yes	Read Write	Set of operational modes.

6.126.6 CRUDN behaviour

Table 256 defines the CRUDN operations that are supported on the "oic.r.windowcovering" Resource Type.

Table 256 – The CRUDN operations of the Resource with type "rt" = "oic.r.windowcovering".

Create	Read	Update	Delete	Notify
	get	post		observe

6.127 Activity

6.127.1 Introduction

This Resource describes the Properties associated with a person's physical activity. All Properties are read-only values that are provided by the server. When range (from "oic.r.baseresource") is omitted the default is 0 to +MAXFLOAT.

6.127.2 Example URI

/ActivityResURI

6.127.3 Resource type

The Resource Type is defined as: "oic.r.activity".

6.127.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Activity",
    "version": "2019-03-04",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": [
    "http"
  ],
  "consumes": [
    "application/json"
  ],
  "produces": [
    "application/json"
  ]
}
```

```

25585     ],
25586     "paths": {
25587         "/ActivityResURI": {
25588             "get": {
25589                 "description": "This Resource describes the Properties associated with a person's physical
25590 activity.\n All Properties are read-only values that are provided by the server.\n When range (from
25591 \"oic.r.baseresource\") is omitted the default is 0 to +MAXFLOAT.",
25592                 "parameters": [
25593                     {
25594                         "$ref": "#/parameters/interface"
25595                     }
25596                 ],
25597                 "responses": {
25598                     "200": {
25599                         "description": "",
25600                         "x-example": {
25601                             "rt": [
25602                                 "oic.r.activity"
25603                             ],
25604                             "activity": "sleep",
25605                             "steps_day": 1000,
25606                             "steps_reset": 500,
25607                             "ccal_day": 3000.0,
25608                             "ccal_reset": 1500.0
25609                         },
25610                         "schema": {
25611                             "$ref": "#/definitions/Activity"
25612                         }
25613                     }
25614                 }
25615             }
25616         },
25617     },
25618     "parameters": {
25619         "interface": {
25620             "in": "query",
25621             "name": "if",
25622             "type": "string",
25623             "enum": [
25624                 "oic.if.s",
25625                 "oic.if.baseline"
25626             ]
25627         }
25628     },
25629     "definitions": {
25630         "Activity": {
25631             "properties": {
25632                 "activity": {
25633                     "description": "This Property describes the recognized current activity type of user",
25634                     "type": "string",
25635                     "enum": [
25636                         "sleep",
25637                         "sit",
25638                         "stand",
25639                         "walk",
25640                         "run",
25641                         "unknown"
25642                     ],
25643                     "readOnly": true
25644                 },
25645                 "steps_day": {
25646                     "description": "This Property describes the user's step count that measures the number of
25647 steps the user has taken since the beginning of the day.",
25648                     "type": "integer",
25649                     "minimum": 0,
25650                     "readOnly": true
25651                 },
25652                 "steps_reset": {
25653                     "description": "This Property describes the user's step count that measures the number of
25654 steps the user has taken since the last reset.",
25655                     "type": "integer",
25656                     "minimum": 0,

```

```

25657         "readOnly": true
25658     },
25659     "ccal_day": {
25660         "description": "This Property describes the burned off calories of user since the
25661 beginning of the day.",
25662         "type": "number",
25663         "minimum": 0.0,
25664         "readOnly": true
25665     },
25666     "ccal_reset": {
25667         "description": "This Property describes the burned off calories of user since the last
25668 reset.",
25669         "type": "number",
25670         "minimum": 0.0,
25671         "readOnly": true
25672     },
25673     "rt": {
25674         "description": "The Resource Type.",
25675         "items": {
25676             "enum": [
25677                 "oic.r.activity"
25678             ],
25679             "type": "string"
25680         },
25681         "minItems": 1,
25682         "uniqueItems": true,
25683         "readOnly": true,
25684         "type": "array"
25685     },
25686     "n": {
25687         "$ref":
25688 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
25689 schema.json#/definitions/n"
25690     },
25691     "if": {
25692         "description": "The OCF Interface set supported by this Resource.",
25693         "items": {
25694             "enum": [
25695                 "oic.if.s", "oic.if.baseline"
25696             ],
25697             "type": "string"
25698         },
25699         "minItems": 1,
25700         "uniqueItems": true,
25701         "readOnly": true,
25702         "type": "array"
25703     },
25704     "steps_day_range": {
25705         "$ref":
25706 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25707 schema.json#/definitions/range_integer"
25708     },
25709     "steps_day_step": {
25710         "$ref":
25711 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25712 schema.json#/definitions/step_integer"
25713     },
25714     "steps_reset_range": {
25715         "$ref":
25716 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25717 schema.json#/definitions/range_integer"
25718     },
25719     "steps_reset_step": {
25720         "$ref":
25721 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25722 schema.json#/definitions/step_integer"
25723     },
25724     "ccal_day_range": {
25725         "$ref":
25726 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25727 schema.json#/definitions/range_number"
25728     },

```

```

25729         "ccal_day_step": {
25730             "$ref":
25731             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25732             schema.json#/definitions/step_number"
25733         },
25734         "ccal_day_precision": {
25735             "$ref":
25736             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25737             schema.json#/definitions/precision"
25738         },
25739         "ccal_reset_range": {
25740             "$ref":
25741             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25742             schema.json#/definitions/range_number"
25743         },
25744         "ccal_reset_step": {
25745             "$ref":
25746             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25747             schema.json#/definitions/step_number"
25748         },
25749         "ccal_reset_precision": {
25750             "$ref":
25751             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
25752             schema.json#/definitions/precision"
25753         }
25754     },
25755     "type": "object",
25756     "required": [
25757         "activity"
25758     ]
25759 }
25760 }
25761 }

```

25762 6.127.5 Property definition

25763 Table 257 defines the Properties that are part of the "oic.r.activity" Resource Type.

25764 **Table 257 – The Property definitions of the Resource with type "rt" = "oic.r.activity".**

Property name	Value type	Mandatory	Access mode	Description
activity	string	Yes	Read Only	This Property describes the recognized current activity type of user
steps_day	integer	No	Read Only	This Property describes the user's step count that measures the number of steps the user has taken since the beginning of the day.
steps_reset	integer	No	Read Only	This Property describes the user's step count that measures the number of steps the user has taken since the last reset.
ccal_day	number	No	Read Only	This Property describes the burned off calories of user since the beginning of the day.
ccal_reset	number	No	Read Only	This Property describes the burned

				off calories of user since the last reset.
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
steps_day_range	multiple types: see schema	No	Read Write	
steps_day_step	multiple types: see schema	No	Read Write	
steps_reset_range	multiple types: see schema	No	Read Write	
steps_reset_step	multiple types: see schema	No	Read Write	
ccal_day_range	multiple types: see schema	No	Read Write	
ccal_day_step	multiple types: see schema	No	Read Write	
ccal_day_precision	multiple types: see schema	No	Read Write	
ccal_reset_range	multiple types: see schema	No	Read Write	
ccal_reset_step	multiple types: see schema	No	Read Write	
ccal_reset_precision	multiple types: see schema	No	Read Write	

6.127.6 CRUDN behaviour

Table 258 defines the CRUDN operations that are supported on the "oic.r.activity" Resource Type.

Table 258 – The CRUDN operations of the Resource with type "rt" = "oic.r.activity".

Create	Read	Update	Delete	Notify
	get			observe

6.128 Activity Tracker Atomic Measurement Representation

6.128.1 Introduction

This Resource describes the Properties associated with Activity Tracker.

The Resource is an Atomic Measurement of activity ("oic.r.activity"), heart rate ("oic.r.heartrate"), observed time ("oic.r.time.stamp"), and user ID ("oic.r.userid").

6.128.2 Example URI

/ActivityTrackerAMResURI

6.128.3 Resource type

The Resource Type is defined as: "oic.r.activitytracker-am, oic.wk.atomicmeasurement".

6.128.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Activity Tracker Atomic Measurement Representation",
```

```

25782     "version": "2019-03-04",
25783     "license": {
25784         "name": "OCF Data Model License",
25785         "url":
25786 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
25787 CENSE.md",
25788         "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
25789     },
25790     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
25791 },
25792     "schemes": [
25793         "http"
25794     ],
25795     "consumes": [
25796         "application/json"
25797     ],
25798     "produces": [
25799         "application/json"
25800     ],
25801     "paths": {
25802         "/ActivityTrackerAMResURI?if=oic.if.b": {
25803             "get": {
25804                 "description": "This Resource describes the Properties associated with Activity Tracker.\n
25805 The Resource is an Atomic Measurement of activity (\\"oic.r.activity\\"), heart rate
25806 (\\"oic.r.heartrate\\"), observed time (\\"oic.r.time.stamp\\"), and user ID (\\"oic.r.userid\\").",
25807                 "parameters": [
25808                     {
25809                         "$ref": "#/parameters/interface-all"
25810                     }
25811                 ],
25812                 "responses": {
25813                     "200": {
25814                         "description": "",
25815                         "x-example": [
25816                             {
25817                                 "href": "/myActivity",
25818                                 "rep": {
25819                                     "activity": "sleep",
25820                                     "steps_day": 1000,
25821                                     "steps_reset": 500,
25822                                     "ccal_day": 3000.0,
25823                                     "ccal_reset": 1500.0
25824                                 }
25825                             },
25826                             {
25827                                 "href": "/myHeartRate",
25828                                 "rep": {
25829                                     "heartrate": 80
25830                                 }
25831                             },
25832                             {
25833                                 "href": "/myUserId",
25834                                 "rep": {
25835                                     "userid": "USER1"
25836                                 }
25837                             },
25838                             {
25839                                 "href": "/myTimeStamp",
25840                                 "rep": {
25841                                     "timestamp": "2018-11-09T12:15:00+08:00"
25842                                 }
25843                             }
25844                         ],
25845                         "schema": {
25846                             "$ref": "#/definitions/batch-retrieve"
25847                         }
25848                     }
25849                 }
25850             }
25851         },
25852         "/ActivityTrackerAMResURI?if=oic.if.ll": {
25853             "get": {

```

```

25854         "description": "This Resource describes the Properties associated with Activity Tracker.\n
25855 The Resource is an Atomic Measurement of activity (\\"oic.r.activity\\"), heart rate
25856 (\\"oic.r.heartrate\\"), observed time (\\"oic.r.time.stamp\\"), and user ID (\\"oic.r.userid\\").",
25857         "parameters": [
25858             {
25859                 "$ref": "#/parameters/interface-all"
25860             }
25861         ],
25862         "responses": {
25863             "200": {
25864                 "description": "",
25865                 "x-example": [
25866                     {
25867                         "href": "/myActivity",
25868                         "rt": [
25869                             "oic.r.activity"
25870                         ],
25871                         "if": [
25872                             "oic.if.s",
25873                             "oic.if.baseline"
25874                         ]
25875                     },
25876                     {
25877                         "href": "/myHeartRate",
25878                         "rt": [
25879                             "oic.r.heartrate"
25880                         ],
25881                         "if": [
25882                             "oic.if.s",
25883                             "oic.if.baseline"
25884                         ]
25885                     },
25886                     {
25887                         "href": "/myUserId",
25888                         "rt": [
25889                             "oic.r.userid"
25890                         ],
25891                         "if": [
25892                             "oic.if.r",
25893                             "oic.if.baseline"
25894                         ]
25895                     },
25896                     {
25897                         "href": "/myTimeStamp",
25898                         "rt": [
25899                             "oic.r.time.stamp"
25900                         ],
25901                         "if": [
25902                             "oic.if.r",
25903                             "oic.if.baseline"
25904                         ]
25905                     }
25906                 ],
25907                 "schema": {
25908                     "$ref": "#/definitions/links"
25909                 }
25910             }
25911         }
25912     },
25913     "/ActivityTrackerAMResURI?if=oic.if.baseline": {
25914         "get": {
25915             "description": "This Resource describes the Properties associated with Activity Tracker.\n
25916 The Resource is an Atomic Measurement of activity (\\"oic.r.activity\\"), heart rate
25917 (\\"oic.r.heartrate\\"), observed time (\\"oic.r.time.stamp\\"), and user ID (\\"oic.r.userid\\").",
25918             "parameters": [
25919                 {
25920                     "$ref": "#/parameters/interface-all"
25921                 }
25922             ],
25923             "responses": {
25924                 "200": {

```



```

25926      "description": "",
25927      "x-example":
25928      {
25929          "rt": [
25930              "oic.r.activitytracker-am",
25931              "oic.wk.atomicmeasurement"
25932          ],
25933          "if": [
25934              "oic.if.b",
25935              "oic.if.ll",
25936              "oic.if.baseline"
25937          ],
25938          "rts-m": [
25939              "oic.r.activity"
25940          ],
25941          "rts": [
25942              "oic.r.activity", "oic.r.heartrate", "oic.r.userid", "oic.r.time.stamp"
25943          ],
25944          "links": [
25945              {
25946                  "href": "/myActivity",
25947                  "rt": [
25948                      "oic.r.activity"
25949                  ],
25950                  "if": [
25951                      "oic.if.s",
25952                      "oic.if.baseline"
25953                  ]
25954              },
25955              {
25956                  "href": "/myHeartRate",
25957                  "rt": [
25958                      "oic.r.heartrate"
25959                  ],
25960                  "if": [
25961                      "oic.if.s",
25962                      "oic.if.baseline"
25963                  ]
25964              },
25965              {
25966                  "href": "/myUserId",
25967                  "rt": [
25968                      "oic.r.userid"
25969                  ],
25970                  "if": [
25971                      "oic.if.r",
25972                      "oic.if.baseline"
25973                  ]
25974              },
25975              {
25976                  "href": "/myTimeStamp",
25977                  "rt": [
25978                      "oic.r.time.stamp"
25979                  ],
25980                  "if": [
25981                      "oic.if.r",
25982                      "oic.if.baseline"
25983                  ]
25984              }
25985          ]
25986      },
25987      "schema": {
25988          "$ref": "#/definitions/baseline"
25989      }
25990  }
25991  }
25992  }
25993  },
25994  },
25995  "parameters": {
25996      "interface-all": {
25997          "in": "query",

```

```

25998     "name": "if",
25999     "type": "string",
26000     "enum": [
26001         "oic.if.b",
26002         "oic.if.ll",
26003         "oic.if.baseline"
26004     ]
26005 }
26006 },
26007 "definitions": {
26008     "batch-retrieve": {
26009         "title": "Collection Batch Retrieve Format",
26010         "minItems": 1,
26011         "items": {
26012             "additionalProperties": true,
26013             "properties": {
26014                 "href": {
26015                     "$ref":
26016 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26017 schema.json#/definitions/href"
26018                 },
26019                 "rep": {
26020                     "type": "object",
26021                     "anyOf": [
26022                         {
26023                             "$ref":
26024 "https://openconnectivityfoundation.github.io/IoTDataModels/Activity.swagger.json#/definitions/Activ
26025 ity"
26026                         },
26027                         {
26028                             "$ref":
26029 "https://openconnectivityfoundation.github.io/IoTDataModels/HeartRate.swagger.json#/definitions/Hear
26030 tRate"
26031                         },
26032                         {
26033                             "$ref":
26034 "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/U
26035 serID"
26036                         },
26037                         {
26038                             "$ref":
26039 "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definition
26040 s/TimeStamp"
26041                         }
26042                     ]
26043                 }
26044             },
26045             "required": [
26046                 "href",
26047                 "rep"
26048             ],
26049             "type": "object"
26050         },
26051         "type": "array"
26052     },
26053     "links": {
26054         "type": "array",
26055         "items": {
26056             "$ref": "#/definitions/oic.oic-link"
26057         }
26058     },
26059     "baseline": {
26060         "properties": {
26061             "rt": {
26062                 "items": {
26063                     "enum": [
26064                         "oic.r.activitytracker-am",
26065                         "oic.wk.atomicmeasurement"
26066                     ]
26067                 },
26068                 "minItems": 2,
26069                 "type": "array",

```

```

26070         "uniqueItems": true,
26071         "readOnly": true
26072     },
26073     "links": {
26074         "$ref": "#/definitions/links"
26075     },
26076     "n": {
26077         "$ref":
26078 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
26079 schema.json#/definitions/n"
26080     },
26081     "rts": {
26082         "description": "This Property contains all possible Resource Types for this Atomic
26083 Measurement.",
26084         "items": {
26085             "enum": [
26086                 "oic.r.activity",
26087                 "oic.r.heartrate",
26088                 "oic.r.time.stamp",
26089                 "oic.r.userid"
26090             ]
26091         },
26092         "minItems": 1,
26093         "type": "array",
26094         "uniqueItems": true
26095     },
26096     "id": {
26097         "$ref":
26098 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
26099 schema.json#/definitions/id"
26100     },
26101     "rts-m": {
26102         "description": "This Property contains all mandatory Resource Types for this Atomic
26103 Measurement.",
26104         "items": {
26105             "enum": [
26106                 "oic.r.activity"
26107             ]
26108         },
26109         "maxItems": 1,
26110         "minItems": 1,
26111         "type": "array",
26112         "readOnly": true,
26113         "uniqueItems": true
26114     },
26115     "if": {
26116         "description": "The OCF Interface set supported by this Resource.",
26117         "items": {
26118             "enum": [
26119                 "oic.if.baseline",
26120                 "oic.if.ll",
26121                 "oic.if.b"
26122             ],
26123             "type": "string"
26124         },
26125         "minItems": 1,
26126         "uniqueItems": true,
26127         "readOnly": true,
26128         "type": "array"
26129     }
26130 },
26131 "type": "object",
26132 "required": [
26133     "rts-m"
26134 ]
26135 },
26136 "oic.oic-link": {
26137     "properties": {
26138         "anchor": {
26139             "$ref":
26140 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26141 schema.json#/definitions/anchor"

```

```

26142     },
26143     "di": {
26144         "$ref":
26145         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26146         schema.json#/definitions/di"
26147     },
26148     "eps": {
26149         "$ref":
26150         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26151         schema.json#/definitions/eps"
26152     },
26153     "href": {
26154         "$ref":
26155         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26156         schema.json#/definitions/href"
26157     },
26158     "if": {
26159         "description": "The OCF Interface set supported by this Resource.",
26160         "items": {
26161             "enum": [
26162                 "oic.if.baseline",
26163                 "oic.if.s",
26164                 "oic.if.r"
26165             ],
26166             "type": "string"
26167         },
26168         "minItems": 1,
26169         "uniqueItems": true,
26170         "type": "array"
26171     },
26172     "ins": {
26173         "$ref":
26174         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26175         schema.json#/definitions/ins"
26176     },
26177     "p": {
26178         "$ref":
26179         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26180         schema.json#/definitions/p"
26181     },
26182     "rel": {
26183         "$ref":
26184         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26185         schema.json#/definitions/rel_array"
26186     },
26187     "rt": {
26188         "description": "The Resource Type.",
26189         "items": {
26190             "enum": [
26191                 "oic.r.activity",
26192                 "oic.r.heartrate",
26193                 "oic.r.time.stamp",
26194                 "oic.r.userid"
26195             ],
26196             "type": "string"
26197         },
26198         "minItems": 1,
26199         "uniqueItems": true,
26200         "readOnly": true,
26201         "type": "array"
26202     },
26203     "title": {
26204         "$ref":
26205         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26206         schema.json#/definitions/title"
26207     },
26208     "type": {
26209         "$ref":
26210         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26211         schema.json#/definitions/type"
26212     }
26213 },

```

```

26214     "required": [
26215         "href",
26216         "rt",
26217         "if"
26218     ],
26219     "type": "object"
26220 }
26221 }
26222 }

```

26223 6.128.5 Property definition

26224 Table 259 defines the Properties that are part of the "oic.r.activitytracker-am,
26225 oic.wk.atomicmeasurement" Resource Type.

26226 **Table 259 – The Property definitions of the Resource with type "rt" = "oic.r.activitytracker-
26227 am, oic.wk.atomicmeasurement".**

Property name	Value type	Mandatory	Access mode	Description
href	multiple types: see schema	Yes	Read Write	
rep	object: see schema	Yes	Read Write	
rt	array: see schema	No	Read Only	
links	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
rts	array: see schema	No	Read Write	This Property contains all possible Resource Types for this Atomic Measurement.
id	multiple types: see schema	No	Read Write	
rts-m	array: see schema	Yes	Read Only	This Property contains all mandatory Resource Types for this Atomic Measurement.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
anchor	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
if	array: see schema	Yes	Read Write	The OCF Interface set supported by this Resource.
ins	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	

rel	multiple types: see schema	No	Read Write	
rt	array: see schema	Yes	Read Only	The Resource Type.
title	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	

6.128.6 CRUDN behaviour

Table 260 defines the CRUDN operations that are supported on the "oic.r.activitytracker-am, oic.wk.atomicmeasurement" Resource Type.

Table 260 – The CRUDN operations of the Resource with type "rt" = "oic.r.activitytracker-am, oic.wk.atomicmeasurement".

Create	Read	Update	Delete	Notify
	get			observe

6.129 Alarm

6.129.1 Introduction

This Resource describes the Properties associated with alarm status.

6.129.2 Example URI

/AlarmResURI

6.129.3 Resource type

The Resource Type is defined as: "oic.r.alarm".

6.129.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Alarm",
    "version": "2019-03-04",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": [
    "http"
  ],
  "consumes": [
    "application/json"
  ],
  "produces": [
    "application/json"
  ],
  "paths": {
    "/AlarmResURI": {
      "get": {
        "description": "This Resource describes the Properties associated with alarm status.",
        "parameters": [
          {
            "$ref": "#/parameters/interface"
          }
        ]
      }
    }
  }
}
```

```

26273     "responses": {
26274         "200": {
26275             "description": "",
26276             "x-example": {
26277                 "rt": [ "oic.r.alarm" ],
26278                 "if": [ "oic.if.rw", "oic.if.baseline"],
26279                 "status": false,
26280                 "duration": 0.0,
26281                 "time": "2018-06-20T14:30Z",
26282                 "alarmtype": "General"
26283             },
26284             "schema": {
26285                 "$ref": "#/definitions/Alarm"
26286             }
26287         }
26288     },
26289     "post": {
26290         "description": "This Resource describes the Properties associated with alarm status.",
26291         "parameters": [
26292             {
26293                 "$ref": "#/parameters/interface"
26294             },
26295             {
26296                 "name": "body",
26297                 "in": "body",
26298                 "required": true,
26299                 "schema": { "$ref": "#/definitions/Alarm" },
26300                 "x-example": {
26301                     "status": true,
26302                     "duration": 30.0,
26303                     "time": "2019-01-31T14:30Z"
26304                 }
26305             }
26306         ]
26307     },
26308     "responses": {
26309         "200": {
26310             "description": "",
26311             "x-example": {
26312                 "rt": [
26313                     "oic.r.alarm"
26314                 ],
26315                 "status": true,
26316                 "duration": 30.0,
26317                 "time": "2019-01-31T14:30Z",
26318                 "alarmtype": "General"
26319             },
26320             "schema": {
26321                 "$ref": "#/definitions/Alarm"
26322             }
26323         }
26324     }
26325 },
26326 ],
26327 },
26328 },
26329 "parameters": {
26330     "interface": {
26331         "in": "query",
26332         "name": "if",
26333         "type": "string",
26334         "enum": [
26335             "oic.if.rw",
26336             "oic.if.baseline"
26337         ]
26338     }
26339 },
26340 "definitions": {
26341     "Alarm": {
26342         "properties": {
26343             "rt": {
26344                 "description": "The Resource Type.",

```

```

26345         "items": {
26346             "enum": [
26347                 "oic.r.alarm"
26348             ],
26349             "type": "string"
26350         },
26351         "minItems": 1,
26352         "uniqueItems": true,
26353         "readOnly": true,
26354         "type": "array"
26355     },
26356     "status": {
26357         "description": "This Property describes the status of the alarm: true - on, false - off.",
26358         "type": "boolean",
26359         "readOnly": false
26360     },
26361     "duration": {
26362         "description": "This Property describes the alarm duration (seconds).",
26363         "type": "number",
26364         "minimum": 0.0,
26365         "readOnly": false
26366     },
26367     "time": {
26368         "description": "This Property describes the alarm time using ISO 8601 datetime format
26369 (e.g: 2007-04-05T14:30Z, 2007-04-05T14:30+09:00).",
26370         "type": "string",
26371         "readOnly": false
26372     },
26373     "alarmtype": {
26374         "description": "The Alarm Type.",
26375         "type": "string",
26376         "enum": [
26377             "General",
26378             "Fire",
26379             "Flood",
26380             "Weather",
26381             "Security"
26382         ],
26383         "readOnly": true
26384     },
26385     "n": {
26386         "$ref":
26387 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
26388 schema.json#/definitions/n"
26389     },
26390     "id": {
26391         "$ref":
26392 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
26393 schema.json#/definitions/id"
26394     },
26395     "if": {
26396         "description": "The OCF Interface set supported by this Resource.",
26397         "items": {
26398             "enum": [
26399                 "oic.if.baseline",
26400                 "oic.if.rw"
26401             ],
26402             "type": "string"
26403         },
26404         "minItems": 1,
26405         "uniqueItems": true,
26406         "readOnly": true,
26407         "type": "array"
26408     },
26409     "range": {
26410         "$ref":
26411 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
26412 schema.json#/definitions/range_number"
26413     },
26414     "step": {
26415         "$ref":
26416 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-

```



```

26417 schema.json#/definitions/step_number"
26418     },
26419     "precision": {
26420         "$ref":
26421         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
26422         schema.json#/definitions/precision"
26423     }
26424 },
26425 "type": "object",
26426 "required": [
26427     "status"
26428 ]
26429 }
26430 }
26431 }

```

26432 6.129.5 Property definition

26433 Table 261 defines the Properties that are part of the "oic.r.alarm" Resource Type.

26434 **Table 261 – The Property definitions of the Resource with type "rt" = "oic.r.alarm".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
status	boolean	Yes	Read Write	This Property describes the status of the alarm: true - on, false - off.
duration	number	No	Read Write	This Property describes the alarm duration (seconds).
time	string	No	Read Write	This Property describes the alarm time using ISO 8601 datetime format (e.g: 2007-04-05T14:30Z, 2007-04-05T14:30+09:00).
alarmtype	string	No	Read Only	The Alarm Type.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	

26435 6.129.6 CRUDN behaviour

26436 Table 262 defines the CRUDN operations that are supported on the "oic.r.alarm" Resource Type.

26437 **Table 262 – The CRUDN operations of the Resource with type "rt" = "oic.r.alarm".**

Create	Read	Update	Delete	Notify
	get	post		observe

6.130 Continuous Glucose Meter (CGM) Atomic Measurement Representation

6.130.1 Introduction

This Resource describes the Properties associated with Continuous Glucose Meter. The Resource is an Atomic Measurement of glucose ("oic.r.glucose"), sensor ("oic.r.cgm.sensor"), observed time ("oic.r.time.stamp"), and user ID ("oic.r.userid").

6.130.2 Example URI

/ContinuousGlucoseMeterAMResURI

6.130.3 Resource type

The Resource Type is defined as: "oic.r.cgm-am, oic.wk.atomicmeasurement".

6.130.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Continuous Glucose Meter (CGM) Atomic Measurement Representation",
    "version": "2019-03-04",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": [
    "http"
  ],
  "consumes": [
    "application/json"
  ],
  "produces": [
    "application/json"
  ],
  "paths": {
    "/ContinuousGlucoseMeterAMResURI?if=oic.if.b": {
      "get": {
        "description": "This Resource describes the Properties associated with Continuous Glucose
Meter.\n The Resource is an Atomic Measurement of glucose (\\"oic.r.glucose\\"), sensor
(\\"oic.r.cgm.sensor\\"), observed time (\\"oic.r.time.stamp\\"), and user ID (\\"oic.r.userid\\").",
        "parameters": [
          {
            "$ref": "#/parameters/interface-all"
          }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": [
              {
                "href": "/myGlucose",
                "rep": {
                  "glucose": 100.0,
                  "units": "mg/dL"
                }
              },
              {
                "href": "/myContinuousGlucoseMeterSensor",
                "rep": {
                  "starttime": "2018-06-20T14:30Z",
                  "runtime": 7.0
                }
              }
            ],
            {
              "href": "/myUserId",
```

```

26502         "rep": {
26503             "userid": "USER1"
26504         }
26505     },
26506     {
26507         "href": "/myTimeStamp",
26508         "rep": {
26509             "timestamp": "2018-11-09T12:15:00+08:00"
26510         }
26511     }
26512 ],
26513 "schema": {
26514     "$ref": "#/definitions/batch-retrieve"
26515 }
26516 }
26517 }
26518 },
26519 },
26520 "/ContinuousGlucoseMeterAMResURI?if=oic.if.ll": {
26521     "get": {
26522         "description": "This Resource describes the Properties associated with Continuous Glucose
26523 Meter.\n The Resource is an Atomic Measurement of glucose (\\"oic.r.glucose\\"), sensor
26524 (\\"oic.r.cgm.sensor\\"), observed time (\\"oic.r.time.stamp\\"), and user ID (\\"oic.r.userid\\").",
26525         "parameters": [
26526             {
26527                 "$ref": "#/parameters/interface-all"
26528             }
26529         ],
26530         "responses": {
26531             "200": {
26532                 "description": "",
26533                 "x-example": [
26534                     {
26535                         "href": "/myGlucose",
26536                         "rt": [
26537                             "oic.r.glucose"
26538                         ],
26539                         "if": [
26540                             "oic.if.s",
26541                             "oic.if.baseline"
26542                         ]
26543                     },
26544                     {
26545                         "href": "/myContinuousGlucoseMeterSensor",
26546                         "rt": [
26547                             "oic.r.cgm.sensor"
26548                         ],
26549                         "if": [
26550                             "oic.if.s",
26551                             "oic.if.baseline"
26552                         ]
26553                     },
26554                     {
26555                         "href": "/myUserId",
26556                         "rt": [
26557                             "oic.r.userid"
26558                         ],
26559                         "if": [
26560                             "oic.if.r",
26561                             "oic.if.baseline"
26562                         ]
26563                     },
26564                     {
26565                         "href": "/myTimeStamp",
26566                         "rt": [
26567                             "oic.r.time.stamp"
26568                         ],
26569                         "if": [
26570                             "oic.if.r",
26571                             "oic.if.baseline"
26572                         ]
26573                     }

```

```

26574         ],
26575         "schema": {
26576             "$ref": "#/definitions/links"
26577         }
26578     }
26579 }
26580 }
26581 },
26582 "/ContinuousGlucoseMeterAMResURI?if=oic.if.baseline": {
26583     "get": {
26584         "description": "This Resource describes the Properties associated with Continuous Glucose
26585 Meter.\n The Resource is an Atomic Measurement of glucose (\\"oic.r.glucose\\"), sensor
26586 (\\"oic.r.cgm.sensor\\"), observed time (\\"oic.r.time.stamp\\"), and user ID (\\"oic.r.userid\\").",
26587         "parameters": [
26588             {
26589                 "$ref": "#/parameters/interface-all"
26590             }
26591         ],
26592         "responses": {
26593             "200": {
26594                 "description": "",
26595                 "x-example":
26596                 {
26597                     "rt": [
26598                         "oic.r.cgm-am",
26599                         "oic.wk.atomicmeasurement"
26600                     ],
26601                     "if": [
26602                         "oic.if.b",
26603                         "oic.if.ll",
26604                         "oic.if.baseline"
26605                     ],
26606                     "rts-m": [
26607                         "oic.r.glucose"
26608                     ],
26609                     "rts": [
26610                         "oic.r.glucose", "oic.r.cgm.sensor"
26611                     ],
26612                     "links": [
26613                         {
26614                             "href": "/myGlucose",
26615                             "rt": [
26616                                 "oic.r.glucose"
26617                             ],
26618                             "if": [
26619                                 "oic.if.s",
26620                                 "oic.if.baseline"
26621                             ]
26622                         },
26623                         {
26624                             "href": "/myContinuousGlucoseMeterSensor",
26625                             "rt": [
26626                                 "oic.r.cgm.sensor"
26627                             ],
26628                             "if": [
26629                                 "oic.if.s",
26630                                 "oic.if.baseline"
26631                             ]
26632                         },
26633                         {
26634                             "href": "/myUserId",
26635                             "rt": [
26636                                 "oic.r.userid"
26637                             ],
26638                             "if": [
26639                                 "oic.if.r",
26640                                 "oic.if.baseline"
26641                             ]
26642                         },
26643                         {
26644                             "href": "/myTimeStamp",
26645                             "rt": [

```

```

26646         "oic.r.time.stamp"
26647     ],
26648     "if": [
26649         "oic.if.r",
26650         "oic.if.baseline"
26651     ]
26652 }
26653 ]
26654 },
26655 "schema": {
26656     "$ref": "#/definitions/baseline"
26657 }
26658 }
26659 }
26660 }
26661 },
26662 },
26663 "parameters": {
26664     "interface-all": {
26665         "in": "query",
26666         "name": "if",
26667         "type": "string",
26668         "enum": [
26669             "oic.if.b",
26670             "oic.if.ll",
26671             "oic.if.baseline"
26672         ]
26673     }
26674 },
26675 "definitions": {
26676     "batch-retrieve": {
26677         "title": "Collection Batch Retrieve Format",
26678         "minItems": 1,
26679         "items": {
26680             "properties": {
26681                 "href": {
26682                     "$ref":
26683 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26684 schema.json#/definitions/href"
26685                 },
26686                 "rep": {
26687                     "type": "object",
26688                     "anyOf": [
26689                         {
26690                             "$ref":
26691 "https://openconnectivityfoundation.github.io/IoTDataModels/GlucoseResURI.swagger.json#/definitions/
26692 Glucose"
26693                         },
26694                         {
26695                             "$ref":
26696 "https://openconnectivityfoundation.github.io/IoTDataModels/ContinuousGlucoseMeterSensor.swagger.jso
26697 n#/definitions/ContinuousGlucoseMeterSensor"
26698                         }
26699                     ]
26700                 },
26701                 "href": {
26702                     "$ref":
26703 "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/U
26704 serID"
26705                 },
26706                 "href": {
26707                     "$ref":
26708 "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definition
26709 s/TimeStamp"
26710                 }
26711             ]
26712         },
26713         "required": [
26714             "href",
26715             "rep"
26716         ],
26717         "type": "object"

```

```

26718     "type": "array"
26719 },
26720 "links": {
26721     "type": "array",
26722     "items": {
26723         "$ref": "#/definitions/oic.oic-link"
26724     }
26725 },
26726 "baseline": {
26727     "properties": {
26728         "rt": {
26729             "items": {
26730                 "enum": [
26731                     "oic.r.cgm-am",
26732                     "oic.wk.atomicmeasurement"
26733                 ]
26734             },
26735             "minItems": 2,
26736             "type": "array",
26737             "uniqueItems": true,
26738             "readOnly": true
26739         },
26740         "links": {
26741             "$ref": "#/definitions/links"
26742         },
26743         "n": {
26744             "$ref":
26745 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
26746 schema.json#/definitions/n"
26747         },
26748         "rts": {
26749             "description": "This Property contains all possible Resource Types for this Atomic
26750 Measurement.",
26751             "items": {
26752                 "enum": [
26753                     "oic.r.glucose",
26754                     "oic.r.cgm.sensor",
26755                     "oic.r.time.stamp",
26756                     "oic.r.userid"
26757                 ]
26758             },
26759             "minItems": 1,
26760             "type": "array",
26761             "uniqueItems": true
26762         },
26763         "id": {
26764             "$ref":
26765 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
26766 schema.json#/definitions/id"
26767         },
26768         "rts-m": {
26769             "description": "This Property contains all mandatory Resource Types for this Atomic
26770 Measurement.",
26771             "items": {
26772                 "enum": [
26773                     "oic.r.glucose"
26774                 ]
26775             },
26776             "maxItems": 1,
26777             "minItems": 1,
26778             "type": "array",
26779             "readOnly": true,
26780             "uniqueItems": true
26781         },
26782         "if": {
26783             "description": "The OCF Interface set supported by this Resource.",
26784             "items": {
26785                 "enum": [
26786                     "oic.if.baseline",
26787                     "oic.if.ll",
26788                     "oic.if.b"
26789                 ]

```

```

26790         "type": "string"
26791     },
26792     "minItems": 1,
26793     "uniqueItems": true,
26794     "readOnly": true,
26795     "type": "array"
26796 }
26797 },
26798 "type": "object",
26799 "required": [
26800     "rts-m"
26801 ]
26802 },
26803 "oic.oic-link": {
26804     "properties": {
26805         "anchor": {
26806             "$ref":
26807 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26808 schema.json#/definitions/anchor"
26809         },
26810         "di": {
26811             "$ref":
26812 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26813 schema.json#/definitions/di"
26814         },
26815         "eps": {
26816             "$ref":
26817 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26818 schema.json#/definitions/eps"
26819         },
26820         "href": {
26821             "$ref":
26822 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26823 schema.json#/definitions/href"
26824         },
26825         "if": {
26826             "description": "The OCF Interface set supported by this Resource.",
26827             "items": {
26828                 "enum": [
26829                     "oic.if.baseline",
26830                     "oic.if.s",
26831                     "oic.if.r"
26832                 ],
26833                 "type": "string"
26834             },
26835             "minItems": 1,
26836             "uniqueItems": true,
26837             "type": "array"
26838         },
26839         "ins": {
26840             "$ref":
26841 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26842 schema.json#/definitions/ins"
26843         },
26844         "p": {
26845             "$ref":
26846 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26847 schema.json#/definitions/p"
26848         },
26849         "rel": {
26850             "$ref":
26851 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26852 schema.json#/definitions/rel_array"
26853         },
26854         "rt": {
26855             "description": "The Resource Type.",
26856             "items": {
26857                 "enum": [
26858                     "oic.r.glucose",
26859                     "oic.r.cgm.sensor",
26860                     "oic.r.time.stamp",
26861                     "oic.r.userid"

```

```

26862         ],
26863         "type": "string"
26864     },
26865     "minItems": 1,
26866     "uniqueItems": true,
26867     "readOnly": true,
26868     "type": "array"
26869 },
26870 "title": {
26871     "$ref":
26872 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26873 schema.json#/definitions/title"
26874 },
26875 "type": {
26876     "$ref":
26877 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
26878 schema.json#/definitions/type"
26879 }
26880 },
26881 "required": [
26882     "href",
26883     "rt",
26884     "if"
26885 ],
26886 "type": "object"
26887 }
26888 }
26889 }

```

6.130.5 Property definition

Table 263 defines the Properties that are part of the "oic.r.cgm-am, oic.wk.atomicmeasurement" Resource Type.

Table 263 – The Property definitions of the Resource with type "rt" = "oic.r.cgm-am, oic.wk.atomicmeasurement".

Property name	Value type	Mandatory	Access mode	Description
href	multiple types: see schema	Yes	Read Write	
rep	object: see schema	Yes	Read Write	
rt	array: see schema	No	Read Only	
links	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
rts	array: see schema	No	Read Write	This Property contains all possible Resource Types for this Atomic Measurement.
id	multiple types: see schema	No	Read Write	
rts-m	array: see schema	Yes	Read Only	This Property contains all mandatory Resource Types for this Atomic Measurement.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

anchor	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
if	array: see schema	Yes	Read Write	The OCF Interface set supported by this Resource.
ins	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
rel	multiple types: see schema	No	Read Write	
rt	array: see schema	Yes	Read Only	The Resource Type.
title	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	

6.130.6 CRUDN behaviour

Table 264 defines the CRUDN operations that are supported on the "oic.r.cgm-am, oic.wk.atomicmeasurement" Resource Type.

Table 264 – The CRUDN operations of the Resource with type "rt" = "oic.r.cgm-am, oic.wk.atomicmeasurement".

Create	Read	Update	Delete	Notify
	get			observe

6.131 Calibrate for Continuous Glucose Meter (CGM)

6.131.1 Introduction

This Resource describes the Properties associated with Calibrate for Continuous Glucose Meter (CGM).

6.131.2 Example URI

/ContinuousGlucoseMeterCalibrateResURI

6.131.3 Resource type

The Resource Type is defined as: "oic.r.cgm.calibrate".

6.131.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Calibrate for Continuous Glucose Meter (CGM)",
    "version": "2019-03-04",
    "license": {
      "name": "OCF Data Model License",
      "url":
        "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
        CENSE.md",
      "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
    }
  }
}
```

```

26920     },
26921     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
26922 },
26923 "schemas": [
26924     "http"
26925 ],
26926 "consumes": [
26927     "application/json"
26928 ],
26929 "produces": [
26930     "application/json"
26931 ],
26932 "paths": {
26933     "/ContinuousGlucoseMeterCalibrateResURI": {
26934         "get": {
26935             "description": "This Resource describes the Properties associated with Calibrate for
Continuous Glucose Meter (CGM).",
26936             "parameters": [
26937                 {
26938                     "$ref": "#/parameters/interface"
26939                 }
26940             ],
26941             "responses": {
26942                 "200": {
26943                     "description": "",
26944                     "x-example": {
26945                         "rt": [
26946                             "oic.r.cgm.calibrate"
26947                         ],
26948                         "Cvalue": 128.0,
26949                         "Cstatus": true
26950                     },
26951                     "schema": {
26952                         "$ref": "#/definitions/ContinuousGlucoseMeterCalibrate"
26953                     }
26954                 }
26955             }
26956         },
26957         "post": {
26958             "description": "This Resource describes the Properties associated with Calibrate for
Continuous Glucose Meter (CGM).",
26959             "parameters": [
26960                 {
26961                     "$ref": "#/parameters/interface"
26962                 },
26963                 {
26964                     "name": "body",
26965                     "in": "body",
26966                     "required": true,
26967                     "schema": { "$ref": "#/definitions/ContinuousGlucoseMeterCalibrate" },
26968                     "x-example": {
26969                         "Cvalue": 130.0,
26970                         "Cstatus": true
26971                     }
26972                 }
26973             ],
26974             "responses": {
26975                 "200": {
26976                     "description": "",
26977                     "x-example": {
26978                         "rt": [
26979                             "oic.r.cgm.calibrate"
26980                         ],
26981                         "Cvalue": 130.0,
26982                         "Cstatus": true
26983                     },
26984                     "schema": {
26985                         "$ref": "#/definitions/ContinuousGlucoseMeterCalibrate"
26986                     }
26987                 }
26988             }
26989         }
26990     }
26991 }

```

```

26992     }
26993   },
26994   "parameters": {
26995     "interface": {
26996       "in": "query",
26997       "name": "if",
26998       "type": "string",
26999       "enum": [
27000         "oic.if.rw",
27001         "oic.if.baseline"
27002       ]
27003     }
27004   },
27005   "definitions": {
27006     "ContinuousGlucoseMeterCalibrate": {
27007       "properties": {
27008         "Cvalue": {
27009           "description": "This Property describes the Sensor Calibration Value in mg/dL units. This
27010 blood glucose measurement using other external glucose meter.",
27011           "type": "number",
27012           "minimum": 0,
27013           "readOnly": false
27014         },
27015         "Cstatus": {
27016           "description": "Sensor calibration required flag",
27017           "type": "boolean",
27018           "readOnly": true
27019         },
27020         "rt": {
27021           "description": "The Resource Type.",
27022           "items": {
27023             "enum": [
27024               "oic.r.cgm.calibrate"
27025             ],
27026             "type": "string"
27027           },
27028           "minItems": 1,
27029           "uniqueItems": true,
27030           "readOnly": true,
27031           "type": "array"
27032         },
27033         "n": {
27034           "$ref":
27035 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
27036 schema.json#/definitions/n"
27037         },
27038         "if": {
27039           "description": "The OCF Interface set supported by this Resource.",
27040           "items": {
27041             "enum": [
27042               "oic.if.rw",
27043               "oic.if.baseline"
27044             ],
27045             "type": "string"
27046           },
27047           "minItems": 1,
27048           "uniqueItems": true,
27049           "readOnly": true,
27050           "type": "array"
27051         },
27052         "range": {
27053           "$ref":
27054 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27055 schema.json#/definitions/range_number"
27056         },
27057         "step": {
27058           "$ref":
27059 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27060 schema.json#/definitions/step_number"
27061         },
27062         "precision": {
27063           "$ref":

```

```

27064 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27065 schema.json#/definitions/precision"
27066     },
27067     "type": "object",
27068     "required": [
27069         "Cvalue", "Cstatus"
27070     ]
27071 }
27072 }
27073 }
27074 }

```

27075 6.131.5 Property definition

27076 Table 265 defines the Properties that are part of the "oic.r.cgm.calibrate" Resource Type.

27077 **Table 265 – The Property definitions of the Resource with type "rt" = "oic.r.cgm.calibrate".**

Property name	Value type	Mandatory	Access mode	Description
Cvalue	number	Yes	Read Write	This Property describes the Sensor Calibration Value in mg/dL units. This blood glucose measurement using other external glucose meter.
Cstatus	boolean	Yes	Read Only	Sensor calibration required flag
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	

27078 6.131.6 CRUDN behaviour

27079 Table 266 defines the CRUDN operations that are supported on the "oic.r.cgm.calibrate" Resource
27080 Type.

27081 **Table 266 – The CRUDN operations of the Resource with type "rt" = "oic.r.cgm.calibrate".**

Create	Read	Update	Delete	Notify
	get	post		observe

27082 6.132 Sampling Interval for Continuous Glucose Meter (CGM)

27083 6.132.1 Introduction

27084 This Resource describes the Properties associated with Sampling Interval for Continuous
27085 Glucose Meter (CGM).

27086 6.132.2 Example URI

27087 /ContinuousGlucoseMeterSamplingIntervalResURI

6.132.3 Resource type

The Resource Type is defined as: "oic.r.cgm.samplinginterval".

6.132.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Sampling Interval for Continuous Glucose Meter (CGM)",
    "version": "2019-03-04",
    "license": {
      "name": "OCF Data Model License",
      "url": "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": [
    "http"
  ],
  "consumes": [
    "application/json"
  ],
  "produces": [
    "application/json"
  ],
  "paths": {
    "/ContinuousGlucoseMeterSamplingIntervalResURI": {
      "get": {
        "description": "This Resource describes the Properties associated with Sampling Interval for
Continuous Glucose Meter (CGM).",
        "parameters": [
          {
            "$ref": "#/parameters/interface"
          }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": [
                "oic.r.cgm.samplinginterval"
              ],
              "interval": 10.0
            },
            "schema": {
              "$ref": "#/definitions/ContinuousGlucoseMeterSamplingInterval"
            }
          }
        }
      },
      "post": {
        "description": "This Resource describes the Properties associated with Sampling Interval for
Continuous Glucose Meter (CGM).",
        "parameters": [
          {
            "$ref": "#/parameters/interface"
          },
          {
            "name": "body",
            "in": "body",
            "required": true,
            "schema": { "$ref": "#/definitions/ContinuousGlucoseMeterSamplingInterval" },
            "x-example": {
              "interval": 20.0
            }
          }
        ],
        "responses": {
```

```

27157         "200": {
27158             "description": "",
27159             "x-example": {
27160                 "rt": [
27161                     "oic.r.cgm.samplinginterval"
27162                 ],
27163                 "interval": 20.0
27164             },
27165             "schema": {
27166                 "$ref": "#/definitions/ContinuousGlucoseMeterSamplingInterval"
27167             }
27168         }
27169     },
27170 },
27171 },
27172 },
27173 "parameters": {
27174     "interface": {
27175         "in": "query",
27176         "name": "if",
27177         "type": "string",
27178         "enum": [
27179             "oic.if.a",
27180             "oic.if.baseline"
27181         ]
27182     }
27183 },
27184 "definitions": {
27185     "ContinuousGlucoseMeterSamplingInterval": {
27186         "properties": {
27187             "interval": {
27188                 "description": "This Property describes the Sampling interval in seconds.",
27189                 "type": "number",
27190                 "minimum": 0.0,
27191                 "readOnly": false
27192             },
27193             "rt": {
27194                 "description": "The Resource Type.",
27195                 "items": {
27196                     "enum": [
27197                         "oic.r.cgm.samplinginterval"
27198                     ],
27199                     "type": "string"
27200                 },
27201                 "minItems": 1,
27202                 "uniqueItems": true,
27203                 "readOnly": true,
27204                 "type": "array"
27205             },
27206             "n": {
27207                 "$ref":
27208 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
27209 schema.json#/definitions/n"
27210             },
27211             "id": {
27212                 "$ref":
27213 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
27214 schema.json#/definitions/id"
27215             },
27216             "if": {
27217                 "description": "The OCF Interface set supported by this Resource.",
27218                 "items": {
27219                     "enum": [
27220                         "oic.if.a",
27221                         "oic.if.baseline"
27222                     ],
27223                     "type": "string"
27224                 },
27225                 "minItems": 1,
27226                 "uniqueItems": true,
27227                 "readOnly": true,
27228                 "type": "array"

```

```
27229     },
27230     "range": {
27231       "$ref":
27232       "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27233       schema.json#/definitions/range_number"
27234     },
27235     "step": {
27236       "$ref":
27237       "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27238       schema.json#/definitions/step_number"
27239     },
27240     "precision": {
27241       "$ref":
27242       "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27243       schema.json#/definitions/precision"
27244     }
27245   },
27246   "type": "object",
27247   "required": [
27248     "interval"
27249   ]
27250 }
27251 }
27252 }
```

27253 **6.132.5 Property definition**

27254 Table 267 defines the Properties that are part of the "oic.r.cgm.samplinginterval" Resource Type.

27255 **Table 267 – The Property definitions of the Resource with type "rt" =**
27256 **"oic.r.cgm.samplinginterval".**

Property name	Value type	Mandatory	Access mode	Description
interval	number	Yes	Read Write	This Property describes the Sampling interval in seconds.
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	

27257 **6.132.6 CRUDN behaviour**

27258 Table 268 defines the CRUDN operations that are supported on the "oic.r.cgm.samplinginterval"
27259 Resource Type.

27260 **Table 268 – The CRUDN operations of the Resource with type "rt" =**
27261 **"oic.r.cgm.samplinginterval".**

Create	Read	Update	Delete	Notify
	get	post		observe

6.133 Sensor for Continuous Glucose Meter (CGM)

6.133.1 Introduction

This Resource describes the Properties associated with Sensor for Continuous Glucose Meter (CGM).

