
**Information technology — Open
Connectivity Foundation (OCF)
Specification —**

**Part 4:
Resource type specification**

*Technologies de l'information — Spécification de la Fondation pour la
connectivité ouverte (Fondation OCF) —*

Partie 4: Spécification des types de ressources



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1 Scope

The OCF Resource Type Specification specifies the Resources that have been defined by OCF that may be exposed by an OCF Device.

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

This specification is built on top of the OCF Core Specification. The OCF Core Specification 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, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

OCF Core Specification, *Open Connectivity Foundation Core Specification*, Version 1.0.0.

JSON SCHEMA, *JSON Schema: Core Definitions and Terminology*, Version 4.0,
<http://json-schema.org/latest/json-schema-core.html>.

RAML, *Restful API modelling language*, Version 0.8.

<https://github.com/raml-org/raml-spec/blob/master/versions/raml-08/raml-08.md>

ISO 8601:2004, *Data elements and interchange formats – information interchange – Representation of dates and times*.

CIE CIE159:2004, *A colour appearance model for colour management systems: CIECAM02*, January 19, 2004.

http://www.cie.co.at/index.php/Publications/index.php?i_ca_id=435

Swagger2.0, *Swagger RESTful API Documentation Specification*, Version 2.0

<http://swagger.io/specification/>

OCF Resource Type Definitions, *API Definition Language for OCF Resource Type Definitions*, Release OCF-v1.0.0

<https://github.com/OpenInterConnect/IoTDataModels>

3 Terms, definitions, symbols and abbreviations

3.1 Terms and definitions

3.1.1

Actuator

Resource with support of the UPDATE operation.

3.1.2

Composite Resource Type

A Resource Type defined as an OCF Collection of other Resource Types.

3.1.3

Sensor

Resource without support of the UPDATE operation.

3.2 Symbols and abbreviations

3.2.1

CRUDN

Create Retrieve Update Delete Notify

This is an acronym indicating which operations are possible on the Resource.

3.2.2

CSV

Comma Separated Value List

Comma Separated Value List is a construction to have more fields in 1 string separated by commas. If a value contains a comma then the comma can be escaped by adding “\” in front of the comma.

3.2.3

OCF

Open Connectivity Foundation

OCF is the standards organization which created and owns this specification.

3.2.4

RAML

RESTful API modelling language

RAML is a simple and succinct way of describing RESTful APIs. See RAML for further details.

3.2.5

REST

Representational State Transfer

REST is an architecture style for designing networked applications and relies on a stateless, client-server, cacheable communications protocol.

3.2.6

TBD

To Be Determined

3.3 Conventions

In this specification 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.

4 Document conventions and organization

This document lists all the Resource Types currently specified by OCF. The Resources are used by application profile device definitions. The Resource Types mentioned in this document can be used by any OCF conforming device in any OCF Collection or device representation.

For the purposes of this document, the terms and definitions given in OCF Core Specification apply.

4.1 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 specification, they should not be implemented except for backward compatibility. The occurrence of a deprecated feature during operation of an implementation compliant with the current specification 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 specification.

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*.

4.2 Data types

This specification adopts the types defined in the OCF Core Specification with the exceptions defined in this Section

All Properties in this specification that are defined as JSON number type shall be transmitted encoded as floating point values and not integer values. Reception of Properties defined as JSON number type shall be as defined in the OCF Core Specification. See OCF Core Specification Section 12.3 for specifics.

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 an OCF Device, different URIs for the different Resource instances shall be used.

An implementation shall follow the requirements defined in the OCF Core Specification with respect to population of the URI. Please refer to the OCF Core Specification Sections 6.2 and 6.3 for specific details.

5.2 Interfaces

The OCF Core Specification specifies that all Resource Types have associated with them at least one Interface; this Interface is advertised during Resource discovery. In addition the OCF Core Specification defines a number of Interfaces that can be applied to an instance of a Resource Type.

The Default Interface associated with all Resource Types defined in this specification shall be the supported interface listed first within the applicable enumeration in the definition of the Resource Type (see Section 6 Resource Type definitions); with an exception being when a Resource Type definition has either Sensor or Actuator interfaces as the Default Interface, in this instance an implementation shall select one of them as the default. Thus a Server hosting such a Resource Type shall enable either oic.if.s (if a Sensor) or oic.if.a (if an Actuator) as the Interface that is exposed via "/oic/res" in addition to the mandated baseline interface ("oic.if.baseline"). A Server may also support other Interfaces in addition to the one specified as the default.

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). In such cases the Device shall not expose the actuator interface for the Resource ("oic.if.a"), the Device shall expose the Resource in "/oic/res" with the Sensor Interface ("oic.if.s") as the Default Interface in addition to any mandated interfaces.

5.3 RAML definition

The RAML definitions used in this document are normative. By extension all defined JSON payloads shall comply with the indicated JSON schema. Note that the defined schemas have extensions that include all OCF Core Specification defined (and mandated) Properties.

The RAML definitions are used to describe the payloads of the CRUDN operations on the specified Resource Type. The CRUDN operations are defined in the OCF Core Specification. The OCF Core Specification also specifies additional Properties in the payloads of the CRUDN operations. The RAML definitions in this document are not of themselves sufficient to create an implementation, additional Properties defined in the Core specification need to be added to create a compliant implementation. This specification makes use of a subset of the responses supported by RAML specifics on the use of these responses are defined in Table 5-4 Return codes behaviour in RAML. Note that the actual values of success and error conditions are defined in the OCF Core Specification.

The RAML definitions map the OCF CRUDN behaviour to the RAML as defined in Table 5-1.

Table 5-1 Conversion between OCF CRUDN and RAML definitions¹

Resource	Create	Retrieve	Update	Delete	Notify
/example	put or post	get	put or post	delete	

Notify is not part of an RAML definition but is defined in the Core specification. The semantics of a Notify are the same as the CRUDN Read value. All Resource Types defined in this specification support notification via the use of observe as defined in OCF Core Specification Section 11.4.2.

¹ Please refer to OCF Core Specification Table 26 for detailed semantics around the appropriate use of CoAP request methods

5.4 Property definition

5.4.1 Common Properties

The OCF Core Specification specifies a number of Properties that may be defined for OCF Resources. The Common Properties “if” and “rt” shall be specified for all Resource Types defined in this specification; they are exposed within the OCF Core Specification defined /oic/res/ Resource Type through which the OCF Server and its available Resources are discovered. The Common Properties “p” and “n” may be specified for all Resource Types defined in this specification.

If an OCF 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 OCF Core Specification defined baseline interface (oic.if.baseline) by specifying this in a query parameter.

Table 5-2 Common Properties for OCF Resources

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

5.4.2 Resource Properties

The Properties against which the CRUDN operations are specified are defined with JSON schemas (see JSON SCHEMA).

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 5-3. 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 5-3 Property definitions of a Resource Type in the JSON schema

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	Linear range	Read-only	no	Range of input values, specified as a two element array.
step	Step	Dependent on the Resource	Integer or Number	Dependent on the Resource	Read-only	no	Step value across the defined range
precision	Precision	Dependent on the Resource	Number	Dependent on the Resource	Read-only	no	Accuracy granularity of the exposed value

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. The type of the value shall be indicated in the RAML definition of the Resource Type and should be suitable for the conveyed value. All Property Names and Property Values defined in this specification are case sensitive.

5.4.3 Basic Resource Schema

All Resource Types defined herein are represented as previously noted by JSON schemas. The RAML definitions of the Resource Types embed the Resource Type specific schema elements.

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 5-4.

Table 5-4 Return codes behaviour in RAML

Response Code	Meaning
200	Payload of the response will confirm the change. The RAML 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 RAML definition will contain schema to define the payload.
204	Ok, everything went well, no payload provided. The RAML definition does not contain a schema. The RAML definition may even omit this value, since it is regarded as default behaviour of an OCF 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).

5.5 Example Resource Definitions

Table 5-5 RAML example of an Resource representing an Actuator

<pre> #%RAML 0.8 title: OCFExampleActuator version: v1.0 /ActuatorExample: description: ResourceActuatorExample description. If the ActuatorExample is implemented as the example in the RAML the next values apply: The name of the Resource is "ResourceExample Name" The Resource Type is "oic.r.actuatorexample" The interface (if) is denoting an Actuator by having the value oic.if.a. The unique identification is "actuator_example_id" The value of the ActuatorExample is modeled as integer The range of the value of ActuatorExample is between 0 and 100 get: description: retrieves the example Resource. responses: 200: body: application/json: </pre>

```

schema: |
{
  "id": "http://openinterconnect.org/schemas/oic.r.actuatorexample.json",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "AcutatorExample",
  "definitions": {
    "oic.r.actuatorexample": {
      "type": "object",
      "properties": {
        "value": { "type": "string" },
        "range": {
          "type": "array",
          "items": {
            "type": "integer"
          }
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    { "$ref": "oic.core.json#/definitions/oic.core" },
    { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
    { "$ref": "#/definitions/oic.r.actuatorexample" }
  ],
  "required": ["value"]
}

example: |
{
  "n": "ActuatorExample Name",
  "id": "actuator_example_id",
  "rt": ["oic.r.actuatorexample"],
  "value": "0",
  "range": ["0,100"]
}

post:
description: |
  sets the Actuator value
  example only updates the value of the Resource
  it does not change the Resource name, although it is allowed to do so.

body:
  application/json:
    schema: |
      {
        "id": "http://openinterconnect.org/schemas/oic.r.actuatorexample.json",
        "$schema": "http://json-schema.org/draft-04/schema#",
        "title": "AcutatorExample",
        "definitions": {
          "oic.r.actuatorexample": {
            "type": "object",
            "properties": {
              "value": { "type": "string" },
              "range": {
                "type": "array",
                "items": {
                  "type": "integer"
                }
              }
            }
          }
        },
        "type": "object",
        "allOf": [
          { "$ref": "oic.core.json#/definitions/oic.core" },
          { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
          { "$ref": "#/definitions/oic.r.actuatorexample" }
        ]
      }

```

```

    ],
    "required": ["value"]
  }
  example: |
    {
      "id": "actuator_example_id",
      "value" : 5
    }
  responses:
    200:
      body:
        application/json:
          schema: |
            {
              "id": "http://openinterconnect.org/schemas/oic.r.actuatorexample.json",
              "$schema": "http://json-schema.org/draft-04/schema#",
              "title": "AcutatorExample",
              "definitions": {
                "oic.r.actuatorexample": {
                  "type": "object",
                  "properties": {
                    "value": { "type": "string" },
                    "range": {
                      "type": "array",
                      "items": {
                        "type": "integer"
                      }
                    }
                  }
                }
              },
              "type": "object",
              "allOf": [
                { "$ref": "oic.core.json#/definitions/oic.core" },
                { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
                { "$ref": "#/definitions/oic.r.actuatorexample" }
              ],
              "required": ["value"]
            }
          example: |
            {
              "id": "actuator_example_id",
              "value": 5
            }
    204:

```

Table 5-6 RAML example of an Resource specifying a Sensor

```

#%RAML 0.8
title: OCFExampleSensor
version: v1.0

/SensorExample:
  description: |
    SensorExample description.
    If the SensorExample is implemented as the example in the RAML the next values apply:
    The name of the Resource is "ResourceExample_Name"
    The Resource Type is "oic.r.sensorexample"

```

The Interface (if) is denoting a Sensor by having the value oic.if.s.
 The unique identification is "sensor_example_id"
 The value of the ResourceSensorExample is modeled as integer

get:

description: |
 retrieves the example Resource.

responses:

200:

body:

application/json:

schema: |

```
{
  "id": "http://openinterconnect.org/schemas/oic.r.sensorexample.json",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "SensorExample",
  "definitions": {
    "oic.r.sensorexample": {
      "type": "object",
      "properties": {
        "value": { "type": "string" },
        "range": {
          "type": "array",
          "items": {
            "type": "integer"
          }
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    { "$ref": "oic.core.json#/definitions/oic.core" },
    { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
    { "$ref": "#/definitions/oic.r.sensorexample" },
  ],
  "required": ["value"]
}
```

example: |

```
{
  "n": "SensorExample_Name",
  "rt": ["oic.r.sensorexample"],
  "id": "sensor_example_id",
  "value": "3"
}
```

5.6 Observable Resource Types

The OCF Core Specification defines a mechanism by which Resources can advertise themselves as “Observable” to an OCF Client. All Resource Types defined in this specification may be observed. Whether or not a Resource Type is made observable via use of the Policy Link Parameter is entirely implementation dependent.

5.6.1 Conditional Notification

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”]”.

5.6.1.1 Conditional Notification Property Summary

Table 5-7 Conditional Notification Properties 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 5-7 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.

5.6.1.2 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.

5.6.1.3 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.

5.6.1.4 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.

5.6.1.5 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: Overall conditional notification logic. Figure 2: Conditional Notification Example Flow provides an illustrative sequence.

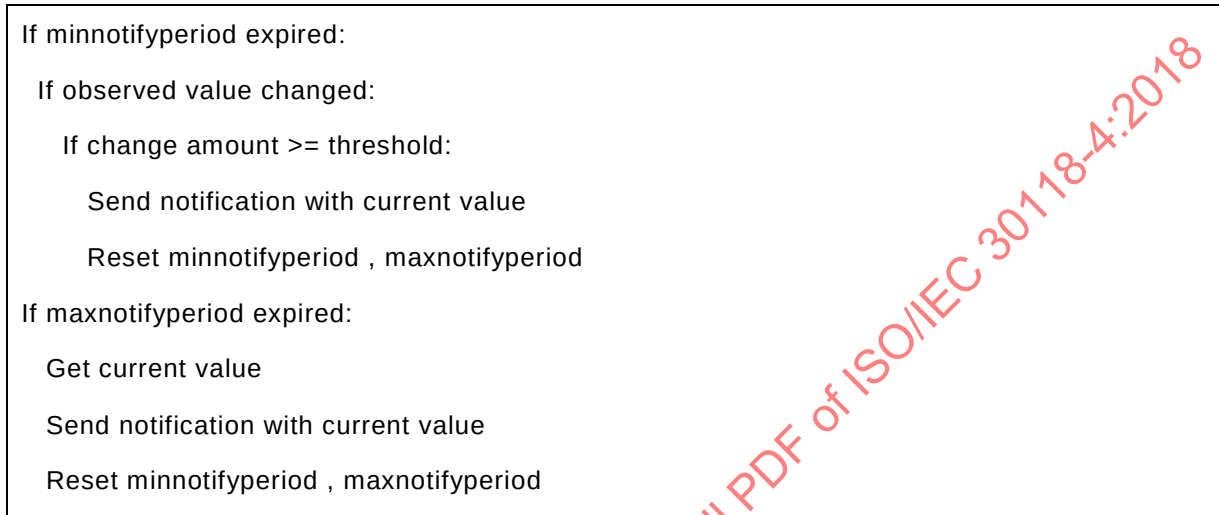


Figure 1: Overall conditional notification logic

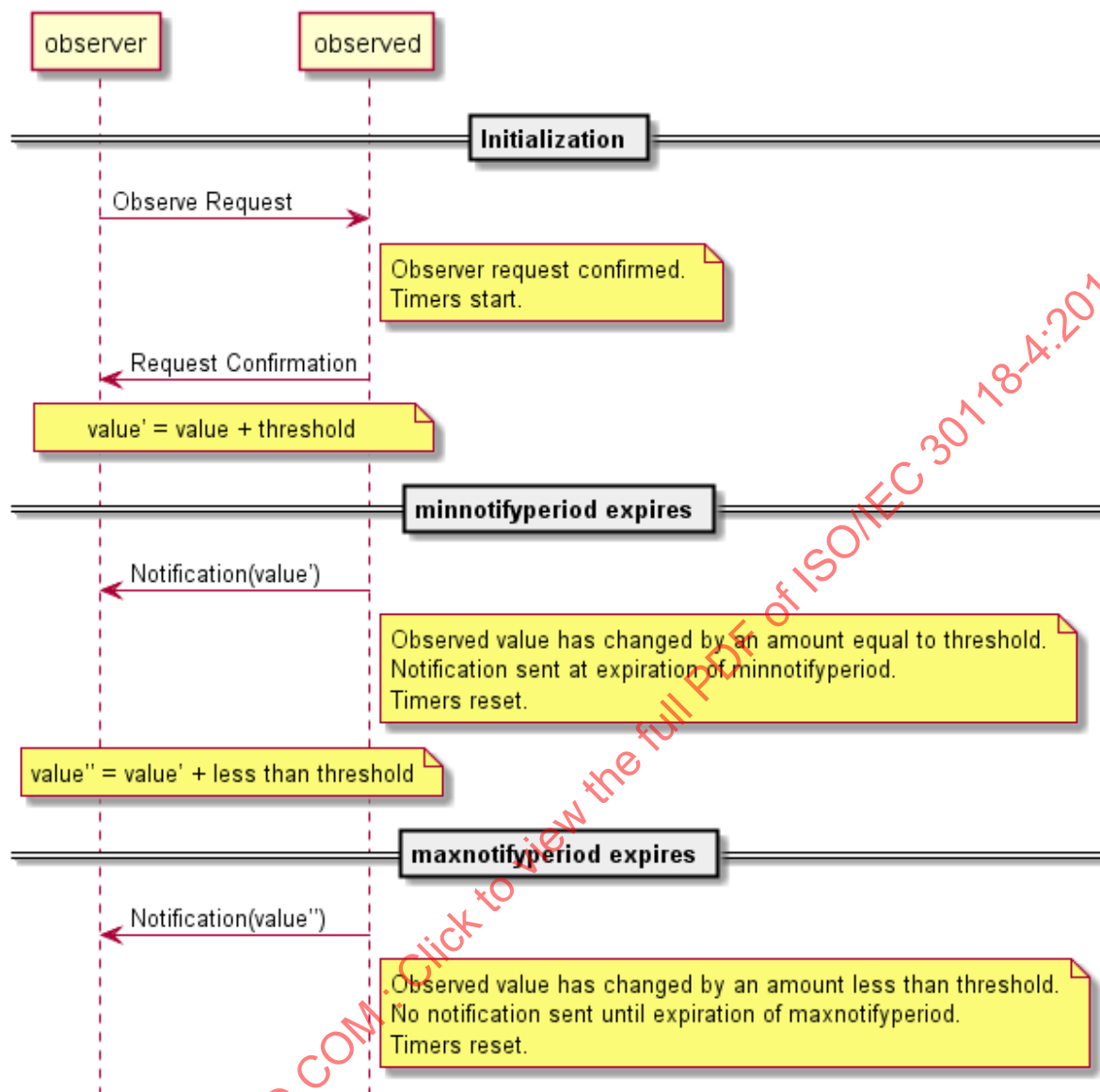


Figure 2: Conditional Notification Example Flow

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 Table 5-8 RAML example of Composite Resource Type. 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 the OCF Core Specification section 7.7.2 for more details. Note that the example listed below contains a partial schema of this definition as it is for descriptive purpose only. The Property name of the array is "links". The relationship type shall be "contains", denoting that the composite contains other Resource Types that make up the Composite Resource Type.

The access to the listed Resources can be achieved in a single operation by using the OCF Core Specification defined oic.if.ll interface.

Table 5-8 RAML example of Composite Resource

```

#%RAML 0.8
title: OCFExampleCompositeResource
version: v1.0

/CompositeExample:
  description: |
    CompositeExample description.
    If the CompositeExample is implemented as per the example RAML the following values apply:
    The name of the Resource is "CompositeExample Name"
    The Resource Type is "oic.r.compositeexample"
    The Interface (if) can denote Sensor or Actuator
    The value of the ActuatorExample is modeled as 2 references to other implemented Resources
    In the example oic.r.SensorExample and oic.r.ActuatorExample are used.
  get:
    description: |
      retrieves the composite example Resource.
    responses:
      200:
        body:
          application/json:
            schema: |
              {
                "id": "http://openinterconnect.org/schemas/oic.r.baseResource#",
                "$schema": "http://json-schema.org/schema#",
                "title": "SensorExample",
                "definitions": {
                  "oic.r.compositeexample": {
                    "type": "object",
                    "properties": {
                      "links": {
                        "type": "array",
                        "items": {
                          "$ref": "oic.oic-link-schema.json#"
                        }
                      }
                    }
                  }
                },
                "type": "object",
                "allof": [
                  {"$ref": "oic.core.json#/definitions/oic.core"},
                  {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
                  {"$ref": "#/definitions/oic.r.compositeexample"}
                ],
                "required": ["n", "id", "links"]
              }
            example: |

```

```

{
  "n": "CompositeExample Name",
  "id": "composite_example_id",
  "links": [
    {
      "href": "/my_1st_reference",
      "rel": "contains",
      "rt": ["oic.r.actuatorexample"],
      "if": ["oic.if.a"]
    },
    {
      "href": "/my_2nd_reference",
      "rel": "contains",
      "rt": ["oic.r.sensorexample"],
      "if": ["oic.if.s"]
    }
  ]
}

```

5.8 Specification Version

Devices conformant to this specification version shall add the string "ocf.res.1.0.0" to the dmV Property in oic.wk.d.

6 Resource Type definitions

6.1 Introduction

This section contains definitions for all Resource Types; the complete set is listed in Table 6-1 Alphabetical list of Resource Types. Annex A.1 provides the basic underlying schema definition against which all other Resource Types are constructed. Annex A.1 also provides an example of the use of the "oic.if.baseline" interface that all Resource Types shall support. All other sections provide example representations of the Resource Type following the application of the default interface that is applied for that specific Resource Type.

Annex B provides definitions for all Resource Types making use of Swagger2.0 instead of RAML.

All Resource Types shall be created in accordance with the OCF Core Specification Section 7.2. All comparisons against a Resource Type shall be case insensitive.

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

All of the sub-clauses in clause 6, Annex A, and Annex B describe the Resource Types with a restful API definition language. The Resource Type definitions presented in clause 6, Annex A, and Annex B are formatted for readability, and so may appear to have extra line breaks. The contents of the Resource Types without the extra line breaks are available in OCF Resource Type Definitions.

Table 6-1 Alphabetical list of Resource Types

Friendly (informative)	Name Resource Type (rt)	Section
Acceleration Sensor	oic.r.sensor.acceleration	6.56

Activity Count	oic.r.sensor.activity.count	6.24
Air Quality	oic.r.airquality	6.66
Air Quality Collection	oic.r.airqualitycollection	6.67
Altimeter	oic.r.altimeter	6.61
Atmospheric Pressure	oic.r.sensor.atmosphericpressure	6.25
Air Flow	oic.r.airflow	6.2
Air Flow Control	oic.r.airflowcontrol	6.3
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
Basic Resource Schema	Not Applicable	Annex A.1
Battery	oic.r.energy.battery	6.4
Binary switch	oic.r.switch.binary	6.5
Brightness	oic.r.light.brightness	6.6
Button Switch	oic.r.button	6.29
Carbon Dioxide Sensor	oic.r.sensor.carbondioxide	6.30
Carbon Monoxide Sensor	oic.r.sensor.carbonmonoxide	6.31
Clock	oic.r.clock	6.62
Colour Chroma	oic.r.colour.chroma	6.7
Colour RGB	oic.r.colour.rgb	6.8
Colour Saturation	oic.r.colour.saturation	6.33
Consumable	oic.r.consumable	6.68

Consumable Collection	oic.r.consumablecollection	6.69
Contact Sensor	oic.r.sensor.contact	6.34
Delay Defrost	oic.r.delaydefrost	6.70
Demand Response Load Control (DRLC)	oic.r.energy.drlc	6.35
Dimming	oic.r.light.dimming	6.9
Door	oic.r.door	6.10
Ecomode	oic.r.ecomode	6.71
Energy Consumption	oic.r.energy.consumption	6.11
Energy Overload/Circuit Breaker	oic.r.energy.overload	6.36
Energy Usage	oic.r.energy.usage	6.12
Generic Sensor	oic.r.sensor	6.37
Geolocation Sensor	oic.r.sensor.geolocation	6.63
Glass Break Sensor	oic.r.sensor.glassbreak	6.38
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
Icemaker	oic.r.icemaker	6.14
Illuminance Sensor	oic.r.sensor.illuminance	6.40
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 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
Mode	oic.r.mode	6.17
Movement	oic.r.movement.linear	6.54
Motion Sensor	oic.r.sensor.motion	6.47
Night Mode	oic.r.nightmode	6.48
Open Level	oic.r.openlevel	6.18
Operational State	oic.r.operational.state	6.19
Pan Tilt Zoom Movement	oic.r.ptz	6.50
Presence Sensor	oic.r.sensor.presence	6.49
Ramp Time	oic.r.light.ramptime	6.20
Refrigeration	oic.r.refrigeration	6.21
Selectable Levels	oic.r.selectablelevels	6.74
Signal Strength	oic.r.signalstrength	6.51
Sleep Sensor	oic.r.sensor.sleep	6.58
Smoke Sensor	oic.r.sensor.smoke	6.59
Speech Synthesis	oic.r.speech.tts	6.52
Temperature	oic.r.temperature	6.22
Three Axis Sensor	oic.r.sensor.threeaxis	6.60
Time Period	oic.r.time.period	6.23

Touch Sensor	oic.r.sensor.touch	6.53
UV Radiation	oic.r.sensor.radiation.uv	6.54
Value Conditional	oic.r.value.conditional	6.75
Water Sensor	oic.r.sensor.water	6.55
Weight	oic.r.weight	6.65

6.2 Air Flow

6.2.1 Introduction

This resource describes the properties associated with air flow. The `supporteddirections` is the set of valid values for the direction property for a particular instance of this resource type. The direction is the directionality of the air flow if applicable, if `supporteddirections` is also present it must be a value from that set. Direction values are dependent on the capabilities of the unit. The speed is an integer representing the current speed level for the unit. The range (from `oic.r.baseresource`) is an array of the min,max values for the speed level. If not present the range defaults to [0,100]. `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 (rt) is defined as: `oic.r.airflow`.

6.2.4 RAML Definition

```
##RAML 0.8
```

```
title: OICAirFlow
```

```
version: v1.1.0-20160519
```

```
traits:
```

```
- interface :
```

```
  queryParameters:
```

```
    if:
```

```
      enum: ["oic.if.a", "oic.if.baseline"]
```

```
/AirFlowResURI:
```

```
  description: |
```

```
    This resource describes the properties associated with air flow.
    The supporteddirections is the set of valid values for the direction property for a particular
    instance of this resource type.
```

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

```
    Direction values are dependent on the capabilities of the unit.
```

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

```
    The range (from oic.r.baseresource) is an array of the min,max values for the speed level
```

```
    If not present the range defaults to [0,100].
```

```
    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.
```

```

is : ['interface']
get:
  description: |
    Retrieves the current air flow values.

  responses :
    200:
      body:
        application/json:
          schema: |
            {
              "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.airFlow.json#",
              "$schema": "http://json-schema.org/draft-04/schema#",
              "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
              "title": "Air Flow",
              "definitions": {
                "oic.r.airflow": {
                  "type": "object",
                  "properties": {
                    "supporteddirections": {
                      "type": "array",
                      "description": "Array of possible direction settings for this instance of
the Resource Type",
                      "readOnly": true,
                      "items": {
                        "type": "string",
                        "minItems": 1,
                        "uniqueItems": true
                      }
                    },
                    "direction": {
                      "type": "string",
                      "description": "Directionality of the air flow"
                    },
                    "speed": {
                      "type": "integer",
                      "description": "Current speed level"
                    },
                    "automode": {
                      "enum": ["On", "Off"],
                      "description": "Status of the automode feature, if on speed is set by the
device"
                    }
                  }
                }
              },
              "type": "object",
              "allOf": [
                { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
                { "$ref": "#/definitions/oic.r.airflow" }
              ],
              "required": ["speed"]
            }

          example: |
            {
              "rt": ["oic.r.airflow"],
              "id": "unique_example_id",
              "supporteddirections": ["left", "right", "centre"],
              "direction": "left",
              "speed": 5,
              "range": [1, 7],
              "automode": "Off"
            }

```

```

post:
  description: |
    Sets the current air flow values.
    Only direction and speed may be set by an update operation.

  body:
    application/json:
      schema: |
        {
          "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.airFlow.json#",
          "$schema": "http://json-schema.org/draft-04/schema#",
          "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
          "title": "Air Flow",
          "definitions": {
            "oic.r.airflow": {
              "type": "object",
              "properties": {
                "supporteddirections": {
                  "type": "array",
                  "description": "Array of possible direction settings for this instance of the
Resource Type",
                  "readOnly": true,
                  "items": {
                    "type": "string",
                    "minItems": 1,
                    "uniqueItems": true
                  }
                },
                "direction": {
                  "type": "string",
                  "description": "Directionality of the air flow"
                },
                "speed": {
                  "type": "integer",
                  "description": "Current speed level"
                },
                "automode": {
                  "enum": ["On", "Off"],
                  "description": "Status of the automode feature, if on speed is set by the
device"
                }
              }
            }
          },
          "type": "object",
          "allOf": [
            {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
            {"$ref": "#/definitions/oic.r.airflow"}
          ],
          "required": ["speed"]
        }

      example: |
        {
          "id": "unique_example_id",
          "direction": "right",
          "speed": 3
        }

  responses:
    200:
      body:
        application/json:
          schema: |

```

```

{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.airFlow.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
  "title": "Air Flow",
  "definitions": {
    "oic.r.airflow": {
      "type": "object",
      "properties": {
        "supporteddirections": {
          "type": "array",
          "description": "Array of possible direction settings for this instance of
the Resource Type",
          "readOnly": true,
          "items": {
            "type": "string",
            "minItems": 1,
            "uniqueItems": true
          }
        },
        "direction": {
          "type": "string",
          "description": "Directionality of the air flow"
        },
        "speed": {
          "type": "integer",
          "description": "Current speed level"
        },
        "automode": {
          "enum": ["On", "Off"],
          "description": "Status of the automode feature, if on speed is set by the
device"
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
    { "$ref": "#/definitions/oic.r.airflow" }
  ],
  "required": ["speed"]
}

example: |
{
  "id": "unique_example_id",
  "direction": "right",
  "speed": 3
}

403:
description: |
This response is generated by the OCF Server when the client sends:
An update with an invalid property value for direction.
An update with an out of range property value for speed.
The server may respond with the current resource representation.

body:
application/json:
schema: |
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.airFlow.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",

```

```

    "title": "Air Flow",
    "definitions": {
      "oic.r.airflow": {
        "type": "object",
        "properties": {
          "supporteddirections": {
            "type": "array",
            "description": "Array of possible direction settings for this instance of
the Resource Type",
            "readOnly": true,
            "items": {
              "type": "string",
              "minItems": 1,
              "uniqueItems": true
            }
          },
          "direction": {
            "type": "string",
            "description": "Directionality of the air flow"
          },
          "speed": {
            "type": "integer",
            "description": "Current speed level"
          },
          "automode": {
            "enum": ["On", "Off"],
            "description": "Status of the automode feature, if on speed is set by the
device"
          }
        }
      }
    },
    "type": "object",
    "allOf": [
      { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
      { "$ref": "#/definitions/oic.r.airflow" }
    ],
    "required": ["speed"]
  }

  example: |
    {
      "id": "unique_example_id",
      "supporteddirections": ["left", "right", "centre"],
      "direction": "right",
      "speed": 3
    }

```

6.2.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
automode	multiple types: see schema			Status of the automode feature, if on speed is set by the device
direction	string			Directionality of the air flow
supporteddirections	array: see schema		Read Only	Array of possible direction settings for this instance of the Resource Type
speed	integer	yes		Current speed level

6.2.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/AirFlowResURI		get	post		

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 composite resource being made up as a collection of: AirFlow Resource BinarySwitch Resource

6.3.2 Example URI

/AirFlowControlResURI

6.3.3 Resource Type

The resource type (rt) is defined as: oic.r.airflowcontrol.

6.3.4 RAML Definition

##RAML 0.8

title: OICAirFlowControl

version: v1.1.0-20160519

traits:

- interface-b :
 - queryParameters:
 - if:
 - enum: ["oic.if.b"]
- interface-all :
 - queryParameters:
 - if:
 - enum: ["oic.if.ll", "oic.if.b", "oic.if.baseline"]

/AirFlowControlResURI:

description: |

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 composite resource being made up as a collection of:

AirFlow Resource

BinarySwitch Resource

get:

description: |

Retrieves the current air flow control values.

is : ['interface-all']

responses:

200:

body:

application/json:

schema: |

{

"id":

"http://openinterconnect.org/iotdatamodels/schemas/oic.r.airFlowControl.json#",

"\$schema": "http://json-schema.org/draft-04/schema#",

"description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All

rights reserved.",

"title": "Air Flow Control",

"definitions": {

"oic.r.airflowcontrol": {

```

        "type": "object",
        "properties": {
          "airFlowControl": {
            "type": "array",
            "minItems": 2,
            "maxItems": 2,
            "items": {
              "$ref": "oic.oic-link-schema.json#/definitions/oic.oic-link"
            }
          }
        }
      },
      "type": "object",
      "allOf": [
        {
          "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"
        },
        {
          "$ref": "#/definitions/oic.r.airflowcontrol"
        }
      ],
      "required": ["airFlowControl"]
    }
  }

```

example: |

```

{
  "rt": ["oic.r.airflowcontrol"],
  "id": "unique_example_id",
  "airFlowControl": [
    {
      "href": "/BinarySwitchResURI",
      "rel": "contains",
      "rt": ["oic.r.switch.binary"],
      "if": ["oic.if.a"],
      "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
    },
    {
      "href": "/AirFlowResURI",
      "rel": "contains",
      "rt": ["oic.r.airflow"],
      "if": ["oic.if.a"],
      "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
    }
  ]
}

```

post:

description: |
Sets the current air flow control values using the batch interface

is : ['interface-b']

body:
application/json:

schema: |

```

{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.airFlowControl-
Batch.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
  "title": "Air Flow Control",
  "definitions": {
    "oic.r.airflowcontrol": {
      "type": "object",
      "properties": {
        "airFlowControl": {
          "type": "array",
          "items": {
            "anyOf": [
              {
                "$ref": "oic.r.switch.binary.json#/definitions/oic.r.switch.binary"
              }
            ]
          }
        }
      }
    }
  }
}

```

```

        {"$ref": "oic.r.airFlow.json#/definitions/oic.r.airflow"}
      ]
    }
  }
},
"type": "object",
"allof": [
  {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
  {"$ref": "#/definitions/oic.r.airflowcontrol"}
],
"required": ["airFlowControl"]
}

```

example: |

```

{
  "id": "unique_example_id",
  "airFlowControl": [
    {
      "id": "unique_example_id",
      "value": true
    },
    {
      "id": "unique_example_id",
      "direction": "right",
      "speed": 3
    }
  ]
}

```

responses :

200:

body:

application/json:

```

schema: |
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.airFlowControl-
Batch.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
  "title": "Air Flow Control",
  "definitions": {
    "oic.r.airflowcontrol": {
      "type": "object",
      "properties": {
        "airFlowControl": {
          "type": "array",
          "items": {
            "anyOf": [
              {"$ref": "oic.r.switch.binary.json#/definitions/oic.r.switch.binary"},
              {"$ref": "oic.r.airFlow.json#/definitions/oic.r.airflow"}
            ]
          }
        }
      }
    }
  },
  "type": "object",
  "allof": [
    {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
    {"$ref": "#/definitions/oic.r.airflowcontrol"}
  ],
  "required": ["airFlowControl"]
}

```



```

example: |
{
  "id": "unique_example_id",
  "airFlowControl": [
    {
      "id": "unique_example_id",
      "value": true
    },
    {
      "id": "unique_example_id",
      "direction": "right",
      "speed": 3
    }
  ]
}

```

403:

description: |
 This response is generated by the OIC Server when the client sends:
 An update with an invalid property value for direction.
 An update with an out of range property value for speed.
 The server responds with the current resource representation.

body:

application/json:

```

schema: |
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.airFlowControl-
Batch.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
  "title": "Air Flow Control",
  "definitions": {
    "oic.r.airflowcontrol": {
      "type": "object",
      "properties": {
        "airFlowControl": {
          "type": "array",
          "items": {
            "anyOf": [
              {"$ref": "oic.r.switch.binary.json#/definitions/oic.r.switch.binary"},
              {"$ref": "oic.r.airFlow.json#/definitions/oic.r.airflow"}
            ]
          }
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
    {"$ref": "#/definitions/oic.r.airflowcontrol"}
  ],
  "required": ["airFlowControl"]
}

```

```

example: |
{
  "id": "unique_example_id",
  "airFlowControl": [
    {
      "id": "unique_example_id",
      "value": true
    },
    {
      "id": "unique_example_id",

```

```

        "direction": "right",
        "speed": 3
      }
    ]
  }
}

```

6.3.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
airFlowControl	array: see schema	yes		

6.3.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/AirFlowControlResURI		get	post		

6.4 Battery

6.4.1 Introduction

This resource represents the charge state of a battery. The charge is an integer showing the current battery charge level. The charge is a percentage in the range 0-100. A value of 0 means fully discharged. A value of 100 means fully charged.

6.4.2 Example URI

/BatteryResURI

6.4.3 Resource Type

The resource type (rt) is defined as: oic.r.energy.battery.

6.4.4 RAML Definition

```

##RAML 0.8
title: OICBattery
version: v1.1.0-20160519

traits:
- interface :
  queryParameters:
    if:
      enum: ["oic.if.s", "oic.if.baseline"]

/BatteryResURI:
  description: |
    This resource represents the charge state of a battery.
    The charge is an integer showing the current battery charge level.
    The charge is a percentage in the range 0-100.
    A value of 0 means fully discharged.
    A value of 100 means fully charged.

  is : ['interface']

  get:
    description: |
      Retrieves the state of the battery.

  responses :
    200:
      body:
        application/json:
          schema: |

```

```

{
  "id":
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.energy.battery.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
  "title": "Battery",
  "definitions": {
    "oic.r.energy.battery": {
      "type": "object",
      "properties": {
        "charge": {
          "type": "integer",
          "description": "The current charge percentage.",
          "readOnly": true,
          "minimum": 0,
          "maximum": 100
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
    { "$ref": "#/definitions/oic.r.energy.battery" }
  ],
  "required": [ "charge" ]
}

example: |
{
  "rt":      ["oic.r.energy.battery"],
  "id":      "unique_example_id",
  "charge": 50
}

```

6.4.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
charge	integer	yes	Read Only	The current charge percentage.

6.4.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/BatteryResURI		get			

6.5 Binary Switch

6.5.1 Introduction

This resource describes a binary switch (on/off). The 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 (rt) is defined as: oic.r.switch.binary.

6.5.4 RAML Definition

```

%%RAML 0.8
title: OICBinarySwitch
version: v1.1.0-20160519
traits:

```

```

- interface :
  queryParameters:
    if:
      enum: ["oic.if.a", "oic.if.baseline"]

/BinarySwitchResURI:
  description: |
    This resource describes a binary switch (on/off).
    The value is a boolean.
    A value of 'true' means that the switch is on.
    A value of 'false' means that the switch is off.

  is : ['interface']
  get:
    responses :
      200:
        body:
          application/json:
            schema: |
              {
                "id":
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.switch.binary.json#",
                "$schema": "http://json-schema.org/draft-04/schema#",
                "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
                "title": "Binary Switch",
                "definitions": {
                  "oic.r.switch.binary": {
                    "type": "object",
                    "properties": {
                      "value": {
                        "type": "boolean",
                        "description": "Status of the switch"
                      }
                    }
                  }
                },
                "type": "object",
                "allOf": [
                  { "$ref": "oic.baseresource.json#/definitions/oic.r.baseresource"},
                  { "$ref": "#/definitions/oic.r.switch.binary" }
                ],
                "required": [ "value" ]
              }

            example: |
              {
                "rt": ["oic.r.switch.binary"],
                "id": "unique_example_id",
                "value": false
              }

  post:
    body:
      application/json:
        schema: |
          {
            "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.switch.binary.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
            "title": "Binary Switch",

```

```

    "definitions": {
      "oic.r.switch.binary": {
        "type": "object",
        "properties": {
          "value": {
            "type": "boolean",
            "description": "Status of the switch"
          }
        }
      }
    },
    "type": "object",
    "allof": [
      {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
      {"$ref": "#/definitions/oic.r.switch.binary"}
    ],
    "required": [ "value" ]
  }

  example: |
    {
      "id": "unique_example_id",
      "value": true
    }

  responses :
    200:
      body:
        application/json:
          schema: |
            {
              "id":
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.switch.binary.json#",
              "$schema": "http://json-schema.org/draft-04/schema#",
              "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
              "title": "Binary Switch",
              "definitions": {
                "oic.r.switch.binary": {
                  "type": "object",
                  "properties": {
                    "value": {
                      "type": "boolean",
                      "description": "Status of the switch"
                    }
                  }
                }
              },
              "type": "object",
              "allof": [
                {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
                {"$ref": "#/definitions/oic.r.switch.binary"}
              ],
              "required": [ "value" ]
            }

          example: |
            {
              "id": "unique_example_id",
              "value": true
            }

```

6.5.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description

value	boolean	yes		Status of the switch

6.5.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/BinarySwitchResURI		get	post		

6.6 Brightness

6.6.1 Introduction

This resource describes the brightness of a light or lamp. brightness is an integer showing the current brightness level as a quantized representation in the range 0-100. A brightness of 0 is the minimum for the resource. A brightness of 100 is the maximum for the resource.

6.6.2 Example URI

/BrightnessResURI

6.6.3 Resource Type

The resource type (rt) is defined as: oic.r.light.brightness.

6.6.4 RAML Definition

##RAML 0.8

title: *OICBrightness*

version: *v1.1.0-20160519*

traits:

- interface :

queryParameters:

if:

enum: ["oic.if.a", "oic.if.baseline"]

/BrightnessResURI:

description: |

This resource describes the brightness of a light or lamp.

brightness is an integer showing the current brightness level as a quantized representation in the range 0-100.

A brightness of 0 is the minimum for the resource.

A brightness of 100 is the maximum for the resource.

is : ['interface']

get:

description: |

Retrieves the current brightness level.

responses:

200:

body:

application/json:

schema: |

{

"id":

"http://openinterconnect.org/iotdatamodels/schemas/oic.r.light.brightness.json#",

"\$schema": "http://json-schema.org/draft-04/schema#",

"description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All

rights reserved.",

"title": "Brightness",

"definitions": {

"oic.r.light.brightness": {

"type": "object",

"properties": {

```

        "brightness": {
          "type": "integer",
          "description": "Quantized representation in the range 0-100 of the current
sensed or set value for Brightness",
          "minimum": 0,
          "maximum": 100
        }
      }
    },
    "type": "object",
    "allOf": [
      { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
      { "$ref": "#/definitions/oic.r.light.brightness" }
    ],
    "required": [ "brightness" ]
  }

```

example: |

```

{
  "rt": [ "oic.r.light.brightness" ],
  "id": "unique_example_id",
  "brightness": 50
}

```

post:

description: |
Sets the desired brightness level.

body:

application/json:

```

schema: |
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.light.brightness.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
  "title": "Brightness",
  "definitions": {
    "oic.r.light.brightness": {
      "type": "object",
      "properties": {
        "brightness": {
          "type": "integer",
          "description": "Quantized representation in the range 0-100 of the current
sensed or set value for Brightness",
          "minimum": 0,
          "maximum": 100
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
    { "$ref": "#/definitions/oic.r.light.brightness" }
  ],
  "required": [ "brightness" ]
}

```

example: |

```

{
  "id": "unique_example_id",
  "brightness": 10
}

```

```

responses :
  200:
    description: |
      Indicates that the brightness was changed.
      The new brightness level is provided in the response.

    body:
      application/json:
        schema: |
          {
            "id":
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.light.brightness.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
            "title": "Brightness",
            "definitions": {
              "oic.r.light.brightness": {
                "type": "object",
                "properties": {
                  "brightness": {
                    "type": "integer",
                    "description": "Quantized representation in the range 0-100 of the current
sensed or set value for Brightness",
                    "minimum": 0,
                    "maximum": 100
                  }
                }
              }
            },
            "type": "object",
            "allof": [
              {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
              {"$ref": "#/definitions/oic.r.light.brightness"}
            ],
            "required": [ "brightness" ]
          }

        example: |
          {
            "id": "unique_example_id",
            "brightness": 10
          }

```

6.6.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
brightness	integer	yes		Quantized representation in the range 0-100 of the current sensed or set value for Brightness

6.6.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/BrightnessResURI		get	post		

6.7 Colour Chroma

6.7.1 Introduction

This resource describes the colour using chroma conventions. Properties are hue, saturation, csc, and ct. Hue and saturation are integer values as defined by the CIECAM02 model definition (see reference [CIE CIE159:2004]). csc is the colour space coordinates in CIE colour space. The first item in the array is the X coordinate. The second item in the array is the Y coordinate. ct is the Mired colour temperature.

6.7.2 Example URI

/ColourChromaResURI

6.7.3 Resource Type

The resource type (rt) is defined as: oic.r.colour.chroma.

6.7.4 RAML Definition

```
##RAML 0.8
title: OICColourChroma
version: v1.1.0-20160519
traits:
  - interface :
      queryParameters:
        if:
          enum: ["oic.if.a", "oic.if.baseline"]

/ColourChromaResURI:
  description: |
    This resource describes the colour using chroma conventions.
    Properties are hue, saturation, csc, and ct.
    Hue and saturation are integer values as defined by the CIECAM02 model definition (see
    reference [CIE CIE159:2004]).
    csc is the colour space coordinates in CIE colour space.
    The first item in the array is the X coordinate.
    The second item in the array is the Y coordinate.
    ct is the Mired colour temperature.

  is : ['interface']
  get:
    description: |
      Provides the colour using chroma conventions.

    responses :
      200:
        body:
          application/json:
            schema: |
              {
                "id":
                  "http://openinterconnect.org/iotdatamodels/schemas/oic.r.colour.chroma.json#",
                "$schema": "http://json-schema.org/draft-04/schema#",
                "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
                rights reserved.",
                "title": "Colour Chroma",
                "definitions": {
                  "oic.r.colour.chroma": {
                    "type": "object",
                    "properties": {
                      "hue": {
                        "type": "integer",
```

```

        "description": "Hue as defined by the CIECAM02 model definition"
      },
      "saturation": {
        "type": "integer",
        "description": "Saturation as defined by the CIECAM02 model definition"
      },
      "csc": {
        "type": "array",
        "description": "X and Y coordinates of the colour in CIE colour space",
        "minItems": 2,
        "maxItems": 2,
        "items": {
          "type": "number",
          "minimum": 0,
          "maximum": 1
        }
      },
      "ct": {
        "type": "integer",
        "description": "Mired colour temperature"
      }
    }
  },
  "type": "object",
  "allof": [
    { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
    { "$ref": "#/definitions/oic.r.colour.chroma" }
  ],
  "required": [ "hue", "saturation", "csc" ]
}

```

example: |

```

{
  "rt": ["oic.r.colour.chroma"],
  "id": "unique_example_id",
  "hue": 13088,
  "saturation": 212,
  "csc": [0.41, 0.51],
  "ct": 457
}

```

post:

description: |
Sets current colour chroma values

body:
application/json

```

schema: {
  {
    "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.colour.chroma.json#",
    "$schema": "http://json-schema.org/draft-04/schema#",
    "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
    "title": "Colour Chroma",
    "definitions": {
      "oic.r.colour.chroma": {
        "type": "object",
        "properties": {
          "hue": {
            "type": "integer",
            "description": "Hue as defined by the CIECAM02 model definition"
          },
          "saturation": {
            "type": "integer",
            "description": "Saturation as defined by the CIECAM02 model definition"
          }
        }
      }
    }
  }
}

```

```

    },
    "csc": {
      "type": "array",
      "description": "X and Y coordinates of the colour in CIE colour space",
      "minItems": 2,
      "maxItems": 2,
      "items": {
        "type": "number",
        "minimum": 0,
        "maximum": 1
      }
    },
    "ct": {
      "type": "integer",
      "description": "Mired colour temperature"
    }
  }
},
"type": "object",
"allOf": [
  {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
  {"$ref": "#/definitions/oic.r.colour.chroma"}
],
"required": [ "hue", "saturation", "csc" ]
}

example: |
{
  "id":          "unique_example_id",
  "hue":         13088,
  "saturation":  212,
  "csc":         [0.41, 0.51],
  "ct":         457
}

responses :
200:
  body:
    application/json:
      schema: |
        {
          "id":
            "http://openinterconnect.org/iotdatamodels/schemas/oic.r.colour.chroma.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
            "title": "Colour Chroma",
            "definitions": {
              "oic.r.colour.chroma": {
                "type": "object",
                "properties": {
                  "hue": {
                    "type": "integer",
                    "description": "Hue as defined by the CIECAM02 model definition"
                  },
                  "saturation": {
                    "type": "integer",
                    "description": "Saturation as defined by the CIECAM02 model definition"
                  },
                  "csc": {
                    "type": "array",
                    "description": "X and Y coordinates of the colour in CIE colour space",
                    "minItems": 2,
                    "maxItems": 2,
                    "items": {

```

```

        "type": "number",
        "minimum": 0,
        "maximum": 1
      },
      "ct": {
        "type": "integer",
        "description": "Mired colour temperature"
      }
    }
  },
  "type": "object",
  "allof": [
    { "$ref": "oic.baseresource.json#/definitions/oic.r.baseresource" },
    { "$ref": "#/definitions/oic.r.colour.chroma" }
  ],
  "required": [ "hue", "saturation", "csc" ]
}

example: |
{
  "id":          "unique_example_id",
  "hue":         13088,
  "saturation":  212,
  "csc":         [0.41, 0.51],
  "ct":         467
}

```

6.7.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
hue	integer	yes		Hue as defined by the CIECAM02 model definition
saturation	integer	yes		Saturation as defined by the CIECAM02 model definition
csc	array: see schema	yes		X and Y coordinates of the colour in CIE colour space
ct	integer			Mired colour temperature

6.7.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/ColourChromaResURI		get	post		

6.8 Colour RGB

6.8.1 Introduction

This resource specifies the actual colour in the RGB space represented as an array of integers. Each colour value is described with a Red, Green, Blue component. These colour values are encoded as an array of integer values ([R,G,B]). The minimum and maximum colour value per component may be described by range (from oic.r.baseresource). When range (from oic.r.baseresource) is omitted, then the range is [0,255].

6.8.2 Example URI

/ColourRGBResURI

6.8.3 Resource Type

The resource type (rt) is defined as: oic.r.colour.rgb.

6.8.4 RAML Definition

##RAML 0.8

title: OICColourRGB

version: v1.1.0-20160519

traits:

- interface :

queryParameters:

if:

enum: ["oic.if.a", "oic.if.baseline"]

/ColourRGBResURI:

description: |

This resource specifies the actual colour in the RGB space represented as an array of integers.

Each colour value is described with a Red, Green, Blue component.

These colour values are encoded as an array of integer values ([R,G,B]).

The minimum and maximum colour value per component may be described by range (from

oic.r.baseresource).

When range (from oic.r.baseresource) is omitted, then the range is [0,255].

is : ['interface']

get:

description: |

Retrieves the current colour in RGB.

Value is an array of integer values in the order R,G,B.

responses :

200:

body:

application/json:

schema: |

```
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.colour.rgb.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
  "title": "Colour RGB",
  "definitions": {
```

```
    "oic.r.colour.rgb": {
      "type": "object",
```

```
      "properties": {
```

```
        "rgbValue": {
```

```
          "type": "array",
```

```
          "description": "RGB value; the first item is the R, second the G, third the
```

B."

```
          "minItems": 3,
```

```
          "maxItems": 3,
```

```
          "items": {
```

```
            "type": "integer"
          }
        }
      }
    }
  },
  "type": "object",
  "allOf": [
```

```

        {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
        {"$ref": "#/definitions/oic.r.colour.rgb"}
    ],
    "required": ["rgbValue"]
}

example: |
{
    "rt":      ["oic.r.colour.rgb"],
    "id":      "unique_example_id",
    "rgbValue": [255,255,255],
    "range":   [0,255]
}

post:
  description: |
    Sets the current colourRGB value

  body:
    application/json:
      schema: |
        {
          "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.colour.rgb.json#",
          "$schema": "http://json-schema.org/draft-04/schema#",
          "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
          "title": "Colour RGB",
          "definitions": {
            "oic.r.colour.rgb": {
              "type": "object",
              "properties": {
                "rgbValue": {
                  "type": "array",
                  "description": "RGB value; the first item is the R, second the G, third the
B.",
                  "minItems": 3,
                  "maxItems": 3,
                  "items": {
                    "type": "integer"
                  }
                }
              }
            }
          },
          "type": "object",
          "allof": [
            {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
            {"$ref": "#/definitions/oic.r.colour.rgb"}
          ],
          "required": ["rgbValue"]
        }

      example: |
        {
          "id":      "unique_example_id",
          "rgbValue": [255,0,0]
        }

  responses :
    200:
      body:
        application/json:
          schema: |

```

```

{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.colour.rgb.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
  "title": "Colour RGB",
  "definitions": {
    "oic.r.colour.rgb": {
      "type": "object",
      "properties": {
        "rgbValue": {
          "type": "array",
          "description": "RGB value; the first item is the R, second the G, third the
B.",
          "minItems": 3,
          "maxItems": 3,
          "items": {
            "type": "integer"
          }
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    { "$ref": "oic.baseresource.json#/definitions/oic.r.baseresource" },
    { "$ref": "#/definitions/oic.r.colour.rgb" }
  ],
  "required": ["rgbValue"]
}

example: |
{
  "id": "unique_example_id",
  "rgbValue": [255,0,0]
}

```

6.8.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
rgbValue	array: see schema	yes		RGB value; the first item is the R, second the G, third the B.

6.8.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/ColourRGBResURI		get	post		

6.9 Dimming

6.9.1 Introduction

This resource describes a dimming function. The value is an integer showing the current dimming level. If step (from oic.r.baseresource) is present then it represents the increment between dimmer values. When range (from oic.r.baseresource) 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 (rt) is defined as: oic.r.light.dimming.

6.9.4 RAML Definition

```

#%RAML 0.8

title: OICDimming
version: v1.1.0-20160519

traits:
- interface :
    queryParameters:
        if:
            enum: ["oic.if.a", "oic.if.baseline"]

/DimmingResURI:
    description: |
        This resource describes a dimming function.
        The value is an integer showing the current dimming level.
        If step (from oic.r.baseresource) is present then it represents the increment between dimmer
        values.
        When range (from oic.r.baseresource) is omitted, then the range is [0,100].
        A value of 0 means total dimming; a value of 100 means no dimming.

    is : ['interface']
    get:
        description: |
            Retrieves the current dimming level.

    responses :
        200:
            body:
                application/json:
                    schema: |
                        {
                            "id":
                                "http://openinterconnect.org/iotdatamodels/schemas/oic.r.light.dimming.json#",
                                "$schema": "http://json-schema.org/draft-04/schema#",
                                "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
                                rights reserved.",
                                "title": "Dimming",
                                "definitions": {
                                    "oic.r.light.dimming": {
                                        "type": "object",
                                        "properties": {
                                            "dimmingSetting": {
                                                "type": "integer",
                                                "description": "Current dimming value"
                                            }
                                        }
                                    }
                                },
                                "type": "object",
                                "allOf": [
                                    { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
                                    { "$ref": "#/definitions/oic.r.light.dimming" }
                                ],
                                "required": ["dimmingSetting"]
                        }

                    example: |
                        {
                            "rt": ["oic.r.light.dimming"],
                            "id": "unique_example_id",
                            "dimmingSetting": 30,
                            "step": 5,

```



```

        "range": [0,100]
    }

post:
  description: |
    Sets the desired dimming level.

  body:
    application/json:
      schema: |
        {
          "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.light.dimming.json#",
          "$schema": "http://json-schema.org/draft-04/schema#",
          "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
          "title": "Dimming",
          "definitions": {
            "oic.r.light.dimming": {
              "type": "object",
              "properties": {
                "dimmingSetting": {
                  "type": "integer",
                  "description": "Current dimming value"
                }
              }
            }
          },
          "type": "object",
          "allOf": [
            { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
            { "$ref": "#/definitions/oic.r.light.dimming" }
          ],
          "required": ["dimmingSetting"]
        }

      example: |
        {
          "id": "unique_example_id",
          "dimmingSetting": 40
        }

  responses :
    200:
      description: |
        Indicates that the dimming was changed.
        The new dimming level is provided in the response.

      body:
        application/json:
          schema: |
            {
              "id":
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.light.dimming.json#",
              "$schema": "http://json-schema.org/draft-04/schema#",
              "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
              "title": "Dimming",
              "definitions": {
                "oic.r.light.dimming": {
                  "type": "object",
                  "properties": {
                    "dimmingSetting": {
                      "type": "integer",
                      "description": "Current dimming value"
                    }
                  }
                }
              }
            }

```

```

    }
  }
},
"type": "object",
"allOf": [
  {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
  {"$ref": "#/definitions/oic.r.light.dimming"}
],
"required": ["dimmingSetting"]
}

```

example: |

```

{
  "id": "unique_example_id",
  "dimmingSetting": 40
}

```

403:

description: |

This response is generated by the OIC Server when the client sends:
An update with an out of range property value for dimmingSetting.
The server responds with the current resource representation.

body:

application/json:

```

schema: |
{
  "id":
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.light.dimming.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
  "title": "Dimming",
  "definitions": {
    "oic.r.light.dimming": {
      "type": "object",
      "properties": {
        "dimmingSetting": {
          "type": "integer",
          "description": "Current dimming value"
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
    {"$ref": "#/definitions/oic.r.light.dimming"}
  ],
  "required": ["dimmingSetting"]
}

```

example: |

```

{
  "id": "unique_example_id",
  "dimmingSetting": 40
}

```

6.9.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
dimmingSetting	integer	yes		Current dimming value

6.9.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/DimmingResURI		get	post		

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 openState, the value 'Open' indicates the door is open. The value 'Closed' indicates the door is closed. The type of openDuration is an ISO 8601 Time encoded string. The openAlarm value 'true' indicates that the open alarm is active. The openAlarm value 'false' indicates that open alarm is not active.

6.10.2 Example URI

/DoorResURI

6.10.3 Resource Type

The resource type (rt) is defined as: oic.r.door.

6.10.4 RAML Definition

```

#%RAML 0.8
title: OICDoor
version: v1.1.0-20160519

traits:
- interface-actuator :
  queryParameters:
    if:
      enum: ["oic.if.a", "oic.if.baseline"]
- interface-all :
  queryParameters:
    if:
      enum: ["oic.if.a", "oic.if.s", "oic.if.baseline"]

/DoorResURI:
  description: |
    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 openState, the value 'Open' indicates the door is open.
    The value 'Closed' indicates the door is closed.
    The type of openDuration is an ISO 8601 Time encoded string.
    The openAlarm value 'true' indicates that the open alarm is active.
    The openAlarm value 'false' indicates that open alarm is not active.

  get:
    description: |
      retrieves the state of the Door.
    is: ['interface-all']
    responses:
      200:
        body:
          application/json:
            schema: |
              {
                "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.door.json#",
                "$schema": "http://json-schema.org/draft-04/schema#",

```

"description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved."

```

    "title": "Door",
    "definitions": {
      "oic.r.door": {
        "type": "object",
        "properties": {
          "openState": {
            "enum": ["Open", "Closed"],
            "readOnly": true,
            "description": "The state of the door (open or closed)"
          },
          "openDuration": {
            "type": "string",
            "readOnly": true,
            "description": "The time duration the door has been open"
          },
          "openAlarm": {
            "type": "boolean",
            "description": "The state of the door open alarm"
          }
        }
      }
    },
    "type": "object",
    "allOf": [
      { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
      { "$ref": "#/definitions/oic.r.door" }
    ],
    "required": ["openState"]
  }

```

example: |

```

{
  "rt" :      ["oic.r.door"],
  "id":       "unique_example_id",
  "openState": "Open",
  "openDuration": "P0Y0M0DT2H25M5S",
  "openAlarm": true
}

```

post:

```

description: |
  Sets the current Door properties.
  The only property that can be set as part of an update operation is
  the openAlarm.
  This can be made active (true) or inactive (false)

```

is : ['interface-actuator']

body:

application/json:

schema: |

```

{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.door-Update.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",

```

```

  "title": "Door",
  "definitions": {
    "oic.r.door": {
      "type": "object",
      "properties": {
        "openAlarm": {
          "type": "boolean",
          "description": "The state of the door open alarm"
        }
      }
    }
  }
}

```

```

    }
  },
  "type": "object",
  "allOf": [
    { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
    { "$ref": "#/definitions/oic.r.door" }
  ]
}

```

example: |

```

{
  "id": "unique_example_id",
  "openAlarm": false
}

```

responses :

200:

body:

application/json:

```

schema: |
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.door-Update.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
  "title": "Door",
  "definitions": {
    "oic.r.door": {
      "type": "object",
      "properties": {
        "openAlarm": {
          "type": "boolean",
          "description": "The state of the door open alarm"
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
    { "$ref": "#/definitions/oic.r.door" }
  ]
}

```

example: |

```

{
  "id": "unique_example_id",
  "openAlarm": false
}

```

6.10.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
openDuration	string		Read Only	The time duration the door has been open
openAlarm	boolean			The state of the door open alarm
openState	multiple types: see schema	yes	Read Only	The state of the door (open or closed)

6.10.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/DoorResURI		get	post		

6.11 Energy Consumption

6.11.1 Introduction

This resource describes the energy consumed by the device since power up (the energy value is in Watt Hours [Wh]) and the instantaneous power draw of the device (the power value is in Watts [W]) at the time the resource was queried. The power value is in Watts [W]. The energy value is in Watt Hours [Wh].

6.11.2 Example URI

/EnergyConsumptionResURI

6.11.3 Resource Type

The resource type (rt) is defined as: oic.r.energy.consumption.

6.11.4 RAML Definition

```

#%RAML 0.8

title: OICEnergyConsumption
version: v1.1.0-20160519

traits:
- interface :
    queryParameters:
        if:
            enum: ["oic.if.s", "oic.if.baseline"]

/energyconsumptionresuri:

    description: |
        This resource describes the energy consumed by the device since power up (the energy value is
        in Watt Hours [Wh])
        and the instantaneous power draw of the device (the power value is in Watts [W]) at the time
        the resource was queried.
        The power value is in Watts [W].
        The energy value is in Watt Hours [Wh].

    is : ['interface']

    get:
        description: |
            Provides the current power draw and cumulative energy usage.

        responses :
            200:
                body:
                    application/json:
                        schema: |
                            {
                                "id":
                                    "http://openinterconnect.org/iotdatamodels/schemas/oic.r.energy.consumption.json#",
                                    "$schema": "http://json-schema.org/draft-04/schema#",
                                    "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
                                    rights reserved.",
                                    "title": "Energy Consumption",
                                    "definitions": {
                                        "oic.r.energy.consumption": {
                                            "type": "object",
                                            "properties": {
                                                "power": {

```

```

        "type": "number",
        "readOnly": true,
        "description": "Instantaneous Power"
      },
      "energy": {
        "type": "number",
        "readOnly": true,
        "description": "Energy consumed"
      }
    }
  },
  "type": "object",
  "allof": [
    { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
    { "$ref": "#/definitions/oic.r.energy.consumption" }
  ],
  "required": ["power", "energy"]
}

example: |
{
  "rt":      ["oic.r.energy.consumption"],
  "id":      "unique_example_id",
  "power":   2000.1,
  "energy":  3500.4
}

```

6.11.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
energy	number	yes	Read Only	Energy consumed
power	number	yes	Read Only	Instantaneous Power

6.11.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/EnergyConsumptionResURI		get			

6.12 Energy Usage

6.12.1 Introduction

This resource describes a cumulative time-based energy usage query.. The resource is a composite resource being made up as a collection of: TimePeriod Resource EnergyConsumption Resource

6.12.2 Example URI

/EnergyUsageResURI

6.12.3 Resource Type

The resource type (rt) is defined as: oic.r.energy.usage.

6.12.4 RAML Definition

```

#%RAML 0.8
title: OICEnergyUsage
version: v1.1.0-20160519

traits:
- interface :
    queryParameters:
      if:
        enum: ["oic.if.ll", "oic.if.b", "oic.if.baseline"]

```

```

/energyUsageResURI:
  description: |
    This resource describes a cumulative time-based energy usage query..
    The resource is a composite resource being made up as a collection of:
      TimePeriod Resource
      EnergyConsumption Resource

  is : ['interface']

  get:
    description: |
      Retrieves the energy usage information as a composite of consumption over time.

  responses :
    200:
      body:
        application/json:
          schema: |
            {
              "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.energy.usage.json#",
              "$schema": "http://json-schema.org/draft-04/schema#",
              "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
              "title": "Energy Usage",
              "definitions": {
                "oic.r.energy.usage": {
                  "type": "object",
                  "properties": {
                    "resources": {
                      "type": "array",
                      "minItems": 2,
                      "maxItems": 2,
                      "items": {
                        "$ref": "oic.oic-link-schema.json#/definitions/oic.oic-link"
                      }
                    }
                  }
                }
              },
              "type": "object",
              "allOf": [
                {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
                {"$ref": "#/definitions/oic.r.energy.usage"}
              ],
              "required": ["resources"]
            }

  example: |
    {
      "rt": ["oic.r.energy.usage"],
      "id": "unique_example_id",
      "resources": [
        {
          "href": "/TimeIntervalResURI",
          "rel": "contains",
          "rt": ["oic.r.time.period"],
          "if": ["oic.if.a"],
          "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
        },
        {
          "href": "/EnergyConsumptionResURI",
          "rel": "contains",
          "rt": ["oic.r.energy.consumption"],
          "if": ["oic.if.s"],
          "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
        }
      ]
    }

```



```
    }
  ]
}
```

6.12.5 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/EnergyUsageResURI		get			

6.13 Humidity

6.13.1 Introduction

This resource describes a sensed or desired humidity. The value humidity is an integer describing the percentage measured relative humidity. The value desiredHumidity is an integer showing the desired target relative humidity.

