|  |
| --- |
| oneM2M-Logo |

|  |  |
| --- | --- |
| **oneM2M**  **Technical Specification** | |
| Document Number | oneM2M-TS-0031-V3.0.0 |
| Document Name: | Feature Catalogue |
| Date: | 2019-03-20 |
| Abstract: | Potential oneM2M product users frequently ask if a specific feature/function is supported by the specifications. A function is a combination of multiple lower-level functions or features, parameters and resource types. Each parameter and resource attribute even consist of sub-elements having their own multiple values. This brings lots of different combinations of settings which behave differently and this is not well written in current specifications.  This TS identifies supported functions in low level as well as high level that the users easily choose a set of functions to utilize for their IoT services and understand how to implement them following the oneM2M TSes. |
| Template Version: 08 September 2015 (Dot not modify) | |

This Specification is provided for future development work within oneM2M only. The Partners accept no liability for any use of this Specification.

The present document has not been subject to any approval process by the oneM2M Partners Type 1. Published oneM2M specifications and reports for implementation should be obtained via the oneM2M Partners' Publications Offices.

About oneM2M

The purpose and goal of oneM2M is to develop technical specifications which address the need for a common M2M Service Layer that can be readily embedded within various hardware and software, and relied upon to connect the myriad of devices in the field with M2M application servers worldwide.

More information about oneM2M may be found at: http//www.oneM2M.org

Copyright Notification

© 2018, oneM2M Partners Type 1 (ARIB, ATIS, CCSA, ETSI, TIA, TSDSI, TTA, TTC).

All rights reserved.

The copyright and the foregoing restriction extend to reproduction in all media.

Notice of Disclaimer & Limitation of Liability

The information provided in this document is directed solely to professionals who have the appropriate degree of experience to understand and interpret its contents in accordance with generally accepted engineering or other professional standards and applicable regulations. No recommendation as to products or vendors is made or should be implied.

NO REPRESENTATION OR WARRANTY IS MADE THAT THE INFORMATION IS TECHNICALLY ACCURATE OR SUFFICIENT OR CONFORMS TO ANY STATUTE, GOVERNMENTAL RULE OR REGULATION, AND FURTHER, NO REPRESENTATION OR WARRANTY IS MADE OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR AGAINST INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS. NO oneM2M PARTNER TYPE 1 SHALL BE LIABLE, BEYOND THE AMOUNT OF ANY SUM RECEIVED IN PAYMENT BY THAT PARTNER FOR THIS DOCUMENT, WITH RESPECT TO ANY CLAIM, AND IN NO EVENT SHALL oneM2M BE LIABLE FOR LOST PROFITS OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES. oneM2M EXPRESSLY ADVISES ANY AND ALL USE OF OR RELIANCE UPON THIS INFORMATION PROVIDED IN THIS DOCUMENT IS AT THE RISK OF THE USER.

Contents

[1 Scope 5](#_Toc3964764)

[2 References 5](#_Toc3964765)

[2.1 Normative references 5](#_Toc3964766)

[2.2 Informative references 5](#_Toc3964767)

[3 Definitions, symbols and abbreviations 5](#_Toc3964768)

[3.1 Definitions 5](#_Toc3964769)

[3.2 Symbols 5](#_Toc3964770)

[3.2 Abbreviations 6](#_Toc3964771)

[4 Conventions, 6](#_Toc3964772)

[5 Reader's guide 6](#_Toc3964773)

[5.1 Introduction 6](#_Toc3964774)

[5.2 Entity 6](#_Toc3964775)

[5.3 Functions 7](#_Toc3964776)

[5.4 Feature Set 7](#_Toc3964777)

[5.5 Feature 7](#_Toc3964778)

[6 oneM2M defined Functions 7](#_Toc3964779)

[6.1 General Capability (GEN) 7](#_Toc3964780)

[6.1.1 Binding and Serialization 7](#_Toc3964781)

[6.1.2 Resource Identification 7](#_Toc3964782)

[6.1.3 Request Handling 8](#_Toc3964783)

[6.1.4 CRUD of common and universal attributes 9](#_Toc3964784)

[6.2 Registration (REG) 9](#_Toc3964785)

[6.2.1 CSE Capabilities 9](#_Toc3964786)

[6.2.2 AE registration 10](#_Toc3964787)

[6.2.3 CSE registration 11](#_Toc3964788)

[6.3 Data Management and Repository (DMR) 11](#_Toc3964789)

[6.3.1 Configuration of container for data sharing 11](#_Toc3964790)

[6.3.2 Managing content instances 12](#_Toc3964791)

[6.3.3 Managing flexcontainers 12](#_Toc3964792)

[6.3.4 Configuration of time series 13](#_Toc3964793)