6.133.2 Example URI

/ContinuousGlucoseMeterSensorResURI

6.133.3 Resource type

The Resource Type is defined as: "oic.r.cgm.sensor".

6.133.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Sensor for Continuous Glucose Meter (CGM)",
    "version": "2019-03-04",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": [
    "http"
  ],
  "consumes": [
    "application/json"
  ],
  "produces": [
    "application/json"
  ],
  "paths": {
    "/ContinuousGlucoseMeterSensorResURI": {
      "get": {
        "description": "This Resource describes the Properties associated with Sensor for Continuous
Glucose Meter (CGM).",
        "parameters": [
          {
            "$ref": "#/parameters/interface"
          }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": [
                "oic.r.cgm.sensor"
              ],
              "starttime": "2018-06-20T14:30Z",
              "runtime": 7.0
            },
            "schema": {
              "$ref": "#/definitions/ContinuousGlucoseMeterSensor"
            }
          }
        }
      }
    }
  },
  "parameters": {
    "interface": {
      "in": "query",
      "name": "if",
```



```

27326         "type": "string",
27327         "enum": [
27328             "oic.if.s",
27329             "oic.if.baseline"
27330         ]
27331     },
27332 },
27333     "definitions": {
27334         "ContinuousGlucoseMeterSensor": {
27335             "properties": {
27336                 "starttime": {
27337                     "description": "This Property describes the Sensor start time using ISO 8601 datetime
27338 format (e.g: 2007-04-05T14:30Z, 2007-04-05T14:30+09:00)",
27339                     "type": "string",
27340                     "readOnly": true
27341                 },
27342                 "runtime": {
27343                     "description": "This Property describes the recommended runtime days using CGM",
27344                     "type": "number",
27345                     "minimum": 0.0,
27346                     "readOnly": true
27347                 },
27348                 "rt": {
27349                     "description": "The Resource Type.",
27350                     "items": {
27351                         "enum": [
27352                             "oic.r.cgm.sensor"
27353                         ],
27354                         "type": "string"
27355                     },
27356                     "minItems": 1,
27357                     "uniqueItems": true,
27358                     "readOnly": true,
27359                     "type": "array"
27360                 },
27361                 "n": {
27362                     "$ref":
27363 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
27364 schema.json#/definitions/n"
27365                 },
27366                 "if": {
27367                     "description": "The OCF Interface set supported by this Resource.",
27368                     "items": {
27369                         "enum": [
27370                             "oic.if.s",
27371                             "oic.if.baseline"
27372                         ],
27373                         "type": "string"
27374                     },
27375                     "minItems": 1,
27376                     "uniqueItems": true,
27377                     "readOnly": true,
27378                     "type": "array"
27379                 },
27380                 "range": {
27381                     "$ref":
27382 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27383 schema.json#/definitions/range_number"
27384                 },
27385                 "step": {
27386                     "$ref":
27387 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27388 schema.json#/definitions/step_number"
27389                 },
27390                 "precision": {
27391                     "$ref":
27392 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27393 schema.json#/definitions/precision"
27394                 }
27395             },
27396             "type": "object",
27397             "required": [

```

```

27398         "starttime", "runtime"
27399     ]
27400 }
27401 }
27402 }

```

27403 6.133.5 Property definition

27404 Table 269 defines the Properties that are part of the "oic.r.cgm.sensor" Resource Type.

27405 **Table 269 – The Property definitions of the Resource with type "rt" = "oic.r.cgm.sensor".**

Property name	Value type	Mandatory	Access mode	Description
starttime	string	Yes	Read Only	This Property describes the Sensor start time using ISO 8601 datetime format (e.g: 2007-04-05T14:30Z, 2007-04-05T14:30+09:00)
runtime	number	Yes	Read Only	This Property describes the recommended runtime days using CGM
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	

27406 6.133.6 CRUDN behaviour

27407 Table 270 defines the CRUDN operations that are supported on the "oic.r.cgm.sensor" Resource
27408 Type.

27409 **Table 270 – The CRUDN operations of the Resource with type "rt" = "oic.r.cgm.sensor".**

Create	Read	Update	Delete	Notify
	get			observe

27410 6.134 Status for Continuous Glucose Meter (CGM)

27411 6.134.1 Introduction

27412 This Resource describes the Properties associated with Status for Continuous Glucose Meter
27413 (CGM).

27414 6.134.2 Example URI

27415 /ContinuousGlucoseMeterStatusResURI

27416 6.134.3 Resource type

27417 The Resource Type is defined as: "oic.r.cgm.status".

6.134.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Status for Continuous Glucose Meter (CGM)",
    "version": "2019-03-04",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": [
    "http"
  ],
  "consumes": [
    "application/json"
  ],
  "produces": [
    "application/json"
  ],
  "paths": {
    "/ContinuousGlucoseMeterStatusResURI": {
      "get": {
        "description": "This Resource describes the Properties associated with Status for Continuous
Glucose Meter (CGM).",
        "parameters": [
          {
            "$ref": "#/parameters/interface"
          }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": [
                "oic.r.cgm.status"
              ],
              "cgmttype": "Interstitial Fluid",
              "cgmstatus": "working",
              "gtrend": 100.0,
              "malfunction": false
            },
            "schema": {
              "$ref": "#/definitions/ContinuousGlucoseMeterStatus"
            }
          }
        }
      }
    }
  },
  "parameters": {
    "interface": {
      "in": "query",
      "name": "if",
      "type": "string",
      "enum": [
        "oic.if.s",
        "oic.if.baseline"
      ]
    }
  },
  "definitions": {
    "ContinuousGlucoseMeterStatus": {
      "properties": {
        "cgmttype": {
          "description": "This Property describes the CGM measurement type.",
          "type": "string",
```

```

27489         "enum": [
27490             "Capillary Whole blood",
27491             "Capillary Plasma",
27492             "Venous Plasma",
27493             "Arterial Whole blood",
27494             "Arterial Plasma",
27495             "Undetermined Whole blood",
27496             "Undetermined Plasma",
27497             "Interstitial Fluid"
27498         ],
27499         "readOnly": true
27500     },
27501     "cgmstatus": {
27502         "description": "This Property describes the specific notifications given by the CGM device
27503 including, but not limited to, warnings, errors, and handling events.",
27504         "type": "string",
27505         "readOnly": true
27506     },
27507     "gtrend": {
27508         "description": "This Property describes the rate of change in glucose measurements at a
27509 time instant.",
27510         "type": "number",
27511         "minimum": 0.0,
27512         "readOnly": true
27513     },
27514     "malfunction": {
27515         "description": "This Property describes the sensor malfunction detection check.",
27516         "type": "boolean",
27517         "readOnly": true
27518     },
27519     "rt": {
27520         "description": "The Resource Type.",
27521         "items": {
27522             "enum": [
27523                 "oic.r.cgm.status"
27524             ],
27525             "type": "string"
27526         },
27527         "minItems": 1,
27528         "uniqueItems": true,
27529         "readOnly": true,
27530         "type": "array"
27531     },
27532     "n": {
27533         "$ref":
27534         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
27535 schema.json#/definitions/n"
27536     },
27537     "if": {
27538         "description": "The OCF Interface set supported by this Resource.",
27539         "items": {
27540             "enum": [
27541                 "oic.if.s",
27542                 "oic.if.baseline"
27543             ],
27544             "type": "string"
27545         },
27546         "minItems": 1,
27547         "uniqueItems": true,
27548         "readOnly": true,
27549         "type": "array"
27550     },
27551     "range": {
27552         "$ref":
27553         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27554 schema.json#/definitions/range_number"
27555     },
27556     "step": {
27557         "$ref":
27558         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27559 schema.json#/definitions/step_number"
27560     },

```

```

27561         "precision": {
27562             "$ref":
27563             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27564             schema.json#/definitions/precision"
27565         },
27566     },
27567     "type": "object",
27568     "required": [
27569         "cgmtime",
27570         "cgmstatus",
27571         "gtrend",
27572         "malfunction"
27573     ]
27574 }
27575 }
27576 }

```

27577 6.134.5 Property definition

27578 Table 271 defines the Properties that are part of the "oic.r.cgm.status" Resource Type.

27579 **Table 271 – The Property definitions of the Resource with type "rt" = "oic.r.cgm.status".**

Property name	Value type	Mandatory	Access mode	Description
cgmtime	string	Yes	Read Only	This Property describes the CGM measurement type.
cgmstatus	string	Yes	Read Only	This Property describes the specific notifications given by the CGM device including, but not limited to, warnings, errors, and handling events.
gtrend	number	Yes	Read Only	This Property describes the rate of change in glucose measurements at a time instant.
malfunction	boolean	Yes	Read Only	This Property describes the sensor malfunction detection check.
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	

27580 6.134.6 CRUDN behaviour

27581 Table 272 defines the CRUDN operations that are supported on the "oic.r.cgm.status" Resource
27582 Type.

27583 **Table 272 – The CRUDN operations of the Resource with type "rt" = "oic.r.cgm.status".**

Create	Read	Update	Delete	Notify
	get			observe

27584 **6.135 Threshold for Continuous Glucose Meter (CGM)**

27585 **6.135.1 Introduction**

27586 This Resource describes the Properties associated with Threshold for Continuous Glucose Meter
27587 (CGM).

27588 **6.135.2 Example URI**

27589 /ContinuousGlucoseMeterThresholdResURI

27590 **6.135.3 Resource type**

27591 The Resource Type is defined as: "oic.r.cgm.threshold".

27592 **6.135.4 OpenAPI 2.0 definition**

```

27593 {
27594   "swagger": "2.0",
27595   "info": {
27596     "title": "Threshold for Continuous Glucose Meter (CGM)",
27597     "version": "2019-03-04",
27598     "license": {
27599       "name": "OCF Data Model License",
27600       "url":
27601         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
27602         CENSE.md",
27603       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
27604     },
27605     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
27606   },
27607   "schemes": [
27608     "http"
27609   ],
27610   "consumes": [
27611     "application/json"
27612   ],
27613   "produces": [
27614     "application/json"
27615   ],
27616   "paths": {
27617     "/ContinuousGlucoseMeterThresholdResURI": {
27618       "get": {
27619         "description": "This Resource describes the Properties associated with Threshold for
27620         Continuous Glucose Meter (CGM).",
27621         "parameters": [
27622           {
27623             "$ref": "#/parameters/interface"
27624           }
27625         ],
27626         "responses": {
27627           "200": {
27628             "description": "",
27629             "x-example": {
27630               "rt": [
27631                 "oic.r.cgm.threshold"
27632               ],
27633               "plow": 100.0,
27634               "phigh": 180.0,
27635               "dhypo": 80.0,
27636               "dhyper": 125.0,
27637               "gir": 5.0,
27638               "gdr": 5.0
27639             },
27640             "schema": {

```

```

27641         "$ref": "#/definitions/ContinuousGlucoseMeterThreshold"
27642     }
27643 }
27644 },
27645 },
27646 "post": {
27647     "description": "This Resource describes the Properties associated with Threshold for
27648 Continuous Glucose Meter (CGM).",
27649     "parameters": [
27650         {
27651             "$ref": "#/parameters/interface"
27652         },
27653         {
27654             "name": "body",
27655             "in": "body",
27656             "required": true,
27657             "schema": { "$ref": "#/definitions/ContinuousGlucoseMeterThreshold" },
27658             "x-example": {
27659                 "plow": 70.0,
27660                 "phigh": 150.0,
27661                 "dhypo": 60.0,
27662                 "dhyper": 90.0,
27663                 "gir": 3.0,
27664                 "gdr": 3.0
27665             }
27666         }
27667     ],
27668     "responses": {
27669         "200": {
27670             "description": "",
27671             "x-example": {
27672                 "rt": [
27673                     "oic.r.cgm.threshold"
27674                 ],
27675                 "plow": 70.0,
27676                 "phigh": 150.0,
27677                 "dhypo": 60.0,
27678                 "dhyper": 90.0,
27679                 "gir": 3.0,
27680                 "gdr": 3.0
27681             },
27682             "schema": {
27683                 "$ref": "#/definitions/ContinuousGlucoseMeterThreshold"
27684             }
27685         }
27686     }
27687 },
27688 },
27689 },
27690 "parameters": {
27691     "interface": {
27692         "in": "query",
27693         "name": "if",
27694         "type": "string",
27695         "enum": [
27696             "oic.if.rw",
27697             "oic.if.baseline"
27698         ]
27699     }
27700 },
27701 "definitions": {
27702     "ContinuousGlucoseMeterThreshold": {
27703         "properties": {
27704             "plow": {
27705                 "description": "This Property describes the Patient low threshold (mg/dL)",
27706                 "type": "number",
27707                 "minimum": 0.0,
27708                 "readOnly": false
27709             },
27710             "phigh": {
27711                 "description": "This Property describes the Patient high threshold (mg/dL)",
27712                 "type": "number",

```

```

27713         "minimum": 0.0,
27714         "readOnly": false
27715     },
27716     "dhypo": {
27717         "description": "This Property describes the Device hypoglycemia threshold (mg/dL)",
27718         "type": "number",
27719         "minimum": 0.0,
27720         "readOnly": false
27721     },
27722     "dhyper": {
27723         "description": "This Property describes the Device hyperglycemia threshold (mg/dL)",
27724         "type": "number",
27725         "minimum": 0.0,
27726         "readOnly": false
27727     },
27728     "gir": {
27729         "description": "This Property describes the Glucose Increase rate of change threshold
27730 (%)",
27731         "type": "number",
27732         "minimum": 0.0,
27733         "readOnly": false
27734     },
27735     "gdr": {
27736         "description": "This Property describes the Glucose Decrease rate of change threshold
27737 (%)",
27738         "type": "number",
27739         "minimum": 0.0,
27740         "readOnly": false
27741     },
27742     "rt": {
27743         "description": "The Resource Type.",
27744         "items": {
27745             "enum": [
27746                 "oic.r.cgm.threshold"
27747             ],
27748             "type": "string"
27749         },
27750         "minItems": 1,
27751         "uniqueItems": true,
27752         "readOnly": true,
27753         "type": "array"
27754     },
27755     "n": {
27756         "$ref":
27757 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
27758 schema.json#/definitions/n"
27759     },
27760     "if": {
27761         "description": "The OCF Interface set supported by this Resource.",
27762         "items": {
27763             "enum": [
27764                 "oic.if.rw",
27765                 "oic.if.baseline"
27766             ],
27767             "type": "string"
27768         },
27769         "minItems": 1,
27770         "uniqueItems": true,
27771         "readOnly": true,
27772         "type": "array"
27773     },
27774     "range": {
27775         "$ref":
27776 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27777 schema.json#/definitions/range_number"
27778     },
27779     "step": {
27780         "$ref":
27781 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27782 schema.json#/definitions/step_number"
27783     },
27784     "precision": {

```



```

27785         "$ref":
27786         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27787         schema.json#/definitions/precision"
27788     },
27789     },
27790     "type": "object",
27791     "required": [
27792         "plow",
27793         "phigh",
27794         "dhypo",
27795         "dhyper",
27796         "gir",
27797         "gdr"
27798     ]
27799 }
27800 }
27801 }

```

27802 6.135.5 Property definition

27803 Table 273 defines the Properties that are part of the "oic.r.cgm.threshold" Resource Type.

27804 **Table 273 – The Property definitions of the Resource with type "rt" = "oic.r.cgm.threshold".**

Property name	Value type	Mandatory	Access mode	Description
plow	number	Yes	Read Write	This Property describes the Patient low threshold (mg/dL)
phigh	number	Yes	Read Write	This Property describes the Patient high threshold (mg/dL)
dhypo	number	Yes	Read Write	This Property describes the Device hypoglycemia threshold (mg/dL)
dhyper	number	Yes	Read Write	This Property describes the Device hyperglycemia threshold (mg/dL)
gir	number	Yes	Read Write	This Property describes the Glucose Increase rate of change threshold (%)
gdr	number	Yes	Read Write	
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	

6.135.6 CRUDN behaviour

Table 274 defines the CRUDN operations that are supported on the "oic.r.cgm.threshold" Resource Type.

Table 274 – The CRUDN operations of the Resource with type "rt" = "oic.r.cgm.threshold".

Create	Read	Update	Delete	Notify
	get	post		observe

6.136 Heart Rate

6.136.1 Introduction

This Resource describes the Properties associated with a person's heart rate.

The unit, which is the default unit, is bpm.

The heartrate Property is a read-only value that is provided by the server.

When range (from "oic.r.baseresource") is omitted the default is 0 to +MAXFLOAT.

6.136.2 Example URI

/HeartRateResURI

6.136.3 Resource type

The Resource Type is defined as: "oic.r.heartrate".

6.136.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Heart Rate",
    "version": "2019-03-04",
    "license": {
      "name": "OCF Data Model License",
      "url":
        "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
        CENSE.md",
      "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": [
    "http"
  ],
  "consumes": [
    "application/json"
  ],
  "produces": [
    "application/json"
  ],
  "paths": {
    "/HeartRateResURI": {
      "get": {
        "description": "This Resource describes the Properties associated with a person's heart
        rate.\n The unit, which is the default unit, is bpm.\n The heartrate Property is a read-only value
        that is provided by the server.\n When range (from \"oic.r.baseresource\") is omitted the default is
        0 to +MAXFLOAT.",
        "parameters": [
          {
            "$ref": "#/parameters/interface"
          }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": [
```

```

27860         "oic.r.heartrate"
27861     ],
27862     "heartrate": 80
27863 },
27864     "schema": {
27865         "$ref": "#/definitions/HeartRate"
27866     }
27867 }
27868 }
27869 }
27870 },
27871 },
27872 "parameters": {
27873     "interface": {
27874         "in": "query",
27875         "name": "if",
27876         "type": "string",
27877         "enum": [
27878             "oic.if.s",
27879             "oic.if.baseline"
27880         ]
27881     },
27882 },
27883 "definitions": {
27884     "HeartRate": {
27885         "properties": {
27886             "heartrate": {
27887                 "description": "This Property describes the heart rate in bpm.",
27888                 "type": "integer",
27889                 "minimum": 0,
27890                 "readOnly": true
27891             },
27892             "rt": {
27893                 "description": "The Resource Type.",
27894                 "items": {
27895                     "enum": [
27896                         "oic.r.heartrate"
27897                     ],
27898                     "type": "string"
27899                 },
27900                 "minItems": 1,
27901                 "uniqueItems": true,
27902                 "readOnly": true,
27903                 "type": "array"
27904             },
27905             "n": {
27906                 "$ref":
27907 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
27908 schema.json#/definitions/n"
27909             },
27910             "if": {
27911                 "description": "The OCF Interface set supported by this Resource.",
27912                 "items": {
27913                     "enum": [
27914                         "oic.if.s",
27915                         "oic.if.baseline"
27916                     ],
27917                     "type": "string"
27918                 },
27919                 "minItems": 1,
27920                 "uniqueItems": true,
27921                 "readOnly": true,
27922                 "type": "array"
27923             },
27924             "range": {
27925                 "$ref":
27926 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
27927 schema.json#/definitions/range_integer"
27928             },
27929             "step": {
27930                 "$ref":
27931 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-

```

```

27932 schema.json#/definitions/step_integer"
27933     },
27934     "type": "object",
27935     "required": [
27936         "heartrate"
27937     ]
27938 }
27939 }
27940 }
27941 }

```

27942 6.136.5 Property definition

27943 Table 275 defines the Properties that are part of the "oic.r.heartrate" Resource Type.

27944 **Table 275 – The Property definitions of the Resource with type "rt" = "oic.r.heartrate".**

Property name	Value type	Mandatory	Access mode	Description
heartrate	integer	Yes	Read Only	This Property describes the heart rate in bpm.
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	

27945 6.136.6 CRUDN behaviour

27946 Table 276 defines the CRUDN operations that are supported on the "oic.r.heartrate" Resource
 27947 Type.

27948 **Table 276 – The CRUDN operations of the Resource with type "rt" = "oic.r.heartrate".**

Create	Read	Update	Delete	Notify
	get			observe

27949 6.137 Heart Rate Monitor Atomic Measurement Representation

27950 6.137.1 Introduction

27951 This Resource describes the Properties associated with Heart Rate Monitor.
 27952 The Resource is an Atomic Measurement of heart rate ("oic.r.heartrate"), observed time
 27953 ("oic.r.time.stamp"), and user ID ("oic.r.userid").

27954 6.137.2 Example URI

27955 /HeartRateMonitorAMResURI

27956 6.137.3 Resource type

27957 The Resource Type is defined as: "oic.r.heartratemonitor-am, oic.wk.atomicmeasurement".

27958 6.137.4 OpenAPI 2.0 definition

```

27959 {
27960     "swagger": "2.0",
27961     "info": {
27962         "title": "Heart Rate Monitor Atomic Measurement Representation",
27963         "version": "2019-03-04",

```

```

27964     "license": {
27965         "name": "OCF Data Model License",
27966         "url":
27967 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
27968 CENSE.md",
27969         "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
27970     },
27971     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
27972 },
27973     "schemas": [
27974         "http"
27975     ],
27976     "consumes": [
27977         "application/json"
27978     ],
27979     "produces": [
27980         "application/json"
27981     ],
27982     "paths": {
27983         "/HeartRateMonitorAMResURI?if=oic.if.b": {
27984             "get": {
27985                 "description": "This Resource describes the Properties associated with Heart Rate Monitor.\n
27986 The Resource is an Atomic Measurement of heart rate (\\"oic.r.heartrate\\"), observed time
27987 (\\"oic.r.time.stamp\\"), and user ID (\\"oic.r.userid\\").",
27988                 "parameters": [
27989                     {
27990                         "$ref": "#/parameters/interface-all"
27991                     }
27992                 ],
27993                 "responses": {
27994                     "200": {
27995                         "description": "",
27996                         "x-example": [
27997                             {
27998                                 "href": "/myHeartrate",
27999                                 "rep": {
28000                                     "heartrate": 80
28001                                 }
28002                             },
28003                             {
28004                                 "href": "/myUserId",
28005                                 "rep": {
28006                                     "userid": "USER1"
28007                                 }
28008                             },
28009                             {
28010                                 "href": "/myTimeStamp",
28011                                 "rep": {
28012                                     "timestamp": "2018-11-09T12:15:00+08:00"
28013                                 }
28014                             }
28015                         ],
28016                         "schema": {
28017                             "$ref": "#/definitions/batch-retrieve"
28018                         }
28019                     }
28020                 }
28021             }
28022         },
28023         "/HeartRateMonitorAMResURI?if=oic.if.ll": {
28024             "get": {
28025                 "description": "This Resource describes the Properties associated with Heart Rate Monitor.\n
28026 The Resource is an Atomic Measurement of heart rate (\\"oic.r.heartrate\\"), observed time
28027 (\\"oic.r.time.stamp\\"), and user ID (\\"oic.r.userid\\").",
28028                 "parameters": [
28029                     {
28030                         "$ref": "#/parameters/interface-all"
28031                     }
28032                 ],
28033                 "responses": {
28034                     "200": {
28035                         "description": "",

```

```

28036         "x-example": [
28037             {
28038                 "href": "/myHeartrate",
28039                 "rt": [
28040                     "oic.r.heartrate"
28041                 ],
28042                 "if": [
28043                     "oic.if.s",
28044                     "oic.if.baseline"
28045                 ]
28046             },
28047             {
28048                 "href": "/myUserId",
28049                 "rt": [
28050                     "oic.r.userid"
28051                 ],
28052                 "if": [
28053                     "oic.if.r",
28054                     "oic.if.baseline"
28055                 ]
28056             },
28057             {
28058                 "href": "/myTimeStamp",
28059                 "rt": [
28060                     "oic.r.time.stamp"
28061                 ],
28062                 "if": [
28063                     "oic.if.r",
28064                     "oic.if.baseline"
28065                 ]
28066             }
28067         ],
28068         "schema": {
28069             "$ref": "#/definitions/links"
28070         }
28071     }
28072 }
28073 },
28074 {
28075     "/HeartRateMonitorAMResURI?if=oic.if.baseline": {
28076         "get": {
28077             "description": "This Resource describes the Properties associated with Heart Rate Monitor.\n
28078 The Resource is an Atomic Measurement of heart rate (\\"oic.r.heartrate\\"), observed time
28079 (\\"oic.r.time.stamp\\"), and user ID (\\"oic.r.userid\\").",
28080             "parameters": [
28081                 {
28082                     "$ref": "#/parameters/interface-all"
28083                 }
28084             ],
28085             "responses": {
28086                 "200": {
28087                     "description": "",
28088                     "x-example":
28089                     {
28090                         "rt": [
28091                             "oic.r.heartratemonitor-am",
28092                             "oic.wk.atomicmeasurement"
28093                         ],
28094                         "if": [
28095                             "oic.if.b",
28096                             "oic.if.ll",
28097                             "oic.if.baseline"
28098                         ],
28099                         "rts-m": [
28100                             "oic.r.heartrate"
28101                         ],
28102                         "rts": [
28103                             "oic.r.heartrate",
28104                             "oic.r.userid",
28105                             "oic.r.time.stamp"
28106                         ],
28107                         "links": [

```

```

28108         {
28109             "href": "/myHeartRateMonitor",
28110             "rt": [
28111                 "oic.r.heartrate"
28112             ],
28113             "if": [
28114                 "oic.if.s",
28115                 "oic.if.baseline"
28116             ]
28117         },
28118         {
28119             "href": "/myUserId",
28120             "rt": [
28121                 "oic.r.userid"
28122             ],
28123             "if": [
28124                 "oic.if.r",
28125                 "oic.if.baseline"
28126             ]
28127         },
28128         {
28129             "href": "/myTimeStamp",
28130             "rt": [
28131                 "oic.r.time.stamp"
28132             ],
28133             "if": [
28134                 "oic.if.r",
28135                 "oic.if.baseline"
28136             ]
28137         }
28138     ]
28139 }
28140
28141     "schema": {
28142         "$ref": "#/definitions/baseline"
28143     }
28144 }
28145 }
28146 }
28147 }
28148 },
28149 "parameters": {
28150     "interface-all": {
28151         "in": "query",
28152         "name": "if",
28153         "type": "string",
28154         "enum": [
28155             "oic.if.b",
28156             "oic.if.ll",
28157             "oic.if.baseline"
28158         ]
28159     }
28160 },
28161 "definitions": {
28162     "batch-retrieve": {
28163         "title": "Collection Batch Retrieve Format",
28164         "minItems": 1,
28165         "items": {
28166             "properties": {
28167                 "href": {
28168                     "$ref":
28169 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28170 schema.json#/definitions/href"
28171                 },
28172                 "rep": {
28173                     "type": "object",
28174                     "anyOf": [
28175                         {
28176                             "$ref":
28177 "https://openconnectivityfoundation.github.io/IoTDataModels/HeartRate.swagger.json#/definitions/Hear
28178 tRate"
28179                         },

```

```

28180         {
28181             "$ref":
28182             "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/U
28183             serID"
28184         },
28185         {
28186             "$ref":
28187             "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definition
28188             s/TimeStamp"
28189         }
28190     ]
28191 }
28192 },
28193 "required": [
28194     "href",
28195     "rep"
28196 ],
28197 "type": "object"
28198 },
28199 "type": "array"
28200 },
28201 "links": {
28202     "type": "array",
28203     "items": {
28204         "$ref": "#/definitions/oic.oic-link"
28205     }
28206 },
28207 "baseline": {
28208     "properties": {
28209         "rt": {
28210             "items": {
28211                 "enum": [
28212                     "oic.r.heartratemonitor-am",
28213                     "oic.wk.atomicmeasurement"
28214                 ]
28215             },
28216             "minItems": 2,
28217             "type": "array",
28218             "uniqueItems": true,
28219             "readOnly": true
28220         },
28221         "links": {
28222             "$ref": "#/definitions/links"
28223         },
28224         "n": {
28225             "$ref":
28226             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
28227             schema.json#/definitions/n"
28228         },
28229         "rts": {
28230             "description": "This Property contains all possible Resource Types for this Atomic
28231             Measurement.",
28232             "items": {
28233                 "enum": [
28234                     "oic.r.heartrate",
28235                     "oic.r.userid",
28236                     "oic.r.time.stamp"
28237                 ]
28238             },
28239             "minItems": 1,
28240             "type": "array",
28241             "uniqueItems": true,
28242             "readOnly": true
28243         },
28244         "rts-m": {
28245             "description": "This Property contains all mandatory Resource Types for this Atomic
28246             Measurement.",
28247             "items": {
28248                 "enum": [
28249                     "oic.r.heartrate"
28250                 ]
28251             },

```



```

28252         "maxItems": 1,
28253         "minItems": 1,
28254         "type": "array",
28255         "readOnly": true,
28256         "uniqueItems": true
28257     },
28258     "if": {
28259         "description": "The OCF Interface set supported by this Resource.",
28260         "items": {
28261             "enum": [
28262                 "oic.if.b",
28263                 "oic.if.ll",
28264                 "oic.if.baseline"
28265             ],
28266             "type": "string"
28267         },
28268         "minItems": 1,
28269         "uniqueItems": true,
28270         "readOnly": true,
28271         "type": "array"
28272     }
28273 },
28274 "type": "object",
28275 "required": [
28276     "rts-m"
28277 ],
28278 },
28279 "oic.oic-link": {
28280     "properties": {
28281         "anchor": {
28282             "$ref":
28283 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28284 schema.json#/definitions/anchor"
28285         },
28286         "di": {
28287             "$ref":
28288 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28289 schema.json#/definitions/di"
28290         },
28291         "eps": {
28292             "$ref":
28293 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28294 schema.json#/definitions/eps"
28295         },
28296         "href": {
28297             "$ref":
28298 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28299 schema.json#/definitions/href"
28300         },
28301         "if": {
28302             "description": "The OCF Interface set supported by this Resource.",
28303             "items": {
28304                 "enum": [
28305                     "oic.if.baseline",
28306                     "oic.if.s",
28307                     "oic.if.r"
28308                 ],
28309                 "type": "string"
28310             },
28311             "minItems": 1,
28312             "uniqueItems": true,
28313             "readOnly": true,
28314             "type": "array"
28315         },
28316         "ins": {
28317             "$ref":
28318 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28319 schema.json#/definitions/ins"
28320         },
28321         "p": {
28322             "$ref":
28323 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-

```

```

28324 schema.json#/definitions/p"
28325     },
28326     "rel": {
28327         "$ref":
28328         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28329         schema.json#/definitions/rel_array"
28330     },
28331     "rt": {
28332         "description": "The Resource Type.",
28333         "items": {
28334             "enum": [
28335                 "oic.r.heartrate",
28336                 "oic.r.time.stamp",
28337                 "oic.r.userid"
28338             ],
28339             "type": "string"
28340         },
28341         "minItems": 1,
28342         "uniqueItems": true,
28343         "readOnly": true,
28344         "type": "array"
28345     },
28346     "title": {
28347         "$ref":
28348         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28349         schema.json#/definitions/title"
28350     },
28351     "type": {
28352         "$ref":
28353         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28354         schema.json#/definitions/type"
28355     }
28356 },
28357 "required": [
28358     "href",
28359     "rt",
28360     "if"
28361 ],
28362 "type": "object"
28363 }
28364 }
28365 }

```

28366 6.137.5 Property definition

28367 Table 277 defines the Properties that are part of the "oic.r.heartratemonitor-am,
28368 oic.wk.atomicmeasurement" Resource Type.

28369 **Table 277 – The Property definitions of the Resource with type "rt" =**
28370 **"oic.r.heartratemonitor-am, oic.wk.atomicmeasurement".**

Property name	Value type	Mandatory	Access mode	Description
href	multiple types: see schema	Yes	Read Write	
rep	object: see schema	Yes	Read Write	
rt	array: see schema	No	Read Only	
links	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
rts	array: see schema	No	Read Only	This Property contains all possible Resource Types for this Atomic Measurement.

rts-m	array: see schema	Yes	Read Only	This Property contains all mandatory Resource Types for this Atomic Measurement.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
anchor	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
if	array: see schema	Yes	Read Only	The OCF Interface set supported by this Resource.
ins	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
rel	multiple types: see schema	No	Read Write	
rt	array: see schema	Yes	Read Only	The Resource Type.
title	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	

6.137.6 CRUDN behaviour

Table 278 defines the CRUDN operations that are supported on the "oic.r.heartratemonitor-am, oic.wk.atomicmeasurement" Resource Type.

Table 278 – The CRUDN operations of the Resource with type "rt" = "oic.r.heartratemonitor-am, oic.wk.atomicmeasurement".

Create	Read	Update	Delete	Notify
	get			observe

6.138 Pulsatile Characteristic for Pulse Oximeter

6.138.1 Introduction

This Resource describes the Properties associated with a pulsatile characteristic of the pulsative wave of a Pulse Oximeter.

The characteristic Property is a read-only value that is provided by the server.

When range (from "oic.r.baseresource") is omitted the default is 0 to +MAXFLOAT.

6.138.2 Example URI

/PulsatileCharacteristicResURI

6.138.3 Resource type

The Resource Type is defined as: "oic.r.pulsatilecharacteristic".

6.138.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Pulsatile Characteristic for Pulse Oximeter",
    "version": "2019-03-04",
    "license": {
      "name": "OCF Data Model License",
      "url":
        "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
        CENSE.md",
      "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": [
    "http"
  ],
  "consumes": [
    "application/json"
  ],
  "produces": [
    "application/json"
  ],
  "paths": {
    "/PulsatileCharacteristicResURI": {
      "get": {
        "description": "This Resource describes the Properties associated with a pulsatile
characteristic of the pulsative wave of a Pulse Oximeter.\n The characteristic Property is a read-
only value that is provided by the server.\n When range (from \"oic.r.baseresource\") is omitted the
default is 0 to +MAXFLOAT.",
        "parameters": [
          {
            "$ref": "#/parameters/interface"
          }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": [
                "oic.r.pulsatilecharacteristic"
              ],
              "characteristic": 1
            },
            "schema": {
              "$ref": "#/definitions/pulsatilecharacteristic"
            }
          }
        }
      }
    }
  },
  "parameters": {
    "interface": {
      "in": "query",
      "name": "if",
      "type": "string",
      "enum": [
        "oic.if.s",
        "oic.if.baseline"
      ]
    }
  },
  "definitions": {
    "pulsatilecharacteristic": {
      "properties": {
        "characteristic": {
          "description": "This Property describes the current pulsatile characteristic measurement.
The value is an integer bit mapped value. The following describes what each integer means. 0 -
Quality of the detected pulse is nominal, in that there are no recognized abnormalities in the
```

```

28457 detected pulse. 1 - Perfusion or quality of the detected pulse is marginal. 2 - Perfusion or quality
28458 of the detected pulse is minimal. 3 - Perfusion or quality of the detected pulse is unacceptable.",
28459     "type": "integer",
28460     "minimum": 0,
28461     "maximum": 3,
28462     "readOnly": true
28463 },
28464 "rt": {
28465     "description": "The Resource Type.",
28466     "items": {
28467         "enum": [
28468             "oic.r.pulsatilecharacteristic"
28469         ],
28470         "type": "string"
28471     },
28472     "minItems": 1,
28473     "uniqueItems": true,
28474     "readOnly": true,
28475     "type": "array"
28476 },
28477 "n": {
28478     "$ref":
28479 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
28480 schema.json#/definitions/n"
28481 },
28482 "if": {
28483     "description": "The OCF Interface set supported by this Resource.",
28484     "items": {
28485         "enum": [
28486             "oic.if.s",
28487             "oic.if.baseline"
28488         ],
28489         "type": "string"
28490     },
28491     "minItems": 1,
28492     "uniqueItems": true,
28493     "readOnly": true,
28494     "type": "array"
28495 },
28496 "range": {
28497     "$ref":
28498 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
28499 schema.json#/definitions/range_integer"
28500 },
28501 "step": {
28502     "$ref":
28503 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
28504 schema.json#/definitions/step_integer"
28505 }
28506 },
28507 "type": "object",
28508 "required": [
28509     "characteristic"
28510 ]
28511 }
28512 }
28513 }

```

6.138.5 Property definition

Table 279 defines the Properties that are part of the "oic.r.pulsatilecharacteristic" Resource Type.

Table 279 – The Property definitions of the Resource with type "rt" = "oic.r.pulsatilecharacteristic".

Property name	Value type	Mandatory	Access mode	Description
characteristic	integer	Yes	Read Only	This Property describes the current pulsatile characteristic measurement. The

				value is an integer bit mapped value. The following describes what each integer means. 0 - Quality of the detected pulse is nominal, in that there are no recognized abnormalities in the detected pulse. 1 - Perfusion or quality of the detected pulse is marginal. 2 - Perfusion or quality of the detected pulse is minimal. 3 - Perfusion or quality of the detected pulse is unacceptable.
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	

28518 6.138.6 CRUDN behaviour

28519 Table 280 defines the CRUDN operations that are supported on the "oic.r.pulsatilecharacteristic"
28520 Resource Type.

Table 280 – The CRUDN operations of the Resource with type "rt" = "oic.r.pulsatilecharacteristic".

Create	Read	Update	Delete	Notify
	get			observe

28523 6.139 Pulsatile Occurrence for Pulse Oximeter

28524 6.139.1 Introduction

28525 This Resource describes the Properties associated with a Pulsatile Occurrence detected by a
28526 Pulse Oximeter.

28527 The occurrence Property is a read-only value that is provided by the server.

28528 When range (from "oic.r.baseresource") is omitted the default is 0 to +MAXFLOAT.

28529 6.139.2 Example URI

28530 /PulsatileOccurrenceResURI

28531 6.139.3 Resource type

28532 The Resource Type is defined as: "oic.r.pulsatileoccurrence".

28533 6.139.4 OpenAPI 2.0 definition

```
28534 {
28535   "swagger": "2.0",
28536   "info": {
```

```

28537     "title": "Pulsatile Occurrence for Pulse Oximeter",
28538     "version": "2019-03-04",
28539     "license": {
28540         "name": "OCF Data Model License",
28541         "url":
28542 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
28543 CENSE.md",
28544         "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
28545     },
28546     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
28547 },
28548     "schemes": [
28549         "http"
28550     ],
28551     "consumes": [
28552         "application/json"
28553     ],
28554     "produces": [
28555         "application/json"
28556     ],
28557     "paths": {
28558         "/PulsatileOccurrenceResURI": {
28559             "get": {
28560                 "description": "This Resource describes the Properties associated with a Pulsatile
28561 Occurrence detected by a Pulse Oximeter.\n The occurrence Property is a read-only value that is
28562 provided by the server.\n When range (from \"oic.r.baseresource\") is omitted the default is 0 to
28563 +MAXFLOAT.",
28564                 "parameters": [
28565                     {
28566                         "$ref": "#/parameters/interface"
28567                     }
28568                 ],
28569                 "responses": {
28570                     "200": {
28571                         "description": "",
28572                         "x-example": {
28573                             "rt": [
28574                                 "oic.r.pulsatileoccurrence"
28575                             ],
28576                             "occurrence": "BEAT"
28577                         },
28578                         "schema": {
28579                             "$ref": "#/definitions/pulsatileoccurrence"
28580                         }
28581                     }
28582                 }
28583             }
28584         }
28585     },
28586     "parameters": {
28587         "interface": {
28588             "in": "query",
28589             "name": "if",
28590             "type": "string",
28591             "enum": [
28592                 "oic.if.s",
28593                 "oic.if.baseline"
28594             ]
28595         }
28596     },
28597     "definitions": {
28598         "pulsatileoccurrence": {
28599             "properties": {
28600                 "occurrence": {
28601                     "type": "string",
28602                     "readOnly": true,
28603                     "enum": [
28604                         "BEAT",
28605                         "BEAT_MAX_INRUSH",
28606                         "NOS"
28607                     ]
28608                 },
28609                 "description": "This Property describes the Pulsatile Occurrence detected by a Pulse

```

```

28609 Oximeter. BEAT - Pulsatile occurrence has occurred. BEAT_MAX_INRUSH - Maximal inrush of the
28610 pulsatile wave has occurred. NOS - No pulsatile event occurred.",
28611     "default": "NOS"
28612 },
28613     "rt": {
28614         "description": "The Resource Type.",
28615         "items": {
28616             "enum": [
28617                 "oic.r.pulsatileoccurrence"
28618             ],
28619             "type": "string"
28620         },
28621         "minItems": 1,
28622         "uniqueItems": true,
28623         "readOnly": true,
28624         "type": "array"
28625     },
28626     "n": {
28627         "$ref":
28628         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
28629         schema.json#/definitions/n"
28630     },
28631     "if": {
28632         "description": "The OCF Interface set supported by this Resource.",
28633         "items": {
28634             "enum": [
28635                 "oic.if.s",
28636                 "oic.if.baseline"
28637             ],
28638             "type": "string"
28639         },
28640         "minItems": 1,
28641         "uniqueItems": true,
28642         "readOnly": true,
28643         "type": "array"
28644     }
28645 },
28646 "type": "object",
28647 "required": [
28648     "occurrence"
28649 ]
28650 }
28651 }
28652 }

```

28653 6.139.5 Property definition

28654 Table 281 defines the Properties that are part of the "oic.r.pulsatileoccurrence" Resource Type.

28655 **Table 281 – The Property definitions of the Resource with type "rt" =**
28656 **"oic.r.pulsatileoccurrence".**

Property name	Value type	Mandatory	Access mode	Description
occurrence	string	Yes	Read Only	This Property describes the Pulsatile Occurrence detected by a Pulse Oximeter. BEAT - Pulsatile occurrence has occurred. BEAT_MAX_INRUSH - Maximal inrush of the pulsatile wave has occurred. NOS - No pulsatile event occurred.
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	

if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
----	-------------------	----	-----------	---

6.139.6 CRUDN behaviour

Table 282 defines the CRUDN operations that are supported on the "oic.r.pulsatileoccurrence" Resource Type.

Table 282 – The CRUDN operations of the Resource with type "rt" = "oic.r.pulsatileoccurrence".

Create	Read	Update	Delete	Notify
	get			observe

6.140 Pulse Oximeter Atomic Measurement Representation

6.140.1 Introduction

This Resource describes the Properties associated with Pulse Oximeter.

The Resource is an Atomic Measurement of SpO2 ("oic.r.spo2"), pulse rate ("oic.r.pulserate"), pulsatile characteristic ("oic.r.pulsatilecharacteristic"), pulsatileoccurrence ("oic.r.pulsatileoccurrence"), observed time ("oic.r.time.stamp"), and user ID ("oic.r.userid").

6.140.2 Example URI

/PulseOximeterAMResURI

6.140.3 Resource type

The Resource Type is defined as: "oic.r.pulseoximeter-am, oic.wk.atomicmeasurement".