6.13.2 Example URI

/HumidityResURI

6.13.3 Resource Type

The resource type (rt) is defined as: oic.r.humidity.

6.13.4 RAML Definition

```
##RAML 0.8
title: OICHumidity
version: v1.1.0-20160519
traits:
  - interface :
      queryParameters:
        if:
          enum: ["oic.if.a", "oic.if.s", "oic.if.baseline"]

/HumidityResURI:
  description: |
    This resource describes a sensed or desired humidity.
    The value humidity is an integer describing the percentage measured relative humidity.
    The value desiredHumidity is an integer showing the desired target relative humidity.

  is : ['interface']
  get:
    description: |
      Retrieves the current (relative) humidity level.

    responses :
      200:
        body:
          application/json:
            schema: |
              {
                "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.humidity.json#",
                "$schema": "http://json-schema.org/draft-04/schema#",
                "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
                "title": "Humidity",
                "definitions": {
                  "oic.r.humidity": {
                    "type": "object",
                    "properties": {
                      "humidity": {
                        "type": "integer",
```

```

        "readOnly": true,
        "description": "Current sensed value for Humidity"
      },
      "desiredHumidity": {
        "type": "integer",
        "description": "Desired value for Humidity"
      }
    }
  },
  "type": "object",
  "allOf": [
    {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
    {"$ref": "#/definitions/oic.r.humidity"}
  ],
  "required": ["humidity"]
}

```

example: |

```

{
  "rt": ["oic.r.humidity"],
  "id": "unique_example_id",
  "humidity": 40,
  "desiredHumidity": 40
}

```

post:

description: |
Sets the desired relative humidity level.

body:
application/json:

```

schema: |
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.humidity-Update.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
  "title": "Humidity",
  "definitions": {
    "oic.r.humidity": {
      "type": "object",
      "properties": {
        "desiredHumidity": {
          "type": "integer",
          "description": "Desired value for Humidity"
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
    {"$ref": "#/definitions/oic.r.humidity"}
  ]
}

```

example: |

```

{
  "id": "unique_example_id",
  "desiredHumidity": 45
}

```

responses :

200:

```

description: |
  Indicates that the relative humidity level was changed.
  The new relative humidity level is provided in the response.

body:
  application/json:
    schema: |
      {
        "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.humidity-
Update.json#",
        "$schema": "http://json-schema.org/draft-04/schema#",
        "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
        "title": "Humidity",
        "definitions": {
          "oic.r.humidity": {
            "type": "object",
            "properties": {
              "desiredHumidity": {
                "type": "integer",
                "description": "Desired value for Humidity"
              }
            }
          }
        },
        "type": "object",
        "allOf": [
          { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
          { "$ref": "#/definitions/oic.r.humidity" }
        ]
      }

    example: |
      {
        "id": "unique_example_id",
        "desiredHumidity": 45
      }

```

6.13.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
desiredHumidity	integer			Desired value for Humidity
humidity	integer	yes	Read Only	Current sensed value for Humidity

6.13.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/HumidityResURI		get	post		

6.14 Ice Maker

6.14.1 Introduction

This resource describes an the operational state of an Ice Maker. The 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 (rt) is defined as: oic.r.icemaker.

6.14.4 RAML Definition

##RAML 0.8

title: *OICIceMaker*

version: *v1.1.0-20160519*

traits:

```
- interface :
  queryParameters:
    if:
      enum: ["oic.if.a", "oic.if.baseline"]
```

/IceMakerResURI:

description: |

This resource describes an the operational state of an Ice Maker.
The 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).

is : ['interface']

get:

description: |

Retrieves the current Ice Maker status.

responses :

200:

body:

application/json:

schema: |

```
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.iceMaker.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
  "title": "Ice Maker",
  "definitions": {
    "oic.r.iceMaker": {
      "type": "object",
      "properties": {
        "status": {
          "enum": ["on", "off", "full"],
          "description": "Status of the Ice Maker"
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
    { "$ref": "#/definitions/oic.r.iceMaker" }
  ],
  "required": ["status"]
}
```

example: |

```
{
  "rt": ["oic.r.icemaker"],
```

```

        "id": "unique_example_id",
        "status": "on"
    }

post:
  description: |
    Sets the desired Ice Maker status.
    Only valid settings for status in a Post shall be [on,off].

  body:
    application/json:
      schema: |
        {
          "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.iceMaker-Update.json#",
          "$schema": "http://json-schema.org/draft-04/schema#",
          "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
          "title": "Ice Maker",
          "definitions": {
            "oic.r.icemaker": {
              "type": "object",
              "properties": {
                "status": {
                  "enum": ["on", "off"],
                  "description": "Set the status of the Ice Maker"
                }
              }
            }
          },
          "type": "object",
          "allOf": [
            { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
            { "$ref": "#/definitions/oic.r.icemaker" }
          ],
          "required": ["status"]
        }

      example: |
        {
          "id": "unique_example_id",
          "status": "off"
        }

  responses:
    200:
      description: |
        Indicates that the Ice Maker status was changed.
        The new status is provided in the response.

      body:
        application/json:
          schema: |
            {
              "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.iceMaker-
Update.json#",
              "$schema": "http://json-schema.org/draft-04/schema#",
              "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
              "title": "Ice Maker",
              "definitions": {
                "oic.r.icemaker": {
                  "type": "object",
                  "properties": {
                    "status": {

```

```

        "enum": ["on", "off"],
        "description": "Set the status of the Ice Maker"
      }
    }
  },
  "type": "object",
  "allOf": [
    { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
    { "$ref": "#/definitions/oic.r.icemaker" }
  ],
  "required": ["status"]
}

```

```

example: |
{
  "id": "unique_example_id",
  "status": "off"
}

```

403:

description: |
 This response is generated by the OIC Server when the client sends:
 An update with an invalid property value for status.
 The server responds with the current resource representation.

body:
 application/json:

```

schema: |
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.iceMaker-
Update.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
  "title": "Ice Maker",
  "definitions": {
    "oic.r.icemaker": {
      "type": "object",
      "properties": {
        "status": {
          "enum": ["on", "off"],
          "description": "Set the status of the Ice Maker"
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
    { "$ref": "#/definitions/oic.r.icemaker" }
  ],
  "required": ["status"]
}

example: |
{
  "id": "unique_example_id",
  "status": "off"
}

```

6.14.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description

status	multiple types: see schema	yes		Status of the Ice Maker

6.14.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/IceMakerResURI		get	post		

6.15 Lock

6.15.1 Introduction

Resource describing a lock. For the type of lockState, the value 'Locked' indicates that the door is Locked. The value 'Unlocked' indicates that the door is Unlocked.

6.15.2 Example URI

/LockStatusResURI

6.15.3 Resource Type

The resource type (rt) is defined as: oic.r.lock.status.

6.15.4 RAML Definition

##RAML 0.8

title: OICLock

version: v1.1.0-20160519

traits:

- interface :

queryParameters:

if:

enum: ["oic.if.a", "oic.if.baseline"]

/LockStatusResURI:

description: |

Resource describing a lock.

For the type of lockState, the value 'Locked' indicates that the door is Locked.

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

is : ['interface']

get:

description: |

Retrieves the state of the lock.

responses :

200:

body:

application/json:

schema: |

```
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.lock.status.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
  "title": "Lock",
  "definitions": {
    "oic.r.lock.status": {
      "type": "object",
      "properties": {
        "lockState": {
          "type": "string",
          "enum": ["Locked", "Unlocked"],
          "description": "State of the lock."
        }
      }
    }
  }
}
```

```

    }
  }
},
"type": "object",
"allof": [
  {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
  {"$ref": "#/definitions/oic.r.lock.status"}
],
"required": ["lockState"]
}

example: |
{
  "rt":          ["oic.r.lock.status"],
  "id":          "unique_example_id",
  "lockState":  "Locked"
}

post:
  description: |
    Sets the current lock state.

  body:
    application/json:
      schema: |
        {
          "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.lock.status.json#",
          "$schema": "http://json-schema.org/draft-04/schema#",
          "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
          "title": "Lock",
          "definitions": {
            "oic.r.lock.status": {
              "type": "object",
              "properties": {
                "lockState": {
                  "type": "string",
                  "enum": ["Locked", "Unlocked"],
                  "description": "State of the lock."
                }
              }
            }
          },
          "type": "object",
          "allof": [
            {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
            {"$ref": "#/definitions/oic.r.lock.status"}
          ],
          "required": ["lockState"]
        }

      example: |
        {
          "id":          "unique_example_id",
          "lockState":  "Unlocked"
        }

  responses:
    200:
      body:
        application/json:
          schema: |

```



```

{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.lock.status.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
  "title": "Lock",
  "definitions": {
    "oic.r.lock.status": {
      "type": "object",
      "properties": {
        "lockState": {
          "type": "string",
          "enum": ["Locked", "Unlocked"],
          "description": "State of the lock."
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
    { "$ref": "#/definitions/oic.r.lock.status" }
  ],
  "required": ["lockState"]
}

```

example: |

```

{
  "id": "unique_example_id",
  "lockState": "Unlocked"
}

```

403:

description: |

This response is generated by the OIC Server when the client sends:
 An update with an invalid property value for lockState.
 The server responds with the current resource representation.

body:

application/json:

```

schema: |
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.lock.status.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
  "title": "Lock",
  "definitions": {
    "oic.r.lock.status": {
      "type": "object",
      "properties": {
        "lockState": {
          "type": "string",
          "enum": ["Locked", "Unlocked"],
          "description": "State of the lock."
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
    { "$ref": "#/definitions/oic.r.lock.status" }
  ],
  "required": ["lockState"]
}

```

```
example: |
{
  "lockState": "Unlocked"
}
```

6.15.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
lockState	string	yes		State of the lock.

6.15.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/LockStatusResURI		get	post		

6.16 Lock Code

6.16.1 Introduction

Resource describing a lock code. The lockCodeList is an array of possible codes that may be associated with a lock. These are all presented as strings.

6.16.2 Example URI

/LockCodeResURI

6.16.3 Resource Type

The resource type (rt) is defined as: oic.r.lock.code.

6.16.4 RAML Definition

```
##RAML 0.8
title: OICLockCode
version: v1.1.0-20160519

traits:
- interface :
  queryParameters:
    if:
      enum: ["oic.if.a", "oic.if.baseline"]

/LockCodeResURI:
  description: |
    Resource describing a lock code.
    The lockCodeList is an array of possible codes that may be associated with a lock.
    These are all presented as strings.

  is : ['interface']
  get:
    description: |
      Retrieves the current lock code values.

    responses :
      200:
        body:
          application/json:
            schema: |
              {
                "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.lock.code.json#",
                "$schema": "http://json-schema.org/draft-04/schema#",
                "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
                "title": "Lock Code",
```

```

    "definitions": {
      "oic.r.lock.code": {
        "type": "object",
        "properties": {
          "lockCodeList": {
            "type": "array",
            "items": {
              "type": "string",
              "description": "Value for the lock code"
            }
          }
        }
      }
    },
    "type": "object",
    "allOf": [
      {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
      {"$ref": "#/definitions/oic.r.lock.code"}
    ],
    "required": ["lockCodeList"]
  }

```

example: |

```

{
  "rt": ["oic.r.lock.code"],
  "id": "unique_example_id",
  "lockCodeList": ["012345", "112233"]
}

```

post:

description: |
Updates the current lock code values.

body:
application/json:

```

schema: |
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.lock.code.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
  "title": "Lock Code",
  "definitions": {
    "oic.r.lock.code": {
      "type": "object",
      "properties": {
        "lockCodeList": {
          "type": "array",
          "items": {
            "type": "string",
            "description": "Value for the lock code"
          }
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
    {"$ref": "#/definitions/oic.r.lock.code"}
  ],
  "required": ["lockCodeList"]
}

```

example: |

```

{
  "id": "unique_example_id",
  "lockCodeList": ["543210", "332211"]
}

responses :
200:
  body:
    application/json:
      schema: |
        {
          "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.lock.code.json#",
          "$schema": "http://json-schema.org/draft-04/schema#",
          "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
          "title": "Lock Code",
          "definitions": {
            "oic.r.lock.code": {
              "type": "object",
              "properties": {
                "lockCodeList": {
                  "type": "array",
                  "items": {
                    "type": "string",
                    "description": "Value for the lock code"
                  }
                }
              }
            }
          },
          "type": "object",
          "allof": [
            { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
            { "$ref": "#/definitions/oic.r.lock.code" }
          ],
          "required": ["lockCodeList"]
        }

      example: |
        {
          "id": "unique_example_id",
          "lockCodeList": ["543210", "332211"]
        }

```

6.16.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
lockCodeList	array: see schema	yes		

6.16.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/LockCodeResURI		get	post		

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 supportedModes is an array of possible modes the device supports. The modes are an array of the currently active mode(s).

6.17.2 Example URI

/ModeResURI

6.17.3 Resource Type

The resource type (rt) is defined as: oic.r.mode.

6.17.4 RAML Definition

```

##RAML 0.8
title: OICMode
version: v1.1.0-20160519
traits:
  - interface :
      queryParameters:
        if:
          enum: ["oic.if.a", "oic.if.baseline"]

/ModeResURI:
  description: |
    This resource describes the modes of operation that a device can provide.
    The mode can be read or set.
    The supportedModes is an array of possible modes the device supports.
    The modes are an array of the currently active mode(s).

  is : ['interface']
  get:
    description: |
      Retrieves the current mode.

  responses :
    200:
      body:
        application/json:
          schema: |
            {
              "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.mode.json#",
              "$schema": "http://json-schema.org/draft-04/schema#",
              "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
              "title": "Mode",
              "definitions": {
                "oic.r.mode": {
                  "type": "object",
                  "properties": {
                    "supportedModes": {
                      "type": "array",
                      "readOnly": true,
                      "description": "Array of possible modes the device supports.",
                      "items": {
                        "type": "string"
                      }
                    },
                    "modes": {
                      "type": "array",
                      "description": "Array of the currently active mode(s)",
                      "items": {
                        "type": "string"
                      }
                    }
                  }
                }
              },
              "type": "object",
              "allOf": [
                {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
                {"$ref": "#/definitions/oic.r.mode"}
              ]
            }

```

```

    ],
    "required": ["supportedModes", "modes"]
  }

  example: |
    {
      "rt":          ["oic.r.mode"],
      "id":          "unique_example_id",
      "supportedModes": ["active", "armedAway", "armedStay", "armedInstant"],
      "modes":       ["active"]
    }

  post:
    description: |
      Sets the desired mode.

    body:
      application/json:
        schema: |
          {
            "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.mode-Update.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "title": "Mode",
            "definitions": {
              "oic.r.mode": {
                "type": "object",
                "properties": {
                  "modes": {
                    "type": "array",
                    "description": "Desired mode",
                    "items": {
                      "type": "string"
                    }
                  }
                }
              }
            },
            "type": "object",
            "allOf": [
              {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
              {"$ref": "#/definitions/oic.r.mode"}
            ],
            "required": ["modes"]
          }

        example: |
          {
            "id": "unique_example_id",
            "modes": ["armedAway"]
          }

  responses :
    200:
      body:
        application/json:
          schema: |
            {
              "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.mode-Update.json#",
              "$schema": "http://json-schema.org/draft-04/schema#",
              "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",

```

```

    "title": "Mode",
    "definitions": {
      "oic.r.mode": {
        "type": "object",
        "properties": {
          "modes": {
            "type": "array",
            "description": "Desired mode",
            "items": {
              "type": "string"
            }
          }
        }
      }
    },
    "type": "object",
    "allOf": [
      { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
      { "$ref": "#/definitions/oic.r.mode" }
    ],
    "required": ["modes"]
  }

```

example: |

```

{
  "id": "unique_example_id",
  "modes": ["armedAway"]
}

```

403:

description: |

This response is generated by the OIC Server when the client sends:
 An update with an value for mode that is not found in supportedModes.
 The server responds with the current resource representation.

body:

application/json:

schema: |

```

{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.mode.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
  "title": "Mode",
  "definitions": {
    "oic.r.mode": {
      "type": "object",
      "properties": {
        "supportedModes": {
          "type": "array",
          "readOnly": true,
          "description": "Array of possible modes the device supports.",
          "items": {
            "type": "string"
          }
        },
        "modes": {
          "type": "array",
          "description": "Array of the currently active mode(s)",
          "items": {
            "type": "string"
          }
        }
      }
    }
  },
  "type": "object",

```

```

    "allof": [
      {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
      {"$ref": "#/definitions/oic.r.mode"}
    ],
    "required": ["supportedModes", "modes"]
  }

```

example: |

```

{
  "id": "unique_example_id",
  "supportedModes": ["active", "armedAway", "armedStay", "armedInstant"],
  "modes": ["active"]
}

```

6.17.5 Property Definition

Property name	Value type		Mandatory	Access mode	Description
supportedModes	array: schema	see	yes	Read Only	Array of possible modes the device supports.
modes	array: schema	see	yes		Array of the currently active mode(s)

6.17.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/ModeResURI		get	post		

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 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 range (from oic.r.baseresource) 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 step (from oic.r.baseresource) 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 (rt) is defined as: oic.r.openlevel.

6.18.4 RAML Definition

```

##RAML 0.8
title: OICOpenLevel
version: v1.1.0-20160519
traits:
  - interface :
      queryParameters:
        if:
          enum: ["oic.if.a", "oic.if.baseline"]

```

/OpenLevelResURI:

```

description: |
  This resource describes how open or ajar an entity such as a window, door, blind or shutter is.
  The 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 range (from oic.r.baseresource) 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 step (from oic.r.baseresource) is present then it represents the increment between possible values; if not provided 1 is assumed.

```
is : ['interface']
get:
  description: |
    Retrieves the current openLevel.

responses :
  200:
    body:
      application/json:
        schema: |
          {
            "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.openLevel.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
            "title": "Open Level",
            "definitions": {
              "oic.r.openlevel": {
                "type": "object",
                "properties": {
                  "openLevel": {
                    "type": "integer",
                    "description": "How open or ajar the entity is"
                  },
                  "increment": {
                    "type": "integer",
                    "description": "Deprecated, use 'step' instead.",
                    "readOnly": true
                  }
                }
              }
            },
            "type": "object",
            "allOf": [
              { "$ref": "oic.baseresource.json#/definitions/oic.r.baseresource" },
              { "$ref": "#/definitions/oic.r.openlevel" }
            ],
            "required": ["openLevel"]
          }

        example: |
          {
            "rt": ["oic.r.openlevel"],
            "id": "unique_example_id",
            "openLevel": 50,
            "step": 2,
            "range": [0,100]
          }
```

```
post:
  description: |
    Sets the desired openLevel.

  body:
    application/json:
```

```

schema: |
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.openLevel.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
  "title": "Open Level",
  "definitions": {
    "oic.r.openlevel": {
      "type": "object",
      "properties": {
        "openLevel": {
          "type": "integer",
          "description": "How open or ajar the entity is"
        },
        "increment": {
          "type": "integer",
          "description": "Deprecated, use 'step' instead.",
          "readOnly": true
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
    {"$ref": "#/definitions/oic.r.openlevel"}
  ],
  "required": ["openLevel"]
}

```

example: |

```

{
  "id": "unique_example_id",
  "openLevel": 0
}

```

responses :

200:

body:

application/json:

```

schema: |
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.openLevel.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
  "title": "Open Level",
  "definitions": {
    "oic.r.openlevel": {
      "type": "object",
      "properties": {
        "openLevel": {
          "type": "integer",
          "description": "How open or ajar the entity is"
        },
        "increment": {
          "type": "integer",
          "description": "Deprecated, use 'step' instead.",
          "readOnly": true
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},

```

```

    {"$ref": "#/definitions/oic.r.openlevel"}
  ],
  "required": ["openLevel"]
}

```

example: |

```

{
  "id": "unique_example_id",
  "openLevel": 0
}

```

403:

description: |

This response is generated by the OIC Server when the client sends:
An update with an out of range property value for openLevel.
The server responds with the current resource representation.

body:

application/json:

schema: |

```

{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.openLevel.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
  "title": "Open Level",
  "definitions": {
    "oic.r.openlevel": {
      "type": "object",
      "properties": {
        "openLevel": {
          "type": "integer",
          "description": "How open or ajar the entity is"
        },
        "increment": {
          "type": "integer",
          "description": "Deprecated, use 'step' instead.",
          "readOnly": true
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
    {"$ref": "#/definitions/oic.r.openlevel"}
  ],
  "required": ["openLevel"]
}

```

example: |

```

{
  "id": "unique_example_id",
  "openLevel": 50,
  "step": 2,
  "range": [0,100]
}

```

6.18.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
openLevel	integer	yes		How open or ajar the entity is

increment	integer		Read Only	Deprecated, use 'step' instead.

6.18.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/OpenLevelResURI		get	post		

6.19 Operational State

6.19.1 Introduction

This resource describes the operational and job states on a device. The states can be read or set, setting indicates a desired state. A device may reject an attempt to set a state that would result in adverse operational characteristics. The machineStates is an array of the possible operational states. The currentMachineState is the current state of operation of the device. The jobStates is an array of the possible job states. The currentJobState is the currently active jobState. The runningTime is the ISO8601 encoded elapsed time in the current operational state. The remainingTime is the ISO8601 encoded time till completion of the current operational state. The progressPercentage is the percentage completeness of the current jobState.

6.19.2 Example URI

/OperationalStateResURI

6.19.3 Resource Type

The resource type (rt) is defined as: oic.r.operational.state.

6.19.4 RAML Definition

##RAML 0.8

title: OICOperation

version: v1.1.0-20160519

traits:

- interface :

queryParameters:

if:

enum: ["oic.if.a", "oic.if.baseline"]

/OperationalStateResURI:

description: |

This resource describes the operational and job states on a device.

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

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

The machineStates is an array of the possible operational states.

The currentMachineState is the current state of operation of the device.

The jobStates is an array of the possible job states.

The currentJobState is the currently active jobState.

The runningTime is the ISO8601 encoded elapsed time in the current operational state.

The remainingTime is the ISO8601 encoded time till completion of the current operational state.

The progressPercentage is the percentage completeness of the current jobState.

is : ['interface']

get:

description: |

Retrieves the current operational and job states.

responses :

200:

body:

application/json:

```

schema: |
{
  "id":
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.operational.state.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
  "title": "Operational State",
  "definitions": {
    "oic.r.operational.state": {
      "type": "object",
      "properties": {
        "machineStates": {
          "type": "array",
          "readOnly": true,
          "description": "array of the possible operational states.",
          "items": {
            "type": "string"
          }
        },
        "currentMachineState": {
          "type": "string",
          "description": "Current state of operation of the device."
        },
        "jobStates": {
          "type": "array",
          "readOnly": true,
          "description": "array of the possible job states.",
          "items": {
            "type": "string"
          }
        },
        "currentJobState": {
          "type": "string",
          "description": "Currently active jobState"
        },
        "runningTime": {
          "type": "string",
          "readOnly": true,
          "description": "Elapsed time in the current operational state"
        },
        "remainingTime": {
          "type": "string",
          "readOnly": true,
          "description": "Time till completion of the current operational state"
        },
        "progressPercentage": {
          "type": "integer",
          "readOnly": true,
          "description": "Percentage completeness of the current jobState"
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
    {"$ref": "#/definitions/oic.r.operational.state"}
  ],
  "required": ["machineStates", "currentMachineState"]
}

```

```

example: |
{
  "rt":
    ["oic.r.operational.state"],
  "id":
    "unique_example_id",
  "machineStates":
    ["pause", "stopped", "idle", "active"],
  "currentMachineState":
    "active",
  "jobStates":
    ["preWash", "wash", "rinse", "spin", "dry", "airDry",

```

```

    "wrinklePrevent"],
    "currentJobState":      "rinse",
    "runningTime":         "PT15M20S",
    "remainingTime":       "PT10M40S",
    "progressPercentage":   75
  }

  post:
    description: |
      Sets the desired operational or job state.

    body:
      application/json:
        schema: |
          {
            "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.operational.state-
Update.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
            "title": "Operational State",
            "definitions": {
              "oic.r.operational.state": {
                "type": "object",
                "properties": {
                  "currentMachineState": {
                    "type": "string",
                    "description": "Current state of operation of the device."
                  },
                  "currentJobState": {
                    "type": "string",
                    "description": "Currently active jobState"
                  }
                }
              }
            },
            "type": "object",
            "allOf": [
              {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
              {"$ref": "#/definitions/oic.r.operational.state"}
            ]
          }

        example: |
          {
            "id": "unique_example_id",
            "currentMachineState": "pause",
            "currentJobState": "wash"
          }

    responses:
      200:
        body:
          application/json:
            schema: |
              {
                "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.operational.state-
Update.json#",
                "$schema": "http://json-schema.org/draft-04/schema#",
                "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
                "title": "Operational State",
                "definitions": {
                  "oic.r.operational.state": {

```

```

    "type": "object",
    "properties": {
      "currentMachineState": {
        "type": "string",
        "description": "Current state of operation of the device."
      },
      "currentJobState": {
        "type": "string",
        "description": "Currently active jobState"
      }
    }
  },
  "type": "object",
  "allOf": [
    { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
    { "$ref": "#/definitions/oic.r.operational.state" }
  ]
}

```

example: |

```

{
  "id": "unique_example_id",
  "currentMachineState": "pause",
  "currentJobState": "wash"
}

```

403:

description: |
 This response is generated by the OIC Server when the client sends:
 An update with an value for currentMachineState that is not found in machineStates.
 An update with an value for currentJobState that is not found in jobStates.
 The server responds with the current resource representation.

body:
 application/json:

```

schema: |
{
  "id":
"http://openinterconnect.org/iotdata/models/schemas/oic.r.operational.state.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
  "title": "Operational State",
  "definitions": {
    "oic.r.operational.state": {
      "type": "object",
      "properties": {
        "machineStates": {
          "type": "array",
          "readOnly": true,
          "description": "array of the possible operational states.",
          "items": {
            "type": "string"
          }
        }
      },
      "currentMachineState": {
        "type": "string",
        "description": "Current state of operation of the device."
      },
      "jobStates": {
        "type": "array",
        "readOnly": true,
        "description": "array of the possible job states.",
        "items": {
          "type": "string"
        }
      }
    }
  }
}

```

```

    },
    "currentJobState": {
      "type": "string",
      "description": "Currently active jobState"
    },
    "runningTime": {
      "type": "string",
      "readOnly": true,
      "description": "Elapsed time in the current operational state"
    },
    "remainingTime": {
      "type": "string",
      "readOnly": true,
      "description": "Time till completion of the current operational state"
    },
    "progressPercentage": {
      "type": "integer",
      "readOnly": true,
      "description": "Percentage completeness of the current jobState"
    }
  }
},
"type": "object",
"allOf": [
  { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
  { "$ref": "#/definitions/oic.r.operational.state" }
],
"required": ["machineStates", "currentMachineState"]
}

```

example: |

```

{
  "id": "unique_example_id",
  "machineStates": ["pause", "stopped", "idle", "active"],
  "currentMachineState": "active",
  "jobStates": ["prewash", "wash", "rinse", "spin", "dry", "airDry",
"wrinklePrevent"],
  "currentJobState": "rinse",
  "runningTime": "PT15M20S",
  "remainingTime": "PT10M40S",
  "progressPercentage": 75
}

```

6.19.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
currentMachineState	string	yes		Current state of operation of the device.
currentJobState	string			Currently active jobState
machineStates	array: see schema	yes	Read Only	array of the possible operational states.
runningTime	string		Read Only	Elapsed time in the current operational state
remainingTime	string		Read Only	Time till completion of the current operational state

progressPercentage	integer		Read Only	Percentage completeness of the current jobState
jobStates	array: see schema		Read Only	array of the possible job states.

6.19.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/OperationalStateResURI		get	post		

6.20 Ramp Time

6.20.1 Introduction

This resource describes the Ramp Time of a dimming function. This specifies the actual speed of changing between 2 dimming values. Time is specified in milliseconds [ms]. When range (from oic.r.baseresource) is omitted the maximum value is 100 ms. The RampTime of 0ms indicates the minimal delay possible by the implementation.

6.20.2 Example URI

/RampTimeResURI

6.20.3 Resource Type

The resource type (rt) is defined as: oic.r.light.ramptime.

6.20.4 RAML Definition

##RAML 0.8

title: OICRampTime

version: v1.1.0-20160519

traits:

- interface :

queryParameters:

if:

enum: ["oic.if.a", "oic.if.baseline"]

/RampTimeResURI:

description: |

This resource describes the Ramp Time of a dimming function.

This specifies the actual speed of changing between 2 dimming values.

Time is specified in milliseconds [ms].

When range (from oic.r.baseresource) is omitted the maximum value is 100 ms.

The RampTime of 0ms indicates the minimal delay possible by the implementation.

is : ['interface']

get:

description: |

Retrieves the current RampTime.

responses :

200:

body:

application/json:

schema: |

{

"id":

"http://openinterconnect.org/iotdatamodels/schemas/oic.r.light.ramptime.json#",

```

    "$schema": "http://json-schema.org/draft-04/schema#",
    "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
    "title": "Ramp Time",
    "definitions": {
      "oic.r.light.ramptime": {
        "type": "object",
        "properties": {
          "rampTime": {
            "type": "integer",
            "description": "Actual speed of changing between 2 dimming values"
          }
        }
      }
    },
    "type": "object",
    "allof": [
      {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
      {"$ref": "#/definitions/oic.r.light.ramptime"}
    ],
    "required": ["rampTime"]
  }

```

example: |

```

{
  "rt": ["oic.r.light.ramptime"],
  "id": "unique_example_id",
  "rampTime": 0,
  "range": [0,100]
}

```

post:

```

description: |
  Sets the current RampTime.

```

body:
application/json:

```

schema: |
  {
    "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.light.rampTime.json#",
    "$schema": "http://json-schema.org/draft-04/schema#",
    "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
    "title": "Ramp Time",
    "definitions": {
      "oic.r.light.ramptime": {
        "type": "object",
        "properties": {
          "rampTime": {
            "type": "integer",
            "description": "Actual speed of changing between 2 dimming values"
          }
        }
      }
    },
    "type": "object",
    "allof": [
      {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
      {"$ref": "#/definitions/oic.r.light.ramptime"}
    ],
    "required": ["rampTime"]
  }

```

example: |

```

{
  "id": "unique_example_id",

```

```

    "rampTime": 50
  }

responses :
  200:
    body:
      application/json:
        schema: |
          {
            "id":
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.light.rampTime.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
            "title": "Ramp Time",
            "definitions": {
              "oic.r.light.ramptime": {
                "type": "object",
                "properties": {
                  "rampTime": {
                    "type": "integer",
                    "description": "Actual speed of changing between 2 dimming values"
                  }
                }
              }
            },
            "type": "object",
            "allof": [
              {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
              {"$ref": "#/definitions/oic.r.light.ramptime"}
            ],
            "required": ["rampTime"]
          }

        example: |
          {
            "id": "unique_example_id",
            "rampTime": 50
          }

  403:
    description: |
      This response is generated by the OIC Server when the client sends:
      An update with an out of range property value for rampTime.
      The server responds with the current resource representation.

    body:
      application/json:
        schema: |
          {
            "id":
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.light.rampTime.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
            "title": "Ramp Time",
            "definitions": {
              "oic.r.light.ramptime": {
                "type": "object",
                "properties": {
                  "rampTime": {
                    "type": "integer",
                    "description": "Actual speed of changing between 2 dimming values"
                  }
                }
              }
            }
          }

```

```

    }
  },
  "type": "object",
  "allof": [
    {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
    {"$ref": "#/definitions/oic.r.light.ramptime"}
  ],
  "required": ["rampTime"]
}

example: |
{
  "id": "unique_example_id",
  "rampTime": 40
}

```

6.20.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
rampTime	integer	yes		Actual speed of changing between 2 dimming values

6.20.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/RampTimeResURI		get	post		

6.21 Refrigeration

6.21.1 Introduction

This resource describes a refrigeration function. The filter state is a read-only value providing the percentage life time remaining for the water filter. RapidFreeze is a boolean that controls the rapid freeze capability if present. RapidCool is a boolean that controls the rapid cool capability if present. Defrost is a boolean that controls the defrost cycle if present. At least one of the listed Properties shall be present in a Resource Instance.

6.21.2 Example URI

/RefrigerationResURI

6.21.3 Resource Type

The resource type (rt) is defined as: oic.r.refrigeration.

6.21.4 RAML Definition

```

%%RAML 0.8
title: OICRefrigeration
version: v1.1.0-20160519

traits:
- interface:
  queryParameters:
    if:
      enum: ["oic.if.a", "oic.if.baseline"]

```

/RefrigerationResURI:

```

description: |
  This resource describes a refrigeration function.
  The filter state is a read-only value providing the percentage life time remaining for the
  water filter.
  RapidFreeze is a boolean that controls the rapid freeze capability if present.

```

RapidCool is a boolean that controls the rapid cool capability if present.
 Defrost is a boolean that controls the defrost cycle if present.
 At least one of the listed Properties shall be present in a Resource Instance.

```

is : ['interface']
get:
  description: |
    Retrieves the current Refrigeration function status; all Properties supported by the Device
    are returned.

  responses :
    200:
      body:
        application/json:
          schema: |
            {
              "id":
                "http://openinterconnect.org/iotdatamodels/schemas/oic.r.refrigeration.json#",
              "$schema": "http://json-schema.org/draft-04/schema#",
              "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
              "title": "Refrigeration",
              "definitions": {
                "oic.r.refrigeration": {
                  "type": "object",
                  "anyOf": [
                    {"required": ["filter"]},
                    {"required": ["rapidFreeze"]},
                    {"required": ["rapidCool"]},
                    {"required": ["defrost"]}
                  ],
                  "properties": {
                    "filter": {
                      "type": "integer",
                      "readOnly": true,
                      "description": "Percentage life time remaining for the water filter"
                    },
                    "rapidFreeze": {
                      "type": "boolean",
                      "description": "Indicates whether the unit has a rapid freeze capability
active."
                    },
                    "rapidCool": {
                      "type": "boolean",
                      "description": "Indicates whether the unit has a rapid cool capability
active"
                    },
                    "defrost": {
                      "type": "boolean",
                      "description": "Indicates whether a defrost cycle is currently active"
                    }
                  }
                }
              },
              "type": "object",
              "allOf": [
                {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
                {"$ref": "#/definitions/oic.r.refrigeration"}
              ]
            }

          example: |
            {
              "rt":          ["oic.r.refrigeration"],
              "id":          "unique_example_id",

```

```

        "filter":      75,
        "rapidFreeze": false,
        "rapidCool":  false,
        "defrost":     true
    }

post:
  description: |
    Activates the desired Refrigeration functions.
    Suported values are rapidFreeze, rapidCool and defrost.
    At least on of the supported values shall be provided.

  body:
    application/json:
      schema: |
        {
          "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.refrigeration-
Update.json#",
          "$schema": "http://json-schema.org/draft-04/schema#",
          "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
          "title": "Refrigeration",
          "definitions": {
            "oic.r.refrigeration": {
              "type": "object",
              "anyOf": [
                {"required": ["rapidFreeze"]},
                {"required": ["rapidCool"]},
                {"required": ["defrost"]}
              ],
              "properties": {
                "rapidFreeze": {
                  "type": "boolean",
                  "description": "Indicates whether the unit has a rapid freeze capability
active."
                },
                "rapidCool": {
                  "type": "boolean",
                  "description": "Indicates whether the unit has a rapid cool capability active"
                },
                "defrost": {
                  "type": "boolean",
                  "description": "Indicates whether a defrost cycle is currently active"
                }
              }
            }
          },
          "type": "object",
          "allOf": [
            {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
            {"$ref": "#/definitions/oic.r.refrigeration"}
          ]
        }

  example: |
    {
      "id":      "unique_example_id",
      "rapidFreeze": true
    }

responses :
  200:
    description: |

```

Indicates that the Refrigeration function was changed.
The new status can be provided in the response.

```
body:
  application/json:
    schema: |
      {
        "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.refrigeration-
Update.json#",
        "$schema": "http://json-schema.org/draft-04/schema#",
        "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
        "title": "Refrigeration",
        "definitions": {
          "oic.r.refrigeration": {
            "type": "object",
            "anyOf": [
              {"required": ["rapidFreeze"]},
              {"required": ["rapidCool"]},
              {"required": ["defrost"]}
            ],
            "properties": {
              "rapidFreeze": {
                "type": "boolean",
                "description": "Indicates whether the unit has a rapid freeze capability
active."
              },
              "rapidCool": {
                "type": "boolean",
                "description": "Indicates whether the unit has a rapid cool capability
active"
              },
              "defrost": {
                "type": "boolean",
                "description": "Indicates whether a defrost cycle is currently active"
              }
            }
          }
        },
        "type": "object",
        "allOf": [
          {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
          {"$ref": "#/definitions/oic.r.refrigeration"}
        ]
      }

    example: |
      {
        "id": "unique_example_id",
        "rapidFreeze": true
      }
```

6.21.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
filter	integer	yes	Read Only	Percentage life time remaining for the water filter
rapidFreeze	boolean	yes		Indicates whether the unit has a rapid freeze capability active.

defrost	boolean	yes		Indicates whether a defrost cycle is currently active
rapidCool	boolean	yes		Indicates whether the unit has a rapid cool capability active

6.21.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/RefrigerationResURI		get	post		

6.22 Temperature

6.22.1 Introduction

This resource describes a sensed or actuated Temperature value. The temperature describes the current value measured. The 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 range (from oic.r.baseresource) is omitted the default is +/- MAXINT.

6.22.2 Example URI

/TemperatureResURI

6.22.3 Resource Type

The resource type (rt) is defined as: oic.r.temperature

6.22.4 RAML Definition

##RAML 0.8

title: *OICTemperature*

version: *v1.1.0-20160519*

traits:

- interface :

queryParameters:

if:

enum: ["oic.if.a", "oic.if.s", "oic.if.baseline"]

/TemperatureResURI:

description: |

This resource describes a sensed or actuated Temperature value.

The temperature describes the current value measured.

The 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 range (from oic.r.baseresource) is omitted the default is +/- MAXINT.

is: ['interface']

get:

description: |

Retrieves the current temperature value.

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.

queryParameters:

units:

enum: CFK


```

responses :
  200:
    body:
      application/json:
        schema: |
          {
            "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.temperature.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
            "title": "Temperature",
            "definitions": {
              "oic.r.temperature": {
                "type": "object",
                "properties": {
                  "temperature": {
                    "type": "number",
                    "description": "Current temperature setting or measurement"
                  },
                  "units": {
                    "enum": ["C", "F", "K"],
                    "description": "Units for the temperature value",
                    "readOnly": true
                  }
                }
              }
            },
            "type": "object",
            "allOf": [
              { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
              { "$ref": "#/definitions/oic.r.temperature" }
            ],
            "required": ["temperature"]
          }

        example: |
          {
            "rt": ["oic.r.temperature"],
            "id": "unique_example_id",
            "temperature": 20.0,
            "units": "C",
            "range": [0.0, 100.0]
          }

  403:
    description: |
      This response is generated by the OIC Server when the client sends:
      A retrieve with q queryParameter indicating a unit that the server does not support.
      The server responds with the current resource representation including the
      units property illustrating the supported units and the error.
    body:
      application/json:
        schema: |
          {
            "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.temperature.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
            "title": "Temperature",
            "definitions": {
              "oic.r.temperature": {
                "type": "object",
                "properties": {
                  "temperature": {

```

```

        "type": "number",
        "description": "Current temperature setting or measurement"
      },
      "units": {
        "enum": ["C", "F", "K"],
        "description": "Units for the temperature value",
        "readOnly": true
      }
    }
  },
  "type": "object",
  "allOf": [
    { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
    { "$ref": "#/definitions/oic.r.temperature" }
  ],
  "required": ["temperature"]
}

```

example: |

```

{
  "id": "unique_example_id",
  "temperature": 20.0,
  "units": "C"
}

```

post:

description: |

Sets the desired temperature value.
 If a unit is included and the server does not support the unit indicated the request will fail.
 If the units are omitted value is taken to be in C.

body:

application/json:

```

schema: |
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.temperature.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
  "title": "Temperature",
  "definitions": {
    "oic.r.temperature": {
      "type": "object",
      "properties": {
        "temperature": {
          "type": "number",
          "description": "Current temperature setting or measurement"
        },
        "units": {
          "enum": ["C", "F", "K"],
          "description": "Units for the temperature value",
          "readOnly": true
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
    { "$ref": "#/definitions/oic.r.temperature" }
  ],
  "required": ["temperature"]
}

```

example: |

```

    {
      "id": "unique_example_id",
      "temperature": 18.0
    }

responses :
  200:
    body:
      application/json:
        schema: |
          {
            "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.temperature.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
            "title": "Temperature",
            "definitions": {
              "oic.r.temperature": {
                "type": "object",
                "properties": {
                  "temperature": {
                    "type": "number",
                    "description": "Current temperature setting or measurement"
                  },
                  "units": {
                    "enum": ["C", "F", "K"],
                    "description": "Units for the temperature value",
                    "readOnly": true
                  }
                }
              }
            },
            "type": "object",
            "allOf": [
              { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
              { "$ref": "#/definitions/oic.r.temperature" }
            ],
            "required": ["temperature"]
          }

        example: |
          {
            "id": "unique_example_id",
            "temperature": 18.0
          }

  403:
    description: |
      This response is generated by the OIC Server when the client sends:
      An update with an out of range property value for temperature.
      An update with an unsupported unit for this server.
      The server responds with the current resource representation including
      the range property illustrating the supported range and the error.

    body:
      application/json:
        schema: |
          {
            "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.temperature.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
            "title": "Temperature",
            "definitions": {

```

```

    "oic.r.temperature": {
      "type": "object",
      "properties": {
        "temperature": {
          "type": "number",
          "description": "Current temperature setting or measurement"
        },
        "units": {
          "enum": ["C", "F", "K"],
          "description": "Units for the temperature value",
          "readOnly": true
        }
      }
    },
    "type": "object",
    "allof": [
      {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
      {"$ref": "#/definitions/oic.r.temperature"}
    ],
    "required": ["temperature"]
  }

example: |
  {
    "id": "unique_example_id",
    "temperature": 20.0,
    "units": "C",
    "range": [0.0, 100.0]
  }

```

6.22.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
units	multiple types: see schema		Read Only	Units for the temperature value
temperature	number	yes		Current temperature setting or measurement

6.22.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/TemperatureResURI		get	post		

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 `startTime` and `stopTime` are ISO8601 encoded strings. `startTime` must be present. The interval is the interval of the time period in minutes, if present this value must be no less than 1 minute. `stopTime` and `interval` are mutually exclusive; both Properties cannot be present in a Resource instance.

6.23.2 Example URI

/TimePeriodResURI

6.23.3 Resource Type

The resource type (rt) is defined as: `oic.r.time.period`.

6.23.4 RAML Definition

##%RAML 0.8

```

title: OICTimePeriod
version: v1.1.0-20160519
traits:
  - interface :
      queryParameters:
        if:
          enum: ["oic.if.a", "oic.if.baseline"]

/TimePeriodResURI:
  description: |
    This resource describes the time period over which any additionally provided
    information is derived or bounded.
    The startTime and stopTime are ISO8601 encoded strings
    startTime must be present.
    The interval is the interval of the time period in minutes, if present this value must be no
    less than 1 minute.
    stopTime and interval are mutually exclusive; both Properties cannot be present in a Resource
    instance.

  is : ['interface']
  get:
    description: |
      Defines a time period for information retrieval, action or other behaviour.

  responses :
    200:
      body:
        application/json:
          schema: |
            {
              "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.time.period.json#",
              "$schema": "http://json-schema.org/draft-04/schema#",
              "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
              "title": "Time Period",
              "definitions": {
                "oic.r.time.period": {
                  "type": "object",
                  "properties": {
                    "startTime": {
                      "type": "string",
                      "description": "Start time for the time period"
                    },
                    "stopTime": {
                      "type": "string",
                      "description": "Stop time for the time period, if present interval cannot
be present"
                    },
                    "interval": {
                      "type": "integer",
                      "description": "Time interval in minutes after the startTime, if present
stopTime cannot be present"
                    }
                  },
                  "required": ["startTime"]
                }
              },
              "type": "object",
              "allOf": [
                { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
                { "$ref": "#/definitions/oic.r.time.period" }
              ]
            }

```

```

example: |
{
  "rt":      ["oic.r.time.period"],
  "id":      "unique_example_id",
  "startTime": "2015-01-09T14:30Z",
  "stopTime": "2015-01-09T14:45Z"
}

post:
description: |
  Sets or updates a time period for information retrieval, action or other behavior.

body:
  application/json:
    schema: |
      {
        "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.time.period.json#",
        "$schema": "http://json-schema.org/draft-04/schema#",
        "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
        "title": "Time Period",
        "definitions": {
          "oic.r.time.period": {
            "type": "object",
            "properties": {
              "startTime": {
                "type": "string",
                "description": "Start time for the time period"
              },
              "stopTime": {
                "type": "string",
                "description": "Stop time for the time period, if present interval cannot be
present"
              },
              "interval": {
                "type": "integer",
                "description": "Time interval in minutes after the startTime, if present
stopTime cannot be present"
              }
            },
            "required": ["startTime"]
          }
        },
        "type": "object",
        "allOf": [
          { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
          { "$ref": "#/definitions/oic.r.time.period" }
        ]
      }

example: |
{
  "id":      "unique_example_id",
  "startTime": "2015-01-09T14:30Z",
  "stopTime": "2015-01-09T14:45Z"
}

responses :
200:
  body:
    application/json:
      schema: |
        {
          "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.time.period.json#",

```

```

"$schema": "http://json-schema.org/draft-04/schema#",
"description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
"title": "Time Period",
"definitions": {
  "oic.r.time.period": {
    "type": "object",
    "properties": {
      "startTime": {
        "type": "string",
        "description": "Start time for the time period"
      },
      "stopTime": {
        "type": "string",
        "description": "Stop time for the time period, if present interval cannot
be present"
      },
      "interval": {
        "type": "integer",
        "description": "Time interval in minutes after the startTime, if present
stopTime cannot be present"
      }
    },
    "required": ["startTime"]
  }
},
"type": "object",
"allOf": [
  { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
  { "$ref": "#/definitions/oic.r.time.period" }
]
}

example: |
{
  "id": "unique_example_id",
  "startTime": "2015-01-09T14:30Z",
  "stopTime": "2015-01-09T14:45Z"
}

```

6.23.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
stopTime	string			Stop time for the time period, if present interval cannot be present
startTime	string	yes		Start time for the time period
interval	integer			Time interval in minutes after the startTime, if present stopTime cannot be present

6.23.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/TimePeriodResURI		get	post		

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 count property 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 (rt) is defined as: oic.r.sensor.activity.count.

6.24.4 RAML Definition

```

##%RAML 0.8
title: OICActivityCount
version: v1.1.0-20160519
traits:
- interface :
    queryParameters:
        if:
            enum: ["oic.if.s", "oic.if.a", "oic.if.baseline"]

/ActivityCountResURI:
    description: |
        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 count property is an integer representing either the current count or goal value.

    is : ['interface']
    get:
        description: |
            Retrieves the current activity count.

    responses :
        200:
            body:
                application/json:
                    schema: |
                        {
                            "id":
                                "http://openconnect.org/iotdatamodels/schemas/oic.r.sensor.activity.count.json#",
                            "$schema": "http://json-schema.org/draft-04/schema#",
                            "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
                                rights reserved.",
                            "title": "Activity Count Sensor",
                            "definitions": {
                                "oic.r.sensor.activity.count": {
                                    "properties": {
                                        "count": {
                                            "type": "integer",
                                            "description": "Current or Target count."
                                        }
                                    }
                                }
                            },
                            "type": "object",

```



```

    "allOf": [
      {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
      {"$ref": "#/definitions/oic.r.sensor.activity.count"}
    ],
    "required": ["count"]
  }

```

example: |

```

{
  "rt": ["oic.r.sensor.activity.count"],
  "id": "unique_example_id",
  "count": 2500
}

```

post:

description: |
Sets the count target

body:
application/json:

```

  schema: |
    {
      "id":
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.activity.count.json#",
      "$schema": "http://json-schema.org/draft-04/schema#",
      "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
      "title": "Activity Count Sensor",
      "definitions": {
        "oic.r.sensor.activity.count": {
          "properties": {
            "count": {
              "type": "integer",
              "description": "Current or Target count."
            }
          }
        }
      },
      "type": "object",
      "allOf": [
        {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
        {"$ref": "#/definitions/oic.r.sensor.activity.count"}
      ],
      "required": ["count"]
    }

```

example: |

```

{
  "id": "unique_example_id",
  "count": 5000
}

```

responses :

200:

body:
application/json:

```

  schema: |
    {
      "id":
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.activity.count.json#",
      "$schema": "http://json-schema.org/draft-04/schema#",
      "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",

```

```

    "title": "Activity Count Sensor",
    "definitions": {
      "oic.r.sensor.activity.count": {
        "properties": {
          "count": {
            "type": "integer",
            "description": "Current or Target count."
          }
        }
      }
    },
    "type": "object",
    "allof": [
      {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
      {"$ref": "#/definitions/oic.r.sensor.activity.count"}
    ],
    "required": ["count"]
  }

  example: |
  {
    "id": "unique_example_id",
    "count": 5000
  }

```

6.24.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
count	integer	yes		Current or Target count.

6.24.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/ActivityCountResURI		get	post		

6.25 Atmospheric Pressure Sensor

6.25.1 Introduction

This resource provides a measurement of Mean Sea Level Pressure experienced at the measuring point expressed in millibars. The value is float which describes the atmospheric pressure in hPa (hectoPascals). Note that hPa and the also commonly used unit of millibars (mbar) are numerically equivalent.

6.25.2 Example URI

/AtmosphericPressureResURI

6.25.3 Resource Type

The resource type (rt) is defined as: oic.r.sensor.atmosphericpressure.

6.25.4 RAML Definition

```

##%RAML 0.8
title: OICAtmosphericPressureSensor
version: v1.1.0-20160519
traits:
  - interface :
      queryParameters:
        if:
          enum: ["oic.if.s", "oic.if.baseline"]

/AtmosphericPressureResURI:
  description: |

```

This resource provides a measurement of Mean Sea Level Pressure experienced at the measuring point expressed in millibars.
 The value is float which describes the atmospheric pressure in hPa (hectoPascals).
 Note that hPa and the also commonly used unit of millibars (mbar) are numerically equivalent.

```
is : ['interface']
get:
  responses :
    200:
      body:
        application/json:
          schema: |
            {
              "id":
                "http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.atmosphericPressure.json#",
              "$schema": "http://json-schema.org/draft-04/schema#",
              "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
              "title": "Atmospheric Pressure Sensor",
              "definitions": {
                "oic.r.sensor.atmosphericpressure": {
                  "properties": {
                    "atmosphericPressure": {
                      "type": "number",
                      "readOnly": true,
                      "description": "Current atmospheric pressure in hPa."
                    }
                  }
                }
              },
              "type": "object",
              "allOf": [
                { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
                { "$ref": "#/definitions/oic.r.sensor.atmosphericpressure" }
              ],
              "required": ["atmosphericPressure"]
            }

          example: |
            {
              "rt": ["oic.r.sensor.atmosphericpressure"],
              "id": "unique_example_id",
              "atmosphericPressure": 1000.4
            }
```

6.25.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
atmosphericPressure	number	yes	Read Only	Current atmospheric pressure in hPa.

6.25.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/AtmosphericPressureResURI		get			

6.26 Audio Controls

6.26.1 Introduction

This resource defines basic audio control functions. The volume is an integer containing a percentage [0,100]. A volume of 0 (zero) means no sound produced. A volume of 100 means maximum sound production. The mute control is implemented as a boolean. A mute value of true

means that the device is muted (no audio). A mute value of false means that the device is not muted (audio).

6.26.2 Example URI

/AudioResURI

6.26.3 Resource Type

The resource type (rt) is defined as: oic.r.audio.

6.26.4 RAML Definition

```

#%RAML 0.8
title: OICAudio
version: v1.1.0-20160519

traits:
- interface :
    queryParameters:
        if:
            enum: ["oic.if.a", "oic.if.baseline"]

/AudioResURI:
    description: |
        This resource defines basic audio control functions.
        The volume is an integer containing a percentage [0,100].
        A volume of 0 (zero) means no sound produced.
        A volume of 100 means maximum sound production.
        The mute control is implemented as a boolean.
        A mute value of true means that the device is muted (no audio).
        A mute value of false means that the device is not muted (audio).

    is : ['interface']

    get:
        responses :
            200:
                body:
                    application/json:
                        schema: |
                            {
                                "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.audio.json#",
                                "$schema": "http://json-schema.org/draft-04/schema#",
                                "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
                                "definitions": {
                                    "oic.r.audio": {
                                        "type": "object",
                                        "properties": {
                                            "volume": {
                                                "type": "integer",
                                                "description": "Volume setting of an audio rendering device.",
                                                "minimum": 0,
                                                "maximum": 100
                                            },
                                            "mute": {
                                                "type": "boolean",
                                                "description": "Mute setting of an audio rendering device"
                                            }
                                        }
                                    }
                                },
                                "type": "object",
                                "allof": [
                                    {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
                                    {"$ref": "#/definitions/oic.r.audio"}
                                ]
                            }

```

```

    ],
    "required": ["volume", "mute"]
  }

  example: |
    {
      "rt":      ["oic.r.audio"],
      "id":      "unique_example_id",
      "volume":  50,
      "mute":    false
    }

  post:
    body:
      application/json:
        schema: |
          {
            "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.audio.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
            "definitions": {
              "oic.r.audio": {
                "type": "object",
                "properties": {
                  "volume": {
                    "type": "integer",
                    "description": "Volume setting of an audio rendering device.",
                    "minimum": 0,
                    "maximum": 100
                  },
                  "mute": {
                    "type": "boolean",
                    "description": "Mute setting of an audio rendering device"
                  }
                }
              }
            },
            "type": "object",
            "allOf": [
              {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
              {"$ref": "#/definitions/oic.r.audio"}
            ],
            "required": ["volume", "mute"]
          }

  example: |
    {
      "id": "unique_example_id",
      "volume": 75,
      "mute": false
    }

  responses:
    200:
      body:
        application/json:
          schema: |
            {
              "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.audio.json#",
              "$schema": "http://json-schema.org/draft-04/schema#",
              "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
              "definitions": {

```

```

    "oic.r.audio": {
      "type": "object",
      "properties": {
        "volume": {
          "type": "integer",
          "description": "Volume setting of an audio rendering device.",
          "minimum": 0,
          "maximum": 100
        },
        "mute": {
          "type": "boolean",
          "description": "Mute setting of an audio rendering device"
        }
      }
    },
    "type": "object",
    "allof": [
      {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
      {"$ref": "#/definitions/oic.r.audio"}
    ],
    "required": ["volume", "mute"]
  }
}

example: |
{
  "id": "unique_example_id",
  "volume": 75,
  "mute": false
}

```

6.26.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
volume	integer	yes		Volume setting of an audio rendering device.
mute	boolean	yes		Mute setting of an audio rendering device

6.26.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/AudioResURI		get	post		

6.27 Auto Focus

6.27.1 Introduction

This resource describes an auto focus on/off feature. The value is a boolean. An AutoFocus value of 'true' means that the switch is on. An AutoFocus value of 'false' means that the switch 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 (rt) is defined as: oic.r.autofocus.

6.27.4 RAML Definition

##%RAML 0.8

title: OICAutoFocus

version: v1.1.0-20160519

```

traits:
- interface :
  queryParameters:
    if:
      enum: ["oic.if.a", "oic.if.baseline"]

/AutoFocusResURI:
  description: |
    This resource describes an auto focus on/off feature.
    The value is a boolean.
    An AutoFocus value of 'true' means that the switch is on.
    An AutoFocus value of 'false' means that the switch is off.
    Note that when Pan Tilt Zoom (see 'Pan Tilt Zoom' Resource definition) is used the autofocus
    works only in the selected area.

  is : ['interface']
  get:
    responses :
      200:
        body:
          application/json:
            schema: |
              {
                "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.autofocus.json#",
                "$schema": "http://json-schema.org/draft-04/schema#",
                "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
                "title": "Auto Focus",
                "definitions": {
                  "oic.r.autofocus": {
                    "type": "object",
                    "properties": {
                      "autoFocus": {
                        "type": "boolean",
                        "description": "Status of the Auto Focus"
                      }
                    }
                  }
                },
                "type": "object",
                "allOf": [
                  { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
                  { "$ref": "#/definitions/oic.r.autofocus" }
                ],
                "required": [ "autoFocus" ]
              }

            example: |
              {
                "rt": "oic.r.autofocus",
                "id": "unique_example_id",
                "autoFocus": false
              }

  post:
    body:
      application/json:
        schema: |
          {
            "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.autofocus.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights

```

```

reserved.",
  "title": "Auto Focus",
  "definitions": {
    "oic.r.autofocus": {
      "type": "object",
      "properties": {
        "autoFocus": {
          "type": "boolean",
          "description": "Status of the Auto Focus"
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
    {"$ref": "#/definitions/oic.r.autofocus"}
  ],
  "required": [ "autoFocus" ]
}

example: |
{
  "id":          "unique_example_id",
  "autoFocus":  true
}

responses :
200:
  body:
    application/json:
      schema: |
        {
          "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.autofocus.json#",
          "$schema": "http://json-schema.org/draft-04/schema#",
          "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
          "title": "Auto Focus",
          "definitions": {
            "oic.r.autofocus": {
              "type": "object",
              "properties": {
                "autoFocus": {
                  "type": "boolean",
                  "description": "Status of the Auto Focus"
                }
              }
            }
          },
          "type": "object",
          "allOf": [
            {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
            {"$ref": "#/definitions/oic.r.autofocus"}
          ],
          "required": [ "autoFocus" ]
        }

example: |
{
  "id":          "unique_example_id",
  "autoFocus":  true
}

```


6.27.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
autoFocus	boolean	yes		Status of the Auto Focus

6.27.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/AutoFocusResURI		get	post		

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 states are read only. The `adfStates` is an array of the possible operational states. `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 (rt) is defined as: `oic.r.automaticdocumentfeeder`.

6.28.4 RAML Definition

```

#%RAML 0.8
title: OICAAutomaticDocumentFeeder
version: v1.1.0-20160519

traits:
  - interface :
      queryParameters:
        if:
          enum: ["oic.if.s", "oic.if.baseline"]

/AutomaticDocumentFeederResURI:
  description: |
    This resource describes the state of an automatic document feeder, typically used with a scanner.
    The states are read only.
    The adfStates is an array of the possible operational states.
    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.

  is : ['interface']
  get:
    description: |
      Retrieves the current automatic document feeder state.

    responses :
      200:
        body:
          application/json:
            schema: |
              {
                "id":
                  "http://openinterconnect.org/iotdatamodels/schemas/oic.r.automaticDocumentFeeder.json#",
                "$schema": "http://json-schema.org/draft-04/schema#",
                "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All

```

```

rights reserved.",
  "title": "Automatic Document Feeder",
  "definitions": {
    "oic.r.automaticdocumentfeeder": {
      "type": "object",
      "properties": {
        "adfStates": {
          "type": "array",
          "readOnly": true,
          "description": "array of the possible adf states.",
          "items": {
            "type": "string"
          }
        },
        "currentAdfState": {
          "type": "string",
          "readOnly": true,
          "description": "Current adf state."
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
    { "$ref": "#/definitions/oic.r.automaticdocumentfeeder" }
  ],
  "required": ["adfStates", "currentAdfState"]
}

```

example: |

```

{
  "rt": ["oic.r.automaticdocumentfeeder"],
  "id": "unique_example_id",
  "adfStates": ["adfProcessing", "adfEmpty", "adfJam", "adfLoaded",
"adfMispick", "adfHatchOpen", "adfDuplexPageTooShort", "adfDuplexPageTooLong",
"adfMultipickDetected", "adfInputTrayFailed", "adfInputTrayOverloaded"],
  "currentAdfState": "adfProcessing"
}

```

6.28.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
adfStates	array: see schema	yes	Read Only	array of the possible adf states.
currentAdfState	string	yes	Read Only	Current adf state.

6.28.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/AutomaticDocumentFeederResURI		get			

6.29 Button Switch

6.29.1 Introduction

This resource describes the operation of a button style switch. The value is a boolean. A value of 'true' means that the button is being pushed/pressed. A value of 'false' means that the button is not being pushed/pressed.

6.29.2 Example URI

/ButtonResURI

6.29.3 Resource Type

The resource type (rt) is defined as: oic.r.button.

6.29.4 RAML Definition

```

%%RAML 0.8
title: OICButton
version: v1.1.0-20160519

traits:
- interface :
    queryParameters:
        if:
            enum: ["oic.if.s", "oic.if.baseline"]

/ButtonResURI:
    description: |
        This resource describes the operation of a button style switch.
        The value is a boolean.
        A value of 'true' means that the button is being pushed/pressed.
        A value of 'false' means that the button is not being pushed/pressed.

    is : ['interface']
    get:
        responses :
            200:
                body:
                    application/json:
                        schema: |
                            {
                                "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.button.json#",
                                "$schema": "http://json-schema.org/draft-04/schema#",
                                "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
                                "title": "Button Switch",
                                "definitions": {
                                    "oic.r.button": {
                                        "properties": {
                                            "value": {
                                                "type": "boolean",
                                                "readOnly": true,
                                                "description": "Status of the button"
                                            }
                                        }
                                    }
                                },
                                "type": "object",
                                "allOf": [
                                    { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
                                    { "$ref": "#/definitions/oic.r.button" }
                                ],
                                "required": ["value"]
                            }

    example: |
        {
            "rt": ["oic.r.button"],
            "id": "unique_example_id",
            "value": true
        }

```

6.29.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
value	boolean	yes	Read Only	Status of the button

6.29.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/ButtonResURI		get			

6.30 Carbon Dioxide Sensor**6.30.1 Introduction**

This resource describes whether carbon dioxide has been sensed or not. The value is a boolean. A value of 'true' means that carbon dioxide has been detected. A value of 'false' means that carbon dioxide has not been detected.

6.30.2 Example URI

/CarbonDioxideResURI

6.30.3 Resource Type

The resource type (rt) is defined as: oic.r.sensor.carbondioxide.

6.30.4 RAML Definition

##RAML 0.8

title: OICCarbonDioxideSensor
version: v1.1.0-20160519

traits:

- interface :

queryParameters:

if:

enum: ["oic.if.s", "oic.if.baseline"]

/CarbonDioxideResURI:

description: |

This resource describes whether carbon dioxide has been sensed or not.
The value is a boolean.
A value of 'true' means that carbon dioxide has been detected.
A value of 'false' means that carbon dioxide has not been detected.

is: ['interface']

get:

responses :

200:

body:

application/json:

schema: |

{

"id":

"http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.carbonDioxide.json#",

"\$schema": "http://json-schema.org/draft-04/schema#",

"description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",

"title": "Carbon Dioxide Sensor",

"definitions": {

"oic.r.sensor.carbondioxide": {

"allOf": [

{"\$ref": "oic.r.sensor.json#/definitions/oic.r.sensor"}

]

}

```

    },
    "type": "object",
    "allof": [
      {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
      {"$ref": "#/definitions/oic.r.sensor.carbondioxide"}
    ],
    "required": ["value"]
  }

example: |
{
  "rt":    ["oic.r.sensor.carbondioxide"],
  "id":    "unique_example_id",
  "value": true
}

```

6.30.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
value	boolean	yes	Read Only	True = Sensed, False = Not Sensed.

6.30.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/CarbonDioxideResURI		get			

6.31 Carbon Monoxide Sensor

6.31.1 Introduction

This resource describes whether carbon monoxide has been sensed or not. The 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 (rt) is defined as: oic.r.sensor.carbonmonoxide.

6.31.4 RAML Definition

```

#%RAML 0.8
title: OICCarbonMonoxideSensor
version: v1.1.0-20160519

traits:
- interface :
    queryParameters:
      if:
        enum: ["oic.if.s", "oic.if.baseline"]

/CarbonMonoxideResURI:
  description: |
    This resource describes whether carbon monoxide has been sensed or not.
    The 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.

  is : ['interface']
  get:
    responses :

```

```

200:
  body:
    application/json:
      schema: |
        {
          "id":
            "http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.carbonMonoxide.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
            "title": "Carbon Monoxide Sensor",
            "definitions": {
              "oic.r.sensor.carbonmonoxide": {
                "allOf": [
                  {"$ref": "oic.r.sensor.json#/definitions/oic.r.sensor"}
                ]
              }
            },
            "type": "object",
            "allOf": [
              {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
              {"$ref": "#/definitions/oic.r.sensor.carbonmonoxide"}
            ],
            "required": ["value"]
          }
        }

      example: |
        {
          "rt": ["oic.r.sensor.carbonmonoxide"],
          "id": "unique_example_id",
          "value": true
        }

```

6.31.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
value	boolean	yes	Read Only	True = Sensed, False = Not Sensed.

6.31.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/CarbonMonoxideResURI		get			

6.32 Auto White Balance

6.32.1 Introduction

This resource describes an auto balance on/off feature. The value is a boolean. An AutoWhiteBalance value of 'true' means that the switch is on. An AutoWhiteBalance value of 'false' means that the switch is off.

6.32.2 Example URI

/AutoWhiteBalanceResURI

6.32.3 Resource Type

The resource type (rt) is defined as: oic.r.colour.autowhitebalance.

6.32.4 RAML Definition

```

##%RAML 0.8
title: OICAutoWhiteBalance
version: v1.1.0-20160519
traits:

```

```

- interface :
  queryParameters:
    if:
      enum: ["oic.if.a", "oic.if.baseline"]

/AutoWhiteBalanceResURI:
  description: |
    This resource describes an auto balance on/off feature.
    The value is a boolean.
    An AutoWhiteBalance value of 'true' means that the switch is on.
    An AutoWhiteBalance value of 'false' means that the switch is off.