[6.3.5 Managing time series instances 13](#_Toc3964794)

[6.4 Discovery (DIS) 14](#_Toc3964795)

[6.4.1 Resource discovery 14](#_Toc3964796)

[6.5 Group Management (GMG) 14](#_Toc3964797)

[6.5.1 Configuration of group 14](#_Toc3964798)

[6.5.2 Fan out using group 15](#_Toc3964799)

[6.6 Subscription (SUB) 15](#_Toc3964800)

[6.6.1 Configuration of subscription for data Notification 15](#_Toc3964801)

[6.6.2 Trigger notification pertaining to subscription 17](#_Toc3964802)

[6.7 Security (SEC) 17](#_Toc3964803)

[6.7.1 Configuration of access control policy 17](#_Toc3964804)

[6.8 Resource Announcement (ANNC) 18](#_Toc3964805)

[6.8.1 Announce a Resource 18](#_Toc3964806)

[6.9.2 Announced Resource Procedures 18](#_Toc3964807)

[6.9 Polling Channel (PCH) 18](#_Toc3964808)

[6.9.1 Configure a Polling Channel 18](#_Toc3964809)

[6.10.2 Long Polling Procedures 19](#_Toc3964810)

[6.10 Service Charging and Accounting (SCA) 19](#_Toc3964811)

[6.10.1 Configure an Event Based Statistics Collection 19](#_Toc3964812)

[6.10.2 Service Statistics Collection Procedures 20](#_Toc3964813)

[6.11 Semantics (SEM) 20](#_Toc3964814)

[6.11.1 Semantic annotation 20](#_Toc3964815)

[6.11.2 Semantic discovery 20](#_Toc3964816)

[6.12 Home Appliances Information Model (HAIM) 20](#_Toc3964817)

[6.12.1 Modeling of HAIM devices 20](#_Toc3964818)

[6.13 Network Service Exposure, Service Execution and Triggering (NSSE) on 3GPP Network 21](#_Toc3964819)

[6.13.1 Device Triggering 21](#_Toc3964820)

[History 23](#_Toc3964821)

# 1 Scope

The present document identifies the oneM2M feature catalog covering functions specified in TS-0001 (Functional Architecture) [1] and TS-0004 (Service Layer Core Protocol) [2] mainly. Other functions such as in TS-0003 (Security Solutions) [i.2] will be specified in the next release of the present document.

# 2 References

## 2.1 Normative references

References are either specific (identified by date of publication and/or edition number or version number) or non‑specific. For specific references, only the cited version applies. For non-specific references, the latest version of the reference document (including any amendments) applies.

The following referenced documents are necessary for the application of the present document.

[1] oneM2M TS-0001: "Functional Architecture".

[2] oneM2M TS-0004: "Service Layer Core Protocol".

[3] oneM2M TS-0009: "HTTP Protocol Binding".

[4] oneM2M TS-0008: "CoAP Protocol Binding".

[5] oneM2M TS-0010: "MQTT Protocol Binding".

[6] oneM2M TS-0020: "WebSocket Protocol Binding".

[7] oneM2M TS-0023: "Home Appliances Information Model and Mapping".

## 2.2 Informative references

References are either specific (identified by date of publication and/or edition number or version number) or non‑specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

[i.1] oneM2M Drafting Rules.

NOTE: Available at <http://www.onem2m.org/images/files/oneM2M-Drafting-Rules.pdf>.

[i.2] oneM2M TS-0003: "Security Solutions".

# 3 Definitions, symbols and abbreviations

## 3.1 Definitions

Void.

## 3.2 Symbols

For the purposes of the present document, the following symbols apply:

AE Features that are supported by AE

CE Features that are supported by CSE

GE Features that are supported by both CSE and AE

## 3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

AE Application Entity

AE-ID Application Entity - IDentifier

ANNC resource Announcement

CBOR Concise Binary Object Representation

CRUD Create Retreive Update Delete

CSE Common Services Entity

CSE-ID Common Services Entity - IDentifier

DIS Discovery

DMG Device ManaGement

DMR Data Management and Repository

GEN General capability

GENC GENeral Capability

GMG Group Management

HAIM Home Appliances Information Modeling

HTTP HyperText Transfer Protocol

IN-CSE Infrastructure Node - Common Services Entity

JSON JavaScript Object Notation

LOC Location

MA Mandatory Announced

MQTT Message Queuing Telemetry Transport

NSSE Network Service Exposure, Service Execution and Triggering

OA Optional Announced

PCH Polling Channel

REG Registration

SCA Service Charging and Accounting

SEC Security

SEM Semantics

SUB Subscription/Notification

XML Extensible Markup Language

# 4 Conventions,

The key words "Shall", "Shall not", "May", "Need not", "Should", "Should not" in the present document are to be interpreted as described in the oneM2M Drafting Rules [i.1].