6.140.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Pulse Oximeter Atomic Measurement Representation",
    "version": "2019-03-04",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": [
    "http"
  ],
  "consumes": [
    "application/json"
  ],
  "produces": [
    "application/json"
  ],
  "paths": {
    "/PulseOximeterAMResURI?if=oic.if.b": {
      "get": {
        "description": "This Resource describes the Properties associated with Pulse Oximeter.\n The
Resource is an Atomic Measurement of SpO2 (\\"oic.r.spo2\\"), pulse rate (\\"oic.r.pulserate\\"),
pulsatile characteristic (\\"oic.r.pulsatilecharacteristic\\"), pulsatileoccurrence
(\\"oic.r.pulsatileoccurrence\\"), observed time (\\"oic.r.time.stamp\\"), and user ID
(\\"oic.r.userid\\").",
        "parameters": [
          {
            "$ref": "#/parameters/interface-all"
          }
        ]
      }
    }
  }
}
```

```

28708 ],
28709 "responses": {
28710   "200": {
28711     "description": "",
28712     "x-example": [
28713       {
28714         "href": "/mySpO2",
28715         "rep": {
28716           "spo2": 99.0,
28717           "perfusion": 20.0
28718         }
28719       },
28720       {
28721         "href": "/myPulseRate",
28722         "rep": {
28723           "pulserate": 80
28724         }
28725       },
28726       {
28727         "href": "/myPulsatileOccurrence",
28728         "rep": {
28729           "occurrence": "BEAT"
28730         }
28731       },
28732       {
28733         "href": "/myPulsatileCharacteristic",
28734         "rep": {
28735           "characteristic": 1
28736         }
28737       },
28738       {
28739         "href": "/myUserId",
28740         "rep": {
28741           "userid": "USER1"
28742         }
28743       },
28744       {
28745         "href": "/myTimeStamp",
28746         "rep": {
28747           "timestamp": "2018-11-09T12:15:00+08:00"
28748         }
28749       }
28750     ],
28751     "schema": {
28752       "$ref": "#/definitions/batch-retrieve"
28753     }
28754   }
28755 }
28756 },
28757 ],
28758 "/PulseOximeterAMResURI?if=oic.if.ll": {
28759   "get": {
28760     "description": "This Resource describes the Properties associated with Pulse Oximeter.\n The
28761 Resource is an Atomic Measurement of SpO2 (\\"oic.r.spo2\\"), pulse rate (\\"oic.r.pulserate\\"),
28762 pulsatile characteristic (\\"oic.r.pulsatilecharacteristic\\"), pulsatileoccurrence
28763 (\\"oic.r.pulsatileoccurrence\\"), observed time (\\"oic.r.time.stamp\\"), and user ID
28764 (\\"oic.r.userid\\").",
28765     "parameters": [
28766       {
28767         "$ref": "#/parameters/interface-all"
28768       }
28769     ],
28770     "responses": {
28771       "200": {
28772         "description": "",
28773         "x-example": [
28774           {
28775             "href": "/mySpO2",
28776             "rt": [
28777               "oic.r.spo2"
28778             ],
28779             "if": [

```

```

28780         "oic.if.s",
28781         "oic.if.baseline"
28782     ],
28783 },
28784 {
28785     "href": "/myPulseRate",
28786     "rt": [
28787         "oic.r.pulserate"
28788     ],
28789     "if": [
28790         "oic.if.s",
28791         "oic.if.baseline"
28792     ]
28793 },
28794 {
28795     "href": "/myPulsatileOccurrence",
28796     "rt": [
28797         "oic.r.pulsatileoccurrence"
28798     ],
28799     "if": [
28800         "oic.if.s",
28801         "oic.if.baseline"
28802     ]
28803 },
28804 {
28805     "href": "/myPulsatileCharacteristic",
28806     "rt": [
28807         "oic.r.pulsatilecharacteristic"
28808     ],
28809     "if": [
28810         "oic.if.s",
28811         "oic.if.baseline"
28812     ]
28813 },
28814 {
28815     "href": "/myUserId",
28816     "rt": [
28817         "oic.r.userid"
28818     ],
28819     "if": [
28820         "oic.if.r",
28821         "oic.if.baseline"
28822     ]
28823 },
28824 {
28825     "href": "/myTimeStamp",
28826     "rt": [
28827         "oic.r.time.stamp"
28828     ],
28829     "if": [
28830         "oic.if.r",
28831         "oic.if.baseline"
28832     ]
28833 }
28834 ],
28835 "schema": {
28836     "$ref": "#/definitions/links"
28837 }
28838 }
28839 }
28840 },
28841 {
28842     "/PulseOximeterAMResURI?if=oic.if.baseline": {
28843         "get": {
28844             "description": "This Resource describes the Properties associated with Pulse Oximeter.\n The
28845 Resource is an Atomic Measurement of SpO2 (\\"oic.r.spo2\\"), pulse rate (\\"oic.r.pulserate\\"),
28846 pulsatile characteristic (\\"oic.r.pulsatilecharacteristic\\"), pulsatileoccurrence
28847 (\\"oic.r.pulsatileoccurrence\\"), observed time (\\"oic.r.time.stamp\\"), and user ID
28848 (\\"oic.r.userid\\").",
28849             "parameters": [
28850                 {
28851                     "$ref": "#/parameters/interface-all"

```

```

28852     }
28853 ],
28854 "responses": {
28855     "200": {
28856         "description": "",
28857         "x-example":
28858             {
28859                 "rt": [
28860                     "oic.r.pulseoximeter-am",
28861                     "oic.wk.atomicmeasurement"
28862                 ],
28863                 "if": [
28864                     "oic.if.b",
28865                     "oic.if.ll",
28866                     "oic.if.baseline"
28867                 ],
28868                 "rts-m": [
28869                     "oic.r.spo2",
28870                     "oic.r.pulserate"
28871                 ],
28872                 "rts": [
28873                     "oic.r.spo2",
28874                     "oic.r.pulserate",
28875                     "oic.r.pulsatileoccurrence",
28876                     "oic.r.pulsatilecharacteristic",
28877                     "oic.r.userid",
28878                     "oic.r.time.stamp"
28879                 ],
28880                 "links": [
28881                     {
28882                         "href": "/mySpO2",
28883                         "rt": [
28884                             "oic.r.spo2"
28885                         ],
28886                         "if": [
28887                             "oic.if.s",
28888                             "oic.if.baseline"
28889                         ]
28890                     },
28891                     {
28892                         "href": "/myPulseRate",
28893                         "rt": [
28894                             "oic.r.pulserate"
28895                         ],
28896                         "if": [
28897                             "oic.if.s",
28898                             "oic.if.baseline"
28899                         ]
28900                     },
28901                     {
28902                         "href": "/myPulsatileOccurrence",
28903                         "rt": [
28904                             "oic.r.pulsatileoccurrence"
28905                         ],
28906                         "if": [
28907                             "oic.if.s",
28908                             "oic.if.baseline"
28909                         ]
28910                     },
28911                     {
28912                         "href": "/myPulsatileCharacteristic",
28913                         "rt": [
28914                             "oic.r.pulsatilecharacteristic"
28915                         ],
28916                         "if": [
28917                             "oic.if.s",
28918                             "oic.if.baseline"
28919                         ]
28920                     },
28921                     {
28922                         "href": "/myUserId",
28923                         "rt": [

```

```

28924         "oic.r.userid"
28925     ],
28926     "if": [
28927         "oic.if.r",
28928         "oic.if.baseline"
28929     ]
28930 },
28931 {
28932     "href": "/myTimeStamp",
28933     "rt": [
28934         "oic.r.time.stamp"
28935     ],
28936     "if": [
28937         "oic.if.r",
28938         "oic.if.baseline"
28939     ]
28940 }
28941 ]
28942 },
28943 "schema": {
28944     "$ref": "#/definitions/baseline"
28945 }
28946 }
28947 }
28948 }
28949 },
28950 {
28951     "parameters": {
28952         "interface-all": {
28953             "in": "query",
28954             "name": "if",
28955             "type": "string",
28956             "enum": [
28957                 "oic.if.b",
28958                 "oic.if.ll",
28959                 "oic.if.baseline"
28960             ]
28961         }
28962     },
28963     "definitions": {
28964         "batch-retrieve": {
28965             "title": "Collection Batch Retrieve Format",
28966             "minItems": 1,
28967             "items": {
28968                 "additionalProperties": true,
28969                 "properties": {
28970                     "href": {
28971                         "$ref":
28972 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
28973 schema.json#/definitions/href"
28974                     },
28975                     "rep": {
28976                         "type": "object",
28977                         "anyOf": [
28978                             {
28979                                 "$ref":
28980 "https://openconnectivityfoundation.github.io/IoTDataModels/SpO2.swagger.json#/definitions/SpO2"
28981                             },
28982                             {
28983                                 "$ref":
28984 "https://openconnectivityfoundation.github.io/IoTDataModels/PulseRateResURI.swagger.json#/definition
28985 s/PulseRate"
28986                             },
28987                             {
28988                                 "$ref":
28989 "https://openconnectivityfoundation.github.io/IoTDataModels/PulsatileCharacteristic.swagger.json#/de
28990 finitions/pulsatilecharacteristic"
28991                             },
28992                             {
28993                                 "$ref":
28994 "https://openconnectivityfoundation.github.io/IoTDataModels/PulsatileOccurrence.swagger.json#/defini
28995 tions/pulsatileoccurrence"

```

```

28996         },
28997         {
28998             "$ref":
28999 "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/U
29000 serID"
29001         },
29002         {
29003             "$ref":
29004 "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definition
29005 s/TimeStamp"
29006         }
29007     ]
29008 },
29009 },
29010 "required": [
29011     "href",
29012     "rep"
29013 ],
29014 "type": "object"
29015 },
29016 "type": "array"
29017 },
29018 "links": {
29019     "type": "array",
29020     "items": {
29021         "$ref": "#/definitions/oic.oic-link"
29022     }
29023 },
29024 "baseline": {
29025     "properties": {
29026         "rt": {
29027             "items": {
29028                 "enum": [
29029                     "oic.r.pulseoximeter-am",
29030                     "oic.wk.atomicmeasurement"
29031                 ]
29032             },
29033             "minItems": 2,
29034             "type": "array",
29035             "uniqueItems": true,
29036             "readOnly": true
29037         },
29038         "links": {
29039             "$ref": "#/definitions/links"
29040         },
29041         "n": {
29042             "$ref":
29043 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
29044 schema.json#/definitions/n"
29045         },
29046         "rts": {
29047             "description": "This Property contains all possible Resource Types for this Atomic
29048 Measurement.",
29049             "items": {
29050                 "enum": [
29051                     "oic.r.spo2",
29052                     "oic.r.pulserate",
29053                     "oic.r.pulsatilecharacteristic",
29054                     "oic.r.pulsatileoccurrence",
29055                     "oic.r.time.stamp",
29056                     "oic.r.userid"
29057                 ]
29058             },
29059             "minItems": 1,
29060             "type": "array",
29061             "uniqueItems": true
29062         },
29063         "rts-m": {
29064             "description": "This Property contains all mandatory Resource Types for this Atomic
29065 Measurement.",
29066             "items": {
29067                 "enum": [

```

```

29068         "oic.r.spo2",
29069         "oic.r.pulserate"
29070     ],
29071 },
29072 "maxItems": 2,
29073 "minItems": 2,
29074 "type": "array",
29075 "readOnly": true,
29076 "uniqueItems": true
29077 },
29078 "if": {
29079     "description": "The OCF Interface set supported by this Resource.",
29080     "items": {
29081         "enum": [
29082             "oic.if.b",
29083             "oic.if.ll",
29084             "oic.if.baseline"
29085         ],
29086         "type": "string"
29087     },
29088     "minItems": 1,
29089     "uniqueItems": true,
29090     "readOnly": true,
29091     "type": "array"
29092 },
29093 },
29094 "type": "object",
29095 "required": [
29096     "rts-m"
29097 ],
29098 },
29099 "oic.oic-link": {
29100     "properties": {
29101         "anchor": {
29102             "$ref":
29103 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29104 schema.json#/definitions/anchor"
29105         },
29106         "di": {
29107             "$ref":
29108 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29109 schema.json#/definitions/di"
29110         },
29111         "eps": {
29112             "$ref":
29113 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29114 schema.json#/definitions/eps"
29115         },
29116         "href": {
29117             "$ref":
29118 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29119 schema.json#/definitions/href"
29120         },
29121         "if": {
29122             "description": "The interface set supported by this resource",
29123             "items": {
29124                 "enum": [
29125                     "oic.if.baseline",
29126                     "oic.if.s",
29127                     "oic.if.r"
29128                 ],
29129                 "type": "string"
29130             },
29131             "minItems": 1,
29132             "type": "array"
29133         },
29134         "ins": {
29135             "$ref":
29136 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29137 schema.json#/definitions/ins"
29138         },
29139         "p": {

```

```

29140         "$ref":
29141         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29142         schema.json#/definitions/p"
29143     },
29144     "rel": {
29145         "$ref":
29146         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29147         schema.json#/definitions/rel_array"
29148     },
29149     "rt": {
29150         "description": "The Resource Type.",
29151         "items": {
29152             "enum": [
29153                 "oic.r.spo2",
29154                 "oic.r.pulserate",
29155                 "oic.r.pulsatilecharacteristic",
29156                 "oic.r.pulsatileoccurrence",
29157                 "oic.r.time.stamp",
29158                 "oic.r.userid"
29159             ],
29160             "type": "string"
29161         },
29162         "minItems": 1,
29163         "uniqueItems": true,
29164         "readOnly": true,
29165         "type": "array"
29166     },
29167     "title": {
29168         "$ref":
29169         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29170         schema.json#/definitions/title"
29171     },
29172     "type": {
29173         "$ref":
29174         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29175         schema.json#/definitions/type"
29176     },
29177     },
29178     "required": [
29179         "href",
29180         "rt",
29181         "if"
29182     ],
29183     "type": "object"
29184 }
29185 }
29186 }

```

29187 6.140.5 Property definition

29188 Table 283 defines the Properties that are part of the "oic.r.pulseoximeter-am,
29189 oic.wk.atomicmeasurement" Resource Type.

29190 **Table 283 – The Property definitions of the Resource with type "rt" = "oic.r.pulseoximeter-
29191 am, oic.wk.atomicmeasurement".**

Property name	Value type	Mandatory	Access mode	Description
href	multiple types: see schema	Yes	Read Write	
rep	object: see schema	Yes	Read Write	
rt	array: see schema	No	Read Only	
links	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
rts	array: see schema	No	Read Write	This Property contains all possible

				Resource Types for this Atomic Measurement.
rts-m	array: see schema	Yes	Read Only	This Property contains all mandatory Resource Types for this Atomic Measurement.
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
anchor	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
if	array: see schema	Yes	Read Write	The interface set supported by this resource
ins	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
rel	multiple types: see schema	No	Read Write	
rt	array: see schema	Yes	Read Only	The Resource Type.
title	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	

6.140.6 CRUDN behaviour

Table 284 defines the CRUDN operations that are supported on the "oic.r.pulseoximeter-am, oic.wk.atomicmeasurement" Resource Type.

Table 284 – The CRUDN operations of the Resource with type "rt" = "oic.r.pulseoximeter-am, oic.wk.atomicmeasurement".

Create	Read	Update	Delete	Notify
	get			observe

6.141 Sleep

6.141.1 Introduction

This Resource describes the Properties associated with Sleep.

Sleep shows the time spent in each of the sleep stages (awake, nrem1, nrem2, nrem3, nrem4, rem, light sleep, deep sleep), along with a sleep score indicating the quality of sleep.

6.141.2 Example URI

/SleepResURI

6.141.3 Resource type

The Resource Type is defined as: "oic.r.sleep".

6.141.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Sleep",
    "version": "2018-07-12",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": [
    "http"
  ],
  "consumes": [
    "application/json"
  ],
  "produces": [
    "application/json"
  ],
  "paths": {
    "/SleepResURI": {
      "get": {
        "description": "This Resource describes the Properties associated with Sleep.\nSleep shows
the time spent in each of the sleep stages (awake, nrem1, nrem2, nrem3, nrem4, rem, light sleep,
deep sleep), along with a sleep score indicating the quality of sleep.",
        "parameters": [
          {
            "$ref": "#/parameters/interface"
          }
        ],
        "responses": {
          "200": {
            "description": "Retrieves the sleep information.",
            "x-example": {
              "rt": [
                "oic.r.sleep"
              ],
              "if": [
                "oic.if.s",
                "oic.if.baseline"
              ],
              "awake": 1440,
              "nrem1": 1440,
              "nrem2": 14400,
              "nrem3": 1440,
              "nrem4": 4320,
              "rem": 5760,
              "lightsleep": 15840,
              "deepsleep": 5760,
              "sleepscore": 70.0
            },
            "schema": {
              "$ref": "#/definitions/Sleep"
            }
          }
        }
      }
    }
  },
  "parameters": {
    "interface": {
      "in": "query",
```

```

29273     "name": "if",
29274     "type": "string",
29275     "enum": [
29276         "oic.if.s",
29277         "oic.if.baseline"
29278     ]
29279 }
29280 },
29281 "definitions": {
29282     "Sleep": {
29283         "properties": {
29284             "awake": {
29285                 "type": "integer",
29286                 "minimum": 0,
29287                 "readOnly": true,
29288                 "description": "Time spent in Awake stage (in seconds)"
29289             },
29290             "nrem1": {
29291                 "type": "integer",
29292                 "minimum": 0,
29293                 "readOnly": true,
29294                 "description": "Time spent in Non Rapid Eye Movement stage 1 (in seconds)"
29295             },
29296             "nrem2": {
29297                 "type": "integer",
29298                 "minimum": 0,
29299                 "readOnly": true,
29300                 "description": "Time spent in Non Rapid Eye Movement stage 2 (in seconds)"
29301             },
29302             "nrem3": {
29303                 "type": "integer",
29304                 "minimum": 0,
29305                 "readOnly": true,
29306                 "description": "Time spent in Non Rapid Eye Movement stage 3 (in seconds)"
29307             },
29308             "nrem4": {
29309                 "type": "integer",
29310                 "minimum": 0,
29311                 "readOnly": true,
29312                 "description": "Time spent in Non Rapid Eye Movement stage 4 (in seconds)"
29313             },
29314             "rem": {
29315                 "type": "integer",
29316                 "minimum": 0,
29317                 "readOnly": true,
29318                 "description": "Time spent in Rapid Eye Movement (in seconds)"
29319             },
29320             "lightsleep": {
29321                 "type": "integer",
29322                 "minimum": 0,
29323                 "readOnly": true,
29324                 "description": "Time spent in Light Sleep stage, consisting in NREM stages 1 and 2 (in
29325 seconds)"
29326             },
29327             "deepsleep": {
29328                 "type": "integer",
29329                 "minimum": 0,
29330                 "readOnly": true,
29331                 "description": "Time spent in Deep Sleep stage, consisting in NREM stages 3 and 4 (in
29332 seconds)"
29333             },
29334             "sleepscore": {
29335                 "type": "number",
29336                 "minimum": 0,
29337                 "readOnly": true,
29338                 "description": "Score computed from the time spent in each sleep stage, indicative of the
29339 quality of sleep"
29340             },
29341             "if": {
29342                 "description": "The Interface set supported by this Resource",
29343                 "type": "array",
29344                 "minItems": 1,

```

```

29345         "uniqueItems": true,
29346         "readOnly": true,
29347         "items": {
29348             "type": "string",
29349             "enum": [
29350                 "oic.if.s",
29351                 "oic.if.baseline"
29352             ]
29353         },
29354     },
29355     "rt": {
29356         "description": "Resource Type",
29357         "type": "array",
29358         "minItems": 1,
29359         "uniqueItems": true,
29360         "readOnly": true,
29361         "items": {
29362             "type": "string",
29363             "enum": [
29364                 "oic.r.sleep"
29365             ]
29366         },
29367     },
29368     "n": {
29369         "$ref":
29370         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
29371         schema.json#/definitions/n"
29372     },
29373     "range_phases": {
29374         "$ref":
29375         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
29376         schema.json#/definitions/range_integer"
29377     },
29378     "step_phases": {
29379         "$ref":
29380         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
29381         schema.json#/definitions/step_integer"
29382     },
29383     "range_score": {
29384         "$ref":
29385         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
29386         schema.json#/definitions/range_number"
29387     },
29388     "step_score": {
29389         "$ref":
29390         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
29391         schema.json#/definitions/step_number"
29392     },
29393     "precision": {
29394         "$ref":
29395         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
29396         schema.json#/definitions/precision"
29397     },
29398 },
29399 "type": "object",
29400 "required": [
29401     "awake",
29402     "nrem1",
29403     "nrem2",
29404     "nrem3",
29405     "rem"
29406 ]
29407 }
29408 }
29409 }

```

29410 6.141.5 Property definition

29411 Table 285 defines the Properties that are part of the "oic.r.sleep" Resource Type.

Table 285 – The Property definitions of the Resource with type "rt" = "oic.r.sleep".

Property name	Value type	Mandatory	Access mode	Description
awake	integer	Yes	Read Only	Time spent in Awake stage (in seconds)
nrem1	integer	Yes	Read Only	Time spent in Non Rapid Eye Movement stage 1 (in seconds)
nrem2	integer	Yes	Read Only	Time spent in Non Rapid Eye Movement stage 2 (in seconds)
nrem3	integer	Yes	Read Only	Time spent in Non Rapid Eye Movement stage 3 (in seconds)
nrem4	integer	No	Read Only	Time spent in Non Rapid Eye Movement stage 4 (in seconds)
rem	integer	Yes	Read Only	Time spent in Rapid Eye Movement (in seconds)
lightsleep	integer	No	Read Only	Time spent in Light Sleep stage, consisting in NREM stages 1 and 2 (in seconds)
deepsleep	integer	No	Read Only	Time spent in Deep Sleep stage, consisting in NREM stages 3 and 4 (in seconds)
sleepscore	number	No	Read Only	Score computed from the time spent in each sleep stage, indicative of the quality of sleep
if	array: see schema	No	Read Only	The Interface set supported by this Resource
rt	array: see schema	No	Read Only	Resource Type
n	multiple types: see schema	No	Read Write	
range_phases	multiple types: see schema	No	Read Write	
step_phases	multiple types: see schema	No	Read Write	
range_score	multiple types: see schema	No	Read Write	
step_score	multiple types: see schema	No	Read Write	
precision	multiple types: see schema	No	Read Write	

6.141.6 CRUDN behaviour

Table 286 defines the CRUDN operations that are supported on the "oic.r.sleep" Resource Type.

Table 286 – The CRUDN operations of the Resource with type "rt" = "oic.r.sleep".

Create	Read	Update	Delete	Notify
	get			observe

6.142 Sleep Monitor Atomic Measurement Batch Representation

6.142.1 Introduction

This Resource describes the Properties associated with Sleep Monitor.

The Resource is an Atomic Measurement of sleep (oic.r.sleep).

Sleep shows the time spent in each of the sleep stages (awake, nrem1, nrem2, nrem3, nrem4, rem, light sleep, deep sleep), along with a sleep score indicating the quality of sleep.

6.142.2 Example URI

/SleepMonitorAMResURI

6.142.3 Resource type

The Resource Type is defined as: "oic.r.sleepmonitor-am, oic.wk.atomicmeasurement".

6.142.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Sleep Monitor Atomic Measurement Batch Representation",
    "version": "2018-08-29",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": [
    "http"
  ],
  "consumes": [
    "application/json"
  ],
  "produces": [
    "application/json"
  ],
  "paths": {
    "/SleepMonitorAMResURI?if=oic.if.b": {
      "get": {
        "description": "This Resource describes the Properties associated with Sleep Monitor.\n\nThe
Resource is an Atomic Measurement of sleep (oic.r.sleep).\n\nSleep shows the time spent in each of the
sleep stages (awake, nrem1, nrem2, nrem3, nrem4, rem, light sleep, deep sleep), along with a sleep
score indicating the quality of sleep.",
        "parameters": [
          {
            "$ref": "#/parameters/interface-b"
          }
        ],
        "responses": {
          "200": {
            "description": "Retrieves the sleep monitor's information.",
            "x-example": [
              {
                "href": "/mySleepMonitor",
                "rep": {
```

```

29469         "awake": 1440,
29470         "nrem1": 1440,
29471         "nrem2": 14400,
29472         "nrem3": 1440,
29473         "nrem4": 4320,
29474         "rem": 5760,
29475         "lightsleep": 15840,
29476         "deepsleep": 5760,
29477         "sleepscore": 70.0
29478     }
29479 },
29480 {
29481     "href": "/myHeartRate",
29482     "rep": {
29483         "heartrate": 70
29484     }
29485 },
29486 {
29487     "href": "/myUserId",
29488     "rep": {
29489         "userid": "USER1"
29490     }
29491 },
29492 {
29493     "href": "/myTimeStamp",
29494     "rep": {
29495         "timestamp": "2018-11-08T21:00:00+08:00"
29496     }
29497 },
29498 ],
29499 "schema": {
29500     "$ref": "#/definitions/batch-retrieve"
29501 }
29502 }
29503 }
29504 }
29505 },
29506 "/SleepMonitorAMResURI?if=oic.if.ll": {
29507     "get": {
29508         "description": "This Resource describes the Properties associated with Sleep Monitor.\n\nThe
29509 Resource is an Atomic Measurement of sleep (oic.r.sleep).\n\nSleep shows the time spent in each of the
29510 sleep stages (awake, nrem1, nrem2, nrem3, nrem4, rem, light sleep, deep sleep), along with a sleep
29511 score indicating the quality of sleep.",
29512         "parameters": [
29513             {
29514                 "$ref": "#/parameters/interface-ll"
29515             }
29516         ],
29517         "responses": {
29518             "200": {
29519                 "description": "Retrieves the sleep monitor's information.",
29520                 "x-example": [
29521                     {
29522                         "href": "/mySleepMonitor",
29523                         "rt": [
29524                             "oic.r.sleep"
29525                         ],
29526                         "if": [
29527                             "oic.if.s",
29528                             "oic.if.baseline"
29529                         ]
29530                     },
29531                     {
29532                         "href": "/myHeartRate",
29533                         "rt": [
29534                             "oic.r.heartrate"
29535                         ],
29536                         "if": [
29537                             "oic.if.s",
29538                             "oic.if.baseline"
29539                         ]
29540                     }
29541                 ]
29542             }
29543         }
29544     }
29545 }

```

```

29541     {
29542         "href": "/myUserId",
29543         "rt": [
29544             "oic.r.userid"
29545         ],
29546         "if": [
29547             "oic.if.r",
29548             "oic.if.baseline"
29549         ]
29550     },
29551     {
29552         "href": "/myTimeStamp",
29553         "rt": [
29554             "oic.r.time.stamp"
29555         ],
29556         "if": [
29557             "oic.if.r",
29558             "oic.if.baseline"
29559         ]
29560     }
29561 ],
29562 "schema": {
29563     "$ref": "#/definitions/links"
29564 }
29565 }
29566 }
29567 },
29568 "/SleepMonitorAMResURI?if=oic.if.baseline": {
29569     "get": {
29570         "description": "This Resource describes the Properties associated with Sleep Monitor.\n\nThe
29571 Resource is an Atomic Measurement of sleep (oic.r.sleep).\n\nSleep shows the time spent in each of the
29572 sleep stages (awake, nrem1, nrem2, nrem3, nrem4, rem, light sleep, deep sleep), along with a sleep
29573 score indicating the quality of sleep.",
29574         "parameters": [
29575             {
29576                 "$ref": "#/parameters/interface-baseline"
29577             }
29578         ],
29579         "responses": {
29580             "200": {
29581                 "description": "Retrieves the sleep monitor's information.",
29582                 "x-example": {
29583                     "rt": [
29584                         "oic.r.sleepmonitor-am",
29585                         "oic.wk.atomicmeasurement"
29586                     ],
29587                     "if": [
29588                         "oic.if.b",
29589                         "oic.if.ll",
29590                         "oic.if.baseline"
29591                     ],
29592                     "rts-m": [
29593                         "oic.r.sleep"
29594                     ],
29595                     "rts": [
29596                         "oic.r.sleep",
29597                         "oic.r.heartrate",
29598                         "oic.r.time.stamp",
29599                         "oic.r.userid"
29600                     ],
29601                     "links": [
29602                         {
29603                             "href": "/mySleepMonitor",
29604                             "rt": [
29605                                 "oic.r.sleep"
29606                             ],
29607                             "if": [
29608                                 "oic.if.s",
29609                                 "oic.if.baseline"
29610                             ]
29611                         }
29612                     ]
29613                 }
29614             }
29615         }
29616     }
29617 }

```



```

29613         {
29614             "href": "/myHeartRate",
29615             "rt": [
29616                 "oic.r.heartrate"
29617             ],
29618             "if": [
29619                 "oic.if.s",
29620                 "oic.if.baseline"
29621             ]
29622         },
29623         {
29624             "href": "/myUserId",
29625             "rt": [
29626                 "oic.r.userid"
29627             ],
29628             "if": [
29629                 "oic.if.r",
29630                 "oic.if.baseline"
29631             ]
29632         },
29633         {
29634             "href": "/myTimeStamp",
29635             "rt": [
29636                 "oic.r.time.stamp"
29637             ],
29638             "if": [
29639                 "oic.if.r",
29640                 "oic.if.baseline"
29641             ]
29642         }
29643     ],
29644     },
29645     "schema": {
29646         "$ref": "#/definitions/baseline"
29647     }
29648 },
29649 },
29650 },
29651 },
29652 },
29653 "parameters": {
29654     "interface-ll": {
29655         "in": "query",
29656         "name": "if",
29657         "type": "string",
29658         "enum": [
29659             "oic.if.ll"
29660         ]
29661     },
29662     "interface-b": {
29663         "in": "query",
29664         "name": "if",
29665         "type": "string",
29666         "enum": [
29667             "oic.if.b"
29668         ]
29669     },
29670     "interface-baseline": {
29671         "in": "query",
29672         "name": "if",
29673         "type": "string",
29674         "enum": [
29675             "oic.if.baseline"
29676         ]
29677     },
29678     "interface-all": {
29679         "in": "query",
29680         "name": "if",
29681         "type": "string",
29682         "enum": [
29683             "oic.if.b",
29684             "oic.if.ll",

```

```

29685         "oic.if.baseline"
29686     ]
29687 }
29688 },
29689 "definitions": {
29690     "batch-retrieve": {
29691         "title": "Atomic Measurement Batch Retrieve Format",
29692         "minItems": 1,
29693         "uniqueItems": true,
29694         "readOnly": true,
29695         "items": {
29696             "properties": {
29697                 "href": {
29698                     "$ref":
29699 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29700 schema.json#/definitions/href"
29701                 },
29702                 "rep": {
29703                     "description": "The response payload from an Atomic Measurement (batch) resource",
29704                     "type": "object",
29705                     "items": {
29706                         "anyOf": [
29707                             {
29708                                 "$ref":
29709 "https://openconnectivityfoundation.github.io/IoTDataModels/Sleep.swagger.json#/definitions/Sleep"
29710                             },
29711                             {
29712                                 "$ref":
29713 "https://openconnectivityfoundation.github.io/IoTDataModels/HeartRate.swagger.json#/definitions/Hear
29714 tRate"
29715                             },
29716                             {
29717                                 "$ref":
29718 "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/U
29719 serID"
29720                             },
29721                             {
29722                                 "$ref":
29723 "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definition
29724 s/TimeStamp"
29725                             }
29726                         ]
29727                     }
29728                 }
29729             },
29730             "required": [
29731                 "href",
29732                 "rep"
29733             ],
29734             "type": "object"
29735         },
29736         "type": "array"
29737     },
29738     "links": {
29739         "type": "array",
29740         "items": {
29741             "$ref": "#/definitions/oic.oic-link"
29742         }
29743     },
29744     "baseline": {
29745         "properties": {
29746             "rt": {
29747                 "type": "array",
29748                 "readOnly": true,
29749                 "uniqueItems": true,
29750                 "minItems": 2,
29751                 "items": {
29752                     "type": "string",
29753                     "enum": [
29754                         "oic.r.sleepmonitor-am",
29755                         "oic.wk.atomicmeasurement"
29756                     ]

```

```

29757     }
29758   },
29759   "rts": {
29760     "description": "This contains all possible resource types for this atomic measurement.",
29761     "type": "array",
29762     "uniqueItems": true,
29763     "minItems": 1,
29764     "readOnly": true,
29765     "items": {
29766       "type": "string",
29767       "enum": [
29768         "oic.r.sleep",
29769         "oic.r.heartrate",
29770         "oic.r.userid",
29771         "oic.r.time.stamp"
29772       ]
29773     }
29774   },
29775   "rts-m": {
29776     "description": "This contains all mandatory resource types for this atomic measurement.",
29777     "type": "array",
29778     "uniqueItems": true,
29779     "minItems": 1,
29780     "maxItems": 1,
29781     "readOnly": true,
29782     "items": {
29783       "type": "string",
29784       "enum": [
29785         "oic.r.sleep"
29786       ]
29787     }
29788   },
29789   "if": {
29790     "description": "The interface set supported by this resource",
29791     "type": "array",
29792     "readOnly": true,
29793     "minItems": 3,
29794     "uniqueItems": true,
29795     "items": {
29796       "type": "string",
29797       "enum": [
29798         "oic.if.b",
29799         "oic.if.ll",
29800         "oic.if.baseline"
29801       ]
29802     }
29803   },
29804   "links": {
29805     "$ref": "#/definitions/links"
29806   },
29807   "n": {
29808     "$ref":
29809     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
29810     schema.json#/definitions/n"
29811   },
29812   },
29813   "type": "object",
29814   "required": [
29815     "rt",
29816     "if",
29817     "rts-m"
29818   ]
29819 },
29820 "oic.oic-link": {
29821   "properties": {
29822     "if": {
29823       "type": "array",
29824       "readOnly": true,
29825       "uniqueItems": true,
29826       "minItems": 1,
29827       "items": {
29828         "type": "string",

```

```

29829         "enum": [
29830             "oic.if.baseline",
29831             "oic.if.s",
29832             "oic.if.r"
29833         ]
29834     },
29835 },
29836 "rt": {
29837     "type": "array",
29838     "readOnly": true,
29839     "uniqueItems": true,
29840     "minItems": 1,
29841     "items": {
29842         "type": "string",
29843         "enum": [
29844             "oic.r.sleep",
29845             "oic.r.heartrate",
29846             "oic.r.userid",
29847             "oic.r.time.stamp"
29848         ]
29849     }
29850 },
29851 "anchor": {
29852     "$ref":
29853     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29854     schema.json#/definitions/anchor"
29855 },
29856 "di": {
29857     "$ref":
29858     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29859     schema.json#/definitions/di"
29860 },
29861 "eps": {
29862     "$ref":
29863     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29864     schema.json#/definitions/eps"
29865 },
29866 "href": {
29867     "$ref":
29868     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29869     schema.json#/definitions/href"
29870 },
29871 "ins": {
29872     "$ref":
29873     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29874     schema.json#/definitions/ins"
29875 },
29876 "p": {
29877     "$ref":
29878     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29879     schema.json#/definitions/p"
29880 },
29881 "rel": {
29882     "$ref":
29883     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29884     schema.json#/definitions/rel_array"
29885 },
29886 "title": {
29887     "$ref":
29888     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29889     schema.json#/definitions/title"
29890 },
29891 "type": {
29892     "$ref":
29893     "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
29894     schema.json#/definitions/type"
29895 }
29896 },
29897 "required": [
29898     "href",
29899     "rt",
29900     "if"

```

```

29901     ],
29902     "type": "object"
29903   }
29904 }
29905 }

```

29906 6.142.5 Property definition

29907 Table 287 defines the Properties that are part of the "oic.r.sleepmonitor-am,
29908 oic.wk.atomicmeasurement" Resource Type.

29909 **Table 287 – The Property definitions of the Resource with type "rt" = "oic.r.sleepmonitor-**
29910 **am, oic.wk.atomicmeasurement".**

Property name	Value type	Mandatory	Access mode	Description
href	multiple types: see schema	Yes	Read Write	
rep	object: see schema	Yes	Read Write	The response payload from an Atomic Measurement (batch) resource
rt	array: see schema	Yes	Read Only	
rts	array: see schema	No	Read Only	This contains all possible resource types for this atomic measurement.
rts-m	array: see schema	Yes	Read Only	This contains all mandatory resource types for this atomic measurement.
if	array: see schema	Yes	Read Only	The interface set supported by this resource
links	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
if	array: see schema	Yes	Read Only	
rt	array: see schema	Yes	Read Only	
anchor	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
ins	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
rel	multiple types: see schema	No	Read Write	
title	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	

6.142.6 CRUDN behaviour

Table 288 defines the CRUDN operations that are supported on the "oic.r.sleepmonitor-am, oic.wk.atomicmeasurement" Resource Type.

Table 288 – The CRUDN operations of the Resource with type "rt" = "oic.r.sleepmonitor-am, oic.wk.atomicmeasurement".

Create	Read	Update	Delete	Notify
	get			observe

6.143 SpO2 for Pulse Oximeter

6.143.1 Introduction

This Resource describes the Properties associated with a person's blood oxygen saturation level. The spo2 and perfusion Properties are read-only value that is provided by the server. When range (from "oic.r.baseresource") is omitted the default is 0 to +MAXFLOAT.

6.143.2 Example URI

/SpO2ResURI

6.143.3 Resource type

The Resource Type is defined as: "oic.r.spo2".

6.143.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "SpO2 for Pulse Oximeter",
    "version": "2019-03-04",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": [
    "http"
  ],
  "consumes": [
    "application/json"
  ],
  "produces": [
    "application/json"
  ],
  "paths": {
    "/SpO2ResURI": {
      "get": {
        "description": "This Resource describes the Properties associated with a person's blood
oxygen saturation level.\n The spo2 and perfusion Properties are read-only value that is provided by
the server.\n When range (from \"oic.r.baseresource\") is omitted the default is 0 to +MAXFLOAT.",
        "parameters": [
          {
            "$ref": "#/parameters/interface"
          }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": [
                "oic.r.spo2"
              ]
            }
          }
        }
      }
    }
  }
}
```

```

29966         ],
29967         "spo2": 99.0,
29968         "perfusion": 20.0
29969     },
29970     "schema": {
29971         "$ref": "#/definitions/SpO2"
29972     }
29973 }
29974 }
29975 }
29976 },
29977 },
29978 "parameters": {
29979     "interface": {
29980         "in": "query",
29981         "name": "if",
29982         "type": "string",
29983         "enum": [
29984             "oic.if.s",
29985             "oic.if.baseline"
29986         ]
29987     }
29988 },
29989 "definitions": {
29990     "SpO2": {
29991         "properties": {
29992             "spo2": {
29993                 "description": "This Property describes the estimation of the oxygen saturation level in
29994 percentage.",
29995                 "type": "number",
29996                 "minimum": 0.0,
29997                 "maximum": 100.0,
29998                 "readOnly": true
29999             },
30000             "perfusion": {
30001                 "description": "This Property describes the ratio of AC over DC of PPG.",
30002                 "type": "number",
30003                 "minimum": 0.0,
30004                 "readOnly": true
30005             },
30006             "rt": {
30007                 "description": "The Resource Type.",
30008                 "items": {
30009                     "enum": [
30010                         "oic.r.spo2"
30011                     ],
30012                     "type": "string"
30013                 },
30014                 "minItems": 1,
30015                 "uniqueItems": true,
30016                 "readOnly": true,
30017                 "type": "array"
30018             },
30019             "n": {
30020                 "$ref":
30021 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
30022 schema.json#/definitions/n"
30023             },
30024             "if": {
30025                 "description": "The OCF Interface set supported by this Resource.",
30026                 "items": {
30027                     "enum": [
30028                         "oic.if.s",
30029                         "oic.if.baseline"
30030                     ],
30031                     "type": "string"
30032                 },
30033                 "minItems": 1,
30034                 "uniqueItems": true,
30035                 "readOnly": true,
30036                 "type": "array"
30037             }
30038         }
30039     }
30040 }

```

```

30038         "spo2_range": {
30039             "$ref":
30040             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
30041             schema.json#/definitions/range_number"
30042         },
30043         "perfusion_range": {
30044             "$ref":
30045             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
30046             schema.json#/definitions/range_number"
30047         },
30048         "spo2_step": {
30049             "$ref":
30050             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
30051             schema.json#/definitions/step_number"
30052         },
30053         "perfusion_step": {
30054             "$ref":
30055             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
30056             schema.json#/definitions/step_number"
30057         },
30058         "spo2_precision": {
30059             "$ref":
30060             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
30061             schema.json#/definitions/precision"
30062         },
30063         "perfusion_precision": {
30064             "$ref":
30065             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
30066             schema.json#/definitions/precision"
30067         }
30068     },
30069     "type": "object",
30070     "required": [
30071         "spo2"
30072     ]
30073 }
30074 }
30075 }

```

30076 6.143.5 Property definition

30077 Table 289 defines the Properties that are part of the "oic.r.spo2" Resource Type.

30078 **Table 289 – The Property definitions of the Resource with type "rt" = "oic.r.spo2".**

Property name	Value type	Mandatory	Access mode	Description
spo2	number	Yes	Read Only	This Property describes the estimation of the oxygen saturation level in percentage.
perfusion	number	No	Read Only	This Property describes the ratio of AC over DC of PPG.
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
spo2_range	multiple types: see schema	No	Read Write	
perfusion_range	multiple types: see schema	No	Read Write	

spo2_step	multiple types: see schema	No	Read Write	
perfusion_step	multiple types: see schema	No	Read Write	
spo2_precision	multiple types: see schema	No	Read Write	
perfusion_precision	multiple types: see schema	No	Read Write	

6.143.6 CRUDN behaviour

Table 290 defines the CRUDN operations that are supported on the "oic.r.spo2" Resource Type.

Table 290 – The CRUDN operations of the Resource with type "rt" = "oic.r.spo2".

Create	Read	Update	Delete	Notify
	get			observe

6.144 Cadence

6.144.1 Introduction

This Resource describes the cadence, which is the number of revolutions of crank per minute when cyclists pedal the pedals.

The unit, which is the default unit, is rpm.

The cadence Property is a read-only value that is provided by the server.

When range (from "oic.r.baseresource") is omitted the default is 0 to +MAXFLOAT.

6.144.2 Example URI

/CadenceResURI

6.144.3 Resource type

The Resource Type is defined as: "oic.r.cadence".

6.144.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Cadence",
    "version": "2019-06-11",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": [
    "http"
  ],
  "consumes": [
    "application/json"
  ],
  "produces": [
    "application/json"
  ],
  "paths": {
    "/CadenceResURI": {
      "get": {
        "description": "This Resource describes the cadence, which is the number of revolutions of
crank per minute when cyclists pedal the pedals.\n The unit, which is the default unit, is rpm.\n
The cadence Property is a read-only value that is provided by the server.\n When range (from
```

```

30123 \ "oic.r.baseresource\" ) is omitted the default is 0 to +MAXFLOAT.",
30124     "parameters": [
30125         {
30126             "$ref": "#/parameters/interface"
30127         }
30128     ],
30129     "responses": {
30130         "200": {
30131             "description": "",
30132             "x-example": {
30133                 "rt": [
30134                     "oic.r.cadence"
30135                 ],
30136                 "cadence": 60
30137             },
30138             "schema": {
30139                 "$ref": "#/definitions/Cadence"
30140             }
30141         }
30142     }
30143 },
30144 },
30145 },
30146 "parameters": {
30147     "interface": {
30148         "in": "query",
30149         "name": "if",
30150         "type": "string",
30151         "enum": [
30152             "oic.if.s",
30153             "oic.if.baseline"
30154         ]
30155     }
30156 },
30157 "definitions": {
30158     "Cadence": {
30159         "properties": {
30160             "cadence": {
30161                 "description": "This Property describes the rate at which a cyclist is pedalling/turning
30162 the pedals.",
30163                 "type": "integer",
30164                 "minimum": 0,
30165                 "readOnly": true
30166             },
30167             "rt": {
30168                 "description": "The Resource Type.",
30169                 "items": {
30170                     "enum": [
30171                         "oic.r.cadence"
30172                     ],
30173                     "type": "string"
30174                 },
30175                 "minItems": 1,
30176                 "uniqueItems": true,
30177                 "readOnly": true,
30178                 "type": "array"
30179             },
30180             "n": {
30181                 "$ref":
30182 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
30183 schema.json#/definitions/n"
30184             },
30185             "if": {
30186                 "description": "The OCF Interface set supported by this Resource.",
30187                 "items": {
30188                     "enum": [
30189                         "oic.if.s",
30190                         "oic.if.baseline"
30191                     ],
30192                     "type": "string"
30193                 },
30194                 "minItems": 1,

```

```

30195         "uniqueItems": true,
30196         "readOnly": true,
30197         "type": "array"
30198     },
30199     "range": {
30200         "$ref":
30201 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
30202 schema.json#/definitions/range_integer"
30203     },
30204     "step": {
30205         "$ref":
30206 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
30207 schema.json#/definitions/step_integer"
30208     }
30209 },
30210 "type": "object",
30211 "required": [
30212     "cadence"
30213 ]
30214 }
30215 }
30216 }

```

30217 6.144.5 Property definition

30218 Table 291 defines the Properties that are part of the "oic.r.cadence" Resource Type.

30219 **Table 291 – The Property definitions of the Resource with type "rt" = "oic.r.cadence".**

Property name	Value type	Mandatory	Access mode	Description
cadence	integer	Yes	Read Only	This Property describes the rate at which a cyclist is pedalling/turning the pedals.
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	

30220 6.144.6 CRUDN behaviour

30221 Table 292 defines the CRUDN operations that are supported on the "oic.r.cadence" Resource Type.

30222 **Table 292 – The CRUDN operations of the Resource with type "rt" = "oic.r.cadence".**

Create	Read	Update	Delete	Notify
	get			observe

30223 6.145 Circuit Breaker (IEC 61850)

30224 6.145.1 Introduction

30225 This Resource describes functions for the control and monitoring of IEC 61850 based circuit
30226 breaker.

30227 6.145.2 Example URI

30228 /CircuitBreakerResURI

30229 6.145.3 Resource type

30230 The Resource Type is defined as: "oic.r.circuitbreaker".

30231 6.145.4 OpenAPI 2.0 definition

```
30232 {
30233   "swagger": "2.0",
30234   "info": {
30235     "title": "Circuit Breaker (IEC 61850)",
30236     "version": "20190613",
30237     "license": {
30238       "name": "OCF Data Model License",
30239       "url":
30240 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
30241 CENSE.md",
30242       "x-copyright": "copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
30243     },
30244     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
30245   },
30246   "schemes": ["http"],
30247   "consumes": ["application/json"],
30248   "produces": ["application/json"],
30249   "paths": {
30250     "/CircuitBreakerResURI" : {
30251       "get": {
30252         "description": "This Resource describes functions for the control and monitoring of IEC
30253 61850 based circuit breaker.",
30254         "parameters": [
30255           { "$ref": "#/parameters/interface" }
30256         ],
30257         "responses": {
30258           "200": {
30259             "description": "",
30260             "x-example":
30261               {
30262                 "rt": ["oic.r.circuitbreaker"],
30263                 "if": ["oic.if.s", "oic.if.baseline"],
30264                 "status": "on",
30265                 "ratedcurrent": 10.0,
30266                 "ratedbreakingcurrent": 2500.0,
30267                 "ratedvoltage": 460.0,
30268                 "leakagecurrent": 0.5,
30269                 "insulationresistance": 0.3,
30270                 "timestamp": "2015-11-05T14:30:00.10Z"
30271               },
30272             "schema": { "$ref": "#/definitions/CircuitBreaker" }
30273           }
30274         }
30275       }
30276     },
30277     "parameters": {
30278       "interface" : {
30279         "in": "query",
30280         "name": "if",
30281         "type": "string",
30282         "enum": ["oic.if.s", "oic.if.baseline"]
30283       }
30284     },
30285     "definitions": {
30286       "CircuitBreaker" : {
30287         "properties": {
30288           "rt" : {
30289             "description": "The Resource Type",
30290             "items": {
30291               "enum": ["oic.r.circuitbreaker"],
30292               "maxLength": 64,
30293               "type": "string"
30294             },
30295             "minItems": 1,
30296             "uniqueItems": true,
```

```

30298         "readOnly": true,
30299         "type": "array"
30300     },
30301     "status" : {
30302         "description": "The circuit breaker status. The status can only be reset out of bounds.",
30303         "readOnly": true,
30304         "type": "string",
30305         "enum" : [ "on", "off", "trip" ]
30306     },
30307     "ratedcurrent" : {
30308         "description": "The rated current in Ampere, defined at manufacturing time.",
30309         "readOnly": true,
30310         "type": "number"
30311     },
30312     "ratedbreakingcurrent" : {
30313         "description": "The rated breaking current in Ampere, defined at manufacturing time.",
30314         "readOnly": true,
30315         "type": "number"
30316     },
30317     "ratedvoltage" : {
30318         "description": "The rated voltage in Volts, defined at manufacturing time.",
30319         "readOnly": true,
30320         "type": "number"
30321     },
30322     "leakagecurrent" : {
30323         "description": "The leakage current in mA.",
30324         "readOnly": true,
30325         "type": "number"
30326     },
30327     "insulationresistance" : {
30328         "description": "Insulation resistance of circuit breaker (M Ohm).",
30329         "readOnly": true,
30330         "type": "number"
30331     },
30332     "timestamp": {
30333         "description": "An RFC3339 formatted time indicating when the data was observed (e.g.:
30334 2016-02-15T09:19Z, 1996-12-19T16:39:57-08:00). Note that 1/100 time resolution should be used.",
30335         "format": "date-time",
30336         "readOnly": true,
30337         "type": "string"
30338     },
30339     "n": {
30340         "$ref":
30341 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
30342 schema.json#/definitions/n"
30343     },
30344     "id": {
30345         "$ref":
30346 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
30347 schema.json#/definitions/id"
30348     },
30349     "if": {
30350         "description": "The OCF Interface set supported by this Resource.",
30351         "items": {
30352             "enum": [
30353                 "oic.if.s",
30354                 "oic.if.baseline"
30355             ],
30356             "type": "string"
30357         },
30358         "minItems": 2,
30359         "uniqueItems": true,
30360         "readOnly": true,
30361         "type": "array"
30362     }
30363 },
30364 "type": "object",
30365 "required": [ "status", "ratedcurrent", "ratedbreakingcurrent", "ratedvoltage", "timestamp" ]
30366 }
30367 }
30368 }
30369

```

30370 **6.145.5 Property definition**

30371 Table 293 defines the Properties that are part of the "oic.r.circuitbreaker" Resource Type.

30372 **Table 293 – The Property definitions of the Resource with type "rt" = "oic.r.circuitbreaker".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type
status	string	Yes	Read Only	The circuit breaker status. The status can only be reset out of bounds.
ratedcurrent	number	Yes	Read Only	The rated current in Ampere, defined at manufacturing time.
ratedbreakingcurrent	number	Yes	Read Only	The rated breaking current in Ampere, defined at manufacturing time.
ratedvoltage	number	Yes	Read Only	The rated voltage in Volts, defined at manufacturing time.
leakagecurrent	number	No	Read Only	The leakage current in mA.
insulationresistance	number	No	Read Only	Insulation resistance of circuit breaker (M Ohm).
timestamp	string	Yes	Read Only	An RFC3339 formatted time indicating when the data was observed (e.g.: 2016-02-15T09:19Z, 1996-12-19T16:39:57-08:00). Note that 1/100 time resolution should be used.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

30373 **6.145.6 CRUDN behaviour**

30374 Table 294 defines the CRUDN operations that are supported on the "oic.r.circuitbreaker" Resource Type.
30375

30376 **Table 294 – The CRUDN operations of the Resource with type "rt" = "oic.r.circuitbreaker".**

Create	Read	Update	Delete	Notify
	get			observe

30377 **6.146 Cycling Power**

30378 **6.146.1 Introduction**

30379 This Resource describes the cycling power, which is the amount of energy transferred or
30380 converted per unit time.

30381 The unit, which is the default SI unit, is W (which is equal to one joule per second).
30382 The power Property is a read-only value that is provided by the server.
30383 When range (from "oic.r.baseresource") is omitted the default is 0 to +MAXFLOAT.

30384 6.146.2 Example URI

30385 /CyclingPowerResURI

30386 6.146.3 Resource type

30387 The Resource Type is defined as: "oic.r.cyclingpower".

30388 6.146.4 OpenAPI 2.0 definition