  is : ['interface']
  get:
    responses :
      200:
        body:
          application/json:
            schema: |
              {
                "id":
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.colour.autowhitebalance.json#",
                "$schema": "http://json-schema.org/draft-04/schema#",
                "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
                "title": "Auto White Balance",
                "definitions": {
                  "oic.r.colour.autowhitebalance": {
                    "type": "object",
                    "properties": {
                      "autoWhiteBalance": {
                        "type": "boolean",
                        "description": "Status of the Auto White balance"
                      }
                    }
                  }
                },
                "type": "object",
                "allOf": [
                  { "$ref": "oic.baseresource.json#/definitions/oic.r.baseresource"},
                  { "$ref": "#/definitions/oic.r.colour.autowhitebalance"}
                ],
                "required": [ "autoWhiteBalance" ]
              }

            example: |
              {
                "rt": ["oic.r.colour.autowhitebalance"],
                "id": "unique_example_id",
                "autoWhiteBalance": false
              }

  post:
    body:
      application/json:
        schema: |
          {
            "id":
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.colour.autowhitebalance.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights
reserved.",

```

```

    "title": "Auto White Balance",
    "definitions": {
      "oic.r.colour.autowhitebalance": {
        "type": "object",
        "properties": {
          "autoWhiteBalance": {
            "type": "boolean",
            "description": "Status of the Auto White balance"
          }
        }
      }
    },
    "type": "object",
    "allOf": [
      {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
      {"$ref": "#/definitions/oic.r.colour.autowhitebalance"}
    ],
    "required": [ "autoWhiteBalance" ]
  }

  example: |
    {
      "id": "unique_example_id",
      "autoWhiteBalance": true
    }

  responses :
    200:
      body:
        application/json:
          schema: |
            {
              "id":
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.colour.autowhitebalance.json#",
              "$schema": "http://json-schema.org/draft-04/schema#",
              "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
              "title": "Auto White Balance",
              "definitions": {
                "oic.r.colour.autowhitebalance": {
                  "type": "object",
                  "properties": {
                    "autoWhiteBalance": {
                      "type": "boolean",
                      "description": "Status of the Auto White balance"
                    }
                  }
                }
              },
              "type": "object",
              "allOf": [
                {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
                {"$ref": "#/definitions/oic.r.colour.autowhitebalance"}
              ],
              "required": [ "autoWhiteBalance" ]
            }

          example: |
            {
              "id": "unique_example_id",
              "autoWhiteBalance": true
            }

```


6.32.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
autoWhiteBalance	boolean	yes		Status of the Auto White balance

6.32.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/AutoWhiteBalanceResURI		get	post		

6.33 Colour Saturation

6.33.1 Introduction

This resource describes a Colour saturation value. The value is an integer. A coloursaturation has a range of [0,100]. A coloursaturation value of 0 means producing black and white images. A coloursaturation value of 50 means producing device specific normal colour images. A coloursaturation value of 100 means producing device very full colour images.

6.33.2 Example URI

/ColourSaturationResURI

6.33.3 Resource Type

The resource type (rt) is defined as: oic.r.colour.saturation.

6.33.4 RAML Definition

##RAML 0.8

title: OICColourSaturation
version: v1.1.0-20160519

traits:

- interface :
 - queryParameters:
 - if:
 - enum: ["oic.if.a", "oic.if.baseline"]

/ColourSaturationResURI:

description: |
This resource describes a colour saturation value.
The value is an integer.
A coloursaturation has a range of [0,100].
A coloursaturation value of 0 means producing black and white images.
A coloursaturation value of 50 means producing device specific normal colour images.
A coloursaturation value of 100 means producing device very full colour images.

is : ['interface']

get:

responses :

200:

body:

application/json:

schema: |

{

"id":

"http://openinterconnect.org/iotdatamodels/schemas/oic.r.colour.saturation.json#",

"\$schema": "http://json-schema.org/draft-04/schema#",

"description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All

rights reserved.",

"title": "Colour Saturation",

"definitions": {

```

        "oic.r.colour.saturation": {
          "type": "object",
          "properties": {
            "colourSaturation": {
              "type": "integer",
              "description": "The colour saturation value",
              "minimum": 0,
              "maximum": 100
            }
          }
        },
        "type": "object",
        "allOf": [
          { "$ref": "oic.core.json#/definitions/oic.core" },
          { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
          { "$ref": "#/definitions/oic.r.colour.saturation" }
        ],
        "required": [ "colourSaturation" ]
      }
    }
  }

```

example: |

```

{
  "rt": ["oic.r.colour.saturation"],
  "id": "unique_example_id",
  "colourSaturation": 50
}

```

post:
body:
application/json:

```

  schema: |
    {
      "id":
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.colour.saturation.json#",
      "$schema": "http://json-schema.org/draft-04/schema#",
      "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
      "title": "Colour Saturation",
      "definitions": {
        "oic.r.colour.saturation": {
          "type": "object",
          "properties": {
            "colourSaturation": {
              "type": "integer",
              "description": "The colour saturation value",
              "minimum": 0,
              "maximum": 100
            }
          }
        }
      },
      "type": "object",
      "allOf": [
        { "$ref": "oic.core.json#/definitions/oic.core" },
        { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
        { "$ref": "#/definitions/oic.r.colour.saturation" }
      ],
      "required": [ "colourSaturation" ]
    }
  }

```

example: |

```

{
  "id": "unique_example_id",
  "colourSaturation": 60
}

```

```

responses :
  200:
    body:
      application/json:
        schema: |
          {
            "id":
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.colour.saturation.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
            "title": "Colour Saturation",
            "definitions": {
              "oic.r.colour.saturation": {
                "type": "object",
                "properties": {
                  "colourSaturation": {
                    "type": "integer",
                    "description": "The colour saturation value",
                    "minimum": 0,
                    "maximum": 100
                  }
                }
              }
            },
            "type": "object",
            "allOf": [
              { "$ref": "oic.core.json#/definitions/oic.core" },
              { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
              { "$ref": "#/definitions/oic.r.colour.saturation" }
            ],
            "required": [ "colourSaturation" ]
          }

        example: |
          {
            "id": "unique_example_id",
            "colourSaturation": 60
          }

```

6.33.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
colourSaturation	integer	yes		The colour saturation value

6.33.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/ColourSaturationResURI		get	post		

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 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 (rt) is defined as: oic.r.sensor.contact.

6.34.4 RAML Definition

```

#%RAML 0.8

title: OICContactSensor
version: v1.1.0-20160519

traits:
- interface :
    queryParameters:
        if:
            enum: ["oic.if.s", "oic.if.baseline"]

/ContactResURI:
    description: |
        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 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).

    is : ['interface']

    get:
        responses :
            200:
                body:
                    application/json:
                        schema: |
                            {
                                "id":
                                "http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.contact.json#",
                                "$schema": "http://json-schema.org/draft-04/schema#",
                                "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
                                rights reserved.",
                                "title": "Contact Sensor",
                                "definitions": {
                                    "oic.r.sensor.contact": {
                                        "allOf": [
                                            {
                                                "$ref": "oic.r.sensor.json#/definitions/oic.r.sensor"
                                            }
                                        ]
                                    },
                                },
                                "type": "object",
                                "allOf": [
                                    {
                                        "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"
                                    },
                                    {
                                        "$ref": "#/definitions/oic.r.sensor.contact"
                                    }
                                ],
                                "required": ["value"]
                            }

                        example: |
                            {
                                "rt": ["oic.r.sensor.contact"],
                                "id": "unique_example_id",
                                "value": true
                            }

```

6.34.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
value	boolean	yes	Read Only	True = Sensed, False = Not Sensed.

6.34.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/ContactResURI		get			

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 DRType is the ApplianceLoadReductionType defined in Zigbee/HA Smart Energy Profile 2.0. Start is a string containing an ISO8601 encoded start time. The duration value is in minutes. Override indicates whether the consumer has overridden the request (true) or not (false).

6.35.2 Example URI

/DRLCResURI

6.35.3 Resource Type

The resource type (rt) is defined as: oic.r.energy.drlc.

6.35.4 RAML Definition

##RAML 0.8

title: OICDRLC

version: v1.1.0-20160519

traits:

```
- interface :
  queryParameters:
    if:
      enum: ["oic.if.b", "oic.if.baseline"]
```

/DRLCResURI:

description: |

This resource describes any to be applied or currently being applied DRLC signal.
The DRType is the ApplianceLoadReductionType defined in Zigbee/HA Smart Energy Profile 2.0.
Start is a string containing an ISO8601 encoded start time.
The duration value is in minutes.
Override indicates whether the consumer has overridden the request (true) or not (false).

is : ['interface']

get:

description: |

Provides the current DRLC action that is being applied.

responses :

200:

body:

application/json:

schema: |

```
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.energy.drlc.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
  "definitions": {
    "oic.r.energy.drlc": {
      "type": "object",
      "properties": {
        "DRType": {
          "type": "integer",
          "description": "The to be applied demand-response type"
        }
      }
    }
  }
}
```

```

        "start": {
          "type": "string",
          "description": "The start time for the application of DR"
        },
        "duration": {
          "type": "integer",
          "description": "The duration of the to be applied DR type"
        },
        "override": {
          "type": "boolean",
          "description": "Whether the consumer has overridden the application of DR"
        }
      }
    },
    "type": "object",
    "allof": [
      { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
      { "$ref": "#/definitions/oic.r.energy.drlc" }
    ],
    "required": ["DRTYPE"]
  }
}

```

example: |

```

{
  "rt": ["oic.r.energy.drlc"],
  "id": "unique_example_id",
  "DRTYPE": 1,
  "start": "2015-01-09T16:45Z",
  "duration": 10,
  "override": false
}

```

put:

description: |
Provides the DRLC action to be applied to the device or updates an existing action.

body:

application/json:

```

schema: |
{
  "id": "http://openconnectivity.org/iotdatamodels/schemas/oic.r.energy.drlc.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
  "definitions": {
    "oic.r.energy.drlc": {
      "type": "object",
      "properties": {
        "DRTYPE": {
          "type": "integer",
          "description": "The to be applied demand-response type"
        },
        "start": {
          "type": "string",
          "description": "The start time for the application of DR"
        },
        "duration": {
          "type": "integer",
          "description": "The duration of the to be applied DR type"
        },
        "override": {
          "type": "boolean",
          "description": "Whether the consumer has overridden the application of DR"
        }
      }
    }
  }
}

```

```

    },
    "type": "object",
    "allOf": [
      {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
      {"$ref": "#/definitions/oic.r.energy.drlc"}
    ],
    "required": ["DRTType"]
  }
}

```

example: |

```

{
  "rt": ["oic.r.energy.drlc"],
  "id": "unique_example_id",
  "DRTType": 1,
  "start": "2015-01-09T16:45Z",
  "duration": 10
}

```

responses :

200:

description: |
 Indicates that the target DRLC resource was changed.
 The new resource attributes are provided in the response.

body:

application/json:

```

schema: |
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.energy.drlc.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
  "definitions": {
    "oic.r.energy.drlc": {
      "type": "object",
      "properties": {
        "DRTType": {
          "type": "integer",
          "description": "The to be applied demand-response type"
        },
        "start": {
          "type": "string",
          "description": "The start time for the application of DR"
        },
        "duration": {
          "type": "integer",
          "description": "The duration of the to be applied DR type"
        },
        "override": {
          "type": "boolean",
          "description": "Whether the consumer has overridden the application of DR"
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
    {"$ref": "#/definitions/oic.r.energy.drlc"}
  ],
  "required": ["DRTType"]
}

```

example: |

```
{
  "DRType": 1,
  "id": "unique_example_id",
  "start": "2015-01-09T17:00Z",
  "duration": 15,
  "override": false
}
```

201:

description: |
Indicates successful creation of the DRLC resource with the attributes provided.
The response includes the URI of the created resource.

body:
application/json:

```
schema: |
{
  "id": "http://openinterconnect.org/iotdatamodels/chemas/oic.create.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016 Open Connectivity Foundation, Inc. All rights
reserved.",
  "definitions": {
    "oic.create": {
      "type": "object",
      "properties": {
        "ResURI": { "type": "string" }
      }
    }
  },
  "type": "object",
  "allOf": [
    { "$ref": "#/definitions/oic.create" }
  ]
}

example: |
{
  "ResURI": "/MyDevice/MyDRLCURI"
}
```

6.35.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
DRType	integer	yes		The to be applied demand-response type
start	string			The start time for the application of DR
duration	integer			The duration of the to be applied DR type
override	boolean			Whether the consumer has overridden the application of DR

6.35.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/DRLCResURI	put	get			

6.36 Energy Overload/Circuit Breaker

6.36.1 Introduction

This resource describes whether an energy overload detector/circuit breaker is currently tripped. The 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 (rt) is defined as: oic.r.energy.overload.

6.36.4 RAML Definition

##RAML 0.8

title: *OICEnergyOverload*
version: *v1.1.0-20160519*

traits:

```
- interface :
    queryParameters:
        if:
            enum: ["oic.if.s", "oic.if.baseline"]
```

/EnergyOverloadResURI:

```
description: |
    This resource describes whether an energy overload detector/circuit breaker
    is currently tripped.
    The 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.
```

is : ['interface']

get:

responses :

200:

body:

application/json:

schema: |

```
{
  "id":
```

```
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.energy.overload.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
```

```
  "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved."
```

```
  "title": "Energy Overload Sensor",
```

```
  "definitions": {
```

```
    "oic.r.energy.overload": {
```

```
      "allOf": [
```

```
        {"$ref": "oic.r.sensor.json#/definitions/oic.r.sensor"}
      ]
    }
```

```
  },
```

```
  "type": "object",
```

```
  "allOf": [
```

```
    {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
```

```
    {"$ref": "#/definitions/oic.r.energy.overload"}
  ],
```

```
  "required": ["value"]
}
```

```
example: |
{
  "rt":    ["oic.r.energy.overload"],
  "id":    "unique_example_id",
  "value": true
}
```

6.36.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
value	boolean	yes	Read Only	True = Sensed, False = Not Sensed.

6.36.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/EnergyOverloadResURI		get			

6.37 Generic Sensor

6.37.1 Introduction

This resource describes whether some value or property or entity has been sensed or not. The 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 (rt) is defined as: oic.r.sensor.

6.37.4 RAML Definition

```

#%RAML 0.8
title: OICGenericSensor
version: v1.1.0-20160519

traits:
- interface :
    queryParameters:
        if:
            enum: ["oic.if.s", "oic.if.baseline"]

/GenericSensorResURI:
    description: |
        This resource describes whether some value or property or entity has been sensed or not.
        The 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.

    is: ['interface']
    get:
        responses :
            200:
                body:
                    application/json:
                        schema: |
                            {
                                "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.json#",
                                "$schema": "http://json-schema.org/draft-04/schema#",

```

```

      "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
      "title": "Generic Sensor",
      "definitions": {
        "oic.r.sensor": {
          "type": "object",
          "properties": {
            "value": {
              "type": "boolean",
              "readOnly": true,
              "description": "true = sensed, false = not sensed."
            }
          }
        }
      },
      "type": "object",
      "allof": [
        { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
        { "$ref": "#/definitions/oic.r.sensor" }
      ]
    }

example: |
{
  "rt":    ["oic.r.sensor"],
  "id":    "unique_example_id",
  "value": true
}

```

6.37.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
value	boolean		Read Only	true = sensed, false = not sensed.

6.37.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/GenericSensorResURI		get			

6.38 Glass Break Sensor

6.38.1 Introduction

This resource describes a glass break sensor. The value is a boolean. A value of 'true' means that glass break has been sensed. 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 (rt) is defined as: oic.r.sensor.glassbreak.

6.38.4 RAML Definition

```

%%RAML 0.8
title: OICGlassBreakSensor
version: v1.1.0-20160519

traits:
- interface :
    queryParameters:
      if:
        enum: ["oic.if.s", "oic.if.baseline"]

```

```

/GlassBreakResURI:
  description: |
    This resource describes a glass break sensor.
    The value is a boolean.
    A value of 'true' means that glass break has been sensed.
    A value of 'false' means that glass break not been sensed.

  is : ['interface']
  get:
    responses :
      200:
        body:
          application/json:
            schema: |
              {
                "id":
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.glassBreak.json#",
                "$schema": "http://json-schema.org/draft-04/schema#",
                "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
                "title": "Glass Break Sensor",
                "definitions": {
                  "oic.r.sensor.glassbreak": {
                    "allOf": [
                      {"$ref": "oic.r.sensor.json#/definitions/oic.r.sensor"}
                    ]
                  },
                "type": "object",
                "allOf": [
                  {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
                  {"$ref": "#/definitions/oic.r.sensor.glassbreak"}
                ],
                "required": ["value"]
              }

            example: |
              {
                "rt": ["oic.r.sensor.glassbreak"],
                "id": "unique_example_id",
                "value": true
              }

```

6.38.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
value	boolean	yes	Read Only	True = Sensed, False = Not Sensed.

6.38.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/GlassBreakResURI		get			

6.39 Heart Rate Zone

6.39.1 Introduction

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

6.39.2 Example URI

/HeartRateZoneResURI

6.39.3 Resource Type

The resource type (rt) is defined as: oic.r.sensor.heart.zone.

6.39.4 RAML Definition

##RAML 0.8

title: *OICHeartRateZone*

version: *v1.1.0-20160519*

traits:

- interface :

queryParameters:

if:

enum: ["oic.if.s", "oic.if.baseline"]

/HeartRateZoneResURI:

description: |

This resource describes a measured heart rate by the current Zone using the Zoladz method. The Zoladz method defines Zones based on maximum heart rate; Zone 1 is the lowest, Zone 5 is the highest.

The heartRateZone is an enumeration containing one of: "Zone1", "Zone2", "Zone3", "Zone4", "Zone5".

is : ['interface']

get:

responses :

200:

body:

application/json:

schema: |

{

"id":

"http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.heart.zone.json#",

"\$schema": "http://json-schema.org/draft-04/schema#",

"description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",

"title": "Heart Rate Zone",

"definitions": {

"oic.r.sensor.heart.zone": {

"properties": {

"heartRateZone": {

"enum": ["Zone1", "Zone2", "Zone3", "Zone4", "Zone5"],

"readOnly": true,

"description": "Current heart rate zone based on the Zoladz system."

} }

} }

},

"type": "object",

"allOf": [

{"\$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},

{"\$ref": "#/definitions/oic.r.sensor.heart.zone"}]

},

"required": ["heartRateZone"]

}

example: |

{

"rt": ["oic.r.sensor.heart.zone"],

"id": "unique_example_id",

```

    "heartRateZone": "Zone3"
  }

```

6.39.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
heartRateZone	multiple types: see schema	yes	Read Only	Current heart rate zone based on the Zoladz system.

6.39.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/HeartRateZoneResURI		get			

6.40 Illuminance Sensor

6.40.1 Introduction

This resource describes an illuminance sensor. Illuminance is a float and represents the sensed luminous flux per unit area in lux.

6.40.2 Example URI

/IlluminanceSensorResURI

6.40.3 Resource Type

The resource type (rt) is defined as: oic.r.sensor.illuminance.

6.40.4 RAML Definition

```
##%RAML 0.8
```

```
title: OIC IlluminanceSensor
```

```
version: v1.1.0-20160519
```

```
traits:
```

```
- interface :
```

```
  queryParameters:
```

```
    if:
```

```
      enum: ["oic.if.s", "oic.if.baseline"]
```

```
/IlluminanceSensorResURI:
```

```
  description: |
```

```
    This resource describes an illuminance sensor.
```

```
    Illuminance is a float and represents the sensed luminous flux per unit area in lux.
```

```
  is: ['interface']
```

```
  get:
```

```
    responses:
```

```
      200:
```

```
        body:
```

```
          application/json:
```

```
            schema: |
```

```
              {
```

```
                "id":
```

```
                "http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.illuminance.json#",
```

```
                "$schema": "http://json-schema.org/draft-04/schema#",
```

```
                "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
```

```
                "title": "Illuminance Sensor",
```

```
                "definitions": {
```

```
                  "oic.r.sensor.illuminance": {
```

```
                    "properties": {
```

```

        "illuminance": {
          "type": "number",
          "readOnly": true,
          "description": "Sensed luminous flux per unit area in lux."
        }
      },
      "type": "object",
      "allof": [
        {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
        {"$ref": "#/definitions/oic.r.sensor.illuminance"}
      ],
      "required": ["illuminance"]
    }
  },
  "example": |
  {
    "rt":          ["oic.r.sensor.illuminance"],
    "id":          "unique_example_id",
    "illuminance": 450.0
  }

```

6.40.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
illuminance	number	yes	Read Only	Sensed luminous flux per unit area in lux.

6.40.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/IlluminanceSensorResURI		get			

6.41 Magnetic Field Direction Sensor

6.41.1 Introduction

This resource describes the direction of the Earth's magnetic field at the observer's current point in space. Typical use case includes measurement of compass readings on a personal device. The value is an array containing Hx, Hy, Hz (in that order) each of which are floats. Each of Hx, Hy and Hz are expressed in A/m (Amperes per metre)

6.41.2 Example URI

/MagneticFieldDirectionResURI

6.41.3 Resource Type

The resource type (rt) is defined as: oic.r.sensor.magneticfielddirection.

6.41.4 RAML Definition

```

##%RAML 0.8
title: oic.MagneticFieldDirection
version: v1.1.0-20160519
traits:
  - interface :
      queryParameters:
        if:
          enum: ["oic.if.s", "oic.if.baseline"]

```

/MagneticFieldDirectionResURI:

```

  description: |

```

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

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

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

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

```
is : ['interface']
get:
  responses :
    200:
      body:
        application/json:
          schema: |
            {
              "id":
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.magneticFieldDirection.json#",
              "$schema": "http://json-schema.org/draft-04/schema#",
              "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
              "title": "Magnetic Field Direction Sensor",
              "definitions": {
                "oic.r.sensor.magneticfielddirection": {
                  "properties": {
                    "value": {
                      "type": "array",
                      "readOnly": true,
                      "description": "Array containing Hx, Hy, Hz.",
                      "minItems": 3,
                      "maxItems": 3,
                      "items": {
                        "type": "number"
                      }
                    }
                  }
                }
              },
              "type": "object",
              "allOf": [
                { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
                { "$ref": "#/definitions/oic.r.sensor.magneticfielddirection" }
              ],
              "required": ["value"]
            }

          example: |
            {
              "rt": ["oic.r.sensor.magneticfielddirection"],
              "id": "unique_example_id",
              "value": [100.0,15.0,90.0]
            }
```

6.41.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
value	array: schema	see yes	Read Only	Array containing Hx, Hy, Hz.

6.41.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/MagneticFieldDirectionResURI		get			

6.42 Media

6.42.1 Introduction

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

6.42.2 Example URI

/MediaResURI

6.42.3 Resource Type

The resource type (rt) is defined as: oic.r.media.

6.42.4 RAML Definition

```
##RAML 0.8
title: OICMedia
version: v1.1.0-20160519
traits:
  - interface :
      queryParameters:
        if:
          enum: ["oic.if.s", "oic.if.baseline"]

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

  is : ['interface']
  get:
    description: |
      Retrieves the current media resource.

    responses :
      200:
        body:
          application/json:
            schema: |
              {
                "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.media.json#",
                "$schema": "http://json-schema.org/draft-04/schema#",
                "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
                "title": "Media",
                "definitions": {
                  "oic.r.media": {
                    "properties": {
                      "media": {
                        "type": "array",
                        "items": {
                          "type": "object",
```

```

    "properties": {
      "url": {
        "type": "string",
        "description": "url for the media instance"
      },
      "sdp": {
        "type": "array",
        "description": "Array of strings, one per SDP line",
        "items": {
          "type": "string",
          "description": "SDP media or attribute line"
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
    { "$ref": "#/definitions/oic.r.media" }
  ],
  "required": ["media"]
}

```

example: |

```

{
  "rt": ["oic.r.media"],
  "id": "unique_example_id",
  "media": [
    {
      "url": "some example url",
      "sdp": [
        "m=video 1 RTP/AVP 96",
        "a=rtpmap:96 H264/90000",
        "a=fmtp:96 profile-level-id=42A028;packetization-mode=1"
      ]
    },
    {
      "url": "some other example1 url",
      "sdp": [
        "m=audio 2 RTP/AVP 97",
        "a=rtpmap:97 MP4A-LATM/900000"
      ]
    },
    {
      "url": "some other example2 url",
      "sdp": [
        "m=video 3 RTP/AVP 98",
        "a=rtpmap:98 jpeg/900000",
        "a=fmtp:98 sampling=YCbCr-4:2:0;width=256;height=256"
      ]
    }
  ]
}

```

6.42.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
media	array: see schema	yes		
url (media)	string			url for the media instance
sdp (media)	array: see schema			Array of strings, one per SDP line

6.42.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/MediaResURI		get			

6.43 Media Source

6.43.1 Introduction

This resource defines a media source that exists on a device. The source can be an input source or output source, this resource is agnostic of that. The `sourceName` specifies a pre-defined media input or output (e.g. "HDMI", "DVI") The `sourceNumber` is a numeric identifier to specify the instance (e.g. "PC", 1) The `sourceType` is an enumeration defining whether the source is audio, video or both. The `status` is a boolean that determines if the specific source instance is selected or not. A status of true means that the source instance is selected. A status of false means that the source instance is not selected.

6.43.2 Example URI

/mediaSourceResURI

6.43.3 Resource Type

The resource type (rt) is defined as: oic.r.mediasource.

6.43.4 RAML Definition

##RAML 0.8

title: OIC Media Source

version: v1.1.0-20160519

traits:

- interface :

queryParameters:

if:

enum: ["oic.if.a", "oic.if.baseline"]

/mediaSourceResURI:

description: |

This resource defines a media source that exists on a device.

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

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

The `sourceNumber` is a numeric identifier to specify the instance (e.g.

"PC", 1)

The `sourceType` is an enumeration defining whether the source is audio, video or both.

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

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

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

is : ['interface']

get:

responses:

200:

body:

application/json:

schema: |

{

"\$schema": "http://json-schema.org/draft-04/schema#",

"description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All

rights reserved.",

"id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.mediaSource.json#",

"title": "Media Source",

"definitions": {

"oic.r.mediasource": {

"properties": {

```

        "sourceName": {
          "type": "string",
          "description": "Specifies a pre-defined media input or output"
        },
        "sourceNumber": {
          "type": [ "integer", "string" ],
          "readOnly": true,
          "description": "Numeric identifier to specify the instance"
        },
        "sourceType": {
          "enum": [ "audioOnly", "videoOnly", "audioPlusVideo" ],
          "readOnly": true,
          "description": "Specifies the type of the source"
        },
        "status": {
          "type": "boolean",
          "description": "Specifies if the specific source instance is selected or
not"
        }
      }
    },
    "type": "object",
    "allof": [
      { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
      { "$ref": "#/definitions/oic.r.mediasource" }
    ],
    "required": [ "sourceName", "status" ]
  }

```

example: |

```

{
  "rt": [ "oic.r.mediasource" ],
  "id": "unique_example_id",
  "sourceName": "HDMI-CEC",
  "sourceNumber": "1",
  "sourceType": "audioPlusVideo",
  "status": true
}

```

post:

description: |
 Changes the status of the source.
 Allows changes of the sourceName and the status.

body:

application/json:

schema: |

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights
reserved."
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.mediaSource.json#",
  "title": "Media Source",
  "definitions": {
    "oic.r.mediasource": {
      "properties": {
        "sourceName": {
          "type": "string",
          "description": "Specifies a pre-defined media input or output"
        },
        "sourceNumber": {
          "type": [ "integer", "string" ],
          "readOnly": true,
          "description": "Numeric identifier to specify the instance"
        },
        "sourceType": {

```

```

        "enum": [ "audioOnly", "videoOnly", "audioPlusVideo" ],
        "readOnly": true,
        "description": "Specifies the type of the source"
      },
      "status": {
        "type": "boolean",
        "description": "Specifies if the specific source instance is selected or not"
      }
    }
  },
  "type": "object",
  "allof": [
    { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
    { "$ref": "#/definitions/oic.r.mediasource" }
  ],
  "required": [ "sourceName", "status" ]
}

example: |
{
  "id":          "unique_example_id",
  "sourceName":  "my new name",
  "sourceNumber": "1",
  "status":      true
}

responses :
200:
  body:
    application/json:
      schema: |
        {
          "$schema": "http://json-schema.org/draft-04/schema#",
          "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
          "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.mediaSource.json#",
          "title": "Media Source",
          "definitions": {
            "oic.r.mediasource": {
              "properties": {
                "sourceName": {
                  "type": "string",
                  "description": "Specifies a pre-defined media input or output"
                },
                "sourceNumber": {
                  "type": [ "integer", "string" ],
                  "readOnly": true,
                  "description": "Numeric identifier to specify the instance"
                },
                "sourceType": {
                  "enum": [ "audioOnly", "videoOnly", "audioPlusVideo" ],
                  "readOnly": true,
                  "description": "Specifies the type of the source"
                },
                "status": {
                  "type": "boolean",
                  "description": "Specifies if the specific source instance is selected or
not"
                }
              }
            }
          },
          "type": "object",
          "allof": [
            { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
            { "$ref": "#/definitions/oic.r.mediasource" }
          ]
        }

```

```

    ],
    "required": ["sourceName", "status"]
  }

  example: |
    {
      "id":          "unique_example_id",
      "sourceName":  "my new name",
      "sourceNumber": "1",
      "status":      true
    }

```

6.43.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
sourceName	string	yes		Specifies a pre-defined media input or output
status	boolean	yes		Specifies if the specific source instance is selected or not
sourceNumber	[u'integer', u'string']		Read Only	Numeric identifier to specify the instance
sourceType	multiple types: see schema		Read Only	Specifies the type of the source

6.43.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/mediaSourceResURI		get	post		

6.44 Media Source List

6.44.1 Introduction

This resource provides the list of media sources available on the device. The sources are an array of mediaSource(s) as separately defined. The basic resource type oic.r.mediaSourceList does not provide any indications whether the source is input or output. Hence, two specializations of this resource exist. When a device exposes input sources then an instance of this resource with a resource type of oic.r.media.input is exposed. When a device exposes output sources then an instance of this resource with a resource type of oic.r.media.output is exposed. A device that exposes both input and output media sources then exposes two instances of this resource, one with a resource type of oic.r.media.input and one with a resource type of oic.r.media.output

6.44.2 Example URI

/mediaSourceListResURI

6.44.3 Resource Type

The resource type (rt) is defined as: oic.r.mediasourcelist.

6.44.4 RAML Definition

```

##%RAML 0.8
title: OICMediaSourceList
version: v1.1.0-20160519

traits:
- interface :
    queryParameters:

```

```

    if:
      enum: ["oic.if.a", "oic.if.baseline"]

/mediaSourceListResURI:
  description: |
    This resource provides the list of media sources available on the device.
    The sources are an array of mediaSource(s) as separately defined.
    The basic resource type oic.r.mediaSourceList does not provide any indications whether the
    source is input or output.
    Hence, two specializations of this resource exist.
    When a device exposes input sources then an instance of this resource with a resource type of
    oic.r.media.input is exposed.
    When a device exposes output sources then an instance of this resource with a resource type of
    oic.r.media.output is exposed.
    A device that exposes both input and output media sources then exposes two instances of this
    resource,
    one with a resource type of oic.r.media.input and one with a resource type of
    oic.r.media.output

  is : ['interface']
  get:
    responses :
      200:
        body:
          application/json:
            schema: |
              {
                "$schema": "http://json-schema.org/draft-04/schema#",
                "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
                "id":
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.mediaSourceList.json#",
                "title": "Media Source List",
                "definitions": {
                  "oic.r.mediasourcelist": {
                    "properties": {
                      "sources": {
                        "type": "array",
                        "items": {
                          "oneOf": [
                            { "$ref": "oic.r.mediaSource.json#/definitions/oic.r.mediasource" }
                          ]
                        }
                      }
                    }
                  }
                },
                "type": "object",
                "allOf": [
                  { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
                  { "$ref": "#/definitions/oic.r.mediasourcelist" }
                ],
                "required": ["sources"]
              }

            example: |
              {
                "rt": ["oic.r.mediasourcelist"],
                "id": "unique_example_id",
                "sources": [
                  {
                    "sourceName": "HDMI-CEC",
                    "sourceNumber": "1",
                    "sourceType": "audioPlusVideo",
                    "status": true

```

```

    },
    {
      "sourceName": "dualRCA",
      "sourceNumber": "1",
      "sourceType": "audioOnly",
      "status": false
    }
  ]
}

```

post:

description: |
 Changes the status of the source(s).
 Allows changes of the sourceName and the status.

body:**application/json:**

```

schema: |
  {
    "$schema": "http://json-schema.org/draft-04/schema#",
    "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
    "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.mediaSourceList.json#",
    "title": "Media Source List",
    "definitions": {
      "oic.r.mediasourcelist": {
        "properties": {
          "sources": {
            "type": "array",
            "items": {
              "oneOf": [
                { "$ref": "oic.r.mediaSource.json#/definitions/oic.r.mediaSource" }
              ]
            }
          }
        }
      }
    },
    "type": "object",
    "allOf": [
      { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
      { "$ref": "#/definitions/oic.r.mediasourcelist" }
    ],
    "required": ["sources"]
  }

```

example: |

```

{
  "id": "unique_example_id",
  "sources": [
    {
      "sourceName": "my new name",
      "sourceNumber": "1",
      "status": true
    }
  ]
}

```

responses :**200:****body:****application/json:**

```

schema: |

```



```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
  "id":
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.mediaSourceList.json#",
  "title": "Media Source List",
  "definitions": {
    "oic.r.mediasourcelist": {
      "properties": {
        "sources": {
          "type": "array",
          "items": {
            "oneOf": [
              { "$ref": "oic.r.mediaSource.json#/definitions/oic.r.mediasource" }
            ]
          }
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
    { "$ref": "#/definitions/oic.r.mediasourcelist" }
  ],
  "required": ["sources"]
}

example: |
{
  "id": "unique_example_id",
  "sources": [
    {
      "sourceName": "my new name",
      "sourceNumber": "1",
      "status": true
    }
  ]
}

```

6.44.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
sources	array: see schema	yes		
sourceName	string	yes		Specifies a pre-defined media input or output
status	boolean	yes		Specifies if the specific source instance is selected or not
sourceNumber	[u'integer', u'string']		Read Only	Numeric identifier to specify the instance
sourceType	multiple types: see schema		Read Only	Specifies the type of the source

6.44.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify

/mediaSourceListResURI		get	post		

6.44.7 Referenced JSON schemas

6.44.7.1 oic.r.mediaSource.json

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.mediaSource.json#",
  "title": "Media Source",
  "definitions": {
    "oic.r.mediasource": {
      "properties": {
        "sourceName": {
          "type": "string",
          "description": "Specifies a pre-defined media input or output"
        },
        "sourceNumber": {
          "type": [ "integer", "string" ],
          "readOnly": true,
          "description": "Numeric identifier to specify the instance"
        },
        "sourceType": {
          "enum": [ "audioOnly", "videoOnly", "audioPlusVideo" ],
          "readOnly": true,
          "description": "Specifies the type of the source"
        },
        "status": {
          "type": "boolean",
          "description": "Specifies if the specific source instance is selected or not"
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
    { "$ref": "#/definitions/oic.r.mediasource" }
  ],
  "required": [ "sourceName", "status" ]
}
```

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 mediaSource(s) as separately defined.

6.45.2 Example URI

/mediaSourceInputResURI

6.45.3 Resource Type

The resource type (rt) is defined as: oic.r.media.input.

6.45.4 RAML Definition

```
##%RAML 0.8
title: OICMediaSourceInput
version: v1.1.0-20160519
traits:
- interface :
    queryParameters:
    if:
      enum: ["oic.if.a", "oic.if.baseline"]
```

/mediaSourceInputResURI:

description: |

This resource provides the list of input media sources available on the device.
The sources are an array of mediaSource(s) as separately defined.

is : ['interface']

get:

responses :

200:

body:

application/json:

schema: |

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
  "id":
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.mediaSourceList.json#",
  "title": "Media Source List",
  "definitions": {
    "oic.r.mediasourcelist": {
      "properties": {
        "sources": {
          "type": "array",
          "items": {
            "oneOf": [
              { "$ref": "oic.r.mediaSource.json#/definitions/oic.r.mediasource" }
            ]
          }
        }
      }
    }
  },
  "type": "object",
  "allof": [
    { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
    { "$ref": "#/definitions/oic.r.mediasourcelist" }
  ],
  "required": ["sources"]
}
```

example: |

```
{
  "rt": ["oic.r.media.input"],
  "id": "unique_example_id",
  "sources": [
    {
      "sourceName": "HDMI-CEC",
      "sourceNumber": "1",
      "sourceType": "audioPlusVideo",
      "status": true
    },
    {
      "sourceName": "dualRCA",
      "sourceNumber": "1",
      "sourceType": "audioOnly",
      "status": false
    }
  ]
}
```

post:

description: |

Changes the status of the source(s).
Allows changes of the sourceName and the status.

```
body:
  application/json:
    schema: |
      {
        "$schema": "http://json-schema.org/draft-04/schema#",
        "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
        "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.mediaSourceList.json#",
        "title": "Media Source List",
        "definitions": {
          "oic.r.mediasourcelist": {
            "properties": {
              "sources": {
                "type": "array",
                "items": {
                  "oneOf": [
                    { "$ref": "oic.r.mediaSource.json#/definitions/oic.r.mediaSource" }
                  ]
                }
              }
            }
          }
        },
        "type": "object",
        "allOf": [
          { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
          { "$ref": "#/definitions/oic.r.mediasourcelist" }
        ],
        "required": ["sources"]
      }

    example: |
      {
        "id": "unique_example_id",
        "sources": [
          {
            "sourceName": "my new name",
            "sourceNumber": "1",
            "status": true
          }
        ]
      }
```

```
responses :
  200:
    body:
      application/json:
        schema: |
          {
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
            "id":
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.mediaSourceList.json#",
            "title": "Media Source List",
            "definitions": {
              "oic.r.mediasourcelist": {
                "properties": {
                  "sources": {
                    "type": "array",
                    "items": {
                      "oneOf": [
```

```

        { "$ref": "oic.r.mediaSource.json#/definitions/oic.r.mediasource" }
      ]
    }
  },
  "type": "object",
  "allof": [
    { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
    { "$ref": "#/definitions/oic.r.mediasourcelist" }
  ],
  "required": ["sources"]
}

example: |
{
  "id": "unique_example_id",
  "sources": [
    {
      "sourceName": "my new name",
      "sourceNumber": "1",
      "status": true
    }
  ]
}

```

6.45.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
sources	array: schema	yes		

6.45.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/mediaSourceInputResURI		get	post		

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 mediaSource(s) as separately defined.

6.46.2 Example URI

/mediaSourceOutputResURI

6.46.3 Resource Type

The resource type (rt) is defined as: oic.r.media.output.

6.46.4 RAML Definition

```

##RAML 0.8
title: OICMediaSourceOutput
version: v1.1.0-20160519
traits:
- interface :
    queryParameters:
      if:
        enum: ["oic.if.a", "oic.if.baseline"]

/mediaSourceOutputResURI:
  description: |

```

This resource provides the list of output media sources available on the device.
The sources are an array of mediaSource(s) as separately defined.

```
is : ['interface']
get:
  responses :
    200:
      body:
        application/json:
          schema: |
            {
              "$schema": "http://json-schema.org/draft-04/schema#",
              "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
              "id":
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.mediaSourceList.json#",
              "title": "Media Source List",
              "definitions": {
                "oic.r.mediasourcelist": {
                  "properties": {
                    "sources": {
                      "type": "array",
                      "items": {
                        "oneOf": [
                          { "$ref": "oic.r.mediaSource.json#/definitions/oic.r.mediasource" }
                        ]
                      }
                    }
                  }
                }
              },
              "type": "object",
              "allof": [
                { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
                { "$ref": "#/definitions/oic.r.mediasourcelist"}
              ],
              "required": ["sources"]
            }

          example: |
            {
              "rt": ["oic.r.media.output"],
              "id": "unique_example_id",
              "sources": [
                {
                  "sourceName": "HDMI-CEC",
                  "sourceNumber": "1",
                  "sourceType": "audioPlusVideo",
                  "status": true
                },
                {
                  "sourceName": "dualRCA",
                  "sourceNumber": "1",
                  "sourceType": "audioOnly",
                  "status": false
                }
              ]
            }
```

```
post:
  description: |
    Changes the status of the source(s).
    Allows changes of the sourceName and the status.
```

```
body:
```

```

application/json:
  schema: |
    {
      "$schema": "http://json-schema.org/draft-04/schema#",
      "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
      "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.mediaSourceList.json#",
      "title": "Media Source List",
      "definitions": {
        "oic.r.mediasourcelist": {
          "properties": {
            "sources": {
              "type": "array",
              "items": {
                "oneOf": [
                  { "$ref": "oic.r.mediaSource.json#/definitions/oic.r.mediaSource" }
                ]
              }
            }
          }
        }
      },
      "type": "object",
      "allOf": [
        { "$ref": "oic.baseResource.json#/definitions/oic.r.baseResource" },
        { "$ref": "#/definitions/oic.r.mediasourcelist" }
      ],
      "required": ["sources"]
    }

  example: |
    {
      "id": "unique_example_id",
      "sources": [
        {
          "sourceName": "my new name",
          "sourceNumber": "1",
          "status": true
        }
      ]
    }

responses :
  200:
    body:
      application/json:
        schema: |
          {
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
            "id":
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.mediaSourceList.json#",
            "title": "Media Source List",
            "definitions": {
              "oic.r.mediasourcelist": {
                "properties": {
                  "sources": {
                    "type": "array",
                    "items": {
                      "oneOf": [
                        { "$ref": "oic.r.mediaSource.json#/definitions/oic.r.mediaSource" }
                      ]
                    }
                  }
                }
              }
            }
          }

```

```

    },
    "type": "object",
    "allOf": [
      { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
      { "$ref": "#/definitions/oic.r.mediasourcelist" }
    ],
    "required": ["sources"]
  }

example: |
  {
    "id": "unique_example_id",
    "sources": [
      {
        "sourceName": "my new name",
        "sourceNumber": "1",
        "status": true
      }
    ]
  }

```

6.46.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
sources	array: see schema	yes		

6.46.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/mediaSourceOutputResURI		get	post		

6.47 Motion Sensor

6.47.1 Introduction

This resource describes whether motion has been sensed or not. The value is a boolean. A value of 'true' means that motion has been sensed. A value of 'false' means that motion not been sensed.

6.47.2 Example URI

/MotionResURI

6.47.3 Resource Type

The resource type (rt) is defined as: oic.r.sensor.motion.

6.47.4 RAML Definition

```

#%RAML 0.8
title: OICMotionSensor
version: v1.1.0-20160519

traits:
- interface:
    queryParameters:
    if:
      enum: ["oic.if.s", "oic.if.baseline"]

```

/MotionResURI:

```

description: |
  This resource describes whether motion has been sensed or not.
  The value is a boolean.
  A value of 'true' means that motion has been sensed.
  A value of 'false' means that motion not been sensed.

```



```

is : ['interface']
get:
  responses :
    200:
      body:
        application/json:
          schema: |
            {
              "id":
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.motion.json#",
              "$schema": "http://json-schema.org/draft-04/schema#",
              "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
              "title": "Motion Sensor",
              "definitions": {
                "oic.r.sensor.motion": {
                  "allOf": [
                    { "$ref": "oic.r.sensor.json#/definitions/oic.r.sensor" }
                  ]
                }
              },
              "type": "object",
              "allOf": [
                { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
                { "$ref": "#/definitions/oic.r.sensor.motion" }
              ],
              "required": ["value"]
            }

          example: |
            {
              "rt": ["oic.r.sensor.motion"],
              "id": "unique_example_id",
              "value": true
            }

```

6.47.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
value	boolean	yes	Read Only	True = Sensed, False = Not Sensed.

6.47.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/MotionResURI		get			

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 (rt) is defined as: oic.r.nightmode.

6.48.4 RAML Definition

##%RAML 0.8

title: OICNightMode

version: v1.1.0-20160519

traits:

```
- interface :
  queryParameters:
    if:
      enum: ["oic.if.a", "oic.if.baseline"]
```

/NightModeResURI:

```
description: |
  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.
```

is : ['interface']

get:

responses :

200:

body:

application/json:

schema: |

```
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.nightMode.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
  "title": "Night Mode",
  "definitions": {
    "oic.r.nightmode": {
      "type": "object",
      "properties": {
        "nightMode": {
          "type": "boolean",
          "description": "Status of the Night Mode"
        }
      }
    }
  },
  "type": "object",
  "allof": [
    {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
    {"$ref": "#/definitions/oic.r.nightmode"}
  ],
  "required": [ "nightMode" ]
}
```

example: |

```
{
  "rt": ["oic.r.nightmode"],
  "id": "unique_example_id",
  "nightMode": false
}
```

post:

body:

application/json:

schema: |

```
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.nightMode.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
  "title": "Night Mode",
```

```

    "definitions": {
      "oic.r.nightmode": {
        "type": "object",
        "properties": {
          "nightMode": {
            "type": "boolean",
            "description": "Status of the Night Mode"
          }
        }
      }
    },
    "type": "object",
    "allof": [
      {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
      {"$ref": "#/definitions/oic.r.nightmode"}
    ],
    "required": [ "nightMode" ]
  }

example: |
{
  "id":          "unique_example_id",
  "nightMode":  true
}

responses :
200:
  body:
    application/json:
      schema: |
        {
          "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.nightMode.json#",
          "$schema": "http://json-schema.org/draft-04/schema#",
          "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
          "title": "Night Mode",
          "definitions": {
            "oic.r.nightmode": {
              "type": "object",
              "properties": {
                "nightMode": {
                  "type": "boolean",
                  "description": "Status of the Night Mode"
                }
              }
            }
          },
          "type": "object",
          "allof": [
            {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
            {"$ref": "#/definitions/oic.r.nightmode"}
          ],
          "required": [ "nightMode" ]
        }

example: |
{
  "id":          "unique_example_id",
  "nightMode":  true
}

```

6.48.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description

nightMode	boolean	yes		Status of the Night Mode

6.48.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/NightModeResURI		get	post		

6.49 Presence Sensor

6.49.1 Introduction

This resource describes whether presence has been sensed or not. The 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 (rt) is defined as: oic.r.sensor.presence.

6.49.4 RAML Definition

##RAML 0.8

title: *OICPresenceSensor*

version: *v1.1.0-20160519*

traits:

- interface :

queryParameters:

if:

enum: ["oic.if.s", "oic.if.baseline"]

/PresenceResURI:

description: |

This resource describes whether presence has been sensed or not.

The value is a boolean.

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

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

is : ['interface']

get:

responses :

200:

body:

application/json:

schema: |

{

"id":

"http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.presence.json#",

"\$schema": "http://json-schema.org/draft-04/schema#",

"description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",

"title": "Presence Sensor",

"definitions": {

"oic.r.sensor.presence": {

"allOf": [

{"\$ref": "oic.r.sensor.json#/definitions/oic.r.sensor"}

]

}

},

"type": "object",

"allOf": [

```

    {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
    {"$ref": "#/definitions/oic.r.sensor.presence"}
  ],
  "required": ["value"]
}

example: |
{
  "rt": ["oic.r.sensor.presence"],
  "id": "unique_example_id",
  "value": true
}

```

6.49.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
value	boolean	yes	Read Only	True = Sensed, False = Not Sensed.

6.49.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/PresenceResURI		get			

6.50 Pan Tilt Zoom Movement

6.50.1 Introduction

This resource specifies the pan tilt and zoom capabilities of a device. The resource rt is dynamic and reflects whether the values apply to physical movement of the device or digital/virtual enhancements to the image. For physical movement the rt is 'oic.r.movement.ptz'. For digital/virtual image enhancements the rt is 'oic.r.image.ptz'. The Pan and Tilt are specified in degrees. The Zoom Factor is a value in the range 1-100 for linear (optical) zoom. The Zoom Factor is a value in the range [1x, 2x, 4x, 8x, 16x, 32x] for digital zoom. If there is no zoom value to set the Zoom Factor shall be '1x'. The value 0 degrees means neutral, this is the vendor defined setting. Note that this resource also can be used to create an offset for physical movement. When that is the case, the rt value is: oic.r.movement.offset.ptz Note that this resource also can be used to create an offset for image movement. When that is the case, the rt value is: oic.r.image.offset.ptz When the pan_range value is omitted, then the range is [-180.0,180.0]. If pan is not supported then the range shall be [0.0,0.0] When the tilt_range value is omitted, then the range is [-180.0,180.0]. If tilt is not supported then the range shall be [0.0,0.0]

6.50.2 Example URI

/PanTiltZoomResURI

6.50.3 Resource Type

The resource type (rt) is defined as: oic.r.ptz.

6.50.4 RAML Definition

```

#%RAML 0.8
title: OICPanTiltZoom
version: v1.1.0-20160519

traits:
- interface :
    queryParameters:
      if:
        enum: ["oic.if.a", "oic.if.baseline"]

/PanTiltZoomResURI:

```

description: |

This resource specifies the pan tilt and zoom capabilities of a device.
 The resource rt is dynamic and reflects whether the values apply to
 physical movement of the device or digital/virtual enhancements to the image.
 For physical movement the rt is 'oic.r.movement.ptz'.
 For digital/virtual image enhancements the rt is 'oic.r.image.ptz'.
 The Pan and Tilt are specified in degrees.
 The Zoom Factor is a value in the range 1-100 for linear (optical) zoom.
 The Zoom Factor is a value in the range [1x, 2x, 4x, 8x, 16x, 32x] for digital zoom.
 If there is no zoom value to set the Zoom Factor shall be '1x'.
 The value 0 degrees means neutral, this is the vendor defined setting.
 Note that this resource also can be used to create an offset for physical movement.
 When that is the case, the rt value is: oic.r.movement.offset.ptz
 Note that this resource also can be used to create an offset for image movement.
 When that is the case, the rt value is: oic.r.image.offset.ptz
 When the pan_range value is omitted, then the range is [-180.0,180.0].
 If pan is not supported then the range shall be [0.0,0.0]
 When the tilt_range value is omitted, then the range is [-180.0,180.0].
 If tilt is not supported then the range shall be [0.0,0.0]

is : ['interface']

get:

description: |

Retrieves the current pan, tilt and zoom setting.

responses :

200:

body:

application/json:

schema: |

```
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.ptz.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
  "title": "Pan Tilt Zoom",
  "definitions": {
    "oic.r.ptz": {
      "type": "object",
      "properties": {
        "pan": {
          "type": "number",
          "description": "horizontal pan in degrees"
        },
        "tilt": {
          "type": "number",
          "description": "vertical tilt in degrees"
        },
        "pan_range": {
          "type": "array",
          "readOnly": true,
          "description": "Min and Max values for the pan setting",
          "minItems": 2,
          "maxItems": 2,
          "items": {
            "type": "number"
          }
        },
        "tilt_range": {
          "type": "array",
          "readOnly": true,
          "description": "Min and Max values for the tilt setting",
          "minItems": 2,
          "maxItems": 2,
          "items": {
            "type": "number"
          }
        }
      }
    }
  }
}
```

```

    },
    "zoomFactor": {
      "type": "string",
      "description": "The Zoomfactor value"
    },
    "zoomFactorRange": {
      "type": "string",
      "enum": ["linear", "1x", "2x", "4x", "8x", "16x", "32x"],
      "readOnly": true,
      "description": "allowed Zoom Factor values. Linear equates to a 1-100
min/max."
    }
  }
},
"type": "object",
"allof": [
  {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
  {"$ref": "#/definitions/oic.r.ptz"}
],
"required": ["pan", "tilt", "zoomFactor"]
}

example: |
{
  "rt":      ["oic.r.ptz"],
  "id":      "unique_example_id",
  "pan":     0.0,
  "tilt":    0.0,
  "zoomFactor": "2x"
}

post:
  description: |
    Sets the current pan, tilt and zoom value

  body:
    application/json:
      schema: |
        {
          "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.ptz.json#",
          "$schema": "http://json-schema.org/draft-04/schema#",
          "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
          "title": "Pan Tilt Zoom",
          "definitions": {
            "oic.r.ptz": {
              "type": "object",
              "properties": {
                "pan": {
                  "type": "number",
                  "description": "horizontal pan in degrees"
                },
                "tilt": {
                  "type": "number",
                  "description": "vertical tilt in degrees"
                },
                "pan_range": {
                  "type": "array",
                  "readOnly": true,
                  "description": "Min and Max values for the pan setting",
                  "minItems": 2,
                  "maxItems": 2,
                  "items": {
                    "type": "number"
                  }
                }
              }
            }
          },

```

```

        "tilt_range": {
          "type": "array",
          "readOnly": true,
          "description": "Min and Max values for the tilt setting",
          "minItems": 2,
          "maxItems": 2,
          "items": {
            "type": "number"
          }
        },
        "zoomFactor": {
          "type": "string",
          "description": "The Zoomfactor value"
        },
        "zoomFactorRange": {
          "type": "string",
          "enum": ["linear", "1x", "2x", "4x", "8x", "16x", "32x"],
          "readOnly": true,
          "description": "allowed Zoom Factor values. Linear equates to a 1-100 min/max."
        }
      }
    },
    "type": "object",
    "allOf": [
      {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
      {"$ref": "#/definitions/oic.r.ptz"}
    ],
    "required": ["pan", "tilt", "zoomFactor"]
  }
}

```

example: |

```

{
  "id": "unique_example_id",
  "pan": 10.0,
  "tilt": -10.0,
  "zoomFactor": "4x"
}

```

responses :

200:

body:

application/json:

schema: |

```

{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.ptz.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
  "title": "Pan Tilt Zoom",
  "definitions": {
    "oic.r.ptz": {
      "type": "object",
      "properties": {
        "pan": {
          "type": "number",
          "description": "horizontal pan in degrees"
        },
        "tilt": {
          "type": "number",
          "description": "vertical tilt in degrees"
        },
        "pan_range": {
          "type": "array",
          "readOnly": true,
          "description": "Min and Max values for the pan setting",
          "minItems": 2,

```



```

        "maxItems": 2,
        "items": {
          "type": "number"
        }
      },
      "tilt_range": {
        "type": "array",
        "readOnly": true,
        "description": "Min and Max values for the tilt setting",
        "minItems": 2,
        "maxItems": 2,
        "items": {
          "type": "number"
        }
      },
      "zoomFactor": {
        "type": "string",
        "description": "The Zoomfactor value"
      },
      "zoomFactorRange": {
        "type": "string",
        "enum": ["linear", "1x", "2x", "4x", "8x", "16x", "32x"],
        "readOnly": true,
        "description": "allowed Zoom Factor values. Linear equates to a 1-100
min/max."
      }
    },
    "type": "object",
    "allOf": [
      { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
      { "$ref": "#/definitions/oic.r.ptz" }
    ],
    "required": ["pan", "tilt", "zoomFactor"]
  }

  example: |
  {
    "id":          "unique_example_id",
    "pan":         10.0,
    "tilt":        -10.0,
    "zoomFactor":  "4x"
  }

```

6.50.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
tilt_range	array: see schema		Read Only	Min and Max values for the tilt setting
zoomFactor	string	yes		The Zoomfactor value
tilt	number	yes		vertical tilt in degrees
pan_range	array: see schema		Read Only	Min and Max values for the pan setting
zoomFactorRange	string		Read Only	allowed Zoom Factor values. Linear equates to a 1-100 min/max.

pan	number	yes		horizontal pan in degrees

6.50.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/PanTiltZoomResURI		get	post		

6.51 Signal Strength

6.51.1 Introduction

This resource describes the strength of a signal by means of lqi and rssi. The lqi is a floating point number that represents Link Quality Indicator. The 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 (rt) is defined as: oic.r.signalstrength.

6.51.4 RAML Definition

##RAML 0.8

title: *OICSignalStrength*

version: *v1.1.0-20160519*

traits:

- interface :

queryParameters:

if:

enum: ["oic.if.s", "oic.if.baseline"]

/SignalStrengthResURI:

description: |

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

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

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

is : ['interface']

get:

responses :

200:

body:

application/json:

schema: |

```
{
  "id":
```

```
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.signalStrength.json#",
```

```
"$schema": "http://json-schema.org/draft-04/schema#",
```

```
"description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
```

```
"title": "Signal Strength",
```

```
"definitions": {
```

```
  "oic.r.signalstrength": {
```

```
    "type": "object",
```

```
    "properties": {
```

```
      "lqi": {
```

```
        "type": "number",
```

```
        "readOnly": true,
```

```
        "description": "current value of Link Quality Indicator"
```

```
      },
```

```
      "rssi": {
```

```

        "type": "number",
        "readOnly": true,
        "description": "current value of Received Signal Strength Indicator"
      }
    },
    "type": "object",
    "allOf": [
      { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
      { "$ref": "#/definitions/oic.r.signalstrength" }
    ],
    "required": ["lqi", "rssi"]
  }

example: |
{
  "rt": ["oic.r.signalstrength"],
  "id": "unique_example_id",
  "lqi": 10.0,
  "rssi": 55.0
}

```

6.51.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
rssi	number	yes	Read Only	current value of Received Signal Strength Indicator
lqi	number	yes	Read Only	current value of Link Quality Indicator

6.51.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/SignalStrengthResURI		get			

6.52 Speech Synthesis-TTS

6.52.1 Introduction

This resource may be created on the OIC Server that is capable of rendering speech by an OIC Client and allows the client to provide an SSML document with text to render or may be created on the OIC Server by some resident application. The audio rendered is at this stage local to the Server (i.e. not streamed). The utterance is an SSML document. The supportedLanguages is an array of the RFC 5646 defined language tags that are supported. The supportedVoices is an SSML document fragment indicating the voices that are supported.

6.52.2 Example URI

/SpeechTTSResURI

6.52.3 Resource Type

The resource type (rt) is defined as: oic.r.speech.tts.

6.52.4 RAML Definition

```

##%RAML 0.8
title: OICSpeechTTS
version: v1.1.0-20160519

traits:
- interface :
    queryParameters:

```

```

if:
  enum: ["oic.if.a", "oic.if.baseline"]

```

/SpeechTTSResURI:

```

description: |

```

This resource may be created on the OIC Server that is capable of rendering speech by an OIC Client

and allows the client to provide an SSML document with text to render

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

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

The utterance is an SSML document.

The supportedLanguages is an array of the RFC 5646 defined language tags that are supported.

The supportedVoices is an SSML document fragment indicating the voices that are supported.

```

is : ['interface']

```

```

get:

```

```

description: |

```

Utterance in the example shall be a properly escaped (JSON rules) SSML document

An example is given below:

```

"<?xml version=\"1.0\" encoding=\"ISO-8859-1\"?>\n\r
<speak version=\"1.1\" xmlns=\"http://www.w3.org/2001/10/synthesis\" \n\r
\txmlns:xsi=\"http://www.w3.org/2001/XMLSchema-instance\" \n\r
\txsi:schemaLocation=\"http://www.w3.org/2001/10/synthesis\n\r
\thttp://www.w3.org/TR/speech-synthesis11/synthesis.xsd\" \n\r
\txml:lang=\"en-US\">\n\r
\n\r
\tThe title of the movie is:\n\r
\t\"Monty Pythons The Meaning of Life\"\n\r
\twhich is directed by Terry Jones.\n\r
</speak\"

```

```

responses :

```

```

200:

```

```

body:

```

```

application/json:

```

```

schema: |

```

```

{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.speech.tts.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
  "title": "Speech Synthesis-TTS",
  "definitions": {
    "oic.r.speech.tts": {
      "type": "object",
      "properties": {
        "utterance": {
          "type": "string",
          "description": "SSML document including the speech body"
        },
        "supportedLanguages": {
          "type": "array",
          "readOnly": true,
          "description": "array of supported language tags",
          "items": {
            "type": "string"
          }
        },
        "supportedVoices": {
          "type": "string",
          "readOnly": true,
          "description": "SSML document fragment indicating supported voices"
        }
      }
    }
  }
}

```

```

    },
    "type": "object",
    "allOf": [
      { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
      { "$ref": "#/definitions/oic.r.speech.tts" }
    ],
    "required": ["utterance"]
  }

  example: |
    {
      "rt":          ["oic.r.speech.tts"],
      "id":          "unique_example_id",
      "utterance":   "SSML Document",
      "supportedLanguages": ["en-US", "en-GB", "fr-CA"],
      "supportedVoices": "<voice gender='female' variant='2'></voice>\n\r<voice
name='Mike'></voice>"
    }

  post:
    description: |
      Changes the utterance being rendered.
      Example shows a change in language selected.

    body:
      application/json:
        schema: |
          {
            "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.speech.tts.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
            "title": "Speech Synthesis-TTS",
            "definitions": {
              "oic.r.speech.tts": {
                "type": "object",
                "properties": {
                  "utterance": {
                    "type": "string",
                    "description": "SSML document including the speech body"
                  },
                  "supportedLanguages": {
                    "type": "array",
                    "readOnly": true,
                    "description": "array of supported language tags",
                    "items": {
                      "type": "string"
                    }
                  },
                  "supportedVoices": {
                    "type": "string",
                    "readOnly": true,
                    "description": "SSML document fragment indicating supported voices"
                  }
                }
              }
            },
            "type": "object",
            "allOf": [
              { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
              { "$ref": "#/definitions/oic.r.speech.tts" }
            ],
            "required": ["utterance"]
          }

        example: |

```

```

{
  "rt": ["oic.r.speech.tts"],
  "id": "unique_example_id",
  "utterance": "SSML Document"
}

responses :
200:
  body:
    application/json:
      schema: |
        {
          "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.speech.tts.json#",
          "$schema": "http://json-schema.org/draft-04/schema#",
          "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
          "title": "Speech Synthesis-TTS",
          "definitions": {
            "oic.r.speech.tts": {
              "type": "object",
              "properties": {
                "utterance": {
                  "type": "string",
                  "description": "SSML document including the speech body"
                }
              },
              "supportedLanguages": {
                "type": "array",
                "readOnly": true,
                "description": "array of supported language tags",
                "items": {
                  "type": "string"
                }
              },
              "supportedVoices": {
                "type": "string",
                "readOnly": true,
                "description": "SSML document fragment indicating supported voices"
              }
            }
          },
          "type": "object",
          "allof": [
            { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
            { "$ref": "#/definitions/oic.r.speech.tts" }
          ],
          "required": ["utterance"]
        }

      example: |
        {
          "rt": ["oic.r.speech.tts"],
          "id": "unique_example_id",
          "utterance": "SSML Document"
        }

```

6.52.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
supportedVoices	string		Read Only	SSML document fragment indicating supported voices

utterance	string	yes		SSML document including the speech body
supportedLanguages	array: see schema		Read Only	array of supported language tags

6.52.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/SpeechTTSTResURI		get	post		

6.53 Touch Sensor

6.53.1 Introduction

This resource describes whether touch has been sensed or not. The 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 (rt) is defined as: oic.r.sensor.touch.

6.53.4 RAML Definition

##RAML 0.8

title: *OICTouchSensor*

version: *v1.1.0-20160519*

traits:

- interface :

queryParameters:

if:

enum: ["oic.if.s", "oic.if.baseline"]

/TouchResURI:

description: |

This resource describes whether touch has been sensed or not.

The value is a boolean.

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

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

is : ['interface']

get:

responses :

200:

body:

application/json:

schema: |

{

"id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.touch.json#",

"\$schema": "http://json-schema.org/draft-04/schema#",

"description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All

rights reserved.",

"title": "Touch Sensor",

"definitions": {

"oic.r.sensor.touch": {

"allOf": [

{"\$ref": "oic.r.sensor.json#/definitions/oic.r.sensor"}

]

}

}

```

    },
    "type": "object",
    "allof": [
      {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
      {"$ref": "#/definitions/oic.r.sensor.touch"}
    ],
    "required": ["value"]
  }

```

example: |

```

{
  "rt": ["oic.r.sensor.touch"],
  "id": "unique_example_id",
  "value": true
}

```

6.53.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
value	boolean	yes	Read Only	True = Sensed, False = Not Sensed.

6.53.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/TouchResURI		get			

6.54 UV Radiation

6.54.1 Introduction

This resource specifies UV radiation measurement. The measurement is the current measured UV Index

6.54.2 Example URI

/UVRadiationResURI

6.54.3 Resource Type

The resource type (rt) is defined as: oic.r.sensor.radiation.uv.

6.54.4 RAML Definition

```

##%RAML 0.8
title: OICUVRadiation
version: v1.1.0-20160519
traits:
  - interface :
      queryParameters:
        if:
          enum: ["oic.if.s", "oic.if.baseline"]

/UVRadiationResURI:
  description: |
    This resource specifies UV radiation measurement.
    The measurement is the current measured UV Index

  is : ['interface']
  get:
    description: |
      Retrieves the current UV Radiation value

```



```

responses :
  200:
    body:
      application/json:
        schema: |
          {
            "id":
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.radiation.uv.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
            "title": "UV Radiation",
            "definitions": {
              "oic.r.sensor.radiation.uv": {
                "type": "object",
                "properties": {
                  "measurement": {
                    "type": "number",
                    "readOnly": true,
                    "description": "The measured UV Index"
                  }
                }
              }
            },
            "type": "object",
            "allof": [
              {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
              {"$ref": "#/definitions/oic.r.sensor.radiation.uv"}
            ],
            "required": ["measurement"]
          }

        example: |
          {
            "rt":          ["oic.r.sensor.radiation.uv"],
            "id":          "unique_example_id",
            "measurement": 3.5
          }

```

6.54.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
measurement	number	yes	Read Only	The measured UV Index

6.54.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/UVRadiationResURI		get			

6.55 Water Sensor

6.55.1 Introduction

This resource describes whether water has been sensed or not. The value is a boolean. A value of 'true' means that water has been sensed. A value of 'false' means that water not been sensed.

6.55.2 Example URI

/WaterResURI

6.55.3 Resource Type

The resource type (rt) is defined as: oic.r.sensor.water.