# 5 Reader's guide

## 5.1 Introduction

Features of oneM2M are organized into a hierarchical structure and separated by Entity, Function and Feature Sets at each level. Entity and Function have their dedicated abbreviations. Feature is uniquely identified by Feature ID. Feature ID is a combination of abbreviation of Entity, Function the serial number of Feature Set and the serial number of Feature separated by slash "/" in the form as the following:

{Abbr of Entity}/{Abbr of Function}/{Serial number of Feature Set}/{Serial number of Feature}

## 5.2 Entity

Entity is oneM2M defined Entities which could be AE or CSE as feature is implemented differently from the perspective of AE and CSE. There may some other features that are common for both AE and CSE like the binding and serialization. It is defined to have three Entity categories, AE, CSE and General.

* GE: Features that are supported by both CSE and AE
* CE: Features that are supported by CSE
* AE: Features that are supported by AE

## 5.3 Functions

In the present document, oneM2M defined CSFs are used to categorize features. Besides, a new category is added to organize features that are shared between Functions or agnostic to both CSE and AE. The Functions are composed of oneM2M defined CSFs and one new Function called GENC that is general capability.

## 5.4 Feature Set

Function is composed of Feature Sets. Feature Set is a set of Features that are closely related. For example, in group management Function, the configuration of group and the fan out of operation can be regarded as two separate Feature Sets that belong to group management (GMG). Under each Function, Feature Set is identified by a five digit number starting from 00001.

## 5.5 Feature

A Feature is an atomic procedure defined by oneM2M. For example, a Feature to set the max number of contentInstances within a container or a Feature for application registration. A Feature Set is composed of Features. Within each Feature Set, a Feature is identified by a five digit number starting from 00001.

# 6 oneM2M defined Functions

## 6.1 General Capability (GEN)

### 6.1.1 Binding and Serialization

The Feature Set below is composed of features for binding of oneM2M primitives by an AE or CSE to underlying transport network protocols.

Table 6.1.1-1: Features of GE/GEN/00001

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *GE/GEN/00001/00001* | Support HTTP binding [3] | 1, 2 |
| *GE/GEN/00001/00002* | Support CoAP binding [4] | 1, 2 |
| *GE/GEN/00001/00003* | Support MQTT binding [5] | 1, 2 |
| *GE/GEN/00001/00004* | Support WebSocket binding [6] | 2 |

The Feature Set below is composed of serialization formats supported by an AE or CSE.

Table 6.1.1-2: Features of GE/GEN/00002

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *GE/GEN/00002/00001* | Support XML serialization | 1, 2 |
| *GE/GEN/00002/00002* | Support JSON serialization | 1, 2 |
| *GE/GEN/00002/00003* | Support CBOR serialization | 2 |
| *GE/GEN/00002/00004* | Support the *contentSerialization* attribute of applicable resources | 1, 2 |

### 6.1.2 Resource Identification

The Feature Set below is composed of resource identifier formats supported by a CSE.

Table 6.1.2-1: Features of CE/GEN/00001

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *CE/GEN/00001/00001* | Support Unstructured resource identifier | 1, 2 |
| *CE/GEN/00001/00002* | Support Structured resource identifier | 1, 2 |

The Feature Set below is composed of resource identifier formats supported by an AE. At least one of the identifier formats shall be supported.

Table 6.1.2-2: Features of AE/GEN/00001

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *AE/GEN/00001/00001* | Support CSE-relative Unstructured resource identifier | 1, 2 |
| *AE/GEN/00001/00002* | Support SP-relative Unstructured resource identifier | 1, 2 |
| *AE/GEN/00001/00003* | Support Absolute Unstructured resource identifier | 1, 2 |
| *AE/GEN/00001/00004* | Support CSE-relative Structured resource identifier | 1, 2 |
| *AE/GEN/00001/00005* | Support SP-relative Structured resource identifier | 1, 2 |
| *AE/GEN/00001/00006* | Support Absolute Structured resource identifier | 1, 2 |

### 6.1.3 Request Handling

The Feature Set below is composed of supported CSE request handling features.