```
30389 {  
30390   "swagger": "2.0",  
30391   "info": {  
30392     "title": "Cycling Power",  
30393     "version": "2019-06-11",  
30394     "license": {  
30395       "name": "OCF Data Model License",  
30396       "url":  
30397         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
30398         CENSE.md",  
30399       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."  
30400     },  
30401     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
30402   },  
30403   "schemes": [  
30404     "http"  
30405   ],  
30406   "consumes": [  
30407     "application/json"  
30408   ],  
30409   "produces": [  
30410     "application/json"  
30411   ],  
30412   "paths": {  
30413     "/CyclingPowerResURI": {  
30414       "get": {  
30415         "description": "This Resource describes the cycling power, which is the amount of energy  
30416         transferred or converted per unit time.\n The unit, which is the default SI unit, is W (which is  
30417         equal to one joule per second).\n The power Property is a read-only value that is provided by the  
30418         server.\n When range (from \"oic.r.baseresource\") is omitted the default is 0 to +MAXFLOAT.",  
30419         "parameters": [  
30420           {  
30421             "$ref": "#/parameters/interface"  
30422           }  
30423         ],  
30424         "responses": {  
30425           "200": {  
30426             "description": "",  
30427             "x-example": {  
30428               "rt": [  
30429                 "oic.r.cyclingpower"  
30430               ],  
30431               "power": 200.0,  
30432               "power-left": 100.0,  
30433               "power-right": 100.0  
30434             },  
30435             "schema": {  
30436               "$ref": "#/definitions/CyclingPower"  
30437             }  
30438           }  
30439         }  
30440       }  
30441     }  
30442   },  
30443   "parameters": {  
30444     "interface": {  
30445       "in": "query",
```

```

30446         "name": "if",
30447         "type": "string",
30448         "enum": [
30449             "oic.if.s",
30450             "oic.if.baseline"
30451         ]
30452     },
30453 },
30454 "definitions": {
30455     "CyclingPower": {
30456         "properties": {
30457             "power": {
30458                 "description": "The current overall power output in watts.",
30459                 "$ref": "#/definitions/power"
30460             },
30461             "power-left": {
30462                 "description": "The current power output in watts from the left pedal.",
30463                 "$ref": "#/definitions/power"
30464             },
30465             "power-right": {
30466                 "description": "The current power output in watts from the right pedal.",
30467                 "$ref": "#/definitions/power"
30468             },
30469             "rt": {
30470                 "description": "The Resource Type.",
30471                 "items": {
30472                     "enum": [
30473                         "oic.r.cyclingpower"
30474                     ],
30475                     "type": "string"
30476                 },
30477                 "minItems": 1,
30478                 "uniqueItems": true,
30479                 "readOnly": true,
30480                 "type": "array"
30481             },
30482             "n": {
30483                 "$ref":
30484 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
30485 schema.json#/definitions/n"
30486             },
30487             "if": {
30488                 "description": "The OCF Interface set supported by this Resource.",
30489                 "items": {
30490                     "enum": [
30491                         "oic.if.s",
30492                         "oic.if.baseline"
30493                     ],
30494                     "type": "string"
30495                 },
30496                 "minItems": 1,
30497                 "uniqueItems": true,
30498                 "readOnly": true,
30499                 "type": "array"
30500             },
30501             "range": {
30502                 "$ref":
30503 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
30504 schema.json#/definitions/range_number"
30505             },
30506             "step": {
30507                 "$ref":
30508 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
30509 schema.json#/definitions/step_number"
30510             }
30511         },
30512         "type": "object",
30513         "required": [
30514             "power"
30515         ]
30516     },
30517     "power": {

```



```

30518         "description": "This Resource describes the power, which is the amount of energy transferred
30519 or converted per unit time, in W (which is equal to one joule per second).",
30520         "type": "number",
30521         "minimum": 0.0,
30522         "readOnly": true
30523     }
30524 }
30525 }

```

30526 6.146.5 Property definition

30527 Table 295 defines the Properties that are part of the "oic.r.cyclingpower" Resource Type.

30528 **Table 295 – The Property definitions of the Resource with type "rt" = "oic.r.cyclingpower".**

Property name	Value type	Mandatory	Access mode	Description
power	multiple types: see schema	Yes	Read Write	The current overall power output in watts.
power-left	multiple types: see schema	No	Read Write	The current power output in watts from the left pedal.
power-right	multiple types: see schema	No	Read Write	The current power output in watts from the right pedal.
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	

30529 6.146.6 CRUDN behaviour

30530 Table 296 defines the CRUDN operations that are supported on the "oic.r.cyclingpower" Resource
30531 Type.

30532 **Table 296 – The CRUDN operations of the Resource with type "rt" = "oic.r.cyclingpower".**

Create	Read	Update	Delete	Notify
	get			observe

30533 6.147 Inverter (IEC 61850)

30534 6.147.1 Introduction

30535 This Resource describes functions for the control and monitoring of IEC 61850 based circuit
30536 breaker.

30537 6.147.2 Example URI

30538 /InverterResURI

30539 6.147.3 Resource type

30540 The Resource Type is defined as: "oic.r.inverter".

6.147.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Inverter (IEC 61850)",
    "version": "20190613",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/InverterResURI" : {
      "get": {
        "description": "This Resource describes functions for the control and monitoring of IEC
61850 based circuit breaker.",
        "parameters": [
          {"$ref": "#/parameters/interface"}
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example":
              {
                "rt": ["oic.r.inverter"],
                "if": ["oic.if.s", "oic.if.baseline"],
                "status": "on",
                "ratedpower": 36.0,
                "minvoltmppt": 200.0,
                "maxvoltmppt": 1000.0,
                "inputvoltage": 980.0,
                "inputcurrent": 22.0,
                "outputpower": 61.0,
                "timestamp": "2015-11-05T14:30:00.13Z"
              },
            "schema": { "$ref": "#/definitions/Inverter" }
          }
        }
      }
    }
  },
  "parameters": {
    "interface" : {
      "in": "query",
      "name": "if",
      "type": "string",
      "enum": ["oic.if.s", "oic.if.baseline"]
    }
  },
  "definitions": {
    "Inverter" : {
      "properties": {
        "rt" : {
          "description": "The Resource Type",
          "items": {
            "enum": ["oic.r.inverter"],
            "maxLength": 64,
            "type": "string"
          },
          "minItems": 1,
          "uniqueItems": true,
          "readOnly": true,
          "type": "array"
        }
      }
    }
  }
}
```

```

30612     "status" : {
30613         "description": "The inverter status. The status can only be reset out of bounds.",
30614         "readOnly": true,
30615         "type": "string",
30616         "enum" : [ "on", "off", "trip"]
30617     },
30618     "ratedpower" : {
30619         "description": "The rated power in kW, defined at manufacturing time.",
30620         "readOnly": true,
30621         "type": "number"
30622     },
30623     "minvoltmppt" : {
30624         "description": "Minimum voltage for MPPT (Maximum power point tracking) control method
30625 (V), defined at manufacturing time.",
30626         "readOnly": true,
30627         "type": "number"
30628     },
30629     "maxvoltmppt" : {
30630         "description": "Maximum voltage for MPPT (Maximum power point tracking) control method
30631 (V), defined at manufacturing time.",
30632         "readOnly": true,
30633         "type": "number"
30634     },
30635     "inputvoltage" : {
30636         "description": "input voltage in Volts.",
30637         "readOnly": true,
30638         "type": "number"
30639     },
30640     "inputcurrent" : {
30641         "description": "input current in Amperes.",
30642         "readOnly": true,
30643         "type": "number"
30644     },
30645     "outputpower" : {
30646         "description": "output power in kW.",
30647         "readOnly": true,
30648         "type": "number"
30649     },
30650     "timestamp": {
30651         "description": "An RFC3339 formatted time indicating when the data was observed (e.g.:
30652 2016-02-15T09:19Z, 1996-12-19T16:39:57-08:00). Resolution in 1/100 second.",
30653         "format": "date-time",
30654         "readOnly": true,
30655         "type": "string"
30656     },
30657     "n": {
30658         "$ref":
30659 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
30660 schema.json#/definitions/n"
30661     },
30662     "id": {
30663         "$ref":
30664 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
30665 schema.json#/definitions/id"
30666     },
30667     "if": {
30668         "description": "The OCF Interface set supported by this Resource.",
30669         "items": {
30670             "enum": [
30671                 "oic.if.s",
30672                 "oic.if.baseline"
30673             ],
30674             "type": "string"
30675         },
30676         "minItems": 2,
30677         "uniqueItems": true,
30678         "readOnly": true,
30679         "type": "array"
30680     }
30681 },
30682 "type": "object",
30683 "required": ["status", "ratedpower", "minvoltmppt", "maxvoltmppt",

```

```

30684 "inputvoltage","inputcurrent","outputpower","timestamp"]
30685     }
30686   }
30687 }
30688

```

30689 6.147.5 Property definition

30690 Table 297 defines the Properties that are part of the "oic.r.inverter" Resource Type.

30691 **Table 297 – The Property definitions of the Resource with type "rt" = "oic.r.inverter".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type
status	string	Yes	Read Only	The inverter status. The status can only be reset out of bounds.
ratedpower	number	Yes	Read Only	The rated power in kW, defined at manufacturing time.
minvoltmppt	number	Yes	Read Only	Minimum voltage for MPPT (Maximum power point tracking) control method (V), defined at manufacturing time.
maxvoltmppt	number	Yes	Read Only	Maximum voltage for MPPT (Maximum power point tracking) control method (V), defined at manufacturing time.
inputvoltage	number	Yes	Read Only	input voltage in Volts.
inputcurrent	number	Yes	Read Only	input current in Amperes.
outputpower	number	Yes	Read Only	output power in kW.
timestamp	string	Yes	Read Only	An RFC3339 formatted time indicating when the data was observed (e.g.: 2016-02-15T09:19Z, 1996-12-19T16:39:57-08:00). Resolution in 1/100 second.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

30692 6.147.6 CRUDN behaviour

30693 Table 298 defines the CRUDN operations that are supported on the "oic.r.inverter" Resource Type.

30694 **Table 298 – The CRUDN operations of the Resource with type "rt" = "oic.r.inverter".**

Create	Read	Update	Delete	Notify
	get			observe

30695 **6.148 PV array system connection terminal (IEC 61850)**

30696 **6.148.1 Introduction**

30697 This Resource describes functions for the control and monitoring of IEC 61850 based PV Array
30698 system connection terminal.

30699 **6.148.2 Example URI**

30700 /PVConnectionTerminalResURI

30701 **6.148.3 Resource type**

30702 The Resource Type is defined as: "oic.r.pvconnectionterminal".

30703 **6.148.4 OpenAPI 2.0 definition**

```

30704 {
30705   "swagger": "2.0",
30706   "info": {
30707     "title": "PV array system connection terminal (IEC 61850)",
30708     "version": "20190613",
30709     "license": {
30710       "name": "OCF Data Model License",
30711       "url":
30712         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
30713         CENSE.md",
30714       "x-copyright": "copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
30715     },
30716     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
30717   },
30718   "schemes": ["http"],
30719   "consumes": ["application/json"],
30720   "produces": ["application/json"],
30721   "paths": {
30722     "/PVConnectionTerminalResURI" : {
30723       "get": {
30724         "description": "This Resource describes functions for the control and monitoring of IEC
30725         61850 based PV Array system connection terminal.",
30726         "parameters": [
30727           { "$ref": "#/parameters/interface" }
30728         ],
30729         "responses": {
30730           "200": {
30731             "description": "",
30732             "x-example":
30733               {
30734                 "rt": ["oic.r.pvconnectionterminal"],
30735                 "if": ["oic.if.s", "oic.if.baseline"],
30736                 "ratedarrayvoltage": 46.6,
30737                 "ratedarraycurrent": 10.2,
30738                 "arrayvoltage": 37.0,
30739                 "arraycurrent": 9.1,
30740                 "leakagecurrent": 0.5,
30741                 "insulationresistance": 0.3,
30742                 "timestamp": "2015-11-05T14:30:00.15Z"
30743               },
30744             "schema": { "$ref": "#/definitions/PVArrayConnectionTerminal" }
30745           }
30746         }
30747       }
30748     }
30749   },
30750   "parameters": {
30751     "interface" : {

```

```

30752     "in": "query",
30753     "name": "if",
30754     "type": "string",
30755     "enum": ["oic.if.s", "oic.if.baseline"]
30756   }
30757 },
30758 "definitions": {
30759   "PVArrayConnectionTerminal" : {
30760     "properties": {
30761       "rt" : {
30762         "description": "The Resource Type",
30763         "items": {
30764           "enum": ["oic.r.pvconnectionterminal"],
30765           "maxLength": 64,
30766           "type": "string"
30767         },
30768         "minItems": 1,
30769         "uniqueItems": true,
30770         "readOnly": true,
30771         "type": "array"
30772       },
30773       "ratedarrayvoltage" : {
30774         "description": "Rated voltage of array (Nominal values of maximum power voltage * number
30775 of modules) (V)",
30776         "readOnly": true,
30777         "type": "number"
30778       },
30779       "ratedarraycurrent" : {
30780         "description": "Rated current of array (Nominal values of maximum power current * number
30781 of modules) (A), defined at manufacturing time.",
30782         "readOnly": true,
30783         "type": "number"
30784       },
30785       "arrayvoltage" : {
30786         "description": "Output voltage of array in volts (V).",
30787         "readOnly": true,
30788         "type": "number"
30789       },
30790       "arraycurrent" : {
30791         "description": "Output current of array in Ampere (A).",
30792         "readOnly": true,
30793         "type": "number"
30794       },
30795       "leakagecurrent" : {
30796         "description": "The leakage current in mA.",
30797         "readOnly": true,
30798         "type": "number"
30799       },
30800       "insulationresistance" : {
30801         "description": "Insulation resistance of circuit breaker (M Ohm).",
30802         "readOnly": true,
30803         "type": "number"
30804       },
30805       "timestamp" : {
30806         "description": "An RFC3339 formatted time indicating when the data was observed (e.g.:
30807 2016-02-15T09:19Z, 1996-12-19T16:39:57-08:00). Note that 1/100 time resolution should be used.",
30808         "format": "date-time",
30809         "readOnly": true,
30810         "type": "string"
30811       },
30812       "n": {
30813         "$ref":
30814 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
30815 schema.json#/definitions/n"
30816       },
30817       "id": {
30818         "$ref":
30819 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
30820 schema.json#/definitions/id"
30821       },
30822       "if": {
30823         "description": "The OCF Interface set supported by this Resource.",

```

```

30824         "items": {
30825             "enum": [
30826                 "oic.if.s",
30827                 "oic.if.baseline"
30828             ],
30829             "type": "string"
30830         },
30831         "minItems": 2,
30832         "uniqueItems": true,
30833         "readOnly": true,
30834         "type": "array"
30835     }
30836 },
30837 "type": "object",
30838 "required": ["ratedarrayvoltage", "ratedarraycurrent", "arrayvoltage", "arraycurrent",
30839 "timestamp"]
30840 }
30841 }
30842 }

```

30843 6.148.5 Property definition

30844 Table 299 defines the Properties that are part of the "oic.r.pvconnectionterminal" Resource Type.

30845 **Table 299 – The Property definitions of the Resource with type "rt" =**
30846 **"oic.r.pvconnectionterminal".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type
ratedarrayvoltage	number	Yes	Read Only	Rated voltage of array (Nominal values of maximum power voltage * number of modules) (V)
ratedarraycurrent	number	Yes	Read Only	Rated current of array (Nominal values of maximum power current * number of modules) (A), defined at manufacturing time.
arrayvoltage	number	Yes	Read Only	Output voltage of array in volts (V).
arraycurrent	number	Yes	Read Only	Output current of array in Ampere (A).
leakagecurrent	number	No	Read Only	The leakage current in mA.
insulationresistance	number	No	Read Only	Insulation resistance of circuit breaker (M Ohm).
timestamp	string	Yes	Read Only	An RFC3339 formatted time indicating when the data was observed (e.g.: 2016-02-15T09:19Z, 1996-12-19T16:39:57-08:00). Note that 1/100 time resolution should be used.
n	multiple types: see schema	No	Read Write	

id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

6.148.6 CRUDN behaviour

Table 300 defines the CRUDN operations that are supported on the "oic.r.pvconnectionterminal" Resource Type.

Table 300 – The CRUDN operations of the Resource with type "rt" = "oic.r.pvconnectionterminal".

Create	Read	Update	Delete	Notify
	get			observe

6.149 Speed

6.149.1 Introduction

This Resource describes the speed of an object, which is the magnitude of its velocity. The unit, which is the default SI unit, is metre per second. The speed Property is a read-only value that is provided by the server. When range (from "oic.r.baseresource") is omitted the default is 0 to +MAXFLOAT.

6.149.2 Example URI

/SpeedResURI

6.149.3 Resource type

The Resource Type is defined as: "oic.r.speed".

6.149.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Speed",
    "version": "2019-05-13",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": [
    "http"
  ],
  "consumes": [
    "application/json"
  ],
  "produces": [
    "application/json"
  ],
  "paths": {
    "/SpeedResURI": {
      "get": {
        "description": "This Resource describes the speed of an object, which is the magnitude of
its velocity.\n The unit, which is the default SI unit, is metre per second.\n The speed Property is
a read-only value that is provided by the server.\n When range (from \"oic.r.baseresource\") is
omitted the default is 0 to +MAXFLOAT.",
        "parameters": [
          {

```



```

30895         "$ref": "#/parameters/interface"
30896     }
30897 ],
30898 "responses": {
30899     "200": {
30900         "description": "",
30901         "x-example": {
30902             "rt": [
30903                 "oic.r.speed"
30904             ],
30905             "speed": 10.0
30906         },
30907         "schema": {
30908             "$ref": "#/definitions/Speed"
30909         }
30910     }
30911 }
30912 }
30913 },
30914 "parameters": {
30915     "interface": {
30916         "in": "query",
30917         "name": "if",
30918         "type": "string",
30919         "enum": [
30920             "oic.if.s",
30921             "oic.if.baseline"
30922         ]
30923     }
30924 },
30925 "definitions": {
30926     "Speed": {
30927         "properties": {
30928             "speed": {
30929                 "description": "This Property describes the speed of an object in metre per second (SI
30930 Unit). It should be noted, however, that the most common unit of speed everyday usage is the
30931 kilometre per hour or, in the US and the UK, miles per hour.",
30932                 "type": "number",
30933                 "minimum": 0.0,
30934                 "readOnly": true
30935             },
30936             "rt": {
30937                 "description": "The Resource Type.",
30938                 "items": {
30939                     "enum": [
30940                         "oic.r.speed"
30941                     ],
30942                     "type": "string"
30943                 },
30944                 "minItems": 1,
30945                 "uniqueItems": true,
30946                 "readOnly": true,
30947                 "type": "array"
30948             },
30949             "n": {
30950                 "$ref":
30951 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
30952 schema.json#/definitions/n"
30953             },
30954             "if": {
30955                 "description": "The OCF Interface set supported by this Resource.",
30956                 "items": {
30957                     "enum": [
30958                         "oic.if.s",
30959                         "oic.if.baseline"
30960                     ],
30961                     "type": "string"
30962                 },
30963                 "minItems": 1,
30964                 "uniqueItems": true,
30965                 "readOnly": true,
30966

```

```

30967         "type": "array"
30968     },
30969     "range": {
30970         "$ref":
30971         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
30972         schema.json#/definitions/range_number"
30973     },
30974     "step": {
30975         "$ref":
30976         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
30977         schema.json#/definitions/step_number"
30978     }
30979 },
30980 "type": "object",
30981 "required": [
30982     "speed"
30983 ]
30984 }
30985 }
30986 }

```

30987 6.149.5 Property definition

30988 Table 301 defines the Properties that are part of the "oic.r.speed" Resource Type.

30989 **Table 301 – The Property definitions of the Resource with type "rt" = "oic.r.speed".**

Property name	Value type	Mandatory	Access mode	Description
speed	number	Yes	Read Only	This Property describes the speed of an object in metre per second (SI Unit). It should be noted, however, that the most common unit of speed everyday usage is the kilometre per hour or, in the US and the UK, miles per hour.
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	

30990 6.149.6 CRUDN behaviour

30991 Table 302 defines the CRUDN operations that are supported on the "oic.r.speed" Resource Type.

30992 **Table 302 – The CRUDN operations of the Resource with type "rt" = "oic.r.speed".**

Create	Read	Update	Delete	Notify
	get			observe

30993 6.150 Torque

30994 6.150.1 Introduction

30995 This Resource describes the torque, which is the rotational equivalent of linear force.

30996 The unit, which is the default SI unit, is N*m (Newton metre).

30997 The torque Property is a read-only value that is provided by the server.

30998 When range (from "oic.r.baseresource") is omitted the default is 0 to +MAXFLOAT.

30999 6.150.2 Example URI

31000 /TorqueResURI

31001 6.150.3 Resource type

31002 The Resource Type is defined as: "oic.r.torque".

31003 6.150.4 OpenAPI 2.0 definition

```
31004 {
31005   "swagger": "2.0",
31006   "info": {
31007     "title": "Torque",
31008     "version": "2019-09-25",
31009     "license": {
31010       "name": "OCF Data Model License",
31011       "url":
31012         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
31013         CENSE.md",
31014       "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All rights reserved."
31015     },
31016     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
31017   },
31018   "schemes": [
31019     "http"
31020   ],
31021   "consumes": [
31022     "application/json"
31023   ],
31024   "produces": [
31025     "application/json"
31026   ],
31027   "paths": {
31028     "/TorqueResURI": {
31029       "get": {
31030         "description": "This Resource describes the torque, which is the rotational equivalent of
31031         linear force.\n The unit, which is the default SI unit, is N*m (Newton metre).\n The torque Property
31032         is a read-only value that is provided by the server.\n When range (from \"oic.r.baseresource\") is
31033         omitted the default is 0 to +MAXFLOAT.",
31034         "parameters": [
31035           {
31036             "$ref": "#/parameters/interface"
31037           }
31038         ],
31039         "responses": {
31040           "200": {
31041             "description": "",
31042             "x-example": {
31043               "rt": [
31044                 "oic.r.torque"
31045               ],
31046               "torque": 10.0
31047             },
31048             "schema": {
31049               "$ref": "#/definitions/Torque"
31050             }
31051           }
31052         }
31053       }
31054     }
31055   },
31056 }
```

```

31056     "parameters": {
31057         "interface": {
31058             "in": "query",
31059             "name": "if",
31060             "type": "string",
31061             "enum": [
31062                 "oic.if.s",
31063                 "oic.if.baseline"
31064             ]
31065         }
31066     },
31067     "definitions": {
31068         "Torque": {
31069             "properties": {
31070                 "torque": {
31071                     "description": "This Resource describes the torque, which is the rotational equivalent of
31072 linear force, in N*m (Newton metre).",
31073                     "type": "number",
31074                     "minimum": 0.0,
31075                     "readOnly": true
31076                 },
31077                 "rt": {
31078                     "description": "The Resource Type.",
31079                     "items": {
31080                         "enum": [
31081                             "oic.r.torque"
31082                         ],
31083                         "type": "string"
31084                     },
31085                     "minItems": 1,
31086                     "uniqueItems": true,
31087                     "readOnly": true,
31088                     "type": "array"
31089                 },
31090                 "n": {
31091                     "$ref":
31092 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
31093 schema.json#/definitions/n"
31094                 },
31095                 "if": {
31096                     "description": "The OCF Interface set supported by this Resource.",
31097                     "items": {
31098                         "enum": [
31099                             "oic.if.s",
31100                             "oic.if.baseline"
31101                         ],
31102                         "type": "string"
31103                     },
31104                     "minItems": 1,
31105                     "uniqueItems": true,
31106                     "readOnly": true,
31107                     "type": "array"
31108                 },
31109                 "range": {
31110                     "$ref":
31111 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
31112 schema.json#/definitions/range_number"
31113                 },
31114                 "step": {
31115                     "$ref":
31116 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
31117 schema.json#/definitions/step_number"
31118                 }
31119             },
31120             "type": "object",
31121             "required": [
31122                 "torque"
31123             ]
31124         }
31125     }
31126 }

```

31127 **6.150.5 Property definition**

31128 Table 303 defines the Properties that are part of the "oic.r.torque" Resource Type.

31129 **Table 303 – The Property definitions of the Resource with type "rt" = "oic.r.torque".**

Property name	Value type	Mandatory	Access mode	Description
torque	number	Yes	Read Only	This Resource describes the torque, which is the rotational equivalent of linear force, in N*m (Newton metre).
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
range	multiple types: see schema	No	Read Write	
step	multiple types: see schema	No	Read Write	

31130 **6.150.6 CRUDN behaviour**

31131 Table 304 defines the CRUDN operations that are supported on the "oic.r.torque" Resource Type.

31132 **Table 304 – The CRUDN operations of the Resource with type "rt" = "oic.r.torque".**

Create	Read	Update	Delete	Notify
	get			observe

31133 **6.151 Water Info**

31134 **6.151.1 Introduction**

31135 This Resource describes the water information to indicate type of water currently provided by the
31136 device. The water type can be read or set.

31137 The Property "supportedwatertypes" is an array of the possible water types are defined by the
31138 enumeration ["cold", "hot", "ambient", "ice"].

31139 The Property "supportedadditivetypes" is an array of the possible additive types for water. The
31140 additive types mean optional types that can be added to the specific water type according to
31141 Client's preference and are defined by the enumeration ["none", "soda", "mineral"]. If absent, the
31142 default value is "none".

31143 The Property "currentwatertype" is the currently desired water type.

31144 The Property "currentadditivetypes" is the currently desired additive type(s).

31145 For example, if "cold" is selected with the "currentwatertype", "soda" and "mineral" or both can be
31146 selected as "currentadditivetypes". Note that if "hot" is selected with the "currentwatertype",
31147 "soda" and "mineral" may be restricted for the "currentadditivetypes".

31148 **6.151.2 Example URI**

31149 /WaterInfoResURI

31150 **6.151.3 Resource type**

31151 The Resource Type is defined as: "oic.r.waterinfo".

6.151.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Water Info",
    "version": "2019-06-13",
    "license": {
      "name": "OCF Date Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/WaterInfoResURI": {
      "get": {
        "description": "This Resource describes the water information to indicate type of
water currently provided by the device. The water type can be read or set.\nThe Property
\"supportedwatertypes\" is an array of the possible water types are defined by the enumeration
[\"cold\", \"hot\", \"ambient\", \"ice\"].\nThe Property \"supportedadditivetypes\" is an array of
the possible additive types for water. The additive types mean optional types that can be added to
the specific water type according to Client's preference and are defined by the enumeration
[\"none\", \"soda\", \"mineral\"]. If absent, the default value is \"none\". \nThe Property
\"currentwatertype\" is the currently desired water type. \nThe Property \"currentadditivetypes\" is
the currently desired additive type(s). \nFor example, if \"cold\" is selected with the
\"currentwatertype\", \"soda\" and \"mineral\" or both can be selected as \"currentadditivetypes\".
Note that if \"hot\" is selected with the \"currentwatertype\", \"soda\" and \"mineral\" may be
restricted for the \"currentadditivetypes\".",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "RETRIEVES the set of supported water type information and
current desired water type information.",
            "x-example": {
              "rt": ["oic.r.waterinfo"],
              "if": ["oic.if.rw", "oic.if.baseline"],
              "supportedwatertypes": ["cold", "hot", "ambient", "ice"],
              "supportedadditivetypes": ["none", "soda", "mineral"],
              "currentwatertype": "cold",
              "currentadditivetypes": ["soda", "mineral"]
            },
            "schema": { "$ref": "#/definitions/WaterInfo" }
          }
        }
      },
      "post": {
        "description": "Sets the desired water type.",
        "parameters": [
          { "$ref": "#/parameters/interface" },
          {
            "name": "body",
            "in": "body",
            "required": true,
            "schema": { "$ref": "#/definitions/WaterInfoUpdate" },
            "x-example": {
              "currentwatertype": "hot",
              "currentadditivetypes": ["none"]
            }
          }
        ],
        "responses": {
```

```

31223         "200": {
31224             "description" : "Indicates that the current desired water type and additive
31225 type(s) were changed. \nThe new desired water type info is provided in the response.\n",
31226             "x-example": {
31227                 "currentwatertype": "hot",
31228                 "currentadditivetypes": ["none"]
31229             },
31230             "schema": { "$ref": "#/definitions/WaterInfoUpdate" }
31231         },
31232         "403":{
31233             "description" : "This response is generated by the OCF Server when the client
31234 sends:\n An UPDATE with an invalid property value for \"currentwatertype\".\nThe OCF Server
31235 responds with the current resource representation.\n",
31236             "x-example": {
31237                 "supportedwatertypes": ["cold", "hot", "ambient", "ice"],
31238                 "supportedadditivetypes": ["none", "soda", "mineral"],
31239                 "currentwatertype": "cold",
31240                 "currentadditivetypes": ["soda", "mineral"]
31241             },
31242             "schema": { "$ref": "#/definitions/WaterInfo" }
31243         }
31244     }
31245 }
31246 },
31247 {
31248     "parameters": {
31249         "interface": {
31250             "in": "query",
31251             "name": "if",
31252             "type": "string",
31253             "enum": ["oic.if.rw", "oic.if.baseline"]
31254         }
31255     },
31256     "definitions": {
31257         "WaterInfo" : {
31258             "properties": {
31259                 "rt": {
31260                     "description": "The Resource Type.",
31261                     "items": {
31262                         "enum": ["oic.r.waterinfo"],
31263                         "maxLength": 64,
31264                         "type": "string"
31265                     },
31266                     "minItems": 1,
31267                     "uniqueItems": true,
31268                     "readOnly": true,
31269                     "type": "array"
31270                 },
31271                 "supportedwatertypes":{
31272                     "description": "The array of the possible water types.",
31273                     "items": {
31274                         "type": "string"
31275                     },
31276                     "readOnly": true,
31277                     "type": "array"
31278                 },
31279                 "supportedadditivetypes":{
31280                     "description": "The array of the possible additive types.",
31281                     "items": {
31282                         "type": "string"
31283                     },
31284                     "readOnly": true,
31285                     "type": "array"
31286                 },
31287                 "currentwatertype": {
31288                     "description": " The currently desired water type.",
31289                     "type": "string"
31290                 },
31291                 "currentadditivetypes":{
31292                     "description": "The currently desired additive type(s) according to Client's
31293 preference.",
31294                     "items": {

```

```

31295         "type": "string"
31296     },
31297     "minItems": 1,
31298     "type": "array"
31299 },
31300 "n": {
31301     "$ref":
31302 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
31303 schema.json#/definitions/n"
31304 },
31305 "id": {
31306     "$ref":
31307 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
31308 schema.json#/definitions/id"
31309 },
31310 "if": {
31311     "description": "The OCF Interface set supported by this Resource.",
31312     "items": {
31313         "enum": [
31314             "oic.if.rw",
31315             "oic.if.baseline"
31316         ],
31317         "type": "string"
31318     },
31319     "minItems": 2,
31320     "uniqueItems": true,
31321     "readOnly": true,
31322     "type": "array"
31323 },
31324 },
31325 "type": "object",
31326 "required" : ["supportedwatertypes", "currentwatertype"]
31327 },
31328 "WaterInfoUpdate":{
31329     "properties":{
31330         "currentwatertype": {
31331             "description": "Set the desired water type.",
31332             "type": "string"
31333         },
31334         "currentadditivetypes": {
31335             "description": "Set the desired additive type(s).",
31336             "items": {
31337                 "type": "string"
31338             },
31339             "minItems": 1,
31340             "type": "array"
31341         }
31342     },
31343     "type": "object",
31344     "required": ["currentwatertype"]
31345 }
31346 }
31347 }
31348 }
31349
31350
31351

```

6.151.5 Property definition

Table 305 defines the Properties that are part of the "oic.r.waterinfo" Resource Type.

Table 305 – The Property definitions of the Resource with type "rt" = "oic.r.waterinfo".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
supportedwatertypes	array: see schema	Yes	Read Only	The array of the possible water types.

supportedadditivetypes	array: see schema	No	Read Only	The array of the possible additive types.
currentwatertype	string	Yes	Read Write	The currently desired water type.
currentadditivetypes	array: see schema	No	Read Write	The currently desired additive type(s) according to Client's preference.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
currentwatertype	string	Yes	Read Write	Set the desired water type.
currentadditivetypes	array: see schema	No	Read Write	Set the desired additive type(s).

6.151.6 CRUDN behaviour

Table 306 defines the CRUDN operations that are supported on the "oic.r.waterinfo" Resource Type.

Table 306 – The CRUDN operations of the Resource with type "rt" = "oic.r.waterinfo".

Create	Read	Update	Delete	Notify
	get	post		observe

6.152 Deodorization

6.152.1 Introduction

This Resource describes a deodorization function, which can be supported by controlling on air filter.

The Property "mode" is a mode of the deodorization function. The supported modes are defined by the enumeration ["off", "on", "auto"].

"off" means that the deodorization function is not enabled.

"on" means that the deodorization function is active.

"auto" means that the deodorization function is automatically controlled depending on sensed air condition in the device inside.

The Property "currentstate" is the current state of the deodorization function. In the case of "auto" mode, if the sensed air condition is determined to be bad, the function will be "on". Then, "mode" value is "auto" and "currentstate" value is "on". If not, the function is remaining "off" state. Then, "currentstate" value is "off".

6.152.2 Example URI

/DeodorizationResURI

6.152.3 Resource type

The Resource Type is defined as: "oic.r.deodorization".

6.152.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Deodorization",
```

```

31382     "version": "20190820",
31383     "license": {
31384         "name": "OCF Data Model License",
31385         "url":
31386 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
31387 CENSE.md",
31388         "x-copyright": "copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
31389     },
31390     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
31391 },
31392     "schemas": ["http"],
31393     "consumes": ["application/json"],
31394     "produces": ["application/json"],
31395     "paths": {
31396         "/DeodorizationResURI" : {
31397             "get": {
31398                 "description": "This Resource describes a deodorization function, which can be supported by
31399 controlling on air filter. \n The Property \"mode\" is a mode of the deodorization function. The
31400 supported modes are defined by the enumeration [\"off\", \"on\", \"auto\"]. \n\"off\" means that the
31401 deodorization function is not enabled.\n\"on\" means that the deodorization function is
31402 active.\n\"auto\" means that the deodorization function is automatically controlled depending on
31403 sensed air condition in the device inside. \nThe Property \"currentstate\" is the current state of
31404 the deodorization function. In the case of \"auto\" mode, if the sensed air condition is determined
31405 to be bad, the function will be \"on\". Then, \"mode\" value is \"auto\" and \"currentstate\" value
31406 is \"on\". If not, the function is remaining \"off\" state. Then, \"currentstate\" value is
31407 \"off\".",
31408                 "parameters": [
31409                     { "$ref": "#/parameters/interface" }
31410                 ],
31411                 "responses": {
31412                     "200": {
31413                         "description": "RETRIEVES the current deodorization function state.",
31414                         "x-example":
31415                         {
31416                             "rt": ["oic.r.deodorization"],
31417                             "if": ["oic.if.a", "oic.if.baseline"],
31418                             "mode": "auto",
31419                             "currentstate": "off"
31420                         },
31421                         "schema": { "$ref": "#/definitions/Deodorization" }
31422                     }
31423                 },
31424             },
31425             "post": {
31426                 "description": "Sets the desired deodorization function state.",
31427                 "parameters": [
31428                     { "$ref": "#/parameters/interface" },
31429                     {
31430                         "name": "body",
31431                         "in": "body",
31432                         "required": true,
31433                         "schema": { "$ref": "#/definitions/DeodorizationUpdate" },
31434                         "x-example":
31435                         {
31436                             "mode": "on"
31437                         }
31438                     }
31439                 ],
31440                 "responses": {
31441                     "200": {
31442                         "description": "Indicates that the Deodorization function state was changed.\nThe new
31443 state is provided in the response.\n",
31444                         "x-example":
31445                         {
31446                             "mode": "on",
31447                             "currentstate": "on"
31448                         },
31449                         "schema": { "$ref": "#/definitions/Deodorization" }
31450                     }
31451                 }
31452             }
31453         }

```

```

31454 },
31455 "parameters": {
31456   "interface": {
31457     "in": "query",
31458     "name": "if",
31459     "type": "string",
31460     "enum": ["oic.if.a", "oic.if.baseline"]
31461   }
31462 },
31463 "definitions": {
31464   "Deodorization" : {
31465     "properties": {
31466       "rt": {
31467         "description": "The Resource Type.",
31468         "items": {
31469           "enum": ["oic.r.deodorization"],
31470           "maxLength": 64,
31471           "type": "string"
31472         },
31473         "minItems": 1,
31474         "uniqueItems": true,
31475         "readOnly": true,
31476         "type": "array"
31477       },
31478       "mode": {
31479         "description": "The modes of the Deodorization function.",
31480         "enum": [
31481           "off",
31482           "on",
31483           "auto"
31484         ],
31485         "type": "string"
31486       },
31487       "currentstate": {
31488         "description": "The current state of the Deodorization function.",
31489         "enum": [
31490           "off",
31491           "on"
31492         ],
31493         "readOnly": true,
31494         "type": "string"
31495       },
31496       "n": {
31497         "$ref":
31498         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
31499         schema.json#/definitions/n"
31500       },
31501       "id": {
31502         "$ref":
31503         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
31504         schema.json#/definitions/id"
31505       },
31506       "if": {
31507         "description": "The OCF Interface set supported by this Resource.",
31508         "items": {
31509           "enum": [
31510             "oic.if.a",
31511             "oic.if.baseline"
31512           ],
31513           "type": "string"
31514         },
31515         "minItems": 2,
31516         "uniqueItems": true,
31517         "readOnly": true,
31518         "type": "array"
31519       }
31520     },
31521     "type": "object",
31522     "required": ["mode", "currentstate"]
31523   },
31524   "DeodorizationUpdate" : {
31525     "properties": {

```

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```
        "mode": {
            "description": "The modes of the Deodorization function.",
            "enum": [
                "off",
                "on",
                "auto"
            ],
            "type": "string"
        },
    },
    "type": "object",
    "required": ["mode"]
}
```

6.152.5 Property definition

Table 307 defines the Properties that are part of the "oic.r.deodorization" Resource Type.

Table 307 – The Property definitions of the Resource with type "rt" = "oic.r.deodorization".

Property name	Value type	Mandatory	Access mode	Description
Rt	array: see schema	No	Read Only	The Resource Type.
Mode	string	Yes	Read Write	The modes of the Deodorization function.
currentstate	string	Yes	Read Only	The current state of the Deodorization function.
N	multiple types: see schema	No	Read Write	
Id	multiple types: see schema	No	Read Write	
If	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
Mode	string	Yes	Read Write	The modes of the Deodorization function.

6.152.6 CRUDN behaviour

Table 308 defines the CRUDN operations that are supported on the "oic.r.deodorization" Resource Type.

Table 308 – The CRUDN operations of the Resource with type "rt" = "oic.r.deodorization".

Create	Read	Update	Delete	Notify
	get	post		observe

6.153 KeyCard Switch

6.153.1 Introduction

This Resource describes the operation of a KeyCard style switch. It has one mandatory Property, "stateofcard", which is a string enum type. It has two enum values: "validCardInserted", "validCardNotInserted". "validCardInserted" means that a keycard was inserted and passed validation check. "validCardNotInserted" means that a keycard is not inserted or it was inserted but failed to pass validation check.

31555 6.153.2 Example URI

31556 /KeyCardSwitchResURI

31557 6.153.3 Resource type

31558 The Resource Type is defined as: "oic.r.keycardswitch".

31559 6.153.4 OpenAPI 2.0 definition

```
31560 {
31561     "swagger": "2.0",
31562     "info": {
31563         "title": "KeyCard Switch",
31564         "version": "20190807",
31565         "license": {
31566             "name": "OCF Data Model License",
31567             "url":
31568 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
31569 CENSE.md",
31570             "x-copyright": "Copyright 2018-2019 Open Connectivity Foundation, Inc. All
31571 rights reserved."
31572         },
31573         "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
31574     },
31575     "schemes": ["http"],
31576     "consumes": ["application/json"],
31577     "produces": ["application/json"],
31578     "paths": {
31579         "/KeyCardSwitchResURI" : {
31580             "get": {
31581                 "description": "This Resource describes the operation of a KeyCard
31582 style switch. It has one mandatory Property, \"stateofcard\", which is a string enum type. It has two
31583 enum values: \"validCardInserted\", \"validCardNotInserted\". \"validCardInserted\" means that a
31584 keycard was inserted and passed validation check. \"validCardNotInserted\" means that a keycard is
31585 not inserted or it was inserted but failed to pass validation check.",
31586                 "parameters": [
31587                     { "$ref": "#/parameters/interface" }
31588                 ],
31589                 "responses": {
31590                     "200": {
31591                         "description": "",
31592                         "x-example":
31593 {
31594                     "rt": ["oic.r.keycardswitch"],
31595                     "if": ["oic.if.s", "oic.if.baseline"],
31596                     "stateofcard": "validCardInserted"
31597                 }
31598                     ,
31599                     "schema": { "$ref": "#/definitions/KeyCardSwitch" }
31600                 }
31601             }
31602         }
31603     },
31604     "parameters": {
31605         "interface" : {
31606             "in": "query",
31607             "name": "if",
31608             "type": "string",
31609             "enum": ["oic.if.s", "oic.if.baseline"]
31610         }
31611     },
31612     "definitions": {
31613         "KeyCardSwitch" : {
31614             "properties": {
31615                 "rt": {
31616                     "description": "The Resource Type of KeyCardSwitch",
31617                     "items": {
31618                         "enum": ["oic.r.keycardswitch"],
31619                         "maxLength": 64,
31620                         "type": "string"
31621                     }
```

```

31622         },
31623         "minItems": 1,
31624         "uniqueItems": true,
31625         "readOnly": true,
31626         "type": "array"
31627     },
31628     "stateofcard": {
31629         "description": "The status of the keycardswitch.
31630         \"validCardInserted\" means that a keycard was inserted and passed validation check.
31631         \"validCardNotInserted\" means that a keycard is not inserted or it was inserted but failed to pass
31632         validation check.",
31633         "readOnly": true,
31634         "type": "string",
31635         "enum": [
31636             "validCardInserted",
31637             "validCardNotInserted"
31638         ]
31639     },
31640     "n": {
31641         "$ref":
31642         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
31643         schema.json#/definitions/n"
31644     },
31645     "id": {
31646         "$ref":
31647         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
31648         schema.json#/definitions/id"
31649     },
31650     "if": {
31651         "description": "The OCF Interface set supported by this
31652         Resource.",
31653         "items": {
31654             "enum": [
31655                 "oic.if.s",
31656                 "oic.if.baseline"
31657             ],
31658             "type": "string"
31659         },
31660         "minItems": 2,
31661         "uniqueItems": true,
31662         "readOnly": true,
31663         "type": "array"
31664     }
31665 },
31666 "type": "object",
31667 "required": ["stateofcard"]
31668 }
31669 }
31670 }
31671

```

6.153.5 Property definition

Table 309 defines the Properties that are part of the "oic.r.keycardswitch" Resource Type.

Table 309 – The Property definitions of the Resource with type "rt" = "oic.r.keycardswitch".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type of KeyCardSwitch
stateofcard	string	Yes	Read Only	The status of the keycardswitch. "validCardInserted" means that a keycard was inserted and passed validation check. "validCardNotInserted" means that a keycard is not inserted or it

				was inserted but failed to pass validation check.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

6.153.6 CRUDN behaviour

Table 310 defines the CRUDN operations that are supported on the "oic.r.keycardswitch" Resource Type.

Table 310 – The CRUDN operations of the Resource with type "rt" = "oic.r.keycardswitch".

Create	Read	Update	Delete	Notify
	get			observe

6.154 Muscle Oxygen Saturation

6.154.1 Introduction

This Resource describes the muscle oxygen saturation (SmO2), which is the percentage of hemoglobin that is saturated with oxygen in the capillaries of a muscle.

The unit is percentage.

The smo2 Property is a read-only value that is provided by the server.

6.154.2 Example URI

/MuscleOxygenSaturationResURI

6.154.3 Resource type

The Resource Type is defined as: "oic.r.muscleoxygen saturation".