6.55.4 RAML Definition

##%RAML 0.8

```

title: OICWaterSensor
version: v1.1.0-20160519
traits:
  - interface :
      queryParameters:
        if:
          enum: ["oic.if.s", "oic.if.baseline"]

/WaterResURI:
  description: |
    This resource describes whether water has been sensed or not.
    The value is a boolean.
    A value of 'true' means that water has been sensed.
    A value of 'false' means that water not been sensed.

  is : ['interface']
  get:
    responses :
      200:
        body:
          application/json:
            schema: |
              {
                "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.water.json#",
                "$schema": "http://json-schema.org/draft-04/schema#",
                "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
                "title": "Water Sensor",
                "definitions": {
                  "oic.r.sensor.water": {
                    "allOf": [
                      { "$ref": "oic.r.sensor.json#/definitions/oic.r.sensor" }
                    ]
                  }
                },
                "type": "object",
                "allOf": [
                  { "$ref": "oic.baseresource.json#/definitions/oic.r.baseresource" },
                  { "$ref": "#/definitions/oic.r.sensor.water" }
                ],
                "required": ["value"]
              }

            example: |
              {
                "rt": ["oic.r.sensor.water"],
                "id": "unique_example_id",
                "value": true
              }

```

6.55.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
value	boolean	yes	Read Only	True = Sensed, False = Not Sensed.

6.55.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/WaterResURI		get			

6.56 Acceleration Sensor

6.56.1 Introduction

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

6.56.2 Example URI

/AccelerationResURI

6.56.3 Resource Type

The resource type (rt) is defined as: oic.r.sensor.acceleration.

6.56.4 RAML Definition

```
##RAML 0.8
title: OICAcceleration
version: v1.1.0-20160519

traits:
- interface :
    queryParameters:
        if:
            enum: ["oic.if.s", "oic.if.baseline"]

/AccelerationResURI:
    description: |
        This resource provides a measure of proper acceleration (g force) as opposed to co-ordinate
        acceleration
        (which is dependent on the co-ordinate system and the observer).
        The value is a float which describes the acceleration experienced by the object in "g".

    is : ['interface']
    get:
        responses :
            200:
                body:
                    application/json:
                        schema: |
                            {
                                "id":
                                    "http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.acceleration.json#",
                                "$schema": "http://json-schema.org/draft-04/schema#",
                                "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
                                rights reserved.",
                                "title": "Acceleration Sensor",
                                "definitions": {
                                    "oic.r.sensor.acceleration": {
                                        "properties": {
                                            "acceleration": {
                                                "type": "number",
                                                "readOnly": true,
                                                "description": "sensed acceleration experienced in 'g'."
                                            }
                                        }
                                    }
                                },
                                "type": "object",
                                "allOf": [
                                    { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
                                    { "$ref": "#/definitions/oic.r.sensor.acceleration"}
                                ],
                                "required": ["acceleration"]
                            }
```

```

    }

    example: |
    {
      "rt":          ["oic.r.sensor.acceleration"],
      "id":          "unique_example_id",
      "acceleration": 0.5
    }

```

6.56.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
acceleration	number	yes	Read Only	sensed acceleration experienced in 'g'

6.56.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/AccelerationResURI		get			

6.57 Movement

6.57.1 Introduction

This resource specifies linear movement. The movementSettings is an array of strings containing possible movement values (e.g. spin, stop, left, right). The movement is the currently selected movement value. The movementModifier is a modifier to the movement value (e.g. "spin", "90")

6.57.2 Example URI

/MovementResURI

6.57.3 Resource Type

The resource type (rt) is defined as: oic.r.movement.linear.

6.57.4 RAML Definition

```

%%RAML 0.8

title: OICAcceleration
version: v1.1.0-20160519

traits:
- interface :
    queryParameters:
        if:
            enum: ["oic.if.s", "oic.if.baseline"]

/MovementResURI:
    description: |
        This resource specifies linear movement.
        The movementSettings is an array of strings containing possible movement values (e.g
        spin, stop, left, right).
        The movement is the currently selected movement value.
        The movementModifier is a modifier to the movement value (e.g
        "spin", "90")

    is : ['interface']

    get:
        responses :
            200:
                body:
                    application/json:

```

```

schema: |
{
  "id":
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.movement.linear.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
  "title": "Linear Movement",
  "definitions": {
    "oic.r.movement.linear": {
      "type": "object",
      "properties": {
        "movementSettings": {
          "type": "array",
          "readOnly": true,
          "description": "array of possible movement values",
          "items": {
            "type": "string"
          }
        },
        "movement": {
          "type": "string",
          "description": "Current movement value"
        },
        "movementModifier": {
          "type": "string",
          "description": "Modifier to the movement value (e.g. spin-90, left-20),
units are device dependent"
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
    { "$ref": "#/definitions/oic.r.movement.linear" }
  ],
  "required": ["movementSettings", "movement"]
}

```

example: |

```

{
  "rt": ["oic.r.movement.linear"],
  "id": "unique_example_id",
  "movementSettings": ["stop", "left", "right", "rotate", "forward", "backward"],
  "movement": "rotate",
  "movementModifier": "90"
}

```

post:

```

description: |
  Sets the current device movement

```

```

body:
  application/json:

```

```

schema: |
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.movement.linear.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
  "title": "Linear Movement",
  "definitions": {
    "oic.r.movement.linear": {
      "type": "object",
      "properties": {
        "movementSettings": {

```

```

        "type": "array",
        "readOnly": true,
        "description": "array of possible movement values",
        "items": {
            "type": "string"
        }
    },
    "movement": {
        "type": "string",
        "description": "Current movement value"
    },
    "movementModifier": {
        "type": "string",
        "description": "Modifier to the movement value (e.g. spin-90, left-20), units
are device dependent"
    }
}

},
"type": "object",
"allOf": [
    {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
    {"$ref": "#/definitions/oic.r.movement.linear"}
],
"required": ["movementSettings", "movement"]
}

example: |
{
    "id": "unique_example_id",
    "movementSettings": ["stop", "left", "right", "rotate", "forward", "backward"],
    "movement": "stop"
}

responses :
200:
body:
application/json:
schema: |
{
    "id":
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.movement.linear.json#",
    "$schema": "http://json-schema.org/draft-04/schema#",
    "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
    "title": "Linear Movement",
    "definitions": {
        "oic.r.movement.linear": {
            "type": "object",
            "properties": {
                "movementSettings": {
                    "type": "array",
                    "readOnly": true,
                    "description": "array of possible movement values",
                    "items": {
                        "type": "string"
                    }
                },
                "movement": {
                    "type": "string",
                    "description": "Current movement value"
                },
                "movementModifier": {
                    "type": "string",
                    "description": "Modifier to the movement value (e.g. spin-90, left-20),
units are device dependent"
                }
            }
        }
    }
}

```

```

    }
  },
  "type": "object",
  "allof": [
    {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
    {"$ref": "#/definitions/oic.r.movement.linear"}
  ],
  "required": ["movementSettings", "movement"]
}

```

example: |

```

{
  "id": "unique_example_id",
  "movementSettings": ["stop", "left", "right", "rotate", "forward", "backward"],
  "movement": "stop"
}

```

6.57.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
movementSettings	array: see schema	yes	Read Only	array of possible movement values
movementModifier	string			Modifier to the movement value (e.g. spin-90, left-20), units are device dependent
movement	string	yes		Current movement value

6.57.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/MovementResURI		get	post		

6.58 Sleep Sensor

6.58.1 Introduction

This resource describes whether human sleep has been sensed or not. The value is a boolean. A value of 'true' means that sleep has been sensed. A value of 'false' means that sleep not been sensed.

6.58.2 Example URI

/SleepSensorResURI

6.58.3 Resource Type

The resource type (rt) is defined as: oic.r.sensor.sleep.

6.58.4 RAML Definition

```

#%RAML 0.8
title: OICSleepSensor
version: v1.1.0-20160519

traits:
- interface :
    queryParameters:
      if:
        enum: ["oic.if.s", "oic.if.baseline"]

```

/SleepSensorResURI:

```
description: |
  This resource describes whether human sleep has been sensed or not.
  The value is a boolean.
  A value of 'true' means that sleep has been sensed.
  A value of 'false' means that sleep not been sensed.
```

```
is : ['interface']
```

```
get:
```

```
  responses :
```

```
    200:
```

```
      body:
```

```
        application/json:
```

```
          schema: |
```

```
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.sleep.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
  "title": "Sleep Sensor",
  "definitions": {
    "oic.r.sensor.sleep": {
      "allOf": [
        {
          "$ref": "oic.r.sensor.json#/definitions/oic.r.sensor"
        }
      ]
    },
    "type": "object",
    "allOf": [
      {
        "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"
      },
      {
        "$ref": "#/definitions/oic.r.sensor.sleep"
      }
    ],
    "required": ["value"]
  }
}
```

```
example: |
```

```
{
  "rt": ["oic.r.sensor.sleep"],
  "id": "unique_example_id",
  "value": true
}
```

6.58.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
value	boolean	yes	Read Only	True = Sensed, False = Not Sensed.

6.58.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/SleepSensorResURI		get			

6.59 Smoke Sensor

6.59.1 Introduction

This resource describes whether smoke has been sensed or not. The value is a boolean. A value of 'true' means that smoke has been sensed. A value of 'false' means that smoke not been sensed.

6.59.2 Example URI

/SmokeSensorResURI

6.59.3 Resource Type

The resource type (rt) is defined as: oic.r.sensor.smoke.

6.59.4 RAML Definition

```

%%RAML 0.8
title: OICSmokeSensor
version: v1.1.0-20160519

traits:
- interface :
    queryParameters:
        if:
            enum: ["oic.if.s", "oic.if.baseline"]

/SmokeSensorResURI:
    description: |
        This resource describes whether smoke has been sensed or not.
        The value is a boolean.
        A value of 'true' means that smoke has been sensed.
        A value of 'false' means that smoke not been sensed.

    is : ['interface']
    get:
        responses :
            200:
                body:
                    application/json:
                        schema: |
                            {
                                "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.smoke.json#",
                                "$schema": "http://json-schema.org/draft-04/schema#",
                                "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
                                "title": "Smoke Sensor",
                                "definitions": {
                                    "oic.r.sensor.smoke": {
                                        "allOf": [
                                            {
                                                "$ref": "oic.r.sensor.json#/definitions/oic.r.sensor"
                                            }
                                        ]
                                    }
                                },
                                "type": "object",
                                "allOf": [
                                    {
                                        "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"
                                    },
                                    {
                                        "$ref": "#/definitions/oic.r.sensor.smoke"
                                    }
                                ],
                                "required": ["value"]
                            }

                        example: |
                            {
                                "rt": ["oic.r.sensor.smoke"],
                                "id": "unique_example_id",
                                "value": true
                            }

```

6.59.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description

value	boolean	yes	Read Only	True = Sensed, False = Not Sensed.

6.59.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/SmokeSensorResURI		get			

6.60 Three Axis Sensor

6.60.1 Introduction

This resource provides a representation of the measurement from a three-axis sensor. The orientation is an array of numbers representing x-plane, y-plane and z-plane values. The unit of measurement for each pane is 'g'.

6.60.2 Example URI

/ThreeAxisResURI

6.60.3 Resource Type

The resource type (rt) is defined as: oic.r.sensor.threeaxis.

6.60.4 RAML Definition

##RAML 0.8

title: OICThreeAxis

version: v1.1.0-20160519

traits:

- interface :

queryParameters:

if:

enum: ["oic.if.s", "oic.if.baseline"]

/ThreeAxisResURI:

description: |

This resource provides a representation of the measurement from a three-axis sensor.
The orientation is an array of numbers representing x-plane, y-plane and z-plane values.
The unit of measurement for each pane is 'g'.

is : ['interface']

get:

responses :

200:

body:

application/json:

schema: |

{

"id":

"http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.threeaxis.json#",

"\$schema": "http://json-schema.org/draft-04/schema#",

"description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",

"title": "Three Axis Sensor",

"definitions": {

"oic.r.sensor.threeaxis": {

"properties": {

"orientation": {

"type": "array",

"readOnly": true,

"description": "Array containing x-plane, y-plane and z-plane orientation

in 'g'.",

```

        "minItems": 3,
        "maxItems": 3,
        "items": {
          "type": "number"
        }
      }
    },
    "type": "object",
    "allOf": [
      { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
      { "$ref": "#/definitions/oic.r.sensor.threeaxis" }
    ],
    "required": ["orientation"]
  }
}

example: |
{
  "rt":          ["oic.r.sensor.threeaxis"],
  "id":          "unique_example_id",
  "orientation": [0.7, 1.1, -0.2]
}

```

6.60.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
orientation	array: see schema	yes	Read Only	Array containing x-plane, y-plane and z-plane orientation in 'g'.

6.60.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/ThreeAxisResURI		get			

6.61 Altimeter

6.61.1 Introduction

This resource describes the properties associated with altimeter. Altimeter is a height of the position (metres).

6.61.2 Example URI

/AltimeterResURI

6.61.3 Resource Type

The resource type (rt) is defined as: oic.r.altimeter.

6.61.4 RAML Definition

```

#%RAML 0.8
title: oicAltimeter
version: v1.1.0-20160519
traits:
- interface :
  queryParameters:
    if:
      enum: ["oic.if.s", "oic.if.baseline"]

/AltimeterResURI:
  description: |

```

This resource describes the properties associated with altimeter.
 Altimeter is a height of the position (metres).

is : ['interface']

get:

description: |
 Retrieves the current the height of the position (metres).

responses :

200:

body:

application/json:

schema: |

```
{
  "id": "http://openinterconnect.org/schemas/oic.r.altimeter#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Interconnect Consortium, Inc. All
rights reserved.",
  "title": "Altimeter",
  "definitions": {
    "oic.r.altimeter": {
      "type": "object",
      "properties": {
        "alt": {
          "type": "number",
          "minimum": 0,
          "readOnly": true,
          "description": "The current height of the position (metres)"
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
    { "$ref": "#/definitions/oic.r.altimeter" }
  ],
  "required": ["alt"]
}
```

example: |

```
{
  "rt": ["oic.r.altimeter"],
  "id": "unique_example_id",
  "alt": 1500.0
}
```

6.61.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
alt	number	yes	Read Only	The current height of the position (metres)

6.61.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/AltimeterResURI		get			

6.62 Clock

6.62.1 Introduction

This resource describes the properties associated with clock and time. Clock is a time information. Datetime is using ISO 8601 datetime format (e.g: "2007-04-05T14:30Z") (Time+Date+Timezone) Countdown is the desired total seconds for countdown.

6.62.2 Example URI

/ClockResURI

6.62.3 Resource Type

The resource type (rt) is defined as: oic.r.clock.

6.62.4 RAML Definition

```

#%RAML 0.8
title: OICClock
version: v1.1.0-20160519
traits:
- interface :
  queryParameters:
    if:
      enum: ["oic.if.a", "oic.if.baseline"]

/ClockResURI:
  description: |
    This resource describes the properties associated with clock and time.
    Clock is a time information.
    Datetime is using ISO 8601 datetime format (e.g: "2007-04-05T14:30Z") (Time+Date+Timezone)
    Countdown is the desired total seconds for countdown.

  is : ['interface']
  get:
    description: |
      Retrieves the current datetime data.

    responses :
      200:
        body:
          application/json:
            schema: |
              {
                "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.clock.json#",
                "$schema": "http://json-schema.org/draft-04/schema#",
                "description": "(c) 2016, 2017 Open Connectivity Foundation, Inc. All rights
reserved."
                "title": "Clock",
                "definitions": {
                  "oic.r.clock": {
                    "type": "object",
                    "properties": {
                      "datetime": {
                        "type": "string",
                        "description": "Using ISO 8601 datetime format (e.g: 2007-04-05T14:30Z,
2007-04-05T14:30+09:00)"
                      },
                      "countdown": {
                        "type": "number",
                        "minimum": 0,
                        "description": "Desired total seconds for countdown"
                      }
                    }
                  }
                }
              }

```

```

    }
  },
  "type": "object",
  "allOf": [
    {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
    {"$ref": "#/definitions/oic.r.clock"}
  ],
  "required": ["datetime"]
}

```

example: |

```

{
  "rt": ["oic.r.clock"],
  "id": "unique_example_id",
  "datetime": "2015-11-05T14:30Z",
  "countdown": 0.0
}

```

post:

description: |
Sets the desired datetime.

body:
application/json:

```

schema: |
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.clock.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "(c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
  "title": "Clock",
  "definitions": {
    "oic.r.clock": {
      "type": "object",
      "properties": {
        "datetime": {
          "type": "string",
          "description": "Using ISO 8601 datetime format (e.g: 2007-04-05T14:30Z, 2007-04-05T14:30+09:00)"
        },
        "countdown": {
          "type": "number",
          "minimum": 0,
          "description": "Desired total seconds for countdown"
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
    {"$ref": "#/definitions/oic.r.clock"}
  ],
  "required": ["datetime"]
}

```

example: |

```

{
  "id": "unique_example_id",
  "datetime": "2015-11-05T14:30Z",
  "countdown": 0.0
}

```

responses :

200:

description: |
 Indicates that the datetime value was successfully changed.
 The new datetime value is provided in the response.

body:
 application/json:

```

schema: |
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.clock.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "(c) 2016, 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
  "title": "Clock",
  "definitions": {
    "oic.r.clock": {
      "type": "object",
      "properties": {
        "datetime": {
          "type": "string",
          "description": "Using ISO 8601 datetime format (e.g. 2007-04-05T14:30Z,
2007-04-05T14:30+09:00)"
        },
        "countdown": {
          "type": "number",
          "minimum": 0,
          "description": "Desired total seconds for countdown"
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
    { "$ref": "#/definitions/oic.r.clock" }
  ],
  "required": ["datetime"]
}

example: |
{
  "id": "unique_example_id",
  "datetime": "2015-11-05T14:30Z",
  "countdown": 0.0
}

```

403:

description: |
 Indicates that OIC client sent an invalid property value to the server.
 The server responds with the required input representation.

body:
 application/json:

```

schema: |
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.clock.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "(c) 2016, 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
  "title": "Clock",
  "definitions": {
    "oic.r.clock": {
      "type": "object",
      "properties": {
        "datetime": {

```

```

        "type": "string",
        "description": "Using ISO 8601 datetime format (e.g: 2007-04-05T14:30Z,
2007-04-05T14:30+09:00)"
      },
      "countdown": {
        "type": "number",
        "minimum": 0,
        "description": "Desired total seconds for countdown"
      }
    }
  },
  "type": "object",
  "allof": [
    { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
    { "$ref": "#/definitions/oic.r.clock" }
  ],
  "required": ["datetime"]
}

```

example: |

```

{
  "id": "unique_example_id",
  "datetime": "2015-11-05T14:30Z",
  "countdown": 0.0
}

```

6.62.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
countdown	number			Desired total seconds for countdown
datetime	string	yes		Using ISO 8601 datetime format (e.g: 2007-04-05T14:30Z, 2007-04-05T14:30+09:00)

6.62.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/ClockResURI		get	post		

6.63 Geolocation

6.63.1 Introduction

This resource describes the properties associated with the current geolocation coordinate. Geolocation is a geolocation coordinate data. Latitude is a device's current Latitude coordinate (degrees). Longitude is a device's current Longitude coordinate (degrees). Altitude is a device's current Altitude position (metres). Accuracy is the accuracy level of the latitude and longitude coordinates (metres). altitudeAccuracy is the accuracy level of the altitude coordinates (metres). heading is a direction of travel of device (degree). speed is a device's current velocity (metres per second).

6.63.2 Example URI

/GeolocationResURI

6.63.3 Resource Type

The resource type (rt) is defined as: oic.r.sensor.geolocation.

6.63.4 RAML Definition

```

##RAML 0.8

title: OICGeolocation
version: v1.1.0-20160519

traits:
- interface :
  queryParameters:
    if:
      enum: ["oic.if.s", "oic.if.baseline"]

/GeolocationResURI:
  description: |
    This resource describes the properties associated with the current geolocation coordinate.
    Geolocation is a geolocation coordinate data.
    Latitude is a device's current Latitude coordinate (degrees).
    Longitude is a device's current Longitude coordinate (degrees).
    Altitude is a device's current Altitude position (metres).
    Accuracy is the accuracy level of the latitude and longitude coordinates (metres).
    altitudeAccuracy is the accuracy level of the altitude coordinates (metres).
    heading is a direction of travel of device (degree).
    speed is a device's current velocity (metres per second).

  is : ['interface']
  get:
    description: |
      Retrieves the current geolocation coordinates.

    responses :
      200:
        body:
          application/json:
            schema: |
              {
                "id": "http://openinterconnect.org/schemas/oic.r.sensor.geolocation#",
                "$schema": "http://json-schema.org/draft-04/schema#",
                "description": "Copyright (c) 2016, 2017 Open Interconnect Consortium, Inc. All
rights reserved.",
                "title": "Geolocation",
                "definitions": {
                  "oic.r.sensor.geolocation": {
                    "type": "object",
                    "allOf": [
                      {
                        "$ref": "oic.r.altimeter.json#/definitions/oic.r.altimeter"},
                      {
                        "properties": {
                          "latitude": {
                            "type": "number",
                            "readOnly": true,
                            "description": "Device's Current Latitude coordinate (degrees)"
                          },
                          "longitude": {
                            "type": "number",
                            "readOnly": true,
                            "description": "Device's Current Longitude coordinate (degrees)"
                          },
                          "accuracy": {
                            "type": "number",
                            "minimum": 0,
                            "readOnly": true,
                            "description": "The accuracy level of the latitude and longitude
coordinates (metres)"
                          },
                          "altitudeAccuracy": {

```

```

        "type": "number",
        "minimum": 0,
        "readOnly": true,
        "description": "The accuracy level of the altitude coordinates (metres)"
      },
      "heading": {
        "type": "number",
        "minimum": 0,
        "maximum": 360,
        "readOnly": true,
        "description": "Direction of travel of device (degree)"
      },
      "speed": {
        "type": "number",
        "minimum": 0,
        "readOnly": true,
        "description": "Device's current velocity (metres per second)"
      }
    }
  ],
  "type": "object",
  "allOf": [
    { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
    { "$ref": "#/definitions/oic.r.sensor.geolocation" }
  ],
  "required": ["latitude", "longitude", "alt"]
}

```

example: |

```

{
  "rt": ["oic.r.sensor.geolocation"],
  "id": "unique_example_id",
  "latitude": 55.070859,
  "longitude": -3.60512,
  "alt": 12.07,
  "accuracy": 65.0,
  "altitudeAccuracy": 0.0,
  "heading": 90.0,
  "speed": 0.0
}

```

6.63.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
longitude	number	yes	Read Only	Device's Current Longitude coordinate (degrees)
latitude	number	yes	Read Only	Device's Current Latitude coordinate (degrees)
altitudeAccuracy	number		Read Only	The accuracy level of the altitude coordinates (metres)
speed	number		Read Only	Device's current velocity (metres per second)

heading	number		Read Only	Direction of travel of device (degree)
accuracy	number		Read Only	The accuracy level of the latitude and longitude coordinates (metres)

6.63.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/GeolocationResURI		get			

6.64 Height

6.64.1 Introduction

This resource describes the properties associated with height of an object's physical size. Height (height) is height of an object.

6.64.2 Example URI

/HeightResURI

6.64.3 Resource Type

The resource type (rt) is defined as: oic.r.height.

6.64.4 RAML Definition

##RAML 0.8

title: OICHeight

version: v1.1.0-20160519

traits:

- interface :

queryParameters:

if:

enum: ["oic.if.a", "oic.if.baseline"]

/HeightResURI:

description: |

This resource describes the properties associated with height of an object's physical size. Height (height) is height of an object.

is : ['interface']

get:

description: |

Retrieves height of an object.

responses :

200:

body:

application/json:

schema: |

{

"id": "http://openinterconnect.org/schemas/oic.r.height.json#",

"\$schema": "http://json-schema.org/draft-04/schema#",

"description": "Copyright (c) 2016, 2017 Open Interconnect Consortium, Inc. All

rights reserved.",

"title": "Height",

```

    "definitions": {
      "oic.r.height": {
        "type": "object",
        "properties": {
          "height": {
            "type": "number",
            "minimum": 0,
            "description": "Height of an object"
          }
        }
      }
    },
    "type": "object",
    "allOf": [
      {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
      {"$ref": "#/definitions/oic.r.height"}
    ],
    "required": ["height"]
  }

```

example: |

```

{
  "rt": ["oic.r.height"],
  "id": "unique_example_id",
  "height": 100.0
}

```

post:

description: |
Sets the Height.

body:
application/json:

```

schema: |
  {
    "id": "http://openinterconnect.org/schemas/oic.r.height.json#",
    "$schema": "http://json-schema.org/draft-04/schema#",
    "description": "Copyright (c) 2016, 2017 Open Interconnect Consortium, Inc. All rights reserved.",
    "title": "Height",
    "definitions": {
      "oic.r.height": {
        "type": "object",
        "properties": {
          "height": {
            "type": "number",
            "minimum": 0,
            "description": "Height of an object"
          }
        }
      }
    },
    "type": "object",
    "allOf": [
      {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
      {"$ref": "#/definitions/oic.r.height"}
    ],
    "required": ["height"]
  }

```

example: |

```

{
  "id": "unique_example_id",
  "height": 200.0
}

```

```

responses :
  200:
    description: |
      Indicates that the height was successfully changed.
      The new height is provided in the response.

    body:
      application/json:
        schema: |
          {
            "id": "http://openinterconnect.org/schemas/oic.r.height.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description": "Copyright (c) 2016, 2017 Open Interconnect Consortium, Inc. All
rights reserved.",
            "title": "Height",
            "definitions": {
              "oic.r.height": {
                "type": "object",
                "properties": {
                  "height": {
                    "type": "number",
                    "minimum": 0,
                    "description": "Height of an object"
                  }
                }
              }
            },
            "type": "object",
            "allof": [
              {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
              {"$ref": "#/definitions/oic.r.height"}
            ],
            "required": ["height"]
          }

        example: |
          {
            "id": "unique_example_id",
            "height": 200.0
          }

  403:
    description: |
      Indicates that the client sent an invalid property value to the server.
      The server responds with the current resource representation.

    body:
      application/json:
        schema: |
          {
            "id": "http://openinterconnect.org/schemas/oic.r.height.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description": "Copyright (c) 2016, 2017 Open Interconnect Consortium, Inc. All
rights reserved.",
            "title": "Height",
            "definitions": {
              "oic.r.height": {
                "type": "object",
                "properties": {
                  "height": {
                    "type": "number",
                    "minimum": 0,
                    "description": "Height of an object"
                  }
                }
              }
            }
          }

```

```

    }
  },
  "type": "object",
  "allof": [
    {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
    {"$ref": "#/definitions/oic.r.height"}
  ],
  "required": ["height"]
}

```

example: |

```

{
  "id": "unique_example_id",
  "height": 200.0
}

```

6.64.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
height	number	yes		Height of an object

6.64.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/HeightResURI		get	post		

6.65 Weight

6.65.1 Introduction

This resource describes the properties associated with weight of an object. Weight (weight) is weight of an object.

6.65.2 Example URI

/WeightResURI

6.65.3 Resource Type

The resource type (rt) is defined as: oic.r.weight.

6.65.4 RAML Definition

```

#%RAML 0.8
title: OICWeight
version: v1.1.0-20160518
traits:
  - interface :
      queryParameters:
        if:
          enum: ["oic.if.s", "oic.if.baseline"]

/WeightResURI:
  description: |
    This resource describes the properties associated with weight of an object.
    Weight (weight) is weight of an object.

  is : ['interface']
  get:
    description: |
      Retrieves weight of an object.

```

```

responses :
  200:
    body:
      application/json:
        schema: |
          {
            "id": "http://openinterconnect.org/schemas/oic.r.weight.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description": "Copyright (c) 2016, 2017 Open Interconnect Consortium, Inc. All
rights reserved.",
            "title": "Weight",
            "definitions": {
              "oic.r.weight": {
                "type": "object",
                "properties": {
                  "weight": {
                    "type": "number",
                    "minimum": 0,
                    "readOnly": true,
                    "description": "Weight of an object"
                  }
                }
              }
            },
            "type": "object",
            "allof": [
              {"$ref": "oic.baseresource.json#/definitions/oic.r.baseresource"},
              {"$ref": "#/definitions/oic.r.weight"}
            ],
            "required": ["weight"]
          }

        example: |
          {
            "rt": ["oic.r.weight"],
            "id": "unique_example_id",
            "weight": 200.0
          }

```

6.65.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
weight	number	yes	Read Only	Weight of an object

6.65.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/WeightResURI		get			

6.66 Air Quality

6.66.1 Introduction

This resource describes a qualitative or measured contaminant that can be used to infer Air Quality. Measured is the actual sensed value with units per contaminant type as described below. 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 valueType indicates a qualitative or measured reading within the contaminantvalue Property. contaminantvalue contains the actual measured or qualitative level. range contains the allowed range for the value that is being reported (from oic.r.baseresource). If valueType is 'Measured' then the units for the contaminant types are as follows: Methanal (also known as Formaldehyde): CH₂O (ug/m³), Carbon Dioxide: CO₂ (ppm), Carbon Monoxide: CO (ppm), Particulate Matter

(less than 2.5 microns in diameter): PM2.5 (ug/m³), Particulate Matter (less than 10 microns in diameter): PM10 (ug/m³), Volatile Organic Compounds: VOC (ug/m³)

6.66.2 Example URI

/AirQualityResURI

6.66.3 Resource Type

The resource type (rt) is defined as: oic.r.airquality.

6.66.4 RAML Definition

##RAML 0.8

title: *OICAirQuality*

version: *v1.1.0-20160519*

traits:

- interface :

queryParameters:

if:

enum: ["oic.if.s", "oic.if.baseline"]

/AirQualityResURI:

description: |

This resource describes a qualitative or measured contaminant that can be used to infer Air Quality.

Measured is the actual sensed value with units per contaminant type as described below.

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 valueType indicates a qualitative or measured reading within the contaminantvalue Property. contaminantvalue contains the actual measured or qualitative level.

range contains the allowed range for the value that is being reported (from oic.r.baseresource).

If valueType is 'Measured' then the units for the contaminant types are as follows:

Methanal (also known as Formaldehyde): CH₂O (ug/m³),

Carbon Dioxide: CO₂ (ppm),

Carbon Monoxide: CO (ppm),

Particulate Matter (less than 2.5 microns in diameter): PM2.5 (ug/m³),

Particulate Matter (less than 10 microns in diameter): PM10 (ug/m³),

Volatile Organic Compounds: VOC (ug/m³)

is : ['interface']

get:

description: |

Retrieves the current air quality.

responses :

200:

body:

application/json:

schema: |

```
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.airquality.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2017 Open Connectivity Foundation, Inc. All rights reserved.",
  "title": "Air Quality",
  "definitions": {
    "oic.r.airquality": {
      "type": "object",
      "properties": {
        "contaminantvalue": {
          "type": "integer",
          "readOnly": true,
```



```

        "description": "The measured or qualitative value for the contaminant."
      },
      "contaminanttype": {
        "enum":
["CH2O", "CO2", "CO", "PM2.5", "PM10", "VOC", "Smoke", "Odor", "AirPollution"],
        "description": "The contaminant being measured.",
        "readOnly": true
      },
      "valuetype": {
        "enum": ["Qualitative", "Measured"],
        "description": "Indicates whether the provided value is qualitative or
measured.",
        "readOnly": true
      }
    }
  },
  "type": "object",
  "allOf": [
    { "$ref": "oic.core.json#/definitions/oic.core"},
    { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
    { "$ref": "#/definitions/oic.r.airquality"}
  ],
  "required": ["contaminantvalue", "contaminanttype", "valuetype", "range"]
}

example: |
{
  "rt":          ["oic.r.airquality"],
  "id":          "unique_example_id",
  "contaminanttype": "CO",
  "valuetype": "Measured",
  "contaminantvalue": 10,
  "range": [0, 500]
}

```

6.66.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
valuetype	multiple types: see schema	yes	Read Only	Indicates whether the provided value is qualitative or measured.
contaminantvalue	integer	yes	Read Only	The measured or qualitative value for the contaminant.
contaminanttype	multiple types: see schema	yes	Read Only	The contaminant being measured.

6.66.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/AirQualityResURI		get			

6.67 Air Quality Collection

6.67.1 Introduction

This resource describes a sensor that provides the qualitative or measured Air Quality. The resource is a collection of instances of oic.r.airquality detailing the individual exposed contaminant measures. There is one collection entry per contaminant type supported by the device. A device must expose at least one measured or qualitative value.

6.67.2 Example URI

/AirQualityBaselineResURI

6.67.3 Resource Type

The resource type (rt) is defined as: oic.r.airqualitycollection.

6.67.4 RAML Definition

```

#%RAML 0.8
title: OICAirQuality
version: v1.1.0-20160519

traits:
- interface-ll :
  queryParameters:
    if:
      enum: ["oic.if.ll"]
- interface-baseline :
  queryParameters:
    if:
      enum: ["oic.if.baseline"]

/AirQualityBaselineResURI:
  description: |
    This resource describes a sensor that provides the qualitative or measured Air Quality.
    The resource is a collection of instances of oic.r.airquality detailing the individual exposed
    contaminant measures
    There is one collection entry per contaminant type supported by the device
    A device must expose at least one measured or qualitative value.

  is : ['interface-baseline']
  get:
    description: |
      Retrieves the current air quality.

    responses :
      200:
        body:
          application/json:
            schema: |
              {
                "id":
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.airqualitycollection.json#",
                "$schema": "http://json-schema.org/draft-04/schema#",
                "description" : "Copyright (c) 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
                "title": "Air Quality Collection",
                "definitions": {
                  "oic.r.airqualitycollection": {
                    "type": "object",
                    "allOf": [
                      {
                        "$ref": "oic.collection-schema.json#/definitions/oic.collection"
                      },
                      {
                        "properties": {
                          "rt": {
                            "type": "array",
                            "minItems": 2,
                            "maxItems": 2,
                            "uniqueItems": true,
                            "items": {

```

example: |

6.67.5 Property Definition

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				be an value that is unique to the use context or a UUIDv4
rts	multiple types: see schema			Defines the list of allowable resource types (for Target and anchors) in links included in the collection; new links being created can only be from this list
di	multiple types: see schema			The device ID which is an UUIDv4 string; used for backward compatibility with Spec A definition of /oic/res

6.67.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/AirQualityBaselineResURI		get			

6.67.7 Referenced JSON schemas

6.67.7.1 oic.collection-schema.json

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016 Open Connectivity Foundation, Inc. All rights reserved.",
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.collection-schema.json#",
  "title": "Collection",
  "definitions": {
    "oic.collection.setoflinks": {
      "description": "A set (array) of simple or individual OIC Links. In addition to properties required for an OIC Link, the identifier for that link in this set is also required",
      "type": "array",
      "items": {
        "$ref": "oic.oic-link-schema.json#/definitions/oic.oic-link"
      }
    },
    "oic.collection.alllinks": {
      "description": "All forms of links in a collection",
      "oneOf": [
        {
          "$ref": "#/definitions/oic.collection.setoflinks"
        }
      ]
    },
    "oic.collection": {
      "type": "object",
      "description": "A collection is a set (array) of tagged-link or set (array) of simple links along with additional properties to describe the collection itself",
      "properties": {
        "id": {
          "anyOf": [
            {
              "type": "integer",
              "description": "A number that is unique to that collection; like an ordinal number that is not repeated"
            }
          ]
        }
      }
    }
  }
}
```

```

        {
            "type": "string",
            "description": "A unique string that could be a hash or similarly
unique"
        },
        {
            "$ref": "oic.types-schema.json#/definitions/uuid",
            "description": "A unique string that could be a UUIDv4"
        }
    ],
    "description": "ID for the collection. Can be an value that is unique to the
use context or a UUIDv4"
},
"di": {
    "$ref": "oic.types-schema.json#/definitions/uuid",
    "description": "The device ID which is an UUIDv4 string; used for backward
compatibility with Spec A definition of /oic/res"
},
"rts": {
    "$ref": "oic.core-schema.json#/definitions/oic.core/properties/rt",
    "description": "Defines the list of allowable resource types (for Target and
anchors) in links included in the collection; new links being created can only be from this
list"
},
"drel": {
    "type": "string",
    "description": "When specified this is the default relationship to use when an
OIC Link does not specify an explicit relationship with *rel* parameter"
},
"links": {
    "$ref": "#/definitions/oic.collection.allLinks"
}
}
},
"type": "object",
"allof": [
    {"$ref": "oic.core-schema.json#/definitions/oic.core"},
    {"$ref": "#/definitions/oic.collection"}
]
}

```

6.68 Consumable

6.68.1 Introduction

This resource specifies a thing that can be consumed such as filter material, printer toner etc The type is an enumeration defining the thing being consumed as defined by the Smart Home Device Specification The remaining is an integer capturing the percentatge remaining life The orderpercentage is an integer capturing the percentage life at which replacement or replenishment is recommended by the manufacturer The url is a string containing a URL at which further information may be obtained with respect to the consumable

6.68.2 Example URI

/ConsumableResURI

6.68.3 Resource Type

The resource type (rt) is defined as: oic.r.consumable.

6.68.4 RAML Definition

```

#%RAML 0.8
title: OICConsumables
version: OCF-v1.0.0-20160620

traits:
- interface :
    queryParameters:
        if:

```

```
enum: ["oic.if.s", "oic.if.baseline"]
```

```
/ConsumableResURI:
```

```
description: |
```

This resource specifies a thing that can be consumed such as filter material, printer toner etc
The type is an enumeration defining the thing being consumed as defined by the Smart Home

```
Device Specification
```

The remaining is an integer capturing the percentatge remaining life

The orderpercentage is an integer capturing the percentage life at which replacement or
replenishment is recommended by the manufacturer

The url is a string containing a URL at which further information may be obtained with respect
to the consumable

```
is : ['interface']
```

```
get:
```

```
responses :
```

```
200:
```

```
body:
```

```
application/json:
```

```
schema: |
```

```
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.consumable#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
  "title": "Consumable",
  "definitions": {
    "oic.r.consumable": {
      "type": "object",
      "properties": {
        "typeofconsumable": {
          "type": "string",
          "description": "Thing that is being consumed.",
          "readOnly": true
        },
        "remaining": {
          "type": "integer",
          "description": "Percentage remaining lifespan.",
          "readOnly": true,
          "minimum": 0,
          "maximum": 100
        },
        "orderpercentage": {
          "type": "integer",
          "description": "Percentage at which re-ordering is recommended by the
manufacturer",
          "readOnly": true
        },
        "url": {
          "type": "string",
          "format": "uri",
          "description": "URL at which additional ordering information may be
found.",
          "readOnly": true
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
    { "$ref": "#/definitions/oic.r.consumable" }
  ],
  "required": ["typeofconsumable", "remaining"]
}
```

```

example: |
{
  "rt": ["oic.r.consumable"],
  "id": "unique_example_id",
  "typeofconsumable": "tonerBlack",
  "remaining": 20,
  "orderpercentage": 10,
  "url": "http://myreorderURL"
}

```

6.68.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
url	string		Read Only	URL at which additional ordering information may be found.
typeofconsumable	string	yes	Read Only	Thing that is being consumed.
remaining	integer	yes	Read Only	Percentage remaining lifespan.
orderpercentage	integer		Read Only	Percentage at which re-ordering is recommended by the manufacturer

6.68.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/ConsumableResURI		get			

6.69 Consumable Collection

6.69.1 Introduction

This resource specifies things that can be consumed such as filter material, printer toner etc. The resource is a collection of instances of oic.r.consumable detailing the individual consumed items. supportedconsumables is the set of consumable types that this instance of the Resource supports.

6.69.2 Example URI

/ConsumablesBaselineResURI

6.69.3 Resource Type

The resource type (rt) is defined as: oic.r.consumablecollection.

6.69.4 RAML Definition

```

#%RAML 0.8
title: OICConsumables
version: OCF-v1.0.0-20160620
traits:
- interface-ll :
  queryParameters:
    if:
      enum: ["oic.if.ll"]
- interface-baseline :
  queryParameters:
    if:
      enum: ["oic.if.baseline"]

```

/ConsumablesBaselineResURI:

description: |
 This resource specifies things that can be consumed such as filter material, printer toner etc
 The resource is a collection of instances of oic.r.consumable detailing the individual consumed items
 supportedconsumables is the set of consumable types that this instance of the Resource supports

is : ['interface-baseline']

get:

responses :

200:

body:

application/json:

schema: |

```
{
  "id":
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.consumablecollection#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
  "title": "Consumables Collection",
  "definitions": {
    "oic.r.consumablecollection": {
      "type": "object",
      "allOf": [
        {
          "$ref": "oic.collection-schema.json#/definitions/oic.collection"
        },
        {
          "properties": {
            "rt": {
              "type": "array",
              "minItems": 2,
              "maxItems": 2,
              "uniqueItems": true,
              "items": {
                "enum": ["oic.r.consumablecollection", "oic.wk.col"]
              }
            },
            "rts": {
              "type": "array",
              "minItems": 1,
              "maxItems": 2,
              "uniqueItems": true,
              "items": {
                "anyOf": [
                  {
                    "enum": ["oic.r.consumable", "oic.r.value.conditional"]
                  },
                  {
                    "enum": ["oic.r.consumable"]
                  }
                ]
              }
            }
          }
        }
      ],
      "supportedconsumables": {
        "type": "array",
        "description": "Array of possible consumables the device measures.",
        "readOnly": true,
        "items": {
          "type": "string"
        }
      }
    }
  }
}
```



```

    }
  },
  "type": "object",
  "allof": [
    {"$ref": "oic.core.json#/definitions/oic.core"},
    {"$ref": "#/definitions/oic.r.consumablecollection"}
  ]
}

example: |
{
  "rt": ["oic.r.consumablecollection", "oic.wk.col"],
  "id": "unique_example_id",
  "rts": ["oic.r.consumable", "oic.r.value.conditional"],
  "supportedconsumables": ["tonerBlack", "tonerCyan", "tonerMagenta", "tonerYellow"],
  "links": [
    {"href": "/myTonerBlackResURI", "rt": ["oic.r.consumable"], "if":
["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
    {"href": "/myTonerCyanResURI", "rt": ["oic.r.consumable"], "if":
["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
    {"href": "/myTonerMagentaResURI", "rt": ["oic.r.consumable"], "if":
["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
    {"href": "/myTonerYellowResURI", "rt": ["oic.r.consumable"], "if":
["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]}
  ]
}

```

6.69.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema			
supportedconsumables	array: see schema		Read Only	Array of possible consumables the device measures.
rts	array: see schema			
drel	string			When specified this is the default relationship to use when an OIC Link does not specify an explicit relationship with *rel* parameter
links	multiple types: see schema			
id	multiple types: see schema			ID for the collection. Can be an value that is unique to the use context or a UUIDv4
rts	multiple types: see schema			Defines the list of allowable resource types

				(for Target and anchors) in links included in the collection; new links being created can only be from this list
di	multiple types: see schema			The device ID which is an UUIDv4 string, used for backward compatibility with Spec A definition of /oic/res

6.69.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/ConsumablesBaselineResURI		get			

6.69.7 Referenced JSON schemas

6.69.7.1 oic.collection-schema.json

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016 Open Connectivity Foundation, Inc. All rights reserved.",
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.collection-schema.json#",
  "title": "Collection",
  "definitions": {
    "oic.collection.setoflinks": {
      "description": "A set (array) of simple or individual OIC Links. In addition to
properties required for an OIC Link, the identifier for that link in this set is also required",
      "type": "array",
      "items": {
        "$ref": "oic.oic-link-schema.json#/definitions/oic.oic-link"
      }
    },
    "oic.collection.alllinks": {
      "description": "All forms of links in a collection",
      "oneOf": [
        {
          "$ref": "#/definitions/oic.collection.setoflinks"
        }
      ]
    },
    "oic.collection": {
      "type": "object",
      "description": "A collection is a set (array) of tagged-link or set (array) of simple
links along with additional properties to describe the collection itself",
      "properties": {
        "id": {
          "anyOf": [
            {
              "type": "integer",
              "description": "A number that is unique to that collection; like an
ordinal number that is not repeated"
            },
            {
              "type": "string",
              "description": "A unique string that could be a hash or similarly
unique"
            }
          ]
        },
        "$ref": "oic.types-schema.json#/definitions/uuid",

```

```

        "description": "A unique string that could be a UUIDv4"
      },
    ],
    "description": "ID for the collection. Can be an value that is unique to the
use context or a UUIDv4"
  },
  "di": {
    "$ref": "oic.types-schema.json#/definitions/uuid",
    "description": "The device ID which is an UUIDv4 string; used for backward
compatibility with Spec A definition of /oic/res"
  },
  "rts": {
    "$ref": "oic.core-schema.json#/definitions/oic.core/properties/rt",
    "description": "Defines the list of allowable resource types (for Target and
anchors) in links included in the collection; new links being created can only be from this
list"
  },
  "drel": {
    "type": "string",
    "description": "When specified this is the default relationship to use when an
OIC Link does not specify an explicit relationship with *rel* parameter"
  },
  "links": {
    "$ref": "#/definitions/oic.collection.alllinks"
  }
}
}
},
"type": "object",
"allof": [
  {"$ref": "oic.core-schema.json#/definitions/oic.core"},
  {"$ref": "#/definitions/oic.collection"}
]
}

```

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)G (<https://www.energystar.gov/sites/default/files/specs//private/ENERGY%20STAR%20Final%20Version%205.0%20Residential%20Refrigerators%20and%20Freezers%20Program%20Requirement%20s.pdf>) The status is a boolean indicating whether the function is on, if off then defrost is scheduled as part of normal device operation. startTime, from oir.r.time.period (mandatory) is an ISO8601 encoded start time for the interval in which defrost shall not occur. stopTime, from oic.r.time.period is an ISO8601 encoded stop time for the interval in which defrost shall not occur. interval, from oic.r.time.period with additional range restrictions is the time in minutes of the period that starts at starttime (if not present the default is 240). stopTime and interval are mutually exclusive; they cannot both be present in a Resource instance

6.70.2 Example URI

/DelayDefrostResURI

6.70.3 Resource Type

The resource type (rt) is defined as: oic.r.delaydefrost.

6.70.4 RAML Definition

```

#%RAML 0.8

title: OICDelayDefrost
version: OCF_v1.0.0-2016____

traits:
- interface :
  queryParameters:
    if:
      enum: ["oic.if.a", "oic.if.baseline"]

```

`/DelayDefrostResURI:``description: |`

This resource describes the delay defrost function as defined by the US Energy Star Specifications.

See Energy Star Refrigerator Requirements Version 5 Section 4)G

(<https://www.energystar.gov/sites/default/files/specs//private/ENERGY%20STAR%20Final%20Version%205.0%20Residential%20Refrigerators%20and%20Freezers%20Program%20Requirements.pdf>)

The status is a boolean indicating whether the function is on, if off then defrost is scheduled as part of normal device operation.

startTime, from oic.r.time.period (mandatory) is an ISO8601 encoded start time for the interval in which defrost shall not occur.

stopTime, from oic.r.time.period is an ISO8601 encoded stop time for the interval in which defrost shall not occur.

interval, from oic.r.time.period with additional range restrictions is the time in minutes of the period that starts at starttime (if not present the default is 240).

stopTime and interval are mutually exclusive; they cannot both be present in a Resource instance

`is : ['interface']``get:``description: |`

Retrieves the current Delay Defrost function status

`responses :``200:``body:``application/json:``schema: |`

```
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.delaydefrost.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
  "title": "Delay Defrost",
  "definitions": {
    "oic.r.delaydefrost": {
      "type": "object",
      "allOf": [
        {
          "$ref": "oic.r.time.period.json#/definitions/oic.r.time.period"
        },
        {
          "properties": {
            "interval": {
              "type": "integer",
              "description": "Defrost interval as defined by Energy Star",
              "minimum": 1,
              "maximum": 1440,
              "default": 240
            },
            "status": {
              "type": "boolean",
              "description": "Indicates whether any supported delay defrost function
is active"
            }
          }
        }
      ],
      "required": ["status"]
    }
  },
  "type": "object",
  "allOf": [
    {
      "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"
    }
  ]
}
```

```

        {"$ref": "#/definitions/oic.r.delaydefrost"}
    ]
}

example: |
{
  "rt":      ["oic.r.delaydefrost"],
  "id":      "unique_example_id",
  "startTime": "06:00Z",
  "status": false
}

post:
  description: |
    Activates the desired Delay Defrost functions

  body:
    application/json:
      schema: |
        {
          "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.delaydefrost.json#",
          "$schema": "http://json-schema.org/draft-04/schema#",
          "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
          "title": "Delay Defrost",
          "definitions": {
            "oic.r.delaydefrost": {
              "type": "object",
              "allOf": [
                {
                  {"$ref": "oic.r.time.period.json#/definitions/oic.r.time.period"}
                },
                {
                  "properties": {
                    "interval": {
                      "type": "integer",
                      "description": "Defrost interval as defined by Energy Star",
                      "minimum": 1,
                      "maximum": 1440,
                      "default": 240
                    },
                    "status": {
                      "type": "boolean",
                      "description": "Indicates whether any supported delay defrost function is
active"
                    }
                  }
                }
              ],
              "required": ["status"]
            }
          },
          "type": "object",
          "allOf": [
            {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
            {"$ref": "#/definitions/oic.r.delaydefrost"}
          ]
        }

      example: |
        {
          "id":      "unique_example_id",
          "status":   true,
          "startTime": "06:00Z",
          "interval": 180
        }

```

```

    }

responses :
  200:
    description: |
      Indicates that the DelayDefrost function was changed.
      The new representation may be provided in the response.

    body:
      application/json:
        schema: |
          {
            "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.delaydefrost.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
            "title": "Delay Defrost",
            "definitions": {
              "oic.r.delaydefrost": {
                "type": "object",
                "allOf": [
                  {
                    "$ref": "oic.r.time.period.json#/definitions/oic.r.time.period"
                  },
                  {
                    "properties": {
                      "interval": {
                        "type": "integer",
                        "description": "Defrost interval as defined by Energy Star",
                        "minimum": 1,
                        "maximum": 1440,
                        "default": 240
                      },
                      "status": {
                        "type": "boolean",
                        "description": "Indicates whether any supported delay defrost function
is active"
                      }
                    }
                  }
                ],
                "required": ["status"]
              }
            },
            "type": "object",
            "allOf": [
              { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
              { "$ref": "#/definitions/oic.r.delaydefrost" }
            ]
          }

        example: |
          {
            "id": "unique_example_id",
            "status": true,
            "startTime": "06:00Z",
            "interval": 180
          }

  403:
    description: |
      Indicates the update to the time properties was rejected.
      Reasons for rejection:
        invalid time entry

```

The current unchanged representation may be provided in the response.

```
body:
  application/json:
    schema: |
      {
        "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.delaydefrost.json#",
        "$schema": "http://json-schema.org/draft-04/schema#",
        "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
        "title": "Delay Defrost",
        "definitions": {
          "oic.r.delaydefrost": {
            "type": "object",
            "allof": [
              {
                "$ref": "oic.r.time.period.json#/definitions/oic.r.time.period"
              },
              {
                "properties": {
                  "interval": {
                    "type": "integer",
                    "description": "Defrost interval as defined by Energy Star",
                    "minimum": 1,
                    "maximum": 1440,
                    "default": 240
                  },
                  "status": {
                    "type": "boolean",
                    "description": "Indicates whether any supported delay defrost function
is active"
                  }
                }
              }
            ],
            "required": ["status"]
          }
        },
        "type": "object",
        "allof": [
          { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
          { "$ref": "#/definitions/oic.r.delaydefrost" }
        ]
      }

    example: |
      {
        "id": "unique_example_id",
        "status": true,
        "startTime": "06:00Z",
        "interval": 180
      }
```

6.70.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
status	boolean	yes		Indicates whether any supported delay defrost function is active
interval	integer			Defrost interval as defined by Energy Star

stopTime	string			Stop time for the time period, if present interval cannot be present
startTime	string	yes		Start time for the time period
interval	integer			Time interval in minutes after the startTime, if present stopTime cannot be present

6.70.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/DelayDefrostResURI		get	post		

6.70.7 Referenced JSON schemas

6.70.7.1 oic.r.time.period.json

```
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.time.period.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
  "title": "Time Period",
  "definitions": {
    "oic.r.time.period": {
      "type": "object",
      "properties": {
        "startTime": {
          "type": "string",
          "description": "Start time for the time period"
        },
        "stopTime": {
          "type": "string",
          "description": "Stop time for the time period, if present interval cannot be present"
        },
        "interval": {
          "type": "integer",
          "description": "Time interval in minutes after the startTime, if present stopTime cannot be present"
        }
      },
      "required": ["startTime"]
    }
  },
  "type": "object",
  "allOf": [
    { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
    { "$ref": "#/definitions/oic.r.time.period" }
  ]
}
```

6.71 Eco Mode

6.71.1 Introduction

This resource specifies the supported and currently active Eco Mode of a Device. The Resource uses the existing schema for Mode (oic.r.mode) with a restriction that the population of supportedmodes and modes Properties is restricted to the set of values given below: "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 (rt) is defined as: oic.r.ecomode.

6.71.4 RAML Definition

```
##RAML 0.8
```

```
title: OICEcomode
```

```
version: OCF-v1.0.0-20160620
```

```
traits:
```

```
- interface :
```

```
  queryParameters:
```

```
    if:
```

```
      enum: ["oic.if.a", "oic.if.baseline"]
```

```
/EcomodeResURI:
```

```
  description: |
```

```
    This resource specifies the supported and currently active Eco Mode of a Device
```

```
    The Resource uses the existing schema for Mode (oic.r.mode) with a restriction that the
    population of supportedmodes and modes Properties is restricted to the set of values given below:
```

```
    "disabled", "enabled", "notsupported"
```

```
    The adminforced Property indicates that the value has been set by another party (e.g
    via some offboard Smart Energy interaction)
```

```
is : ['interface']
```

```
get:
```

```
  responses :
```

```
    200:
```

```
      body:
```

```
        application/json:
```

```
          schema: |
```

```
            {
```

```
              "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.ecomode#",
```

```
              "$schema": "http://json-schema.org/draft-04/schema#",
```

```
              "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
```

```
rights reserved.",
```

```
              "title": "Eco Mode",
```

```
              "definitions": {
```

```
                "oic.r.ecomode": {
```

```
                  "type": "object",
```

```
                  "allOf": [
```

```
                    {
```

```
                      "$ref": "oic.r.mode.json#/definitions/oic.r.mode"
```

```
                    },
```

```
                    {
```

```
                      "properties": {
```

```
                        "adminforced": {
```

```
                          "type": "boolean",
```

```
                          "readOnly": true,
```

```
                          "description": "Indicator that the current mode of operation has
```

```
been forced by admin action."
```

```
                        }
```

```
                      }
```

```
                    }
```

```
                }
```

```
              },
```

```
              "type": "object",
```

```
              "allOf": [
```

```
                {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
```

```
                {"$ref": "#/definitions/oic.r.ecomode"}]
```

```

    ],
    "required": ["supportedModes", "modes"]
  }

  example: |
    {
      "rt": ["oic.r.ecomode"],
      "id": "unique_example_id",
      "supportedModes": ["disabled", "enabled"],
      "modes": ["disabled"],
      "adminforced": false
    }

  post:
    body:
      application/json:
        schema: |
          {
            "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.ecomode-Update#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
            "title": "Eco Mode",
            "definitions": {
              "oic.r.ecomode": {
                "type": "object",
                "allOf": [
                  {
                    "$ref": "oic.r.mode-update.json#/definitions/oic.r.mode"
                  }
                ]
              }
            },
            "type": "object",
            "allOf": [
              {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
              {"$ref": "#/definitions/oic.r.ecomode"}
            ],
            "required": ["modes"]
          }

        example: |
          {
            "id": "unique_example_id",
            "modes": ["enabled"]
          }

  responses :
    200:
      body:
        application/json:
          schema: |
            {
              "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.ecomode-Update#",
              "$schema": "http://json-schema.org/draft-04/schema#",
              "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
              "title": "Eco Mode",
              "definitions": {
                "oic.r.ecomode": {
                  "type": "object",
                  "allOf": [
                    {
                      "$ref": "oic.r.mode-update.json#/definitions/oic.r.mode"
                    }
                  ]
                }
              }
            }

```

```

    }
  ]
},
"type": "object",
"allof": [
  {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
  {"$ref": "#/definitions/oic.r.ecomode"}
],
"required": ["modes"]
}

example: |
{
  "id": "unique_example_id",
  "modes": ["enabled"]
}

```

6.71.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
adminforced	boolean		Read Only	Indicator that the current mode of operation has been forced by admin action.
supportedModes	array: see schema	yes	Read Only	Array of possible modes the device supports.
modes	array: see schema	yes		Array of the currently active mode(s)

6.71.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/EcomodeResURI		get	post		

6.71.7 Referenced JSON schemas

6.71.7.1 oic.r.mode.json

```

{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.mode.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
  "title": "Mode",
  "definitions": {
    "oic.r.mode": {
      "type": "object",
      "properties": {
        "supportedModes": {
          "type": "array",
          "readOnly": true,
          "description": "Array of possible modes the device supports.",
          "items": {
            "type": "string"
          }
        },
        "modes": {
          "type": "array",
          "description": "Array of the currently active mode(s)",
          "items": {
            "type": "string"
          }
        }
      }
    }
  }
}

```

```

    }
  },
  "type": "object",
  "allOf": [
    {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
    {"$ref": "#/definitions/oic.r.mode"}
  ],
  "required": ["supportedModes", "modes"]
}

```

6.72 Heating Zone

6.72.1 Introduction

This Resource provides information about the status of a heating zone of a Cook-Top. It describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the device implements pot recognition). `maxheatinglevel` defines the max level for the heating zone `heatinglevel` is the current heating level of the zone. For each element the value range is from 0 (indication that the zone is not heating) to `maxheatinglevel`,

6.72.2 Example URI

/HeatingZoneResURI

6.72.3 Resource Type

The resource type (rt) is defined as: `oic.r.heatingzone`.

6.72.4 RAML Definition

```

##RAML 0.8
title: OICHeatingZone
version: OCF1.0-20160722

traits:
- interface :
    queryParameters:
      if:
        enum: ["oic.if.s", "oic.if.baseline"]

/HeatingZoneResURI:
  description: |
    This Resource provides information about the status of a heating zone of a Cook-Top.
    It describes the case of a Cook-Top whose zones can be activated dynamically (i.e
    the device implements pot recognition).
    maxheatinglevel defines the max level for the heating zone
    heatinglevel is the current heating level of the zone
    For each element the value range is from 0 (indication that the zone is not heating) to
    maxheatinglevel,

  is : ['interface']
  get:
    description: |
      Retrieves the current heating zone information.
  responses :
    200:
      body:
        application/json:
          schema: |
            {
              "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.heatingzone.json#",
              "$schema": "http://json-schema.org/draft-04/schema#",

```

```

    "description" : "Copyright (c) 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
    "title": "Heating Zone",
    "definitions": {
      "oic.r.heatingzone": {
        "type": "object",
        "properties": {
          "maxheatinglevel": {
            "type": "integer",
            "readOnly": true,
            "description": "Maximum heating level for the zone indicated."
          },
          "heatinglevel": {
            "type": "integer",
            "readOnly": true,
            "description": "Current heating level for the zone indicated."
          }
        }
      }
    },
    "type": "object",
    "allof": [
      {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
      {"$ref": "#/definitions/oic.r.heatingzone"}
    ],
    "required": ["maxheatinglevel", "heatinglevel"]
  }

  example: |
  {
    "rt":          ["oic.r.heatingzone"],
    "id":          "unique_example_id",
    "maxheatinglevel": 6,
    "heatinglevel": 0
  }

```

6.72.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
heatinglevel	integer	yes	Read Only	Current heating level for the zone indicated.
maxheatinglevel	integer	yes	Read Only	Maximum heating level for the zone indicated.

6.72.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/HeatingZoneResURI		get			

6.73 Heating Zone Collection

6.73.1 Introduction

This Resource provides information about the status of the heating zones of a Cook-Top. It describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the device implements pot recognition). The resource is a collection of instances of oic.r.heatingzone detailing the individual cooktop zones

6.73.2 Example URI

/HeatingZoneBaselineResURI

6.73.3 Resource Type

The resource type (rt) is defined as: oic.r.heatingzonecollection.