6.154.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Muscle Oxygen Saturation",
    "version": "2019-08-20",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": [
    "http"
  ],
  "consumes": [
    "application/json"
  ],
  "produces": [
    "application/json"
  ],
  "paths": {
    "/MuscleOxygenSaturationResURI": {
      "get": {
        "description": "This Resource describes the muscle oxygen saturation (SmO2), which is the
```

```

31717 percentage of hemoglobin that is saturated with oxygen in the capillaries of a muscle.\n The unit is
31718 percentage.\n The smo2 Property is a read-only value that is provided by the server.",
31719     "parameters": [
31720     {
31721         "$ref": "#/parameters/interface"
31722     }
31723     ],
31724     "responses": {
31725         "200": {
31726             "description": "",
31727             "x-example": {
31728                 "rt": [
31729                     "oic.r.muscleoxygensaturation"
31730                 ],
31731                 "muscleoxygensaturation": 80.0
31732             },
31733             "schema": {
31734                 "$ref": "#/definitions/MuscleOxygenSaturation"
31735             }
31736         }
31737     }
31738 },
31739 },
31740 },
31741 "parameters": {
31742     "interface": {
31743         "in": "query",
31744         "name": "if",
31745         "type": "string",
31746         "enum": [
31747             "oic.if.s",
31748             "oic.if.baseline"
31749         ]
31750     }
31751 },
31752 "definitions": {
31753     "MuscleOxygenSaturation": {
31754         "properties": {
31755             "muscleoxygensaturation": {
31756                 "description": "This Property describes the muscle oxygen saturation (SmO2), which is the
31757 percentage of hemoglobin that is saturated with oxygen in the capillaries of a muscle. The unit is
31758 percentage.",
31759                 "type": "number",
31760                 "minimum": 0,
31761                 "maximum": 100,
31762                 "readOnly": true
31763             },
31764             "rt": {
31765                 "description": "The Resource Type.",
31766                 "items": {
31767                     "enum": [
31768                         "oic.r.muscleoxygensaturation"
31769                     ],
31770                     "type": "string"
31771                 },
31772                 "minItems": 1,
31773                 "uniqueItems": true,
31774                 "readOnly": true,
31775                 "type": "array"
31776             },
31777             "n": {
31778                 "$ref":
31779 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
31780 schema.json#/definitions/n"
31781             },
31782             "if": {
31783                 "description": "The OCF Interface set supported by this Resource.",
31784                 "items": {
31785                     "enum": [
31786                         "oic.if.s",
31787                         "oic.if.baseline"
31788                     ],

```



```

31789         "type": "string"
31790     },
31791     "minItems": 1,
31792     "uniqueItems": true,
31793     "readOnly": true,
31794     "type": "array"
31795 }
31796 },
31797 "type": "object",
31798 "required": [
31799     "muscleoxygensaturation"
31800 ]
31801 }
31802 }
31803 }

```

6.154.5 Property definition

Table 311 defines the Properties that are part of the "oic.r.muscleoxygensaturation" Resource Type.

Table 311 – The Property definitions of the Resource with type "rt" = "oic.r.muscleoxygensaturation".

Property name	Value type	Mandatory	Access mode	Description
muscleoxygensaturation	number	Yes	Read Only	This Property describes the muscle oxygen saturation (SmO2), which is the percentage of hemoglobin that is saturated with oxygen in the capillaries of a muscle. The unit is percentage.
rt	array: see schema	No	Read Only	The Resource Type.
n	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

6.154.6 CRUDN behaviour

Table 312 defines the CRUDN operations that are supported on the "oic.r.muscleoxygensaturation" Resource Type.

Table 312 – The CRUDN operations of the Resource with type "rt" = "oic.r.muscleoxygensaturation".

Create	Read	Update	Delete	Notify
	get			observe

6.155 Body Composition Analyser Atomic Measurement

6.155.1 Introduction

This Resource describes the Properties associated with body composition analyser. The Resource is an Atomic Measurement of weight (oic.r.weight), body mass index (BMI) (oic.r.bmi), height (oic.r.height), body fat (oic.r.body.fat), body water (oic.r.body.water), body soft lean mass (oic.r.body.slm), body fat free mass (oic.r.body.ffmpeg), observed time (oic.r.time.stamp), and user id (oic.r.userid).

6.155.2 Example URI

/BodyCompositionAnalyserAMResURI

6.155.3 Resource type

The Resource Type is defined as: "oic.r.bodycompositionanalyser-am, oic.wk.atomicmeasurement".

6.155.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Body Composition Analyser Atomic Measurement",
    "version": "2019-03-22",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2016-2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": [
    "http"
  ],
  "consumes": [
    "application/json"
  ],
  "produces": [
    "application/json"
  ],
  "paths": {
    "/BodyCompositionAnalyserAMResURI?if=oic.if.b": {
      "get": {
        "description": "This Resource describes the Properties associated with body composition
analyser.\n\nThe Resource is an Atomic Measurement of weight (oic.r.weight), body mass index (BMI)
(oic.r.bmi), height (oic.r.height), body fat (oic.r.body.fat), body water (oic.r.body.water), body
soft lean mass (oic.r.body.slm), body fat free mass (oic.r.body.ffm), observed time
(oic.r.time.stamp), and user id (oic.r.userid).",
        "parameters": [
          {
            "$ref": "#/parameters/interface-all"
          }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": [
              {
                "href": "/myWeight",
                "rep": {
                  "weight": 80.0,
                  "units": "kg"
                }
              },
              {
                "href": "/myBMI",
                "rep": {
                  "bmi": 20.0
                }
              },
              {
                "href": "/myHeight",
                "rep": {
                  "height": 1.8,
                  "units": "m"
                }
              },
              {
                "href": "/myBodyFat",
```

```

31888         "rep": {
31889             "bodyfat": 20.0,
31890             "units": "kg"
31891         }
31892     },
31893     {
31894         "href": "/myBodyWater",
31895         "rep": {
31896             "bwater": 20.0,
31897             "units": "kg"
31898         }
31899     },
31900     {
31901         "href": "/myBodySoftLeanMass",
31902         "rep": {
31903             "slm": 20.0,
31904             "units": "kg"
31905         }
31906     },
31907     {
31908         "href": "/myBodyFatFreeMass",
31909         "rep": {
31910             "ffm": 40.0,
31911             "units": "kg"
31912         }
31913     },
31914     {
31915         "href": "/myUserId",
31916         "rep": {
31917             "userid": "USER1"
31918         }
31919     },
31920     {
31921         "href": "/myTimeStamp",
31922         "rep": {
31923             "timestamp": "2018-11-09T12:15+08:00"
31924         }
31925     }
31926 ],
31927 "schema": {
31928     "$ref": "#/definitions/batch-retrieve"
31929 }
31930 }
31931 }
31932 },
31933 "/BodyCompositionAnalyserAMResURI?if=oic.if.ll": {
31934     "get": {
31935         "description": "This Resource describes the Properties associated with body composition
31936 analyser.\n\nThe Resource is an Atomic Measurement of weight (oic.r.weight), body mass index (BMI)
31937 (oic.r.bmi), height (oic.r.height), body fat (oic.r.body.fat), body water (oic.r.body.water), body
31938 soft lean mass (oic.r.body.slm), body fat free mass (oic.r.body.ffm), observed time
31939 (oic.r.time.stamp), and user id (oic.r.userid).",
31940         "parameters": [
31941             {
31942                 "$ref": "#/parameters/interface-all"
31943             }
31944         ],
31945         "responses": {
31946             "200": {
31947                 "description": "",
31948                 "x-example": [
31949                     {
31950                         "href": "/myWeight",
31951                         "rt": [
31952                             "oic.r.weight"
31953                         ],
31954                         "if": [
31955                             "oic.if.s",
31956                             "oic.if.baseline"
31957                         ]
31958                     }
31959                 ],

```

```

31960 {
31961     "href": "/myBMI",
31962     "rt": [
31963         "oic.r.bmi"
31964     ],
31965     "if": [
31966         "oic.if.s",
31967         "oic.if.baseline"
31968     ]
31969 },
31970 {
31971     "href": "/myHeight",
31972     "rt": [
31973         "oic.r.height"
31974     ],
31975     "if": [
31976         "oic.if.s",
31977         "oic.if.baseline"
31978     ]
31979 },
31980 {
31981     "href": "/myBodyFat",
31982     "rt": [
31983         "oic.r.body.fat"
31984     ],
31985     "if": [
31986         "oic.if.s",
31987         "oic.if.baseline"
31988     ]
31989 },
31990 {
31991     "href": "/myBodyWater",
31992     "rt": [
31993         "oic.r.body.water"
31994     ],
31995     "if": [
31996         "oic.if.s",
31997         "oic.if.baseline"
31998     ]
31999 },
32000 {
32001     "href": "/myBodySoftLeanMass",
32002     "rt": [
32003         "oic.r.body.slm"
32004     ],
32005     "if": [
32006         "oic.if.s",
32007         "oic.if.baseline"
32008     ]
32009 },
32010 {
32011     "href": "/myBodyFatFreeMass",
32012     "rt": [
32013         "oic.r.body.ffmpeg"
32014     ],
32015     "if": [
32016         "oic.if.s",
32017         "oic.if.baseline"
32018     ]
32019 },
32020 {
32021     "href": "/myUserId",
32022     "rt": [
32023         "oic.r.userid"
32024     ],
32025     "if": [
32026         "oic.if.r",
32027         "oic.if.baseline"
32028     ]
32029 },
32030 {
32031     "href": "/myTimeStamp",

```

```

32032         "rt": [
32033             "oic.r.time.stamp"
32034         ],
32035         "if": [
32036             "oic.if.r",
32037             "oic.if.baseline"
32038         ]
32039     }
32040 },
32041     "schema": {
32042         "$ref": "#/definitions/links"
32043     }
32044 }
32045 }
32046 },
32047 },
32048 "/BodyCompositionAnalyserAMResURI?if=oic.if.baseline": {
32049     "get": {
32050         "description": "This Resource describes the Properties associated with body composition
32051 analyser.\n\nThe Resource is an Atomic Measurement of weight (oic.r.weight), body mass index (BMI)
32052 (oic.r.bmi), height (oic.r.height), body fat (oic.r.body.fat), body water (oic.r.body.water), body
32053 soft lean mass (oic.r.body.slm), body fat free mass (oic.r.body.ffmpeg), observed time
32054 (oic.r.time.stamp), and user id (oic.r.userid).",
32055         "parameters": [
32056             {
32057                 "$ref": "#/parameters/interface-all"
32058             }
32059         ],
32060         "responses": {
32061             "200": {
32062                 "description": "",
32063                 "x-example": {
32064                     "rt": [
32065                         "oic.r.bodycompositionanalyser-am",
32066                         "oic.wk.atomicmeasurement"
32067                     ],
32068                     "if": [
32069                         "oic.if.b",
32070                         "oic.if.ll",
32071                         "oic.if.baseline"
32072                     ],
32073                     "rts": [
32074                         "oic.r.weight",
32075                         "oic.r.bmi",
32076                         "oic.r.height",
32077                         "oic.r.body.fat",
32078                         "oic.r.body.water",
32079                         "oic.r.body.slm",
32080                         "oic.r.body.ffmpeg",
32081                         "oic.r.userid",
32082                         "oic.r.time.stamp"
32083                     ],
32084                     "rts-m": [
32085                         "oic.r.weight",
32086                         "oic.r.body.fat",
32087                         "oic.r.height"
32088                     ],
32089                     "links": [
32090                         {
32091                             "href": "/myWeight",
32092                             "rt": [
32093                                 "oic.r.weight"
32094                             ],
32095                             "if": [
32096                                 "oic.if.s",
32097                                 "oic.if.baseline"
32098                             ]
32099                         },
32100                         {
32101                             "href": "/myBMI",
32102                             "rt": [
32103                                 "oic.r.bmi"

```

```

32104         ],
32105         "if": [
32106             "oic.if.s",
32107             "oic.if.baseline"
32108         ]
32109     },
32110     {
32111         "href": "/myHeight",
32112         "rt": [
32113             "oic.r.height"
32114         ],
32115         "if": [
32116             "oic.if.s",
32117             "oic.if.baseline"
32118         ]
32119     },
32120     {
32121         "href": "/myBodyFat",
32122         "rt": [
32123             "oic.r.body.fat"
32124         ],
32125         "if": [
32126             "oic.if.s",
32127             "oic.if.baseline"
32128         ]
32129     },
32130     {
32131         "href": "/myBodyWater",
32132         "rt": [
32133             "oic.r.body.water"
32134         ],
32135         "if": [
32136             "oic.if.s",
32137             "oic.if.baseline"
32138         ]
32139     },
32140     {
32141         "href": "/myBodySoftLeanMass",
32142         "rt": [
32143             "oic.r.body.slm"
32144         ],
32145         "if": [
32146             "oic.if.s",
32147             "oic.if.baseline"
32148         ]
32149     },
32150     {
32151         "href": "/myBodyFatFreeMass",
32152         "rt": [
32153             "oic.r.body.ffm"
32154         ],
32155         "if": [
32156             "oic.if.s",
32157             "oic.if.baseline"
32158         ]
32159     },
32160     {
32161         "href": "/myUserId",
32162         "rt": [
32163             "oic.r.userid"
32164         ],
32165         "if": [
32166             "oic.if.r",
32167             "oic.if.baseline"
32168         ]
32169     },
32170     {
32171         "href": "/myTimeStamp",
32172         "rt": [
32173             "oic.r.time.stamp"
32174         ],
32175         "if": [

```

```

32176         "oic.if.r",
32177         "oic.if.baseline"
32178     ]
32179 }
32180 ]
32181 },
32182 "schema": {
32183     "$ref": "#/definitions/baseline"
32184 }
32185 }
32186 }
32187 }
32188 }
32189 },
32190 "parameters": {
32191     "interface-all": {
32192         "in": "query",
32193         "name": "if",
32194         "type": "string",
32195         "enum": [
32196             "oic.if.b",
32197             "oic.if.ll",
32198             "oic.if.baseline"
32199         ]
32200     }
32201 },
32202 "definitions": {
32203     "links": {
32204         "type": "array",
32205         "items": {
32206             "$ref": "#/definitions/oic.oic-link"
32207         }
32208     },
32209     "baseline": {
32210         "properties": {
32211             "rt": {
32212                 "items": {
32213                     "enum": [
32214                         "oic.r.bodycompositionanalyser-am",
32215                         "oic.wk.atomicmeasurement"
32216                     ],
32217                     "type": "string",
32218                     "maxLength": 64
32219                 },
32220                 "minItems": 2,
32221                 "uniqueItems": true,
32222                 "readOnly": true,
32223                 "type": "array"
32224             },
32225             "rts": {
32226                 "description": "This contains all possible Resource Types for this Atomic Measurement.",
32227                 "items": {
32228                     "enum": [
32229                         "oic.r.weight",
32230                         "oic.r.bmi",
32231                         "oic.r.height",
32232                         "oic.r.body.fat",
32233                         "oic.r.body.water",
32234                         "oic.r.body.slm",
32235                         "oic.r.body.ffm",
32236                         "oic.r.time.stamp",
32237                         "oic.r.userid"
32238                     ],
32239                     "type": "string",
32240                     "maxLength": 64
32241                 },
32242                 "minItems": 1,
32243                 "uniqueItems": true,
32244                 "readOnly": true,
32245                 "type": "array"
32246             },
32247             "rts-m": {

```

```

32248         "description": "This contains all mandatory Resource Types for this Atomic Measurement.",
32249         "items": {
32250             "enum": [
32251                 "oic.r.weight",
32252                 "oic.r.body.fat",
32253                 "oic.r.height"
32254             ],
32255             "type": "string",
32256             "maxLength": 64
32257         },
32258         "maxItems": 3,
32259         "minItems": 3,
32260         "uniqueItems": true,
32261         "readOnly": true,
32262         "type": "array"
32263     },
32264     "if": {
32265         "description": "The OCF Interface set supported by this Resource",
32266         "items": {
32267             "enum": [
32268                 "oic.if.b",
32269                 "oic.if.ll",
32270                 "oic.if.baseline"
32271             ],
32272             "type": "string",
32273             "maxLength": 64
32274         },
32275         "minItems": 3,
32276         "uniqueItems": true,
32277         "readOnly": true,
32278         "type": "array"
32279     },
32280     "n": {
32281         "$ref":
32282         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
32283         schema.json#/definitions/n"
32284     },
32285     "id": {
32286         "$ref":
32287         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
32288         schema.json#/definitions/id"
32289     },
32290     "links": {
32291         "$ref": "#/definitions/links"
32292     }
32293 },
32294 "type": "object",
32295 "required": [
32296     "rt", "if", "links", "rts", "rts-m"
32297 ]
32298 },
32299 "batch-retrieve": {
32300     "minItems": 1,
32301     "items": {
32302         "properties": {
32303             "href": {
32304                 "$ref":
32305                 "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
32306                 schema.json#/definitions/href"
32307             },
32308             "rep": {
32309                 "type": "object",
32310                 "anyOf": [
32311                     {
32312                         "$ref":
32313                         "https://openconnectivityfoundation.github.io/IoTDataModels/WeightResURI.swagger.json#/definitions/W
32314                         eight"
32315                     },
32316                     {
32317                         "$ref":
32318                         "https://openconnectivityfoundation.github.io/IoTDataModels/BMIResURI.swagger.json#/definitions/BMI"
32319                     }

```



```

32320         {
32321             "$ref":
32322             "https://openconnectivityfoundation.github.io/IoTDataModels/HeightResURI.swagger.json#/definitions/H
32323             eight"
32324         },
32325         {
32326             "$ref":
32327             "https://openconnectivityfoundation.github.io/IoTDataModels/BodyFatResURI.swagger.json#/definitions/
32328             BodyFat"
32329         },
32330         {
32331             "$ref":
32332             "https://openconnectivityfoundation.github.io/IoTDataModels/BodyWaterResURI.swagger.json#/definition
32333             s/BodyWater"
32334         },
32335         {
32336             "$ref":
32337             "https://openconnectivityfoundation.github.io/IoTDataModels/BodySoftLeanMassResURI.swagger.json#/def
32338             initions/BodySoftLeanMass"
32339         },
32340         {
32341             "$ref":
32342             "https://openconnectivityfoundation.github.io/IoTDataModels/BodyFatFreeMassResURI.swagger.json#/defi
32343             nitions/BodyFatFreeMass"
32344         },
32345         {
32346             "$ref":
32347             "https://openconnectivityfoundation.github.io/IoTDataModels/UserIDResURI.swagger.json#/definitions/U
32348             serID"
32349         },
32350         {
32351             "$ref":
32352             "https://openconnectivityfoundation.github.io/IoTDataModels/TimeStampResURI.swagger.json#/definition
32353             s/TimeStamp"
32354         }
32355     ]
32356 }
32357 },
32358 "required": [
32359     "href",
32360     "rep"
32361 ],
32362 "type": "object"
32363 },
32364 "type": "array"
32365 },
32366 "oic.oic-link": {
32367     "properties": {
32368         "rt": {
32369             "description": "Resource Type of the target Resource",
32370             "items": {
32371                 "enum": [
32372                     "oic.r.weight",
32373                     "oic.r.bmi",
32374                     "oic.r.height",
32375                     "oic.r.body.fat",
32376                     "oic.r.body.water",
32377                     "oic.r.body.slm",
32378                     "oic.r.body.ffmpeg",
32379                     "oic.r.time.stamp",
32380                     "oic.r.userid"
32381                 ],
32382                 "type": "string",
32383                 "maxLength": 64
32384             },
32385             "minItems": 1,
32386             "uniqueItems": true,
32387             "readOnly": true,
32388             "type": "array"
32389         },
32390         "if": {
32391             "description": "The OCF Interface set supported by the target Resource",

```

```

32392         "items": {
32393             "enum": [
32394                 "oic.if.s",
32395                 "oic.if.r",
32396                 "oic.if.baseline"
32397             ],
32398             "type": "string",
32399             "maxLength": 64
32400         },
32401         "minItems": 1,
32402         "uniqueItems": true,
32403         "readOnly": true,
32404         "type": "array"
32405     },
32406     "anchor": {
32407         "$ref":
32408         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
32409         schema.json#/definitions/anchor"
32410     },
32411     "di": {
32412         "$ref":
32413         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
32414         schema.json#/definitions/di"
32415     },
32416     "eps": {
32417         "$ref":
32418         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
32419         schema.json#/definitions/eps"
32420     },
32421     "href": {
32422         "$ref":
32423         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
32424         schema.json#/definitions/href"
32425     },
32426     "ins": {
32427         "$ref":
32428         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
32429         schema.json#/definitions/ins"
32430     },
32431     "p": {
32432         "$ref":
32433         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
32434         schema.json#/definitions/p"
32435     },
32436     "rel": {
32437         "$ref":
32438         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
32439         schema.json#/definitions/rel_array"
32440     },
32441     "title": {
32442         "$ref":
32443         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
32444         schema.json#/definitions/title"
32445     },
32446     "type": {
32447         "$ref":
32448         "https://openconnectivityfoundation.github.io/core/schemas/oic.links.properties.core-
32449         schema.json#/definitions/type"
32450     }
32451 },
32452 "required": [
32453     "href",
32454     "rt",
32455     "if"
32456 ],
32457 "type": "object"
32458 }
32459 }
32460 }
32461

```

32462 **6.155.5 Property definition**

32463 Table 313 defines the Properties that are part of the "oic.r.bodycompositionanalyser-am,
32464 oic.wk.atomicmeasurement" Resource Type.

32465 **Table 313 – The Property definitions of the Resource with type "rt" =**
32466 **"oic.r.bodycompositionanalyser-am, oic.wk.atomicmeasurement".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	Yes	Read Only	
rts	array: see schema	Yes	Read Only	This contains all possible Resource Types for this Atomic Measurement.
rts-m	array: see schema	Yes	Read Only	This contains all mandatory Resource Types for this Atomic Measurement.
if	array: see schema	Yes	Read Only	The OCF Interface set supported by this Resource
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
links	multiple types: see schema	Yes	Read Write	
href	multiple types: see schema	Yes	Read Write	
rep	object: see schema	Yes	Read Write	
rt	array: see schema	Yes	Read Only	Resource Type of the target Resource
if	array: see schema	Yes	Read Only	The OCF Interface set supported by the target Resource
anchor	multiple types: see schema	No	Read Write	
di	multiple types: see schema	No	Read Write	
eps	multiple types: see schema	No	Read Write	
href	multiple types: see schema	Yes	Read Write	
ins	multiple types: see schema	No	Read Write	
p	multiple types: see schema	No	Read Write	
rel	multiple types: see schema	No	Read Write	
title	multiple types: see schema	No	Read Write	
type	multiple types: see schema	No	Read Write	

6.155.6 CRUDN behaviour

Table 314 defines the CRUDN operations that are supported on the "oic.r.bodycompositionanalyser-am, oic.wk.atomicmeasurement" Resource Type.

Table 314 – The CRUDN operations of the Resource with type "rt" = "oic.r.bodycompositionanalyser-am, oic.wk.atomicmeasurement".

Create	Read	Update	Delete	Notify
	get			observe

6.156 Fault Interrupter Switch

6.156.1 Introduction

This Resource describes a fault interrupter switch (on/off/faulted).

The Property "state" is an enum.

A state of "on" means that the switch is on.

A state of "off" means that the switch is off.

A state of "faulted" means the switch is faulted, in such a state an UPDATE is not possible.

6.156.2 Example URI

/FaultSwitchResURI

6.156.3 Resource type

The Resource Type is defined as: "oic.r.switch.fault".

6.156.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Fault Interrupter Switch",
    "version": "20191114",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/FaultSwitchResURI" : {
      "get": {
        "description": "This Resource describes a fault interrupter switch (on/off/faulted).\n\nThe
Property \"state\" is an enum.\n\nA state of \"on\" means that the switch is on.\n\nA state of \"off\"
means that the switch is off.\n\nA state of \"faulted\" means the switch is faulted, in such a state
an UPDATE is not possible.",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example":
              {
                "rt": ["oic.r.switch.fault"],
                "if": ["oic.if.a", "oic.if.baseline"],
                "state": "off"
              },
            "schema": { "$ref": "#/definitions/FaultSwitch" }
          }
        }
      }
    }
  }
}
```

```

32522     }
32523   },
32524   "post": {
32525     "description": "Setting a fault interrupter to a faulted state requires a manual human
32526 intervention, thus it is not allowed in an UPDATE. When in a faulted state it is not possible to
32527 reset to a non-faulted state without also manual human intervention.",
32528     "parameters": [
32529       { "$ref": "#/parameters/interface" },
32530       {
32531         "name": "body",
32532         "in": "body",
32533         "required": true,
32534         "schema": { "$ref": "#/definitions/FaultSwitchUpdate" },
32535         "x-example":
32536           {
32537             "state": "on"
32538           }
32539       }
32540     ],
32541     "responses": {
32542       "200": {
32543         "description": "Success path response as would be provided for an UPDATE as shown in
32544 the example for \"post\".",
32545         "x-example":
32546           {
32547             "state": "on"
32548           },
32549         "schema": { "$ref": "#/definitions/FaultSwitch" }
32550       }
32551     }
32552   }
32553 },
32554 "parameters": {
32555   "interface": {
32556     "in": "query",
32557     "name": "if",
32558     "type": "string",
32559     "enum": ["oic.if.a", "oic.if.baseline"]
32560   }
32561 },
32562 "definitions": {
32563   "FaultSwitch": {
32564     "properties": {
32565       "rt": {
32566         "description": "The Resource Type.",
32567         "items": {
32568           "enum": ["oic.r.switch.fault"],
32569           "maxLength": 64,
32570           "type": "string"
32571         },
32572         "minItems": 1,
32573         "uniqueItems": true,
32574         "readOnly": true,
32575         "type": "array"
32576       },
32577       "state": {
32578         "description": "The status of the switch.",
32579         "enum": ["on", "off", "faulted"],
32580         "type": "string"
32581       }
32582     },
32583     "n": {
32584       "$ref":
32585         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
32586 schema.json#/definitions/n"
32587     },
32588     "id": {
32589       "$ref":
32590         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
32591 schema.json#/definitions/id"
32592     },
32593     "if": {

```

```

32594         "description": "The OCF Interface set supported by this Resource.",
32595         "items": {
32596             "enum": [
32597                 "oic.if.a",
32598                 "oic.if.baseline"
32599             ],
32600             "type": "string"
32601         },
32602         "minItems": 2,
32603         "uniqueItems": true,
32604         "readOnly": true,
32605         "type": "array"
32606     }
32607 },
32608     "type": "object",
32609     "required": ["state"]
32610 },
32611     "FaultSwitchUpdate" : {
32612         "properties": {
32613             "state": {
32614                 "description": "The status of the switch.",
32615                 "enum": ["on", "off"],
32616                 "type": "string"
32617             }
32618         },
32619         "type": "object",
32620         "required": ["state"]
32621     }
32622 }
32623 }
32624

```

32625 6.156.5 Property definition

32626 Table 315 defines the Properties that are part of the "oic.r.switch.fault" Resource Type.

32627 **Table 315 – The Property definitions of the Resource with type "rt" = "oic.r.switch.fault".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
state	string	Yes	Read Write	The status of the switch.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
state	string	Yes	Read Write	The status of the switch.

32628 6.156.6 CRUDN behaviour

32629 Table 316 defines the CRUDN operations that are supported on the "oic.r.switch.fault" Resource
32630 Type.

32631 **Table 316 – The CRUDN operations of the Resource with type "rt" = "oic.r.switch.fault".**

Create	Read	Update	Delete	Notify
	get	post		observe

32632 6.157 HVAC Capacity

32633 6.157.1 Introduction

32634 This Resource describes the capacity (heating or cooling) of a HVAC system.

32635 "capacity" is a number in units of kW (kilowatts).

32636 To convert from kW to other units that may be commonly used in certain geographic locales the
32637 following conversions should be applied:

32638 - to convert to BTU/hr: $\text{BTU/hr} = 3412.142 * \text{kW}$

32639 - to convert to ton: $\text{ton} = \text{kW}/3.5168525$

32640 6.157.2 Example URI

32641 /HVACCapacityResURI

32642 6.157.3 Resource type

32643 The Resource Type is defined as: "oic.r.hvac.capacity".

32644 6.157.4 OpenAPI 2.0 definition

```
32645 {
32646   "swagger": "2.0",
32647   "info": {
32648     "title": "HVAC Capacity",
32649     "version": "20190724",
32650     "license": {
32651       "name": "OCF Data Model License",
32652       "url":
32653         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
32654         CENSE.md",
32655       "x-copyright": "copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
32656     },
32657     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
32658   },
32659   "schemes": ["http"],
32660   "consumes": ["application/json"],
32661   "produces": ["application/json"],
32662   "paths": {
32663     "/HVACCapacityResURI" : {
32664       "get": {
32665         "description": "This Resource describes the capacity (heating or cooling) of a HVAC
32666         system.\n \"capacity\" is a number in units of kW (kilowatts).\n To convert from kW to other units
32667         that may be commonly used in certain geographic locales the following conversions should be
32668         applied:\n - to convert to BTU/hr:  $\text{BTU/hr} = 3412.142 * \text{kW}$ \n - to convert to ton:  $\text{ton} =$ 
32669          $\text{kW}/3.5168525$ ",
32670         "parameters": [
32671           { "$ref": "#/parameters/interface" }
32672         ],
32673         "responses": {
32674           "200": {
32675             "description": "RETRIEVES the current capacity.",
32676             "x-example":
32677               {
32678                 "rt": ["oic.r.hvac.capacity"],
32679                 "if": ["oic.if.r", "oic.if.baseline"],
32680                 "capacity": 2.5
32681               },
32682             "schema": { "$ref": "#/definitions/capacity" }
32683           }
32684         }
32685       }
32686     },
32687     "parameters": {
32688       "interface": {
32689         "in": "query",
32690         "name": "if",
32691         "type": "string",
32692         "enum": ["oic.if.r", "oic.if.baseline"]
32693       }
32694     }
32695   }
32696 }
```

```

},
"definitions": {
  "capacity": {
    "properties": {
      "rt": {
        "description": "The Resource Type.",
        "items": {
          "enum": ["oic.r.hvac.capacity"],
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "uniqueItems": true,
        "readOnly": true,
        "type": "array"
      },
      "n": {
        "description": "The rated capacity for the Device.",
        "minimum": 0,
        "exclusiveMinimum": true,
        "readOnly": true,
        "type": "number"
      },
      "id": {
        "description": "The OCF Interface set supported by this Resource.",
        "items": {
          "enum": [
            "oic.if.r",
            "oic.if.baseline"
          ],
          "type": "string"
        },
        "minItems": 2,
        "uniqueItems": true,
        "readOnly": true,
        "type": "array"
      }
    },
    "type": "object",
    "required": ["capacity"]
  }
}

```

6.157.5 Property definition

Table 317 defines the Properties that are part of the "oic.r.hvac.capacity" Resource Type.

Table 317 – The Property definitions of the Resource with type "rt" = "oic.r.hvac.capacity".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
capacity	number	Yes	Read Only	The rated capacity for the Device.
n	multiple types: see schema	No	Read Write	

id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

6.157.6 CRUDN behaviour

Table 318 defines the CRUDN operations that are supported on the "oic.r.hvac.capacity" Resource Type.

Table 318 – The CRUDN operations of the Resource with type "rt" = "oic.r.hvac.capacity".

Create	Read	Update	Delete	Notify
	get			observe

6.158 Media Audio Resource Type

6.158.1 Introduction

This OCF Resource specifies the audio media types that an OCF Device supports.

6.158.2 Example URI

/MediaAudioResURI

6.158.3 Resource type

The Resource Type is defined as: "oic.r.media.audio".

6.158.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Media Audio Resource Type",
    "version": "2019-11-27",
    "license": {
      "name": "OCF Data Model License",
      "url": "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/MediaAudioResURI" : {
      "get": {
        "description": "This OCF Resource specifies the audio media types that an OCF Device
supports.",
        "parameters": [
          {"$ref": "#/parameters/interface-r"}
        ],
        "responses": {
          "200": {
            "description": "Retrieves the audio information for the specified or the current
media.",
            "x-example": {
              "rt": ["oic.r.media.audio"],
              "id": "unique_example_id",
              "mediacore": {
                "title": "Song 1",
                "description": "Long user-friendly synopsis of Song 1",
                "mimetype": "audio/mpeg3",
                "mediafile": "file://example/url/Song1.mp3",
```

```

32801         "genres": [{"category": "Music", "subcategory": "Rock"}, {"category": "Music",
32802 "subcategory": "Pop"}],
32803         "ratinginfo": [{"ratingorganization": "none", "rating": "Parental Advisory -
32804 Explicit Content"}],
32805         "identificationnumber": "ISSN:1234-5678",
32806         "datetime": "2018-06-23T20:22:59-08:00",
32807         "mediaartwork": [
32808             {
32809                 "rt": ["oic.r.icon"],
32810                 "mimetype": "image/png",
32811                 "width": 256,
32812                 "height": 256,
32813                 "media": "file://example/url/song1.png"
32814             }
32815         ],
32816         "copyright": "Copyright notice by the copyright holder for Song 1"
32817     },
32818     "artists": [
32819         "Artist 1",
32820         "Artist 2"
32821     ],
32822     "album": "Album Title 1",
32823     "albumartwork": [
32824         {
32825             "rt": ["oic.r.icon"],
32826             "mimetype": "image/png",
32827             "width": 256,
32828             "height": 256,
32829             "media": "file://example/url/album1.png"
32830         }
32831     ],
32832     "sdp": [
32833         "m=audio 2 RTP/AVP 97",
32834         "a=rtpmap:97 MP4A-LATM/90000"
32835     ],
32836     "duration": "P0Y0M0DT0H4M27S",
32837     "tracknumber": 2,
32838     "producers": [
32839         "Producer 1",
32840         "Producer 2"
32841     ],
32842     "composers": [
32843         "Composer 1",
32844         "Composer 2"
32845     ],
32846     "language": "en"
32847 },
32848 "schema": {"$ref": "#/definitions/MediaAudio"}
32849 }
32850 }
32851 },
32852 "post": {
32853     "description": "Sets the Media Audio properties.",
32854     "parameters": [
32855         {"$ref": "#/parameters/interface-rw"},
32856         {
32857             "name": "body",
32858             "in": "body",
32859             "required": true,
32860             "x-example": {
32861                 "mediacore": {
32862                     "title": "Song 1",
32863                     "description": "Long user-friendly synopsis of Song 1",
32864                     "mimetype": "audio/mpeg3",
32865                     "mediafile": "file://example/url/Song1.mp3",
32866                     "genres": [{"category": "Music", "subcategory": "Rock"}, {"category": "Music",
32867 "subcategory": "Pop"}],
32868                     "ratinginfo": [{"ratingorganization": "none", "rating": "Parental Advisory -
32869 Explicit Content"}],
32870                     "identificationnumber": "ISSN:1234-5678",
32871                     "datetime": "2018-06-23T20:22:59-08:00",
32872                     "mediaartwork": [

```

```

32873         {
32874             "mimetype": "image/png",
32875             "width": 256,
32876             "height": 256,
32877             "media": "file://example/url/song1.png"
32878         }
32879     ],
32880     "copyright": "Copyright notice by the copyright holder for Song 1"
32881 },
32882 "artists": [
32883     "Artist 1",
32884     "Artist 2"
32885 ],
32886 "album": "Album Title 1",
32887 "albumartwork": [
32888     {
32889         "mimetype": "image/png",
32890         "width": 256,
32891         "height": 256,
32892         "media": "file://example/url/album1.png"
32893     }
32894 ],
32895 "sdp": [
32896     "m=audio 2 RTP/AVP 97",
32897     "a=rtpmap:97 MP4A-LATM/90000"
32898 ],
32899 "duration": "P0Y0M0DT0H4M27S",
32900 "tracknumber": 2,
32901 "producers": [
32902     "Producer 1",
32903     "Producer 2"
32904 ],
32905 "composers": [
32906     "Composer 1",
32907     "Composer 2"
32908 ],
32909 "language": "en"
32910 },
32911 "schema": {"$ref": "#/definitions/MediaAudioUpdate"}
32912 }
32913 ],
32914 "responses": {
32915     "200": {
32916         "description": "Sets the audio information for the specified or the current media.",
32917         "x-example": {
32918             "mediacore": {
32919                 "title": "Song 1",
32920                 "description": "Long user-friendly synopsis of Song 1",
32921                 "mimetype": "audio/mpeg3",
32922                 "mediafile": "file://example/url/Song1.mp3",
32923                 "genres": [{"category": "Music", "subcategory": "Rock"}, {"category": "Music",
32924 "subcategory": "Pop"}],
32925                 "ratinginfo": [{"ratingorganization": "none", "rating": "Parental Advisory -
32926 Explicit Content"}],
32927                 "identificationnumber": "ISSN:1234-5678",
32928                 "datetime": "2018-06-23T20:22:59-08:00",
32929                 "mediaartwork": [
32930                     {
32931                         "rt": ["oic.r.icon"],
32932                         "mimetype": "image/png",
32933                         "width": 256,
32934                         "height": 256,
32935                         "media": "file://example/url/song1.png"
32936                     }
32937                 ],
32938                 "copyright": "Copyright notice by the copyright holder for Song 1"
32939             },
32940             "artists": [
32941                 "Artist 1",
32942                 "Artist 2"
32943             ],
32944             "album": "Album Title 1",

```

```

32945         "albumartwork": [
32946             {
32947                 "rt": ["oic.r.icon"],
32948                 "mimetype": "image/png",
32949                 "width": 256,
32950                 "height": 256,
32951                 "media": "file://example/url/album1.png"
32952             }
32953         ],
32954         "sdp": [
32955             "m=audio 2 RTP/AVP 97",
32956             "a=rtpmap:97 MP4A-LATM/90000"
32957         ],
32958         "duration": "P0Y0M0DT0H4M27S",
32959         "tracknumber": 2,
32960         "producers": [
32961             "Producer 1",
32962             "Producer 2"
32963         ],
32964         "composers": [
32965             "Composer 1",
32966             "Composer 2"
32967         ],
32968         "language": "en"
32969     },
32970     "schema": {"$ref": "#/definitions/MediaAudioUpdate"}
32971 }
32972 }
32973 }
32974 }
32975 },
32976 "parameters": {
32977     "interface-r" : {
32978         "in" : "query",
32979         "name" : "if",
32980         "type" : "string",
32981         "enum" : ["oic.if.rw", "oic.if.baseline"]
32982     },
32983     "interface-rw" : {
32984         "in" : "query",
32985         "name" : "if",
32986         "type" : "string",
32987         "enum" : ["oic.if.rw"]
32988     }
32989 },
32990 "definitions": {
32991     "MediaAudio" : {
32992         "properties": {
32993             "rt": {
32994                 "description": "The Resource Type of Media Audio",
32995                 "items": {
32996                     "enum": ["oic.r.media.audio"],
32997                     "type": "string"
32998                 },
32999                 "minItems": 1,
33000                 "uniqueItems": true,
33001                 "readOnly": true,
33002                 "type": "array"
33003             },
33004             "mediacore": {
33005                 "description": "The Media Core Properties common on all Media Resource Types",
33006                 "$ref":
33007 "https://openconnectivityfoundation.github.io/IoTDataModels/MediaCoreResURI.swagger.json#/definition
33008 s/MediaCore"
33009             },
33010             "artists" : {
33011                 "description": "List of artists that recorded the song",
33012                 "items": {
33013                     "type": "string"
33014                 },
33015                 "minItems": 1,
33016                 "type": "array"

```

```

33017     },
33018     "album" : {
33019         "description": "Which album the song and picture belong to (if applicable)",
33020         "type": "string"
33021     },
33022     "albumartwork" : {
33023         "description": "The array of icons that are used as the album artwork.",
33024         "items": {
33025             "$ref": "https://openconnectivityfoundation.github.io/core-
33026 extensions/swagger2.0/oic.r.icon.swagger.json#/definitions/Icon"
33027         },
33028         "minItems": 1,
33029         "type": "array"
33030     },
33031     "tracknumber" : {
33032         "description": "The track number from the album",
33033         "type": "integer"
33034     },
33035     "sdp" : {
33036         "description": "Array of strings, a string for each Session Description Protocol syntax.",
33037         "items": {
33038             "description": "Session Description Protocol is a format for describing streaming media
33039 communications parameters using the media and attribute lines defined in RFC4566.",
33040             "type": "string"
33041         },
33042         "minItems": 1,
33043         "type": "array"
33044     },
33045     "duration": {
33046         "$ref": "https://openconnectivityfoundation.github.io/core/schemas/oic.types-
33047 schema.json#/definitions/duration",
33048         "description": "Duration is the total length of the media audio with format pattern
33049 according to ISO 8601 duration. For example, P0Y0M0DT0H4M27S represents a duration of 4 minutes, and
33050 27 seconds."
33051     },
33052     "producers" : {
33053         "description": "List of producers that produced the song",
33054         "items": {
33055             "type": "string"
33056         },
33057         "minItems": 1,
33058         "type": "array"
33059     },
33060     "composers" : {
33061         "description": "List of composers that wrote the song",
33062         "items": {
33063             "type": "string"
33064         },
33065         "minItems": 1,
33066         "type": "array"
33067     },
33068     "language": {
33069         "$ref": "https://openconnectivityfoundation.github.io/core/schemas/oic.types-
33070 schema.json#/definitions/language-tag",
33071         "description": "Current language of the audio media content with format pattern according
33072 to RFC 5646 language tag"
33073     },
33074     "n": {
33075         "$ref":
33076 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
33077 schema.json#/definitions/n"
33078     },
33079     "id": {
33080         "$ref":
33081 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
33082 schema.json#/definitions/id"
33083     },
33084     "if": {
33085         "description": "The OCF Interface set supported by this Resource",
33086         "items": {
33087             "enum": ["oic.if.rw", "oic.if.baseline"],
33088             "type": "string"

```

```

33089         },
33090         "minItems": 1,
33091         "uniqueItems": true,
33092         "readOnly": true,
33093         "type": "array"
33094     }
33095 },
33096 "type": "object",
33097 "required": ["mediacore"]
33098 },
33099 "MediaAudioUpdate" : {
33100     "properties": {
33101         "mediacore": {
33102             "description": "The Media Core Properties common on all Media Resource Types,",
33103             "$ref":
33104 "https://openconnectivityfoundation.github.io/IoTDataModels/MediaCoreResURI.swagger.json#/definition
33105 s/MediaCore"
33106         },
33107         "artists" : {
33108             "description": "List of artists that recorded the song",
33109             "items": {
33110                 "type": "string"
33111             },
33112             "minItems": 1,
33113             "type": "array"
33114         },
33115         "album" : {
33116             "description": "Which album the song and picture belong to (if applicable)",
33117             "type": "string"
33118         },
33119         "albumartwork" : {
33120             "description": "The array of icons that are used as the album artwork.",
33121             "items": {
33122                 "$ref": "https://openconnectivityfoundation.github.io/core-
33123 extensions/swagger2.0/oic.r.icon.swagger.json#/definitions/Icon"
33124             },
33125             "minItems": 1,
33126             "type": "array"
33127         },
33128         "tracknumber" : {
33129             "description": "The track number from the album",
33130             "type": "integer"
33131         },
33132         "sdp" : {
33133             "description": "Array of strings, a string for each Session Description Protocol syntax.",
33134             "items": {
33135                 "description": "Session Description Protocol is a format for describing streaming media
33136 communications parameters using the media and attribute lines defined in RFC4566.",
33137                 "type": "string"
33138             },
33139             "minItems": 1,
33140             "type": "array"
33141         },
33142         "duration": {
33143             "$ref": "https://openconnectivityfoundation.github.io/core/schemas/oic.types-
33144 schema.json#/definitions/duration",
33145             "description": "Duration is the total length of the media audio with format pattern
33146 according to ISO 8601 duration. For example, P0Y0M0DT0H4M27S represents a duration of 4 minutes, and
33147 27 seconds."
33148         },
33149         "producers" : {
33150             "description": "List of producers that produced the song",
33151             "items": {
33152                 "type": "string"
33153             },
33154             "minItems": 1,
33155             "type": "array"
33156         },
33157         "composers" : {
33158             "description": "List of composers that wrote the song",
33159             "items": {
33160                 "type": "string"

```

```

33161         },
33162         "minItems": 1,
33163         "type": "array"
33164     },
33165     "language": {
33166         "$ref": "https://openconnectivityfoundation.github.io/core/schemas/oic.types-
33167 schema.json#/definitions/language-tag",
33168         "description": "Current language of the audio media content with format pattern according
33169 to RFC 5646 language tag"
33170     },
33171     "n": {
33172         "$ref":
33173 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
33174 schema.json#/definitions/n"
33175     }
33176 },
33177 "type" : "object",
33178 "required": ["mediacore"]
33179 }
33180 }
33181 }
33182

```

33183 6.158.5 Property definition

33184 Table 319 defines the Properties that are part of the "oic.r.media.audio" Resource Type.

33185 **Table 319 – The Property definitions of the Resource with type "rt" = "oic.r.media.audio".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type of Media Audio
mediacore	multiple types: see schema	Yes	Read Write	The Media Core Properties common on all Media Resource Types
artists	array: see schema	No	Read Write	List of artists that recorded the song
album	string	No	Read Write	Which album the song and picture belong to (if applicable)
albumartwork	array: see schema	No	Read Write	The array of icons that are used as the album artwork.
tracknumber	integer	No	Read Write	The track number from the album
sdp	array: see schema	No	Read Write	Array of strings, a string for each Session Description Protocol syntax.
duration	multiple types: see schema	No	Read Write	Duration is the total length of the media audio with format pattern according to ISO 8601 duration. For example, P0Y0M0DT0H4M27S represents a duration of 4 minutes, and 27 seconds.

producers	array: see schema	No	Read Write	List of producers that produced the song
composers	array: see schema	No	Read Write	List of composers that wrote the song
language	multiple types: see schema	No	Read Write	Current language of the audio media content with format pattern according to RFC 5646 language tag
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource
mediacore	multiple types: see schema	Yes	Read Write	The Media Core Properties common on all Media Resource Types,
artists	array: see schema	No	Read Write	List of artists that recorded the song
album	string	No	Read Write	Which album the song and picture belong to (if applicable)
albumartwork	array: see schema	No	Read Write	The array of icons that are used as the album artwork.
tracknumber	integer	No	Read Write	The track number from the album
sdp	array: see schema	No	Read Write	Array of strings, a string for each Session Description Protocol syntax.
duration	multiple types: see schema	No	Read Write	Duration is the total length of the media audio with format pattern according to ISO 8601 duration. For example, P0Y0M0DT0H4M27S represents a duration of 4 minutes, and 27 seconds.
producers	array: see schema	No	Read Write	List of producers that produced the song
composers	array: see schema	No	Read Write	List of composers that wrote the song
language	multiple types: see schema	No	Read Write	Current language of the audio media content with format pattern according to RFC 5646 language tag

n	multiple types: see schema	No	Read Write	
---	----------------------------	----	------------	--

6.158.6 CRUDN behaviour

Table 320 defines the CRUDN operations that are supported on the "oic.r.media.audio" Resource Type.

Table 320 – The CRUDN operations of the Resource with type "rt" = "oic.r.media.audio".

Create	Read	Update	Delete	Notify
	get	post		observe

6.159 Media Core Resource Type

6.159.1 Introduction

This OCF Resource specifies the core media types that an OCF Device supports.

6.159.2 Example URI

/MediaCoreResURI

6.159.3 Resource type

The Resource Type is defined as: "oic.r.media.core".