6.73.4 RAML Definition

```

#%RAML 0.8

title: OICHeatingZone
version: OCF1.0-20160722

traits:
- interface-ll :
  queryParameters:
    if:
      enum: ["oic.if.ll"]
- interface-baseline :
  queryParameters:
    if:
      enum: ["oic.if.baseline"]

/HeatingZoneBaselineResURI:
  description: |
    This Resource provides information about the status of the heating zones of a Cook-Top.
    It describes the case of a Cook-Top whose zones can be activated dynamically (i.e
    the device implements pot recognition).
    The resource is a collection of instances of oic.r.heatingzone detailing the individual cooktop
    zones

  is : ['interface-baseline']
  get:
    description: |
      Retrieves the current heating zone information.

    responses :
      200:
        body:
          application/json:
            schema: |
              {
                "id":
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.heatingzonecollection.json#",
                "$schema": "http://json-schema.org/draft-04/schema#",
                "description": "Copyright (c) 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
                "title": "Heating Zone Collection",
                "definitions": {
                  "oic.r.heatingzonecollection": {
                    "type": "object",
                    "allof": [
                      {
                        "$ref": "oic.collection-schema.json#/definitions/oic.collection"
                      },
                      {
                        "properties": {
                          "rt": {
                            "type": "array",
                            "minItems": 2,
                            "maxItems": 2,
                            "uniqueItems": true,
                            "items": {
                              "enum": ["oic.r.heatingzonecollection", "oic.wk.col"]
                            }
                          }
                        },
                        "rts": {
                          "type": "array",
                          "minItems": 1,
                          "maxItems": 2,

```

```

        "uniqueItems": true,
        "items": {
          "anyOf": [
            {
              "enum": ["oic.r.heatingzone", "oic.r.value.conditional"]
            },
            {
              "enum": ["oic.r.heatingzone"]
            }
          ]
        }
      }
    }
  ],
  "type": "object",
  "allOf": [
    { "$ref": "oic.core.json#/definitions/oic.core" },
    { "$ref": "#/definitions/oic.r.heatingzonecollection" }
  ]
}

example: |
{
  "rt": ["oic.r.heatingzonecollection", "oic.wk.co"],
  "id": "unique_example_id",
  "links": [
    { "href": "/myZone1ResURI", "rt": ["oic.r.heatingzone"], "if":
["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
    { "href": "/myZone2ResURI", "rt": ["oic.r.heatingzone"], "if":
["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
    { "href": "/myZone3ResURI", "rt": ["oic.r.heatingzone"], "if":
["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
    { "href": "/myZone4ResURI", "rt": ["oic.r.heatingzone"], "if":
["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]}
  ]
}

```

6.73.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema			
rts	array: see schema			
drel	string			When specified this is the default relationship to use when an OIC Link does not specify an explicit relationship with *rel* parameter
links	multiple types: see schema			
id	multiple types: see schema			ID for the collection. Can be an value that is unique to the

				use context or a UUIDv4
rts	multiple types: see schema			Defines the list of allowable resource types (for Target and anchors) in links included in the collection; new links being created can only be from this list
di	multiple types: see schema			The device ID which is an UUIDv4 string; used for backward compatibility with Spec A definition of /oic/res

6.73.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/HeatingZoneBaselineResURI		get			

6.73.7 Referenced JSON schemas

6.73.7.1 oic.collection-schema.json

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016 Open Connectivity Foundation, Inc. All rights reserved.",
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.collection-schema.json#",
  "title": "Collection",
  "definitions": {
    "oic.collection.setoflinks": {
      "description": "A set (array) of simple or individual OIC Links. In addition to
properties required for an OIC Link, the identifier for that link in this set is also required",
      "type": "array",
      "items": {
        "$ref": "oic.oic-link-schema.json#/definitions/oic.oic-link"
      }
    },
    "oic.collection.alllinks": {
      "description": "All forms of links in a collection",
      "oneOf": [
        {
          "$ref": "#/definitions/oic.collection.setoflinks"
        }
      ]
    },
    "oic.collection": {
      "type": "object",
      "description": "A collection is a set (array) of tagged-link or set (array) of simple
links along with additional properties to describe the collection itself",
      "properties": {
        "id": {
          "anyOf": [
            {
              "type": "integer",
              "description": "A number that is unique to that collection; like an
ordinal number that is not repeated"
            },
            {
              "type": "string",
```



```

        "description": "A unique string that could be a hash or similarly
unique"
      },
      {
        "$ref": "oic.types-schema.json#/definitions/uuid",
        "description": "A unique string that could be a UUIDv4"
      }
    ],
    "description": "ID for the collection. Can be an value that is unique to the
use context or a UUIDv4"
  },
  "di": {
    "$ref": "oic.types-schema.json#/definitions/uuid",
    "description": "The device ID which is an UUIDv4 string; used for backward
compatibility with Spec A definition of /oic/res"
  },
  "rts": {
    "$ref": "oic.core-schema.json#/definitions/oic.core/properties/rt",
    "description": "Defines the list of allowable resource types (for Target and
anchors) in links included in the collection; new links being created can only be from this
list"
  },
  "drel": {
    "type": "string",
    "description": "When specified this is the default relationship to use when an
OIC Link does not specify an explicit relationship with *rel* parameter"
  },
  "links": {
    "$ref": "#/definitions/oic.collection.alllinks"
  }
}
}
},
"type": "object",
"allOf": [
  { "$ref": "oic.core-schema.json#/definitions/oic.core" },
  { "$ref": "#/definitions/oic.collection" }
]
}

```

6.74 Selectable Levels

6.74.1 Introduction

This Resource provides a set of device defined 'levels' that can be selected for an operation. For example where a humidifier has a discrete set that model different humidity levels that can be set. availablelevels is an array of the levels that can be selected, these can be a number or an integer. targetlevel is the level that has currently been selected and is written to in order to select a new level. When retrieved the targetlevel provides the actual value that has been selected.

6.74.2 Example URI

/SelectableLevelsResURI

6.74.3 Resource Type

The resource type (rt) is defined as: oic.r.selectablelevels.

6.74.4 RAML Definition

```

##%RAML 0.8
title: OICSelectableLevels
version: v1.1.0-20160519
traits:
- interface :
    queryParameters:
      if:
        enum: ["oic.if.a", "oic.if.baseline"]

```

`/SelectableLevelsResURI:``description: |`

This Resource provides a set of device defined 'levels' that can be selected for an operation. For example where a humidifier has a discrete set that model different humidity levels that can be set.

availablelevels is an array of the levels that can be selected, these can be a number or an integer.

targetlevel is the level that has currently been selected and is written to in order to select a new level.

When retrieved the targetlevel provides the actual value that has been selected.

`is : ['interface']``get:``description: |`

Retrieves the current selectable levels.

`responses :``200:``body:``application/json:``schema: |`

```

{
  "id":
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.selectablelevels.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
  "title": "SelectableLevels",
  "definitions": {
    "oic.r.selectablelevels": {
      "type": "object",
      "properties": {
        "availablelevels": {
          "type": "array",
          "description": "Set of levels from which one can be selected",
          "readOnly": true,
          "items": {
            "anyOf": [
              {"type": "integer"},
              {"type": "number"}
            ]
          }
        },
        "targetlevel": {
          "anyOf": [
            {"type": "integer"},
            {"type": "number"}
          ],
          "description": "The target level from the available selectable set"
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
    {"$ref": "#/definitions/oic.r.selectablelevels"}
  ],
  "required": ["availablelevels", "targetlevel"]
}

```

`example: |`

```

{
  "rt": ["oic.r.selectablelevels"],
  "id": "unique_example_id",

```

```

        "availablelevels": [0, 2, 4, 6, 8],
        "targetlevel": 2
    }

post:
  description: |
    Sets the current level from the set that is selectable

  body:
    application/json:
      schema: |
        {
          "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.selectablelevels.json#",
          "$schema": "http://json-schema.org/draft-04/schema#",
          "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
          "title": "SelectableLevels",
          "definitions": {
            "oic.r.selectablelevels": {
              "type": "object",
              "properties": {
                "targetlevel": {
                  "type": ["integer", "number"],
                  "description": "The target level from the available selectable set"
                }
              }
            }
          },
          "type": "object",
          "allOf": [
            {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
            {"$ref": "#/definitions/oic.r.selectablelevels"}
          ],
          "required": ["targetlevel"]
        }

      example: |
        {
          "targetlevel": 4
        }

  responses:
    200:
      body:
        application/json:
          schema: |
            {
              "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.selectablelevels.json#",
              "$schema": "http://json-schema.org/draft-04/schema#",
              "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
              "title": "SelectableLevels",
              "definitions": {
                "oic.r.selectablelevels": {
                  "type": "object",
                  "properties": {
                    "targetlevel": {
                      "type": ["integer", "number"],
                      "description": "The target level from the available selectable set"
                    }
                  }
                }
              },
              "type": "object",
              "allOf": [
                {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
                {"$ref": "#/definitions/oic.r.selectablelevels"}
              ],
              "required": ["targetlevel"]
            }

```

```

    "type": "object",
    "allOf": [
      { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
      { "$ref": "#/definitions/oic.r.selectablelevels" }
    ],
    "required": ["targetlevel"]
  }

```

example: |

```

{
  "targetlevel": 4
}

```

403:

description: |
Generated by a Server when an attempt is made to update to a targetlevel that is not in the set of availablelevels

body:
application/json:

```

schema: |
{
  "id":
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.selectablelevels.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
  "title": "SelectableLevels",
  "definitions": {
    "oic.r.selectablelevels": {
      "type": "object",
      "properties": {
        "availablelevels": {
          "type": "array",
          "description": "Set of levels from which one can be selected",
          "readOnly": true,
          "items": {
            "anyOf": [
              { "type": "integer" },
              { "type": "number" }
            ]
          }
        },
        "targetlevel": {
          "anyOf": [
            { "type": "integer" },
            { "type": "number" }
          ],
          "description": "The target level from the available selectable set"
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
    { "$ref": "#/definitions/oic.r.selectablelevels" }
  ],
  "required": ["availablelevels", "targetlevel"]
}

```

example: |

```

{
  "id": "unique_example_id",
  "availablelevels": [0, 2, 4, 6, 8],
  "targetlevel": 2
}

```

}

6.74.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
targetlevel	multiple types: see schema	yes		The target level from the available selectable set
availablelevels	array: see schema	yes	Read Only	Set of levels from which one can be selected

6.74.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/SelectableLevelsResURI		get	post		

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 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. A 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"]. Please see Section 5.7.1 of the published OCF Resource Type Specification for more details. The threshold is the amount by which the thing being observed must change before a notification is sent. The 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 maxnotifyperiod timer 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.

6.75.2 Example URI

/ValueConditionalResURI

6.75.3 Resource Type

The resource type (rt) is defined as: oic.r.value.conditional.

6.75.4 RAML Definition

```

#%RAML 0.8
title: OICValueConditional
version: v1.1.0-20161031

traits:
- interface:
    queryParameters:
    if:
        enum: ["oic.if.rw", "oic.if.baseline"]

```

/ValueConditionalResURI:

```

description: |
    This resource specifies conditions that can be applied to an observed value in any Resource.
    These conditions are applied by the 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.
    A 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"]

Please see Section 5.7.1 of the published OCF Resource Type Specification for more details.

The threshold is the amount by which the thing being observed must change before a notification is sent.

The 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 maxnotifyperiod timer 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.

```
is : ['interface']
get:
  responses :
    200:
      body:
        application/json:
          schema: |
            {
              "id":
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.value.conditional.json#",
              "$schema": "http://json-schema.org/draft-04/schema#",
              "description" : "Copyright (c) 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
              "title": "Value Conditional",
              "definitions": {
                "oic.r.value.conditional": {
                  "type": "object",
                  "anyOf": [
                    {"required": ["threshold"]},
                    {"required": ["minnotifyperiod"]},
                    {"required": ["maxnotifyperiod"]}
                  ],
                  "properties": {
                    "threshold": {
                      "type": "number",
                      "minimum": 0,
                      "description": "Amount by which the measured value must change before a
notification is sent."
                    },
                    "minnotifyperiod": {
                      "type": "integer",
                      "minimum": 0,
                      "description": "Minimum elapsed time in ms before a notification is sent."
                    },
                    "maxnotifyperiod": {
                      "type": "integer",
                      "minimum": 0,
                      "description": "Maximum elapsed time in ms before a notification must be
sent."
                    }
                  }
                }
              },
              "type": "object",
              "allOf": [
                {"$ref": "oic.core.json#/definitions/oic.core"},
                {"$ref": "#/definitions/oic.r.value.conditional"}
              ]
            }

          example: |
            {
              "rt":      ["oic.r.value.conditional"],
              "id":      "unique_example_id",
              "threshold": 2,
```

```

        "minnotifyperiod": 2000,
        "maxnotifyperiod": 5000
    }

post:
  description: |
    body:
      application/json:
        schema: valueconditional
        example: |
          {
            "threshold": 2,
            "minnotifyperiod": 1500
          }

  responses :
    200:
      body:
        application/json:
          schema: |
            {
              "id":
                "http://openinterconnect.org/iotdatamodels/schemas/oic.r.value.conditional.json#",
                "$schema": "http://json-schema.org/draft-04/schema#",
                "description" : "Copyright (c) 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
                "title": "Value Conditional",
                "definitions": {
                  "oic.r.value.conditional": {
                    "type": "object",
                    "anyOf": [
                      {"required": ["threshold"]},
                      {"required": ["minnotifyperiod"]},
                      {"required": ["maxnotifyperiod"]}
                    ],
                    "properties": {
                      "threshold": {
                        "type": "number",
                        "minimum": 0,
                        "description": "Amount by which the measured value must change before a
notification is sent."
                      },
                      "minnotifyperiod": {
                        "type": "integer",
                        "minimum": 0,
                        "description": "Minimum elapsed time in ms before a notification is sent."
                      },
                      "maxnotifyperiod": {
                        "type": "integer",
                        "minimum": 0,
                        "description": "Maximum elapsed time in ms before a notification must be
sent."
                      }
                    }
                  }
                },
                "type": "object",
                "allOf": [
                  {"$ref": "oic.core.json#/definitions/oic.core"},
                  {"$ref": "#/definitions/oic.r.value.conditional"}
                ]
            }

          example: |
            {
              "threshold": 2,

```

```

    "minnotifyperiod": 1500
  }

```

6.75.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
threshold	number	yes		Amount by which the measured value must change before a notification is sent.
maxnotifyperiod	integer	yes		Maximum elapsed time in ms before a notification must be sent.
minnotifyperiod	integer	yes		Minimum elapsed time in ms before a notification is sent.

6.75.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/ValueConditionalResURI		get	post		

Annex A Base Resource

A.1 Base Resource Schema

A.1.1 Introduction

This is the base resource schema on which all other resources defined in this specification build. value is the sensed or actuated value of the Resource. precision is the accuracy granularity of the value. range is the range over which value is valid. step is the step function over the defined range if applicable (e.g. always step by '2').

A.1.2 Example URI

/BaseResourceSchemaResURI

A.1.3 Resource Type

The resource type (rt) is defined as: oic.baseresource.

A.1.4 RAML Definition

```
##RAML 0.8
title: OICBaseResourceSchema
version: v1.1.0-20160519
traits:
  - interface-a :
    queryParameters:
      if:
        enum: ["oic.if.a"]
  - interface-baseline :
    queryParameters:
      if:
        enum: ["oic.if.baseline"]

/BaseResourceSchemaResURI:
  description: |
    This is the base resource schema on which all other resources defined in this specification
    build.
    value is the sensed or actuated value of the Resource.
    precision is the accuracy granularity of the value.
    range is the range over which value is valid.
    step is the step function over the defined range if applicable (e.g
    always step by '2').

  get:
    description: |
      retrieves the state of the resource.

    is : ['interface-baseline']
    responses :
      200:
        body:
          application/json:
            schema: |
              {
                "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.baseResource.json#",
                "$schema": "http://json-schema.org/draft-04/schema#",
                "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
                rights reserved.",
                "title": "Base Resource",
                "definitions": {
```

```

"oic.r.baseresource": {
  "type": "object",
  "properties": {
    "value": {
      "anyOf": [
        {"type": "array"},
        {"type": "string"},
        {"type": "boolean"},
        {"type": "integer"},
        {"type": "number"},
        {"type": "object"}
      ],
      "description": "The value sensed or actuated by this Resource"
    },
    "precision": {
      "type": "number",
      "readOnly": true,
      "description": "Accuracy granularity of the exposed value"
    },
    "range": {
      "type": "array",
      "description": "The valid range for the value Property",
      "readOnly": true,
      "minItems": 2,
      "maxItems": 2,
      "items": {
        "anyOf": [
          {"type": "number"},
          {"type": "integer"}
        ]
      }
    },
    "step": {
      "description": "Step value across the defined range",
      "readOnly": true,
      "anyOf": [
        {"type": "integer"},
        {"type": "number"}
      ]
    }
  }
},
"type": "object",
"allOf": [
  {"$ref": "oic_core.json#/definitions/oic.core"},
  {"$ref": "#/definitions/oic.r.baseresource"}
]
}

```

example:

```

{
  "rt": ["oic.baseresource"],
  "if": ["oic.if.baseline"],
  "id": "unique_example_id",
  "value": 10.5,
  "precision": 0.5,
  "range": [0.0, 100.0]
}

```

post:

```

description: |
  sets the read-write resource properties

```

is : ['interface-a']

body:

application/json:

```

schema: |
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.baseResource.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016 Open Connectivity Foundation, Inc. All rights
reserved.",
  "title": "Base Resource",
  "definitions": {
    "oic.r.baseresource": {
      "type": "object",
      "properties": {
        "value": {
          "anyOf": [
            {"type": "array"},
            {"type": "string"},
            {"type": "boolean"},
            {"type": "integer"},
            {"type": "number"},
            {"type": "object"}
          ],
          "description": "The value sensed or actuated by this Resource"
        },
        "precision": {
          "type": "number",
          "readOnly": true,
          "description": "Accuracy granularity of the exposed value"
        },
        "range": {
          "type": "array",
          "description": "The valid range for the value Property",
          "readOnly": true,
          "minItems": 2,
          "maxItems": 2,
          "items": {
            "anyOf": [
              {"type": "number"},
              {"type": "integer"}
            ]
          }
        },
        "step": {
          "description": "Step value across the defined range",
          "readOnly": true,
          "anyOf": [
            {"type": "integer"},
            {"type": "number"}
          ]
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    {"$ref": "oic.core.json#/definitions/oic.core"},
    {"$ref": "#/definitions/oic.r.baseresource"}
  ]
}

```

example: |

```

{
  "value": 20.5
}

```

responses :

200:

body:

application/json:

```

schema: |
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.baseResource.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016 Open Connectivity Foundation, Inc. All rights
reserved.",
  "title": "Base Resource",
  "definitions": {
    "oic.r.baseresource": {
      "type": "object",
      "properties": {
        "value": {
          "anyOf": [
            {"type": "array"},
            {"type": "string"},
            {"type": "boolean"},
            {"type": "integer"},
            {"type": "number"},
            {"type": "object"}
          ],
          "description": "The value sensed or actuated by this Resource"
        },
        "precision": {
          "type": "number",
          "readOnly": true,
          "description": "Accuracy granularity of the exposed value"
        },
        "range": {
          "type": "array",
          "description": "The valid range for the value Property",
          "readOnly": true,
          "minItems": 2,
          "maxItems": 2,
          "items": {
            "anyOf": [
              {"type": "number"},
              {"type": "integer"}
            ]
          }
        },
        "step": {
          "description": "Step value across the defined range",
          "readOnly": true,
          "anyOf": [
            {"type": "integer"},
            {"type": "number"}
          ]
        }
      }
    },
    "type": "object",
    "allOf": [
      {"$ref": "oic.core.json#/definitions/oic.core"},
      {"$ref": "#/definitions/oic.r.baseresource"}
    ]
  }
}

example: |
{
  "value": 20.5
}

```

A.1.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description

step	multiple types: see schema		Read Only	Step value across the defined range
range	array: see schema		Read Only	The valid range for the value Property
precision	number		Read Only	Accuracy granularity of the exposed value
value	multiple types: see schema			The value sensed or actuated by this Resource
rt	array: see schema		Read Only	Resource Type
n	string		Read Only	Friendly name of the resource
id	string		Read Only	Instance ID of this specific resource
if	array: see schema		Read Only	The interface set supported by this resource

A.1.6 CRUDN behavior

Resource	Create	Read	Update	Delete	Notify
/BaseResourceSchemaResURI		get	post		

A.1.7 Referenced JSON schemas

A.1.8 oic.core.json

```
{
  "id": "http://www.openconnectivity.org/ocf-apis/core/schemas/oic.core-schema.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
  "title": "Core",
  "definitions": {
    "oic.core": {
      "type": "object",
      "properties": {
        "rt": {
          "type": "array",
          "items": {
            "type": "string",
            "maxLength": 64
          }
        },
        "minItems": 1,
        "readOnly": true,
        "description": "Resource Type"
      }
    },
    "if": {
      "type": "array",
      "items": {
        "type": "string",
        "enum": ["oic.if.baseline", "oic.if.ll", "oic.if.b", "oic.if.lb", "oic.if.rw", "oic.if.r", "oic.if.a", "oic.if.s"]
      },
      "minItems": 1,
      "readOnly": true,
      "description": "The interface set supported by this resource"
    },
    "n": {
```

```

        "type": "string",
        "maxLength": 64,
        "readOnly": true,
        "description": "Friendly name of the resource"
    },
    "id": {
        "type": "string",
        "maxLength": 64,
        "readOnly": true,
        "description": "Instance ID of this specific resource"
    }
}
},
"type": "object",
"allOf": [
    { "$ref": "#/definitions/oic.core" }
]
}

```

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Annex B Swagger 2.0

B.1 Acceleration Sensor

B.1.1 Introduction

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

B.1.2 Example URI

/AccelerationResURI

B.1.3 Resource Type

The resource type (rt) is defined as: ['oic.r.sensor.acceleration'].

B.1.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Acceleration Sensor",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n      1.
Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.\n      THIS SOFTWARE IS PROVIDED BY THE Open
Connectivity Foundation, INC. \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/AccelerationResURI": {
      "get": {
        "description": "This resource provides a measure of proper acceleration (g force) as
opposed to co-ordinate acceleration\n(which is dependent on the co-ordinate system and the
observer).\nThe value is a float which describes the acceleration experienced by the object in
\"g\".\n",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.sensor.acceleration"],
              "id": "unique_example_id",
              "acceleration": 0.5
            }
          }
        },
        "schema": { "$ref": "#/definitions/acceleration" }
      }
    }
  }
}
```

```

    }
  }
},
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.s", "oic.if.baseline"]
  }
},
"definitions": {
  "acceleration": {
    {
      "properties": {
        "acceleration": {
          "description": "sensed acceleration experienced in 'g'.",
          "readOnly": true,
          "type": "number"
        },
        "id": {
          "description": "Instance ID of this specific resource",
          "maxLength": 64,
          "readOnly": true,
          "type": "string"
        },
        "if": {
          "description": "The interface set supported by this resource",
          "items": {
            "enum": [
              "oic.if.baseline",
              "oic.if.ll",
              "oic.if.b",
              "oic.if.lb",
              "oic.if.rw",
              "oic.if.r",
              "oic.if.a",
              "oic.if.s"
            ]
          },
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "n": {
        "description": "Friendly name of the resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "range": {
        "description": "The valid range for the value Property",
        "items": {
          "anyOf": [
            {
              "type": "number"
            },
            {
              "type": "integer"
            }
          ]
        }
      },
      "maxItems": 2,

```



```

    "minItems": 2,
    "readOnly": true,
    "type": "array"
  },
  "rt": {
    "description": "Resource Type",
    "items": {
      "maxLength": 64,
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "step": {
    "anyOf": [
      {
        "type": "integer"
      },
      {
        "type": "number"
      }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
  },
  "value": {
    "anyOf": [
      {
        "type": "array"
      },
      {
        "type": "string"
      },
      {
        "type": "boolean"
      },
      {
        "type": "integer"
      },
      {
        "type": "number"
      },
      {
        "type": "object"
      }
    ],
    "description": "The value sensed or actuated by this Resource"
  },
  "required": [
    "acceleration"
  ]
}
}
}

```

B.1.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
id	string		Read Only	Instance ID of this specific resource
if	array: see schema		Read Only	The interface set supported by this resource

rt	array: see schema		Read Only	Resource Type
step	multiple types: see schema		Read Only	Step value across the defined range
precision	number		Read Only	Accuracy granularity of the exposed value
value	multiple types: see schema			The value sensed or actuated by this Resource
range	array: see schema		Read Only	The valid range for the value Property
acceleration	number	yes	Read Only	sensed acceleration experienced in 'g'.
n	string		Read Only	Friendly name of the resource

B.1.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/AccelerationResURI		get			

B.2 Activity Count

B.2.1 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 count property is an integer representing either the current count or goal value. Retrieves the current activity count.

B.2.2 Example URI

/ActivityCountResURI

B.2.3 Resource Type

The resource type (rt) is defined as: ['oic.r.sensor.activity.count'].

B.2.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Activity Count",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:\n
      1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.\n
      2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.\n\n
      THIS SOFTWARE IS PROVIDED BY THE Open Connectivity Foundation, INC. \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
```

WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n IN NO EVENT SHALL THE Open Connectivity Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.\n"

```

    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/ActivityCountResURI" : {
      "get": {
        "description": "This resource specifies an activity count.\nThe resource can be read only (oic.if.s interface) in which instance it represents a count.\nThe resource can be read write (oic.if.a interface) in which instance it represents a goal or target for a count.\nThe count property is an integer representing either the current count or goal value.\nRetrieves the current activity count.\n",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.sensor.activity.count"],
              "id": "unique_example_id",
              "count": 2500
            },
            "schema": { "$ref": "#/definitions/Count" }
          }
        }
      },
      "post": {
        "description": "Sets the count target.\n",
        "parameters": [
          { "$ref": "#/parameters/interface" },
          {
            "name": "body",
            "in": "body",
            "required": true,
            "schema": { "$ref": "#/definitions/Count" },
            "x-example": {
              "id": "unique_example_id",
              "count": 5000
            }
          }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "id": "unique_example_id",
              "count": 5000
            },
            "schema": { "$ref": "#/definitions/Count" }
          }
        }
      }
    }
  },
  "parameters": {
    "interface" : {
      "in" : "query",

```

```

    "name" : "if",
    "type" : "string",
    "enum" : ["oic.if.s", "oic.if.a", "oic.if.baseline"]
  }
},
"definitions": {
  "Count" :
  {
    "properties": {
      "count": {
        "description": "Current or Target count.",
        "type": "integer"
      },
      "id": {
        "description": "Instance ID of this specific resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
      },
      "if": {
        "description": "The interface set supported by this resource",
        "items": {
          "enum": [
            "oic.if.baseline",
            "oic.if.ll",
            "oic.if.b",
            "oic.if.lb",
            "oic.if.rw",
            "oic.if.r",
            "oic.if.a",
            "oic.if.s"
          ],
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "n": {
        "description": "Friendly name of the resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "range": {
        "description": "The valid range for the value Property",
        "items": {
          "anyOf": [
            {
              "type": "number"
            },
            {
              "type": "integer"
            }
          ]
        },
        "maxItems": 2,
        "minItems": 2,
        "readOnly": true,
        "type": "array"
      },
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        }
      }
    }
  }
}

```

```

    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "step": {
    "anyOf": [
      {
        "type": "integer"
      },
      {
        "type": "number"
      }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
  },
  "value": {
    "anyOf": [
      {
        "type": "array"
      },
      {
        "type": "string"
      },
      {
        "type": "boolean"
      },
      {
        "type": "integer"
      },
      {
        "type": "number"
      },
      {
        "type": "object"
      }
    ],
    "description": "The value sensed or actuated by this Resource"
  },
  "required": [
    "count"
  ]
}

```

B.2.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
count	integer	yes		Current or Target count.
if	array: see schema		Read Only	The interface set supported by this resource
n	string		Read Only	Friendly name of the resource
value	multiple types: see schema			The value sensed or actuated by this Resource
id	string		Read Only	Instance ID of this specific resource

range	array: see schema		Read Only	The valid range for the value Property
step	multiple types: see schema		Read Only	Step value across the defined range
precision	number		Read Only	Accuracy granularity of the exposed value
rt	array: see schema		Read Only	Resource Type

B.2.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/ActivityCountResURI		get	post		

B.3 Air Flow

B.3.1 Introduction

This resource describes the properties associated with air flow. The supported directions is the set of valid values for the direction property for a particular instance of this resource type. The direction is the directionality of the air flow if applicable, if supported directions is also present it must be a value from that set. Direction values are dependent on the capabilities of the unit. The speed is an integer representing the current speed level for the unit. The range (from oic.r.baseresource) is an array of the min,max values for the speed level. If not present the range defaults to [0,100]. 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. Retrieves the current air flow values.

B.3.2 Example URI

/AirFlowResURI

B.3.3 Resource Type

The resource type (rt) is defined as: ['oic.r.airflow'].

B.3.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Air Flow",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n
1. Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n
2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.\n\n
THIS SOFTWARE IS PROVIDED BY THE Open
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OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n
HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
```

OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.\n"

```

    },
    "schemes": ["http"],
    "consumes": ["application/json"],
    "produces": ["application/json"],
    "paths": {
      "/AirFlowResURI" : {
        "get": {
          "description": "This resource describes the properties associated with air flow.\n\nThe supporteddirections is the set of valid values for the direction property for a particular instance of this resource type.\n\nThe direction is the directionality of the air flow if applicable, if supporteddirections is also present it must be a value from that set.\n\nDirection values are dependent on the capabilities of the unit.\n\nThe speed is an integer representing the current speed level for the unit.\n\nThe range (from oic.r.baseresource) is an array of the min,max values for the speed level. If not present the range defaults to [0,100].\n\nautomode 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.\n\nRetrieves the current air flow values.\n"
          "parameters": [
            { "$ref": "#/parameters/interface" }
          ],
          "responses": {
            "200": {
              "description": "",
              "x-example": {
                "rt": ["oic.r.airflow"],
                "id": "unique_example_id",
                "supporteddirections": ["left", "right", "centre"],
                "direction": "left",
                "speed": 5,
                "range": [1,7],
                "automode": "Off"
              }
            },
            "403": {
              "description": "",
              "x-example": {
                "id": "unique_example_id",
                "direction": "right",
                "speed": 3
              }
            }
          },
          "schema": { "$ref": "#/definitions/AirFlow" }
        }
      }
    },
    "post": {
      "description": "Sets the current air flow values.\n\nOnly direction and speed may be set by an update operation.\n",
      "parameters": [
        { "$ref": "#/parameters/interface" },
        {
          "name": "body",
          "in": "body",
          "required": true,
          "schema": { "$ref": "#/definitions/AirFlow" },
          "x-example": {
            "id": "unique_example_id",
            "direction": "right",
            "speed": 3
          }
        }
      ],
      "responses": {
        "200": {
          "description": "",
          "x-example": {
            "id": "unique_example_id",
            "direction": "right",
            "speed": 3
          }
        },
        "403": {
          "description": "",
          "x-example": {
            "id": "unique_example_id",
            "direction": "right",
            "speed": 3
          }
        }
      },
      "schema": { "$ref": "#/definitions/AirFlow" }
    },
    "403": {
      "description": "",
      "x-example": {
        "id": "unique_example_id",
        "direction": "right",
        "speed": 3
      }
    }
  }
}

```

sends:\n An update with an invalid property value for direction.\n An update with an out of range property value for speed.\nThe server may respond with the current resource representation.\n",

```

    "x-example":
      {
        "id": "unique_example_id",
        "supporteddirections": ["left", "right", "centre"],
        "direction": "right",
        "speed": 3
      }
    "schema": { "$ref": "#/definitions/AirFlow" }
  }
}
},
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.a", "oic.if.baseline"]
  }
},
"definitions": {
  "AirFlow": {
    {
      "properties": {
        "automode": {
          "description": "Status of the automode feature, if on speed is set by the device",
          "enum": [
            "On",
            "Off"
          ]
        },
        "direction": {
          "description": "Directionality of the air flow",
          "type": "string"
        },
        "id": {
          "description": "Instance ID of this specific resource",
          "maxLength": 64,
          "readOnly": true,
          "type": "string"
        },
        "if": {
          "description": "The interface set supported by this resource",
          "items": {
            "enum": [
              "oic.if.baseline",
              "oic.if.ll",
              "oic.if.b",
              "oic.if.lb",
              "oic.if.rw",
              "oic.if.r",
              "oic.if.a",
              "oic.if.s"
            ]
          },
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "n": {
        "description": "Friendly name of the resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
      }
    }
  }
}

```



```

    "precision": {
      "description": "Accuracy granularity of the exposed value",
      "readOnly": true,
      "type": "number"
    },
    "range": {
      "description": "The valid range for the value Property",
      "items": {
        "anyOf": [
          {
            "type": "number"
          },
          {
            "type": "integer"
          }
        ]
      },
      "maxItems": 2,
      "minItems": 2,
      "readOnly": true,
      "type": "array"
    },
    "rt": {
      "description": "Resource Type",
      "items": {
        "maxLength": 64,
        "type": "string"
      },
      "minItems": 1,
      "readOnly": true,
      "type": "array"
    },
    "speed": {
      "description": "Current speed level",
      "type": "integer"
    },
    "step": {
      "anyOf": [
        {
          "type": "integer"
        },
        {
          "type": "number"
        }
      ],
      "description": "Step value across the defined range",
      "readOnly": true
    },
    "supporteddirections": {
      "description": "Array of possible direction settings for this instance of the Resource
Type",
      "items": {
        "minItems": 1,
        "type": "string",
        "uniqueItems": true
      },
      "readOnly": true,
      "type": "array"
    },
    "value": {
      "anyOf": [
        {
          "type": "array"
        },
        {
          "type": "string"
        },
        {
          "type": "boolean"
        }
      ]
    }
  }

```

```

        "type": "integer"
      },
      {
        "type": "number"
      },
      {
        "type": "object"
      }
    ],
    "description": "The value sensed or actuated by this Resource"
  }
},
"required": [
  "speed"
],
"type": "object"
}
}
}

```

B.3.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
precision	number		Read Only	Accuracy granularity of the exposed value
automode	multiple types: see schema			Status of the automode feature, if on speed is set by the device
rt	array: see schema		Read Only	Resource Type
step	multiple types: see schema		Read Only	Step value across the defined range
direction	string			Directionality of the air flow
n	string		Read Only	Friendly name of the resource
supporteddirections	array: see schema		Read Only	Array of possible direction settings for this instance of the Resource Type
if	array: see schema		Read Only	The interface set supported by this resource
speed	integer	yes		Current speed level
value	multiple types: see schema			The value sensed or actuated by this Resource
id	string		Read Only	Instance ID of this specific resource

range	array: see schema		Read Only	The valid range for the value Property

B.3.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/AirFlowResURI		get	post		

B.4 Air Flow Control

B.4.1 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 composite resource being made up as a collection of: AirFlow Resource, BinarySwitch Resource. Retrieves the current air flow control values.

B.4.2 Example URI

/AirFlowControlResURI

B.4.3 Resource Type

The resource type (rt) is defined as: ['oic.r.airflowcontrol'].

B.4.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Air Flow Control",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n
1. Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n
2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.\n\n
THIS SOFTWARE IS PROVIDED BY THE Open
Connectivity Foundation, INC. \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n
IN NO EVENT SHALL THE Open Connectivity
Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n
HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/AirFlowControlResURI" : {
      "get": {
        "description": "This resource describes the attributes associated with control of air
flow,\nfor example as modelled by a Thermostat (fan), Room A/C or other device.\nThe resource is a
composite resource being made up as a collection of:\n AirFlow Resource\n BinarySwitch
Resource\nRetrieves the current air flow control values.\n",
        "parameters": [
          {"$ref": "#/parameters/interface-all"}
        ],
        "responses": {
```

```

    "200": {
      "description" : "",
      "x-example": {
        "rt": ["oic.r.airflowcontrol"],
        "id": "unique_example_id",
        "airFlowControl": [
          {
            "href": "/BinarySwitchResURI",
            "rel": "contains",
            "rt": ["oic.r.switch.binary"],
            "if": ["oic.if.a"],
            "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
          },
          {
            "href": "/AirFlowResURI",
            "rel": "contains",
            "rt": ["oic.r.airflow"],
            "if": ["oic.if.a"],
            "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
          }
        ]
      }
    },
    "schema": { "$ref": "#/definitions/AirFlowControl" }
  }
},
"post": {
  "description": "Sets the current air flow control values using the batch interface\n",
  "parameters": [
    { "$ref": "#/parameters/interface-b",
      {
        "name": "body",
        "in": "body",
        "required": true,
        "schema": { "$ref": "#/definitions/AirFlowControlBatch" },
        "x-example": {
          "id": "unique_example_id",
          "airFlowControl": [
            {
              "id": "unique_example_id",
              "value": true
            },
            {
              "id": "unique_example_id",
              "direction": "right",
              "speed": 3
            }
          ]
        }
      }
    ]
  },
  "responses": {
    "200": {
      "description" : "",
      "x-example": {
        "id": "unique_example_id",
        "airFlowControl": [
          {
            "id": "unique_example_id",
            "value": true
          },
          {
            "id": "unique_example_id",
            "direction": "right",
            "speed": 3
          }
        ]
      }
    }
  }
}
]

```

```

    }
    ,
    "schema": { "$ref": "#/definitions/AirFlowControlBatch" }
  },
  "403": {
    "description": "This response is generated by the OIC Server when the client
sends:\n An update with an invalid property value for direction.\n An update with an out of range
property value for speed.\nThe server responds with the current resource representation.\n",
    "x-example":
    {
      "id": "unique_example_id",
      "airFlowControl": [
        {
          "id": "unique_example_id",
          "value": true
        },
        {
          "id": "unique_example_id",
          "direction": "right",
          "speed": 3
        }
      ]
    }
    ,
    "schema": { "$ref": "#/definitions/AirFlowControlBatch" }
  }
}
},
"parameters": {
  "interface-b" : {
    "in" : "query",
    "name" : "if",
    "type" : "string",
    "enum" : ["oic.if.b"]
  },
  "interface-all" : {
    "in" : "query",
    "name" : "if",
    "type" : "string",
    "enum" : ["oic.if.ll", "oic.if.b", "oic.if.baseline"]
  }
},
"definitions": {
  "AirFlowControl" :
  {
    "properties": {
      "airFlowControl": {
        "items": {
          "properties": {
            "anchor": {
              "description": "This is used to override the context URI e.g. override the URI of
the containing collection",
              "format": "uri",
              "maxLength": 256,
              "type": "string"
            },
            "di": {
              "description": "Unique identifier for device (UUID)",
              "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-
F0-9]{12}$",
              "type": "string"
            },
            "eps": {
              "description": "the Endpoint information of the target Resource",
              "items": {
                "properties": {
                  "ep": {
                    "description": "URI with Transport Protocol Suites + Endpoint Locator as
specified in 10.2.1",

```

```

        "format": "uri",
        "type": "string"
      },
      "pri": {
        "description": "The priority among multiple Endpoints as specified in
10.2.3",
        "minimum": 1,
        "type": "integer"
      }
    },
    "type": "object"
  },
  "type": "array"
},
"href": {
  "description": "This is the target URI, it can be specified as a Relative
Reference or fully-qualified URI. Relative Reference should be used along with the di parameter to
make it unique.",
  "format": "uri",
  "maxLength": 256,
  "type": "string"
},
"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.rw",
      "oic.if.r",
      "oic.if.a",
      "oic.if.s"
    ],
    "type": "string"
  },
  "minItems": 1,
  "type": "array"
},
"ins": {
  "description": "The instance identifier for this web link in an array of web
links - used in collections",
  "oneOf": [
    {
      "description": "An ordinal number that is not repeated - must be unique in
the collection context",
      "type": "integer"
    },
    {
      "description": "Any unique string including a URI",
      "format": "uri",
      "maxLength": 256,
      "type": "string"
    },
    {
      "description": "Unique identifier (UUID)",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-
fA-F0-9]{12}$",
      "type": "string"
    }
  ]
},
"p": {
  "description": "Specifies the framework policies on the Resource referenced by
the target URI",
  "properties": {
    "bm": {
      "description": "Specifies the framework policies on the Resource referenced
by the target URI for e.g. observable and discoverable",
      "type": "integer"
    }
  }
}

```

```

    },
    "required": [
        "bm"
    ],
    "type": "object"
},
"rel": {
    "description": "The relation of the target URI referenced by the link to the
context URI",
    "oneOf": [
        {
            "default": [
                "hosts"
            ],
            "items": {
                "maxLength": 64,
                "type": "string"
            },
            "minItems": 1,
            "type": "array"
        },
        {
            "default": "hosts",
            "maxLength": 64,
            "type": "string"
        }
    ]
},
"rt": {
    "description": "Resource Type",
    "items": {
        "maxLength": 64,
        "type": "string"
    },
    "minItems": 1,
    "type": "array"
},
"title": {
    "description": "A title for the link relation. Can be used by the UI to provide a
context",
    "maxLength": 64,
    "type": "string"
},
"type": {
    "default": "application/cbor",
    "description": "A hint at the representation of the resource referenced by the
target URI. This represents the media types that are used for both accepting and emitting",
    "items": {
        "maxLength": 64,
        "type": "string"
    },
    "minItems": 1,
    "type": "array"
},
"required": [
    "href",
    "rt",
    "if"
],
"type": "object"
},
"maxItems": 2,
"minItems": 2,
"type": "array"
},
"id": {
    "description": "Instance ID of this specific resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
}

```

```

    },
    "if": {
      "description": "The interface set supported by this resource",
      "items": {
        "enum": [
          "oic.if.baseline",
          "oic.if.ll",
          "oic.if.b",
          "oic.if.lb",
          "oic.if.rw",
          "oic.if.r",
          "oic.if.a",
          "oic.if.s"
        ],
        "type": "string"
      },
      "minItems": 1,
      "readOnly": true,
      "type": "array"
    },
    "n": {
      "description": "Friendly name of the resource",
      "maxLength": 64,
      "readOnly": true,
      "type": "string"
    },
    "precision": {
      "description": "Accuracy granularity of the exposed value",
      "readOnly": true,
      "type": "number"
    },
    "range": {
      "description": "The valid range for the value Property",
      "items": {
        "anyOf": [
          {
            "type": "number"
          },
          {
            "type": "integer"
          }
        ]
      },
      "maxItems": 2,
      "minItems": 2,
      "readOnly": true,
      "type": "array"
    },
    "rt": {
      "description": "Resource Type",
      "items": {
        "maxLength": 64,
        "type": "string"
      },
      "minItems": 1,
      "readOnly": true,
      "type": "array"
    },
    "step": {
      "anyOf": [
        {
          "type": "integer"
        },
        {
          "type": "number"
        }
      ],
      "description": "Step value across the defined range",
      "readOnly": true
    },
    "value": {

```



```

    "anyOf": [
      {
        "type": "array"
      },
      {
        "type": "string"
      },
      {
        "type": "boolean"
      },
      {
        "type": "integer"
      },
      {
        "type": "number"
      },
      {
        "type": "object"
      }
    ],
    "description": "The value sensed or actuated by this Resource"
  }
},
"type": "object"
}

"/AirFlowControlBatch" :
{
  "properties": {
    "airFlowControl": {
      "items": {
        "anyOf": [
          {
            "properties": {
              "value": {
                "description": "Status of the switch",
                "type": "boolean"
              }
            },
            "type": "object"
          },
          {
            "properties": {
              "automode": {
                "description": "Status of the automode feature, if on speed is set by the
device",
                "enum": [
                  "On",
                  "Off"
                ]
              },
              "direction": {
                "description": "Directionality of the air flow",
                "type": "string"
              },
              "speed": {
                "description": "Current speed level",
                "type": "integer"
              },
              "supporteddirections": {
                "description": "Array of possible direction settings for this instance of the
Resource Type",
                "items": {
                  "minItems": 1,
                  "type": "string",
                  "uniqueItems": true
                },
                "readOnly": true,
                "type": "array"
              }
            }
          }
        ]
      }
    }
  }
}

```

```

        },
        "type": "object"
    }
]
},
"type": "array"
},
"id": {
    "description": "Instance ID of this specific resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
},
"if": {
    "description": "The interface set supported by this resource",
    "items": {
        "enum": [
            "oic.if.baseline",
            "oic.if.ll",
            "oic.if.b",
            "oic.if.lb",
            "oic.if.rw",
            "oic.if.r",
            "oic.if.a",
            "oic.if.s"
        ],
        "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
},
"n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
},
"precision": {
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
},
"range": {
    "description": "The valid range for the value Property",
    "items": {
        "anyOf": [
            {
                "type": "number"
            },
            {
                "type": "integer"
            }
        ]
    },
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
},
"rt": {
    "description": "Resource Type",
    "items": {
        "maxLength": 64,
        "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
},
"step": {

```

```

    "anyOf": [
      {
        "type": "integer"
      },
      {
        "type": "number"
      }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
  },
  "value": {
    "anyOf": [
      {
        "type": "array"
      },
      {
        "type": "string"
      },
      {
        "type": "boolean"
      },
      {
        "type": "integer"
      },
      {
        "type": "number"
      },
      {
        "type": "object"
      }
    ],
    "description": "The value sensed or actuated by this Resource"
  }
},
"required": [
  "airFlowControl"
],
"type": "object"
}
}
}

```

B.4.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
if	array: see schema		Read Only	The interface set supported by this resource
n	string		Read Only	Friendly name of the resource
id	string		Read Only	Instance ID of this specific resource
precision	number		Read Only	Accuracy granularity of the exposed value
airFlowControl	array: see schema	yes		
rt	array: see schema		Read Only	Resource Type
range	array: see schema		Read Only	The valid range for the value Property

step	multiple types: see schema		Read Only	Step value across the defined range
value	multiple types: see schema			The value sensed or actuated by this Resource
if	array: see schema	yes	Read Only	The interface set supported by this resource
n	string		Read Only	Friendly name of the resource
id	string		Read Only	Instance ID of this specific resource
precision	number		Read Only	Accuracy granularity of the exposed value
airFlowControl	array: see schema			
rt	array: see schema	yes	Read Only	Resource Type
range	array: see schema		Read Only	The valid range for the value Property
step	multiple types: see schema		Read Only	Step value across the defined range
value	multiple types: see schema			The value sensed or actuated by this Resource

B.4.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/AirFlowControlResURI		get	post		

B.5 Air Quality

B.5.1 Introduction

This resource describes a qualitative or measured contaminant that can be used to infer Air Quality. Measured is the actual sensed value with units per contaminant type as described below. 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 valueType indicates a qualitative or measured reading within the contaminantvalue Property. contaminantvalue contains the actual measured or qualitative level. range contains the allowed range for the value that is being reported (from oic.r.baseresource). If valueType is 'Measured' then the units for the contaminant types are as follows:

Methanal (also known as Formaldehyde): CH₂O (ug/m³),
Carbon Dioxide: CO₂ (ppm),
Carbon Monoxide: CO (ppm),
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)

Retrieves the current air quality.

B.5.2 Example URI

/AirQualityResURI

B.5.3 Resource Type

The resource type (rt) is defined as: ['oic.r.airquality'].

B.5.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Air Quality",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n      1.
Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
Connectivity Foundation, INC. \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n      IN NO EVENT SHALL THE Open Connectivity
Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/AirQualityResURI" : {
      "get": {
        "description": "This resource describes a qualitative or measured contaminant that can be
used to infer Air Quality.\nMeasured is the actual sensed value with units per contaminant type as
described below.\nQualitative is a representative value within the range provided where the minium
value is minimum contamination and maximum value is maximum contamination for the specific
contaminant.\nThe valueType indicates a qualitative or measured reading within the contaminantvalue
Property.\ncontaminantvalue contains the actual measured or qualitative level.\nrange contains the
allowed range for the value that is being reported (from oic.r.baseresource).\nIf valueType is
'Measured' then the units for the contaminant types are as follows:\nMethanal (also known as
Formaldehyde): CH2O (ug/m^3),\nCarbon Dioxide: CO2 (ppm),\nCarbon Monoxide: CO (ppm),\n
Particulate Matter (less than 2.5 microns in diameter): PM2.5 (ug/m^3),\nParticulate Matter (less
than 10 microns in diameter): PM10 (ug/m^3),\nVolatile Organic Compounds: VOC (ug/m^3)\nRetrieves
the current air quality.\n",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.airquality"],
              "id": "unique_example_id",
              "contaminanttype": "CO",
              "valuetype": "Measured",
              "contaminantvalue": 10,
              "range": [0,500]
            }
          }
        },
        "schema": { "$ref": "#/definitions/AirQuality" }
      }
    }
  }
}
```

```

    }
  }
},
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.s", "oic.if.baseline"]
  }
},
"definitions": {
  "AirQuality": {
    {
      "properties": {
        "contaminanttype": {
          "description": "The contaminant being measured.",
          "enum": [
            "CH2O",
            "CO2",
            "CO",
            "PM2.5",
            "PM10",
            "VOC",
            "Smoke",
            "Odor",
            "AirPollution"
          ],
          "readOnly": true
        },
        "contaminantvalue": {
          "description": "The measured or qualitative value for the contaminant.",
          "readOnly": true,
          "type": "integer"
        },
        "id": {
          "description": "Instance ID of this specific resource",
          "maxLength": 64,
          "readOnly": true,
          "type": "string"
        },
        "if": {
          "description": "The interface set supported by this resource",
          "items": {
            "enum": [
              "oic.if.baseline",
              "oic.if.ll",
              "oic.if.b",
              "oic.if.lb",
              "oic.if.rw",
              "oic.if.r",
              "oic.if.a",
              "oic.if.s"
            ],
            "type": "string"
          },
          "minItems": 1,
          "readOnly": true,
          "type": "array"
        },
        "n": {
          "description": "Friendly name of the resource",
          "maxLength": 64,
          "readOnly": true,
          "type": "string"
        },
        "precision": {
          "description": "Accuracy granularity of the exposed value",
          "readOnly": true,

```

```

    "type": "number"
  },
  "range": {
    "description": "The valid range for the value Property",
    "items": {
      "anyOf": [
        {
          "type": "number"
        },
        {
          "type": "integer"
        }
      ]
    },
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
  },
  "rt": {
    "description": "Resource Type",
    "items": {
      "maxLength": 64,
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "step": {
    "anyOf": [
      {
        "type": "integer"
      },
      {
        "type": "number"
      }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
  },
  "value": {
    "anyOf": [
      {
        "type": "array"
      },
      {
        "type": "string"
      },
      {
        "type": "boolean"
      },
      {
        "type": "integer"
      },
      {
        "type": "number"
      },
      {
        "type": "object"
      }
    ],
    "description": "The value sensed or actuated by this Resource"
  },
  "valuetype": {
    "description": "Indicates whether the provided value is qualitative or measured.",
    "enum": [
      "Qualitative",
      "Measured"
    ],
    "readOnly": true
  }
}

```

```

    },
    "required": [
      "contaminantvalue",
      "contaminanttype",
      "valuetype",
      "range"
    ],
    "type": "object"
  }
}
}

```

B.5.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
value	multiple types: see schema			The value sensed or actuated by this Resource
if	array: see schema		Read Only	The interface set supported by this resource
contaminantvalue	integer	yes	Read Only	The measured or qualitative value for the contaminant.
precision	number		Read Only	Accuracy granularity of the exposed value
n	string		Read Only	Friendly name of the resource
range	array: see schema	yes	Read Only	The valid range for the value Property
valuetype	multiple types: see schema	yes	Read Only	Indicates whether the provided value is qualitative or measured.
contaminanttype	multiple types: see schema	yes	Read Only	The contaminant being measured.
id	string		Read Only	Instance ID of this specific resource
step	multiple types: see schema		Read Only	Step value across the defined range
rt	array: see schema		Read Only	Resource Type

B.5.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/AirQualityResURI		get			

B.6 Air Quality Collection

B.6.1 Introduction

This resource describes a sensor that provides the qualitative or measured Air Quality. The resource is a collection of instances of oic.r.airquality detailing the individual exposed contaminant measures

There is one collection entry per contaminant type supported by the device. A device must expose at least one measured or qualitative value. Retrieves the current air quality.

B.6.2 Example URI

/AirQualityBaselineResURI

B.6.3 Resource Type

The resource type (rt) is defined as: ['oic.r.airqualitycollection', 'oic.wk.col'].

B.6.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Air Quality Collection",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n
1. Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n
2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.\n\n
THIS SOFTWARE IS PROVIDED BY THE Open
Connectivity Foundation, INC. \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n
IN NO EVENT SHALL THE Open Connectivity
Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n
HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/AirQualityLLResURI" : {
      "get": {
        "description": "This resource describes a sensor that provides the qualitative or measured
Air Quality.\nthe resource is a collection of instances of oic.r.airquality detailing the
individual exposed contaminant measures\nThere is one collection entry per contaminant type
supported by the device. A device must expose at least one measured or qualitative
value.\nRetrieves the current air quality.\n",
        "parameters": [
          {"$ref": "#/parameters/interface-ll"}
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": [
              {"href": "/myCOMeasureResURI", "rt": ["oic.r.airquality"], "if":
["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122}"}},
              {"href": "/myCO2ResURI", "rt": ["oic.r.airquality"], "if":
["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122}"}]}
            ]
          }
        }
      }
    }
  }
}
```



```

        "format": "uri",
        "maxLength": 256,
        "type": "string"
      },
      "di": {
        "description": "Unique identifier for device (UUID)",
        "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$",
        "type": "string"
      },
      "eps": {
        "description": "the Endpoint information of the target Resource",
        "items": {
          "properties": {
            "ep": {
              "description": "URI with Transport Protocol Suites + Endpoint Locator as specified in 10.2.1",
              "format": "uri",
              "type": "string"
            },
            "pri": {
              "description": "The priority among multiple Endpoints as specified in 10.2.3",
              "minimum": 1,
              "type": "integer"
            }
          }
        },
        "type": "object"
      },
      "type": "array"
    },
    "href": {
      "description": "This is the target URI, it can be specified as a Relative Reference or fully-qualified URI. Relative Reference should be used along with the di parameter to make it unique.",
      "format": "uri",
      "maxLength": 256,
      "type": "string"
    },
    "if": {
      "description": "The interface set supported by this resource",
      "items": {
        "enum": [
          "oic.if.baseline",
          "oic.if.ll",
          "oic.if.bl",
          "oic.if.rw",
          "oic.if.r",
          "oic.if.a",
          "oic.if.s"
        ],
        "type": "string"
      },
      "minItems": 1,
      "type": "array"
    },
    "ins": {
      "description": "The instance identifier for this web link in an array of web links - used in collections",
      "oneOf": [
        {
          "description": "An ordinal number that is not repeated - must be unique in the collection context",
          "type": "integer"
        },
        {
          "description": "Any unique string including a URI",
          "format": "uri",
          "maxLength": 256,
          "type": "string"
        }
      ],
      "type": "array"
    }
  },
  "type": "array"
}

```

```

        {
          "description": "Unique identifier (UUID)",
          "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-
fA-F0-9]{12}$",
          "type": "string"
        }
      ],
    },
    "p": {
      "description": "Specifies the framework policies on the Resource referenced by
the target URI",
      "properties": {
        "bm": {
          "description": "Specifies the framework policies on the Resource referenced
by the target URI for e.g. observable and discoverable",
          "type": "integer"
        }
      },
      "required": [
        "bm"
      ],
      "type": "object"
    },
    "rel": {
      "description": "The relation of the target URI referenced by the link to the
context URI",
      "oneOf": [
        {
          "default": [
            "hosts"
          ],
          "items": {
            "maxLength": 64,
            "type": "string"
          },
          "minItems": 1,
          "type": "array"
        },
        {
          "default": "hosts",
          "maxLength": 64,
          "type": "string"
        }
      ]
    },
    "rt": {
      "description": "Resource Type",
      "items": {
        "maxLength": 64,
        "type": "string"
      },
      "minItems": 1,
      "type": "array"
    },
    "title": {
      "description": "A title for the link relation. Can be used by the UI to provide a
context",
      "maxLength": 64,
      "type": "string"
    },
    "type": {
      "default": "application/cbor",
      "description": "A hint at the representation of the resource referenced by the
target URI. This represents the media types that are used for both accepting and emitting",
      "items": {
        "maxLength": 64,
        "type": "string"
      },
      "minItems": 1,
      "type": "array"
    }
  }
}

```

```

    },
    "required": [
        "href",
        "rt",
        "if"
    ],
    "type": "object"
},
"type": "array"
}
]
}

/AirQuality": {
    "description": "A collection is a set (array) of tagged-link or set (array) of simple links
along with additional properties to describe the collection itself",
    "properties": {
        "di": {
            "description": "The device ID which is an UUIDv4 string; used for backward
compatibility with Spec A definition of /oic/res",
            "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-
9]{12}$",
            "type": "string"
        },
        "drel": {
            "description": "When specified this is the default relationship to use when an OIC Link
does not specify an explicit relationship with *rel* parameter",
            "type": "string"
        },
        "id": {
            "anyOf": [
                {
                    "description": "A number that is unique to that collection; like an ordinal number
that is not repeated",
                    "type": "integer"
                },
                {
                    "description": "A unique string that could be a hash or similarly unique",
                    "type": "string"
                },
                {
                    "description": "A unique string that could be a UUIDv4",
                    "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-
9]{12}$",
                    "type": "string"
                }
            ],
            "description": "ID for the collection. Can be an value that is unique to the use
context or a UUIDv4"
        },
        "links": {
            "description": "All forms of links in a collection",
            "oneOf": [
                {
                    "description": "A set (array) of simple or individual OIC Links. In addition to
properties required for an OIC Link, the identifier for that link in this set is also required",
                    "items": {
                        "properties": {
                            "anchor": {
                                "description": "This is used to override the context URI e.g. override the
URI of the containing collection",
                                "format": "uri",
                                "maxLength": 256,
                                "type": "string"
                            },
                            "di": {
                                "description": "Unique identifier for device (UUID)",
                                "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-
fA-F0-9]{12}$",

```

```

        "type": "string"
      },
      "eps": {
        "description": "the Endpoint information of the target Resource",
        "items": {
          "properties": {
            "ep": {
              "description": "URI with Transport Protocol Suites + Endpoint Locator
as specified in 10.2.1",
              "format": "uri",
              "type": "string"
            },
            "pri": {
              "description": "The priority among multiple Endpoints as specified in
10.2.3",
              "minimum": 1,
              "type": "integer"
            }
          }
        },
        "type": "object"
      },
      "type": "array"
    },
    "href": {
      "description": "This is the target URI, it can be specified as a Relative
Reference or fully-qualified URI. Relative Reference should be used along with the di parameter to
make it unique.",
      "format": "uri",
      "maxLength": 256,
      "type": "string"
    },
    "if": {
      "description": "The interface set supported by this resource",
      "items": {
        "enum": [
          "oic.if.baseline",
          "oic.if.ll",
          "oic.if.b",
          "oic.if.rw",
          "oic.if.r",
          "oic.if.a",
          "oic.if.s"
        ],
        "type": "string"
      },
      "minItems": 1,
      "type": "array"
    },
    "ins": {
      "description": "The instance identifier for this web link in an array of web
links - used in collections",
      "oneOf": [
        {
          "description": "An ordinal number that is not repeated - must be unique
in the collection context",
          "type": "integer"
        },
        {
          "description": "Any unique string including a URI",
          "format": "uri",
          "maxLength": 256,
          "type": "string"
        },
        {
          "description": "Unique identifier (UUID)",
          "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-
[a-fA-F0-9]{12}$",
          "type": "string"
        }
      ]
    }
  ],
}

```

```

        "p": {
            "description": "Specifies the framework policies on the Resource referenced
by the target URI",
            "properties": {
                "bm": {
                    "description": "Specifies the framework policies on the Resource
referenced by the target URI for e.g. observable and discoverable",
                    "type": "integer"
                }
            },
            "required": [
                "bm"
            ],
            "type": "object"
        },
        "rel": {
            "description": "The relation of the target URI referenced by the Link to the
context URI",
            "oneOf": [
                {
                    "default": [
                        "hosts"
                    ],
                    "items": {
                        "maxLength": 64,
                        "type": "string"
                    },
                    "minItems": 1,
                    "type": "array"
                },
                {
                    "default": "hosts",
                    "maxLength": 64,
                    "type": "string"
                }
            ]
        },
        "rt": {
            "description": "Resource Type",
            "items": {
                "maxLength": 64,
                "type": "string"
            },
            "minItems": 1,
            "type": "array"
        },
        "title": {
            "description": "A title for the link relation. Can be used by the UI to
provide a context",
            "maxLength": 64,
            "type": "string"
        },
        "type": {
            "default": "application/cbor",
            "description": "A hint at the representation of the resource referenced by
the target URI. This represents the media types that are used for both accepting and emitting",
            "items": {
                "maxLength": 64,
                "type": "string"
            },
            "minItems": 1,
            "type": "array"
        }
    },
    "required": [
        "href",
        "rt",
        "if"
    ],
    "type": "object"
},

```

```

        "type": "array"
      }
    ],
    "rt": {
      "items": {
        "enum": [
          "oic.r.airqualitycollection",
          "oic.wk.col"
        ]
      },
      "maxItems": 2,
      "minItems": 2,
      "type": "array",
      "uniqueItems": true
    },
    "rts": {
      "description": "Defines the list of allowable resource types (for Target and anchors)
in links included in the collection; new links being created can only be from this list",
      "items": {
        "anyOf": [
          {
            "enum": [
              "oic.r.airquality",
              "oic.r.value.conditional"
            ]
          },
          {
            "enum": [
              "oic.r.airquality"
            ]
          }
        ]
      },
      "maxLength": 64,
      "type": "string"
    },
    "maxItems": 2,
    "minItems": 1,
    "readOnly": true,
    "type": "array",
    "uniqueItems": true
  }
},
"type": "object"
}
}

```

B.6.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
rts	array: see schema		Read Only	Defines the list of allowable resource types (for Target and anchors) in links included in the collection; new links being created can only be from this list
rt	array: see schema	yes		
links	multiple types: see schema			All forms of links in a collection

drel	string			When specified this is the default relationship to use when an OIC Link does not specify an explicit relationship with *rel* parameter
di	string			The device ID which is an UUIDv4 string; used for backward compatibility with Spec A definition of /oic/res
id	multiple types: see schema			ID for the collection. Can be a value that is unique to the use context or a UUIDv4
rt	array: see schema	yes		Resource Type
eps	array: see schema			the Endpoint information of the target Resource
anchor	string			This is used to override the context URI e.g. override the URI of the containing collection
rel	multiple types: see schema			The relation of the target URI referenced by the link to the context URI
title	string			A title for the link relation. Can be used by the UI to provide a context
type	array: see schema			A hint at the representation of the resource referenced by the target URI. This represents the media types that are used for both accepting and emitting

href	string	yes		This is the target URI, it can be specified as a Relative Reference or fully-qualified URI. Relative Reference should be used along with the di parameter to make it unique.
p	object: schema see			Specifies the framework policies on the Resource referenced by the target URI
di	string			Unique identifier for device (UUID)
ins	multiple types: see schema			The instance identifier for this web link in an array of web links - used in collections
if	array: schema see	yes		The interface set supported by this resource

B.6.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/AirQualityBaselineResURI		get			

B.7 Altimeter

B.7.1 Introduction

This resource describes the properties associated with altimeter. Altimeter is a height of the position (metres). Retrieves the current the height of the position (metres).

B.7.2 Example URI

/AltimeterResURI

B.7.3 Resource Type

The resource type (rt) is defined as: ['oic.r.altimeter'].

B.7.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Altimeter",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n      1.
```

Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.\n 2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.\n\n THIS SOFTWARE IS PROVIDED BY THE Open Connectivity Foundation, INC. \nAS IS\n AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n IN NO EVENT SHALL THE Open Connectivity Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.\n"

```

    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/AltimeterResURI" : {
      "get": {
        "description": "This resource describes the properties associated with
altimeter.\nAltimeter is a height of the position (metres).\nRetrieves the current the height of
the position (metres).\n",
        "parameters": [
          {
            "$ref": "#/parameters/interface"
          }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.altimeter"],
              "id": "unique_example_id",
              "alt": 1500.0
            }
          }
        },
        "schema": { "$ref": "#/definitions/Altimeter" }
      }
    }
  }
},
"parameters": {
  "interface" : {
    "in" : "query",
    "name" : "if",
    "type" : "string",
    "enum" : ["oic.if.s", "oic.if.baseline"]
  }
},
"definitions": {
  "Altimeter" : {
    {
      "properties": {
        "alt": {
          "description": "The current height of the position (metres)",
          "minimum": 0,
          "readOnly": true,
          "type": "number"
        },
        "id": {
          "description": "Instance ID of this specific resource",
          "maxLength": 64,
          "readOnly": true,
          "type": "string"
        },
        "if": {
          "description": "The interface set supported by this resource",
          "items": {
            "enum": [

```

```

        "oic.if.baseline",
        "oic.if.ll",
        "oic.if.b",
        "oic.if.lb",
        "oic.if.rw",
        "oic.if.r",
        "oic.if.a",
        "oic.if.s"
    ],
    "type": "string"
},
"minItems": 1,
"readOnly": true,
"type": "array"
},
"n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
},
"precision": {
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
},
"range": {
    "description": "The valid range for the value Property",
    "items": {
        "anyOf": [
            {
                "type": "number"
            },
            {
                "type": "integer"
            }
        ]
    },
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
},
"rt": {
    "description": "Resource Type",
    "items": {
        "maxLength": 64,
        "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
},
"step": {
    "anyOf": [
        {
            "type": "integer"
        },
        {
            "type": "number"
        }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
},
"value": {
    "anyOf": [
        {
            "type": "array"
        },
        {

```

```

        "type": "string"
      },
      {
        "type": "boolean"
      },
      {
        "type": "integer"
      },
      {
        "type": "number"
      },
      {
        "type": "object"
      }
    ],
    "description": "The value sensed or actuated by this Resource"
  },
  "required": [
    "alt"
  ],
  "type": "object"
}
}
}

```

B.7.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
step	multiple types: see schema		Read Only	Step value across the defined range
n	string		Read Only	Friendly name of the resource
precision	number		Read Only	Accuracy granularity of the exposed value
alt	number	yes	Read Only	The current height of the position (metres)
if	array: see schema		Read Only	The interface set supported by this resource
value	multiple types: see schema			The value sensed or actuated by this Resource
range	array: see schema		Read Only	The valid range for the value Property
rt	array: see schema		Read Only	Resource Type
id	string		Read Only	Instance ID of this specific resource

B.7.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/AltimeterResURI		get			

B.8 Atmospheric Pressure Sensor

B.8.1 Introduction

This resource provides a measurement of Mean Sea Level Pressure experienced at the measuring point expressed in millibars. The value is float which describes the atmospheric pressure in hPa (hectoPascals). Note that hPa and the also commonly used unit of millibars (mbar) are numerically equivalent.

B.8.2 Example URI

/AtmosphericPressureResURI

B.8.3 Resource Type

The resource type (rt) is defined as: ['oic.r.sensor.atmosphericpressure'].

B.8.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Atmospheric Pressure Sensor",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n
1. Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n
2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer in the documentation and/or
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ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/AtmosphericPressureResURI" : {
      "get": {
        "description": "This resource provides a measurement of Mean Sea Level Pressure experienced
at the measuring point expressed in millibars.\nThe value is float which describes the atmospheric
pressure in hPa (hectoPascals).\nNote that hPa and the also commonly used unit of millibars (mbar)
are numerically equivalent.\n",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.sensor.atmosphericpressure"],
              "id": "unique_example_id",
              "atmosphericPressure": 1000.4
            }
          }
        },
        "schema": { "$ref": "#/definitions/atmosphericPressure" }
      }
    }
  }
}
```

```

    }
  },
  "parameters": {
    "interface": {
      "in": "query",
      "name": "if",
      "type": "string",
      "enum": ["oic.if.s", "oic.if.baseline"]
    }
  },
  "definitions": {
    "atmosphericPressure": {
      {
        "properties": {
          "atmosphericPressure": {
            "description": "Current atmospheric pressure in hPa.",
            "readOnly": true,
            "type": "number"
          },
          "id": {
            "description": "Instance ID of this specific resource",
            "maxLength": 64,
            "readOnly": true,
            "type": "string"
          },
          "if": {
            "description": "The interface set supported by this resource",
            "items": {
              "enum": [
                "oic.if.baseline",
                "oic.if.ll",
                "oic.if.b",
                "oic.if.lb",
                "oic.if.rw",
                "oic.if.r",
                "oic.if.a",
                "oic.if.s"
              ]
            },
            "type": "string"
          },
          "minItems": 1,
          "readOnly": true,
          "type": "array"
        },
        "n": {
          "description": "Friendly name of the resource",
          "maxLength": 64,
          "readOnly": true,
          "type": "string"
        },
        "precision": {
          "description": "Accuracy granularity of the exposed value",
          "readOnly": true,
          "type": "number"
        },
        "range": {
          "description": "The valid range for the value Property",
          "items": {
            "anyOf": [
              {
                "type": "number"
              },
              {
                "type": "integer"
              }
            ]
          },
          "maxItems": 2,
          "minItems": 2,
          "readOnly": true,
          "type": "array"
        }
      }
    }
  }
}

```

```

    },
    "rt": {
      "description": "Resource Type",
      "items": {
        "maxLength": 64,
        "type": "string"
      },
      "minItems": 1,
      "readOnly": true,
      "type": "array"
    },
    "step": {
      "anyOf": [
        {
          "type": "integer"
        },
        {
          "type": "number"
        }
      ],
      "description": "Step value across the defined range",
      "readOnly": true
    },
    "value": {
      "anyOf": [
        {
          "type": "array"
        },
        {
          "type": "string"
        },
        {
          "type": "boolean"
        },
        {
          "type": "integer"
        },
        {
          "type": "number"
        },
        {
          "type": "object"
        }
      ],
      "description": "The value sensed or actuated by this Resource"
    },
    "required": [
      "atmosphericPressure"
    ]
  }
}

```

B.8.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
value	multiple types: see schema			The value sensed or actuated by this Resource
if	array: see schema		Read Only	The interface set supported by this resource
rt	array: see schema		Read Only	Resource Type

step	multiple types: see schema		Read Only	Step value across the defined range
n	string		Read Only	Friendly name of the resource
id	string		Read Only	Instance ID of this specific resource
range	array: see schema		Read Only	The valid range for the value Property
precision	number		Read Only	Accuracy granularity of the exposed value
atmosphericPressure	number	yes	Read Only	Current atmospheric pressure in hPa.

B.8.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/AtmosphericPressureResURI		get			

B.9 Audio Controls

B.9.1 Introduction

This resource defines basic audio control functions.
 The volume is an integer containing a percentage [0,100].
 A volume of 0 (zero) means no sound produced.
 A volume of 100 means maximum sound production.
 The mute control is implemented as a boolean.
 A mute value of true means that the device is muted (no audio).
 A mute value of false means that the device is not muted (audio).

B.9.2 Example URI

/AudioResURI

B.9.3 Resource Type

The resource type (rt) is defined as: ['oic.r.audio'].

B.9.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Audio Controls",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n
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the following disclaimer.\n
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```

    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/AudioResURI" : {
      "get": {
        "description": "This resource defines basic audio control functions.\n\nThe volume is an integer containing a percentage [0,100].\n\nA volume of 0 (zero) means no sound produced.\n\nA volume of 100 means maximum sound production.\n\nThe mute control is implemented as a boolean.\n\nA mute value of true means that the device is muted (no audio).\n\nA mute value of false means that the device is not muted (audio).\n",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.audio"],
              "id": "unique_example_id",
              "volume": 50,
              "mute": false
            },
            "schema": { "$ref": "#/definitions/Audio" }
          }
        }
      },
      "post": {
        "description": "",
        "parameters": [
          { "$ref": "#/parameters/interface" },
          {
            "name": "body",
            "in": "body",
            "required": true,
            "schema": { "$ref": "#/definitions/Audio" },
            "x-example": {
              "id": "unique_example_id",
              "volume": 75,
              "mute": false
            }
          }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "id": "unique_example_id",
              "volume": 75,
              "mute": false
            },
            "schema": { "$ref": "#/definitions/Audio" }
          }
        }
      }
    }
  },
  "parameters": {
    "interface" : {

```

```

    "in" : "query",
    "name" : "if",
    "type" : "string",
    "enum" : ["oic.if.a", "oic.if.baseline"]
  }
},
"definitions": {
  "Audio" :
  {
    "properties": {
      "id": {
        "description": "Instance ID of this specific resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
      },
      "if": {
        "description": "The interface set supported by this resource",
        "items": {
          "enum": [
            "oic.if.baseline",
            "oic.if.ll",
            "oic.if.b",
            "oic.if.lb",
            "oic.if.rw",
            "oic.if.r",
            "oic.if.a",
            "oic.if.s"
          ],
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "mute": {
        "description": "Mute setting of an audio rendering device",
        "type": "boolean"
      },
      "n": {
        "description": "Friendly name of the resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "range": {
        "description": "The valid range for the value Property",
        "items": {
          "anyOf": [
            {
              "type": "number"
            },
            {
              "type": "integer"
            }
          ]
        },
        "maxItems": 2,
        "minItems": 2,
        "readOnly": true,
        "type": "array"
      },
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,

```

```

        "type": "string"
      },
      "minItems": 1,
      "readOnly": true,
      "type": "array"
    },
    "step": {
      "anyOf": [
        {
          "type": "integer"
        },
        {
          "type": "number"
        }
      ],
      "description": "Step value across the defined range",
      "readOnly": true
    },
    "value": {
      "anyOf": [
        {
          "type": "array"
        },
        {
          "type": "string"
        },
        {
          "type": "boolean"
        },
        {
          "type": "integer"
        },
        {
          "type": "number"
        },
        {
          "type": "object"
        }
      ],
      "description": "The value sensed or actuated by this Resource"
    },
    "volume": {
      "description": "Volume setting of an audio rendering device.",
      "maximum": 100,
      "minimum": 0,
      "type": "integer"
    }
  },
  "required": [
    "volume",
    "mute"
  ],
  "type": "object"
}
}
}

```

B.9.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
value	multiple types: see schema			The value sensed or actuated by this Resource
range	array: see schema		Read Only	The valid range for the value Property

precision	number		Read Only	Accuracy granularity of the exposed value
rt	array: see schema		Read Only	Resource Type
step	multiple types: see schema		Read Only	Step value across the defined range
if	array: see schema		Read Only	The interface set supported by this resource
n	string		Read Only	Friendly name of the resource
volume	integer	yes		Volume setting of an audio rendering device.
mute	boolean	yes		Mute setting of an audio rendering device
id	string		Read Only	Instance ID of this specific resource

B.9.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/AudioResURI		get	post		

B.10 Auto Focus

B.10.1 Introduction

This resource describes an auto focus on/off feature. The value is a boolean. An AutoFocus value of 'true' means that the switch is on. An AutoFocus value of 'false' means that the switch is off. Note that when Pan Tilt Zoom (see 'Pan Tilt Zoom' Resource definition) is used the autofocus works only in the selected area.

B.10.2 Example URI

/AutoFocusResURI

B.10.3 Resource Type

The resource type (rt) is defined as: ['oic.r.autofocus'].

B.10.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Auto Focus",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
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```

    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/AutoFocusResURI" : {
      "get": {
        "description": "This resource describes an auto focus on/off feature.\n\nThe value is a boolean.\n\nAn AutoFocus value of 'true' means that the switch is on.\n\nAn AutoFocus value of 'false' means that the switch is off.\n\nNote that when Pan Tilt Zoom (see 'Pan Tilt Zoom' Resource definition) is used the autofocus works only in the selected area.\n",
        "parameters": [
          {
            "$ref": "#/parameters/interface"
          }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.autofocus"],
              "id": "unique_example_id",
              "autoFocus": false
            },
            "schema": { "$ref": "#/definitions/AutoFocus" }
          }
        }
      },
      "post": {
        "description": "",
        "parameters": [
          {
            "$ref": "#/parameters/interface",
            {
              "name": "body",
              "in": "body",
              "required": true,
              "schema": { "$ref": "#/definitions/AutoFocus" },
              "x-example": {
                "id": "unique_example_id",
                "autoFocus": true
              }
            }
          }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "id": "unique_example_id",
              "autoFocus": true
            },
            "schema": { "$ref": "#/definitions/AutoFocus" }
          }
        }
      }
    }
  },
  "parameters": {
    "interface" : {
      "in" : "query",

```

```

    "name" : "if",
    "type" : "string",
    "enum" : ["oic.if.a", "oic.if.baseline"]
  }
},
"definitions": {
  "AutoFocus" :
  {
    "properties": {
      "autoFocus": {
        "description": "Status of the Auto Focus",
        "type": "boolean"
      },
      "id": {
        "description": "Instance ID of this specific resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
      },
      "if": {
        "description": "The interface set supported by this resource",
        "items": {
          "enum": [
            "oic.if.baseline",
            "oic.if.ll",
            "oic.if.b",
            "oic.if.lb",
            "oic.if.rw",
            "oic.if.r",
            "oic.if.a",
            "oic.if.s"
          ],
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "n": {
        "description": "Friendly name of the resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "range": {
        "description": "The valid range for the value Property",
        "items": {
          "anyOf": [
            {
              "type": "number"
            },
            {
              "type": "integer"
            }
          ]
        },
        "maxItems": 2,
        "minItems": 2,
        "readOnly": true,
        "type": "array"
      },
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        }
      }
    }
  }
}

```

```

    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "step": {
    "anyOf": [
      {
        "type": "integer"
      },
      {
        "type": "number"
      }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
  },
  "value": {
    "anyOf": [
      {
        "type": "array"
      },
      {
        "type": "string"
      },
      {
        "type": "boolean"
      },
      {
        "type": "integer"
      },
      {
        "type": "number"
      },
      {
        "type": "object"
      }
    ],
    "description": "The value sensed or actuated by this Resource"
  },
  "required": [
    "autoFocus"
  ],
  "type": "object"
}
}
}

```

B.10.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
autoFocus	boolean	yes		Status of the Auto Focus
rt	array: see schema		Read Only	Resource Type
precision	number		Read Only	Accuracy granularity of the exposed value
range	array: see schema		Read Only	The valid range for the value Property
step	multiple types: see schema		Read Only	Step value across the defined range

n	string		Read Only	Friendly name of the resource
id	string		Read Only	Instance ID of this specific resource
value	multiple types: see schema			The value sensed or actuated by this Resource
if	array: see schema		Read Only	The interface set supported by this resource

B.10.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/AutoFocusResURI		get	post		

B.11 Automatic Document Feeder

B.11.1 Introduction

This resource describes the state of an automatic document feeder, typically used with a scanner. The states are read only. The adfStates is an array of the possible operational states. 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. Retrieves the current automatic document feeder state.

B.11.2 Example URI

/AutomaticDocumentFeederResURI

B.11.3 Resource Type

The resource type (rt) is defined as: [oc.r.automaticdocumentfeeder].

B.11.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Automatic Document Feeder",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n
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the following disclaimer.\n
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HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
    }
  },
  "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.\n\nThe states are read only.\n\nThe adfStates is an array of the
possible operational states.\n\nadfProcessing is the OK state, other states are errors or require
'user attention'.\n\nThe currentAdfState is the current value of the ADF state on the
device.\n\nRetrieves the current automatic document feeder state.\n",
      "parameters": [
        { "$ref": "#/parameters/interface" }
      ],
      "responses": {
        "200": {
          "description": "",
          "x-example": {
            "rt": ["oic.r.automaticdocumentfeeder"],
            "id": "unique_example_id",
            "adfStates": ["adfProcessing", "adfEmpty", "adfJam", "adfLoaded",
"adfMispick", "adfHatchOpen", "adfDuplexPageTooShort", "adfDuplexPageTooLong",
"adfMultipickDetected", "adfInputTrayFailed", "adfInputTrayOverloaded"],
            "currentAdfState": "adfProcessing"
          }
        }
      },
      "schema": { "$ref": "#/definitions/AutomaticDocumentFeeder" }
    }
  }
},
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.s", "oic.if.baseline"]
  }
},
"definitions": {
  "AutomaticDocumentFeeder" : {
    "properties": {
      "adfStates": {
        "description": "array of the possible adf states.",
        "items": {
          "type": "string"
        },
        "readOnly": true,
        "type": "array"
      },
      "currentAdfState": {
        "description": "Current adf state.",
        "readOnly": true,
        "type": "string"
      },
      "id": {
        "description": "Instance ID of this specific resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
      },
      "if": {
        "description": "The interface set supported by this resource",
        "items": {
          "enum": [
            "oic.if.baseline",
            "oic.if.ll",
            "oic.if.b",
            "oic.if.lb",
            "oic.if.rw",

```

```

        "oic.if.r",
        "oic.if.a",
        "oic.if.s"
    ],
    "type": "string"
},
"minItems": 1,
"readOnly": true,
"type": "array"
},
"n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
},
"precision": {
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
},
"range": {
    "description": "The valid range for the value Property",
    "items": {
        "anyOf": [
            {
                "type": "number"
            },
            {
                "type": "integer"
            }
        ]
    },
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
},
"rt": {
    "description": "Resource Type",
    "items": {
        "maxLength": 64,
        "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
},
"step": {
    "anyOf": [
        {
            "type": "integer"
        },
        {
            "type": "number"
        }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
},
"value": {
    "anyOf": [
        {
            "type": "array"
        },
        {
            "type": "string"
        },
        {
            "type": "boolean"
        }
    ],

```

```

    {
      "type": "integer"
    },
    {
      "type": "number"
    },
    {
      "type": "object"
    }
  ],
  "description": "The value sensed or actuated by this Resource"
},
"required": [
  "adfStates",
  "currentAdfState"
],
"type": "object"
}
}
}

```

B.11.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
value	multiple types: see schema			The value sensed or actuated by this Resource
step	multiple types: see schema		Read Only	Step value across the defined range
adfStates	array: see schema	yes	Read Only	array of the possible adf states.
currentAdfState	string	yes	Read Only	Current adf state.
range	array: see schema		Read Only	The valid range for the value Property
if	array: see schema		Read Only	The interface set supported by this resource
id	string		Read Only	Instance ID of this specific resource
n	string		Read Only	Friendly name of the resource
rt	array: see schema		Read Only	Resource Type
precision	number		Read Only	Accuracy granularity of the exposed value

B.11.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/AutomaticDocumentFeederResURI		get			

B.12 Base Resource Schema

B.12.1 Introduction

This is the base resource schema on which all other resources defined in this specification build. value is the sensed or actuated value of the Resource. precision is the accuracy granularity of the value. range is the range over which value is valid. step is the step function over the defined range if applicable (e.g. always step by '2'). retrieves the state of the resource.

B.12.2 Example URI

/BaseResourceSchemaResURI

B.12.3 Resource Type

The resource type (rt) is defined as: ['oic.baseresource'].

B.12.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Base Resource Schema",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n
1. Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n
2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.\n\n
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Connectivity Foundation, INC. \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n
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Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n
HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/BaseResourceSchemaResURI" : {
      "get": {
        "description": "This is the base resource schema on which all other resources defined in
this specification build.\nvalue is the sensed or actuated value of the Resource.\nprecision is the
accuracy granularity of the value.\nrange is the range over which value is valid.\nstep is the step
function over the defined range if applicable (e.g. always step by '2').\nretrieves the state of
the resource",
        "parameters": [
          {"$ref": "#/parameters/interface-baseline"}
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt" : ["oic.baseresource"],
              "if": ["oic.if.baseline"],
              "id": "unique_example_id",
              "value": 10.5,
              "precision": 0.5,
              "range": [0.0,100.0]
            }
          }
        }
      }
    }
  }
}
```



```

    ],
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
},
"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"precision": {
  "description": "Accuracy granularity of the exposed value",
  "readOnly": true,
  "type": "number"
},
"range": {
  "description": "The valid range for the value Property",
  "items": {
    "anyOf": [
      {
        "type": "number"
      },
      {
        "type": "integer"
      }
    ]
  },
  "maxItems": 2,
  "minItems": 2,
  "readOnly": true,
  "type": "array"
},
"rt": {
  "description": "Resource Type",
  "items": {
    "maxLength": 64,
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
},
"step": {
  "anyOf": [
    {
      "type": "integer"
    },
    {
      "type": "number"
    }
  ],
  "description": "Step value across the defined range",
  "readOnly": true
},
"value": {
  "anyOf": [
    {
      "type": "array"
    },
    {
      "type": "string"
    },
    {
      "type": "boolean"
    },
    {
      "type": "integer"
    }
  ],

```

```

    {
      "type": "number"
    },
    {
      "type": "object"
    }
  ],
  "description": "The value sensed or actuated by this Resource"
},
"type": "object"
}
}
}

```

B.12.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
n	string		Read Only	Friendly name of the resource
if	array: see schema		Read Only	The interface set supported by this resource
value	multiple types: see schema			The value sensed or actuated by this Resource
rt	array: see schema		Read Only	Resource Type
id	string		Read Only	Instance ID of this specific resource
precision	number		Read Only	Accuracy granularity of the exposed value
step	multiple types: see schema		Read Only	Step value across the defined range
range	array: see schema		Read Only	The valid range for the value Property

B.12.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/BaseResourceSchemaResURI		get	post		

B.13 Battery

B.13.1 Introduction

This resource describes the attributes associated with a battery. The charge is an integer showing the current battery charge level as a percentage in the range 0 (fully discharged) to 100 (fully charged). The 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. Retrieves the state of the battery.

B.13.2 Example URI

/BatteryResURI

B.13.3 Resource Type

The resource type (rt) is defined as: ['oic.r.energy.battery'].

B.13.4 Swagger2.0 Definition

```

{
  "swagger": "2.0",
  "info": {
    "title": "Battery",
    "version": "v1.2.0-20170814",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n
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the following disclaimer.\n
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copyright notice, this list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.\n\n
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LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
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EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
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HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/BatteryResURI": {
      "get": {
        "description": "This resource describes the attributes associated with a battery. The
charge is an integer showing the current battery charge level as a percentage in the range 0 (fully
discharged) to 100 (fully charged). The 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.\nRetrieves the state of the
battery.\n",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.energy.battery"],
              "id": "unique_example_id",
              "charge": 50,
              "capacity": 3000,
              "charging": true,
              "discharging": false,
              "lowbattery": false,
              "batterythreshold": 20
            }
          }
        },
        "schema": { "$ref": "#/definitions/Battery" }
      }
    },
    "post": {
      "description": "Sets current battery values\n",

```

```

"parameters": [
  {
    "$ref": "#/parameters/interface",
    {
      "name": "body",
      "in": "body",
      "required": true,
      "schema": { "$ref": "#/definitions/BatteryUpdate" },
      "x-example": {
        "id": "unique_example_id",
        "batterythreshold": 20
      }
    }
  },
  {
    "description": "",
    "x-example": {
      "id": "unique_example_id",
      "batterythreshold": 20
    },
    "schema": { "$ref": "#/definitions/BatteryUpdate" }
  }
],
"responses": {
  "200": {
    "description": "",
    "x-example": {
      "id": "unique_example_id",
      "batterythreshold": 20
    },
    "schema": { "$ref": "#/definitions/BatteryUpdate" }
  }
},
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.rw", "oic.if.baseline"]
  }
},
"definitions": {
  "Battery": {
    {
      "properties": {
        "batterythreshold": {
          "description": "The threshold percentage for the low battery warning.",
          "maximum": 100,
          "minimum": 0,
          "type": "integer"
        },
        "capacity": {
          "description": "The total capacity in Amp-hours (Ah).",
          "readOnly": true,
          "type": "number"
        },
        "charge": {
          "description": "The current charge percentage.",
          "maximum": 100,
          "minimum": 0,
          "readOnly": true,
          "type": "integer"
        },
        "charging": {
          "description": "The status of charging.",
          "readOnly": true,
          "type": "boolean"
        },
        "discharging": {
          "description": "The status of discharging.",
          "readOnly": true,
          "type": "boolean"
        }
      },
      "id": {
        "description": "Instance ID of this specific resource",

```

```

    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  "if": {
    "description": "The interface set supported by this resource",
    "items": {
      "enum": [
        "oic.if.baseline",
        "oic.if.ll",
        "oic.if.b",
        "oic.if.lb",
        "oic.if.rw",
        "oic.if.r",
        "oic.if.a",
        "oic.if.s"
      ],
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "lowbattery": {
    "description": "The status of the low battery warning based upon the defined
threshold.",
    "readOnly": true,
    "type": "boolean"
  },
  "n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  "precision": {
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
  },
  "range": {
    "description": "The valid range for the value Property",
    "items": {
      "anyOf": [
        {
          "type": "number"
        },
        {
          "type": "integer"
        }
      ]
    },
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
  },
  "rt": {
    "description": "Resource Type",
    "items": {
      "maxLength": 64,
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "step": {
    "anyOf": [
      {
        "type": "integer"
      }
    ]
  }
}

```

```

        },
        {
          "type": "number"
        }
      ],
      "description": "Step value across the defined range",
      "readOnly": true
    },
    "value": {
      "anyOf": [
        {
          "type": "array"
        },
        {
          "type": "string"
        },
        {
          "type": "boolean"
        },
        {
          "type": "integer"
        },
        {
          "type": "number"
        },
        {
          "type": "object"
        }
      ],
      "description": "The value sensed or actuated by this Resource"
    }
  ],
  "required": [
    "charge"
  ],
  "type": "object"
}

"BatteryUpdate" :
{
  "properties": {
    "batterythreshold": {
      "description": "The threshold percentage for the low battery warning.",
      "maximum": 100,
      "minimum": 0,
      "type": "integer"
    },
    "id": {
      "description": "Instance ID of this specific resource",
      "maxLength": 64,
      "readOnly": true,
      "type": "string"
    },
    "if": {
      "description": "The interface set supported by this resource",
      "items": {
        "enum": [
          "oic.if.baseline",
          "oic.if.ll",
          "oic.if.b",
          "oic.if.lb",
          "oic.if.rw",
          "oic.if.r",
          "oic.if.a",
          "oic.if.s"
        ]
      },
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,

```

```

    "type": "array"
  },
  "n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  "precision": {
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
  },
  "range": {
    "description": "The valid range for the value Property",
    "items": {
      "anyOf": [
        {
          "type": "number"
        },
        {
          "type": "integer"
        }
      ]
    },
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
  },
  "rt": {
    "description": "Resource Type",
    "items": {
      "maxLength": 64,
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "step": {
    "anyOf": [
      {
        "type": "integer"
      },
      {
        "type": "number"
      }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
  },
  "value": {
    "anyOf": [
      {
        "type": "array"
      },
      {
        "type": "string"
      },
      {
        "type": "boolean"
      },
      {
        "type": "integer"
      },
      {
        "type": "number"
      },
      {
        "type": "object"
      }
    ]
  }
}

```

```

    }
  ],
  "description": "The value sensed or actuated by this Resource"
}
},
"required": [
  "batterythreshold"
],
"type": "object"
}
}
}

```

B.13.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
lowbattery	boolean		Read Only	The status of the low battery warning based upon the defined threshold.
discharging	boolean		Read Only	The status of discharging.
value	multiple types: see schema			The value sensed or actuated by this Resource
batterythreshold	integer			The threshold percentage for the low battery warning.
step	multiple types: see schema		Read Only	Step value across the defined range
range	array: see schema		Read Only	The valid range for the value Property
precision	number		Read Only	Accuracy granularity of the exposed value
charge	integer	yes	Read Only	The current charge percentage.
capacity	number		Read Only	The total capacity in Amp-hours (Ah).
id	string		Read Only	Instance ID of this specific resource
rt	array: see schema		Read Only	Resource Type
n	string		Read Only	Friendly name of the resource
if	array: see schema		Read Only	The interface set supported by this resource

charging	boolean		Read Only	The status of charging.
value	multiple types: see schema			The value sensed or actuated by this Resource
step	multiple types: see schema		Read Only	Step value across the defined range
range	array: see schema		Read Only	The valid range for the value Property
precision	number		Read Only	Accuracy granularity of the exposed value
batterythreshold	integer	yes		The threshold percentage for the low battery warning.
id	string		Read Only	Instance ID of this specific resource
n	string		Read Only	Friendly name of the resource
if	array: see schema		Read Only	The interface set supported by this resource
rt	array: see schema		Read Only	Resource Type

B.13.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/BatteryResURI		get	post		

B.14 Binary Switch

B.14.1 Introduction

This resource describes a binary switch (on/off).
 The value is a boolean.
 A value of 'true' means that the switch is on.
 A value of 'false' means that the switch is off.

B.14.2 Example URI

/BinarySwitchResURI

B.14.3 Resource Type

The resource type (rt) is defined as: ['oic.r.switch.binary'].

B.14.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Binary Switch",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",

```

"x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:\n 1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.\n 2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.\n\n THIS SOFTWARE IS PROVIDED BY THE Open Connectivity Foundation, INC. \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n IN NO EVENT SHALL THE Open Connectivity Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.\n"

```

    },
    "schemes": ["http"],
    "consumes": ["application/json"],
    "produces": ["application/json"],
    "paths": {
      "/BinarySwitchResURI" : {
        "get": {
          "description": "This resource describes a binary switch (on/off). The value is a boolean.\nA value of 'true' means that the switch is on.\nA value of 'false' means that the switch is off.\n",
          "parameters": [
            { "$ref": "#/parameters/interface" }
          ],
          "responses": {
            "200": {
              "description" : "",
              "x-example": {
                "rt": ["oic.r.switch.binary"],
                "id": "unique_example_id",
                "value": false
              }
            },
            "schema": { "$ref": "#/definitions/BinarySwitch" }
          }
        },
        "post": {
          "description": "",
          "parameters": [
            { "$ref": "#/parameters/interface" },
            {
              "name": "body",
              "in": "body",
              "required": true,
              "schema": { "$ref": "#/definitions/BinarySwitch" },
              "x-example": {
                "id": "unique_example_id",
                "value": true
              }
            }
          ],
          "responses": {
            "200": {
              "description" : "",
              "x-example": {
                "id": "unique_example_id",
                "value": true
              }
            },
            "schema": { "$ref": "#/definitions/BinarySwitch" }
          }
        }
      }
    }
  }
}

```



```

    }
  },
  "parameters": {
    "interface": {
      "in": "query",
      "name": "if",
      "type": "string",
      "enum": ["oic.if.a", "oic.if.baseline"]
    }
  },
  "definitions": {
    "BinarySwitch": {
      "properties": {
        "id": {
          "description": "Instance ID of this specific resource",
          "maxLength": 64,
          "readOnly": true,
          "type": "string"
        },
        "if": {
          "description": "The interface set supported by this resource",
          "items": {
            "enum": [
              "oic.if.baseline",
              "oic.if.ll",
              "oic.if.b",
              "oic.if.lb",
              "oic.if.rw",
              "oic.if.r",
              "oic.if.a",
              "oic.if.s"
            ],
            "type": "string"
          },
          "minItems": 1,
          "readOnly": true,
          "type": "array"
        },
        "n": {
          "description": "Friendly name of the resource",
          "maxLength": 64,
          "readOnly": true,
          "type": "string"
        },
        "precision": {
          "description": "Accuracy granularity of the exposed value",
          "readOnly": true,
          "type": "number"
        },
        "range": {
          "description": "The valid range for the value Property",
          "items": {
            "anyOf": [
              {
                "type": "number"
              },
              {
                "type": "integer"
              }
            ]
          },
          "maxItems": 2,
          "minItems": 2,
          "readOnly": true,
          "type": "array"
        },
        "rt": {
          "description": "Resource Type",
          "items": {

```

```

        "maxLength": 64,
        "type": "string"
      },
      "minItems": 1,
      "readOnly": true,
      "type": "array"
    },
    "step": {
      "anyOf": [
        {
          "type": "integer"
        },
        {
          "type": "number"
        }
      ],
      "description": "Step value across the defined range",
      "readOnly": true
    },
    "value": {
      "description": "Status of the switch",
      "type": "boolean"
    }
  },
  "required": [
    "value"
  ],
  "type": "object"
}
}
}

```

B.14.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
range	array: see schema		Read Only	The valid range for the value Property
value	boolean	yes		Status of the switch
n	string		Read Only	Friendly name of the resource
precision	number		Read Only	Accuracy granularity of the exposed value
if	array: see schema		Read Only	The interface set supported by this resource
id	string		Read Only	Instance ID of this specific resource
step	multiple types: see schema		Read Only	Step value across the defined range
rt	array: see schema		Read Only	Resource Type

B.14.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/BinarySwitchResURI		get	post		

B.15 Brightness

B.15.1 Introduction

This resource describes the brightness of a light or lamp. brightness is an integer showing the current brightness level as a quantized representation in the range 0-100.

A brightness of 0 is the minimum for the resource.
A brightness of 100 is the maximum for the resource.
Retrieves the current brightness level.

B.15.2 Example URI

/BrightnessResURI

B.15.3 Resource Type

The resource type (rt) is defined as: ['oic.r.light.brightness'].

B.15.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Brightness",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n
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2. Redistributions in binary form must reproduce the above
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OF SUCH DAMAGE.\n"
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/BrightnessResURI" : {
      "get": {
        "description": "This resource describes the brightness of a light or lamp.\nbrightness is
an integer showing the current brightness level as a quantized representation in the range 0-
100.\nA brightness of 0 is the minimum for the resource.\nA brightness of 100 is the maximum for
the resource.\nRetrieves the current brightness level.\n",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.light.brightness"],
              "id": "unique_example_id",
              "brightness": 50
            }
          }
        },
        "schema": { "$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": {
          "id": "unique_example_id",
          "brightness": 10
        }
      }
    ],
    "responses": {
      "200": {
        "description": "Indicates that the brightness was changed.\nThe new brightness level is provided in the response.\n",
        "x-example": {
          "id": "unique_example_id",
          "brightness": 10
        },
        "schema": { "$ref": "#/definitions/Brightness" }
      }
    }
  },
  "parameters": {
    "interface": {
      "in": "query",
      "name": "if",
      "type": "string",
      "enum": ["oic.if.a", "oic.if.baseline"]
    }
  },
  "definitions": {
    "Brightness": {
      "properties": {
        "brightness": {
          "description": "Quantized representation in the range 0-100 of the current sensed or set value for Brightness",
          "maximum": 100,
          "minimum": 0,
          "type": "integer"
        }
      },
      "id": {
        "description": "Instance ID of this specific resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
      },
      "if": {
        "description": "The interface set supported by this resource",
        "items": {
          "enum": [
            "oic.if.baseline",
            "oic.if.ll",
            "oic.if.b",
            "oic.if.lb",
            "oic.if.rw",
            "oic.if.r",
            "oic.if.a",

```

```

        "oic.if.s"
      ],
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  "precision": {
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
  },
  "range": {
    "description": "The valid range for the value Property",
    "items": {
      "anyOf": [
        {
          "type": "number"
        },
        {
          "type": "integer"
        }
      ]
    },
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
  },
  "rt": {
    "description": "Resource Type",
    "items": {
      "maxLength": 64,
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "step": {
    "anyOf": [
      {
        "type": "integer"
      },
      {
        "type": "number"
      }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
  },
  "value": {
    "anyOf": [
      {
        "type": "array"
      },
      {
        "type": "string"
      },
      {
        "type": "boolean"
      },
      {
        "type": "integer"
      }
    ]
  }
}

```

```

    },
    {
      "type": "number"
    },
    {
      "type": "object"
    }
  ],
  "description": "The value sensed or actuated by this Resource"
}
},
"required": [
  "brightness"
],
"type": "object"
}
}
}

```

B.15.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema		Read Only	Resource Type
step	multiple types: see schema		Read Only	Step value across the defined range
id	string		Read Only	Instance ID of this specific resource
range	array: see schema		Read Only	The valid range for the value Property
brightness	integer	yes		Quantized representation in the range 0-100 of the current sensed or set value for Brightness
precision	number		Read Only	Accuracy granularity of the exposed value
if	array: see schema		Read Only	The interface set supported by this resource
value	multiple types: see schema			The value sensed or actuated by this Resource
n	string		Read Only	Friendly name of the resource

B.15.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/BrightnessResURI		get	post		

B.16 Button Switch

B.16.1 Introduction

This resource describes the operation of a button style switch. The value is a boolean. A value of 'true' means that the button is being pushed/pressed. A value of 'false' means that the button is not being pushed/pressed.

B.16.2 Example URI

/ButtonResURI

B.16.3 Resource Type

The resource type (rt) is defined as: ['oic.r.button'].

B.16.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Button Switch",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
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OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/ButtonResURI" : {
      "get": {
        "description": "This resource describes the operation of a button style switch.\nThe value
is a boolean.\nA value of 'true' means that the button is being pushed/pressed.\nA value of 'false'
means that the button is not being pushed/pressed.\n",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.button"],
              "id": "unique_example_id",
              "value": true
            },
            "schema": { "$ref": "#/definitions/Button" }
          }
        }
      }
    }
  }
}
```

```

    },
    "parameters": {
      "interface": {
        "in": "query",
        "name": "if",
        "type": "string",
        "enum": ["oic.if.s", "oic.if.baseline"]
      }
    },
    "definitions": {
      "Button": {
        {
          "properties": {
            "id": {
              "description": "Instance ID of this specific resource",
              "maxLength": 64,
              "readOnly": true,
              "type": "string"
            },
            "if": {
              "description": "The interface set supported by this resource",
              "items": {
                "enum": [
                  "oic.if.baseline",
                  "oic.if.ll",
                  "oic.if.b",
                  "oic.if.lb",
                  "oic.if.rw",
                  "oic.if.r",
                  "oic.if.a",
                  "oic.if.s"
                ],
                "type": "string"
              },
              "minItems": 1,
              "readOnly": true,
              "type": "array"
            },
            "n": {
              "description": "Friendly name of the resource",
              "maxLength": 64,
              "readOnly": true,
              "type": "string"
            },
            "precision": {
              "description": "Accuracy granularity of the exposed value",
              "readOnly": true,
              "type": "number"
            },
            "range": {
              "description": "The valid range for the value Property",
              "items": {
                "anyOf": [
                  {
                    "type": "number"
                  },
                  {
                    "type": "integer"
                  }
                ]
              },
              "maxItems": 2,
              "minItems": 2,
              "readOnly": true,
              "type": "array"
            },
            "rt": {
              "description": "Resource Type",
              "items": {
                "maxLength": 64,
                "type": "string"
              }
            }
          }
        }
      }
    }
  }
}

```



```

    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "step": {
    "anyOf": [
      {
        "type": "integer"
      },
      {
        "type": "number"
      }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
  },
  "value": {
    "description": "Status of the button",
    "readOnly": true,
    "type": "boolean"
  }
},
"required": [
  "value"
]
}
}
}

```

B.16.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema		Read Only	Resource Type
precision	number		Read Only	Accuracy granularity of the exposed value
if	array: see schema		Read Only	The interface set supported by this resource
value	boolean	yes	Read Only	Status of the button
step	multiple types: see schema		Read Only	Step value across the defined range
n	string		Read Only	Friendly name of the resource
range	array: see schema		Read Only	The valid range for the value Property
id	string		Read Only	Instance ID of this specific resource

B.16.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/ButtonResURI		get			

B.17 Carbon Dioxide Sensor

B.17.1 Introduction

This resource describes whether carbon dioxide has been sensed or not. The value is a boolean. A value of 'true' means that carbon dioxide has been detected. A value of 'false' means that carbon dioxide has not been detected.

B.17.2 Example URI

/CarbonDioxideResURI

B.17.3 Resource Type

The resource type (rt) is defined as: ['oic.r.sensor.carbondioxide'].

B.17.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Carbon Dioxide Sensor",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n
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OF SUCH DAMAGE.\n"
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/CarbonDioxideResURI": {
      "get": {
        "description": "This resource describes whether carbon dioxide has been sensed or not.\nThe
value is a boolean.\nA value of 'true' means that carbon dioxide has been detected.\nA value of
'false' means that carbon dioxide has not been detected.\n",
        "parameters": [
          {
            "$ref": "#/parameters/interface"
          }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.sensor.carbondioxide"],
              "id": "unique_example_id",
              "value": true
            },
            "schema": { "$ref": "#/definitions/C02" }
          }
        }
      }
    }
  }
}
```

```

},
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.s", "oic.if.baseline"]
  }
},
"definitions": {
  "C02": {
    "properties": {
      "id": {
        "description": "Instance ID of this specific resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
      },
      "if": {
        "description": "The interface set supported by this resource",
        "items": {
          "enum": [
            "oic.if.baseline",
            "oic.if.ll",
            "oic.if.b",
            "oic.if.lb",
            "oic.if.rw",
            "oic.if.r",
            "oic.if.a",
            "oic.if.s"
          ],
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "n": {
        "description": "Friendly name of the resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "range": {
        "description": "The valid range for the value Property",
        "items": {
          "anyOf": [
            {
              "type": "number"
            },
            {
              "type": "integer"
            }
          ]
        },
        "maxItems": 2,
        "minItems": 2,
        "readOnly": true,
        "type": "array"
      },
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        }
      }
    }
  }
}

```

```

    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "step": {
    "anyOf": [
      {
        "type": "integer"
      },
      {
        "type": "number"
      }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
  },
  "value": {
    "description": "true = sensed, false = not sensed.",
    "readOnly": true,
    "type": "boolean"
  }
},
"required": [
  "value"
],
"type": "object"
}
}
}

```

B.17.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
range	array: see schema		Read Only	The valid range for the value Property
step	multiple types: see schema		Read Only	Step value across the defined range
rt	array: see schema		Read Only	Resource Type
if	array: see schema		Read Only	The interface set supported by this resource
precision	number		Read Only	Accuracy granularity of the exposed value
n	string		Read Only	Friendly name of the resource
value	boolean	yes	Read Only	true = sensed, false = not sensed.
id	string		Read Only	Instance ID of this specific resource

B.17.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/CarbonDioxideResURI		get			

B.18 Carbon Monoxide Sensor

B.18.1 Introduction

This resource describes whether carbon monoxide has been sensed or not. The 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.

B.18.2 Example URI

/CarbonMonoxideResURI

B.18.3 Resource Type

The resource type (rt) is defined as: ['oic.r.sensor.carbonmonoxide'].

B.18.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Carbon Monoxide Sensor",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n
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OF SUCH DAMAGE.\n"
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/CarbonMonoxideResURI": {
      "get": {
        "description": "This resource describes whether carbon monoxide has been sensed or
not.\nThe 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.\n",
        "parameters": [
          {
            "$ref": "#/parameters/interface"
          }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.sensor.carbonmonoxide"],
              "id": "unique_example_id",
              "value": true
            },
            "schema": {
              "$ref": "#/definitions/CO"
            }
          }
        }
      }
    }
  }
}
```

```

},
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.s", "oic.if.baseline"]
  }
},
"definitions": {
  "CO": {
    {
      "properties": {
        "id": {
          "description": "Instance ID of this specific resource",
          "maxLength": 64,
          "readOnly": true,
          "type": "string"
        },
        "if": {
          "description": "The interface set supported by this resource",
          "items": {
            "enum": [
              "oic.if.baseline",
              "oic.if.ll",
              "oic.if.b",
              "oic.if.lb",
              "oic.if.rw",
              "oic.if.r",
              "oic.if.a",
              "oic.if.s"
            ],
            "type": "string"
          },
          "minItems": 1,
          "readOnly": true,
          "type": "array"
        },
        "n": {
          "description": "Friendly name of the resource",
          "maxLength": 64,
          "readOnly": true,
          "type": "string"
        },
        "precision": {
          "description": "Accuracy granularity of the exposed value",
          "readOnly": true,
          "type": "number"
        },
        "range": {
          "description": "The valid range for the value Property",
          "items": {
            "anyOf": [
              {
                "type": "number"
              },
              {
                "type": "integer"
              }
            ]
          },
          "maxItems": 2,
          "minItems": 2,
          "readOnly": true,
          "type": "array"
        },
        "rt": {
          "description": "Resource Type",
          "items": {
            "maxLength": 64,
            "type": "string"
          }
        }
      }
    }
  }
}

```

```

    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "step": {
    "anyOf": [
      {
        "type": "integer"
      },
      {
        "type": "number"
      }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
  },
  "value": {
    "description": "true = sensed, false = not sensed.",
    "readOnly": true,
    "type": "boolean"
  }
},
"required": [
  "value"
],
"type": "object"
}
}
}

```

B.18.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
n	string		Read Only	Friendly name of the resource
range	array: see schema		Read Only	The valid range for the value Property
id	string		Read Only	Instance ID of this specific resource
if	array: see schema		Read Only	The interface set supported by this resource
step	multiple types: see schema		Read Only	Step value across the defined range
value	boolean	yes	Read Only	true = sensed, false = not sensed.
precision	number		Read Only	Accuracy granularity of the exposed value
rt	array: see schema		Read Only	Resource Type

B.18.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/CarbonMonoxideResURI		get			

B.19 Clock

B.19.1 Introduction

This resource describes the properties associated with clock and time. Clock is a time information. Datetime is using ISO 8601 datetime format (e.g: "2007-04-05T14:30Z") (Time+Date+Timezone) Countdown is the desired total seconds for countdown. Retrieves the current datetime data.

B.19.2 Example URI

/ClockResURI

B.19.3 Resource Type

The resource type (rt) is defined as: ['oic.r.clock'].

B.19.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Clock",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
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OF SUCH DAMAGE.\n"
    }
  },
  "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.\nDatetime is using ISO 8601 datetime format (e.g: \"2007-04-
05T14:30Z\") (Time+Date+Timezone)\nCountdown is the desired total seconds for countdown.\nRetrieves
the current datetime data.\n",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.clock"],
              "id": "unique_example_id",
              "datetime": "2015-11-05T14:30Z",
              "countdown": 0.0
            }
          },
          "schema": { "$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":
            {
              "id": "unique_example_id",
              "datetime": "2015-11-05T14:30Z",
              "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":
          {
            "id": "unique_example_id",
            "datetime": "2015-11-05T14:30Z",
            "countdown": 0.0
          }
        "schema": { "$ref": "#/definitions/Clock" }
      },
      "403": {
        "description": "Indicates that OIC client sent an invalid property value to the server.\nThe server responds with the required input representation.\n",
        "x-example":
          {
            "id": "unique_example_id",
            "datetime": "2015-11-05T14:30Z",
            "countdown": 0.0
          }
        "schema": { "$ref": "#/definitions/Clock" }
      }
    }
  }
},
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.a", "oic.if.baseline"]
  }
},
"definitions": {
  "Clock": {
    {
      "properties": {
        "countdown": {
          "description": "Desired total seconds for countdown",
          "minimum": 0,
          "type": "number"
        },
        "datetime": {
          "description": "Using ISO 8601 datetime format (e.g: 2007-04-05T14:30Z, 2007-04-05T14:30+09:00)",
          "type": "string"
        }
      }
    }
  }
}

```

```

    "id": {
      "description": "Instance ID of this specific resource",
      "maxLength": 64,
      "readOnly": true,
      "type": "string"
    },
    "if": {
      "description": "The interface set supported by this resource",
      "items": {
        "enum": [
          "oic.if.baseline",
          "oic.if.ll",
          "oic.if.b",
          "oic.if.lb",
          "oic.if.rw",
          "oic.if.r",
          "oic.if.a",
          "oic.if.s"
        ],
        "type": "string"
      },
      "minItems": 1,
      "readOnly": true,
      "type": "array"
    },
    "n": {
      "description": "Friendly name of the resource",
      "maxLength": 64,
      "readOnly": true,
      "type": "string"
    },
    "precision": {
      "description": "Accuracy granularity of the exposed value",
      "readOnly": true,
      "type": "number"
    },
    "range": {
      "description": "The valid range for the value Property",
      "items": {
        "anyOf": [
          {
            "type": "number"
          },
          {
            "type": "integer"
          }
        ]
      },
      "maxItems": 2,
      "minItems": 2,
      "readOnly": true,
      "type": "array"
    },
    "rt": {
      "description": "Resource Type",
      "items": {
        "maxLength": 64,
        "type": "string"
      },
      "minItems": 1,
      "readOnly": true,
      "type": "array"
    },
    "step": {
      "anyOf": [
        {
          "type": "integer"
        },
        {
          "type": "number"
        }
      ]
    }
  }

```

```

    },
    "description": "Step value across the defined range",
    "readOnly": true
  },
  "value": {
    "anyOf": [
      {
        "type": "array"
      },
      {
        "type": "string"
      },
      {
        "type": "boolean"
      },
      {
        "type": "integer"
      },
      {
        "type": "number"
      },
      {
        "type": "object"
      }
    ],
    "description": "The value sensed or actuated by this Resource"
  },
  "required": [
    "datetime"
  ],
  "type": "object"
}
}
}

```

B.19.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
if	array: see schema		Read Only	The interface set supported by this resource
datetime	string	yes		Using ISO 8601 datetime format (e.g: 2007-04-05T14:30Z, 2007-04-05T14:30+09:00)
rt	array: see schema		Read Only	Resource Type
id	string		Read Only	Instance ID of this specific resource
step	multiple types: see schema		Read Only	Step value across the defined range
countdown	number			Desired total seconds for countdown
precision	number		Read Only	Accuracy granularity of the exposed value

range	array: see schema		Read Only	The valid range for the value Property
value	multiple types: see schema			The value sensed or actuated by this Resource
n	string		Read Only	Friendly name of the resource

B.19.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/ClockResURI		get	post		

B.20 Auto White Balance

B.20.1 Introduction

This resource describes an auto balance on/off feature. The value is a boolean. An AutoWhiteBalance value of 'true' means that the switch is on. An AutoWhiteBalance value of 'false' means that the switch is off.

B.20.2 Example URI

/AutoWhiteBalanceResURI

B.20.3 Resource Type

The resource type (rt) is defined as: ['oic.r.colour.autowhitebalance'].

B.20.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Auto White Balance",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n
1. Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n
2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.\n\n
THIS SOFTWARE IS PROVIDED BY THE Open
Connectivity Foundation, INC. \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n
IN NO EVENT SHALL THE Open Connectivity
Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n
HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/AutoWhiteBalanceResURI" : {
      "get": {
        "description": "This resource describes an auto balance on/off feature.\nThe value is a
boolean.\nAn AutoWhiteBalance value of 'true' means that the switch is on.\nAn AutoWhiteBalance
value of 'false' means that the switch is off.\n",
```



```

    "description": "The interface set supported by this resource",
    "items": {
      "enum": [
        "oic.if.baseline",
        "oic.if.ll",
        "oic.if.b",
        "oic.if.lb",
        "oic.if.rw",
        "oic.if.r",
        "oic.if.a",
        "oic.if.s"
      ],
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  "precision": {
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
  },
  "range": {
    "description": "The valid range for the value Property",
    "items": {
      "anyOf": [
        {
          "type": "number"
        },
        {
          "type": "integer"
        }
      ]
    },
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
  },
  "rt": {
    "description": "Resource Type",
    "items": {
      "maxLength": 64,
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "step": {
    "anyOf": [
      {
        "type": "integer"
      },
      {
        "type": "number"
      }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
  },
  "value": {
    "anyOf": [
      {

```

```

        "type": "array"
      },
      {
        "type": "string"
      },
      {
        "type": "boolean"
      },
      {
        "type": "integer"
      },
      {
        "type": "number"
      },
      {
        "type": "object"
      }
    ],
    "description": "The value sensed or actuated by this Resource"
  },
  "required": [
    "autoWhiteBalance"
  ],
  "type": "object"
}
}
}

```

B.20.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
value	multiple types: see schema			The value sensed or actuated by this Resource
if	array: see schema		Read Only	The interface set supported by this resource
n	string		Read Only	Friendly name of the resource
step	multiple types: see schema		Read Only	Step value across the defined range
id	string		Read Only	Instance ID of this specific resource
autoWhiteBalance	boolean	yes		Status of the Auto White balance
rt	array: see schema		Read Only	Resource Type
precision	number		Read Only	Accuracy granularity of the exposed value
range	array: see schema		Read Only	The valid range for the value Property

B.20.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify

/AutoWhiteBalanceResURI		get	post		

B.21 Colour Saturation

B.21.1 Introduction

This resource describes a Colour saturation value. The value is an integer. A coloursaturation has a range of [0,100]. A coloursaturation value of 0 means producing black and white images. A coloursaturation value of 50 means producing device specific normal colour images. A coloursaturation value of 100 means producing device very full colour images.

B.21.2 Example URI

/ColourSaturationResURI

B.21.3 Resource Type

The resource type (rt) is defined as: ['oic.r.colour.saturation'].

B.21.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Colour Saturation",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n
1. Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n
2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.\n\n
THIS SOFTWARE IS PROVIDED BY THE Open
Connectivity Foundation, INC. \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n
IN NO EVENT SHALL THE Open Connectivity
Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n
HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/ColourSaturationResURI" : {
      "get": {
        "description": "This resource describes a Colour saturation value.\nThe value is an
integer.\nA coloursaturation has a range of [0,100].\nA coloursaturation value of 0 means producing
black and white images.\nA coloursaturation value of 50 means producing device specific normal
colour images.\nA coloursaturation value of 100 means producing device very full colour images.\n",
        "parameters": [
          {"$ref": "#/parameters/interface"}
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.colour.saturation"],
              "id": "unique_example_id",
              "colourSaturation": 50
            }
          }
        }
      }
    }
  }
}
```



```

        "schema": { "$ref": "#/definitions/Saturation" }
      }
    },
    "post": {
      "description": "",
      "parameters": [
        { "$ref": "#/parameters/interface" },
        {
          "name": "body",
          "in": "body",
          "required": true,
          "schema": { "$ref": "#/definitions/Saturation" },
          "x-example": {
            "id": "unique_example_id",
            "colourSaturation": 60
          }
        }
      ],
      "responses": {
        "200": {
          "description": "",
          "x-example": {
            "id": "unique_example_id",
            "colourSaturation": 60
          },
          "schema": { "$ref": "#/definitions/Saturation" }
        }
      }
    }
  },
  "parameters": {
    "interface": {
      "in": "query",
      "name": "if",
      "type": "string",
      "enum": ["oic.if.a", "oic.if.baseline"]
    }
  },
  "definitions": {
    "Saturation": {
      "properties": {
        "colourSaturation": {
          "description": "The colour saturation value",
          "maximum": 100,
          "minimum": 0,
          "type": "integer"
        },
        "id": {
          "description": "Instance ID of this specific resource",
          "maxLength": 64,
          "readOnly": true,
          "type": "string"
        },
        "if": {
          "description": "The interface set supported by this resource",
          "items": {
            "enum": [
              "oic.if.baseline",
              "oic.if.ll",
              "oic.if.b",
              "oic.if.lb",
              "oic.if.rw",
              "oic.if.r",
              "oic.if.a"
            ]
          }
        }
      }
    }
  }
}

```

```

        "oic.if.s"
      ],
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  "precision": {
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
  },
  "range": {
    "description": "The valid range for the value Property",
    "items": {
      "anyOf": [
        {
          "type": "number"
        },
        {
          "type": "integer"
        }
      ]
    },
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
  },
  "rt": {
    "description": "Resource Type",
    "items": {
      "maxLength": 64,
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "step": {
    "anyOf": [
      {
        "type": "integer"
      },
      {
        "type": "number"
      }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
  },
  "value": {
    "anyOf": [
      {
        "type": "array"
      },
      {
        "type": "string"
      },
      {
        "type": "boolean"
      },
      {
        "type": "integer"
      }
    ]
  }
}

```

```

    },
    {
      "type": "number"
    },
    {
      "type": "object"
    }
  ],
  "description": "The value sensed or actuated by this Resource"
},
},
"required": [
  "colourSaturation"
],
"type": "object"
}
}
}

```

B.21.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
colourSaturation	integer	yes		The colour saturation value
range	array: see schema		Read Only	The valid range for the value Property
rt	array: see schema		Read Only	Resource Type
precision	number		Read Only	Accuracy granularity of the exposed value
if	array: see schema		Read Only	The interface set supported by this resource
value	multiple types: see schema			The value sensed or actuated by this Resource
id	string		Read Only	Instance ID of this specific resource
step	multiple types: see schema		Read Only	Step value across the defined range
n	string		Read Only	Friendly name of the resource

B.21.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/ColourSaturationResURI		get	post		

B.22 Colour Chroma

B.22.1 Introduction

This resource describes the colour using chroma conventions. Properties are hue, saturation, csc, and ct. hue is the hue angle, it is an integer value as defined by the CIECAM02 model definition (see

reference [CIE CIE159:2004]).
 saturation is an integer value as defined by the CIECAM02 model definition (see reference [CIE CIE159:2004]).
 maximumsaturation is the upper bound on the saturation supported by the Device.
 If not present the maximum value for saturation is 32767.
 csc is the colour space coordinates in CIE colour space.
 The first item in the array is the X coordinate.
 The second item in the array is the Y coordinate.
 ct is the Mired colour temperature.
 Provides the colour using chroma conventions.

B.22.2 Example URI

/example/ColourChromaResURI

B.22.3 Resource Type

The resource type (rt) is defined as: ['oic.r.colour.chroma'].

B.22.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Colour Chroma",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n      1.
Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
Connectivity Foundation, INC. \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/example/ColourChromaResURI" : {
      "get": {
        "description": "This resource describes the colour using chroma conventions.\nProperties
are hue, saturation, csc, and ct.\nhue is the hue angle, it is an integer value as defined by the
CIECAM02 model definition (see reference [CIE CIE159:2004]).\nsaturation is an integer value as
defined by the CIECAM02 model definition (see reference [CIE CIE159:2004]).\nmaximumsaturation is
the upper bound on the saturation supported by the Device.\n      If not present the maximum value
for saturation is 32767.\nncsc 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.\nct is
the Mired colour temperature.\nProvides the colour using chroma conventions.\n",
        "parameters": [
          {"$ref": "#/parameters/interface"}
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.colour.chroma"],

```



```

    },
    "ct": {
      "description": "Mired colour temperature",
      "minimum": 0,
      "type": "integer"
    },
    "hue": {
      "description": "Hue angle as defined by the CIECAM02 model definition",
      "maximum": 360,
      "minimum": 0,
      "type": "number"
    },
    "id": {
      "description": "Instance ID of this specific resource",
      "maxLength": 64,
      "readOnly": true,
      "type": "string"
    },
    "if": {
      "description": "The interface set supported by this resource",
      "items": {
        "enum": [
          "oic.if.baseline",
          "oic.if.ll",
          "oic.if.b",
          "oic.if.lb",
          "oic.if.rw",
          "oic.if.r",
          "oic.if.a",
          "oic.if.s"
        ]
      },
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "maximumsaturation": {
    "description": "Maximum supported value of Saturation for this Device",
    "maximum": 32767,
    "minimum": 0,
    "readOnly": true,
    "type": "integer"
  },
  "n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  "precision": {
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
  },
  "range": {
    "description": "The valid range for the value Property",
    "items": {
      "anyOf": [
        {
          "type": "number"
        },
        {
          "type": "integer"
        }
      ]
    }
  },
  "maxItems": 2,
  "minItems": 2,
  "readOnly": true,
  "type": "array"

```

```

    },
    "rt": {
      "description": "Resource Type",
      "items": {
        "maxLength": 64,
        "type": "string"
      },
      "minItems": 1,
      "readOnly": true,
      "type": "array"
    },
    "saturation": {
      "description": "Saturation as defined by the CIECAM02 model definition",
      "maximum": 32767,
      "minimum": 0,
      "type": "integer"
    },
    "step": {
      "anyOf": [
        {
          "type": "integer"
        },
        {
          "type": "number"
        }
      ],
      "description": "Step value across the defined range",
      "readOnly": true
    },
    "value": {
      "anyOf": [
        {
          "type": "array"
        },
        {
          "type": "string"
        },
        {
          "type": "boolean"
        },
        {
          "type": "integer"
        },
        {
          "type": "number"
        },
        {
          "type": "object"
        }
      ],
      "description": "The value sensed or actuated by this Resource"
    }
  },
  "required": [
    "hue",
    "saturation",
    "csc"
  ],
  "type": "object"
}
}
}

```

B.22.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema		Read Only	Resource Type

ct	integer			Mired colour temperature
hue	number	yes		Hue angle as defined by the CIECAM02 model definition
value	multiple types: see schema			The value sensed or actuated by this Resource
csc	array: see schema	yes		X and Y coordinates of the colour in CIE colour space
n	string		Read Only	Friendly name of the resource
maximumsaturation	integer		Read Only	Maximum supported value of Saturation for this Device
precision	number		Read Only	Accuracy granularity of the exposed value
step	multiple types: see schema		Read Only	Step value across the defined range
if	array: see schema		Read Only	The interface set supported by this resource
id	string		Read Only	Instance ID of this specific resource
range	array: see schema		Read Only	The valid range for the value Property
saturation	integer	yes		Saturation as defined by the CIECAM02 model definition

B.22.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/example/ColourChromaResURI		get	post		

B.23 Colour RGB

B.23.1 Introduction

This resource specifies the actual colour in the RGB space represented as an array of integers. Each colour value is described with a Red, Green, Blue component. These colour values are encoded as an array of integer values ([R,G,B]). The minimum and maximum colour value per component may be described by range (from oic.r.baseresource).

When range (from oic.r.baseresource) is omitted, then the range is [0,255].
Retrieves the current colour in RGB.

Value is an array of integer values in the order R,G,B.

B.23.2 Example URI

/ColourRGBResURI

B.23.3 Resource Type

The resource type (rt) is defined as: ['oic.r.colour.rgb'].

B.23.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Colour RGB",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n      1.
Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
Connectivity Foundation, INC. \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n      IN NO EVENT SHALL THE Open Connectivity
Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n      HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/ColourRGBResURI" : {
      "get": {
        "description": "This resource specifies the actual colour in the RGB space represented as
an array of integers.\nEach colour value is described with a Red, Green, Blue component.\nThese
colour values are encoded as an array of integer values ([R,G,B]).\nThe minimum and maximum colour
value per component may be described by range (from oic.r.baseresource).\nWhen range (from
oic.r.baseresource) is omitted, then the range is [0,255].\nRetrieves the current colour in
RGB.\nValue is an array of integer values in the order R,G,B.\n",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.colour.rgb"],
              "id": "unique_example_id",
              "rgbValue": [255,255,255],
              "range": [0,255]
            }
          }
        },
        "schema": { "$ref": "#/definitions/ColourRGB" }
      }
    }
  },
  "post": {
    "description": "Sets the current colourRGB value\n",
    "parameters": [
      { "$ref": "#/parameters/interface" },
      {

```

```

        "name": "body",
        "in": "body",
        "required": true,
        "schema": { "$ref": "#/definitions/ColourRGB" },
        "x-example": {
            {
                "id": "unique_example_id",
                "rgbValue": [255,0,0]
            }
        }
    },
    "responses": {
        "200": {
            "description": "",
            "x-example": {
                {
                    "id": "unique_example_id",
                    "rgbValue": [255,0,0]
                }
            },
            "schema": { "$ref": "#/definitions/ColourRGB" }
        }
    }
},
"parameters": {
    "interface": {
        "in": "query",
        "name": "if",
        "type": "string",
        "enum": ["oic.if.a", "oic.if.baseline"]
    }
},
"definitions": {
    "ColourRGB": {
        {
            "properties": {
                "id": {
                    "description": "Instance ID of this specific resource",
                    "maxLength": 64,
                    "readOnly": true,
                    "type": "string"
                },
                "if": {
                    "description": "The interface set supported by this resource",
                    "items": {
                        "enum": [
                            "oic.if.baseline",
                            "oic.if.ll",
                            "oic.if.b",
                            "oic.if.lb",
                            "oic.if.rw",
                            "oic.if.r",
                            "oic.if.a",
                            "oic.if.s"
                        ]
                    },
                    "type": "string"
                },
                "minItems": 1,
                "readOnly": true,
                "type": "array"
            },
            "n": {
                "description": "Friendly name of the resource",
                "maxLength": 64,
                "readOnly": true,
                "type": "string"
            },
            "precision": {
                "description": "Accuracy granularity of the exposed value",

```

```

    "readOnly": true,
    "type": "number"
  },
  "range": {
    "description": "The valid range for the value Property",
    "items": {
      "anyOf": [
        {
          "type": "number"
        },
        {
          "type": "integer"
        }
      ]
    },
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
  },
  "rgbValue": {
    "description": "RGB value; the first item is the R, second the G, third the B.",
    "items": {
      "type": "integer"
    },
    "maxItems": 3,
    "minItems": 3,
    "type": "array"
  },
  "rt": {
    "description": "Resource Type",
    "items": {
      "maxLength": 64,
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "step": {
    "anyOf": [
      {
        "type": "integer"
      },
      {
        "type": "number"
      }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
  },
  "value": {
    "anyOf": [
      {
        "type": "array"
      },
      {
        "type": "string"
      },
      {
        "type": "boolean"
      },
      {
        "type": "integer"
      },
      {
        "type": "number"
      },
      {
        "type": "object"
      }
    ]
  }
}

```

```

    },
    "description": "The value sensed or actuated by this Resource"
  },
  "required": [
    "rgbValue"
  ],
  "type": "object"
}
}
}

```

B.23.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
n	string		Read Only	Friendly name of the resource
id	string		Read Only	Instance ID of this specific resource
value	multiple types: see schema			The value sensed or actuated by this Resource
range	array: see schema		Read Only	The valid range for the value Property
step	multiple types: see schema		Read Only	Step value across the defined range
rt	array: see schema		Read Only	Resource Type
rgbValue	array: see schema	yes		RGB value; the first item is the R, second the G, third the B.
precision	number		Read Only	Accuracy granularity of the exposed value
if	array: see schema		Read Only	The interface set supported by this resource

B.23.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/ColourRGBResURI		get	post		

B.24 Consumable

B.24.1 Introduction

This resource specifies a thing that can be consumed such as filter material, printer toner etc. The type is an enumeration defining the thing being consumed as defined by the Smart Home Device Specification. The remaining is an integer capturing the percentage remaining life. The orderpercentage is an integer capturing the percentage life at which replacement or replenishment is recommended by the manufacturer. The url is a string containing a URL at which further information may be obtained with respect to

the

consumable

B.24.2 Example URI

/ConsumableResURI

B.24.3 Resource Type

The resource type (rt) is defined as: ['oic.r.consumable'].