6.159.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Media Core Resource Type",
    "version": "2019-11-27",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/MediaCoreResURI" : {
      "get": {
        "description": "This OCF Resource specifies the core media types that an OCF Device
supports.",
        "parameters": [
          {"$ref": "#/parameters/interface-r"}
        ],
        "responses": {
          "200": {
            "description" : "Retrieves the core information for the specified or the current
media.",
            "x-example": {
              "rt": ["oic.r.media.core"],
              "id": "unique_example_id",
              "title": "PDF File 1",
              "description": "Long user-friendly synopsis of PDF File 1",
              "mimetype": "application/pdf",
              "mediafile": "file://example/url/PDF_File1.pdf",
              "genres": [{"category": "Music", "subcategory": "Rock"}, {"category": "Music",
"subcategory": "Pop"}],
              "ratinginfo": [{"ratingorganization": "none", "rating": "Parental Advisory - Explicit
Content"}],
              "identificationnumber": "ISSN:1234-5678",
```

```

33239         "datetime": "2018-06-23T20:22:59-08:00",
33240         "mediaartwork": [
33241             {
33242                 "rt": ["oic.r.icon"],
33243                 "mimetype": "image/png",
33244                 "width": 256,
33245                 "height": 256,
33246                 "media": "file://example/url/medial.png"
33247             }
33248         ],
33249         "copyright": "Copyright notice by the copyright holder for PDF File 1"
33250     },
33251     "schema": {"$ref": "#/definitions/MediaCore"}
33252 }
33253 },
33254 ],
33255 "post": {
33256     "description": "Sets the Media Core properties.",
33257     "parameters": [
33258         {"$ref": "#/parameters/interface-rw"},
33259         {
33260             "name": "body",
33261             "in": "body",
33262             "required": true,
33263             "x-example": {
33264                 "title": "New PDF File 1",
33265                 "description": "Long user-friendly synopsis of PDF File 1",
33266                 "mimetype": "application/pdf",
33267                 "mediafile": "file://example/url/PDF_File1.pdf",
33268                 "genres": [{"category": "Music", "subcategory": "Rock"}, {"category": "Music",
33269 "subcategory": "Pop"}],
33270                 "ratinginfo": [{"ratingorganization": "none", "rating": "Parental Advisory - Explicit
33271 Content"}],
33272                 "identificationnumber": "ISSN:1234-5678",
33273                 "datetime": "2018-06-23T20:22:59-08:00",
33274                 "mediaartwork": [
33275                     {
33276                         "mimetype": "image/png",
33277                         "width": 256,
33278                         "height": 256,
33279                         "media": "file://example/url/medial.png"
33280                     }
33281                 ],
33282                 "copyright": "Copyright notice by the copyright holder for PDF File 1"
33283             },
33284             "schema": {"$ref": "#/definitions/MediaCoreUpdate"}
33285         }
33286     ],
33287     "responses": {
33288         "200": {
33289             "description": "Sets the core information for the specified or the current media.",
33290             "x-example": {
33291                 "title": "PDF File 1",
33292                 "description": "Long user-friendly synopsis of PDF File 1",
33293                 "mimetype": "application/pdf",
33294                 "mediafile": "file://example/url/PDF_File1.pdf",
33295                 "genres": [{"category": "Music", "subcategory": "Rock"}, {"category": "Music",
33296 "subcategory": "Pop"}],
33297                 "ratinginfo": [{"ratingorganization": "none", "rating": "Parental Advisory - Explicit
33298 Content"}],
33299                 "identificationnumber": "ISSN:1234-5678",
33300                 "datetime": "2018-06-23T20:22:59-08:00",
33301                 "mediaartwork": [
33302                     {
33303                         "rt": ["oic.r.icon"],
33304                         "mimetype": "image/png",
33305                         "width": 256,
33306                         "height": 256,
33307                         "media": "file://example/url/medial.png"
33308                     }
33309                 ],
33310                 "copyright": "Copyright notice by the copyright holder for PDF File 1"

```

```

33311         },
33312         "schema": {"$ref": "#/definitions/MediaCoreUpdate"}
33313     }
33314 }
33315 }
33316 }
33317 },
33318 "parameters": {
33319     "interface-r" : {
33320         "in" : "query",
33321         "name" : "if",
33322         "type" : "string",
33323         "enum" : ["oic.if.rw", "oic.if.baseline"]
33324     },
33325     "interface-rw" : {
33326         "in" : "query",
33327         "name" : "if",
33328         "type" : "string",
33329         "enum" : ["oic.if.rw"]
33330     }
33331 },
33332 "definitions": {
33333     "MediaCore" : {
33334         "properties": {
33335             "rt": {
33336                 "description": "The Resource Type of Media Core",
33337                 "items": {
33338                     "enum": ["oic.r.media.core"],
33339                     "type": "string"
33340                 },
33341                 "minItems": 1,
33342                 "uniqueItems": true,
33343                 "readOnly": true,
33344                 "type": "array"
33345             },
33346             "title" : {
33347                 "description": "Specifies the Short user-friendly name of the media.",
33348                 "type": "string"
33349             },
33350             "description" : {
33351                 "description": "Specifies the Long user-friendly synopsis of the media content.",
33352                 "readOnly": true,
33353                 "type": "string"
33354             },
33355             "mimetype" : {
33356                 "description": "Specifies the Mime Type for the media content.",
33357                 "type": "string"
33358             },
33359             "mediafile" : {
33360                 "description": "uri of the Media File for media content. It can be specified as a Relative
33361 Reference or fully-qualified URI.",
33362                 "format": "uri",
33363                 "maxLength": 256,
33364                 "type": "string"
33365             },
33366             "genres" : {
33367                 "description": "Genres for media content.",
33368                 "items": {
33369                     "$ref": "#/definitions/MediaGenre"
33370                 },
33371                 "minItems": 1,
33372                 "type": "array"
33373             },
33374             "ratinginfo" : {
33375                 "description": "The rating information which includes the rating organization and
33376 rating.",
33377                 "items": {
33378                     "properties": {
33379                         "rating": {
33380                             "description": "A category of artistic composition, as in music or literature,
33381 characterized by similarities in form, style, or subject matter. (For instance, the type of song,
33382 e.g. speech, rock, pop)",

```

```

33383         "type": "string"
33384     },
33385     "ratingorganization": {
33386         "description": "These are media content rating organization.",
33387         "type": "string"
33388     }
33389 },
33390 "type": "object"
33391 },
33392 "type": "array"
33393 },
33394 "identificationnumber" : {
33395     "description": "Unique identification number for media content (ISSN:
33396 International_Standard_Serial_Number)",
33397     "type": "string"
33398 },
33399 "datetime" : {
33400     "description": "This is date, time, and timezone of the media content was created using
33401 RFC3339 date-time format.\n\r (e.g: '2018-06-23T20:22:59Z' - Date+Time+Timezone'UTC' or '2018-06-
33402 23T20:22:59-08:00' - Date+Time+Timezone'PST')",
33403     "format": "date-time",
33404     "type": "string"
33405 },
33406 "mediaartwork" : {
33407     "description": "The array of icons that are used as the media artwork.",
33408     "items": {
33409         "$ref": "https://openconnectivityfoundation.github.io/core-
33410 extensions/swagger2.0/oic.r.icon.swagger.json#/definitions/Icon"
33411     },
33412     "minItems": 1,
33413     "type": "array"
33414 },
33415 "copyright" : {
33416     "description": "Copyright notice by the copyright holder.",
33417     "readOnly": true,
33418     "type": "string"
33419 },
33420 "n": {
33421     "$ref":
33422 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
33423 schema.json#/definitions/n"
33424 },
33425 "id": {
33426     "$ref":
33427 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
33428 schema.json#/definitions/id"
33429 },
33430 "if": {
33431     "description": "The OCF Interface set supported by this Resource",
33432     "items": {
33433         "enum": ["oic.if.rw", "oic.if.baseline"],
33434         "type": "string"
33435     },
33436     "minItems": 1,
33437     "uniqueItems": true,
33438     "readOnly": true,
33439     "type": "array"
33440 }
33441 },
33442 "type": "object",
33443 "required": ["title", "mimetype", "mediafile"]
33444 },
33445 "MediaCoreUpdate" : {
33446     "properties": {
33447         "title" : {
33448             "description": "Specifies the Short user-friendly name of the media.",
33449             "type": "string"
33450         },
33451         "description" : {
33452             "description": "Specifies the Long user-friendly synopsis of the media content.",
33453             "readOnly": true,
33454             "type": "string"

```

```

33455     },
33456     "mimetype" : {
33457         "description": "Specifies the Mime Type for the media content.",
33458         "type": "string"
33459     },
33460     "mediafile" : {
33461         "description": "uri of the Media File for media content. It can be specified as a Relative
33462 Reference or fully-qualified URI.",
33463         "format": "uri",
33464         "maxLength": 256,
33465         "type": "string"
33466     },
33467     "genres" : {
33468         "description": "Genres for media content.",
33469         "items": {
33470             "$ref": "#/definitions/MediaGenre"
33471         },
33472         "minItems": 1,
33473         "type": "array"
33474     },
33475     "ratinginfo" : {
33476         "description": "The rating information which includes the rating organization and
33477 rating.",
33478         "items": {
33479             "properties": {
33480                 "rating": {
33481                     "description": "A category of artistic composition, as in music or literature,
33482 characterized by similarities in form, style, or subject matter. (For instance, the type of song,
33483 e.g. speech, rock, pop)",
33484                     "type": "string"
33485                 },
33486                 "ratingorganization": {
33487                     "description": "These are media content rating organization.",
33488                     "type": "string"
33489                 }
33490             },
33491             "type": "object"
33492         },
33493         "type": "array"
33494     },
33495     "identificationnumber" : {
33496         "description": "Unique identification number for media content (ISSN:
33497 International_Standard_Serial_Number)",
33498         "type": "string"
33499     },
33500     "datetime" : {
33501         "description": "This is date, time, and timezone of the media content was created using
33502 RFC3339 date-time format.\n\r (e.g: '2018-06-23T20:22:59Z' - Date+Time+Timezone'UTC' or '2018-06-
33503 23T20:22:59-08:00' - Date+Time+Timezone'PST')",
33504         "format": "date-time",
33505         "type": "string"
33506     },
33507     "mediaartwork" : {
33508         "description": "The array of icons that are used as the media artwork.",
33509         "items": {
33510             "$ref": "https://openconnectivityfoundation.github.io/core-
33511 extensions/swagger2.0/oic.r.icon.swagger.json#/definitions/Icon"
33512         },
33513         "minItems": 1,
33514         "type": "array"
33515     },
33516     "copyright" : {
33517         "description": "Copyright notice by the copyright holder.",
33518         "readOnly": true,
33519         "type": "string"
33520     },
33521     "n": {
33522         "$ref":
33523 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
33524 schema.json#/definitions/n"
33525     }
33526 },

```

```

33527     "type": "object"
33528   },
33529   "MediaGenre": {
33530     "properties": {
33531       "category": {
33532         "$ref":
33533         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.genre.properties-
33534         schema.json#/definitions/category",
33535         "description": "Genre Category for Media Information.",
33536         "readOnly": true
33537       },
33538       "subcategory": {
33539         "$ref":
33540         "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.genre.properties-
33541         schema.json#/definitions/subcategory",
33542         "description": "Genre Sub-Category for Media Information.",
33543         "readOnly": true
33544       }
33545     },
33546     "type": "object",
33547     "required": ["category"]
33548   }
33549 }
33550 }
33551

```

33552 6.159.5 Property definition

33553 Table 321 defines the Properties that are part of the "oic.r.media.core" Resource Type.

33554 **Table 321 – The Property definitions of the Resource with type "rt" = "oic.r.media.core".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type of Media Core
title	string	Yes	Read Write	Specifies the Short user-friendly name of the media.
description	string	No	Read Only	Specifies the Long user-friendly synopsis of the media content.
mimetype	string	Yes	Read Write	Specifies the Mime Type for the media content.
mediafile	string	Yes	Read Write	uri of the Media File for media content. It can be specified as a Relative Reference or fully-qualified URI.
genres	array: see schema	No	Read Write	Genres for media content.
ratinginfo	array: see schema	No	Read Write	The rating information which includes the rating organization and rating.
identificationnumber	string	No	Read Write	Unique identification number for media content (ISSN: International_Standard_Serial_Number)
datetime	string	No	Read Write	This is date, time, and timezone of the media content was created using RFC3339 date-time format. (e.g: '2018-06-23T20:22:59Z' - Date+Time+Timezone'UTC' or '2018-06-23T20:22:59-08:00' - Date+Time+Timezone'PST')
mediaartwork	array: see schema	No	Read Write	The array of icons that are used as the media artwork.
copyright	string	No	Read Only	Copyright notice by the copyright holder.

n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource
title	string		Read Write	Specifies the Short user-friendly name of the media.
description	string		Read Only	Specifies the Long user-friendly synopsis of the media content.
mimetype	string		Read Write	Specifies the Mime Type for the media content.
mediafile	string		Read Write	uri of the Media File for media content. It can be specified as a Relative Reference or fully-qualified URI.
genres	array: see schema		Read Write	Genres for media content.
ratinginfo	array: see schema		Read Write	The rating information which includes the rating organization and rating.
identificationnumber	string		Read Write	Unique identification number for media content (ISSN: International_Standard_Serial_Number)
datetime	string		Read Write	This is date, time, and timezone of the media content was created using RFC3339 date-time format. (e.g: '2018-06-23T20:22:59Z' - Date+Time+Timezone'UTC' or '2018- 06-23T20:22:59-08:00' - Date+Time+Timezone'PST')
mediaartwork	array: see schema		Read Write	The array of icons that are used as the media artwork.
copyright	string		Read Only	Copyright notice by the copyright holder.
n	multiple types: see schema		Read Write	
category	multiple types: see schema	Yes	Read Only	Genre Category for Media Information.
subcategory	multiple types: see schema	No	Read Only	Genre Sub-Category for Media Information.

33555 6.159.6 CRUDN behaviour

33556 Table 322 defines the CRUDN operations that are supported on the "oic.r.media.core" Resource
33557 Type.

33558 **Table 322 – The CRUDN operations of the Resource with type "rt" = "oic.r.media.core".**

Create	Read	Update	Delete	Notify
	get	post		observe

33559 6.160 Media Image Resource Type

33560 6.160.1 Introduction

33561 This OCF Resource specifies the image media types that an OCF Device supports.

33562 6.160.2 Example URI

33563 /MediaImageResURI

33564 6.160.3 Resource type

33565 The Resource Type is defined as: "oic.r.media.image".

33566 6.160.4 OpenAPI 2.0 definition

```
33567 {
33568   "swagger": "2.0",
33569   "info": {
33570     "title": "Media Image Resource Type",
33571     "version": "2019-11-27",
33572     "license": {
33573       "name": "OCF Data Model License",
33574       "url":
33575         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
33576         CENSE.md",
33577       "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
33578     },
33579     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
33580   },
33581   "schemes": ["http"],
33582   "consumes": ["application/json"],
33583   "produces": ["application/json"],
33584   "paths": {
33585     "/MediaImageResURI" : {
33586       "get": {
33587         "description": "This OCF Resource specifies the image media types that an OCF Device
33588         supports.",
33589         "parameters": [
33590           {"$ref": "#/parameters/interface-r"}
33591         ],
33592         "responses": {
33593           "200": {
33594             "description" : "Retrieves the image information for the specified or the current
33595             media.",
33596             "x-example": {
33597               "rt": ["oic.r.media.image"],
33598               "id": "unique_example_id",
33599               "mediacore": {
33600                 "title": "Image 1",
33601                 "description": "Long user-friendly synopsis of Image 1",
33602                 "mimetype": "image/png",
33603                 "mediafile": "file://example/url/Image1.png",
33604                 "genres": [{"category": "Arts", "subcategory": "Culture"}, {"category": "Arts",
33605                 "subcategory": "Religion"}],
33606                 "ratinginfo": [{"ratingorganization": "none", "rating": "General"}],
33607                 "identificationnumber": "ISSN:1234-5678",
33608                 "datetime": "2018-06-23T20:22:59-08:00",
33609                 "copyright": "Copyright notice by the copyright holder for Image 1"
33610               },
33611               "artists": [ "Artist 1", "Artist 2" ],
33612               "album": "Album Title 1",
33613               "albumartwork": [
33614                 {
33615                   "rt": ["oic.r.icon"],
33616                   "mimetype": "image/png",
33617                   "width": 256,
33618                   "height": 256,
33619                   "media": "file://example/url/album1.png"
33620                 }
33621               ],
33622               "width": 2460,
33623               "height": 1667,
33624               "size": 496.765,
33625               "resolution": 200,
33626               "location": "Death Valley National Park, Furnace Creek, CA 92328, USA",
33627               "geolocation": {"latitude": 36.4643308,"longitude": -116.86906640000001, "alt": -62.1}
33628             },

```



```

33629         "schema": {"$ref": "#/definitions/MediaImage"}
33630     }
33631 }
33632 },
33633 "post": {
33634     "description": "Sets the Media Image properties.",
33635     "parameters": [
33636         {"$ref": "#/parameters/interface-rw"},
33637     ],
33638     "name": "body",
33639     "in": "body",
33640     "required": true,
33641     "x-example": {
33642         "mediacore": {
33643             "title": "Image 1",
33644             "description": "Long user-friendly synopsis of Image 1",
33645             "mimetype": "image/png",
33646             "mediafile": "file://example/url/Image1.png",
33647             "genres": [{"category": "Arts", "subcategory": "Culture"}, {"category": "Arts",
33648 "subcategory": "Religion"}],
33649             "ratinginfo": [{"ratingorganization": "none", "rating": "General"}],
33650             "identificationnumber": "ISSN:1234-5678",
33651             "datetime": "2018-06-23T20:22:59-08:00",
33652             "copyright": "Copyright notice by the copyright holder for Image 1"
33653         },
33654         "artists": [ "Artist 1", "Artist 2" ],
33655         "album": "Album Title 1",
33656         "albumartwork": [
33657             {
33658                 "rt": ["oic.r.icon"],
33659                 "mimetype": "image/png",
33660                 "width": 256,
33661                 "height": 256,
33662                 "media": "file://example/url/album1.png"
33663             }
33664         ],
33665         "width": 2460,
33666         "height": 1667,
33667         "size": 496.765,
33668         "resolution": 200,
33669         "location": "Death Valley National Park, Furnace Creek, CA 92328, USA",
33670         "geolocation": {"latitude": 36.4643308, "longitude": -116.86906640000001, "alt": -62.1}
33671     },
33672     "schema": {"$ref": "#/definitions/MediaImageUpdate"}
33673 }
33674 ],
33675 "responses": {
33676     "200": {
33677         "description": "Sets the image information for the specified or the current media.",
33678         "x-example": {
33679             "mediacore": {
33680                 "title": "Image 1",
33681                 "description": "Long user-friendly synopsis of Image 1",
33682                 "mimetype": "image/png",
33683                 "mediafile": "file://example/url/Image1.png",
33684                 "genres": [{"category": "Arts", "subcategory": "Culture"}, {"category": "Arts",
33685 "subcategory": "Religion"}],
33686                 "ratinginfo": [{"ratingorganization": "none", "rating": "General"}],
33687                 "identificationnumber": "ISSN:1234-5678",
33688                 "datetime": "2018-06-23T20:22:59-08:00",
33689                 "copyright": "Copyright notice by the copyright holder for Image 1"
33690             },
33691             "artists": [ "Artist 1", "Artist 2" ],
33692             "album": "Album Title 1",
33693             "albumartwork": [
33694                 {
33695                     "rt": ["oic.r.icon"],
33696                     "mimetype": "image/png",
33697                     "width": 256,
33698                     "height": 256,
33699                     "media": "file://example/url/album1.png"
33700                 }

```

```

33701         ],
33702         "width": 2460,
33703         "height": 1667,
33704         "size": 496.765,
33705         "resolution": 200,
33706         "location": "Death Valley National Park, Furnace Creek, CA 92328, USA",
33707         "geolocation": {"latitude": 36.4643308, "longitude": -116.86906640000001, "alt": -62.1}
33708     },
33709     "schema": {"$ref": "#/definitions/MediaImageUpdate"}
33710 }
33711 }
33712 }
33713 }
33714 },
33715 "parameters": {
33716     "interface-r" : {
33717         "in" : "query",
33718         "name" : "if",
33719         "type" : "string",
33720         "enum" : ["oic.if.rw", "oic.if.baseline"]
33721     },
33722     "interface-rw" : {
33723         "in" : "query",
33724         "name" : "if",
33725         "type" : "string",
33726         "enum" : ["oic.if.rw"]
33727     }
33728 },
33729 "definitions": {
33730     "MediaImage" : {
33731         "properties": {
33732             "rt": {
33733                 "description": "The Resource Type of Media Image",
33734                 "items": {
33735                     "enum": ["oic.r.media.image"],
33736                     "type": "string"
33737                 },
33738                 "minItems": 1,
33739                 "uniqueItems": true,
33740                 "readOnly": true,
33741                 "type": "array"
33742             },
33743             "mediacore": {
33744                 "description": "The Media Core Properties common on all Media Resource Types",
33745                 "$ref":
33746 "https://openconnectivityfoundation.github.io/IoTDataModels/MediaCoreResURI.swagger.json#/definition
33747 s/MediaCore"
33748             },
33749             "artists" : {
33750                 "description": "List of artists",
33751                 "items": {
33752                     "type": "string"
33753                 },
33754                 "minItems": 1,
33755                 "type": "array"
33756             },
33757             "album" : {
33758                 "description": "Which album the picture belongs to (if applicable).",
33759                 "type": "string"
33760             },
33761             "albumartwork" : {
33762                 "description": "The array of icons that are used as the album artwork.",
33763                 "items": {
33764                     "$ref": "https://openconnectivityfoundation.github.io/core-
33765 extensions/swagger2.0/oic.r.icon.swagger.json#/definitions/Icon"
33766                 },
33767                 "minItems": 1,
33768                 "type": "array"
33769             },
33770             "width" : {
33771                 "description": "The resolution of the image",
33772                 "type": "integer"

```

```

33773     },
33774     "height" : {
33775         "description": "The resolution of the image",
33776         "type": "integer"
33777     },
33778     "size" : {
33779         "description": "The size of the image in KB - Kilo-Bytes",
33780         "type": "number"
33781     },
33782     "resolution" : {
33783         "description": "The resolution of the image in pixels",
33784         "type": "integer"
33785     },
33786     "location" : {
33787         "description": "Location is the user-friendly string of the geographic location of the
33788 image.",
33789         "type": "string"
33790     },
33791     "geolocation" : {
33792         "$ref":
33793 "https://openconnectivityfoundation.github.io/IoTDataModels/GeolocationResURI.swagger.json#/definiti
33794 ons/Geolocation"
33795     },
33796     "n": {
33797         "$ref":
33798 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
33799 schema.json#/definitions/n"
33800     },
33801     "id": {
33802         "$ref":
33803 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
33804 schema.json#/definitions/id"
33805     },
33806     "if": {
33807         "description": "The OCF Interface set supported by this Resource",
33808         "items": {
33809             "enum": ["oic.if.rw", "oic.if.baseline"],
33810             "type": "string"
33811         },
33812         "minItems": 1,
33813         "uniqueItems": true,
33814         "readOnly": true,
33815         "type": "array"
33816     }
33817 },
33818 "type" : "object",
33819 "required": ["mediacore"]
33820 },
33821 "MediaImageUpdate" : {
33822     "properties": {
33823         "mediacore": {
33824             "description": "The Media Core Properties common on all Media Resource Types",
33825             "$ref":
33826 "https://openconnectivityfoundation.github.io/IoTDataModels/MediaCoreResURI.swagger.json#/definition
33827 s/MediaCore"
33828         },
33829         "artists" : {
33830             "description": "List of artists",
33831             "items": {
33832                 "type": "string"
33833             },
33834             "minItems": 1,
33835             "type": "array"
33836         },
33837         "album" : {
33838             "description": "Which album the picture belongs to (if applicable).",
33839             "type": "string"
33840         },
33841         "albumartwork" : {
33842             "description": "The array of icons that are used as the album artwork.",
33843             "items": {
33844                 "$ref": "https://openconnectivityfoundation.github.io/core-

```

```

33845 extensions/swagger2.0/oic.r.icon.swagger.json#/definitions/Icon"
33846 },
33847 "minItems": 1,
33848 "type": "array"
33849 },
33850 "width" : {
33851 "description": "The resolution of the image",
33852 "type": "integer"
33853 },
33854 "height" : {
33855 "description": "The resolution of the image",
33856 "type": "integer"
33857 },
33858 "size" : {
33859 "description": "The size of the image in KB - Kilo-Bytes",
33860 "type": "number"
33861 },
33862 "resolution" : {
33863 "description": "The resolution of the image in pixels",
33864 "type": "integer"
33865 },
33866 "location" : {
33867 "description": "Location is the user-friendly string of the geographic location of the
33868 image.",
33869 "type": "string"
33870 },
33871 "geolocation" : {
33872 "$ref":
33873 "https://openconnectivityfoundation.github.io/IoTDataModels/GeolocationResURI.swagger.json#/definiti
33874 ons/Geolocation"
33875 },
33876 "n": {
33877 "$ref":
33878 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
33879 schema.json#/definitions/n"
33880 }
33881 },
33882 "type" : "object",
33883 "required": ["mediacore"]
33884 }
33885 }
33886 }
33887

```

6.160.5 Property definition

Table 323 defines the Properties that are part of the "oic.r.media.image" Resource Type.

Table 323 – The Property definitions of the Resource with type "rt" = "oic.r.media.image".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type of Media Image
mediacore	multiple types: see schema	Yes	Read Write	The Media Core Properties common on all Media Resource Types,
artists	array: see schema	No	Read Write	List of artists
album	string	No	Read Write	Which album the picture belongs to (if applicable).
albumartwork	array: see schema	No	Read Write	The array of icons that are used as the album artwork.
width	integer	No	Read Write	The resolution of the image

height	integer	No	Read Write	The resolution of the image
size	number	No	Read Write	The size of the image in KB - Kilo-Bytes
resolution	integer	No	Read Write	The resolution of the image in pixels
location	string	No	Read Write	Location is the user-friendly string of the geographic location of the image.
geolocation	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource
mediacore	multiple types: see schema	Yes	Read Write	The Media Core Properties common on all Media Resource Types,
artists	array: see schema	No	Read Write	List of artists
album	string	No	Read Write	Which album the picture belongs to (if applicable).
albumartwork	array: see schema	No	Read Write	The array of icons that are used as the album artwork.
width	integer	No	Read Write	The resolution of the image
height	integer	No	Read Write	The resolution of the image
size	number	No	Read Write	The size of the image in KB - Kilo-Bytes
resolution	integer	No	Read Write	The resolution of the image in pixels
location	string	No	Read Write	Location is the user-friendly string of the geographic location of the image.
geolocation	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	

6.160.6 CRUDN behaviour

Table 324 defines the CRUDN operations that are supported on the "oic.r.media.image" Resource Type.

33894 **Table 324 – The CRUDN operations of the Resource with type "rt" = "oic.r.media.image".**

Create	Read	Update	Delete	Notify
	get	post		observe

33895 **6.161 Media Text Resource Type**

33896 **6.161.1 Introduction**

33897 This OCF Resource specifies the text media types that an OCF Device supports.

33898 **6.161.2 Example URI**

33899 /MediaTextResURI

33900 **6.161.3 Resource type**

33901 The Resource Type is defined as: "oic.r.media.text".

33902 **6.161.4 OpenAPI 2.0 definition**

```

33903 {
33904   "swagger": "2.0",
33905   "info": {
33906     "title": "Media Text Resource Type",
33907     "version": "2019-11-27",
33908     "license": {
33909       "name": "OCF Data Model License",
33910       "url":
33911         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
33912         CENSE.md",
33913       "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
33914     },
33915     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
33916   },
33917   "schemes": ["http"],
33918   "consumes": ["application/json"],
33919   "produces": ["application/json"],
33920   "paths": {
33921     "/MediaTextResURI" : {
33922       "get": {
33923         "description": "This OCF Resource specifies the text media types that an OCF Device
33924         supports.",
33925         "parameters": [
33926           {"$ref": "#/parameters/interface-r"}
33927         ],
33928         "responses": {
33929           "200": {
33930             "description": "Retrieves the text information for the specified or the current
33931             media.",
33932             "x-example": {
33933               "rt": ["oic.r.media.text"],
33934               "id": "unique_example_id",
33935               "mediacore": {
33936                 "title": "Book 1",
33937                 "description": "Long user-friendly synopsis of Book 1",
33938                 "mimetype": "text",
33939                 "mediafile": "file://example/url/Book1.pdf",
33940                 "genres": [{"category": "Sports", "subcategory": "Other"}, {"category": "Youth",
33941                 "subcategory": "Other"}],
33942                 "ratinginfo": [{"ratingorganization": "none", "rating": "adult-content"}],
33943                 "identificationnumber": "ISBN: 978-3-16-148410-0",
33944                 "datetime": "2018-06-23T20:22:59-08:00",
33945                 "mediaartwork": [
33946                   {
33947                     "rt": ["oic.r.icon"],
33948                     "mimetype": "image/png",
33949                     "width": 256,
33950                     "height": 256,
33951                     "media": "file://example/url/book1.png"
33952                   }

```

```

33953         ],
33954         "copyright": "Copyright notice by the copyright holder for Book 1"
33955     },
33956     "sdp": [
33957         "m=text 49156 RTP/AVP 100 101",
33958         "a=rtpmap:100 1140/1000",
33959         "a=rtpmap:101 red/1000",
33960         "a=fmtp:101 100/100/100"
33961     ],
33962     "authors": [
33963         "Author 1",
33964         "Author 2"
33965     ],
33966     "publishers": [
33967         "Publisher 1",
33968         "Publisher 2"
33969     ],
33970     "series": [
33971         "Series 1",
33972         "Series 2"
33973     ],
33974     "totalchapters": 28,
33975     "totalpages": 499,
33976     "language": "en"
33977 },
33978 "schema": {"$ref": "#/definitions/MediaText"}
33979 }
33980 }
33981 },
33982 "post": {
33983     "description": "Sets the Media Text properties.",
33984     "parameters": [
33985         {"$ref": "#/parameters/interface-rw"},
33986         {
33987             "name": "body",
33988             "in": "body",
33989             "required": true,
33990             "x-example": {
33991                 "mediacore": {
33992                     "title": "Book 1",
33993                     "description": "Long user-friendly synopsis of Book 1",
33994                     "mimetype": "text",
33995                     "mediafile": "file://example/url/Book1.pdf",
33996                     "genres": [{"category": "Sports", "subcategory": "Other"}, {"category": "Youth",
33997 "subcategory": "Other"}],
33998                     "ratinginfo": [{"ratingorganization": "none", "rating": "adult-content"}],
33999                     "identificationnumber": "ISBN: 978-3-16-148410-0",
34000                     "datetime": "2018-06-23T20:22:59-08:00",
34001                     "mediaartwork": [
34002                         {
34003                             "mimetype": "image/png",
34004                             "width": 256,
34005                             "height": 256,
34006                             "media": "file://example/url/book1.png"
34007                         }
34008                     ],
34009                     "copyright": "Copyright notice by the copyright holder for Book 1"
34010                 },
34011                 "sdp": [
34012                     "m=text 49156 RTP/AVP 100 101",
34013                     "a=rtpmap:100 1140/1000",
34014                     "a=rtpmap:101 red/1000",
34015                     "a=fmtp:101 100/100/100"
34016                 ],
34017                 "authors": [
34018                     "Author 1",
34019                     "Author 2"
34020                 ],
34021                 "publishers": [
34022                     "Publisher 1",
34023                     "Publisher 2"
34024                 ],

```

```

34025         "series": [
34026             "Series 1",
34027             "Series 2"
34028         ],
34029         "totalchapters": 28,
34030         "totalpages": 499,
34031         "language": "en"
34032     },
34033     "schema": {"$ref": "#/definitions/MediaTextUpdate"}
34034 },
34035 ],
34036 "responses": {
34037     "200": {
34038         "description": "Sets the text information for the specified or the current media.",
34039         "x-example": {
34040             "mediacore": {
34041                 "title": "Book 1",
34042                 "description": "Long user-friendly synopsis of Book 1",
34043                 "mimetype": "text",
34044                 "mediafile": "file://example/url/Book1.pdf",
34045                 "genres": [{"category": "Sports", "subcategory": "Other"}, {"category": "Youth",
34046 "subcategory": "Other"}],
34047                 "ratinginfo": [{"ratingorganization": "none", "rating": "adult-content"}],
34048                 "identificationnumber": "ISBN: 978-3-16-148410-0",
34049                 "datetime": "2018-06-23T20:22:59-08:00",
34050                 "mediaartwork": [
34051                     {
34052                         "rt": ["oic.r.icon"],
34053                         "mimetype": "image/png",
34054                         "width": 256,
34055                         "height": 256,
34056                         "media": "file://example/url/book1.png"
34057                     }
34058                 ],
34059                 "copyright": "Copyright notice by the copyright holder for Book 1"
34060             },
34061             "sdp": [
34062                 "m=text 49156 RTP/AVP 100 101",
34063                 "a=rtpmap:100 1140/1000",
34064                 "a=rtpmap:101 red/1000",
34065                 "a=fmtp:101 100/100/100"
34066             ],
34067             "authors": [
34068                 "Author 1",
34069                 "Author 2"
34070             ],
34071             "publishers": [
34072                 "Publisher 1",
34073                 "Publisher 2"
34074             ],
34075             "series": [
34076                 "Series 1",
34077                 "Series 2"
34078             ],
34079             "totalchapters": 28,
34080             "totalpages": 499,
34081             "language": "en"
34082         },
34083         "schema": {"$ref": "#/definitions/MediaTextUpdate"}
34084     }
34085 }
34086 }
34087 },
34088 "parameters": {
34089     "interface-r": {
34090         "in": "query",
34091         "name": "if",
34092         "type": "string",
34093         "enum": ["oic.if.rw", "oic.if.baseline"]
34094     },
34095     "interface-rw": {

```



```

34097         "in" : "query",
34098         "name" : "if",
34099         "type" : "string",
34100         "enum" : ["oic.if.rw"]
34101     }
34102 },
34103 "definitions": {
34104     "MediaText" : {
34105         "properties": {
34106             "rt": {
34107                 "description": "The Resource Type of Media Text",
34108                 "items": {
34109                     "enum": ["oic.r.media.text"],
34110                     "type": "string"
34111                 },
34112                 "minItems": 1,
34113                 "uniqueItems": true,
34114                 "readOnly": true,
34115                 "type": "array"
34116             },
34117             "mediacore": {
34118                 "description": "The Media Core Properties common on all Media Resource Types,",
34119                 "$ref":
34120 "https://openconnectivityfoundation.github.io/IoTDataModels/MediaCoreResURI.swagger.json#/definitions/MediaCore"
34121             },
34122             "sdp" : {
34123                 "description": "Array of strings, a string for each Session Description Protocol syntax.",
34124                 "items": {
34125                     "description": "Session Description Protocol is a format for describing streaming media
34126 communications parameters using the media and attribute lines defined in RFC4566.",
34127                     "type": "string"
34128                 },
34129                 "minItems": 1,
34130                 "type": "array"
34131             },
34132             "authors" : {
34133                 "description": "List of authors that wrote the text",
34134                 "items": {
34135                     "type": "string"
34136                 },
34137                 "minItems": 1,
34138                 "type": "array"
34139             },
34140             "publishers" : {
34141                 "description": "List of publishers that released the text",
34142                 "items": {
34143                     "type": "string"
34144                 },
34145                 "minItems": 1,
34146                 "type": "array"
34147             },
34148             "series" : {
34149                 "description": "List of series for the text",
34150                 "items": {
34151                     "type": "string"
34152                 },
34153                 "minItems": 1,
34154                 "type": "array"
34155             },
34156             "totalchapters" : {
34157                 "description": "The total number of chapters in the text",
34158                 "type": "integer"
34159             },
34160             "totalpages" : {
34161                 "description": "The total number of pages in the text",
34162                 "type": "integer"
34163             },
34164             "language": {
34165                 "$ref": "https://openconnectivityfoundation.github.io/core/schemas/oic.types-
34166 schema.json#/definitions/language-tag",
34167                 "description": "Current language of the text media content with format pattern according
34168

```

```

34169 to RFC 5646 language tag"
34170     },
34171     "n": {
34172         "$ref":
34173         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
34174         schema.json#/definitions/n"
34175     },
34176     "id": {
34177         "$ref":
34178         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
34179         schema.json#/definitions/id"
34180     },
34181     "if": {
34182         "description": "The OCF Interface set supported by this Resource",
34183         "items": {
34184             "enum": ["oic.if.rw", "oic.if.baseline"],
34185             "type": "string"
34186         },
34187         "minItems": 1,
34188         "uniqueItems": true,
34189         "readOnly": true,
34190         "type": "array"
34191     }
34192 },
34193 "type" : "object",
34194 "required": ["mediacore"]
34195 },
34196 "MediaTextUpdate" : {
34197     "properties": {
34198         "mediacore": {
34199             "description": "The Media Core Properties common on all Media Resource Types,",
34200             "$ref":
34201             "https://openconnectivityfoundation.github.io/IoTDataModels/MediaCoreResURI.swagger.json#/definition
34202             s/MediaCore"
34203         },
34204         "sdp" : {
34205             "description": "Array of strings, a string for each Session Description Protocol syntax.",
34206             "items": {
34207                 "description": "Session Description Protocol is a format for describing streaming media
34208                 communications parameters using the media and attribute lines defined in RFC4566.",
34209                 "type": "string"
34210             },
34211             "minItems": 1,
34212             "type": "array"
34213         },
34214         "authors" : {
34215             "description": "List of authors that wrote the text",
34216             "items": {
34217                 "type": "string"
34218             },
34219             "minItems": 1,
34220             "type": "array"
34221         },
34222         "publishers" : {
34223             "description": "List of publishers that released the text",
34224             "items": {
34225                 "type": "string"
34226             },
34227             "minItems": 1,
34228             "type": "array"
34229         },
34230         "series" : {
34231             "description": "List of series for the text",
34232             "items": {
34233                 "type": "string"
34234             },
34235             "minItems": 1,
34236             "type": "array"
34237         },
34238         "totalchapters" : {
34239             "description": "The total number of chapters in the text",
34240             "type": "integer"

```

```

34241     },
34242     "totalpages" : {
34243         "description": "The total number of pages in the text",
34244         "type": "integer"
34245     },
34246     "language": {
34247         "$ref": "https://openconnectivityfoundation.github.io/core/schemas/oic.types-
34248 schema.json#/definitions/language-tag",
34249         "description": "Current language of the text media content with format pattern according
34250 to RFC 5646 language tag"
34251     },
34252     "n": {
34253         "$ref":
34254 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
34255 schema.json#/definitions/n"
34256     },
34257 },
34258 "type" : "object",
34259 "required": ["mediacore"]
34260 }
34261 }
34262 }
34263

```

34264 6.161.5 Property definition

34265 Table 325 defines the Properties that are part of the "oic.r.media.text" Resource Type.

34266 **Table 325 – The Property definitions of the Resource with type "rt" = "oic.r.media.text".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type of Media Text
mediacore	multiple types: see schema	Yes	Read Write	The Media Core Properties common on all Media Resource Types,
sdp	array: see schema	No	Read Write	Array of strings, a string for each Session Description Protocol syntax.
authors	array: see schema	No	Read Write	List of authors that wrote the text
publishers	array: see schema	No	Read Write	List of publishers that released the text
series	array: see schema	No	Read Write	List of series for the text
totalchapters	integer	No	Read Write	The total number of chapters in the text
totalpages	integer	No	Read Write	The total number of pages in the text
language	multiple types: see schema	No	Read Write	Current language of the text media content with format pattern according to RFC 5646 language tag
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	

if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource
mediacore	multiple types: see schema	Yes	Read Write	The Media Core Properties common on all Media Resource Types,
sdp	array: see schema	No	Read Write	Array of strings, a string for each Session Description Protocol syntax.
authors	array: see schema	No	Read Write	List of authors that wrote the text
publishers	array: see schema	No	Read Write	List of publishers that released the text
series	array: see schema	No	Read Write	List of series for the text
totalchapters	integer	No	Read Write	The total number of chapters in the text
totalpages	integer	No	Read Write	The total number of pages in the text
language	multiple types: see schema	No	Read Write	Current language of the text media content with format pattern according to RFC 5646 language tag
n	multiple types: see schema	No	Read Write	

6.161.6 CRUDN behaviour

Table 326 defines the CRUDN operations that are supported on the "oic.r.media.text" Resource Type.

Table 326 – The CRUDN operations of the Resource with type "rt" = "oic.r.media.text".

Create	Read	Update	Delete	Notify
	get	post		observe

6.162 Media Video Resource Type

6.162.1 Introduction

This OCF Resource specifies the video media types that an OCF Device supports.

6.162.2 Example URI

/MediaVideoResURI

6.162.3 Resource type

The Resource Type is defined as: "oic.r.media.video".

6.162.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Media Video Resource Type",
    "version": "2019-11-27",
    "license": {
```

```

34285         "name": "OCF Data Model License",
34286         "url":
34287 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
34288 CENSE.md",
34289         "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
34290     },
34291     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
34292 },
34293 "schemes": ["http"],
34294 "consumes": ["application/json"],
34295 "produces": ["application/json"],
34296 "paths": {
34297     "/MediaVideoResURI" : {
34298         "get": {
34299             "description": "This OCF Resource specifies the video media types that an OCF Device
34300 supports.",
34301             "parameters": [
34302                 {"$ref": "#/parameters/interface-r"}
34303             ],
34304             "responses": {
34305                 "200": {
34306                     "description": "Retrieves the video information for the specified or the current
34307 media.",
34308                     "x-example": {
34309                         "rt": ["oic.r.media.video"],
34310                         "id": "unique_example_id",
34311                         "mediacore": {
34312                             "title": "Video 1",
34313                             "description": "Long user-friendly synopsis of Video 1",
34314                             "mimetype": "video/mp4",
34315                             "mediafile": "file://example/url/Videol.mp4",
34316                             "genres": [{"category": "Movie", "subcategory": "Action"}, {"category": "Movie",
34317 "subcategory": "Western"}],
34318                             "ratinginfo": [{"ratingorganization": "MPAA", "rating": "PG-13"}],
34319                             "identificationnumber": "EDID:1234-5678",
34320                             "datetime": "2018-06-23T20:22:59-08:00",
34321                             "mediaartwork": [
34322                                 {
34323                                     "rt": ["oic.r.icon"],
34324                                     "mimetype": "image/png",
34325                                     "width": 256,
34326                                     "height": 256,
34327                                     "media": "file://example/url/videol.png"
34328                                 }
34329                             ],
34330                             "copyright": "Copyright notice by the copyright holder for Video 1"
34331                         },
34332                         "series": [
34333                             "Series 1",
34334                             "Series 2"
34335                         ],
34336                         "studio": [
34337                             "Studio 1",
34338                             "Studio 2"
34339                         ],
34340                         "cast": [
34341                             "Actor 1",
34342                             "Actress 2"
34343                         ],
34344                         "directors": [
34345                             "Dircector 1",
34346                             "Director 2"
34347                         ],
34348                         "producers": [
34349                             "Producer 1",
34350                             "Producer 2"
34351                         ],
34352                         "writers": [
34353                             "Writer 1",
34354                             "Writer 2"
34355                         ],
34356                         "composers": [

```

```

34357         "Composer 1",
34358         "Composer 2"
34359     ],
34360     "sdp": [
34361         "m=video 51372 RTP/AVP 99",
34362         "a=rtpmap:99 h263-1998/90000"
34363     ],
34364     "width": 1920,
34365     "height": 1080,
34366     "resolution": 200,
34367     "format": "progressive",
34368     "framerate": 30,
34369     "bitdepth": 8,
34370     "size": 44.064,
34371     "duration": "P0Y0M0DT1H22M59S",
34372     "location": "Death Valley National Park, Furnace Creek, CA 92328, USA",
34373     "geolocation": {"latitude": 36.4643308, "longitude": -116.86906640000001, "alt": -
34374 62.1},
34375     "language": "en"
34376 },
34377 "schema": {"$ref": "#/definitions/MediaVideo"}
34378 }
34379 }
34380 },
34381 "post": {
34382     "description": "Sets the Media Video properties.",
34383     "parameters": [
34384         {"$ref": "#/parameters/interface-rw"},
34385         {
34386             "name": "body",
34387             "in": "body",
34388             "required": true,
34389             "x-example": {
34390                 "mediacore": {
34391                     "title": "Video 1",
34392                     "description": "Long user-friendly synopsis of Video 1",
34393                     "mimetype": "video/mp4",
34394                     "mediafile": "file://example/url/Video1.mp4",
34395                     "genres": [{"category": "Movie", "subcategory": "Action"}, {"category": "Movie",
34396 "subcategory": "Western"}],
34397                     "ratinginfo": [{"ratingorganization": "MPAA", "rating": "PG-13"}],
34398                     "identificationnumber": "EDID:1234-5678",
34399                     "datetime": "2018-06-23T20:22:59-08:00",
34400                     "mediaartwork": [
34401                         {
34402                             "mimetype": "image/png",
34403                             "width": 256,
34404                             "height": 256,
34405                             "media": "file://example/url/video1.png"
34406                         }
34407                     ],
34408                     "copyright": "Copyright notice by the copyright holder for Video 1"
34409                 }
34410             },
34411             "Series 1",
34412             "Series 2"
34413         ],
34414         "studio": [
34415             "Studio 1",
34416             "Studio 2"
34417         ],
34418         "cast": [
34419             "Actor 1",
34420             "Actress 2"
34421         ],
34422         "directors": [
34423             "Director 1",
34424             "Director 2"
34425         ],
34426         "producers": [
34427             "Producer 1",
34428             "Producer 2"

```

```

34429     ],
34430     "writers": [
34431         "Writer 1",
34432         "Writer 2"
34433     ],
34434     "composers": [
34435         "Composer 1",
34436         "Composer 2"
34437     ],
34438     "sdp": [
34439         "m=video 51372 RTP/AVP 99",
34440         "a=rtpmap:99 h263-1998/90000"
34441     ],
34442     "width": 1920,
34443     "height": 1080,
34444     "resolution": 2073600,
34445     "format": "progressive",
34446     "framerate": 30,
34447     "bitdepth": 8,
34448     "size": 44.064,
34449     "duration": "P0Y0M0DT1H22M59S",
34450     "location": "Death Valley National Park, Furnace Creek, CA 92328, USA",
34451     "geolocation": {"latitude": 36.4643308, "longitude": -116.86906640000001, "alt": -
62.1},
34452     "language": "en"
34453 },
34454 },
34455 "schema": {"$ref": "#/definitions/MediaVideoUpdate"}
34456 }
34457 ],
34458 "responses": {
34459     "200": {
34460         "description": "Sets the video information for the specified or the current media.",
34461         "x-example": {
34462             "mediacore": {
34463                 "title": "Video 1",
34464                 "description": "Long user-friendly synopsis of Video 1",
34465                 "mimetype": "video/mp4",
34466                 "mediafile": "file:///example/url/Video1.mp4",
34467                 "genres": [{"category": "Movie", "subcategory": "Action"}, {"category": "Movie",
"subcategory": "Western"}],
34468                 "ratinginfo": [{"ratingorganization": "MPAA", "rating": "PG-13"}],
34469                 "identificationnumber": "EDID:1234-5678",
34470                 "datetime": "2018-06-23T20:22:59-08:00",
34471                 "mediaartwork": [
34472                     {
34473                         "rt": ["oic.r.icon"],
34474                         "mimetype": "image/png",
34475                         "width": 256,
34476                         "height": 256,
34477                         "media": "file:///example/url/video1.png"
34478                     }
34479                 ],
34480                 "copyright": "Copyright notice by the copyright holder for Video 1"
34481             },
34482         },
34483         "series": [
34484             "Series 1",
34485             "Series 2"
34486         ],
34487         "studio": [
34488             "Studio 1",
34489             "Studio 2"
34490         ],
34491         "cast": [
34492             "Actor 1",
34493             "Actress 2"
34494         ],
34495         "directors": [
34496             "Dircector 1",
34497             "Director 2"
34498         ],
34499         "producers": [
34500             "Producer 1",

```

```

34501         "Producer 2"
34502     ],
34503     "writers": [
34504         "Writer 1",
34505         "Writer 2"
34506     ],
34507     "composers": [
34508         "Composer 1",
34509         "Composer 2"
34510     ],
34511     "sdp": [
34512         "m=video 51372 RTP/AVP 99",
34513         "a=rtpmap:99 h263-1998/90000"
34514     ],
34515     "width": 1920,
34516     "height": 1080,
34517     "resolution": 200,
34518     "format": "progressive",
34519     "framerate": 30,
34520     "bitdepth": 8,
34521     "size": 44.064,
34522     "duration": "POY0M0DT1H22M59S",
34523     "location": "Death Valley National Park, Furnace Creek, CA 92328, USA",
34524     "geolocation": {"latitude": 36.4643308, "longitude": -116.86906640000001, "alt": -
62.1},
34525     "language": "en"
34526 },
34527 },
34528     "schema": {"$ref": "#/definitions/MediaVideoUpdate"}
34529 }
34530 }
34531 }
34532 }
34533 },
34534 "parameters": {
34535     "interface-r" : {
34536         "in" : "query",
34537         "name" : "if",
34538         "type" : "string",
34539         "enum" : ["oic.if.rw", "oic.if.baseline"]
34540     },
34541     "interface-rw" : {
34542         "in" : "query",
34543         "name" : "if",
34544         "type" : "string",
34545         "enum" : ["oic.if.rw"]
34546     }
34547 },
34548 "definitions": {
34549     "MediaVideo" : {
34550         "properties": {
34551             "rt": {
34552                 "description": "The Resource Type of Media Video",
34553                 "items": {
34554                     "enum": ["oic.r.media.video"],
34555                     "type": "string"
34556                 },
34557                 "minItems": 1,
34558                 "uniqueItems": true,
34559                 "readOnly": true,
34560                 "type": "array"
34561             },
34562             "mediacore": {
34563                 "description": "The Media Core Properties common on all Media Resource Types,",
34564                 "$ref":
34565 "https://openconnectivityfoundation.github.io/IoTDataModels/MediaCoreResURI.swagger.json#/definition
34566 s/MediaCore"
34567             },
34568             "series" : {
34569                 "description": "List of TV Series and episode",
34570                 "items": {
34571                     "type": "string"
34572                 },

```



```

34573         "minItems": 1,
34574         "type": "array"
34575     },
34576     "studio" : {
34577         "description": "List of studios that produced the movie",
34578         "items": {
34579             "type": "string"
34580         },
34581         "minItems": 1,
34582         "type": "array"
34583     },
34584     "cast" : {
34585         "description": "List of casts that acted in the movie",
34586         "items": {
34587             "type": "string"
34588         },
34589         "minItems": 1,
34590         "type": "array"
34591     },
34592     "directors" : {
34593         "description": "List of directors that directed the movie",
34594         "items": {
34595             "type": "string"
34596         },
34597         "minItems": 1,
34598         "type": "array"
34599     },
34600     "producers" : {
34601         "description": "List of producers that produced the movie",
34602         "items": {
34603             "type": "string"
34604         },
34605         "minItems": 1,
34606         "type": "array"
34607     },
34608     "writers" : {
34609         "description": "List of writers that wrote the movie",
34610         "items": {
34611             "type": "string"
34612         },
34613         "minItems": 1,
34614         "type": "array"
34615     },
34616     "composers" : {
34617         "description": "List of composers that wrote the music",
34618         "items": {
34619             "type": "string"
34620         },
34621         "minItems": 1,
34622         "type": "array"
34623     },
34624     "sdp" : {
34625         "description": "Array of strings, a string for each Session Description Protocol syntax.",
34626         "items": {
34627             "description": "Session Description Protocol is a format for describing streaming media
34628 communications parameters using the media and attribute lines defined in RFC4566.",
34629             "type": "string"
34630         },
34631         "minItems": 1,
34632         "type": "array"
34633     },
34634     "width" : {
34635         "description": "The resolution width of the video",
34636         "type": "integer"
34637     },
34638     "height" : {
34639         "description": "The resolution height of the video",
34640         "type": "integer"
34641     },
34642     "resolution" : {
34643         "description": "The resolution of the video in pixels",
34644         "type": "integer"

```

```

34645     },
34646     "format": {
34647         "type": "string",
34648         "description": "The available video formats.",
34649         "enum": [
34650             "progressive",
34651             "interlaced",
34652             "HDR",
34653             "HDR10",
34654             "HDR10+",
34655             "Dolby Vision"
34656         ]
34657     },
34658     "framerate" : {
34659         "description": "The frame rate of the video in frames per second.",
34660         "type": "integer"
34661     },
34662     "bitdepth" : {
34663         "description": "Bit (Colour) depth is either the number of bits used to indicate the
34664 colour of a single pixel, in a bitmapped image or video framebuffer, or the number of bits used for
34665 each colour component of a single pixel.",
34666         "type": "integer"
34667     },
34668     "size" : {
34669         "description": "The size of the video in KB - Kilo-Bytes",
34670         "type": "number"
34671     },
34672     "duration": {
34673         "$ref": "https://openconnectivityfoundation.github.io/core/schemas/oic.types-
34674 schema.json#/definitions/duration",
34675         "description": "Duration is the total length of the media audio with format pattern
34676 according to ISO 8601 (duration). For example, P0Y0M0DT1H22M59S represents a duration of 1 hour, 22
34677 minutes, and 59 seconds."
34678     },
34679     "location" : {
34680         "description": "Location is the user-friendly string of the geographic location of the
34681 video.",
34682         "type": "string"
34683     },
34684     "geolocation" : {
34685         "$ref":
34686 "https://openconnectivityfoundation.github.io/IoTDataModels/GeolocationResURI.swagger.json#/definiti
34687 ons/Geolocation"
34688     },
34689     "language": {
34690         "$ref": "https://openconnectivityfoundation.github.io/core/schemas/oic.types-
34691 schema.json#/definitions/language-tag",
34692         "description": "Current language of the video media content with format pattern according
34693 to RFC 5646 language tag"
34694     },
34695     "n": {
34696         "$ref":
34697 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
34698 schema.json#/definitions/n"
34699     },
34700     "id": {
34701         "$ref":
34702 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
34703 schema.json#/definitions/id"
34704     },
34705     "if": {
34706         "description": "The OCF Interface set supported by this Resource",
34707         "items": {
34708             "enum": ["oic.if.rw", "oic.if.baseline"],
34709             "type": "string"
34710         },
34711         "minItems": 1,
34712         "uniqueItems": true,
34713         "readOnly": true,
34714         "type": "array"
34715     }
34716 },

```

```

34717         "type" : "object",
34718         "required": ["mediacore"]
34719     },
34720     "MediaVideoUpdate" : {
34721         "properties": {
34722             "mediacore": {
34723                 "description": "The Media Core Properties common on all Media Resource Types,",
34724                 "$ref":
34725                 "https://openconnectivityfoundation.github.io/IoTDataModels/MediaCoreResURI.swagger.json#/definitions/MediaCore"
34726             },
34727             "series" : {
34728                 "description": "List of TV Series and episode",
34729                 "items": {
34730                     "type": "string"
34731                 },
34732                 "minItems": 1,
34733                 "type": "array"
34734             },
34735             "studio" : {
34736                 "description": "List of studios that produced the movie",
34737                 "items": {
34738                     "type": "string"
34739                 },
34740                 "minItems": 1,
34741                 "type": "array"
34742             },
34743             "cast" : {
34744                 "description": "List of casts that acted in the movie",
34745                 "items": {
34746                     "type": "string"
34747                 },
34748                 "minItems": 1,
34749                 "type": "array"
34750             },
34751             "directors" : {
34752                 "description": "List of directors that directed the movie",
34753                 "items": {
34754                     "type": "string"
34755                 },
34756                 "minItems": 1,
34757                 "type": "array"
34758             },
34759             "producers" : {
34760                 "description": "List of producers that produced the movie",
34761                 "items": {
34762                     "type": "string"
34763                 },
34764                 "minItems": 1,
34765                 "type": "array"
34766             },
34767             "writers" : {
34768                 "description": "List of writers that wrote the movie",
34769                 "items": {
34770                     "type": "string"
34771                 },
34772                 "minItems": 1,
34773                 "type": "array"
34774             },
34775             "composers" : {
34776                 "description": "List of composers that wrote the music",
34777                 "items": {
34778                     "type": "string"
34779                 },
34780                 "minItems": 1,
34781                 "type": "array"
34782             },
34783             "sdp" : {
34784                 "description": "Array of strings, a string for each Session Description Protocol syntax.",
34785                 "items": {
34786                     "description": "Session Description Protocol is a format for describing streaming media
34787                     communications parameters using the media and attribute lines defined in RFC4566.",

```

```

34789         "type": "string"
34790     },
34791     "minItems": 1,
34792     "type": "array"
34793 },
34794 "width" : {
34795     "description": "The width of the video",
34796     "type": "integer"
34797 },
34798 "height" : {
34799     "description": "The height of the video",
34800     "type": "integer"
34801 },
34802 "resolution" : {
34803     "description": "The resolution of the video in pixels",
34804     "type": "integer"
34805 },
34806 "format": {
34807     "type": "string",
34808     "description": "The available video formats.",
34809     "enum": [
34810         "progressive",
34811         "interlaced",
34812         "HDR",
34813         "HDR10",
34814         "HDR10+",
34815         "Dolby Vision"
34816     ]
34817 },
34818 "framerate" : {
34819     "description": "The frame rate of the video in frames per second.",
34820     "type": "integer"
34821 },
34822 "bitdepth" : {
34823     "description": "Bit (Colour) depth is either the number of bits used to indicate the
34824 colour of a single pixel, in a bitmapped image or video framebuffer, or the number of bits used for
34825 each colour component of a single pixel.",
34826     "type": "integer"
34827 },
34828 "size" : {
34829     "description": "The size of the video in KB - Kilo-Bytes",
34830     "type": "number"
34831 },
34832 "duration": {
34833     "$ref": "https://openconnectivityfoundation.github.io/core/schemas/oic.types-
34834 schema.json#/definitions/duration",
34835     "description": "Duration is the total length of the media audio with format pattern
34836 according to ISO 8601 (duration). For example, P0Y0M0DT1H22M59S represents a duration of 1 hour, 22
34837 minutes, and 59 seconds."
34838 },
34839 "location" : {
34840     "description": "Location is the user-friendly string of the geographic location of the
34841 video.",
34842     "type": "string"
34843 },
34844 "geolocation" : {
34845     "$ref":
34846 "https://openconnectivityfoundation.github.io/IoTDataModels/GeolocationResURI.swagger.json#/definiti
34847 ons/Geolocation"
34848 },
34849 "language": {
34850     "$ref": "https://openconnectivityfoundation.github.io/core/schemas/oic.types-
34851 schema.json#/definitions/language-tag",
34852     "description": "Current language of the video media content with format pattern according
34853 to RFC 5646 language tag"
34854 },
34855 "n": {
34856     "$ref":
34857 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
34858 schema.json#/definitions/n"
34859 }
34860 },

```

```

34861         "type" : "object",
34862         "required": ["mediacore"]
34863     }
34864 }
34865 }
34866

```

6.162.5 Property definition

Table 327 defines the Properties that are part of the "oic.r.media.video" Resource Type.