B.24.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Consumable",
    "version": "OCF-v1.0.0-20160620",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n      1.
Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
Connectivity Foundation, INC. \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n      IN NO EVENT SHALL THE Open Connectivity
Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n      HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/ConsumableResURI" : {
      "get": {
        "description": "This resource specifies a thing that can be consumed such as filter
material, printer toner etc\nThe type is an enumeration defining the thing being consumed as
defined by the Smart Home Device Specification\nThe remaining is an integer capturing the
percentatge remaining life\nThe orderpercentage is an integer capturing the percentage life at
which replacement or replenishment is recommended by the manufacturer\nThe url is a string
containing a URL at which further information may be obtained with respect to the consumable\n",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.consumable"],
              "id": "unique_example_id",
              "typeofconsumable": "tonerBlack",
              "remaining": 20,
              "orderpercentage": 10,
              "url": "http://myreorderURL"
            },
            "schema": { "$ref": "#/definitions/consumable" }
          }
        }
      }
    }
  }
}
```

```

    "interface" : {
      "in" : "query",
      "name" : "if",
      "type" : "string",
      "enum" : ["oic.if.s", "oic.if.baseline"]
    }
  },
  "definitions": {
    "consumable" :
      {
        "properties": {
          "id": {
            "description": "Instance ID of this specific resource",
            "maxLength": 64,
            "readOnly": true,
            "type": "string"
          },
          "if": {
            "description": "The interface set supported by this resource",
            "items": {
              "enum": [
                "oic.if.baseline",
                "oic.if.ll",
                "oic.if.b",
                "oic.if.lb",
                "oic.if.rw",
                "oic.if.r",
                "oic.if.a",
                "oic.if.s"
              ],
              "type": "string"
            },
            "minItems": 1,
            "readOnly": true,
            "type": "array"
          },
          "n": {
            "description": "Friendly name of the resource",
            "maxLength": 64,
            "readOnly": true,
            "type": "string"
          },
          "orderpercentage": {
            "description": "Percentage at which re-ordering is recommended by the manufacturer",
            "maximum": 100,
            "minimum": 0,
            "readOnly": true,
            "type": "integer"
          },
          "precision": {
            "description": "Accuracy granularity of the exposed value",
            "readOnly": true,
            "type": "number"
          },
          "range": {
            "description": "The valid range for the value Property",
            "items": {
              "anyOf": [
                {
                  "type": "number"
                },
                {
                  "type": "integer"
                }
              ]
            },
            "maxItems": 2,
            "minItems": 2,
            "readOnly": true,
            "type": "array"
          }
        }
      }
  },

```

```

    "remaining": {
      "description": "Percentage remaining lifespan.",
      "maximum": 100,
      "minimum": 0,
      "readOnly": true,
      "type": "integer"
    },
    "rt": {
      "description": "Resource Type",
      "items": {
        "maxLength": 64,
        "type": "string"
      },
      "minItems": 1,
      "readOnly": true,
      "type": "array"
    },
    "step": {
      "anyOf": [
        {
          "type": "integer"
        },
        {
          "type": "number"
        }
      ],
      "description": "Step value across the defined range",
      "readOnly": true
    },
    "typeofconsumable": {
      "description": "Thing that is being consumed.",
      "readOnly": true,
      "type": "string"
    },
    "url": {
      "description": "URL at which additional ordering information may be found.",
      "format": "uri",
      "readOnly": true,
      "type": "string"
    },
    "value": {
      "anyOf": [
        {
          "type": "array"
        },
        {
          "type": "string"
        },
        {
          "type": "boolean"
        },
        {
          "type": "integer"
        },
        {
          "type": "number"
        },
        {
          "type": "object"
        }
      ],
      "description": "The value sensed or actuated by this Resource"
    }
  },
  "required": [
    "typeofconsumable",
    "remaining"
  ],
  "type": "object"
}

```

```

}
}

```

B.24.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
value	multiple types: see schema			The value sensed or actuated by this Resource
rt	array: see schema		Read Only	Resource Type
range	array: see schema		Read Only	The valid range for the value Property
remaining	integer	yes	Read Only	Percentage remaining lifespan.
step	multiple types: see schema		Read Only	Step value across the defined range
id	string		Read Only	Instance ID of this specific resource
precision	number		Read Only	Accuracy granularity of the exposed value
if	array: see schema		Read Only	The interface set supported by this resource
typeofconsumable	string	yes	Read Only	Thing that is being consumed.
orderpercentage	integer		Read Only	Percentage at which re-ordering is recommended by the manufacturer
n	string		Read Only	Friendly name of the resource
url	string		Read Only	URL at which additional ordering information may be found.

B.24.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/ConsumableResURI		get			

B.25 Consumables

B.25.1 Introduction

This resource specifies things that can be consumed such as filter material, printer toner etc. The resource is a collection of instances of oic.r.consumable detailing the individual consumed items.

supportedconsumables is the set of consumable types that this instance of the Resource supports

B.25.2 Example URI

/ConsumablesBaselineResURI

B.25.3 Resource Type

The resource type (rt) is defined as: ['oic.r.consumablecollection', 'oic.wk.col'].

B.25.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Consumables",
    "version": "OCF-v1.0.0-20160620",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n      1.
Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
Connectivity Foundation, INC. \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n      IN NO EVENT SHALL THE Open Connectivity
Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n      HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/ConsumablesLLResURI" : {
      "get": {
        "description": "This resource specifies things that can be consumed such as filter
material, printer toner etc\nThe resource is a collection of instances of oic.r.consumable
detailing the individual consumed items\nsupportedconsumables is the set of consumable types that
this instance of the Resource supports\n",
        "parameters": [
          { "$ref": "#/parameters/interface-ll" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": [
              { "href": "/myTonerBlackResURI", "rt": ["oic.r.consumable"], "if":
["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}},
              { "href": "/myTonerCyanResURI", "rt": ["oic.r.consumable"], "if":
["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}},
              { "href": "/myTonerMagentaResURI", "rt": ["oic.r.consumable"], "if":
["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}},
              { "href": "/myTonerYellowResURI", "rt": ["oic.r.consumable"], "if":
["oic.if.s","oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]}
            ]
          }
        },
        "schema": { "$ref": "#/definitions/consumables-ll" }
      }
    }
  },
  "/ConsumablesBaselineResURI" : {
    "get": {
```

"description": "This resource specifies things that can be consumed such as filter material, printer toner etc\nThe resource is a collection of instances of oic.r.consumable detailing the individual consumed items\nsupportedconsumables is the set of consumable types that this instance of the Resource supports\n",

"parameters": [

- {"\$ref": "#/parameters/interface-baseline"}

],

"responses": {

- "200": {

 - "description" : "",
 - "x-example": {

 - "rt": ["oic.r.consumablecollection", "oic.wk.col"],
 - "id": "unique_example_id",
 - "rts": ["oic.r.consumable", "oic.r.value.conditional"],
 - "supportedconsumables": ["tonerBlack", "tonerCyan", "tonerMagenta", "tonerYellow"],
 - "links": [

 - {"href": "/myTonerBlackResURI", "rt": ["oic.r.consumable"], "if": ["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
 - {"href": "/myTonerCyanResURI", "rt": ["oic.r.consumable"], "if": ["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
 - {"href": "/myTonerMagentaResURI", "rt": ["oic.r.consumable"], "if": ["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
 - {"href": "/myTonerYellowResURI", "rt": ["oic.r.consumable"], "if": ["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]}

},

"schema": { "\$ref": "#/definitions/consumables" }

},

},

},

},

"parameters": {

- "interface-ll" : {

 - "in" : "query",
 - "name" : "if",
 - "type" : "string",
 - "enum" : ["oic.if.ll"]

- "interface-baseline" : {

 - "in" : "query",
 - "name" : "if",
 - "type" : "string",
 - "enum" : ["oic.if.baseline"]

- "interface-all" : {

 - "in" : "query",
 - "name" : "if",
 - "type" : "string",
 - "enum" : ["oic.if.ll", "oic.if.baseline"]

},

"definitions": {

- "consumables-ll" : {

 - "description": "All forms of links in a collection",
 - "oneOf": [

 - {

 - "description": "A set (array) of simple or individual OIC Links. In addition to properties required for an OIC Link, the identifier for that link in this set is also required",
 - "items": {

 - "properties": {

 - "anchor": {

 - "description": "This is used to override the context URI e.g. override the URI of the containing collection",
 - "format": "uri",
 - "maxLength": 256,
 - "type": "string"

```

    "di": {
      "description": "Unique identifier for device (UUID)",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$",
      "type": "string"
    },
    "eps": {
      "description": "the Endpoint information of the target Resource",
      "items": {
        "properties": {
          "ep": {
            "description": "URI with Transport Protocol Suites + Endpoint Locator as specified in 10.2.1",
            "format": "uri",
            "type": "string"
          },
          "pri": {
            "description": "The priority among multiple Endpoints as specified in 10.2.3",
            "minimum": 1,
            "type": "integer"
          }
        },
        "type": "object"
      },
      "type": "array"
    },
    "href": {
      "description": "This is the target URI, it can be specified as a Relative Reference or fully-qualified URI. Relative Reference should be used along with the di parameter to make it unique.",
      "format": "uri",
      "maxLength": 256,
      "type": "string"
    },
    "if": {
      "description": "The interface set supported by this resource",
      "items": {
        "enum": [
          "oic.if.baseline",
          "oic.if.ll",
          "oic.if.b",
          "oic.if.rw",
          "oic.if.r",
          "oic.if.a",
          "oic.if.s"
        ],
        "type": "string"
      },
      "minItems": 1,
      "type": "array"
    },
    "ins": {
      "description": "The instance identifier for this web link in an array of web links - used in collections",
      "oneOf": [
        {
          "description": "An ordinal number that is not repeated - must be unique in the collection context",
          "type": "integer"
        },
        {
          "description": "Any unique string including a URI",
          "format": "uri",
          "maxLength": 256,
          "type": "string"
        },
        {
          "description": "Unique identifier (UUID)",
          "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$",

```

```

        "type": "string"
      }
    ],
    "p": {
      "description": "Specifies the framework policies on the Resource referenced by
the target URI",
      "properties": {
        "bm": {
          "description": "Specifies the framework policies on the Resource referenced
by the target URI for e.g. observable and discoverable",
          "type": "integer"
        }
      },
      "required": [
        "bm"
      ],
      "type": "object"
    },
    "rel": {
      "description": "The relation of the target URI referenced by the link to the
context URI",
      "oneOf": [
        {
          "default": [
            "hosts"
          ],
          "items": {
            "maxLength": 64,
            "type": "string"
          },
          "minItems": 1,
          "type": "array"
        },
        {
          "default": "hosts",
          "maxLength": 64,
          "type": "string"
        }
      ]
    },
    "rt": {
      "description": "Resource Type",
      "items": {
        "maxLength": 64,
        "type": "string"
      },
      "minItems": 1,
      "type": "array"
    },
    "title": {
      "description": "A title for the link relation. Can be used by the UI to provide a
context",
      "maxLength": 64,
      "type": "string"
    },
    "type": {
      "default": "application/cbor",
      "description": "A hint at the representation of the resource referenced by the
target URI. This represents the media types that are used for both accepting and emitting",
      "items": {
        "maxLength": 64,
        "type": "string"
      },
      "minItems": 1,
      "type": "array"
    }
  },
  "required": [
    "href",
    "rt",

```

```

        "if"
      ],
      "type": "object"
    },
    "type": "array"
  ]
}

/
"consumables" :
{
  "description": "A collection is a set (array) of tagged-link or set (array) of simple links
along with additional properties to describe the collection itself",
  "properties": {
    "di": {
      "description": "The device ID which is an UUIDv4 string; used for backward
compatibility with Spec A definition of /oic/res",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-
9]{12}$",
      "type": "string"
    },
    "drel": {
      "description": "When specified this is the default relationship to use when an OIC Link
does not specify an explicit relationship with *rel* parameter",
      "type": "string"
    },
    "id": {
      "anyOf": [
        {
          "description": "A number that is unique to that collection; like an ordinal number
that is not repeated",
          "type": "integer"
        },
        {
          "description": "A unique string that could be a hash or similarly unique",
          "type": "string"
        },
        {
          "description": "A unique string that could be a UUIDv4",
          "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-
9]{12}$",
          "type": "string"
        }
      ],
      "description": "ID for the collection. Can be an value that is unique to the use
context or a UUIDv4"
    },
    "links": {
      "description": "All forms of links in a collection",
      "oneOf": [
        {
          "description": "A set (array) of simple or individual OIC Links. In addition to
properties required for an OIC Link, the identifier for that link in this set is also required",
          "items": {
            "properties": {
              "anchor": {
                "description": "This is used to override the context URI e.g. override the
URI of the containing collection",
                "format": "uri",
                "maxLength": 256,
                "type": "string"
              },
              "di": {
                "description": "Unique identifier for device (UUID)",
                "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-
fA-F0-9]{12}$",
                "type": "string"
              },
              "eps": {
                "description": "the Endpoint information of the target Resource",

```

```

        "items": {
          "properties": {
            "ep": {
              "description": "URI with Transport Protocol Suites + Endpoint Locator
as specified in 10.2.1",
              "format": "uri",
              "type": "string"
            },
            "pri": {
              "description": "The priority among multiple Endpoints as specified in
10.2.3",
              "minimum": 1,
              "type": "integer"
            }
          },
          "type": "object"
        },
        "type": "array"
      },
      "href": {
        "description": "This is the target URI, it can be specified as a Relative
Reference or fully-qualified URI. Relative Reference should be used along with the di parameter to
make it unique.",
        "format": "uri",
        "maxLength": 256,
        "type": "string"
      },
      "if": {
        "description": "The interface set supported by this resource",
        "items": {
          "enum": [
            "oic.if.baseline",
            "oic.if.ll",
            "oic.if.b",
            "oic.if.rw",
            "oic.if.r",
            "oic.if.a",
            "oic.if.s"
          ],
          "type": "string"
        },
        "minItems": 1,
        "type": "array"
      },
      "ins": {
        "description": "The instance identifier for this web link in an array of web
links - used in collections",
        "oneOf": [
          {
            "description": "An ordinal number that is not repeated - must be unique
in the collection context",
            "type": "integer"
          },
          {
            "description": "Any unique string including a URI",
            "format": "uri",
            "maxLength": 256,
            "type": "string"
          },
          {
            "description": "Unique identifier (UUID)",
            "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-
[a-fA-F0-9]{12}$",
            "type": "string"
          }
        ]
      },
      "p": {
        "description": "Specifies the framework policies on the Resource referenced
by the target URI",
        "properties": {

```

```

        "bm": {
          "description": "Specifies the framework policies on the Resource
referenced by the target URI for e.g. observable and discoverable",
          "type": "integer"
        },
        "required": [
          "bm"
        ],
        "type": "object"
      },
      "rel": {
        "description": "The relation of the target URI referenced by the link to the
context URI",
        "oneOf": [
          {
            "default": [
              "hosts"
            ],
            "items": {
              "maxLength": 64,
              "type": "string"
            },
            "minItems": 1,
            "type": "array"
          },
          {
            "default": "hosts",
            "maxLength": 64,
            "type": "string"
          }
        ]
      },
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "type": "array"
      },
      "title": {
        "description": "A title for the link relation. Can be used by the UI to
provide a context",
        "maxLength": 64,
        "type": "string"
      },
      "type": {
        "default": "application/cbor",
        "description": "A hint at the representation of the resource referenced by
the target URI. This represents the media types that are used for both accepting and emitting",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "type": "array"
      }
    ],
    "required": [
      "href",
      "rt",
      "if"
    ],
    "type": "object"
  },
  "type": "array"
}

```

```

    "rt": {
      "items": {
        "enum": [
          "oic.r.consumablecollection",
          "oic.wk.col"
        ]
      },
      "maxItems": 2,
      "minItems": 2,
      "type": "array",
      "uniqueItems": true
    },
    "rts": {
      "description": "Defines the list of allowable resource types (for Target and anchors)
in links included in the collection; new links being created can only be from this list",
      "items": {
        "anyOf": [
          {
            "enum": [
              "oic.r.consumable",
              "oic.r.value.conditional"
            ]
          },
          {
            "enum": [
              "oic.r.consumable"
            ]
          }
        ]
      },
      "maxLength": 64,
      "type": "string"
    },
    "maxItems": 2,
    "minItems": 1,
    "readOnly": true,
    "type": "array",
    "uniqueItems": true
  },
  "supportedconsumables": {
    "description": "Array of possible consumables the device measures.",
    "items": {
      "type": "string"
    },
    "readOnly": true,
    "type": "array"
  }
},
"type": "object"
}
}
}

```

B.25.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
ins	multiple types: see schema			The instance identifier for this web link in an array of web links - used in collections
rt	array: see schema	yes		Resource Type
rel	multiple types: see schema			The relation of the target URI referenced by

				the link to the context URI
if	array: see schema	yes		The interface set supported by this resource
p	object: see schema			Specifies the framework policies on the Resource referenced by the target URI
type	array: see schema			A hint at the representation of the resource referenced by the target URI. This represents the media types that are used for both accepting and emitting
anchor	string			This is used to override the context URI e.g. override the URI of the containing collection
eps	array: see schema			the Endpoint information of the target Resource
title	string			A title for the link relation. Can be used by the UI to provide a context
di	string			Unique identifier for device (UUID)
href	string	yes		This is the target URI, it can be specified as a Relative Reference or fully-qualified URI. Relative Reference should be used along with the di parameter to make it unique.
links	multiple types: see schema			All forms of links in a collection
rt	array: see schema	yes		

rts	array: see schema		Read Only	Defines the list of allowable resource types (for Target and anchors) in links included in the collection; new links being created can only be from this list
id	multiple types: see schema			ID for the collection. Can be an value that is unique to the use context or a UUIDv4
supportedconsumables	array: see schema		Read Only	Array of possible consumables the device measures.
drel	string			When specified this is the default relationship to use when an OIC Link does not specify an explicit relationship with *rel* parameter
di	string			The device ID which is an UUIDv4 string; used for backward compatibility with Spec A definition of /oic/res

B.25.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/ConsumablesBaselineResURI		get			

B.26 Contact Sensor**B.26.1 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 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).

B.26.2 Example URI

/ContactResURI

B.26.3 Resource Type

The resource type (rt) is defined as: ['oic.r.sensor.contact'].

B.26.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Contact Sensor",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n
1. Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n
2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.\n\n
THIS SOFTWARE IS PROVIDED BY THE Open
Connectivity Foundation, INC. \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n
IN NO EVENT SHALL THE Open Connectivity
Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n
HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
    }
  },
  "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 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).\n",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.sensor.contact"],
              "id": "unique_example_id",
              "value": true
            },
            "schema": { "$ref": "#/definitions/Contact" }
          }
        }
      }
    }
  },
  "parameters": {
    "interface": {
      "in": "query",
      "name": "if",
      "type": "string",
      "enum": ["oic.if.s", "oic.if.baseline"]
    }
  },
  "definitions": {
```

```

"Contact" :
{
  "properties": {
    "id": {
      "description": "Instance ID of this specific resource",
      "maxLength": 64,
      "readOnly": true,
      "type": "string"
    },
    "if": {
      "description": "The interface set supported by this resource",
      "items": {
        "enum": [
          "oic.if.baseline",
          "oic.if.ll",
          "oic.if.b",
          "oic.if.lb",
          "oic.if.rw",
          "oic.if.r",
          "oic.if.a",
          "oic.if.s"
        ],
        "type": "string"
      },
      "minItems": 1,
      "readOnly": true,
      "type": "array"
    },
    "n": {
      "description": "Friendly name of the resource",
      "maxLength": 64,
      "readOnly": true,
      "type": "string"
    },
    "precision": {
      "description": "Accuracy granularity of the exposed value",
      "readOnly": true,
      "type": "number"
    },
    "range": {
      "description": "The valid range for the value Property",
      "items": {
        "anyOf": [
          {
            "type": "number"
          },
          {
            "type": "integer"
          }
        ]
      },
      "maxItems": 2,
      "minItems": 2,
      "readOnly": true,
      "type": "array"
    },
    "rt": {
      "description": "Resource Type",
      "items": {
        "maxLength": 64,
        "type": "string"
      },
      "minItems": 1,
      "readOnly": true,
      "type": "array"
    },
    "step": {
      "anyOf": [
        {
          "type": "integer"
        }
      ],

```

```

    {
      "type": "number"
    },
    {
      "description": "Step value across the defined range",
      "readOnly": true
    },
    {
      "value": {
        "description": "true = sensed, false = not sensed.",
        "readOnly": true,
        "type": "boolean"
      }
    },
    {
      "required": [
        "value"
      ],
      "type": "object"
    }
  ],
  "type": "object"
}
}
}

```

B.26.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
n	string		Read Only	Friendly name of the resource
range	array: see schema		Read Only	The valid range for the value Property
value	boolean	yes	Read Only	true = sensed, false = not sensed.
if	array: see schema		Read Only	The interface set supported by this resource
rt	array: see schema		Read Only	Resource Type
precision	number		Read Only	Accuracy granularity of the exposed value
step	multiple types: see schema		Read Only	Step value across the defined range
id	string		Read Only	Instance ID of this specific resource

B.26.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/ContactResURI		get			

B.27 Delay Defrost

B.27.1 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)G (<https://www.energystar.gov/sites/default/files/specs//private/ENERGY%20STAR%20Final%20Version%205.0%20Residential%20Refrigerators%20and%20Freezers%20Program%20Requirements.pdf>)

The status is a boolean indicating whether the function is on, if off then defrost is scheduled as part of normal device operation. startTime, from oir.r.time.period (mandatory) is an ISO8601 encoded start time for the interval in which defrost shall not occur. stopTime, from oic.r.time.period is an ISO8601 encoded stop time for the interval in which defrost shall not occur. interval, from oic.r.time.period with additional range restrictions is the time in minutes of the period that starts at starttime (if not present the default is 240). stopTime and interval are mutually exclusive; they cannot both be present in a Resource instance. Retrieves the current Delay Defrost function status

B.27.2 Example URI

/DelayDefrostResURI

B.27.3 Resource Type

The resource type (rt) is defined as: ['oic.r.delaydefrost'].

B.27.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Delay Defrost",
    "version": "OCF_v1.0.0-2016____",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n      1.
Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
Connectivity Foundation, INC. \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/DelayDefrostResURI" : {
      "get": {
        "description": "This resource describes the delay defrost function as defined by the US
Energy Star Specifications.\nSee Energy Star Refrigerator Requirements Version 5 Section
4)G\n(https://www.energystar.gov/sites/default/files/specs/private/ENERGY%20STAR%20Final%20Version
%205.0%20Residential%20Refrigerators%20and%20Freezers%20Program%20Requirements.pdf)\nThe status is
a boolean indicating whether the function is on, if off then defrost is scheduled as part of normal
device operation.\nstartTime, from oir.r.time.period (mandatory) is an ISO8601 encoded start time
for the interval in which defrost shall not occur.\nstopTime, from oic.r.time.period is an ISO8601
encoded stop time for the interval in which defrost shall not occur.\ninterval, from
oic.r.time.period with additional range restrictions is the time in minutes of the period that
starts at starttime (if not present the default is 240).\nstopTime and interval are mutually
exclusive; they cannot both be present in a Resource instance\nRetrieves the current Delay Defrost
function status\n",
        "parameters": [
          {"$ref": "#/parameters/interface"}
        ],
        "responses": {
          "200": {

```

```

        "description" : "",
        "x-example": {
            "rt": ["oic.r.delaydefrost"],
            "id": "unique_example_id",
            "startTime": "06:00Z",
            "status": false
        }
        "schema": { "$ref": "#/definitions/DelayDefrost" }
    }
},
"post": {
    "description": "Activates the desired Delay Defrost functions\n",
    "parameters": [
        { "$ref": "#/parameters/interface"},
        {
            "name": "body",
            "in": "body",
            "required": true,
            "schema": { "$ref": "#/definitions/DelayDefrost" },
            "x-example": {
                "id": "unique_example_id",
                "status": true,
                "startTime": "06:00Z",
                "interval": 180
            }
        }
    ],
    "responses": {
        "200": {
            "description" : "Indicates that the DelayDefrost function was changed.\nThe new representation may be provided in the response.\n",
            "x-example": {
                "id": "unique_example_id",
                "status": true,
                "startTime": "06:00Z",
                "interval": 180
            }
            "schema": { "$ref": "#/definitions/DelayDefrost" }
        },
        "403": {
            "description" : "Indicates the update to the time properties was rejected.\nReasons for rejection:\n invalid time entry\nThe current unchanged representation may be provided in the response.\n",
            "x-example": {
                "id": "unique_example_id",
                "status": true,
                "startTime": "06:00Z",
                "interval": 180
            }
            "schema": { "$ref": "#/definitions/DelayDefrost" }
        }
    }
},
"parameters": {
    "interface": {
        "in": "query",
        "name": "if",
        "type": "string",
        "enum": ["oic.if.a", "oic.if.baseline"]
    }
}
},

```

```

"definitions": {
  "DelayDefrost" :
  {
    "properties": {
      "id": {
        "description": "Instance ID of this specific resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
      },
      "if": {
        "description": "The interface set supported by this resource",
        "items": {
          "enum": [
            "oic.if.baseline",
            "oic.if.ll",
            "oic.if.b",
            "oic.if.lb",
            "oic.if.rw",
            "oic.if.r",
            "oic.if.a",
            "oic.if.s"
          ],
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "interval": {
        "default": 240,
        "description": "Defrost interval as defined by Energy Star",
        "maximum": 1440,
        "minimum": 1,
        "type": "integer"
      },
      "n": {
        "description": "Friendly name of the resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "range": {
        "description": "The valid range for the value Property",
        "items": {
          "anyOf": [
            {
              "type": "number"
            },
            {
              "type": "integer"
            }
          ]
        },
        "maxItems": 2,
        "minItems": 2,
        "readOnly": true,
        "type": "array"
      },
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,

```



```

        "readOnly": true,
        "type": "array"
      },
      "startTime": {
        "description": "Start time for the time period",
        "type": "string"
      },
      "status": {
        "description": "Indicates whether any supported delay defrost function is active",
        "type": "boolean"
      },
      "step": {
        "anyOf": [
          {
            "type": "integer"
          },
          {
            "type": "number"
          }
        ],
        "description": "Step value across the defined range",
        "readOnly": true
      },
      "stopTime": {
        "description": "Stop time for the time period, if present interval cannot be present",
        "type": "string"
      },
      "value": {
        "anyOf": [
          {
            "type": "array"
          },
          {
            "type": "string"
          },
          {
            "type": "boolean"
          },
          {
            "type": "integer"
          },
          {
            "type": "number"
          },
          {
            "type": "object"
          }
        ],
        "description": "The value sensed or actuated by this Resource"
      }
    ],
    "required": [
      "startTime",
      "status"
    ],
    "type": "object"
  }
}

```

B.27.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
rt	array: schema see		Read Only	Resource Type
precision	number		Read Only	Accuracy granularity of the exposed value

if	array: see schema		Read Only	The interface set supported by this resource
range	array: see schema		Read Only	The valid range for the value Property
value	multiple types: see schema			The value sensed or actuated by this Resource
step	multiple types: see schema		Read Only	Step value across the defined range
n	string		Read Only	Friendly name of the resource
id	string		Read Only	Instance ID of this specific resource
startTime	string	yes		Start time for the time period
status	boolean	yes		Indicates whether any supported delay defrost function is active
interval	integer			Defrost interval as defined by Energy Star
stopTime	string			Stop time for the time period, if present interval cannot be present

B.27.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/DelayDefrostResURI		get	post		

B.28 Dimming**B.28.1 Introduction**

This resource describes a dimming function. The value is an integer showing the current dimming level. If step (from oic.r.baseresource) is present then it represents the increment between dimmer values. When range (from oic.r.baseresource) is omitted, then the range is [0,100]. A value of 0 means total dimming; a value of 100 means no dimming. Retrieves the current dimming level.

B.28.2 Example URI

/DimmingResURI

B.28.3 Resource Type

The resource type (rt) is defined as: ['oic.r.light.dimming'].

B.28.4 Swagger2.0 Definition

```

{
  "swagger": "2.0",
  "info": {
    "title": "Dimming",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n      1.
Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
Connectivity Foundation, INC. \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
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ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/DimmingResURI" : {
      "get": {
        "description": "This resource describes a dimming function.\nThe value is an integer
showing the current dimming level.\nIf step (from oic.r.baseresource) is present then it represents
the increment between dimmer values.\nWhen range (from oic.r.baseresource) is omitted, then the
range is [0,100].\nA value of 0 means total dimming; a value of 100 means no dimming.\nRetrieves
the current dimming level.\n",
        "parameters": [
          {"$ref": "#/parameters/interface"}
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.light.dimming"],
              "id": "unique_example_id",
              "dimmingSetting": 30,
              "step": 5,
              "range": [0,100]
            }
          },
          "schema": { "$ref": "#/definitions/Dimming" }
        }
      },
      "post": {
        "description": "Sets the desired dimming level.\n",
        "parameters": [
          {"$ref": "#/parameters/interface"},
          {
            "name": "body",
            "in": "body",
            "required": true,
            "schema": { "$ref": "#/definitions/Dimming" },
            "x-example": {
              "id": "unique_example_id",
              "dimmingSetting": 40
            }
          }
        ]
      }
    }
  }
}

```

```

    ],
    "responses": {
      "200": {
        "description": "Indicates that the dimming was changed.\n\nThe new dimming level is
provided in the response.\n",
        "x-example": {
          "id": "unique_example_id",
          "dimmingSetting": 40
        },
        "schema": { "$ref": "#/definitions/Dimming" }
      },
      "403": {
        "description": "This response is generated by the OIC Server when the client
sends:\n An update with an out of range property value for dimmingSetting.\n\nThe server responds
with the current resource representation.\n",
        "x-example": {
          "id": "unique_example_id",
          "dimmingSetting": 40
        },
        "schema": { "$ref": "#/definitions/Dimming" }
      }
    }
  },
  "parameters": {
    "interface": {
      "in": "query",
      "name": "if",
      "type": "string",
      "enum": ["oic.if.a", "oic.if.baseline"]
    }
  },
  "definitions": {
    "Dimming": {
      "properties": {
        "dimmingSetting": {
          "description": "Current dimming value",
          "type": "integer"
        },
        "id": {
          "description": "Instance ID of this specific resource",
          "maxLength": 64,
          "readOnly": true,
          "type": "string"
        },
        "if": {
          "description": "The interface set supported by this resource",
          "items": {
            "enum": [
              "oic.if.baseline",
              "oic.if.ll",
              "oic.if.b",
              "oic.if.lb",
              "oic.if.rw",
              "oic.if.r",
              "oic.if.a",
              "oic.if.s"
            ],
            "type": "string"
          },
          "minItems": 1,
          "readOnly": true,
          "type": "array"
        }
      },
      "type": "object"
    }
  },
  "n": {

```

```

    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  "precision": {
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
  },
  "range": {
    "description": "The valid range for the value Property",
    "items": {
      "anyOf": [
        {
          "type": "number"
        },
        {
          "type": "integer"
        }
      ]
    },
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
  },
  "rt": {
    "description": "Resource Type",
    "items": {
      "maxLength": 64,
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "step": {
    "anyOf": [
      {
        "type": "integer"
      },
      {
        "type": "number"
      }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
  },
  "value": {
    "anyOf": [
      {
        "type": "array"
      },
      {
        "type": "string"
      },
      {
        "type": "boolean"
      },
      {
        "type": "integer"
      },
      {
        "type": "number"
      },
      {
        "type": "object"
      }
    ],
    "description": "The value sensed or actuated by this Resource"
  }

```

```

    },
    "required": [
      "dimmingSetting"
    ],
    "type": "object"
  }
}

```

B.28.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
value	multiple types: see schema			The value sensed or actuated by this Resource
step	multiple types: see schema		Read Only	Step value across the defined range
rt	array: see schema		Read Only	Resource Type
precision	number		Read Only	Accuracy granularity of the exposed value
id	string		Read Only	Instance ID of this specific resource
n	string		Read Only	Friendly name of the resource
dimmingSetting	integer	yes		Current dimming value
if	array: see schema		Read Only	The interface set supported by this resource
range	array: see schema		Read Only	The valid range for the value Property

B.28.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/DimmingResURL		get	post		

B.29 Door

B.29.1 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 openState, the value 'Open' indicates the door is open. The value 'Closed' indicates the door is closed. The type of openDuration is an ISO 8601 Time encoded string. The 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.

B.29.2 Example URI

/DoorResURI

B.29.3 Resource Type

The resource type (rt) is defined as: ['oic.r.door'].

B.29.4 Swagger2.0 Definition

```

{
  "swagger": "2.0",
  "info": {
    "title": "Door",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n
1. Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n
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ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
    }
  },
  "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
openState, the value 'Open' indicates the door is open.\nThe value 'Closed' indicates the door is
closed.\nThe type of openDuration is an ISO 8601 Time encoded string.\nThe 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": [
          {"$ref": "#/parameters/interface-all"}
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt" : ["oic.r.door"],
              "id": "unique_example_id",
              "openState": "Open",
              "openDuration": "P0Y0M0DT2H25M5S",
              "openAlarm": true
            }
          },
          "schema": { "$ref": "#/definitions/Door" }
        }
      },
      "post": {
        "description": "Sets the current Door properties.\nThe only property that can be set as
part of an update operation is\n the openAlarm.\nThis can be made active (true) or inactive
(false)\n",
        "parameters": [
          {"$ref": "#/parameters/interface-actuator"}
        ]
      }
    }
  }
}

```

```

        "name": "body",
        "in": "body",
        "required": true,
        "schema": { "$ref": "#/definitions/DoorUpdate" },
        "x-example": {
            "id": "unique_example_id",
            "openAlarm": false
        }
    },
    "responses": {
        "200": {
            "description": "",
            "x-example": {
                "id": "unique_example_id",
                "openAlarm": false
            },
            "schema": { "$ref": "#/definitions/DoorUpdate" }
        }
    }
},
"parameters": {
    "interface-actuator" : {
        "in" : "query",
        "name" : "if",
        "type" : "string",
        "enum" : ["oic.if.a", "oic.if.baseline"]
    },
    "interface-all" : {
        "in" : "query",
        "name" : "if",
        "type" : "string",
        "enum" : ["oic.if.a", "oic.if.s", "oic.if.baseline"]
    }
},
"definitions": {
    "Door" : {
        "properties": {
            "id": {
                "description": "Instance ID of this specific resource",
                "maxLength": 64,
                "readOnly": true,
                "type": "string"
            },
            "if": {
                "description": "The interface set supported by this resource",
                "items": {
                    "enum": [
                        "oic.if.baseline",
                        "oic.if.ll",
                        "oic.if.b",
                        "oic.if.lb",
                        "oic.if.rw",
                        "oic.if.r",
                        "oic.if.a",
                        "oic.if.s"
                    ]
                },
                "type": "string"
            },
            "minItems": 1,
            "readOnly": true,
            "type": "array"
        },
        "n": {
            "description": "Friendly name of the resource",

```



```

    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  "openAlarm": {
    "description": "The state of the door open alarm",
    "type": "boolean"
  },
  "openDuration": {
    "description": "The time duration the door has been open",
    "readOnly": true,
    "type": "string"
  },
  "openState": {
    "description": "The state of the door (open or closed)",
    "enum": [
      "Open",
      "Closed"
    ],
    "readOnly": true
  },
  "precision": {
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
  },
  "range": {
    "description": "The valid range for the value Property",
    "items": {
      "anyOf": [
        {
          "type": "number"
        },
        {
          "type": "integer"
        }
      ]
    }
  },
  "maxItems": 2,
  "minItems": 2,
  "readOnly": true,
  "type": "array"
},
"rt": {
  "description": "Resource Type",
  "items": {
    "maxLength": 64,
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
},
"step": {
  "anyOf": [
    {
      "type": "integer"
    },
    {
      "type": "number"
    }
  ],
  "description": "Step value across the defined range",
  "readOnly": true
},
"value": {
  "anyOf": [
    {
      "type": "array"
    },
    {

```

```

        "type": "string"
      },
      {
        "type": "boolean"
      },
      {
        "type": "integer"
      },
      {
        "type": "number"
      },
      {
        "type": "object"
      }
    ],
    "description": "The value sensed or actuated by this Resource"
  },
  "required": [
    "openState"
  ],
  "type": "object"
}

/DoorUpdate :
{
  "properties": {
    "id": {
      "description": "Instance ID of this specific resource",
      "maxLength": 64,
      "readOnly": true,
      "type": "string"
    },
    "if": {
      "description": "The interface set supported by this resource",
      "items": {
        "enum": [
          "oic.if.baseline",
          "oic.if.ll",
          "oic.if.b",
          "oic.if.lb",
          "oic.if.rw",
          "oic.if.r",
          "oic.if.a",
          "oic.if.s"
        ],
        "type": "string"
      },
      "minItems": 1,
      "readOnly": true,
      "type": "array"
    },
    "n": {
      "description": "Friendly name of the resource",
      "maxLength": 64,
      "readOnly": true,
      "type": "string"
    },
    "openAlarm": {
      "description": "The state of the door open alarm",
      "type": "boolean"
    },
    "precision": {
      "description": "Accuracy granularity of the exposed value",
      "readOnly": true,
      "type": "number"
    },
    "range": {
      "description": "The valid range for the value Property",
      "items": {

```

```

    "anyOf": [
      {
        "type": "number"
      },
      {
        "type": "integer"
      }
    ]
  },
  "maxItems": 2,
  "minItems": 2,
  "readOnly": true,
  "type": "array"
},
"rt": {
  "description": "Resource Type",
  "items": {
    "maxLength": 64,
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
},
"step": {
  "anyOf": [
    {
      "type": "integer"
    },
    {
      "type": "number"
    }
  ],
  "description": "Step value across the defined range",
  "readOnly": true
},
"value": {
  "anyOf": [
    {
      "type": "array"
    },
    {
      "type": "string"
    },
    {
      "type": "boolean"
    },
    {
      "type": "integer"
    },
    {
      "type": "number"
    },
    {
      "type": "object"
    }
  ],
  "description": "The value sensed or actuated by this Resource"
},
"type": "object"
}
}
}

```

B.29.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description

id	string		Read Only	Instance ID of this specific resource
range	array: see schema		Read Only	The valid range for the value Property
value	multiple types: see schema			The value sensed or actuated by this Resource
n	string		Read Only	Friendly name of the resource
rt	array: see schema		Read Only	Resource Type
step	multiple types: see schema		Read Only	Step value across the defined range
openAlarm	boolean			The state of the door open alarm
precision	number		Read Only	Accuracy granularity of the exposed value
if	array: see schema		Read Only	The interface set supported by this resource
openState	multiple types: see schema	yes	Read Only	The state of the door (open or closed)
openDuration	string		Read Only	The time duration the door has been open
id	string		Read Only	Instance ID of this specific resource
range	array: see schema		Read Only	The valid range for the value Property
n	string		Read Only	Friendly name of the resource
step	multiple types: see schema		Read Only	Step value across the defined range
openAlarm	boolean			The state of the door open alarm
precision	number		Read Only	Accuracy granularity of the exposed value
if	array: see schema		Read Only	The interface set supported by this resource
rt	array: see schema		Read Only	Resource Type
value	multiple types: see schema			The value sensed or

				actuated by this Resource

B.29.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/DoorResURI		get	post		

B.30 Demand Response Load Control (DRLC).

B.30.1 Introduction

This resource describes any to be applied or currently being applied DRLC signal. The DRType is the ApplianceLoadReductionType defined in Zigbee/HA Smart Energy Profile 2.0. Start is a string containing an ISO8601 encoded start time. The duration value is in minutes. Override indicates whether the consumer has overridden the request (true) or not (false). Provides the current DRLC action that is being applied.

B.30.2 Example URI

/DRLCResURI

B.30.3 Resource Type

The resource type (rt) is defined as: ['oic.r.energy.drlc'].

B.30.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Demand Response Load Control (DRLC).",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "Copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n
1. Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n
2. Redistributions in binary form must reproduce the above
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HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/DRLCResURI": {
      "get": {
        "description": "This resource describes any to be applied or currently being applied DRLC
signal.\nThe DRType is the ApplianceLoadReductionType defined in Zigbee/HA Smart Energy Profile
2.0.\nStart is a string containing an ISO8601 encoded start time.\nThe duration value is in
minutes.\nOverride indicates whether the consumer has overridden the request (true) or not
(false).\nProvides the current DRLC action that is being applied.\n",
        "parameters": [
          {"$ref": "#/parameters/interface"}
        ],
        "responses": {
```

```

    "200": {
      "description" : "",
      "x-example":
        {
          "rt":      ["oic.r.energy.drlc"],
          "id":      "unique_example_id",
          "DRType":  1,
          "start":   "2015-01-09T16:45Z",
          "duration": 10,
          "override": false
        }
      ,
      "schema": { "$ref": "#/definitions/DRLC" }
    }
  },
  "put": {
    "description": "Provides the DRLC action to be applied to the device or updates an existing
action.\n",
    "parameters": [
      { "$ref": "#/parameters/interface"},
      {
        "name": "body",
        "in": "body",
        "required": true,
        "schema": { "$ref": "#/definitions/DRLC" },
        "x-example":
          {
            "rt":      ["oic.r.energy.drlc"],
            "id":      "unique_example_id",
            "DRType":  1,
            "start":   "2015-01-09T16:45Z",
            "duration": 10
          }
      }
    ],
    "responses": {
      "200": {
        "description" : "Indicates that the target DRLC resource was changed.\nThe new
resource attributes are provided in the response.\n",
        "x-example":
          {
            "DRType":  1,
            "id":      "unique_example_id",
            "start":   "2015-01-09T17:00Z",
            "duration": 15,
            "override": false
          }
        ,
        "schema": { "$ref": "#/definitions/DRLC" }
      },
      "201": {
        "description" : "Indicates successful creation of the DRLC resource with the
attributes provided.\nThe response includes the URI of the created resource.\n",
        "x-example":
          {
            "ResURI":  "/MyDevice/MyDRLCURI"
          }
        ,
        "schema": { "$ref": "#/definitions/CreateResponse" }
      }
    }
  },
  "parameters": {
    "interface" : {
      "in" : "query",
      "name" : "if",
      "type" : "string",
      "enum" : ["oic.if.b", "oic.if.baseline"]
    }
  }
}

```

```

    }
  },
  "definitions": {
    "DRLC": {
      {
        "properties": {
          "DRTType": {
            "description": "The to be applied demand-response type",
            "type": "integer"
          },
          "duration": {
            "description": "The duration of the to be applied DR type",
            "type": "integer"
          },
          "id": {
            "description": "Instance ID of this specific resource",
            "maxLength": 64,
            "readOnly": true,
            "type": "string"
          },
          "if": {
            "description": "The interface set supported by this resource",
            "items": {
              "enum": [
                "oic.if.baseline",
                "oic.if.ll",
                "oic.if.b",
                "oic.if.lb",
                "oic.if.rw",
                "oic.if.r",
                "oic.if.a",
                "oic.if.s"
              ],
              "type": "string"
            },
            "minItems": 1,
            "readOnly": true,
            "type": "array"
          },
          "n": {
            "description": "Friendly name of the resource",
            "maxLength": 64,
            "readOnly": true,
            "type": "string"
          },
          "override": {
            "description": "Whether the consumer has overridden the application of DR",
            "type": "boolean"
          },
          "precision": {
            "description": "Accuracy granularity of the exposed value",
            "readOnly": true,
            "type": "number"
          },
          "range": {
            "description": "The valid range for the value Property",
            "items": {
              "anyOf": [
                {
                  "type": "number"
                },
                {
                  "type": "integer"
                }
              ]
            },
            "maxItems": 2,
            "minItems": 2,
            "readOnly": true,
            "type": "array"
          }
        },
        "type": "array"
      }
    }
  },

```

```

    "rt": {
      "description": "Resource Type",
      "items": {
        "maxLength": 64,
        "type": "string"
      },
      "minItems": 1,
      "readOnly": true,
      "type": "array"
    },
    "start": {
      "description": "The start time for the application of DR",
      "type": "string"
    },
    "step": {
      "anyOf": [
        {
          "type": "integer"
        },
        {
          "type": "number"
        }
      ],
      "description": "Step value across the defined range",
      "readOnly": true
    },
    "value": {
      "anyOf": [
        {
          "type": "array"
        },
        {
          "type": "string"
        },
        {
          "type": "boolean"
        },
        {
          "type": "integer"
        },
        {
          "type": "number"
        },
        {
          "type": "object"
        }
      ],
      "description": "The value sensed or actuated by this Resource"
    },
    "required": [
      "DRTYPE"
    ],
    "type": "object"
  }
}

"CreateResponse" :
{
  "properties": {
    "ResURI": {
      "type": "string"
    }
  },
  "type": "object"
}
}
}

```


B.30.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
ResURI	string			
value	multiple types: see schema			The value sensed or actuated by this Resource
start	string			The start time for the application of DR
duration	integer			The duration of the to be applied DR type
override	boolean			Whether the consumer has overridden the application of DR
range	array: see schema		Read Only	The valid range for the value Property
rt	array: see schema		Read Only	Resource Type
step	multiple types: see schema		Read Only	Step value across the defined range
if	array: see schema		Read Only	The interface set supported by this resource
precision	number		Read Only	Accuracy granularity of the exposed value
DRTYPE	integer	yes		The to be applied demand-response type
n	string		Read Only	Friendly name of the resource
id	string		Read Only	Instance ID of this specific resource

B.30.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/DRLCResURI	put	get			

B.31 Eco Mode**B.31.1 Introduction**

This resource specifies the supported and currently active Eco Mode of a Device. The Resource uses the existing schema for Mode (oic.r.mode) with a restriction that the population of supportedmodes and modes Properties is restricted to the set of values given below: "disabled", "enabled", "notsupported"

The adminforced Property indicates that the value has been set by another party (e.g. via some offboard Smart Energy interaction)

B.31.2 Example URI

/EcomodeResURI

B.31.3 Resource Type

The resource type (rt) is defined as: ['oic.r.ecomode'].

B.31.4 Swagger2.0 Definition

```

{
  "swagger": "2.0",
  "info": {
    "title": "Eco Mode",
    "version": "OCF-v1.0.0-20160620",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n
1. Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n
2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.\n\n
THIS SOFTWARE IS PROVIDED BY THE Open
Connectivity Foundation, INC. \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n
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Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n
HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
    }
  },
  "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 uses the existing schema for Mode (oic.r.mode) with a restriction that the
population of supportedmodes and modes Properties is restricted to the set of values given
below:\n\n\"disabled\", \"enabled\", \"notsupported\"\n\nThe adminforced Property indicates that the
value has been set by another party (e.g. via some offboard Smart Energy interaction)\n",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.ecomode"],
              "id": "unique_example_id",
              "supportedModes": ["disabled", "enabled"],
              "modes": ["disabled"],
              "adminforced": false
            }
          }
        },
        "schema": { "$ref": "#/definitions/ecomode" }
      }
    },
    "post": {
      "description": "",
      "parameters": [
        { "$ref": "#/parameters/interface" },
        {
          "name": "body",
          "in": "body",
          "required": true,

```

```

        "schema": { "$ref": "#/definitions/ecomode-update" },
        "x-example": {
            {
                "id": "unique_example_id",
                "modes": ["enabled"]
            }
        },
        "responses": {
            "200": {
                "description": "",
                "x-example": {
                    {
                        "id": "unique_example_id",
                        "modes": ["enabled"]
                    }
                },
                "schema": { "$ref": "#/definitions/ecomode-update" }
            }
        }
    },
    "parameters": {
        "interface": {
            "in": "query",
            "name": "if",
            "type": "string",
            "enum": ["oic.if.a", "oic.if.baseline"]
        }
    },
    "definitions": {
        "ecomode": {
            {
                "properties": {
                    "adminforced": {
                        "description": "Indicator that the current mode of operation has been forced by admin
action.",
                        "readOnly": true,
                        "type": "boolean"
                    },
                    "id": {
                        "description": "Instance ID of this specific resource",
                        "maxLength": 64,
                        "readOnly": true,
                        "type": "string"
                    },
                    "if": {
                        "description": "The interface set supported by this resource",
                        "items": {
                            "enum": [
                                "oic.if.baseline",
                                "oic.if.ll",
                                "oic.if.b",
                                "oic.if.lb",
                                "oic.if.rw",
                                "oic.if.r",
                                "oic.if.a",
                                "oic.if.s"
                            ]
                        },
                        "type": "string"
                    },
                    "minItems": 1,
                    "readOnly": true,
                    "type": "array"
                }
            },
            "modes": {
                "description": "Array of the currently active mode(s)",
                "items": {
                    "type": "string"
                }
            }
        }
    }
}

```

```

    "type": "array"
  },
  "n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  "precision": {
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
  },
  "range": {
    "description": "The valid range for the value Property",
    "items": {
      "anyOf": [
        {
          "type": "number"
        },
        {
          "type": "integer"
        }
      ]
    },
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
  },
  "rt": {
    "description": "Resource Type",
    "items": {
      "maxLength": 64,
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "step": {
    "anyOf": [
      {
        "type": "integer"
      },
      {
        "type": "number"
      }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
  },
  "supportedModes": {
    "description": "Array of possible modes the device supports.",
    "items": {
      "type": "string"
    },
    "readOnly": true,
    "type": "array"
  },
  "value": {
    "anyOf": [
      {
        "type": "array"
      },
      {
        "type": "string"
      },
      {
        "type": "boolean"
      }
    ],

```

```

        {
          "type": "integer"
        },
        {
          "type": "number"
        },
        {
          "type": "object"
        }
      ],
      "description": "The value sensed or actuated by this Resource"
    },
    "required": [
      "supportedModes",
      "modes"
    ],
    "type": "object"
  }

  /ecomode-update" :
  {
    "properties": {
      "id": {
        "description": "Instance ID of this specific resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
      },
      "if": {
        "description": "The interface set supported by this resource",
        "items": {
          "enum": [
            "oic.if.baseline",
            "oic.if.ll",
            "oic.if.b",
            "oic.if.lb",
            "oic.if.rw",
            "oic.if.r",
            "oic.if.a",
            "oic.if.s"
          ],
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "modes": {
        "description": "Desired mode",
        "items": {
          "type": "string"
        },
        "type": "array"
      },
      "n": {
        "description": "Friendly name of the resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "range": {
        "description": "The valid range for the value Property",
        "items": {
          "anyOf": [

```

```

        {
            "type": "number"
        },
        {
            "type": "integer"
        }
    ],
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
},
"rt": {
    "description": "Resource Type",
    "items": {
        "maxLength": 64,
        "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
},
"step": {
    "anyOf": [
        {
            "type": "integer"
        },
        {
            "type": "number"
        }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
},
"value": {
    "anyOf": [
        {
            "type": "array"
        },
        {
            "type": "string"
        },
        {
            "type": "boolean"
        },
        {
            "type": "integer"
        },
        {
            "type": "number"
        },
        {
            "type": "object"
        }
    ],
    "description": "The value sensed or actuated by this Resource"
},
"required": [
    "modes"
],
"type": "object"
}
}
}

```

B.31.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema		Read Only	Resource Type
adminforced	boolean		Read Only	Indicator that the current mode of operation has been forced by admin action.
range	array: see schema		Read Only	The valid range for the value Property
precision	number		Read Only	Accuracy granularity of the exposed value
value	multiple types: see schema			The value sensed or actuated by this Resource
n	string		Read Only	Friendly name of the resource
id	string		Read Only	Instance ID of this specific resource
modes	array: see schema	yes		Array of the currently active mode(s)
if	array: see schema		Read Only	The interface set supported by this resource
supportedModes	array: see schema	yes	Read Only	Array of possible modes the device supports.
step	multiple types: see schema		Read Only	Step value across the defined range
id	string		Read Only	Instance ID of this specific resource
range	array: see schema		Read Only	The valid range for the value Property
precision	number		Read Only	Accuracy granularity of the exposed value
value	multiple types: see schema			The value sensed or actuated by this Resource
n	string		Read Only	Friendly name of the resource
rt	array: see schema		Read Only	Resource Type
modes	array: see schema	yes		Desired mode

if	array: see schema		Read Only	The interface set supported by this resource
step	multiple types: see schema		Read Only	Step value across the defined range

B.31.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/EcomodeResURI		get	post		

B.32 Energy Consumption**B.32.1 Introduction**

This resource describes the energy consumed by the device since power up (the energy value is in Watt Hours [Wh]) and the instantaneous power draw of the device (the power value is in Watts [W]) at the time the resource was queried. The power value is in Watts [W]. The energy value is in Watt Hours [Wh]. Provides the current power draw and cumulative energy usage.

B.32.2 Example URI

/EnergyConsumptionResURI

B.32.3 Resource Type

The resource type (rt) is defined as: ['oic.r.energy.consumption'].

B.32.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Energy Consumption",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n
1. Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n
2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.\n\n
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LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
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Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n
HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/EnergyConsumptionResURI": {
      "get": {
        "description": "This resource describes the energy consumed by the device since power up
(the energy value is in Watt Hours [Wh]) \nand the instantaneous power draw of the device (the
power value is in Watts [W]) at the time the resource was queried.\nThe power value is in Watts
```


[W].\n\nThe energy value is in Watt Hours [Wh].\n\nProvides the current power draw and cumulative energy usage.\n\n",

```

    "parameters": [
      { "$ref": "#/parameters/interface" }
    ],
    "responses": {
      "200": {
        "description": "",
        "x-example": {
          "rt": ["oic.r.energy.consumption"],
          "id": "unique_example_id",
          "power": 2000.1,
          "energy": 3500.4
        },
        "schema": { "$ref": "#/definitions/Consumption" }
      }
    }
  },
  {
    "parameters": {
      "interface": {
        "in": "query",
        "name": "if",
        "type": "string",
        "enum": ["oic.if.s", "oic.if.baseline"]
      }
    },
    "definitions": {
      "Consumption": {
        "properties": {
          "energy": {
            "description": "Energy consumed",
            "readOnly": true,
            "type": "number"
          },
          "id": {
            "description": "Instance ID of this specific resource",
            "maxLength": 64,
            "readOnly": true,
            "type": "string"
          },
          "if": {
            "description": "The interface set supported by this resource",
            "items": {
              "enum": [
                "oic.if.baseline",
                "oic.if.ll",
                "oic.if.b",
                "oic.if.lb",
                "oic.if.rw",
                "oic.if.r",
                "oic.if.a",
                "oic.if.s"
              ],
              "type": "string"
            },
            "minItems": 1,
            "readOnly": true,
            "type": "array"
          },
          "n": {
            "description": "Friendly name of the resource",
            "maxLength": 64,
            "readOnly": true,
            "type": "string"
          },
          "power": {

```

```

        "description": "Instantaneous Power",
        "readOnly": true,
        "type": "number"
    },
    "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
    },
    "range": {
        "description": "The valid range for the value Property",
        "items": {
            "anyOf": [
                {
                    "type": "number"
                },
                {
                    "type": "integer"
                }
            ]
        },
        "maxItems": 2,
        "minItems": 2,
        "readOnly": true,
        "type": "array"
    },
    "rt": {
        "description": "Resource Type",
        "items": {
            "maxLength": 64,
            "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
    },
    "step": {
        "anyOf": [
            {
                "type": "integer"
            },
            {
                "type": "number"
            }
        ],
        "description": "Step value across the defined range",
        "readOnly": true
    },
    "value": {
        "anyOf": [
            {
                "type": "array"
            },
            {
                "type": "string"
            },
            {
                "type": "boolean"
            },
            {
                "type": "integer"
            },
            {
                "type": "number"
            },
            {
                "type": "object"
            }
        ],
        "description": "The value sensed or actuated by this Resource"
    }
}

```

```

    },
    "required": [
      "power",
      "energy"
    ],
    "type": "object"
  }
}

```

B.32.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
n	string		Read Only	Friendly name of the resource
value	multiple types: see schema			The value sensed or actuated by this Resource
precision	number		Read Only	Accuracy granularity of the exposed value
id	string		Read Only	Instance ID of this specific resource
if	array: see schema		Read Only	The interface set supported by this resource
step	multiple types: see schema		Read Only	Step value across the defined range
energy	number	yes	Read Only	Energy consumed
range	array: see schema		Read Only	The valid range for the value Property
power	number	yes	Read Only	Instantaneous Power
rt	array: see schema		Read Only	Resource Type

B.32.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/EnergyConsumptionResURI		get			

B.33 Energy Overload/Circuit Breaker

B.33.1 Introduction

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

B.33.2 Example URI

/EnergyOverloadResURI

B.33.3 Resource Type

The resource type (rt) is defined as: ['oic.r.energy.overload'].

B.33.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Energy Overload/Circuit Breaker",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n      1.
Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.\n      THIS SOFTWARE IS PROVIDED BY THE Open
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LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/EnergyOverloadResURI" : {
      "get": {
        "description": "This resource describes whether an energy overload detector/circuit
breaker\n is currently tripped.\nThe value is a boolean.\nA value of 'true' means that energy
overload has been tripped.\nA value of 'false' means that energy overload has not been tripped.\n",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.energy.overload"],
              "id": "unique_example_id",
              "value": true
            },
            "schema": { "$ref": "#/definitions/EnergyOverload" }
          }
        }
      }
    }
  },
  "parameters": {
    "interface": {
      "in": "query",
      "name": "if",
      "type": "string",
      "enum": ["oic.if.s", "oic.if.baseline"]
    }
  },
  "definitions": {
    "EnergyOverload" : {
      "properties": {
        "id": {
          "description": "Instance ID of this specific resource",

```

```

    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  "if": {
    "description": "The interface set supported by this resource",
    "items": {
      "enum": [
        "oic.if.baseline",
        "oic.if.ll",
        "oic.if.b",
        "oic.if.lb",
        "oic.if.rw",
        "oic.if.r",
        "oic.if.a",
        "oic.if.s"
      ],
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  "precision": {
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
  },
  "range": {
    "description": "The valid range for the value Property",
    "items": {
      "anyOf": [
        {
          "type": "number"
        },
        {
          "type": "integer"
        }
      ]
    },
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
  },
  "rt": {
    "description": "Resource Type",
    "items": {
      "maxLength": 64,
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "step": {
    "anyOf": [
      {
        "type": "integer"
      },
      {
        "type": "number"
      }
    ]
  },
  "description": "Step value across the defined range",

```

```

        "readOnly": true
      },
      "value": {
        "description": "true = sensed, false = not sensed.",
        "readOnly": true,
        "type": "boolean"
      }
    },
    "required": [
      "value"
    ],
    "type": "object"
  }
}
}

```

B.33.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
id	string		Read Only	Instance ID of this specific resource
value	boolean	yes	Read Only	true = sensed, false = not sensed.
step	multiple types: see schema		Read Only	Step value across the defined range
rt	array: see schema		Read Only	Resource Type
range	array: see schema		Read Only	The valid range for the value Property
n	string		Read Only	Friendly name of the resource
precision	number		Read Only	Accuracy granularity of the exposed value
if	array: see schema		Read Only	The interface set supported by this resource

B.33.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/EnergyOverloadResURI		get			

B.34 Energy Usage

B.34.1 Introduction

This resource describes a cumulative time-based energy usage query..
 The resource is a composite resource being made up as a collection of:
 TimePeriod Resource
 EnergyConsumption Resource
 Retrieves the energy usage information as a composite of consumption over time.

B.34.2 Example URI

/EnergyUsageResURI

B.34.3 Resource Type

The resource type (rt) is defined as: ['oic.r.energy.usage'].

B.34.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Energy Usage",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n
1. Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n
2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.\n\n
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Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n
HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/EnergyUsageResURI" : {
      "get": {
        "description": "This resource describes a cumulative time-based energy usage query..The
resource is a composite resource being made up as a collection of:\n
TimePeriod Resource\n
EnergyConsumption Resource\n
Retrieves the energy usage information as a composite of consumption
over time.\n",
        "parameters": [
          {"$ref": "#/parameters/interface"}
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.energy.usage"],
              "id": "unique_example_id",
              "resources": [
                {
                  "href": "/TimeIntervalResURI",
                  "rel": "contains",
                  "rt": ["oic.r.time.period"],
                  "if": ["oic.if.a"],
                  "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
                },
                {
                  "href": "/EnergyConsumptionResURI",
                  "rel": "contains",
                  "rt": ["oic.r.energy.consumption"],
                  "if": ["oic.if.s"],
                  "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
                }
              ]
            }
          }
        }
      },
      "schema": { "$ref": "#/definitions/Usage" }
    }
  }
}
```

```

    }
  },
  "parameters": {
    "interface": {
      "in": "query",
      "name": "if",
      "type": "string",
      "enum": ["oic.if.ll", "oic.if.b", "oic.if.baseline"]
    }
  },
  "definitions": {
    "Usage": {
      {
        "properties": {
          "id": {
            "description": "Instance ID of this specific resource",
            "maxLength": 64,
            "readOnly": true,
            "type": "string"
          },
          "if": {
            "description": "The interface set supported by this resource",
            "items": {
              "enum": [
                "oic.if.baseline",
                "oic.if.ll",
                "oic.if.b",
                "oic.if.lb",
                "oic.if.rw",
                "oic.if.r",
                "oic.if.a",
                "oic.if.s"
              ],
              "type": "string"
            },
            "minItems": 1,
            "readOnly": true,
            "type": "array"
          },
          "n": {
            "description": "Friendly name of the resource",
            "maxLength": 64,
            "readOnly": true,
            "type": "string"
          },
          "precision": {
            "description": "Accuracy granularity of the exposed value",
            "readOnly": true,
            "type": "number"
          },
          "range": {
            "description": "The valid range for the value Property",
            "items": {
              "anyOf": [
                {
                  "type": "number"
                },
                {
                  "type": "integer"
                }
              ]
            },
            "maxItems": 2,
            "minItems": 2,
            "readOnly": true,
            "type": "array"
          },
          "resources": {
            "items": {
              "properties": {
                "anchor": {

```



```

        "description": "This is used to override the context URI e.g. override the URI of
the containing collection",
        "format": "uri",
        "maxLength": 256,
        "type": "string"
    },
    "di": {
        "description": "Unique identifier for device (UUID)",
        "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-
F0-9]{12}$",
        "type": "string"
    },
    "eps": {
        "description": "the Endpoint information of the target Resource",
        "items": {
            "properties": {
                "ep": {
                    "description": "URI with Transport Protocol Suites + Endpoint Locator as
specified in 10.2.1",
                    "format": "uri",
                    "type": "string"
                },
                "pri": {
                    "description": "The priority among multiple Endpoints as specified in
10.2.3",
                    "minimum": 1,
                    "type": "integer"
                }
            }
        },
        "type": "object"
    },
    "type": "array"
},
"href": {
    "description": "This is the target URI, it can be specified as a Relative
Reference or fully-qualified URI. Relative Reference should be used along with the di parameter to
make it unique.",
    "format": "uri",
    "maxLength": 256,
    "type": "string"
},
"if": {
    "description": "The interface set supported by this resource",
    "items": {
        "enum": [
            "oic.if.baseline",
            "oic.if.ll",
            "oic.if.b",
            "oic.if.rw",
            "oic.if.r",
            "oic.if.a",
            "oic.if.s"
        ],
        "type": "string"
    },
    "minItems": 1,
    "type": "array"
},
"ins": {
    "description": "The instance identifier for this web link in an array of web
links - used in collections",
    "oneOf": [
        {
            "description": "An ordinal number that is not repeated - must be unique in
the collection context",
            "type": "integer"
        },
        {
            "description": "Any unique string including a URI",
            "format": "uri",
            "maxLength": 256,

```

```

        "type": "string"
      },
      {
        "description": "Unique identifier (UUID)",
        "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-
fA-F0-9]{12}$",
        "type": "string"
      }
    ]
  },
  "p": {
    "description": "Specifies the framework policies on the Resource referenced by
the target URI",
    "properties": {
      "bm": {
        "description": "Specifies the framework policies on the Resource referenced
by the target URI for e.g. observable and discoverable",
        "type": "integer"
      }
    },
    "required": [
      "bm"
    ],
    "type": "object"
  },
  "rel": {
    "description": "The relation of the target URI referenced by the link to the
context URI",
    "oneOf": [
      {
        "default": [
          "hosts"
        ],
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "type": "array"
      },
      {
        "default": "hosts",
        "maxLength": 64,
        "type": "string"
      }
    ]
  },
  "rt": {
    "description": "Resource Type",
    "items": {
      "maxLength": 64,
      "type": "string"
    },
    "minItems": 1,
    "type": "array"
  },
  "title": {
    "description": "A title for the link relation. Can be used by the UI to provide a
context",
    "maxLength": 64,
    "type": "string"
  },
  "type": {
    "default": "application/cbor",
    "description": "A hint at the representation of the resource referenced by the
target URI. This represents the media types that are used for both accepting and emitting",
    "items": {
      "maxLength": 64,
      "type": "string"
    },
    "minItems": 1,

```

```

        "type": "array"
      },
      "required": [
        "href",
        "rt",
        "if"
      ],
      "type": "object"
    },
    "maxItems": 2,
    "minItems": 2,
    "type": "array"
  },
  "rt": {
    "description": "Resource Type",
    "items": {
      "maxLength": 64,
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "step": {
    "anyOf": [
      {
        "type": "integer"
      },
      {
        "type": "number"
      }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
  },
  "value": {
    "anyOf": [
      {
        "type": "array"
      },
      {
        "type": "string"
      },
      {
        "type": "boolean"
      },
      {
        "type": "integer"
      },
      {
        "type": "number"
      },
      {
        "type": "object"
      }
    ],
    "description": "The value sensed or actuated by this Resource"
  }
},
"type": "object"
}
}
}
```

B.34.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description

rt	array: see schema	yes	Read Only	Resource Type
precision	number		Read Only	Accuracy granularity of the exposed value
step	multiple types: see schema		Read Only	Step value across the defined range
id	string		Read Only	Instance ID of this specific resource
resources	array: see schema			
n	string		Read Only	Friendly name of the resource
value	multiple types: see schema			The value sensed or actuated by this Resource
range	array: see schema		Read Only	The valid range for the value Property
if	array: see schema	yes	Read Only	The interface set supported by this resource

B.34.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/EnergyUsageResURI		get			

B.35 Generic Sensor**B.35.1 Introduction**

This resource describes whether some value or property or entity has been sensed or not. The 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.

B.35.2 Example URI

/GenericSensorResURI

B.35.3 Resource Type

The resource type (rt) is defined as: ['oic.r.sensor'].

B.35.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Generic Sensor",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n
1. Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n
2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer in the documentation and/or
```

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```

    }
  },
  "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.\n\nThe value is a boolean.\n\nA value of 'true' means that the target has been sensed.\n\nA value of 'false' means that the target has not been sensed.\n\n",
        "parameters": [
          {
            "$ref": "#/parameters/interface"
          }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.sensor"],
              "id": "unique_example_id",
              "value": true
            }
          }
        },
        "schema": { "$ref": "#/definitions/Sensor" }
      }
    }
  }
},
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.s", "oic.if.baseline"]
  }
},
"definitions": {
  "Sensor": {
    {
      "properties": {
        "id": {
          "description": "Instance ID of this specific resource",
          "maxLength": 64,
          "readOnly": true,
          "type": "string"
        },
        "if": {
          "description": "The interface set supported by this resource",
          "items": {
            "enum": [
              "oic.if.baseline",
              "oic.if.ll",
              "oic.if.b",
              "oic.if.lb",
              "oic.if.rw",
              "oic.if.r",
              "oic.if.a",
              "oic.if.s"
            ]
          }
        }
      }
    }
  }
}

```

```

        "type": "string"
      },
      "minItems": 1,
      "readOnly": true,
      "type": "array"
    },
    "n": {
      "description": "Friendly name of the resource",
      "maxLength": 64,
      "readOnly": true,
      "type": "string"
    },
    "precision": {
      "description": "Accuracy granularity of the exposed value",
      "readOnly": true,
      "type": "number"
    },
    "range": {
      "description": "The valid range for the value Property",
      "items": {
        "anyOf": [
          {
            "type": "number"
          },
          {
            "type": "integer"
          }
        ]
      },
      "maxItems": 2,
      "minItems": 2,
      "readOnly": true,
      "type": "array"
    },
    "rt": {
      "description": "Resource Type",
      "items": {
        "maxLength": 64,
        "type": "string"
      },
      "minItems": 1,
      "readOnly": true,
      "type": "array"
    },
    "step": {
      "anyOf": [
        {
          "type": "integer"
        },
        {
          "type": "number"
        }
      ],
      "description": "Step value across the defined range",
      "readOnly": true
    },
    "value": {
      "description": "true = sensed, false = not sensed.",
      "readOnly": true,
      "type": "boolean"
    }
  },
  "type": "object"
}
}
}

```

B.35.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema		Read Only	Resource Type
precision	number		Read Only	Accuracy granularity of the exposed value
id	string		Read Only	Instance ID of this specific resource
step	multiple types: see schema		Read Only	Step value across the defined range
if	array: see schema		Read Only	The interface set supported by this resource
range	array: see schema		Read Only	The valid range for the value Property
value	boolean		Read Only	true = sensed, false = not sensed.
n	string		Read Only	Friendly name of the resource

B.35.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/GenericSensorResURI		get			

B.36 Geolocation**B.36.1 Introduction**

This resource describes the properties associated with the current geolocation coordinate. Geolocation is a geolocation coordinate data. Latitude is a device's current Latitude coordinate (degrees). Longitude is a device's current Longitude coordinate (degrees). Altitude is a device's current Altitude position (metres). Accuracy is the accuracy level of the latitude and longitude coordinates (metres). altitudeAccuracy is the accuracy level of the altitude coordinates (metres). heading is a direction of travel of device (degree). speed is a device's current velocity (metres per second). Retrieves the current geolocation coordinates.

B.36.2 Example URI

/GeolocationResURI

B.36.3 Resource Type

The resource type (rt) is defined as: ['oic.r.sensor.geolocation'].