Table 327 – The Property definitions of the Resource with type "rt" = "oic.r.media.video".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type of Media Video
mediacore	multiple types: see schema	Yes	Read Write	The Media Core Properties common on all Media Resource Types,
series	array: see schema	No	Read Write	List of TV Series and episode
studio	array: see schema	No	Read Write	List of studios that produced the movie
cast	array: see schema	No	Read Write	List of casts that acted in the movie
directors	array: see schema	No	Read Write	List of directors that directed the movie
producers	array: see schema	No	Read Write	List of producers that produced the movie
writers	array: see schema	No	Read Write	List of writers that wrote the movie
composers	array: see schema	No	Read Write	List of composers that wrote the music
sdp	array: see schema	No	Read Write	Array of strings, a string for each Session Description Protocol syntax.
width	integer	No	Read Write	The resolution width of the video
height	integer	No	Read Write	The resolution height of the video
resolution	integer	No	Read Write	The resolution of the video in pixels
format	string	No	Read Write	The available video formats.
framerate	integer	No	Read Write	The frame rate of the video in frames per second.
bitdepth	integer	No	Read Write	Bit (Colour) depth is either the number of bits used to indicate the colour of a single pixel, in a bitmapped image or video framebuffer, or the number of bits used for each colour

				component of a single pixel.
size	number	No	Read Write	The size of the video in KB - Kilo-Bytes
duration	multiple types: see schema	No	Read Write	Duration is the total length of the media audio with format pattern according to ISO 8601 (duration). For example, P0Y0M0DT1H22M59S represents a duration of 1 hour, 22 minutes, and 59 seconds.
location	string	No	Read Write	Location is the user-friendly string of the geographic location of the video.
geolocation	multiple types: see schema	No	Read Write	
language	multiple types: see schema	No	Read Write	Current language of the video media content with format pattern according to RFC 5646 language tag
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource
mediacore	multiple types: see schema	Yes	Read Write	The Media Core Properties common on all Media Resource Types,
series	array: see schema	No	Read Write	List of TV Series and episode
studio	array: see schema	No	Read Write	List of studios that produced the movie
cast	array: see schema	No	Read Write	List of casts that acted in the movie
directors	array: see schema	No	Read Write	List of directors that directed the movie
producers	array: see schema	No	Read Write	List of producers that produced the movie
writers	array: see schema	No	Read Write	List of writers that wrote the movie
composers	array: see schema	No	Read Write	List of composers that wrote the music
sdp	array: see schema	No	Read Write	Array of strings, a string for each Session Description Protocol syntax.
width	integer	No	Read Write	The width of the video

height	integer	No	Read Write	The height of the video
resolution	integer	No	Read Write	The resolution of the video in pixels
format	string	No	Read Write	The available video formats.
framerate	integer	No	Read Write	The frame rate of the video in frames per second.
bitdepth	integer	No	Read Write	Bit (Colour) depth is either the number of bits used to indicate the colour of a single pixel, in a bitmapped image or video framebuffer, or the number of bits used for each colour component of a single pixel.
size	number	No	Read Write	The size of the video in KB - Kilo-Bytes
duration	multiple types: see schema	No	Read Write	Duration is the total length of the media audio with format pattern according to ISO 8601 (duration). For example, P0Y0M0DT1H22M59S represents a duration of 1 hour, 22 minutes, and 59 seconds.
location	string	No	Read Write	Location is the user-friendly string of the geographic location of the video.
geolocation	multiple types: see schema	No	Read Write	
language	multiple types: see schema	No	Read Write	Current language of the video media content with format pattern according to RFC 5646 language tag
n	multiple types: see schema	No	Read Write	

34870 6.162.6 CRUDN behaviour

34871 Table 328 defines the CRUDN operations that are supported on the "oic.r.media.video" Resource
34872 Type.

34873 **Table 328 – The CRUDN operations of the Resource with type "rt" = "oic.r.media.video".**

Create	Read	Update	Delete	Notify
	get	post		observe

34874 6.163 Restricted Switch

34875 6.163.1 Introduction

34876 This Resource describes a switch(on/off) restricting UPDATE for 'on'.

34877 The Property "state" is a Boolean.

34878 A state of True means that the switch is turned on.

34879 A state of False means that the switch is turned off.

34880 6.163.2 Example URI

34881 /RestrictedSwitchResURI

34882 6.163.3 Resource type

34883 The Resource Type is defined as: "oic.r.switch.restricted".

34884 6.163.4 OpenAPI 2.0 definition

```
34885 {
34886   "swagger": "2.0",
34887   "info": {
34888     "title": "Restricted Switch",
34889     "version": "20191119",
34890     "license": {
34891       "name": "OCF Data Model License",
34892       "url":
34893         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
34894         CENSE.md",
34895       "x-copyright": "Copyright 2019 Open Connectivity Foundation, Inc. All rights reserved."
34896     },
34897     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
34898   },
34899   "schemes": ["http"],
34900   "consumes": ["application/json"],
34901   "produces": ["application/json"],
34902   "paths": {
34903     "/RestrictedSwitchResURI" : {
34904       "get": {
34905         "description": "This Resource describes a switch(on/off) restricting UPDATE for 'on'.
34906         Property \"state\" is a Boolean.
34907         A state of True means that the switch is turned on.
34908         A state of False means that the switch is turned off.",
34909         "parameters": [
34910           { "$ref": "#/parameters/interface" }
34911         ],
34912         "responses": {
34913           "200": {
34914             "description": "",
34915             "x-example":
34916               {
34917                 "rt": ["oic.r.switch.restricted"],
34918                 "if": ["oic.if.a", "oic.if.baseline"],
34919                 "state": true
34920               },
34921             "schema": { "$ref": "#/definitions/RestrictedSwitch" }
34922           }
34923         },
34924         "post": {
34925           "description": "A request to set the state to true is not allowed in an UPDATE",
34926           "parameters": [
34927             { "$ref": "#/parameters/interface" },
34928             {
34929               "name": "body",
34930               "in": "body",
34931               "required": true,
34932               "schema": { "$ref": "#/definitions/RestrictedSwitchUpdate" },
34933               "x-example":
34934                 {
34935                   "state": false
34936                 }
34937             }
34938           ]
34939         }
34940       }
34941     }
34942   }
34943 }
```



```

34937     }
34938   ],
34939   "responses": {
34940     "200": {
34941       "description": "",
34942       "x-example": {
34943         "state": false
34944       },
34945       "schema": { "$ref": "#/definitions/RestrictedSwitch" }
34946     },
34947     "403": {
34948       "description": "This response is generated by the OCF server when the client
34949 sends:\nAn UPDATE with an value for True.\n403 means the request is forbidden.\n",
34950       "x-example": {
34951       }
34952     }
34953   }
34954 }
34955 }
34956 }
34957 },
34958 },
34959 "parameters": {
34960   "interface": {
34961     "in": "query",
34962     "name": "if",
34963     "type": "string",
34964     "enum": ["oic.if.a", "oic.if.baseline"]
34965   }
34966 },
34967 "definitions": {
34968   "RestrictedSwitch": {
34969     "properties": {
34970       "rt": {
34971         "description": "The Resource Type.",
34972         "items": {
34973           "enum": ["oic.r.switch.restricted"],
34974           "maxLength": 64,
34975           "type": "string"
34976         },
34977         "minItems": 1,
34978         "uniqueItems": true,
34979         "readOnly": true,
34980         "type": "array"
34981       },
34982       "state": {
34983         "description": "The status of the restricted switch.",
34984         "type": "boolean"
34985       }
34986     },
34987     "n": {
34988       "$ref":
34989 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
34990 schema.json#/definitions/n"
34991     },
34992     "id": {
34993       "$ref":
34994 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
34995 schema.json#/definitions/id"
34996     },
34997     "if": {
34998       "description": "The OCF Interface set supported by this Resource.",
34999       "items": {
35000         "enum": [
35001           "oic.if.a",
35002           "oic.if.baseline"
35003         ],
35004         "type": "string"
35005       },
35006       "minItems": 2,
35007       "uniqueItems": true,
35008       "readOnly": true,
35009       "type": "array"

```

```
35009     },
35010     },
35011     "type": "object",
35012     "required": ["state"]
35013 },
35014 "RestrictedSwitchUpdate" : {
35015     "properties": {
35016         "state": {
35017             "description": "Only False, which means 'off', is allowed in an UPDATE.",
35018             "enum": [false],
35019             "type": "boolean"
35020         }
35021     },
35022     "type": "object",
35023     "required": ["state"]
35024 }
35025 }
35026 }
35027 }
```

35028 **6.163.5 Property definition**

35029 Table 329 defines the Properties that are part of the "oic.r.switch.restricted" Resource Type.

35030 **Table 329 – The Property definitions of the Resource with type "rt" =**
35031 **"oic.r.switch.restricted".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
state	boolean	Yes	Read Write	The status of the restricted switch.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
state	boolean	Yes	Read Write	Only False, which means 'off', is allowed in an UPDATE.

35032 **6.163.6 CRUDN behaviour**

35033 Table 330 defines the CRUDN operations that are supported on the "oic.r.switch.restricted"
35034 Resource Type.

35035 **Table 330 – The CRUDN operations of the Resource with type "rt" =**
35036 **"oic.r.switch.restricted".**

Create	Read	Update	Delete	Notify
	get	post		observe

35037 **6.164 Device Settings Accessibility Resource Type**

35038 **6.164.1 Introduction**

35039 Gets current device accessibility settings.

35040 **6.164.2 Example URI**

35041 /SettingsAccessibilityResURI

6.164.3 Resource type

The Resource Type is defined as: "oic.r.settings.accessibility".

6.164.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Device Settings Accessibility Resource Type",
    "version": "2020-04-09",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2020 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/SettingsAccessibilityResURI": {
      "get": {
        "description": "Gets current device accessibility settings.",
        "parameters": [
          {"$ref": "#/parameters/interface-r"}
        ],
        "responses": {
          "200": {
            "description": "Gives the information for the device accessibility settings.",
            "x-example": {
              "rt": ["oic.r.settings.accessibility"],
              "id": "unique_example_id",
              "voice-guide": false,
              "video-description": false,
              "caption": false,
              "caption-mode": "default",
              "supported-caption-modes": ["cc1", "cc2", "cc3", "cc4", "text1", "text2", "text3",
"text4", "default"],
              "high-contrast": false,
              "enlarge": false
            },
            "schema": {"$ref": "#/definitions/settings-accessibility"}
          }
        }
      },
      "post": {
        "description": "Changes the device accessibility settings.",
        "parameters": [
          {"$ref": "#/parameters/interface-rw"},
          {
            "name": "body",
            "in": "body",
            "required": true,
            "x-example": {
              "voice-guide": false,
              "video-description": false,
              "caption": false,
              "caption-mode": "default",
              "high-contrast": false,
              "enlarge": false
            },
            "schema": {"$ref": "#/definitions/settings-accessibility-update"}
          }
        ],
        "responses": {
          "200": {
            "description": "Gives the information for the new device accessibility settings.",
            "x-example": {
```

```

35111         "voice-guide": false,
35112         "video-description": false,
35113         "caption": false,
35114         "caption-mode": "default",
35115         "high-contrast": false,
35116         "enlarge": false
35117     },
35118     "schema": {"$ref": "#/definitions/settings-accessibility-update"}
35119 }
35120 }
35121 }
35122 }
35123 },
35124 "parameters": {
35125     "interface-r": {
35126         "in": "query",
35127         "name": "if",
35128         "type": "string",
35129         "enum": ["oic.if.rw", "oic.if.baseline"]
35130     },
35131     "interface-rw": {
35132         "in": "query",
35133         "name": "if",
35134         "type": "string",
35135         "enum": ["oic.if.rw"]
35136     }
35137 },
35138 "definitions": {
35139     "settings-accessibility": {
35140         "title": "Retrieve device settings for accessibility",
35141         "type": "object",
35142         "properties": {
35143             "rt": {
35144                 "description": "The Resource Type of Device Settings for accessibility",
35145                 "items": {
35146                     "enum": ["oic.r.settings.accessibility"],
35147                     "type": "string"
35148                 },
35149                 "minItems": 1,
35150                 "uniqueItems": true,
35151                 "readOnly": true,
35152                 "type": "array"
35153             },
35154             "if": {
35155                 "items": {
35156                     "enum": ["oic.if.rw", "oic.if.baseline"],
35157                     "type": "string"
35158                 },
35159                 "minItems": 1,
35160                 "uniqueItems": true,
35161                 "readOnly": true,
35162                 "type": "array"
35163             },
35164             "id": {
35165                 "$ref":
35166 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
35167 schema.json#/definitions/id"
35168             },
35169             "voice-guide": {
35170                 "description": "Turns on or off voice guide.",
35171                 "type": "boolean"
35172             },
35173             "video-description": {
35174                 "description": "Turns on or off video description.",
35175                 "type": "boolean"
35176             },
35177             "caption": {
35178                 "description": "Turns on or off accessibility caption.",
35179                 "type": "boolean"
35180             },
35181             "caption-mode": {
35182                 "description": "Accessibility Caption Mode. Client can change caption-mode using

```

```

supported-caption-modes property.",
    "type": "string"
  },
  "supported-caption-modes": {
    "description": "The array of possible caption modes the device supports. This property
should be added if caption-mode is supported.",
    "items": {
      "type": "string"
    },
    "readOnly": true,
    "minItems": 1,
    "type": "array"
  },
  "high-contrast": {
    "description": "Turns on or off high contrast.",
    "type": "boolean"
  },
  "enlarge": {
    "description": "Turns on or off print enlargement.",
    "type": "boolean"
  }
},
"required": ["caption"]
},
"settings-accessibility-update": {
  "title": "Update device settings for accessibility",
  "type": "object",
  "properties": {
    "voice-guide": {
      "description": "Turns on or off voice guide.",
      "type": "boolean"
    },
    "video-description": {
      "description": "Turns on or off video description.",
      "type": "boolean"
    },
    "caption": {
      "description": "Turns on or off accessibility caption.",
      "type": "boolean"
    },
    "caption-mode": {
      "description": "Accessibility Caption Mode. Client can change caption-mode using
supported-caption-modes property.",
      "type": "string"
    },
    "high-contrast": {
      "description": "Turns on or off high contrast.",
      "type": "boolean"
    },
    "enlarge": {
      "description": "Turns on or off print enlargement.",
      "type": "boolean"
    }
  }
}
}
}

```

6.164.5 Property definition

Table 331 defines the Properties that are part of the "oic.r.settings.accessibility" Resource Type.

Table 331 – The Property definitions of the Resource with type "rt" = "oic.r.settings.accessibility".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type of Device Settings for accessibility

if	array: see schema	No	Read Only	
id	multiple types: see schema	No	Read Write	
voice-guide	boolean	No	Read Write	Turns on or off voice guide.
video-description	boolean	No	Read Write	Turns on or off video description.
caption	boolean	Yes	Read Write	Turns on or off accessibility caption.
caption-mode	string	No	Read Write	Accessibility Caption Mode. Client can change caption-mode using supported-caption-modes property.
supported-caption-modes	array: see schema	No	Read Only	The array of possible caption modes the device supports. This property should be added if caption-mode is supported.
high-contrast	boolean	No	Read Write	Turns on or off high contrast.
enlarge	boolean	No	Read Write	Turns on or off print enlargement.
voice-guide	boolean		Read Write	Turns on or off voice guide.
video-description	boolean		Read Write	Turns on or off video description.
caption	boolean		Read Write	Turns on or off accessibility caption.
caption-mode	string		Read Write	Accessibility Caption Mode. Client can change caption-mode using supported-caption-modes property.
high-contrast	boolean		Read Write	Turns on or off high contrast.
enlarge	boolean		Read Write	Turns on or off print enlargement.

6.164.6 CRUDN behaviour

Table 332 defines the CRUDN operations that are supported on the "oic.r.settings.accessibility" Resource Type.

Table 332 – The CRUDN operations of the Resource with type "rt" = "oic.r.settings.accessibility".

Create	Read	Update	Delete	Notify
	get	post		observe

6.165 Device Settings Broadcasting Resource Type

6.165.1 Introduction

Gets current device broadcasting settings.

6.165.2 Example URI

/SettingsBroadcastingResURI

6.165.3 Resource type

The Resource Type is defined as: "oic.r.settings.broadcasting".

6.165.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Device Settings Broadcasting Resource Type",
    "version": "2020-04-09",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2020 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/SettingsBroadcastingResURI": {
      "get": {
        "description": "Gets current device broadcasting settings.",
        "parameters": [
          {"$ref": "#/parameters/interface-r"}
        ],
        "responses": {
          "200": {
            "description": "Gives the information for the device broadcasting settings.",
            "x-example": {
              "rt": ["oic.r.settings.broadcasting"],
              "id": "unique_example_id",
              "antenna": "tv",
              "supported-antennas": ["composite", "hdtv", "tv"],
              "location-info": "location1",
              "carrier-info": "carrier1",
              "auto-program": false
            },
            "schema": {"$ref": "#/definitions/settings-broadcasting"}
          }
        }
      },
      "post": {
        "description": "Changes the device broadcasting settings.",
        "parameters": [
          {"$ref": "#/parameters/interface-rw"},
          {
            "name": "body",
            "in": "body",
            "required": true,
            "x-example": {
              "antenna": "tv",
              "location-info": "location1",
              "carrier-info": "carrier1",
              "auto-program": false
            },
            "schema": {"$ref": "#/definitions/settings-broadcasting-update"}
          }
        ],
        "responses": {
          "200": {
            "description": "Gives the information for the new device broadcasting settings.",
            "x-example": {
              "antenna": "tv",
```

```

35320         "location-info": "location1",
35321         "carrier-info": "carrier1",
35322         "auto-program": false
35323     },
35324     "schema": {"$ref": "#/definitions/settings-broadcasting-update"}
35325 }
35326 }
35327 }
35328 },
35329 },
35330 "parameters": {
35331     "interface-r": {
35332         "in": "query",
35333         "name": "if",
35334         "type": "string",
35335         "enum": ["oic.if.rw", "oic.if.baseline"]
35336     },
35337     "interface-rw": {
35338         "in": "query",
35339         "name": "if",
35340         "type": "string",
35341         "enum": ["oic.if.rw"]
35342     }
35343 },
35344 "definitions": {
35345     "settings-broadcasting": {
35346         "title": "Retrieve device settings for broadcasting",
35347         "type": "object",
35348         "properties": {
35349             "rt": {
35350                 "description": "The Resource Type of Device Settings for broadcasting",
35351                 "items": {
35352                     "enum": ["oic.r.settings.broadcasting"],
35353                     "type": "string"
35354                 },
35355                 "minItems": 1,
35356                 "uniqueItems": true,
35357                 "readOnly": true,
35358                 "type": "array"
35359             },
35360             "if": {
35361                 "items": {
35362                     "enum": ["oic.if.rw", "oic.if.baseline"],
35363                     "type": "string"
35364                 },
35365                 "minItems": 1,
35366                 "uniqueItems": true,
35367                 "readOnly": true,
35368                 "type": "array"
35369             },
35370             "id": {
35371                 "$ref":
35372 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
35373 schema.json#/definitions/id"
35374             },
35375             "antenna": {
35376                 "description": "Type of antenna",
35377                 "type": "string"
35378             },
35379             "supported-antennas": {
35380                 "description": "The array of possible antennas the device supports. This property should
35381 be added if antenna is supported.",
35382                 "items": {
35383                     "type": "string"
35384                 },
35385                 "readOnly": true,
35386                 "minItems": 1,
35387                 "type": "array"
35388             },
35389             "location-info": {
35390                 "description": "Location information of the broadcast system.",
35391                 "type": "string"

```



```

35392     },
35393     "carrier-info": {
35394         "description": "Carrier information of the broadcast system.",
35395         "type": "string"
35396     },
35397     "auto-program": {
35398         "description": "Scan for channels using Auto Program.",
35399         "type": "boolean"
35400     }
35401 },
35402 "required": ["antenna"]
35403 },
35404 "settings-broadcasting-update": {
35405     "title": "Update device settings for broadcasting",
35406     "type": "object",
35407     "properties": {
35408         "antenna": {
35409             "description": "Type of antenna. Client can change antenna using supported-antennas
35410 property.",
35411             "type": "string"
35412         },
35413         "location-info": {
35414             "description": "Location information of the broadcast system.",
35415             "type": "string"
35416         },
35417         "carrier-info": {
35418             "description": "Carrier information of the broadcast system.",
35419             "type": "string"
35420         },
35421         "auto-program": {
35422             "description": "Scan for channels using Auto Program.",
35423             "type": "boolean"
35424         }
35425     }
35426 }
35427 }
35428 }
35429

```

6.165.5 Property definition

Table 333 defines the Properties that are part of the "oic.r.settings.broadcasting" Resource Type.

Table 333 – The Property definitions of the Resource with type "rt" = "oic.r.settings.broadcasting".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type of Device Settings for broadcasting
if	array: see schema	No	Read Only	
id	multiple types: see schema	No	Read Write	
antenna	string	Yes	Read Write	Type of antenna
supported-antennas	array: see schema	No	Read Only	The array of possible antennas the device supports. This property should be added if antenna is supported.
location-info	string	No	Read Write	Location information of the broadcast system.
carrier-info	string	No	Read Write	Carrier information of the broadcast system.

auto-program	boolean	No	Read Write	Scan for channels using Auto Program.
antenna	string		Read Write	Type of antenna. Client can change antenna using supported-antennas property.
location-info	string		Read Write	Location information of the broadcast system.
carrier-info	string		Read Write	Carrier information of the broadcast system.
auto-program	boolean		Read Write	Scan for channels using Auto Program.

6.165.6 CRUDN behaviour

Table 334 defines the CRUDN operations that are supported on the "oic.r.settings.broadcasting" Resource Type.

Table 334 – The CRUDN operations of the Resource with type "rt" = "oic.r.settings.broadcasting".

Create	Read	Update	Delete	Notify
	get	post		observe

6.166 Device Settings Picture Resource Type

6.166.1 Introduction

Gets current device picture settings.

6.166.2 Example URI

/SettingsPictureResURI

6.166.3 Resource type

The Resource Type is defined as: "oic.r.settings.picture".

6.166.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Device Settings Picture Resource Type",
    "version": "2020-04-09",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2020 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/SettingsPictureResURI": {
      "get": {
        "description": "Gets current device picture settings.",
        "parameters": [
          {"$ref": "#/parameters/interface-r"}
        ]
      }
    }
  }
}
```

```

35470 ],
35471 "responses": {
35472   "200": {
35473     "description": "Gives the information for the device picture settings.",
35474     "x-example": {
35475       "rt": ["oic.r.settings.picture"],
35476       "id": "unique_example_id",
35477       "picture-mode": "standard",
35478       "supported-picture-modes": ["dynamic", "movie", "natural", "standard"],
35479       "backlight": 5,
35480       "contrast": 95,
35481       "brightness": 45,
35482       "sharpness": 50,
35483       "colour": 50,
35484       "colour-temperature": 0,
35485       "tint": 0,
35486       "picture-reset": false,
35487       "picture-off": false,
35488       "aspect-ratio": "16:9",
35489       "supported-aspect-ratio": ["16:9", "4:3", "Set by Program", "Zoom", "Just Scan",
35490 "Cinema Zoom"]
35491     },
35492     "schema": {"$ref": "#/definitions/settings-picture"}
35493   }
35494 },
35495 "post": {
35496   "description": "Changes the device picture settings.",
35497   "parameters": [
35498     {"$ref": "#/parameters/interface-rw"},
35499     {
35500       "name": "body",
35501       "in": "body",
35502       "required": true,
35503       "x-example": {
35504         "picture-mode": "standard",
35505         "backlight": 5,
35506         "contrast": 95,
35507         "brightness": 45,
35508         "sharpness": 50,
35509         "colour": 50,
35510         "colour-temperature": 0,
35511         "tint": 0,
35512         "picture-reset": false,
35513         "picture-off": false,
35514         "aspect-ratio": "16:9"
35515       },
35516       "schema": {"$ref": "#/definitions/settings-picture-update"}
35517     }
35518   ],
35519   "responses": {
35520     "200": {
35521       "description": "Gives the information for the new device picture settings.",
35522       "x-example": {
35523         "picture-mode": "standard",
35524         "backlight": 5,
35525         "contrast": 95,
35526         "brightness": 45,
35527         "sharpness": 50,
35528         "colour": 50,
35529         "colour-temperature": 0,
35530         "tint": 0,
35531         "picture-reset": false,
35532         "picture-off": false,
35533         "aspect-ratio": "16:9"
35534       },
35535       "schema": {"$ref": "#/definitions/settings-picture-update"}
35536     }
35537   }
35538 }
35539 }
35540 },
35541 },

```

```

35542 "parameters": {
35543   "interface-r": {
35544     "in": "query",
35545     "name": "if",
35546     "type": "string",
35547     "enum": ["oic.if.rw", "oic.if.baseline"]
35548   },
35549   "interface-rw": {
35550     "in": "query",
35551     "name": "if",
35552     "type": "string",
35553     "enum": ["oic.if.rw"]
35554   }
35555 },
35556 "definitions": {
35557   "settings-picture": {
35558     "title": "Retrieve device settings for picture",
35559     "type": "object",
35560     "properties": {
35561       "rt": {
35562         "description": "The Resource Type of Device Settings for picture",
35563         "items": {
35564           "enum": ["oic.r.settings.picture"],
35565           "type": "string"
35566         },
35567         "minItems": 1,
35568         "uniqueItems": true,
35569         "readOnly": true,
35570         "type": "array"
35571       },
35572       "if": {
35573         "items": {
35574           "enum": ["oic.if.rw", "oic.if.baseline"],
35575           "type": "string"
35576         },
35577         "minItems": 1,
35578         "uniqueItems": true,
35579         "readOnly": true,
35580         "type": "array"
35581       },
35582       "id": {
35583         "$ref":
35584         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
35585         schema.json#/definitions/id"
35586       },
35587       "picture-mode": {
35588         "description": "Device Settings Picture Mode. Client can change picture-mode using
35589 supported-picture-modes property.",
35590         "type": "string"
35591       },
35592       "supported-picture-modes": {
35593         "description": "An array of possible picture modes the device supports. This property
35594 should be
35595 added if picture-mode property is supported.",
35596         "items": {
35597           "type": "string"
35598         },
35599         "readOnly": true,
35600         "minItems": 1,
35601         "type": "array"
35602       },
35603       "backlight": {
35604         "description": "Quantized representation in the range -10 to 10 of the current sensed or
35605 set value for Device Settings Picture Backlight.",
35606         "maximum": 10,
35607         "minimum": -10,
35608         "type": "integer"
35609       },
35610       "contrast": {
35611         "description": "Quantized representation in the range 0-100 of the current sensed or set
35612 value for Device Settings Picture Contrast.",
35613         "maximum": 100,
35614         "minimum": 0,

```

```

35614         "type": "integer"
35615     },
35616     "brightness": {
35617         "description": "Quantized representation in the range 0-100 of the current sensed or set
35618 value for Device Settings Picture Brightness.",
35619         "maximum": 100,
35620         "minimum": 0,
35621         "type": "integer"
35622     },
35623     "sharpness": {
35624         "description": "Quantized representation in the range 0-100 of the current sensed or set
35625 value for Device Settings Picture Sharpness.",
35626         "maximum": 100,
35627         "minimum": 0,
35628         "type": "integer"
35629     },
35630     "colour": {
35631         "description": "Quantized representation in the range 0-100 of the current sensed or set
35632 value for Device Settings Picture Colour.",
35633         "maximum": 100,
35634         "minimum": 0,
35635         "type": "integer"
35636     },
35637     "colour-temperature": {
35638         "description": "Colour temperature range of -50 (Cool) to 50 (Warm).",
35639         "maximum": 50,
35640         "minimum": -50,
35641         "type": "integer"
35642     },
35643     "tint": {
35644         "description": "Quantized representation in the range 0-100 of the current sensed or set
35645 value for Device Settings Picture Tint. The closer to 100, the more saturated the red colour
35646 becomes. The closer to 0, the more saturated the green colour becomes.",
35647         "maximum": 100,
35648         "minimum": 0,
35649         "type": "integer"
35650     },
35651     "picture-reset": {
35652         "description": "Resets all picture settings to the default values.",
35653         "type": "boolean"
35654     },
35655     "picture-off": {
35656         "description": "This turns picture on and off.",
35657         "type": "boolean"
35658     },
35659     "aspect-ratio": {
35660         "description": "Device Settings Aspect Ratio. Client can change aspect-ratio using
35661 supported-aspect-ratio property.",
35662         "type": "string"
35663     },
35664     "supported-aspect-ratio": {
35665         "description": "An array of possible aspect ratio the device supports. This property
35666 should be added if aspect-ratio property is supported.",
35667         "items": {
35668             "type": "string"
35669         },
35670         "readOnly": true,
35671         "minItems": 1,
35672         "type": "array"
35673     },
35674 },
35675 "required": ["brightness", "contrast"]
35676 },
35677 "settings-picture-update": {
35678     "title": "Update device settings for picture",
35679     "type": "object",
35680     "properties": {
35681         "picture-mode": {
35682             "description": "Device Settings Picture Mode. Client can change picture-mode using
35683 supported-picture-modes property.",
35684             "type": "string"
35685         },

```

```

35686         "backlight": {
35687             "description": "Quantized representation in the range 0-10 of the current sensed or set
35688 value for Device Settings Picture Backlight.",
35689             "maximum": 10,
35690             "minimum": 0,
35691             "type": "integer"
35692         },
35693         "contrast": {
35694             "description": "Quantized representation in the range 0-100 of the current sensed or set
35695 value for Device Settings Picture Contrast.",
35696             "maximum": 100,
35697             "minimum": 0,
35698             "type": "integer"
35699         },
35700         "brightness": {
35701             "description": "Quantized representation in the range 0-100 of the current sensed or set
35702 value for Device Settings Picture Brightness.",
35703             "maximum": 100,
35704             "minimum": 0,
35705             "type": "integer"
35706         },
35707         "sharpness": {
35708             "description": "Quantized representation in the range 0-100 of the current sensed or set
35709 value for Device Settings Picture Sharpness.",
35710             "maximum": 100,
35711             "minimum": 0,
35712             "type": "integer"
35713         },
35714         "colour": {
35715             "description": "Quantized representation in the range 0-100 of the current sensed or set
35716 value for Device Settings Picture Colour.",
35717             "maximum": 100,
35718             "minimum": 0,
35719             "type": "integer"
35720         },
35721         "colour-temperature": {
35722             "description": "Colour temperature range of -50 (Cool) to 50 (Warm).",
35723             "maximum": 50,
35724             "minimum": -50,
35725             "type": "integer"
35726         },
35727         "tint": {
35728             "description": "Quantized representation in the range 0-100 of the current sensed or set
35729 value for Device Settings Picture Tint. The closer to 100, the more saturated the red colour
35730 becomes. The closer to 0, the more saturated the green colour becomes.",
35731             "maximum": 100,
35732             "minimum": 0,
35733             "type": "integer"
35734         },
35735         "picture-reset": {
35736             "description": "Resets all picture settings to the default values.",
35737             "type": "boolean"
35738         },
35739         "picture-off": {
35740             "description": "This turns picture on and off.",
35741             "type": "boolean"
35742         },
35743         "aspect-ratio": {
35744             "description": "Device Settings Aspect Ratio. Client can change aspect-ratio using
35745 supported-aspect-ratio property.",
35746             "type": "string"
35747         }
35748     }
35749 }
35750 }
35751 }
35752

```

6.166.5 Property definition

Table 335 defines the Properties that are part of the "oic.r.settings.picture" Resource Type.

Table 335 – The Property definitions of the Resource with type "rt" = "oic.r.settings.picture".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type of Device Settings for picture
if	array: see schema	No	Read Only	
id	multiple types: see schema	No	Read Write	
picture-mode	string	No	Read Write	Device Settings Picture Mode. Client can change picture-mode using supported-picture-modes property.
supported-picture-modes	array: see schema	No	Read Only	An array of possible picture modes the device supports. This property should be added if picture-mode property is supported.
backlight	integer	No	Read Write	Quantized representation in the range -10 to 10 of the current sensed or set value for Device Settings Picture Backlight.
contrast	integer	Yes	Read Write	Quantized representation in the range 0-100 of the current sensed or set value for Device Settings Picture Contrast.
brightness	integer	Yes	Read Write	Quantized representation in the range 0-100 of the current sensed or set value for Device Settings Picture Brightness.
sharpness	integer	No	Read Write	Quantized representation in the range 0-100 of the current sensed or set value for Device Settings Picture Sharpness.
colour	integer	No	Read Write	Quantized representation in the range 0-100 of the current sensed or set value for Device Settings Picture Colour.
colour-temperature	integer	No	Read Write	Colour temperature range of -50 (Cool) to 50 (Warm).

tint	integer	No	Read Write	Quantized representation in the range 0-100 of the current sensed or set value for Device Settings Picture Tint. The closer to 100, the more saturated the red colour becomes. The closer to 0, the more saturated the green colour becomes.
picture-reset	boolean	No	Read Write	Resets all picture settings to the default values.
picture-off	boolean	No	Read Write	This turns picture on and off.
aspect-ratio	string	No	Read Write	Device Settings Aspect Ratio. Client can change aspect-ratio using supported-aspect-ratio property.
supported-aspect-ratio	array: see schema	No	Read Only	An array of possible aspect ratio the device supports. This property should be added if aspect-ratio property is supported.
picture-mode	string		Read Write	Device Settings Picture Mode. Client can change picture-mode using supported-picture-modes property.
backlight	integer		Read Write	Quantized representation in the range 0-10 of the current sensed or set value for Device Settings Picture Backlight.
contrast	integer		Read Write	Quantized representation in the range 0-100 of the current sensed or set value for Device Settings Picture Contrast.
brightness	integer		Read Write	Quantized representation in the range 0-100 of the current sensed or set value for Device Settings Picture Brightness.
sharpness	integer		Read Write	Quantized representation in the range 0-100 of the current sensed or set value for Device

				Settings Picture Sharpness.
Colour	integer		Read Write	Quantized representation in the range 0-100 of the current sensed or set value for Device Settings Picture Colour.
colour-temperature	integer		Read Write	Colour temperature range of -50 (Cool) to 50 (Warm).
Tint	integer		Read Write	Quantized representation in the range 0-100 of the current sensed or set value for Device Settings Picture Tint. The closer to 100, the more saturated the red colour becomes. The closer to 0, the more saturated the green colour becomes.
picture-reset	boolean		Read Write	Resets all picture settings to the default values.
picture-off	boolean		Read Write	This turns picture on and off.
aspect-ratio	string		Read Write	Device Settings Aspect Ratio. Client can change aspect-ratio using supported-aspect-ratio property.

35757 6.166.6 CRUDN behaviour

35758 Table 336 defines the CRUDN operations that are supported on the "oic.r.settings.picture"
35759 Resource Type.

35760 **Table 336 – The CRUDN operations of the Resource with type "rt" = "oic.r.settings.picture".**

Create	Read	Update	Delete	Notify
	get	post		observe

35761 6.167 Device Settings Sound Resource Type

35762 6.167.1 Introduction

35763 Gets current device sound settings.

35764 6.167.2 Example URI

35765 /SettingsSoundResURI

35766 6.167.3 Resource type

35767 The Resource Type is defined as: "oic.r.settings.sound".

35768 6.167.4 OpenAPI 2.0 definition

35769 {
35770 "swagger": "2.0",

```

35771     "info": {
35772         "title": "Device Settings Sound Resource Type",
35773         "version": "2020-04-09",
35774         "license": {
35775             "name": "OCF Data Model License",
35776             "url":
35777 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
35778 CENSE.md",
35779             "x-copyright": "Copyright 2020 Open Connectivity Foundation, Inc. All rights reserved."
35780         },
35781         "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
35782     },
35783     "schemes": ["http"],
35784     "consumes": ["application/json"],
35785     "produces": ["application/json"],
35786     "paths": {
35787         "/SettingsSoundResURI": {
35788             "get": {
35789                 "description": "Gets current device sound settings.",
35790                 "parameters": [
35791                     {"$ref": "#/parameters/interface-r"}
35792                 ],
35793                 "responses": {
35794                     "200": {
35795                         "description": "Gives the information for the device sound settings.",
35796                         "x-example": {
35797                             "rt": ["oic.r.settings.sound"],
35798                             "id": "unique_example_id",
35799                             "speaker": "internal",
35800                             "supported-speakers": ["hdmi", "headphone", "internal", "optical", "soundbar",
35801 "wireless"],
35802                             "sound-mode": "standard",
35803                             "supported-sound-modes": ["clearVoice", "custom", "music", "standard"],
35804                             "auto-volume": true,
35805                             "dolby-atmos-compatibility": false
35806                         },
35807                         "schema": {"$ref": "#/definitions/settings-sound"}
35808                     }
35809                 }
35810             },
35811             "post": {
35812                 "description": "Changes the device sound settings.",
35813                 "parameters": [
35814                     {"$ref": "#/parameters/interface-rw"},
35815                     {
35816                         "name": "body",
35817                         "in": "body",
35818                         "required": true,
35819                         "x-example": {
35820                             "speaker": "internal",
35821                             "sound-mode": "standard",
35822                             "auto-volume": true,
35823                             "dolby-atmos-compatibility": false
35824                         },
35825                         "schema": {"$ref": "#/definitions/settings-sound-update"}
35826                     }
35827                 ],
35828                 "responses": {
35829                     "200": {
35830                         "description": "Gives the information for the new device sound settings.",
35831                         "x-example": {
35832                             "speaker": "internal",
35833                             "sound-mode": "standard",
35834                             "auto-volume": true,
35835                             "dolby-atmos-compatibility": false
35836                         },
35837                         "schema": {"$ref": "#/definitions/settings-sound-update"}
35838                     }
35839                 }
35840             }
35841         }
35842     },

```

```

35843 "parameters": {
35844   "interface-r": {
35845     "in": "query",
35846     "name": "if",
35847     "type": "string",
35848     "enum": ["oic.if.rw", "oic.if.baseline"]
35849   },
35850   "interface-rw": {
35851     "in": "query",
35852     "name": "if",
35853     "type": "string",
35854     "enum": ["oic.if.rw"]
35855   }
35856 },
35857 "definitions": {
35858   "settings-sound": {
35859     "title": "Retrieve device settings for sound",
35860     "type": "object",
35861     "properties": {
35862       "rt": {
35863         "description": "The Resource Type of Device Settings for sound",
35864         "items": {
35865           "enum": ["oic.r.settings.sound"],
35866           "type": "string"
35867         },
35868         "minItems": 1,
35869         "uniqueItems": true,
35870         "readOnly": true,
35871         "type": "array"
35872       },
35873       "if": {
35874         "items": {
35875           "enum": ["oic.if.rw", "oic.if.baseline"],
35876           "type": "string"
35877         },
35878         "minItems": 1,
35879         "uniqueItems": true,
35880         "readOnly": true,
35881         "type": "array"
35882       },
35883       "id": {
35884         "$ref":
35885         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
35886         schema.json#/definitions/id"
35887       },
35888       "speaker": {
35889         "description": "Device Settings Sound - Speaker. Client can change speaker using
35890 supported-speakers property.",
35891         "type": "string"
35892       },
35893       "supported-speakers": {
35894         "description": "The array of possible speakers the device supports. This property should
35895 be added if speaker is supported.",
35896         "items": {
35897           "type": "string"
35898         },
35899         "readOnly": true,
35900         "minItems": 1,
35901         "type": "array"
35902       },
35903       "sound-mode": {
35904         "description": "Device Settings Sound - Sound Mode. Client can change sound-mode using
35905 supported-sound-modes property.",
35906         "type": "string"
35907       },
35908       "supported-sound-modes": {
35909         "description": "The array of possible sound modes the device supports. This property
35910 should be added if sound-mode is supported.",
35911         "items": {
35912           "type": "string"
35913         },
35914         "readOnly": true,

```

```

35915         "minItems": 1,
35916         "type": "array"
35917     },
35918     "auto-volume": {
35919         "description": "Automatically equalizes the volume level when switching to antother
35920 channel.",
35921         "type": "boolean"
35922     },
35923     "dolby-atmos-compatibility": {
35924         "description": "Supports dolby-atmos mode.",
35925         "type": "boolean"
35926     }
35927 },
35928 "required": ["speaker"]
35929 },
35930 "settings-sound-update": {
35931     "title": "Update device settings for sound",
35932     "type": "object",
35933     "properties": {
35934         "speaker": {
35935             "description": "Device Settings Sound - Speaker. Client can change speaker using
35936 supported-speakers property.",
35937             "type": "string"
35938         },
35939         "sound-mode": {
35940             "description": "Device Settings Sound - Sound Mode. Client can change sound-mode using
35941 supported-sound-modes property.",
35942             "type": "string"
35943         },
35944         "auto-volume": {
35945             "description": "Automatically equalizes the volume level when switching to antother
35946 channel.",
35947             "type": "boolean"
35948         },
35949         "dolby-atmos-compatibility": {
35950             "description": "Recent devices support dolby-atmos mode.",
35951             "type": "boolean"
35952         }
35953     }
35954 }
35955 }
35956 }
35957

```

6.167.5 Property definition

Table 337 defines the Properties that are part of the "oic.r.settings.sound" Resource Type.

Table 337 – The Property definitions of the Resource with type "rt" = "oic.r.settings.sound".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type of Device Settings for sound
if	array: see schema	No	Read Only	
id	multiple types: see schema	No	Read Write	
speaker	string	Yes	Read Write	Device Settings Sound - Speaker. Client can change speaker using supported-speakers property.
supported-speakers	array: see schema	No	Read Only	The array of possible speakers the device supports. This property should

				be added if speaker is supported.
sound-mode	string	No	Read Write	Device Settings Sound - Sound Mode. Client can change sound-mode using supported-sound-modes property.
supported-sound-modes	array: see schema	No	Read Only	The array of possible sound modes the device supports. This property should be added if sound-mode is supported.
auto-volume	boolean	No	Read Write	Automatically equalizes the volume level when switching to another channel.
dolby-atmos-compatibility	boolean	No	Read Write	Supports dolby-atmos mode.
speaker	string		Read Write	Device Settings Sound - Speaker. Client can change speaker using supported-speakers property.
sound-mode	string		Read Write	Device Settings Sound - Sound Mode. Client can change sound-mode using supported-sound-modes property.
auto-volume	boolean		Read Write	Automatically equalizes the volume level when switching to another channel.
dolby-atmos-compatibility	boolean		Read Write	Recent devices support dolby-atmos mode.

6.167.6 CRUDN behaviour

Table 338 defines the CRUDN operations that are supported on the "oic.r.settings.sound" Resource Type.

Table 338 – The CRUDN operations of the Resource with type "rt" = "oic.r.settings.sound".

Create	Read	Update	Delete	Notify
	get	post		observe

6.168 Device Settings Support Resource Type

6.168.1 Introduction

Gets current device support settings.

6.168.2 Example URI

/SettingsSupportResURI

6.168.3 Resource type

The Resource Type is defined as: "oic.r.settings.support".

6.168.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Device Settings Support Resource Type",
    "version": "2020-04-09",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "Copyright 2020 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/SettingsSupportResURI": {
      "get": {
        "description": "Gets current device support settings.",
        "parameters": [
          {"$ref": "#/parameters/interface-r"}
        ],
        "responses": {
          "200": {
            "description": "Gives the information for the device support settings.",
            "x-example": {
              "rt": ["oic.r.settings.support"],
              "id": "unique_example_id",
              "remote-management": false,
              "software-auto-update": false
            },
            "schema": {"$ref": "#/definitions/settings-support"}
          }
        }
      },
      "post": {
        "description": "Changes the device support settings.",
        "parameters": [
          {"$ref": "#/parameters/interface-rw"},
          {
            "name": "body",
            "in": "body",
            "required": true,
            "x-example": {
              "remote-management": false,
              "software-auto-update": false
            },
            "schema": {"$ref": "#/definitions/settings-support-update"}
          }
        ],
        "responses": {
          "200": {
            "description": "Gives the information for the new device support settings.",
            "x-example": {
              "remote-management": false,
              "software-auto-update": false
            },
            "schema": {"$ref": "#/definitions/settings-support-update"}
          }
        }
      }
    }
  },
  "parameters": {
```

```

36040     "interface-r": {
36041         "in": "query",
36042         "name": "if",
36043         "type": "string",
36044         "enum": ["oic.if.rw", "oic.if.baseline"]
36045     },
36046     "interface-rw": {
36047         "in": "query",
36048         "name": "if",
36049         "type": "string",
36050         "enum": ["oic.if.rw"]
36051     }
36052 },
36053 "definitions": {
36054     "settings-support": {
36055         "title": "Retrieve device settings for support",
36056         "type": "object",
36057         "properties": {
36058             "rt": {
36059                 "description": "The Resource Type of Device Settings for support",
36060                 "items": {
36061                     "enum": ["oic.r.settings.support"],
36062                     "type": "string"
36063                 },
36064                 "minItems": 1,
36065                 "uniqueItems": true,
36066                 "readOnly": true,
36067                 "type": "array"
36068             },
36069             "if": {
36070                 "items": {
36071                     "enum": ["oic.if.rw", "oic.if.baseline"],
36072                     "type": "string"
36073                 },
36074                 "minItems": 1,
36075                 "uniqueItems": true,
36076                 "readOnly": true,
36077                 "type": "array"
36078             },
36079             "id": {
36080                 "$ref":
36081                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
36082                 schema.json#/definitions/id"
36083             },
36084             "remote-management": {
36085                 "description": "Allows support remote access so support can control user setting and
36086                 troubleshoot problem.",
36087                 "type": "boolean"
36088             },
36089             "software-auto-update": {
36090                 "description": "Software - Auto Update.",
36091                 "type": "boolean"
36092             }
36093         }
36094     },
36095     "settings-support-update": {
36096         "title": "Update device settings for support",
36097         "type": "object",
36098         "properties": {
36099             "remote-management": {
36100                 "description": "Allows support remote access so support can control user setting and
36101                 troubleshoot problem.",
36102                 "type": "boolean"
36103             },
36104             "software-auto-update": {
36105                 "description": "Software - Auto Update.",
36106                 "type": "boolean"
36107             }
36108         }
36109     }
36110 }

```

36111 }
36112

36113 6.168.5 Property definition

36114 Table 339 defines the Properties that are part of the "oic.r.settings.support" Resource Type.

36115 **Table 339 – The Property definitions of the Resource with type "rt" =**
36116 **"oic.r.settings.support".**

Property name	Value type	Mandatory	Access mode	Description
Rt	array: see schema		Read Only	The Resource Type of Device Settings for support
If	array: see schema		Read Only	
Id	multiple types: see schema		Read Write	
remote-management	boolean		Read Write	Allows support remote access so support can control user setting and troubleshoot problem.
software-auto-update	boolean		Read Write	Software - Auto Update.
remote-management	boolean		Read Write	Allows support remote access so support can control user setting and troubleshoot problem.
software-auto-update	boolean		Read Write	Software - Auto Update.