B.36.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Geolocation",
    "version": "v1.1.0-20160519",
```

```

"license": {
  "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
  "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n      1.
Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
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ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
},
"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.\nLatitude is a device's
current Latitude coordinate (degrees).\nLongitude is a device's current Longitude coordinate
(degrees).\nAltitude is a device's current Altitude position (metres).\nAccuracy is the accuracy
level of the latitude and longitude coordinates (metres).\nAltitudeAccuracy is the accuracy level
of the altitude coordinates (metres).\nHeading is a direction of travel of device (degree).\nspeed
is a device's current velocity (metres per second).\nRetrieves the current geolocation
coordinates.\n",
      "parameters": [
        { "$ref": "#/parameters/interface" }
      ],
      "responses": {
        "200": {
          "description": "",
          "x-example": {
            "rt": ["oic.r.sensor.geolocation"],
            "id": "unique_example_id",
            "latitude": 55.070859,
            "longitude": -3.60512,
            "alt": 12.07,
            "accuracy": 65.0,
            "altitudeAccuracy": 0.0,
            "heading": 90.0,
            "speed": 0.0
          }
        },
        "schema": { "$ref": "#/definitions/Geolocation" }
      }
    }
  }
},
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.s", "oic.if.baseline"]
  }
},
"definitions": {
  "Geolocation": {
    "properties": {
      "accuracy": {

```



```

    "description": "The accuracy level of the latitude and longitude coordinates (metres)",
    "minimum": 0,
    "readOnly": true,
    "type": "number"
  },
  "alt": {
    "description": "The current height of the position (metres)",
    "minimum": 0,
    "readOnly": true,
    "type": "number"
  },
  "altitudeAccuracy": {
    "description": "The accuracy level of the altitude coordinates (metres)",
    "minimum": 0,
    "readOnly": true,
    "type": "number"
  },
  "heading": {
    "description": "Direction of travel of device (degree)",
    "maximum": 360,
    "minimum": 0,
    "readOnly": true,
    "type": "number"
  },
  "id": {
    "description": "Instance ID of this specific resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  "if": {
    "description": "The interface set supported by this resource",
    "items": {
      "enum": [
        "oic.if.baseline",
        "oic.if.ll",
        "oic.if.b",
        "oic.if.lb",
        "oic.if.rw",
        "oic.if.r",
        "oic.if.a",
        "oic.if.s"
      ],
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "latitude": {
    "description": "Device's Current Latitude coordinate (degrees)",
    "readOnly": true,
    "type": "number"
  },
  "longitude": {
    "description": "Device's Current Longitude coordinate (degrees)",
    "readOnly": true,
    "type": "number"
  },
  "n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  "precision": {
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
  },
  "range": {

```

```

    "description": "The valid range for the value Property",
    "items": {
      "anyOf": [
        {
          "type": "number"
        },
        {
          "type": "integer"
        }
      ]
    },
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
  },
  "rt": {
    "description": "Resource Type",
    "items": {
      "maxLength": 64,
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "speed": {
    "description": "Device's current velocity (metres per second)",
    "minimum": 0,
    "readOnly": true,
    "type": "number"
  },
  "step": {
    "anyOf": [
      {
        "type": "integer"
      },
      {
        "type": "number"
      }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
  },
  "value": {
    "anyOf": [
      {
        "type": "array"
      },
      {
        "type": "string"
      },
      {
        "type": "boolean"
      },
      {
        "type": "integer"
      },
      {
        "type": "number"
      },
      {
        "type": "object"
      }
    ],
    "description": "The value sensed or actuated by this Resource"
  }
},
"required": [
  "latitude",
  "longitude",

```

```

    "alt"
  ],
  "type": "object"
}
}
}

```

B.36.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
accuracy	number		Read Only	The accuracy level of the latitude and longitude coordinates (metres)
heading	number		Read Only	Direction of travel of device (degree)
id	string		Read Only	Instance ID of this specific resource
alt	number	yes	Read Only	The current height of the position (metres)
value	multiple types: see schema			The value sensed or actuated by this Resource
latitude	number	yes	Read Only	Device's Current Latitude coordinate (degrees)
range	array: see schema		Read Only	The valid range for the value Property
altitudeAccuracy	number		Read Only	The accuracy level of the altitude coordinates (metres)
rt	array: see schema		Read Only	Resource Type
speed	number		Read Only	Device's current velocity (metres per second)
step	multiple types: see schema		Read Only	Step value across the defined range
longitude	number	yes	Read Only	Device's Current Longitude coordinate (degrees)
if	array: see schema		Read Only	The interface set supported by this resource

precision	number		Read Only	Accuracy granularity of the exposed value
n	string		Read Only	Friendly name of the resource

B.36.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/GeolocationResURI		get			

B.37 Glass Break Sensor**B.37.1 Introduction**

This resource describes a glass break sensor. The value is a boolean. A value of 'true' means that glass break has been sensed. A value of 'false' means that glass break not been sensed.

B.37.2 Example URI

/GlassBreakResURI

B.37.3 Resource Type

The resource type (rt) is defined as: ['oic.r.sensor.glassbreak'].

B.37.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Glass Break Sensor",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n
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2. Redistributions in binary form must reproduce the above
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HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/GlassBreakResURI" : {
      "get": {
        "description": "This resource describes a glass break sensor.\nThe value is a boolean.\nA
value of 'true' means that glass break has been sensed.\nA value of 'false' means that glass break
not been sensed.\n",
        "parameters": [
          {"$ref": "#/parameters/interface"}
        ],
        "responses": {
          "200": {

```

```
"description" : "",  
    "x-example": {  
      {  
        "rt": ["oic.r.sensor.glassbreak"],  
        "id": "unique_example_id",  
        "value": true  
      }  
    },  
    "schema": { "$ref": "#/definitions/GlassBreak" }  
  }  
}  
  
},  
parameters: {  
  "interface" : {  
    "in" : "query",  
    "name" : "if",  
    "type" : "string",  
    "enum" : ["oic.if.s", "oic.if.baseline"]  
  }  
},  
definitions: {  
  "GlassBreak" : {  
    "properties": {  
      "id": {  
        "description": "Instance ID of this specific resource",  
        "maxLength": 64,  
        "readOnly": true,  
        "type": "string"  
      },  
      "if": {  
        "description": "The interface set supported by this resource",  
        "items": {  
          "enum": [  
            "oic.if.baseline",  
            "oic.if.ll",  
            "oic.if.b",  
            "oic.if.lb",  
            "oic.if.rw",  
            "oic.if.r",  
            "oic.if.a",  
            "oic.if.s"  
          ],  
          "type": "string"  
        },  
        "minItems": 1,  
        "readOnly": true,  
        "type": "array"  
      },  
      "n": {  
        "description": "Friendly name of the resource",  
        "maxLength": 64,  
        "readOnly": true,  
        "type": "string"  
      },  
      "precision": {  
        "description": "Accuracy granularity of the exposed value",  
        "readOnly": true,  
        "type": "number"  
      },  
      "range": {  
        "description": "The valid range for the value Property",  
        "items": {  
          "anyOf": [  
            {  
              "type": "number"  
            },  
            {  
              "type": "integer"
```

```

    }
  ],
  "maxItems": 2,
  "minItems": 2,
  "readOnly": true,
  "type": "array"
},
"rt": {
  "description": "Resource Type",
  "items": {
    "maxLength": 64,
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
},
"step": {
  "anyOf": [
    {
      "type": "integer"
    },
    {
      "type": "number"
    }
  ],
  "description": "Step value across the defined range",
  "readOnly": true
},
"value": {
  "description": "true = sensed, false = not sensed.",
  "readOnly": true,
  "type": "boolean"
}
},
"required": [
  "value"
],
"type": "object"
}
}
}

```

B.37.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
value	boolean	yes	Read Only	true = sensed, false = not sensed.
range	array: see schema		Read Only	The valid range for the value Property
step	multiple types: see schema		Read Only	Step value across the defined range
rt	array: see schema		Read Only	Resource Type
id	string		Read Only	Instance ID of this specific resource
n	string		Read Only	Friendly name of the resource

precision	number		Read Only	Accuracy granularity of the exposed value
if	array: see schema		Read Only	The interface set supported by this resource

B.37.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/GlassBreakResURI		get			

B.38 Heart Rate Zone

B.38.1 Introduction

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

B.38.2 Example URI

/HeartRateZoneResURI

B.38.3 Resource Type

The resource type (rt) is defined as: ['oic.r.sensor.heart.zone'].

B.38.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Heart Rate Zone",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n
1. Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n
2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.\n\n
THIS SOFTWARE IS PROVIDED BY THE Open
Connectivity Foundation, INC. \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n
IN NO EVENT SHALL THE Open Connectivity
Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n
HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/HeartRateZoneResURI" : {
      "get": {
        "description": "This resource describes a measured heart rate by the current Zone using the
Zoladz method.\n
The Zoladz method defines Zones based on maximum heart rate; Zone 1 is the lowest,
Zone 5 is the highest.\n
The heartRateZone is an enumeration containing one of: \"Zone1\",
\"Zone2\", \"Zone3\", \"Zone4\", \"Zone5\".\n",
        "parameters": [
```



```

    },
    "precision": {
      "description": "Accuracy granularity of the exposed value",
      "readOnly": true,
      "type": "number"
    },
    "range": {
      "description": "The valid range for the value Property",
      "items": {
        "anyOf": [
          {
            "type": "number"
          },
          {
            "type": "integer"
          }
        ]
      },
      "maxItems": 2,
      "minItems": 2,
      "readOnly": true,
      "type": "array"
    },
    "rt": {
      "description": "Resource Type",
      "items": {
        "maxLength": 64,
        "type": "string"
      },
      "minItems": 1,
      "readOnly": true,
      "type": "array"
    },
    "step": {
      "anyOf": [
        {
          "type": "integer"
        },
        {
          "type": "number"
        }
      ],
      "description": "Step value across the defined range",
      "readOnly": true
    },
    "value": {
      "anyOf": [
        {
          "type": "array"
        },
        {
          "type": "string"
        },
        {
          "type": "boolean"
        },
        {
          "type": "integer"
        },
        {
          "type": "number"
        },
        {
          "type": "object"
        }
      ],
      "description": "The value sensed or actuated by this Resource"
    },
    "required": [
      "heartRateZone"
    ]
  }

```

```

    }
}
}

```

B.38.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
step	multiple types: see schema		Read Only	Step value across the defined range
id	string		Read Only	Instance ID of this specific resource
value	multiple types: see schema			The value sensed or actuated by this Resource
rt	array: see schema		Read Only	Resource Type
n	string		Read Only	Friendly name of the resource
heartRateZone	multiple types: see schema	yes	Read Only	Current heart rate zone based on the Zoladz system.
range	array: see schema		Read Only	The valid range for the value Property
if	array: see schema		Read Only	The interface set supported by this resource
precision	number		Read Only	Accuracy granularity of the exposed value

B.38.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/HeartRateZoneResURI		get			

B.39 Heating Zone

B.39.1 Introduction

This Resource provides information about the status of a heating zone of a Cook-Top. It describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the device implements pot recognition). maxheatinglevel defines the max level for the heating zone heatinglevel is the current heating level of the zone. For each element the value range is from 0 (indication that the zone is not heating) to maxheatinglevel. Retrieves the current heating zone information.

B.39.2 Example URI

/HeatingZoneResURI

B.39.3 Resource Type

The resource type (rt) is defined as: ['oic.r.heatingzone'].

B.39.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Heating Zone",
    "version": "OCF1.0-20160722",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n      1.
Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
Connectivity Foundation, INC. \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/HeatingZoneResURI" : {
      "get": {
        "description": "This Resource provides information about the status of a heating zone of a
Cook-Top.\nIt describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the
device implements pot recognition).\nmaxheatinglevel defines the max level for the heating
zone\nheatinglevel is the current heating level of the zone\n For each element the value range is
from 0 (indication that the zone is not heating) to maxheatinglevel,\nRetrieves the current heating
zone information.\n",
        "parameters": [
          {"$ref": "#/parameters/interface"}
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.heatingzone"],
              "id": "unique_example_id",
              "maxheatinglevel": 6,
              "heatinglevel": 0
            }
          },
          "schema": { "$ref": "#/definitions/HeatingZone" }
        }
      }
    }
  },
  "parameters": {
    "interface": {
      "in": "query",
      "name": "if",
      "type": "string",
      "enum": ["oic.if.s", "oic.if.baseline"]
    }
  },
  "definitions": {
    "HeatingZone": {

```

```

{
  "properties": {
    "heatinglevel": {
      "description": "Current heating level for the zone indicated.",
      "readOnly": true,
      "type": "integer"
    },
    "id": {
      "description": "Instance ID of this specific resource",
      "maxLength": 64,
      "readOnly": true,
      "type": "string"
    },
    "if": {
      "description": "The interface set supported by this resource",
      "items": {
        "enum": [
          "oic.if.baseline",
          "oic.if.ll",
          "oic.if.b",
          "oic.if.lb",
          "oic.if.rw",
          "oic.if.r",
          "oic.if.a",
          "oic.if.s"
        ]
      },
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "maxheatinglevel": {
    "description": "Maximum heating level for the zone indicated.",
    "readOnly": true,
    "type": "integer"
  },
  "n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  "precision": {
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
  },
  "range": {
    "description": "The valid range for the value Property",
    "items": {
      "anyOf": [
        {
          "type": "number"
        },
        {
          "type": "integer"
        }
      ]
    },
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
  },
  "rt": {
    "description": "Resource Type",
    "items": {
      "maxLength": 64,
      "type": "string"
    }
  },

```

```

    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "step": {
    "anyOf": [
      {
        "type": "integer"
      },
      {
        "type": "number"
      }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
  },
  "value": {
    "anyOf": [
      {
        "type": "array"
      },
      {
        "type": "string"
      },
      {
        "type": "boolean"
      },
      {
        "type": "integer"
      },
      {
        "type": "number"
      },
      {
        "type": "object"
      }
    ],
    "description": "The value sensed or actuated by this Resource"
  }
},
"required": [
  "maxheatinglevel",
  "heatinglevel"
],
"type": "object"
}
}
}

```

B.39.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
maxheatinglevel	integer	yes	Read Only	Maximum heating level for the zone indicated.
id	string		Read Only	Instance ID of this specific resource
step	multiple types: see schema		Read Only	Step value across the defined range
rt	array: see schema		Read Only	Resource Type

range	array: see schema		Read Only	The valid range for the value Property
precision	number		Read Only	Accuracy granularity of the exposed value
if	array: see schema		Read Only	The interface set supported by this resource
heatinglevel	integer	yes	Read Only	Current heating level for the zone indicated:
n	string		Read Only	Friendly name of the resource
value	multiple types: see schema			The value sensed or actuated by this Resource

B.39.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/HeatingZoneResURI		get			

B.40 Heating Zone Collection

B.40.1 Introduction

This Resource provides information about the status of the heating zones of a Cook-Top. It describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the device implements pot recognition). The resource is a collection of instances of oic.r.heatingzone detailing the individual cooktop zones. Retrieves the current heating zone information.

B.40.2 Example URI

/HeatingZoneBaselineResURI

B.40.3 Resource Type

The resource type (rt) is defined as: ['oic.r.heatingzonecollection', 'oic.wk.col'].

B.40.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Heating Zone Collection",
    "version": "OCF1.0-20160722",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n
1. Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n
2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.\n\n
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WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n
IN NO EVENT SHALL THE Open Connectivity
Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n
HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
```

OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.\n"

```

    },
    "schemes": ["http"],
    "consumes": ["application/json"],
    "produces": ["application/json"],
    "paths": {
      "/HeatingZoneLLResURI" : {
        "get": {
          "description": "This Resource provides information about the status of the heating zones of
a Cook-Top.\nIt describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the
device implements pot recognition).\nThe resource is a collection of instances of oic.r.heatingzone
detailing the individual cooktop zones\n",
          "parameters": [
            { "$ref": "#/parameters/interface-ll" }
          ],
          "responses": {
            "200": {
              "description": "",
              "x-example": [
                { "href": "/myZone1ResURI", "rt": ["oic.r.heatingzone"], "if": ["oic.if.s"],
"eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
                { "href": "/myZone2ResURI", "rt": ["oic.r.heatingzone"], "if": ["oic.if.s"],
"eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
                { "href": "/myZone3ResURI", "rt": ["oic.r.heatingzone"], "if": ["oic.if.s"],
"eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
                { "href": "/myZone4ResURI", "rt": ["oic.r.heatingzone"], "if": ["oic.if.s"],
"eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]}
              ]
            }
          },
          "schema": { "$ref": "#/definitions/HeatingZone-ll" }
        }
      }
    },
    "/HeatingZoneBaselineResURI" : {
      "get": {
        "description": "This Resource provides information about the status of the heating zones of
a Cook-Top.\nIt describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the
device implements pot recognition).\nThe resource is a collection of instances of oic.r.heatingzone
detailing the individual cooktop zones\nRetrieves the current heating zone information.\n",
        "parameters": [
          { "$ref": "#/parameters/interface-baseline" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.heatingzonecollection", "oic.wk.col"],
              "id": "unique_example_id",
              "links": [
                { "href": "/myZone1ResURI", "rt": ["oic.r.heatingzone"], "if":
["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
                { "href": "/myZone2ResURI", "rt": ["oic.r.heatingzone"], "if":
["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
                { "href": "/myZone3ResURI", "rt": ["oic.r.heatingzone"], "if":
["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]},
                { "href": "/myZone4ResURI", "rt": ["oic.r.heatingzone"], "if":
["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]}
              ]
            }
          },
          "schema": { "$ref": "#/definitions/HeatingZone" }
        }
      }
    }
  },
}

```

```

"parameters": {
  "interface-ll" : {
    "in" : "query",
    "name" : "if",
    "type" : "string",
    "enum" : ["oic.if.ll"]
  },
  "interface-baseline" : {
    "in" : "query",
    "name" : "if",
    "type" : "string",
    "enum" : ["oic.if.baseline"]
  },
  "interface-all" : {
    "in" : "query",
    "name" : "if",
    "type" : "string",
    "enum" : ["oic.if.ll", "oic.if.baseline"]
  }
},
"definitions": {
  "HeatingZone-ll" :
  {
    "description": "All forms of links in a collection",
    "oneOf": [
      {
        "description": "A set (array) of simple or individual OIC Links. In addition to
properties required for an OIC Link, the identifier for that link in this set is also required",
        "items": {
          "properties": {
            "anchor": {
              "description": "This is used to override the context URI e.g. override the URI of
the containing collection",
              "format": "uri",
              "maxLength": 256,
              "type": "string"
            },
            "di": {
              "description": "Unique identifier for device (UUID)",
              "pattern": "[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-
F0-9]{12}$",
              "type": "string"
            },
            "eps": {
              "description": "the Endpoint information of the target Resource",
              "items": {
                "properties": {
                  "ep": {
                    "description": "URI with Transport Protocol Suites + Endpoint Locator as
specified in 10.2.1",
                    "format": "uri",
                    "type": "string"
                  },
                  "pri": {
                    "description": "The priority among multiple Endpoints as specified in
10.2.3",
                    "minimum": 1,
                    "type": "integer"
                  }
                }
              },
              "type": "object"
            },
            "type": "array"
          },
          "href": {
            "description": "This is the target URI, it can be specified as a Relative
Reference or fully-qualified URI. Relative Reference should be used along with the di parameter to
make it unique.",
            "format": "uri",
            "maxLength": 256,
            "type": "string"
          }
        }
      }
    ]
  }
}

```



```

    },
    "if": {
      "description": "The interface set supported by this resource",
      "items": {
        "enum": [
          "oic.if.baseline",
          "oic.if.ll",
          "oic.if.b",
          "oic.if.rw",
          "oic.if.r",
          "oic.if.a",
          "oic.if.s"
        ],
        "type": "string"
      },
      "minItems": 1,
      "type": "array"
    },
    "ins": {
      "description": "The instance identifier for this web link in an array of web
links - used in collections",
      "oneOf": [
        {
          "description": "An ordinal number that is not repeated - must be unique in
the collection context",
          "type": "integer"
        },
        {
          "description": "Any unique string including a URI",
          "format": "uri",
          "maxLength": 256,
          "type": "string"
        },
        {
          "description": "Unique identifier (UUID)",
          "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-
fA-F0-9]{12}$",
          "type": "string"
        }
      ]
    },
    "p": {
      "description": "Specifies the framework policies on the Resource referenced by
the target URI",
      "properties": {
        "bm": {
          "description": "Specifies the framework policies on the Resource referenced
by the target URI for e.g. observable and discoverable",
          "type": "integer"
        }
      },
      "required": [
        "bm"
      ],
      "type": "object"
    },
    "rel": {
      "description": "The relation of the target URI referenced by the link to the
context URI",
      "oneOf": [
        {
          "default": [
            "hosts"
          ],
          "items": {
            "maxLength": 64,
            "type": "string"
          },
          "minItems": 1,
          "type": "array"
        }
      ],
    },
  },

```

```

        {
          "default": "hosts",
          "maxLength": 64,
          "type": "string"
        }
      ],
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "type": "array"
      },
      "title": {
        "description": "A title for the link relation. Can be used by the UI to provide a
context",
        "maxLength": 64,
        "type": "string"
      },
      "type": {
        "default": "application/cbor",
        "description": "A hint at the representation of the resource referenced by the
target URI. This represents the media types that are used for both accepting and emitting",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "type": "array"
      }
    },
    "required": [
      "href",
      "rt",
      "if"
    ],
    "type": "object"
  },
  "type": "array"
}
]
}

"/HeatingZone" :
{
  "description": "A collection is a set (array) of tagged-link or set (array) of simple links
along with additional properties to describe the collection itself",
  "properties": {
    "di": {
      "description": "The device ID which is an UUIDv4 string; used for backward
compatibility with Spec A definition of /oic/res",
      "pattern": "[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-
9]{12}$",
      "type": "string"
    },
    "drel": {
      "description": "When specified this is the default relationship to use when an OIC Link
does not specify an explicit relationship with *rel* parameter",
      "type": "string"
    },
    "id": {
      "anyOf": [
        {
          "description": "A number that is unique to that collection; like an ordinal number
that is not repeated",
          "type": "integer"
        }
      ]
    }
  }
}

```

```

    {
      "description": "A unique string that could be a hash or similarly unique",
      "type": "string"
    },
    {
      "description": "A unique string that could be a UUIDv4",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$",
      "type": "string"
    }
  ],
  "description": "ID for the collection. Can be an value that is unique to the use context or a UUIDv4",
  "links": {
    "description": "All forms of links in a collection",
    "oneOf": [
      {
        "description": "A set (array) of simple or individual OIC Links. In addition to properties required for an OIC Link, the identifier for that link in this set is also required",
        "items": {
          "properties": {
            "anchor": {
              "description": "This is used to override the context URI e.g. override the URI of the containing collection",
              "format": "uri",
              "maxLength": 256,
              "type": "string"
            },
            "di": {
              "description": "Unique identifier for device (UUID)",
              "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$",
              "type": "string"
            },
            "eps": {
              "description": "the Endpoint information of the target Resource",
              "items": {
                "properties": {
                  "ep": {
                    "description": "URI with Transport Protocol Suites + Endpoint Locator as specified in 10.2.1",
                    "format": "uri",
                    "type": "string"
                  },
                  "pri": {
                    "description": "The priority among multiple Endpoints as specified in 10.2.3",
                    "minimum": 1,
                    "type": "integer"
                  }
                }
              },
              "type": "object"
            },
            "type": "array"
          },
          "href": {
            "description": "This is the target URI, it can be specified as a Relative Reference or fully-qualified URI. Relative Reference should be used along with the di parameter to make it unique.",
            "format": "uri",
            "maxLength": 256,
            "type": "string"
          },
          "if": {
            "description": "The interface set supported by this resource",
            "items": {
              "enum": [
                "oic.if.baseline",
                "oic.if.ll",
                "oic.if.b"
              ]
            }
          }
        }
      ]
    }
  ]
}

```

```

        "oic.if.rw",
        "oic.if.r",
        "oic.if.a",
        "oic.if.s"
    ],
    "type": "string"
},
"minItems": 1,
"type": "array"
},
"ins": {
    "description": "The instance identifier for this web link in an array of web
links - used in collections",
    "oneOf": [
        {
            "description": "An ordinal number that is not repeated - must be unique
in the collection context",
            "type": "integer"
        },
        {
            "description": "Any unique string including a URI",
            "format": "uri",
            "maxLength": 256,
            "type": "string"
        },
        {
            "description": "Unique identifier (UUID)",
            "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-
[a-fA-F0-9]{12}$",
            "type": "string"
        }
    ]
},
"p": {
    "description": "Specifies the framework policies on the Resource referenced
by the target URI",
    "properties": {
        "bm": {
            "description": "Specifies the framework policies on the Resource
referenced by the target URI for e.g. observable and discoverable",
            "type": "integer"
        }
    },
    "required": [
        "bm"
    ],
    "type": "object"
},
"rel": {
    "description": "The relation of the target URI referenced by the link to the
context URI",
    "oneOf": [
        {
            "default": [
                "hosts"
            ],
            "items": {
                "maxLength": 64,
                "type": "string"
            },
            "minItems": 1,
            "type": "array"
        },
        {
            "default": "hosts",
            "maxLength": 64,
            "type": "string"
        }
    ]
},
"rt": {

```

```

        "description": "Resource Type",
        "items": {
            "maxLength": 64,
            "type": "string"
        },
        "minItems": 1,
        "type": "array"
    },
    "title": {
        "description": "A title for the link relation. Can be used by the UI to
provide a context",
        "maxLength": 64,
        "type": "string"
    },
    "type": {
        "default": "application/cbor",
        "description": "A hint at the representation of the resource referenced by
the target URI. This represents the media types that are used for both accepting and emitting",
        "items": {
            "maxLength": 64,
            "type": "string"
        },
        "minItems": 1,
        "type": "array"
    }
},
"required": [
    "href",
    "rt",
    "if"
],
"type": "object"
},
"type": "array"
}
]
},
"rt": {
    "items": {
        "enum": [
            "oic.r.heatingzonecollection",
            "oic.wk.col"
        ]
    },
    "maxItems": 2,
    "minItems": 2,
    "type": "array",
    "uniqueItems": true
},
"rts": {
    "description": "Defines the list of allowable resource types (for Target and anchors)
in links included in the collection; new links being created can only be from this list",
    "items": {
        "anyOf": [
            {
                "enum": [
                    "oic.r.heatingzone",
                    "oic.r.value.conditional"
                ]
            },
            {
                "enum": [
                    "oic.r.heatingzone"
                ]
            }
        ]
    },
    "maxLength": 64,
    "type": "string"
},
"maxItems": 2,
"minItems": 1,

```

```

        "readOnly": true,
        "type": "array",
        "uniqueItems": true
    },
    "type": "object"
}
}
}

```

B.40.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
drel	string			When specified this is the default relationship to use when an OIC Link does not specify an explicit relationship with *rel* parameter
id	multiple types: see schema			ID for the collection. Can be an value that is unique to the use context or a UUIDv4
rts	array: see schema		Read Only	Defines the list of allowable resource types (for Target and anchors) in links included in the collection; new links being created can only be from this list
di	string			The device ID which is an UUIDv4 string; used for backward compatibility with Spec A definition of /oic/res
links	multiple types: see schema			All forms of links in a collection
rt	array: see schema	yes		
ins	multiple types: see schema			The instance identifier for this web link in an array of web links - used in collections

title	string			A title for the link relation. Can be used by the UI to provide a context
di	string			Unique identifier for device (UUID)
eps	array: schema see			the Endpoint information of the target Resource
p	object: schema see			Specifies the framework policies on the Resource referenced by the target URI
rel	multiple types: see schema			The relation of the target URI referenced by the link to the context URI
anchor	string			This is used to override the context URI e.g. override the URI of the containing collection
type	array: schema see			A hint at the representation of the resource referenced by the target URI. This represents the media types that are used for both accepting and emitting
if	array: schema see	yes		The interface set supported by this resource
rt	array: schema see	yes		Resource Type
href	string	yes		This is the target URI, it can be specified as a Relative Reference or fully-qualified URI. Relative Reference should be used along with the di parameter to make it unique.

B.40.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/HeatingZoneBaselineResURI		get			

B.41 Height**B.41.1 Introduction**

This resource describes the properties associated with height of an object's physical size.
 Height (height) is height of an object.
 Retrieves height of an object.

B.41.2 Example URI

/HeightResURI

B.41.3 Resource Type

The resource type (rt) is defined as: ['oic.r.height'].

B.41.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Height",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n
1. Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n
2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.\n\n
THIS SOFTWARE IS PROVIDED BY THE Open
Connectivity Foundation, INC. \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n
IN NO EVENT SHALL THE Open Connectivity
Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n
HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
    }
  },
  "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.\nHeight (height) is height of an object.\nRetrieves height of an
object.\n",
        "parameters": [
          {"$ref": "#/parameters/interface"}
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.height"],
              "id": "unique_example_id",
              "height": 100.0
            }
          }
        }
      }
    }
  }
}
```



```

        "schema": { "$ref": "#/definitions/Height" }
      }
    },
    "post": {
      "description": "Sets the Height.\n",
      "parameters": [
        { "$ref": "#/parameters/interface" },
        {
          "name": "body",
          "in": "body",
          "required": true,
          "schema": { "$ref": "#/definitions/Height" },
          "x-example": {
            "id": "unique_example_id",
            "height": 200.0
          }
        }
      ],
      "responses": {
        "200": {
          "description": "Indicates that the height was successfully changed.\nThe new height is provided in the response.\n",
          "x-example": {
            "id": "unique_example_id",
            "height": 200.0
          },
          "schema": { "$ref": "#/definitions/Height" }
        },
        "403": {
          "description": "Indicates that OIC client sent an invalid property value to the server.\nThe server responds with the current resource representation.\n",
          "x-example": {
            "id": "unique_example_id",
            "height": 200.0
          },
          "schema": { "$ref": "#/definitions/Height" }
        }
      }
    }
  },
  "parameters": {
    "interface": {
      "in": "query",
      "name": "if",
      "type": "string",
      "enum": ["oic.if.a", "oic.if.baseline"]
    }
  },
  "definitions": {
    "Height": {
      "properties": {
        "height": {
          "description": "Height of an object",
          "minimum": 0,
          "type": "number"
        },
        "id": {
          "description": "Instance ID of this specific resource",
          "maxLength": 64,
          "readOnly": true,
          "type": "string"
        }
      },
      "if": {

```

```

    "description": "The interface set supported by this resource",
    "items": {
      "enum": [
        "oic.if.baseline",
        "oic.if.ll",
        "oic.if.b",
        "oic.if.lb",
        "oic.if.rw",
        "oic.if.r",
        "oic.if.a",
        "oic.if.s"
      ],
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  "precision": {
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
  },
  "range": {
    "description": "The valid range for the value Property",
    "items": {
      "anyOf": [
        {
          "type": "number"
        },
        {
          "type": "integer"
        }
      ]
    },
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
  },
  "rt": {
    "description": "Resource Type",
    "items": {
      "maxLength": 64,
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "step": {
    "anyOf": [
      {
        "type": "integer"
      },
      {
        "type": "number"
      }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
  },
  "value": {
    "anyOf": [
      {

```

```

        "type": "array"
      },
      {
        "type": "string"
      },
      {
        "type": "boolean"
      },
      {
        "type": "integer"
      },
      {
        "type": "number"
      },
      {
        "type": "object"
      }
    ],
    "description": "The value sensed or actuated by this Resource"
  },
  "required": [
    "height"
  ],
  "type": "object"
}
}
}

```

B.41.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
id	string		Read Only	Instance ID of this specific resource
rt	array: see schema		Read Only	Resource Type
height	number	yes		Height of an object
n	string		Read Only	Friendly name of the resource
precision	number		Read Only	Accuracy granularity of the exposed value
range	array: see schema		Read Only	The valid range for the value Property
step	multiple types: see schema		Read Only	Step value across the defined range
if	array: see schema		Read Only	The interface set supported by this resource
value	multiple types: see schema			The value sensed or actuated by this Resource

B.41.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/HeightResURI		get	post		

B.42 Humidity

B.42.1 Introduction

This resource describes a sensed or desired humidity. The value humidity is an integer describing the percentage measured relative humidity. The value desiredHumidity is an integer showing the desired target relative humidity. Retrieves the current (relative) humidity level.

B.42.2 Example URI

/HumidityResURI

B.42.3 Resource Type

The resource type (rt) is defined as: ['oic.r.humidity'].

B.42.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Humidity",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n      1.
Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
Connectivity Foundation, INC. \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/HumidityResURI" : {
      "get": {
        "description": "This resource describes a sensed or desired humidity.\nThe value humidity
is an integer describing the percentage measured relative humidity.\nThe value desiredHumidity is
an integer showing the desired target relative humidity.\nRetrieves the current (relative) humidity
level.\n",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.humidity"],
              "id": "unique_example_id",
              "humidity": 40,
              "desiredHumidity": 40
            }
          },
          "schema": { "$ref": "#/definitions/Humidity" }
        }
      }
    }
  }
}
```

```

    },
    "post": {
      "description": "Sets the desired relative humidity level.\n",
      "parameters": [
        {
          "$ref": "#/parameters/interface",
          {
            "name": "body",
            "in": "body",
            "required": true,
            "schema": { "$ref": "#/definitions/HumidityUpdate" },
            "x-example": {
              "id": "unique_example_id",
              "desiredHumidity": 45
            }
          }
        ]
      },
      "responses": {
        "200": {
          "description": "Indicates that the relative humidity level was changed.\nThe new relative humidity level is provided in the response.\n",
          "x-example": {
            "id": "unique_example_id",
            "desiredHumidity": 45
          },
          "schema": { "$ref": "#/definitions/HumidityUpdate" }
        }
      }
    }
  },
  "parameters": {
    "interface": {
      "in": "query",
      "name": "if",
      "type": "string",
      "enum": ["oic.if.a", "oic.if.s", "oic.if.baseline"]
    }
  },
  "definitions": {
    "Humidity": {
      "properties": {
        "desiredHumidity": {
          "description": "Desired value for Humidity",
          "maximum": 100,
          "minimum": 0,
          "type": "integer"
        },
        "humidity": {
          "description": "Current sensed value for Humidity",
          "maximum": 100,
          "minimum": 0,
          "readOnly": true,
          "type": "integer"
        }
      },
      "id": {
        "description": "Instance ID of this specific resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
      },
      "if": {
        "description": "The interface set supported by this resource",
        "items": {
          "enum": [
            "oic.if.baseline",
            "oic.if.ll",
            "oic.if.b",

```

```

        "oic.if.lb",
        "oic.if.rw",
        "oic.if.r",
        "oic.if.a",
        "oic.if.s"
    ],
    "type": "string"
},
"minItems": 1,
"readOnly": true,
"type": "array"
},
"n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
},
"precision": {
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
},
"range": {
    "description": "The valid range for the value Property",
    "items": {
        "anyOf": [
            {
                "type": "number"
            },
            {
                "type": "integer"
            }
        ]
    },
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
},
"rt": {
    "description": "Resource Type",
    "items": {
        "maxLength": 64,
        "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
},
"step": {
    "anyOf": [
        {
            "type": "integer"
        },
        {
            "type": "number"
        }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
},
"value": {
    "anyOf": [
        {
            "type": "array"
        },
        {
            "type": "string"
        }
    ]
}

```

```

        "type": "boolean"
      },
      {
        "type": "integer"
      },
      {
        "type": "number"
      },
      {
        "type": "object"
      }
    ],
    "description": "The value sensed or actuated by this Resource"
  }
},
"required": [
  "humidity"
],
"type": "object"
}

"/HumidityUpdate" :
{
  "properties": {
    "desiredHumidity": {
      "description": "Desired value for Humidity",
      "maximum": 100,
      "minimum": 0,
      "type": "integer"
    },
    "id": {
      "description": "Instance ID of this specific resource",
      "maxLength": 64,
      "readOnly": true,
      "type": "string"
    },
    "if": {
      "description": "The interface set supported by this resource",
      "items": {
        "enum": [
          "oic.if.baseline",
          "oic.if.ll",
          "oic.if.b",
          "oic.if.lb",
          "oic.if.rw",
          "oic.if.r",
          "oic.if.a",
          "oic.if.s"
        ],
        "type": "string"
      },
      "minItems": 1,
      "readOnly": true,
      "type": "array"
    },
    "n": {
      "description": "Friendly name of the resource",
      "maxLength": 64,
      "readOnly": true,
      "type": "string"
    },
    "precision": {
      "description": "Accuracy granularity of the exposed value",
      "readOnly": true,
      "type": "number"
    },
    "range": {
      "description": "The valid range for the value Property",
      "items": {
        "anyOf": [

```

```

        {
          "type": "number"
        },
        {
          "type": "integer"
        }
      ],
      "maxItems": 2,
      "minItems": 2,
      "readOnly": true,
      "type": "array"
    },
    "rt": {
      "description": "Resource Type",
      "items": {
        "maxLength": 64,
        "type": "string"
      },
      "minItems": 1,
      "readOnly": true,
      "type": "array"
    },
    "step": {
      "anyOf": [
        {
          "type": "integer"
        },
        {
          "type": "number"
        }
      ],
      "description": "Step value across the defined range",
      "readOnly": true
    },
    "value": {
      "anyOf": [
        {
          "type": "array"
        },
        {
          "type": "string"
        },
        {
          "type": "boolean"
        },
        {
          "type": "integer"
        },
        {
          "type": "number"
        },
        {
          "type": "object"
        }
      ],
      "description": "The value sensed or actuated by this Resource"
    }
  },
  "type": "object"
}
}

```

B.42.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
value	multiple types: see schema			The value sensed or

				actuated by this Resource
id	string		Read Only	Instance ID of this specific resource
step	multiple types: see schema		Read Only	Step value across the defined range
range	array: schema see		Read Only	The valid range for the value Property
precision	number		Read Only	Accuracy granularity of the exposed value
desiredHumidity	integer			Desired value for Humidity
n	string		Read Only	Friendly name of the resource
rt	array: schema see		Read Only	Resource Type
if	array: schema see		Read Only	The interface set supported by this resource
value	multiple types: see schema			The value sensed or actuated by this Resource
id	string		Read Only	Instance ID of this specific resource
step	multiple types: see schema		Read Only	Step value across the defined range
humidity	integer	yes	Read Only	Current sensed value for Humidity
precision	number		Read Only	Accuracy granularity of the exposed value
desiredHumidity	integer			Desired value for Humidity
range	array: schema see		Read Only	The valid range for the value Property
n	string		Read Only	Friendly name of the resource
rt	array: schema see		Read Only	Resource Type
if	array: schema see		Read Only	The interface set supported by this resource

B.42.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/HumidityResURI		get	post		

B.43 Ice Maker

B.43.1 Introduction

This resource describes an the operational state of an Ice Maker. The 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). Retrieves the current Ice Maker status.

B.43.2 Example URI

/IceMakerResURI

B.43.3 Resource Type

The resource type (rt) is defined as: ['oic.r.icemaker'].

B.43.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Ice Maker",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n
1. Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n
2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.\n\n
THIS SOFTWARE IS PROVIDED BY THE Open
Connectivity Foundation, INC. \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n
IN NO EVENT SHALL THE Open Connectivity
Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n
HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/IceMakerResURI" : {
      "get": {
        "description": "This resource describes an the operational state of an Ice Maker.\nThe
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).\nRetrieves the current Ice
Maker status.\n",
        "parameters": [
          {
            "$ref": "#/parameters/interface"
          }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.icemaker"],
              "id": "unique_example_id",
              "status": "on"
            }
          }
        }
      }
    }
  }
}
```

```

    }
    'schema': { "$ref": "#/definitions/IceMaker" }
  }
},
"post": {
  "description": "Sets the desired Ice Maker status.\nOnly valid settings for status in a
Post shall be [on,off].\n",
  "parameters": [
    { "$ref": "#/parameters/interface" },
    {
      "name": "body",
      "in": "body",
      "required": true,
      "schema": { "$ref": "#/definitions/IceMakerUpdate" },
      "x-example":
        {
          "id": "unique_example_id",
          "status": "off"
        }
    }
  ],
  "responses": {
    "200": {
      "description": "Indicates that the Ice Maker status was changed.\nThe new status is
provided in the response.\n",
      "x-example":
        {
          "id": "unique_example_id",
          "status": "off"
        }
      'schema': { "$ref": "#/definitions/IceMakerUpdate" }
    },
    "403": {
      "description": "This response is generated by the OIC Server when the client
sends:\n An update with an invalid property value for status.\nThe server responds with the
current resource representation.\n",
      "x-example":
        {
          "id": "unique_example_id",
          "status": "off"
        }
      'schema': { "$ref": "#/definitions/IceMakerUpdate" }
    }
  }
},
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.a", "oic.if.baseline"]
  }
},
"definitions": {
  "IceMaker": {
    "properties": {
      "id": {
        "description": "Instance ID of this specific resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
      },
      "if": {
        "description": "The interface set supported by this resource",

```

```

    "items": {
      "enum": [
        "oic.if.baseline",
        "oic.if.ll",
        "oic.if.b",
        "oic.if.lb",
        "oic.if.rw",
        "oic.if.r",
        "oic.if.a",
        "oic.if.s"
      ],
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  "precision": {
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
  },
  "range": {
    "description": "The valid range for the value Property",
    "items": {
      "anyOf": [
        {
          "type": "number"
        },
        {
          "type": "integer"
        }
      ]
    },
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
  },
  "rt": {
    "description": "Resource Type",
    "items": {
      "maxLength": 64,
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "status": {
    "description": "Status of the Ice Maker",
    "enum": [
      "on",
      "off",
      "full"
    ]
  },
  "step": {
    "anyOf": [
      {
        "type": "integer"
      },
      {
        "type": "number"
      }
    ]
  }
}

```

```

    ],
    "description": "Step value across the defined range",
    "readOnly": true
  },
  "value": {
    "anyOf": [
      {
        "type": "array"
      },
      {
        "type": "string"
      },
      {
        "type": "boolean"
      },
      {
        "type": "integer"
      },
      {
        "type": "number"
      },
      {
        "type": "object"
      }
    ],
    "description": "The value sensed or actuated by this Resource"
  },
  "required": [
    "status"
  ],
  "type": "object"
}

'IceMakerUpdate' :
{
  "properties": {
    "id": {
      "description": "Instance ID of this specific resource",
      "maxLength": 64,
      "readOnly": true,
      "type": "string"
    },
    "if": {
      "description": "The interface set supported by this resource",
      "items": {
        "enum": [
          "oic.if.baseline",
          "oic.if.ll",
          "oic.if.b",
          "oic.if.lb",
          "oic.if.rw",
          "oic.if.r",
          "oic.if.a",
          "oic.if.s"
        ],
        "type": "string"
      },
      "minItems": 1,
      "readOnly": true,
      "type": "array"
    },
    "n": {
      "description": "Friendly name of the resource",
      "maxLength": 64,
      "readOnly": true,
      "type": "string"
    },
    "precision": {
      "description": "Accuracy granularity of the exposed value",

```

```

        "readOnly": true,
        "type": "number"
    },
    "range": {
        "description": "The valid range for the value Property",
        "items": {
            "anyOf": [
                {
                    "type": "number"
                },
                {
                    "type": "integer"
                }
            ]
        },
        "maxItems": 2,
        "minItems": 2,
        "readOnly": true,
        "type": "array"
    },
    "rt": {
        "description": "Resource Type",
        "items": {
            "maxLength": 64,
            "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
    },
    "status": {
        "description": "Set the status of the Ice Maker",
        "enum": [
            "on",
            "off"
        ]
    },
    "step": {
        "anyOf": [
            {
                "type": "integer"
            },
            {
                "type": "number"
            }
        ],
        "description": "Step value across the defined range",
        "readOnly": true
    },
    "value": {
        "anyOf": [
            {
                "type": "array"
            },
            {
                "type": "string"
            },
            {
                "type": "boolean"
            },
            {
                "type": "integer"
            },
            {
                "type": "number"
            },
            {
                "type": "object"
            }
        ],
        "description": "The value sensed or actuated by this Resource"
    }

```

```

    },
    "required": [
      "status"
    ],
    "type": "object"
  }
}

```

B.43.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
step	multiple types: see schema		Read Only	Step value across the defined range
rt	array: see schema		Read Only	Resource Type
id	string		Read Only	Instance ID of this specific resource
if	array: see schema		Read Only	The interface set supported by this resource
range	array: see schema		Read Only	The valid range for the value Property
precision	number		Read Only	Accuracy granularity of the exposed value
n	string		Read Only	Friendly name of the resource
status	multiple types: see schema	yes		Set the status of the Ice Maker
value	multiple types: see schema			The value sensed or actuated by this Resource
step	multiple types: see schema		Read Only	Step value across the defined range
rt	array: see schema		Read Only	Resource Type
id	string		Read Only	Instance ID of this specific resource
if	array: see schema		Read Only	The interface set supported by this resource
range	array: see schema		Read Only	The valid range for the value Property
precision	number		Read Only	Accuracy granularity of the exposed value
n	string		Read Only	Friendly name of the resource

status	multiple types: see schema	yes		Status of the Ice Maker
value	multiple types: see schema			The value sensed or actuated by this Resource

B.43.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/IceMakerResURI		get	post		

B.44 Illuminance Sensor**B.44.1 Introduction**

This resource describes an illuminance sensor. Illuminance is a float and represents the sensed luminous flux per unit area in lux.

B.44.2 Example URI

/IlluminanceSensorResURI

B.44.3 Resource Type

The resource type (rt) is defined as: ['oic.r.sensor.illuminance']

B.44.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Illuminance Sensor",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n
1. Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n
2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.\n\n
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Connectivity Foundation, INC. \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n
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Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n
HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/IlluminanceSensorResURI": {
      "get": {
        "description": "This resource describes an illuminance sensor.\nIlluminance is a float and
represents the sensed luminous flux per unit area in lux.\n",
        "parameters": [
          {
            "$ref": "#/parameters/interface"
          }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": ""
          }
        }
      }
    }
  }
}
```



```

        {
            "rt": ["oic.r.sensor.illuminance"],
            "id": "unique_example_id",
            "illuminance": 450.0
        }
        "schema": { "$ref": "#/definitions/Illuminance" }
    }
}
},
"parameters": {
    "interface": {
        "in": "query",
        "name": "if",
        "type": "string",
        "enum": ["oic.if.s", "oic.if.baseline"]
    }
},
"definitions": {
    "Illuminance": {
        "properties": {
            "id": {
                "description": "Instance ID of this specific resource",
                "maxLength": 64,
                "readOnly": true,
                "type": "string"
            },
            "if": {
                "description": "The interface set supported by this resource",
                "items": {
                    "enum": [
                        "oic.if.baseline",
                        "oic.if.ll",
                        "oic.if.b",
                        "oic.if.lb",
                        "oic.if.rw",
                        "oic.if.r",
                        "oic.if.a",
                        "oic.if.s"
                    ]
                },
                "type": "string"
            },
            "minItems": 1,
            "readOnly": true,
            "type": "array"
        },
        "illuminance": {
            "description": "Sensed luminous flux per unit area in lux.",
            "readOnly": true,
            "type": "number"
        },
        "n": {
            "description": "Friendly name of the resource",
            "maxLength": 64,
            "readOnly": true,
            "type": "string"
        },
        "precision": {
            "description": "Accuracy granularity of the exposed value",
            "readOnly": true,
            "type": "number"
        },
        "range": {
            "description": "The valid range for the value Property",
            "items": {
                "anyOf": [
                    {
                        "type": "number"
                    }
                ]
            }
        }
    }
}

```

```

    },
    {
      "type": "integer"
    }
  ],
  "maxItems": 2,
  "minItems": 2,
  "readOnly": true,
  "type": "array"
},
"rt": {
  "description": "Resource Type",
  "items": {
    "maxLength": 64,
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
},
"step": {
  "anyOf": [
    {
      "type": "integer"
    },
    {
      "type": "number"
    }
  ],
  "description": "Step value across the defined range",
  "readOnly": true
},
"value": {
  "anyOf": [
    {
      "type": "array"
    },
    {
      "type": "string"
    },
    {
      "type": "boolean"
    },
    {
      "type": "integer"
    },
    {
      "type": "number"
    },
    {
      "type": "object"
    }
  ],
  "description": "The value sensed or actuated by this Resource"
},
"required": [
  "illuminance"
]
}
}

```

B.44.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description

if	array: see schema		Read Only	The interface set supported by this resource
step	multiple types: see schema		Read Only	Step value across the defined range
value	multiple types: see schema			The value sensed or actuated by this Resource
rt	array: see schema		Read Only	Resource Type
id	string		Read Only	Instance ID of this specific resource
range	array: see schema		Read Only	The valid range for the value Property
precision	number		Read Only	Accuracy granularity of the exposed value
illuminance	number	yes	Read Only	Sensed luminous flux per unit area in lux.
n	string		Read Only	Friendly name of the resource

B.44.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/IlluminanceSensorResURI		get			

B.45 Lock Code

B.45.1 Introduction

Resource describing a lock code.
 The lockCodeList is an array of possible codes that may be associated with a lock.
 These are all presented as strings.
 Retrieves the current lock code values.

B.45.2 Example URI

/LockCodeResURI

B.45.3 Resource Type

The resource type (rt) is defined as: ['oic.r.lock.code'].

B.45.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Lock Code",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n
1. Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n
2. Redistributions in binary form must reproduce the above
```

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```

    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/LockCodeResURI" : {
      "get": {
        "description": "Resource describing a lock code.\n\nThe lockCodeList is an array of possible codes that may be associated with a lock.\n\nThese are all presented as strings.\n\nRetrieves the current lock code values.\n\n",
        "parameters": [
          { "$ref": "#/parameters/interface" }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.lock.code"],
              "id": "unique_example_id",
              "lockCodeList": ["012345", "112233"]
            },
            "schema": { "$ref": "#/definitions/LockCode" }
          }
        }
      },
      "post": {
        "description": "Updates the current lock code values.\n\n",
        "parameters": [
          { "$ref": "#/parameters/interface" },
          {
            "name": "body",
            "in": "body",
            "required": true,
            "schema": { "$ref": "#/definitions/LockCode" },
            "x-example": {
              "id": "unique_example_id",
              "lockCodeList": ["543210", "332211"]
            }
          }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "id": "unique_example_id",
              "lockCodeList": ["543210", "332211"]
            },
            "schema": { "$ref": "#/definitions/LockCode" }
          }
        }
      }
    }
  },
  "parameters": {

```

```

    "interface" : {
      "in" : "query",
      "name" : "if",
      "type" : "string",
      "enum" : ["oic.if.a", "oic.if.baseline"]
    }
  },
  "definitions": {
    "LockCode" : {
      {
        "properties": {
          "id": {
            "description": "Instance ID of this specific resource",
            "maxLength": 64,
            "readOnly": true,
            "type": "string"
          },
          "if": {
            "description": "The interface set supported by this resource",
            "items": {
              "enum": [
                "oic.if.baseline",
                "oic.if.ll",
                "oic.if.b",
                "oic.if.lb",
                "oic.if.rw",
                "oic.if.r",
                "oic.if.a",
                "oic.if.s"
              ],
              "type": "string"
            },
            "minItems": 1,
            "readOnly": true,
            "type": "array"
          },
          "lockCodeList": {
            "items": {
              "description": "Value for the lock code",
              "type": "string"
            },
            "type": "array"
          },
          "n": {
            "description": "Friendly name of the resource",
            "maxLength": 64,
            "readOnly": true,
            "type": "string"
          },
          "precision": {
            "description": "Accuracy granularity of the exposed value",
            "readOnly": true,
            "type": "number"
          },
          "range": {
            "description": "The valid range for the value Property",
            "items": {
              "anyOf": [
                {
                  "type": "number"
                },
                {
                  "type": "integer"
                }
              ]
            },
            "maxItems": 2,
            "minItems": 2,
            "readOnly": true,
            "type": "array"
          }
        }
      },
    }
  },

```

```

    "rt": {
      "description": "Resource Type",
      "items": {
        "maxLength": 64,
        "type": "string"
      },
      "minItems": 1,
      "readOnly": true,
      "type": "array"
    },
    "step": {
      "anyOf": [
        {
          "type": "integer"
        },
        {
          "type": "number"
        }
      ],
      "description": "Step value across the defined range",
      "readOnly": true
    },
    "value": {
      "anyOf": [
        {
          "type": "array"
        },
        {
          "type": "string"
        },
        {
          "type": "boolean"
        },
        {
          "type": "integer"
        },
        {
          "type": "number"
        },
        {
          "type": "object"
        }
      ],
      "description": "The value sensed or actuated by this Resource"
    }
  },
  "required": [
    "lockCodeList"
  ],
  "type": "object"
}
}
}

```

B.45.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
lockCodeList	array: see schema	yes		
value	multiple types: see schema			The value sensed or actuated by this Resource
step	multiple types: see schema		Read Only	Step value across the defined range

range	array: see schema		Read Only	The valid range for the value Property
n	string		Read Only	Friendly name of the resource
if	array: see schema		Read Only	The interface set supported by this resource
precision	number		Read Only	Accuracy granularity of the exposed value
rt	array: see schema		Read Only	Resource Type
id	string		Read Only	Instance ID of this specific resource

B.45.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/LockCodeResURI		get	post		

B.46 Lock

B.46.1 Introduction

Resource describing a lock.
For the type of lockState, the value 'Locked' indicates that the door is Locked.
The value 'Unlocked' indicates that the door is Unlocked.
Retrieves the state of the lock.

B.46.2 Example URI

/LockStatusResURI

B.46.3 Resource Type

The resource type (rt) is defined as: ['oic.r.lock.status'].

B.46.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Lock",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n
1. Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n
2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.\n\n
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Connectivity Foundation, INC. \AS IS\ AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n
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Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n
HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
    }
  },
}
```

```

"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
  "/LockStatusResURI" : {
    "get": {
      "description": "Resource describing a lock.\nFor the type of lockState, the value 'Locked'
indicates that the door is Locked.\nThe value 'Unlocked' indicates that the door is
Unlocked.\nRetrieves the state of the lock.\n",
      "parameters": [
        {"$ref": "#/parameters/interface"}
      ],
      "responses": {
        "200": {
          "description" : "",
          "x-example": {
            "rt": ["oic.r.lock.status"],
            "id": "unique_example_id",
            "lockState": "Locked"
          },
          "schema": { "$ref": "#/definitions/Lock" }
        }
      },
    },
    "post": {
      "description": "Sets the current lock state.\n",
      "parameters": [
        {"$ref": "#/parameters/interface"},
        {
          "name": "body",
          "in": "body",
          "required": true,
          "schema": { "$ref": "#/definitions/Lock" },
          "x-example": {
            "id": "unique_example_id",
            "lockState": "Unlocked"
          }
        }
      ],
      "responses": {
        "200": {
          "description" : "",
          "x-example": {
            "id": "unique_example_id",
            "lockState": "Unlocked"
          },
          "schema": { "$ref": "#/definitions/Lock" }
        },
        "403": {
          "description" : "This response is generated by the OIC Server when the client
sends:\n An update with an invalid property value for lockState.\nThe server responds with the
current resource representation.\n",
          "x-example": {
            "lockState": "Unlocked"
          },
          "schema": { "$ref": "#/definitions/Lock" }
        }
      }
    }
  }
},
"parameters": {
  "interface" : {
    "in" : "query",

```



```

    "name" : "if",
    "type" : "string",
    "enum" : ["oic.if.a", "oic.if.baseline"]
  }
},
"definitions": {
  "Lock" :
  {
    "properties": {
      "id": {
        "description": "Instance ID of this specific resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
      },
      "if": {
        "description": "The interface set supported by this resource",
        "items": {
          "enum": [
            "oic.if.baseline",
            "oic.if.ll",
            "oic.if.b",
            "oic.if.lb",
            "oic.if.rw",
            "oic.if.r",
            "oic.if.a",
            "oic.if.s"
          ],
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "lockState": {
        "description": "State of the lock.",
        "enum": [
          "Locked",
          "Unlocked"
        ],
        "type": "string"
      },
      "n": {
        "description": "Friendly name of the resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "range": {
        "description": "The valid range for the value Property",
        "items": {
          "anyOf": [
            {
              "type": "number"
            },
            {
              "type": "integer"
            }
          ]
        },
        "maxItems": 2,
        "minItems": 2,
        "readOnly": true,
        "type": "array"
      },
      "rt": {

```

```

    "description": "Resource Type",
    "items": {
      "maxLength": 64,
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "step": {
    "anyOf": [
      {
        "type": "integer"
      },
      {
        "type": "number"
      }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
  },
  "value": {
    "anyOf": [
      {
        "type": "array"
      },
      {
        "type": "string"
      },
      {
        "type": "boolean"
      },
      {
        "type": "integer"
      },
      {
        "type": "number"
      },
      {
        "type": "object"
      }
    ],
    "description": "The value sensed or actuated by this Resource"
  }
},
"required": [
  "lockState"
],
"type": "object"
}
}
}

```

B.46.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description
rt	array: see schema		Read Only	Resource Type
range	array: see schema		Read Only	The valid range for the value Property
precision	number		Read Only	Accuracy granularity of the exposed value

id	string		Read Only	Instance ID of this specific resource
value	multiple types: see schema			The value sensed or actuated by this Resource
n	string		Read Only	Friendly name of the resource
step	multiple types: see schema		Read Only	Step value across the defined range
lockState	string	yes		State of the lock.
if	array: see schema		Read Only	The interface set supported by this resource

B.46.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/LockStatusResURI		get	post		

B.47 Magnetic Field Direction Sensor

B.47.1 Introduction

This resource describes the direction of the Earth's magnetic field at the observer's current point in space. Typical use case includes measurement of compass readings on a personal device. The value is an array containing Hx, Hy, Hz (in that order) each of which are floats. Each of Hx, Hy and Hz are expressed in A/m (Amperes per metre)

B.47.2 Example URI

/MagneticFieldDirectionResURI

B.47.3 Resource Type

The resource type (rt) is defined as: ['oic.r.sensor.magneticfielddirection'].

B.47.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Magnetic Field Direction Sensor",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "Copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n      1.
Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.\n\n      THIS SOFTWARE IS PROVIDED BY THE Open
Connectivity Foundation, INC. \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n      IN NO EVENT SHALL THE Open Connectivity
Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n      HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.\n"
    }
  }
}
```

```

    },
    "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 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)\n",
          "parameters": [
            {"$ref": "#/parameters/interface"}
          ],
          "responses": {
            "200": {
              "description": "",
              "x-example": {
                "rt": ["oic.r.sensor.magneticfielddirection"],
                "id": "unique_example_id",
                "value": [100.0,15.0,90.0]
              },
              "schema": { "$ref": "#/definitions/magneticFieldDirection" }
            }
          }
        }
      }
    },
    "parameters": {
      "interface" : {
        "in" : "query",
        "name" : "if",
        "type" : "string",
        "enum" : ["oic.if.s", "oic.if.baseline"]
      }
    },
    "definitions": {
      "magneticFieldDirection" : {
        "properties": {
          "id": {
            "description": "Instance ID of this specific resource",
            "maxLength": 64,
            "readOnly": true,
            "type": "string"
          },
          "if": {
            "description": "The interface set supported by this resource",
            "items": {
              "enum": [
                "oic.if.baseline",
                "oic.if.ll",
                "oic.if.b",
                "oic.if.lb",
                "oic.if.rw",
                "oic.if.r",
                "oic.if.a",
                "oic.if.s"
              ]
            },
            "type": "string"
          },
          "minItems": 1,
          "readOnly": true,
          "type": "array"
        },
        "n": {
          "description": "Friendly name of the resource",
          "maxLength": 64,
          "readOnly": true,

```

```

    "type": "string"
  },
  "precision": {
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
  },
  "range": {
    "description": "The valid range for the value Property",
    "items": {
      "anyOf": [
        {
          "type": "number"
        },
        {
          "type": "integer"
        }
      ]
    },
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
  },
  "rt": {
    "description": "Resource Type",
    "items": {
      "maxLength": 64,
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "step": {
    "anyOf": [
      {
        "type": "integer"
      },
      {
        "type": "number"
      }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
  },
  "value": {
    "description": "Array containing Hx, Hy, Hz.",
    "items": {
      "type": "number"
    },
    "maxItems": 3,
    "minItems": 3,
    "readOnly": true,
    "type": "array"
  },
  "required": [
    "value"
  ]
}
}

```

B.47.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description

range	array: see schema		Read Only	The valid range for the value Property
n	string		Read Only	Friendly name of the resource
if	array: see schema		Read Only	The interface set supported by this resource
id	string		Read Only	Instance ID of this specific resource
rt	array: see schema		Read Only	Resource Type
value	array: see schema	yes	Read Only	Array containing Hx, Hy, Hz.
precision	number		Read Only	Accuracy granularity of the exposed value
step	multiple types: see schema		Read Only	Step value across the defined range

B.47.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/MagneticFieldDirectionResURI		get			

B.48 Media**B.48.1 Introduction**

This resource specifies the media types that an OCF Server supports. The resource is an array of media elements. Each element contains:

- A URL at which the specified media type can be accessed.
- A string array containing the definition of the media using SDP.

Each entry in the sdp array is an SDP line. Each line shall follow the SDP description syntax as defined in the SDP specification. The SDP specification can be found at <http://tools.ietf.org/html/rfc4566>.
Retrieves the current media resource.

B.48.2 Example URI

/MediaResURI

B.48.3 Resource Type

The resource type (rt) is defined as: ['oic.r.media'].

B.48.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Media",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n      1.
Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer in the documentation and/or
```

other materials provided with the distribution.\n\n THIS SOFTWARE IS PROVIDED BY THE Open Connectivity Foundation, INC. \n\n"AS IS\n" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n\n IN NO EVENT SHALL THE Open Connectivity Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n\n HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.\n"

```

    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/MediaResURI" : {
      "get": {
        "description": "This resource specifies the media types that an OCF Server supports.\n\nThe resource is an array of media elements. Each element contains:\n\n A URL at which the specified media type can be accessed.\n\n A string array containing the definition of the media using SDP.\n\n Each entry in the sdp array is an SDP line.\n\n Each line shall follow the SDP description syntax as defined in the SDP specification.\n\nThe SDP specification can be found at http://tools.ietf.org/html/rfc4566.\n\nRetrieves the current media resource.\n",
        "parameters": [
          {
            "$ref": "#/parameters/interface"
          }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.media"],
              "id": "unique_example_id",
              "media": [
                {
                  "url": "some example url",
                  "sdp": [
                    "m=video 1 RTP/AVP 96",
                    "a=rtpmap:96 H264/90000",
                    "a=fmtp:96 profile-level-id=42A028;packetization-mode=1"
                  ]
                },
                {
                  "url": "some other example1 url",
                  "sdp": [
                    "m=audio 2 RTP/AVP 97",
                    "a=rtpmap:97 MP4A-LATM/90000"
                  ]
                },
                {
                  "url": "some other example2 url",
                  "sdp": [
                    "m=video 3 RTP/AVP 98",
                    "a=rtpmap:98 jpeg/90000",
                    "a=fmtp:98 sampling=YCbCr-4:2:0;width=256;height=256"
                  ]
                }
              ]
            }
          }
        ],
        "schema": { "$ref": "#/definitions/Media" }
      }
    }
  }
},
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",

```

```

    "type": "string",
    "enum": ["oic.if.s", "oic.if.baseline"]
  },
  "definitions": {
    "Media": {
      {
        "properties": {
          "id": {
            "description": "Instance ID of this specific resource",
            "maxLength": 64,
            "readOnly": true,
            "type": "string"
          },
          "if": {
            "description": "The interface set supported by this resource",
            "items": {
              "enum": [
                "oic.if.baseline",
                "oic.if.ll",
                "oic.if.b",
                "oic.if.lb",
                "oic.if.rw",
                "oic.if.r",
                "oic.if.a",
                "oic.if.s"
              ],
              "type": "string"
            },
            "minItems": 1,
            "readOnly": true,
            "type": "array"
          },
          "media": {
            "items": {
              "properties": {
                "sdp": {
                  "description": "Array of strings, one per SDP line",
                  "items": {
                    "description": "SDP media or attribute line",
                    "type": "string"
                  },
                  "type": "array"
                },
                "url": {
                  "description": "url for the media instance",
                  "type": "string"
                }
              },
              "type": "object"
            },
            "type": "array"
          },
          "n": {
            "description": "Friendly name of the resource",
            "maxLength": 64,
            "readOnly": true,
            "type": "string"
          },
          "precision": {
            "description": "Accuracy granularity of the exposed value",
            "readOnly": true,
            "type": "number"
          },
          "range": {
            "description": "The valid range for the value Property",
            "items": {
              "anyOf": [
                {
                  "type": "number"
                }
              ]
            }
          }
        }
      }
    }
  }
}

```



```

        {
          "type": "integer"
        }
      ],
      "maxItems": 2,
      "minItems": 2,
      "readOnly": true,
      "type": "array"
    },
    "rt": {
      "description": "Resource Type",
      "items": {
        "maxLength": 64,
        "type": "string"
      },
      "minItems": 1,
      "readOnly": true,
      "type": "array"
    },
    "step": {
      "anyOf": [
        {
          "type": "integer"
        },
        {
          "type": "number"
        }
      ],
      "description": "Step value across the defined range",
      "readOnly": true
    },
    "value": {
      "anyOf": [
        {
          "type": "array"
        },
        {
          "type": "string"
        },
        {
          "type": "boolean"
        },
        {
          "type": "integer"
        },
        {
          "type": "number"
        },
        {
          "type": "object"
        }
      ],
      "description": "The value sensed or actuated by this Resource"
    }
  },
  "required": [
    "media"
  ]
}
}

```

B.48.5 Property Definition

Property name	Value type	Mandatory	Access mode	Description

precision	number		Read Only	Accuracy granularity of the exposed value
rt	array: see schema		Read Only	Resource Type
id	string		Read Only	Instance ID of this specific resource
if	array: see schema		Read Only	The interface set supported by this resource
value	multiple types: see schema			The value sensed or actuated by this Resource
range	array: see schema		Read Only	The valid range for the value Property
media	array: see schema	yes		
step	multiple types: see schema		Read Only	Step value across the defined range
n	string		Read Only	Friendly name of the resource

B.48.6 CRUDN behaviour

Resource	Create	Read	Update	Delete	Notify
/MediaResURI		get			

B.49 Media Source**B.49.1 Introduction**

This resource defines a media source that exists on a device. The source can be an input source or output source, this resource is agnostic of that. The sourceName specifies a pre-defined media input or output (e.g. "HDMI", "DVI"). The sourceNumber is a numeric identifier to specify the instance (e.g. "PC", 1). The sourceType is an enumeration defining whether the source is audio, video or both. The status is a boolean that determines if the specific source instance is selected or not. A status of true means that the source instance is selected. A status of false means that the source instance is not selected.

B.49.2 Example URI

/mediaSourceResURI

B.49.3 Resource Type

The resource type (rt) is defined as: ['oic.r.mediasource'].

B.49.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Media Source",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",

```

"x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:\n 1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.\n 2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.\n\n THIS SOFTWARE IS PROVIDED BY THE Open Connectivity Foundation, INC. \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n IN NO EVENT SHALL THE Open Connectivity Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.\n"

```

    },
    "schemes": ["http"],
    "consumes": ["application/json"],
    "produces": ["application/json"],
    "paths": {
      "/mediaSourceResURI" : {
        "get": {
          "description": "This resource defines a media source that exists on a device.\nThe source can be an input source or output source, this resource is agnostic of that.\nThe sourceName specifies a pre-defined media input or output (e.g. \"HDMI\", \"DVI\")\nThe sourceNumber is a numeric identifier to specify the instance (e.g. \"PC\", 1)\nThe sourceType is an enumeration defining whether the source is audio, video or both.\nThe status is a boolean that determines if the specific source instance is selected or not.\n A status of true means that the source instance is selected.\n A status of false means that the source instance is not selected.\n",
          "parameters": [
            { "$ref": "#/parameters/interface" }
          ],
          "responses": {
            "200": {
              "description": "",
              "x-example": {
                "rt": ["oic.r.mediasource"],
                "id": "unique_example_id",
                "sourceName": "HDMI-CEC",
                "sourceNumber": "1",
                "sourceType": "audioPlusVideo",
                "status": true
              }
            },
            "schema": { "$ref": "#/definitions/mediaSource" }
          }
        },
        "post": {
          "description": "Changes the status of the source.\nAllows changes of the sourceName and the status.\n",
          "parameters": [
            { "$ref": "#/parameters/interface" },
            {
              "name": "body",
              "in": "body",
              "required": true,
              "schema": { "$ref": "#/definitions/mediaSource" },
              "x-example": {
                "id": "unique_example_id",
                "sourceName": "my new name",
                "sourceNumber": "1",
                "status": true
              }
            }
          ],
          "responses": {
            "200": {

```