36117 6.168.6 CRUDN behaviour

36118 Table 340 defines the CRUDN operations that are supported on the "oic.r.settings.support"
36119 Resource Type.

36120 **Table 340 – The CRUDN operations of the Resource with type "rt" =**
36121 **"oic.r.settings.support".**

Create	Read	Update	Delete	Notify
	get	post		observe

36122 6.169 Device Settings System Resource Type

36123 6.169.1 Introduction

36124 Gets current device system settings.

36125 6.169.2 Example URI

36126 /SettingsSystemResURI

36127 6.169.3 Resource type

36128 The Resource Type is defined as: "oic.r.settings.system".

36129 6.169.4 OpenAPI 2.0 definition

36130 {
36131 "swagger": "2.0",
36132 "info": {


```

36133     "title": "Device Settings System Resource Type",
36134     "version": "2020-04-09",
36135     "license": {
36136         "name": "OCF Data Model License",
36137         "url":
36138 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
36139 CENSE.md",
36140         "x-copyright": "Copyright 2020 Open Connectivity Foundation, Inc. All rights reserved."
36141     },
36142     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
36143 },
36144     "schemes": ["http"],
36145     "consumes": ["application/json"],
36146     "produces": ["application/json"],
36147     "paths": {
36148         "/SettingsSystemResURI": {
36149             "get": {
36150                 "description": "Gets current device system settings.",
36151                 "parameters": [
36152                     {"$ref": "#/parameters/interface-r"}
36153                 ],
36154                 "responses": {
36155                     "200": {
36156                         "description": "Gives the information for the device system settings.",
36157                         "x-example": {
36158                             "rt": ["oic.r.settings.system"],
36159                             "id": "unique_example_id",
36160                             "n": "Living Room TV",
36161                             "language": "en"
36162                         },
36163                         "schema": {"$ref": "#/definitions/settings-system"}
36164                     }
36165                 }
36166             },
36167             "post": {
36168                 "description": "Changes the device system settings.",
36169                 "parameters": [
36170                     {"$ref": "#/parameters/interface-rw"},
36171                     {
36172                         "name": "body",
36173                         "in": "body",
36174                         "required": true,
36175                         "x-example": {
36176                             "language": "en"
36177                         },
36178                         "schema": {"$ref": "#/definitions/settings-system-update"}
36179                     }
36180                 ],
36181                 "responses": {
36182                     "200": {
36183                         "description": "Gives the information for the new device system settings.",
36184                         "x-example": {
36185                             "language": "en"
36186                         },
36187                         "schema": {"$ref": "#/definitions/settings-system-update"}
36188                     }
36189                 }
36190             }
36191         }
36192     },
36193     "parameters": {
36194         "interface-r": {
36195             "in": "query",
36196             "name": "if",
36197             "type": "string",
36198             "enum": ["oic.if.rw", "oic.if.baseline"]
36199         },
36200         "interface-rw": {
36201             "in": "query",
36202             "name": "if",
36203             "type": "string",
36204             "enum": ["oic.if.rw"]

```

```

36205     }
36206   },
36207   "definitions": {
36208     "settings-system": {
36209       "title": "Retrieve device settings for system",
36210       "type": "object",
36211       "properties": {
36212         "rt": {
36213           "description": "The Resource Type of Device Settings for system",
36214           "items": {
36215             "enum": ["oic.r.settings.system"],
36216             "type": "string"
36217           },
36218           "minItems": 1,
36219           "uniqueItems": true,
36220           "readOnly": true,
36221           "type": "array"
36222         },
36223         "if": {
36224           "items": {
36225             "enum": ["oic.if.rw", "oic.if.baseline"],
36226             "type": "string"
36227           },
36228           "minItems": 1,
36229           "uniqueItems": true,
36230           "readOnly": true,
36231           "type": "array"
36232         },
36233         "id": {
36234           "$ref":
36235             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
36236             schema.json#/definitions/id"
36237         },
36238         "n": {
36239           "description": "Friendly name of the Device.",
36240           "$ref":
36241             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
36242             schema.json#/definitions/n"
36243         },
36244         "language": {
36245           "$ref": "https://openconnectivityfoundation.github.io/core/schemas/oic.types-
36246             schema.json#/definitions/language-tag",
36247           "description": "Current language of the device settings with format pattern according to
36248             RFC 5646 language tag"
36249         }
36250       },
36251     },
36252     "settings-system-update": {
36253       "title": "Update device settings for system",
36254       "type": "object",
36255       "properties": {
36256         "language": {
36257           "$ref": "https://openconnectivityfoundation.github.io/core/schemas/oic.types-
36258             schema.json#/definitions/language-tag",
36259           "description": "Current language of the device settings with format pattern according to
36260             RFC 5646 language tag"
36261         }
36262       }
36263     }
36264   }
36265 }
36266

```

6.169.5 Property definition

Table 341 defines the Properties that are part of the "oic.r.settings.system" Resource Type.

36269
36270

Table 341 – The Property definitions of the Resource with type "rt" = "oic.r.settings.system".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema		Read Only	The Resource Type of Device Settings for system
if	array: see schema		Read Only	
id	multiple types: see schema		Read Write	
n	multiple types: see schema		Read Write	Friendly name of the Device.
language	multiple types: see schema		Read Write	Current language of the device settings with format pattern according to RFC 5646 language tag
language	multiple types: see schema		Read Write	Current language of the device settings with format pattern according to RFC 5646 language tag

36271

6.169.6 CRUDN behaviour

36272
36273

Table 342 defines the CRUDN operations that are supported on the "oic.r.settings.system" Resource Type.

36274
36275

Table 342 – The CRUDN operations of the Resource with type "rt" = "oic.r.settings.system".

Create	Read	Update	Delete	Notify
	get	post		observe

36276

6.170 Generic Measurement Sensor

36278

6.170.1 Introduction

36279
36280
36281
36282

This Resource describes a continuous measurement of some value or property or entity .
The Property "measurement" is a number.
The Property unit is a string and will contain an SI unit of measurement in senML format
<https://www.iana.org/assignments/senml/senml.xhtml>

36283

6.170.2 Example URI

36284

/GenericMeasurementResURI

36285

6.170.3 Resource type

36286

The Resource Type is defined as: "oic.r.sensor.measurement".

36287

6.170.4 OpenAPI 2.0 definition

36288
36289
36290
36291
36292
36293
36294
36295
36296

```
{  
  "swagger": "2.0",  
  "info": {  
    "title": "Generic Measurement Sensor",  
    "version": "2020-08-17",  
    "license": {  
      "name": "OCF Data Model License",  
      "url":  
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
```

```

36297 CENSE.md",
36298   "x-copyright": "copyright 2020 Open Connectivity Foundation, Inc. All rights reserved."
36299 },
36300   "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
36301 },
36302   "schemes": ["http"],
36303   "consumes": ["application/json"],
36304   "produces": ["application/json"],
36305   "paths": {
36306     "/GenericMeasurementResURI" : {
36307       "get": {
36308         "description": "This Resource describes a continuous measurement of some value or property
36309 or entity .\n\nThe Property \"measurement\" is a number.\n\nThe Property unit is a string and will
36310 contain an SI unit of measurement in senML format
36311 https://www.iana.org/assignments/senml/senml.xhtml",
36312         "parameters": [
36313           { "$ref": "#/parameters/interface" }
36314         ],
36315         "responses": {
36316           "200": {
36317             "description": "",
36318             "x-example": {
36319               "rt": ["oic.r.sensor.measurement"],
36320               "id": "unique_example_id",
36321               "measurement": 300.5,
36322               "unit": "dB",
36323               "n": "environmental sound measurement"
36324             },
36325             "schema": { "$ref": "#/definitions/Measurement" }
36326           }
36327         }
36328       }
36329     }
36330   },
36331   "parameters": {
36332     "interface" : {
36333       "in" : "query",
36334       "name" : "if",
36335       "type" : "string",
36336       "enum" : ["oic.if.s", "oic.if.baseline"]
36337     }
36338   },
36339   "definitions": {
36340     "Measurement": {
36341       "properties": {
36342         "rt": {
36343           "description": "The Resource Type",
36344           "items": {
36345             "maxLength": 64,
36346             "type": "string",
36347             "enum": ["oic.r.sensor.measurement"]
36348           },
36349           "minItems": 1,
36350           "uniqueItems": true,
36351           "readOnly": true,
36352           "type": "array"
36353         },
36354         "unit": {
36355           "description": "SI unit in SenML of the measurement",
36356           "readOnly": true,
36357           "type": "string"
36358         },
36359         "measurement": {
36360           "type": "number",
36361           "description": "Measured value for this sensor, units depend on the specific type of
36362 sensor",
36363           "readOnly": true
36364         },
36365         "precision": {
36366           "$ref":
36367 "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
36368 schema.json#/definitions/precision"

```

```

36369         },
36370         "n": {
36371             "$ref":
36372             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
36373             schema.json#/definitions/n"
36374         },
36375         "range": {
36376             "$ref":
36377             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
36378             schema.json#/definitions/range_number"
36379         },
36380         "step": {
36381             "$ref":
36382             "https://openconnectivityfoundation.github.io/IoTDataModels/schemas/oic.baseresource.properties-
36383             schema.json#/definitions/step_number"
36384         },
36385         "id": {
36386             "$ref":
36387             "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
36388             schema.json#/definitions/id"
36389         },
36390         "if" : {
36391             "description": "The OCF Interface set supported by this Resource",
36392             "items": {
36393                 "enum": [
36394                     "oic.if.baseline",
36395                     "oic.if.s"
36396                 ],
36397                 "maxLength": 64,
36398                 "type": "string"
36399             },
36400             "minItems": 2,
36401             "uniqueItems": true,
36402             "readOnly": true,
36403             "type": "array"
36404         }
36405     },
36406     "type" : "object",
36407     "required": ["measurement", "unit"]
36408 }
36409 }
36410 }

```

36411 6.170.5 Property definition

36412 Table 343 defines the Properties that are part of the "oic.r.sensor.measurement" Resource Type.

36413 **Table 343 – The Property definitions of the Resource with type "rt" =**
36414 **"oic.r.sensor.measurement".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type
unit	string	Yes	Read Only	SI unit in SenML of the measurement
measurement	number	Yes	Read Only	Measured value for this sensor, units depend on the specific type of sensor
precision	multiple types: see schema	No	Read Write	
n	multiple types: see schema	No	Read Write	
range	multiple types: see schema	No	Read Write	

step	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource

6.170.6 CRUDN behaviour

Table 344 defines the CRUDN operations that are supported on the "oic.r.sensor.measurement" Resource Type.

Table 344 – The CRUDN operations of the Resource with type "rt" = "oic.r.sensor.measurement".

Create	Read	Update	Delete	Notify
	get			observe

6.171 UVA Radiation

6.171.1 Introduction

This Resource specifies UV radiation measurement.

The Property "measurement" is the current measured UVA. The intensity of UV radiation is measured in the units of milliwatts per square centimetre (mW/cm2) which is energy per square centimetre received per second. UVA is measured between 315 and 400 nanometres in the electromagnetic spectrum.

6.171.2 Example URI

/UVRadiationResURI

6.171.3 Resource type

The Resource Type is defined as: "oic.r.sensor.radiation.uva".

6.171.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "UVA Radiation",
    "version": "2020-08-13",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2020 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/UVRadiationResURI" : {
      "get": {
        "description": "This Resource specifies UV radiation measurement.\n\nThe Property
\"measurement\" is the current measured UVA. The intensity of UV radiation is measured in the units
of milliwatts per square centimeter (mW/cm2) which is energy per square centimeter received per
second. UVA is measured between 315 and 400 nanometers in the electromagnetic spectrum.",
        "parameters": [
          {
            "$ref": "#/parameters/interface"
          }
        ]
      }
    }
  }
}
```

```

36460         "responses": {
36461             "200": {
36462                 "description": "",
36463                 "x-example":
36464                     {
36465                         "rt": ["oic.r.sensor.radiation.uva"],
36466                         "if": ["oic.if.s", "oic.if.baseline"],
36467                         "measurement": 23.5
36468                     }
36469             },
36470             "schema": { "$ref": "#/definitions/UVARadiation" }
36471         }
36472     }
36473 }
36474 },
36475 "parameters": {
36476     "interface": {
36477         "in": "query",
36478         "name": "if",
36479         "type": "string",
36480         "enum": ["oic.if.s", "oic.if.baseline"]
36481     }
36482 },
36483 "definitions": {
36484     "UVARadiation": {
36485         "properties": {
36486             "rt": {
36487                 "description": "The Resource Type.",
36488                 "items": {
36489                     "enum": ["oic.r.sensor.radiation.uva"],
36490                     "maxLength": 64,
36491                     "type": "string"
36492                 },
36493                 "minItems": 1,
36494                 "uniqueItems": true,
36495                 "readOnly": true,
36496                 "type": "array"
36497             },
36498             "measurement": {
36499                 "description": "The measured UVA.",
36500                 "readOnly": true,
36501                 "type": "number",
36502                 "minimum": 0
36503             },
36504             "n": {
36505                 "$ref":
36506                     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
36507                     schema.json#/definitions/n"
36508             },
36509             "id": {
36510                 "$ref":
36511                     "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
36512                     schema.json#/definitions/id"
36513             },
36514             "if": {
36515                 {
36516                     "description": "The OCF Interface set supported by this Resource.",
36517                     "items": {
36518                         "enum": [
36519                             "oic.if.s",
36520                             "oic.if.baseline"
36521                         ],
36522                         "type": "string"
36523                     },
36524                     "minItems": 2,
36525                     "uniqueItems": true,
36526                     "readOnly": true,
36527                     "type": "array"
36528                 }
36529             }
36530         },
36531         "type": "object",

```

```

36532         "required": ["measurement"]
36533     }
36534 }
36535 }

```

36536 6.171.5 Property definition

36537 Table 345 defines the Properties that are part of the "oic.r.sensor.radiation.uva" Resource Type.

36538 **Table 345 – The Property definitions of the Resource with type "rt" =**
36539 **"oic.r.sensor.radiation.uva".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
measurement	number	Yes	Read Only	The measured UVA.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

36540 6.171.6 CRUDN behaviour

36541 Table 346 defines the CRUDN operations that are supported on the "oic.r.sensor.radiation.uva"
36542 Resource Type.

36543 **Table 346 – The CRUDN operations of the Resource with type "rt" =**
36544 **"oic.r.sensor.radiation.uva".**

Create	Read	Update	Delete	Notify
	get			observe

36545 6.172 UVB Radiation

36546 6.172.1 Introduction

36547 This Resource specifies UV radiation measurement.
36548 The Property "measurement" is the current measured UVB. The intensity of UV radiation is
36549 measured in the units of milliwatts per square centimetre (mW/cm2) which is energy per square
36550 centimetre received per second. UVB is measured between 280 and 315 nanometres in the
36551 electromagnetic spectrum.

36552 6.172.2 Example URI

36553 /UVRadiationResURI

36554 6.172.3 Resource type

36555 The Resource Type is defined as: "oic.r.sensor.radiation.uvb".

36556 6.172.4 OpenAPI 2.0 definition

```

36557 {
36558     "swagger": "2.0",
36559     "info": {
36560         "title": "UVB Radiation",
36561         "version": "2020-08-13",
36562         "license": {
36563             "name": "OCF Data Model License",
36564             "url":
36565             "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
36566             CENSE.md",

```



```

36567         "x-copyright": "copyright 2020 Open Connectivity Foundation, Inc. All rights reserved."
36568     },
36569     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
36570 },
36571 "schemes": ["http"],
36572 "consumes": ["application/json"],
36573 "produces": ["application/json"],
36574 "paths": {
36575     "/UVRadiationResURI" : {
36576         "get": {
36577             "description": "This Resource specifies UV radiation measurement.\n\nThe Property
36578 \"measurement\" is the current measured UVB. The intensity of UV radiation is measured in the units
36579 of milliwatts per square centimeter (mW/cm2) which is energy per square centimeter received per
36580 second. UVB is measured between 280 and 315 nanometers in the electromagnetic spectrum.",
36581             "parameters": [
36582                 { "$ref": "#/parameters/interface" }
36583             ],
36584             "responses": {
36585                 "200": {
36586                     "description": "",
36587                     "x-example":
36588                     {
36589                         "rt": ["oic.r.sensor.radiation.uvb"],
36590                         "if": ["oic.if.s", "oic.if.baseline"],
36591                         "measurement": 35.5
36592                     }
36593                 },
36594                 "schema": { "$ref": "#/definitions/UVBRadiation" }
36595             }
36596         }
36597     }
36598 },
36599 },
36600 "parameters": {
36601     "interface": {
36602         "in": "query",
36603         "name": "if",
36604         "type": "string",
36605         "enum": ["oic.if.s", "oic.if.baseline"]
36606     }
36607 },
36608 "definitions": {
36609     "UVBRadiation" : {
36610         "properties": {
36611             "rt": {
36612                 "description": "The Resource Type.",
36613                 "items": {
36614                     "enum": ["oic.r.sensor.radiation.uvb"],
36615                     "maxLength": 64,
36616                     "type": "string"
36617                 },
36618                 "minItems": 1,
36619                 "uniqueItems": true,
36620                 "readOnly": true,
36621                 "type": "array"
36622             },
36623             "measurement": {
36624                 "description": "The measured UVB.",
36625                 "readOnly": true,
36626                 "type": "number",
36627                 "minimum": 0
36628             },
36629             "n": {
36630                 "$ref":
36631                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
36632                 schema.json#/definitions/n"
36633             },
36634             "id": {
36635                 "$ref":
36636                 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
36637                 schema.json#/definitions/id"
36638             }
36639         }
36640     }
36641 }

```

```
36639         "if" :
36640             {
36641                 "description": "The OCF Interface set supported by this Resource.",
36642                 "items": {
36643                     "enum": [
36644                         "oic.if.s",
36645                         "oic.if.baseline"
36646                     ],
36647                     "type": "string"
36648                 },
36649                 "minItems": 2,
36650                 "uniqueItems": true,
36651                 "readOnly": true,
36652                 "type": "array"
36653             }
36654     },
36655     "type": "object",
36656     "required": ["measurement"]
36657 }
36658 }
36659 }
36660 }
```

36661 **6.172.5 Property definition**

36662 Table 347 defines the Properties that are part of the "oic.r.sensor.radiation.uvb" Resource Type.

36663 **Table 347 – The Property definitions of the Resource with type "rt" =**
36664 **"oic.r.sensor.radiation.uvb".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
measurement	number	Yes	Read Only	The measured UVB.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

36665 **6.172.6 CRUDN behaviour**

36666 Table 348 defines the CRUDN operations that are supported on the "oic.r.sensor.radiation.uvb"
36667 Resource Type.

36668 **Table 348 – The CRUDN operations of the Resource with type "rt" =**
36669 **"oic.r.sensor.radiation.uvb".**

Create	Read	Update	Delete	Notify
	get			observe

36670

36671 **6.173 Colour Rendering Index**

36672 **6.173.1 Introduction**

36673 This Resource describes a Colour Rendering Index (CRI).
36674 The Property "cri" is an number.
36675 A colour rendering index (CRI) is a quantitative measure of the ability of a light source to reveal
36676 the colours of various objects faithfully in comparison with an ideal or natural light source.
36677 Light sources with a high CRI are desirable in colour-critical applications such as neonatal care
36678 and art restoration.
36679 It is defined by the International Commission on Illumination (CIE) as follows:[1]

36680 Colour rendering: Effect of an illuminant on the colour appearance of objects by conscious or
36681 subconscious comparison with their colour appearance under a reference illuminant. The value
36682 often quoted as 'CRI' on commercially available lighting products is properly called the CIE Ra
36683 value, 'CRI' being a general term and CIE Ra being the international standard colour rendering
36684 index

36685 6.173.2 Example URI

36686 /ColourRenderingIndexResURI

36687 6.173.3 Resource type

36688 The Resource Type is defined as: "oic.r.colour.renderingindex".

36689 6.173.4 OpenAPI 2.0 definition

```
36690 {  
36691   "swagger": "2.0",  
36692   "info": {  
36693     "title": "Colour Rendering Index",  
36694     "version": "2020-10-16",  
36695     "license": {  
36696       "name": "OCF Data Model License",  
36697       "url":  
36698         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI  
36699         CENSE.md",  
36700         "x-copyright": "copyright 2020 Open Connectivity Foundation, Inc. All rights reserved."  
36701       },  
36702       "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"  
36703     },  
36704     "schemes": ["http"],  
36705     "consumes": ["application/json"],  
36706     "produces": ["application/json"],  
36707     "paths": {  
36708       "/ColourRenderingIndexResURI" : {  
36709         "get": {  
36710           "description": "This Resource describes a Colour Rendering Index (CRI).\n\nThe Property  
36711           \"cri\" is an number.\n\nA colour rendering index (CRI) is a quantitative measure of the ability of a  
36712           light source to reveal the colours of various objects faithfully in comparison with an ideal or  
36713           natural light source.\n\nLight sources with a high CRI are desirable in colour-critical applications  
36714           such as neonatal care and art restoration.\n\nIt is defined by the International Commission on  
36715           Illumination (CIE) as follows:[1] \n\nColour rendering: Effect of an illuminant on the colour  
36716           appearance of objects by conscious or subconscious comparison with their colour appearance under a  
36717           reference illuminant. The value often quoted as 'CRI' on commercially available lighting products is  
36718           properly called the CIE Ra value, 'CRI' being a general term and CIE Ra being the international  
36719           standard colour rendering index",  
36720           "parameters": [  
36721             { "$ref": "#/parameters/interface" }  
36722           ],  
36723           "responses": {  
36724             "200": {  
36725               "description": "",  
36726               "x-example": {  
36727                 "rt": ["oic.r.colour.renderingindex"],  
36728                 "if": ["oic.if.s", "oic.if.baseline"],  
36729                 "cri": 80.1  
36730               },  
36731               "schema": { "$ref": "#/definitions/RenderingIndex" }  
36732             }  
36733           }  
36734         }  
36735       }  
36736     },  
36737     "parameters": {  
36738       "interface" : {  
36739         "in": "query",  
36740         "name": "if",  
36741         "type": "string",  
36742         "enum": ["oic.if.s", "oic.if.baseline"]  
36743       }  
36744     },
```

```

"definitions": {
  "RenderingIndex" : {
    "properties": {
      "rt": {
        "description": "The Resource Type.",
        "items": {
          "enum": ["oic.r.colour.renderingindex"],
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "uniqueItems": true,
        "readOnly": true,
        "type": "array"
      },
      "cri": {
        "description": "The colour rendering index.",
        "maximum": 100,
        "type": "number",
        "readOnly": true
      },
      "n": {
        "$ref":
"https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
schema.json#/definitions/n"
      },
      "id": {
        "$ref":
"https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
schema.json#/definitions/id"
      },
      "if": {
        "description": "The OCF Interface set supported by this Resource.",
        "items": {
          "enum": [
            "oic.if.s",
            "oic.if.baseline"
          ],
          "type": "string"
        },
        "minItems": 2,
        "uniqueItems": true,
        "readOnly": true,
        "type": "array"
      }
    },
    "type": "object",
    "required": ["cri"]
  }
}

```

6.173.5 Property definition

Table 349 defines the Properties that are part of the "oic.r.colour.renderingindex" Resource Type.

Table 349 – The Property definitions of the Resource with type "rt" = "oic.r.colour.renderingindex".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
cri	number	Yes	Read Only	The colour rendering index.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	

if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.
----	-------------------	----	-----------	---

6.173.6 CRUDN behaviour

Table 350 defines the CRUDN operations that are supported on the "oic.r.colour.renderingindex" Resource Type.

Table 350 – The CRUDN operations of the Resource with type "rt" = "oic.r.colour.renderingindex".

Create	Read	Update	Delete	Notify
	get			observe

6.174 Sound Pressure in Pascal

6.174.1 Introduction

This Resource describes a measured sound pressure in Pascal (pa).
The Sound pressure is a property of the sound field at a point in space where the point is the actual location of the sensor.

6.174.2 Example URI

/SoundPressureResURI

6.174.3 Resource type

The Resource Type is defined as: "oic.r.sound.pressure".

6.174.4 OpenAPI 2.0 definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Sound Pressure in Pascal",
    "version": "2020-09-01",
    "license": {
      "name": "OCF Data Model License",
      "url":
"https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
CENSE.md",
      "x-copyright": "copyright 2020 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/SoundPressureResURI" : {
      "get": {
        "description": "This Resource describes a measured sound pressure in Pascal (pa).\n The
Sound pressure is a property of the sound field at a point in space where the point is the actual
location of the sensor.",
        "parameters": [
          {"$ref": "#/parameters/interface"}
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.sound.pressure"],
              "if": ["oic.if.s", "oic.if.baseline"],
              "soundpa": 0.002
            },
            "schema": { "$ref": "#/definitions/SoundPressure" }
          }
        }
      }
    }
  }
}
```

```

36852     }
36853   }
36854 }
36855 }
36856 },
36857 "parameters": {
36858   "interface": {
36859     "in": "query",
36860     "name": "if",
36861     "type": "string",
36862     "enum": ["oic.if.s", "oic.if.baseline"]
36863   }
36864 },
36865 "definitions": {
36866   "SoundPressure": {
36867     "properties": {
36868       "rt": {
36869         "description": "The Resource Type.",
36870         "items": {
36871           "enum": ["oic.r.sound.pressure"],
36872           "maxLength": 64,
36873           "type": "string"
36874         },
36875         "minItems": 1,
36876         "uniqueItems": true,
36877         "readOnly": true,
36878         "type": "array"
36879       },
36880       "soundpa": {
36881         "description": "The sound pressure in pascal.",
36882         "type": "number",
36883         "readOnly": true,
36884         "minimum": 0
36885       },
36886       "n": {
36887         "$ref":
36888         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
36889         schema.json#/definitions/n"
36890       },
36891       "id": {
36892         "$ref":
36893         "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
36894         schema.json#/definitions/id"
36895       },
36896       "if": {
36897         "description": "The OCF Interface set supported by this Resource.",
36898         "items": {
36899           "enum": [
36900             "oic.if.s",
36901             "oic.if.baseline"
36902           ],
36903           "type": "string"
36904         },
36905         "minItems": 2,
36906         "uniqueItems": true,
36907         "readOnly": true,
36908         "type": "array"
36909       }
36910     },
36911     "type": "object",
36912     "required": ["soundpa"]
36913   }
36914 }
36915 }
36916

```

6.174.5 Property definition

Table 351 defines the Properties that are part of the "oic.r.sound.pressure" Resource Type.

36919
36920

Table 351 – The Property definitions of the Resource with type "rt" = "oic.r.sound.pressure".

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
soundpa	number	Yes	Read Only	The sound pressure in pascal.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

36921 **6.174.6 CRUDN behaviour**

36922 Table 352 defines the CRUDN operations that are supported on the "oic.r.sound.pressure"
36923 Resource Type.

36924 **Table 352 – The CRUDN operations of the Resource with type "rt" = "oic.r.sound.pressure".**

Create	Read	Update	Delete	Notify
	get			observe

36925 **6.175 Sound Pressure Level in dB**

36926 **6.175.1 Introduction**

36927 This Resource describes a measured sound pressure in dB.
36928 The Sound pressure is a property of the sound field at a point in space where the point is the
36929 actual location of the sensor.

36930 **6.175.2 Example URI**

36931 /SoundPressureLevelResURI

36932 **6.175.3 Resource type**

36933 The Resource Type is defined as: "oic.r.sound.pressurelevel".

36934 **6.175.4 OpenAPI 2.0 definition**

```
36935 {
36936   "swagger": "2.0",
36937   "info": {
36938     "title": "Sound Pressure Level in dB",
36939     "version": "2020-09-01",
36940     "license": {
36941       "name": "OCF Data Model License",
36942       "url":
36943         "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
36944         CENSE.md",
36945       "x-copyright": "copyright 2020 Open Connectivity Foundation, Inc. All rights reserved."
36946     },
36947     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
36948   },
36949   "schemes": ["http"],
36950   "consumes": ["application/json"],
36951   "produces": ["application/json"],
36952   "paths": {
36953     "/SoundPressureLevelResURI" : {
36954       "get": {
36955         "description": "This Resource describes a measured sound pressure in dB.\n The Sound
36956         pressure is a property of the sound field at a point in space where the point is the actual location
```

```

36957 of the sensor.",
36958     "parameters": [
36959         {"$ref": "#/parameters/interface"}
36960     ],
36961     "responses": {
36962         "200": {
36963             "description": "",
36964             "x-example": {
36965                 "rt": ["oic.r.sound.pressurelevel"],
36966                 "if": ["oic.if.s", "oic.if.baseline"],
36967                 "sounddB": 40.3
36968             },
36969             "schema": { "$ref": "#/definitions/SoundPressureLevel" }
36970         }
36971     }
36972 }
36973 },
36974 },
36975 "parameters": {
36976     "interface": {
36977         "in": "query",
36978         "name": "if",
36979         "type": "string",
36980         "enum": ["oic.if.s", "oic.if.baseline"]
36981     }
36982 },
36983 "definitions": {
36984     "SoundPressureLevel": {
36985         "properties": {
36986             "rt": {
36987                 "description": "The Resource Type.",
36988                 "items": {
36989                     "enum": ["oic.r.sound.pressurelevel"],
36990                     "maxLength": 64,
36991                     "type": "string"
36992                 },
36993                 "minItems": 1,
36994                 "uniqueItems": true,
36995                 "readOnly": true,
36996                 "type": "array"
36997             },
36998             "sounddB": {
36999                 "description": "The sound pressure level in dB.",
37000                 "type": "number",
37001                 "readOnly": true,
37002                 "minimum": 0
37003             },
37004             "n": {
37005                 "$ref":
37006 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
37007 schema.json#/definitions/n"
37008             },
37009             "id": {
37010                 "$ref":
37011 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
37012 schema.json#/definitions/id"
37013             },
37014             "if": {
37015                 "description": "The OCF Interface set supported by this Resource.",
37016                 "items": {
37017                     "enum": [
37018                         "oic.if.s",
37019                         "oic.if.baseline"
37020                     ],
37021                     "type": "string"
37022                 },
37023                 "minItems": 2,
37024                 "uniqueItems": true,
37025                 "readOnly": true,
37026                 "type": "array"
37027             }
37028         },

```



```

37029         "type": "object",
37030         "required": ["sounddB"]
37031     }
37032 }
37033 }

```

37034 6.175.5 Property definition

37035 Table 353 defines the Properties that are part of the "oic.r.sound.pressurelevel" Resource Type.

37036 **Table 353 – The Property definitions of the Resource with type "rt" =**
37037 **"oic.r.sound.pressurelevel".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
sounddB	number	Yes	Read Only	The sound pressure level in dB.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

37038 6.175.6 CRUDN behaviour

37039 Table 354 defines the CRUDN operations that are supported on the "oic.r.sound.pressurelevel"
37040 Resource Type.

37041 **Table 354 – The CRUDN operations of the Resource with type "rt" =**
37042 **"oic.r.sound.pressurelevel".**

Create	Read	Update	Delete	Notify
	get			observe

37043 6.176 Civic Location

37044 6.176.1 Introduction

37045 This Resource describes the properties associated with the current civic location.
37046 The Properties modelled follow the definition of the Location Object provided by RFC 4119 and
37047 clarified by RFC 5774.
37048 If a Device supports this Resource but has no defined content for it (yet) the response to a
37049 RETRIEVE contains just the "name" Property containing an empty string

37050 6.176.2 Example URI

37051 /CivicLocationResURI

37052 6.176.3 Resource type

37053 The Resource Type is defined as: "oic.r.location.civic".

37054 6.176.4 OpenAPI 2.0 definition

```

37055 {
37056   "swagger": "2.0",
37057   "info": {
37058     "title": "Civic Location",
37059     "version": "2020-09-09",
37060     "license": {
37061       "name": "OCF Data Model License",
37062       "url":

```

```

37063 "https://github.com/openconnectivityfoundation/core/blob/e28a9e0a92e17042ba3e83661e4c0fbce8bdc4ba/LI
37064 CENSE.md",
37065     "x-copyright": "copyright 2020 Open Connectivity Foundation, Inc. All rights reserved."
37066 },
37067     "termsOfService": "https://openconnectivityfoundation.github.io/core/DISCLAIMER.md"
37068 },
37069     "schemes": ["http"],
37070     "consumes": ["application/json"],
37071     "produces": ["application/json"],
37072     "paths": {
37073         "/CivicLocationResURI" : {
37074             "get": {
37075                 "description": "This Resource describes the properties associated with the current civic
37076 location.\nThe Properties modelled follow the definition of the Location Object provided by RFC 4119
37077 and clarified by RFC 5774.\nIf a Device supports this Resource but has no defined content for it
37078 (yet) the response to a RETRIEVE contains just the \"name\" Property containing an empty string",
37079                 "parameters": [
37080                     { "$ref": "#/parameters/interface" }
37081                 ],
37082                 "responses": {
37083                     "200": {
37084                         "description" : "RETRIEVES the current civic location. ",
37085                         "x-example": {
37086                             "rt": ["oic.r.location.civic"],
37087                             "if": ["oic.if.rw", "oic.if.baseline"],
37088                             "country": "US",
37089                             "national-a1": "New York",
37090                             "region-a2": "King's County",
37091                             "city-a3": "New York",
37092                             "citydivision-a4": "Manhattan",
37093                             "block-a5": "Midtown",
37094                             "street-a6": "5th",
37095                             "prd": "N",
37096                             "pod": "SW",
37097                             "sts": "Avenue",
37098                             "buildingnumber": 455,
37099                             "buildingnumbersuffix": "A",
37100                             "landmark": "Public Library",
37101                             "loc": "Basement Stacks",
37102                             "flr": -1,
37103                             "name": "I ain't afraid",
37104                             "postalcode": "10016"
37105                         },
37106                         "schema": { "$ref": "#/definitions/Civiclocation" }
37107                     }
37108                 }
37109             },
37110             "post": {
37111                 "description": "Update or set Civic Location information.",
37112                 "parameters": [
37113                     { "$ref": "#/parameters/interface-rw" },
37114                     {
37115                         "name": "body",
37116                         "in": "body",
37117                         "required": true,
37118                         "schema": { "$ref": "#/definitions/Civiclocation-Update" },
37119                         "x-example": {
37120                             "country": "GB",
37121                             "national-a1": "Scotland",
37122                             "region-a2": "Perthshire",
37123                             "city-a3": "Doune",
37124                             "street-a6": "Castle Hill",
37125                             "landmark": "Doune Castle",
37126                             "postalcode": "FK16 6EA"
37127                         }
37128                     }
37129                 ],
37130                 "responses": {
37131                     "200": {
37132                         "description" : "",
37133                         "x-example": {
37134                             "country": "GB",

```

```

37135         "national-a1": "Scotland",
37136         "region-a2": "Perthshire",
37137         "city-a3": "Doune",
37138         "street-a6": "Castle Hill",
37139         "landmark": "Doune Castle",
37140         "postalcode": "FK16 6EA"
37141     },
37142     "schema": { "$ref": "#/definitions/Civiclocation-Update" }
37143 }
37144 }
37145 }
37146 }
37147 },
37148 "parameters": {
37149     "interface": {
37150         "in": "query",
37151         "name": "if",
37152         "type": "string",
37153         "enum": ["oic.if.rw", "oic.if.baseline"]
37154     },
37155     "interface-rw": {
37156         "in": "query",
37157         "name": "if",
37158         "type": "string",
37159         "enum": ["oic.if.rw"]
37160     }
37161 },
37162 "definitions": {
37163     "Civiclocation" : {
37164         "properties": {
37165             "rt": {
37166                 "description": "The Resource Type.",
37167                 "items": {
37168                     "enum": ["oic.r.location.civic"],
37169                     "maxLength": 64,
37170                     "type": "string"
37171                 },
37172                 "minItems": 1,
37173                 "uniqueItems": true,
37174                 "readOnly": true,
37175                 "type": "array"
37176             },
37177             "country": {
37178                 "description": "The Country using the ISO 3166 two letter code.",
37179                 "type": "string"
37180             },
37181             "national-a1": {
37182                 "description": "The National subdivision (state, province etc).",
37183                 "type": "string"
37184             },
37185             "region-a2": {
37186                 "description": "The Regional subdivision (county, parish, district etc).",
37187                 "type": "string"
37188             },
37189             "city-a3": {
37190                 "description": "The City, Township, or similar.",
37191                 "type": "string"
37192             },
37193             "citydivision-a4": {
37194                 "description": "The division within a City or Town.",
37195                 "type": "string"
37196             },
37197             "block-a5": {
37198                 "description": "The block or neighbourhood.",
37199                 "type": "string"
37200             },
37201             "street-a6": {
37202                 "description": "The Street name.",
37203                 "type": "string"
37204             },
37205             "prd": {
37206                 "description": "Leading Street Direction.",

```

```

37207         "type": "string",
37208         "enum": [ "N", "S", "E", "W", "NE", "NW", "SE", "SW" ]
37209     },
37210     "pod": {
37211         "description": "Trailing Street Suffix.",
37212         "type": "string",
37213         "enum": [ "N", "S", "E", "W", "NE", "NW", "SE", "SW" ]
37214     },
37215     "sts": {
37216         "description": "Street Suffix.",
37217         "type": "string"
37218     },
37219     "buildingnumber": {
37220         "description": "House or Building Number.",
37221         "type": "integer"
37222     },
37223     "buildingnumbersuffix": {
37224         "description": "Building Number Suffix.",
37225         "type": "string"
37226     },
37227     "landmark": {
37228         "description": "Landmark or vanity address.",
37229         "type": "string"
37230     },
37231     "loc": {
37232         "description": "Additional location information.",
37233         "type": "string"
37234     },
37235     "flr": {
37236         "description": "Floor of the building. Zero (0) represents the floor that is at street
37237 (ground) level.",
37238         "type": "integer"
37239     },
37240     "name": {
37241         "description": "Resident, Business etc.",
37242         "type": "string"
37243     },
37244     "postalcode": {
37245         "description": "Postal or Zip code.",
37246         "type": "string"
37247     },
37248     "n": {
37249         "$ref":
37250 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
37251 schema.json#/definitions/n"
37252     },
37253     "id": {
37254         "$ref":
37255 "https://openconnectivityfoundation.github.io/core/schemas/oic.common.properties.core-
37256 schema.json#/definitions/id"
37257     },
37258     "if": {
37259         "description": "The OCF Interface set supported by this Resource.",
37260         "items": {
37261             "enum": [
37262                 "oic.if.rw",
37263                 "oic.if.baseline"
37264             ],
37265             "type": "string"
37266         },
37267         "minItems": 2,
37268         "uniqueItems": true,
37269         "readOnly": true,
37270         "type": "array"
37271     },
37272 },
37273 "type": "object",
37274 "required": [ "name" ]
37275 },
37276 "Civiclocation-Update" : {
37277     "properties": {
37278         "country": {

```

```

37279         "description": "The Country using the ISO 3166 two letter code.",
37280         "type": "string"
37281     },
37282     "national-a1": {
37283         "description": "The National subdivision (state, province etc).",
37284         "type": "string"
37285     },
37286     "region-a2": {
37287         "description": "The Regional subdivision (county, parish, district etc).",
37288         "type": "string"
37289     },
37290     "city-a3": {
37291         "description": "The City, Township, or similar.",
37292         "type": "string"
37293     },
37294     "citydivision-a4": {
37295         "description": "The division within a City or Town.",
37296         "type": "string"
37297     },
37298     "block-a5": {
37299         "description": "The block or neighbourhood.",
37300         "type": "string"
37301     },
37302     "street-a6": {
37303         "description": "The Street name.",
37304         "type": "string"
37305     },
37306     "prd": {
37307         "description": "Leading Street Direction.",
37308         "type": "string",
37309         "enum": [ "N", "S", "E", "W", "NE", "NW", "SE", "SW" ]
37310     },
37311     "pod": {
37312         "description": "Trailing Street Suffix.",
37313         "type": "string",
37314         "enum": [ "N", "S", "E", "W", "NE", "NW", "SE", "SW" ]
37315     },
37316     "sts": {
37317         "description": "Street Suffix.",
37318         "type": "string"
37319     },
37320     "buildingnumber": {
37321         "description": "House or Building Number.",
37322         "type": "integer"
37323     },
37324     "buildingnumbersuffix": {
37325         "description": "Building Number Suffix.",
37326         "type": "string"
37327     },
37328     "landmark": {
37329         "description": "Landmark or vanity address.",
37330         "type": "string"
37331     },
37332     "loc": {
37333         "description": "Additional location information.",
37334         "type": "string"
37335     },
37336     "flr": {
37337         "description": "Floor of the building. Zero (0) represents the floor that is at street
37338 (ground) level.",
37339         "type": "integer"
37340     },
37341     "name": {
37342         "description": "Resident, Business etc.",
37343         "type": "string"
37344     },
37345     "postalcode": {
37346         "description": "Postal or Zip code.",
37347         "type": "string"
37348     }
37349 },
37350 "type": "object"

```

37351 }
 37352 }
 37353 }

37354 6.176.5 Property definition

37355 Table 355 defines the Properties that are part of the "oic.r.location.civic" Resource Type.

37356 **Table 355 – The Property definitions of the Resource with type "rt" = "oic.r.location.civic".**

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema	No	Read Only	The Resource Type.
country	string	No	Read Write	The Country using the ISO 3166 two letter code.
national-a1	string	No	Read Write	The National subdivision (state, province etc).
region-a2	string	No	Read Write	The Regional subdivision (county, parish, district etc).
city-a3	string	No	Read Write	The City, Township, or similar.
citydivision-a4	string	No	Read Write	The division within a City or Town.
block-a5	string	No	Read Write	The block or neighbourhood.
street-a6	string	No	Read Write	The Street name.
prd	string	No	Read Write	Leading Street Direction.
pod	string	No	Read Write	Trailing Street Suffix.
sts	string	No	Read Write	Street Suffix.
buildingnumber	integer	No	Read Write	House or Building Number.
buildingnumbersuffix	string	No	Read Write	Building Number Suffix.
landmark	string	No	Read Write	Landmark or vanity address.
loc	string	No	Read Write	Additional location information.
flr	integer	No	Read Write	Floor of the building. Zero (0) represents the floor that is at street (ground) level.
name	string	Yes	Read Write	Resident, Business etc.
postalcode	string	No	Read Write	Postal or Zip code.
n	multiple types: see schema	No	Read Write	
id	multiple types: see schema	No	Read Write	
if	array: see schema	No	Read Only	The OCF Interface set supported by this Resource.

country	string		Read Write	The Country using the ISO 3166 two letter code.
national-a1	string		Read Write	The National subdivision (state, province etc).
region-a2	string		Read Write	The Regional subdivision (county, parish, district etc).
city-a3	string		Read Write	The City, Township, or similar.
citydivision-a4	string		Read Write	The division within a City or Town.
block-a5	string		Read Write	The block or neighbourhood.
street-a6	string		Read Write	The Street name.
prd	string		Read Write	Leading Street Direction.
pod	string		Read Write	Trailing Street Suffix.
sts	string		Read Write	Street Suffix.
buildingnumber	integer		Read Write	House or Building Number.
buildingnumbersuffix	string		Read Write	Building Number Suffix.
landmark	string		Read Write	Landmark or vanity address.
loc	string		Read Write	Additional location information.
flr	integer		Read Write	Floor of the building. Zero (0) represents the floor that is at street (ground) level.
name	string		Read Write	Resident, Business etc.
postalcode	string		Read Write	Postal or Zip code.

6.176.6 CRUDN behaviour

Table 356 defines the CRUDN operations that are supported on the "oic.r.location.civic" Resource Type.

Table 356 – The CRUDN operations of the Resource with type "rt" = "oic.r.location.civic".

Create	Read	Update	Delete	Notify
	get	post		observe