Table 6.1.3-1: Features of CE/GEN/00002

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *CE/GEN/00002/00001* | Support blocking request handling | 1, 2 |
| *CE/GEN/00002/00002* | Support of request with result content | 1, 2 |
| *CE/GEN/00002/00003* | Support attribute level addressing for Retrieve and Update requests | 1, 2 |
| *CE/GEN/00002/00004* | Support non-blocking synchronous request handling | 1, 2 |
| *CE/GEN/00002/00005* | Support non-blocking asynchronous request handling | 1, 2 |
| *CE/GEN/00002/00006* | Support for transit CSE forwarding of requests and responses | 1, 2 |
| *CE/GEN/00002/00007* | Support flex-blocking request handling | 2 |
| *CE/GEN/00002/00008* | Support for ***Originating Timestamp*** parameter | 1, 2 |
| *CE/GEN/00002/00009* | Support for ***Request Expiration Timestamp*** parameter | 1, 2 |
| *CE/GEN/00002/00010* | Support for ***Result Expiration Timestamp*** parameter | 1, 2 |
| *CE/GEN/00002/00011* | Support for ***Result Persistence*** parameter | 1, 2 |
| *CE/GEN/00002/00012* | Support for ***Operation Execution Time*** parameter | 1, 2 |
| *CE/GEN/00002/00013* | Support for ***Release Version Indicator*** parameter | 2 |
| *CE/GEN/00002/00014* | Support for ***Vendor Information*** parameter | 2 |

The Feature Set below is composed of AE supported request handling features.

Table 6.1.3-2: Features of AE/GEN/00002

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *AE/GEN/00002/00001* | Support Create request targeting one resource | 1, 2 |
| *AE/GEN/00002/00002* | Support Retrieve request targeting one resource | 1, 2 |
| *AE/GEN/00002/00003* | Support Update request targeting one resource | 1, 2 |
| *AE/GEN/00002/00004* | Support Delete request targeting one resource | 1, 2 |
| *AE/GEN/00002/00005* | Support issuing of retrieve and update requests targeting attribute(s) | 1, 2 |
| *AE/GEN/00002/00006* | Support of requesting attributes by setting ***Result Content*** | 1, 2 |
| *AE/GEN/00002/00007* | Support of requesting hierarchical address by setting ***Result Content*** | 1, 2 |
| *AE/GEN/00002/00008* | Support of requesting hierarchical address and attributes by setting ***Result Content*** | 1, 2 |
| *AE/GEN/00002/00009* | Support of requesting attributes and child resources by setting ***Result Content*** | 1, 2 |
| *AE/GEN/00002/00010* | Support of requesting child resources by setting ***Result Content*** | 1, 2 |
| *AE/GEN/00002/00011* | Support of requesting attributes and child resource references by setting ***Result Content*** | 1, 2 |
| *AE/GEN/00002/00012* | Support of requesting child resource references by setting ***Result Content*** | 1, 2 |
| *AE/GEN/00002/00013* | Support of requesting nothing by setting ***Result Content*** | 1, 2 |
| *AE/GEN/00002/00014* | Support of requesting modified attributes by setting ***Result Content*** | 2 |
| *AE/GEN/00002/00015* | Support for issuing blocking requests | 1, 2 |
| *AE/GEN/00002/00016* | Support for issuing non-blocking synchronous request | 1, 2 |
| *AE/GEN/00002/00017* | Support for issuing non-blocking asynchronous request | 1, 2 |
| *AE/GEN/00002/00018* | Support for issuing flex-blocking request | 1, 2 |
| *AE/GEN/00002/00019* | Support for issuing requests with ***Originating Timestamp*** parameter | 1, 2 |
| *AE/GEN/00002/00020* | Support for issuing requests with ***Request Expiration Timestamp*** parameter | 1, 2 |
| *AE/GEN/00002/00021* | Support for issuing requests with ***Result Expiration Timestamp*** parameter | 1, 2 |
| *AE/GEN/00002/00022* | Support for issuing requests with ***Result Persistence*** parameter | 1, 2 |
| *AE/GEN/00002/00023* | Support for issuing requests with ***Operation Execution Time*** parameter | 1, 2 |
| *AE/GEN/00002/00024* | Support for issuing requests with ***Release Version Indicator*** parameter | 2 |
| *AE/GEN/00002/00025* | Support for issuing requests with ***Vendor Information*** parameter | 2 |

### 6.1.4 CRUD of common and universal attributes

The Feature Set below is composed of features that enable an AE to initiate CRUD requests on common and universal resources attributes.

Table 6.1.4-1: Features of AE/GEN/00003

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *AE/GEN/00003/00001* | Configure *resourceName* attribute upon Create for all applicable resources | 1, 2 |
| *AE/GEN/00003/00002* | Configure *expirationTime* attribute upon Create or Update for all applicable resources | 1, 2 |

## 6.2 Registration (REG)

### 6.2.1 CSE Capabilities

The Feature Set below is composed of features for CSE supporting discovery of basic CSE capabilities.

Table 6.2.1-1: Feature set CE/REG/00001

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *CE/REG/00001/00001* | Support <CSEBase> resource with attributes multiplicity equals 1 [1]. | 1, 2 |
| *CE/REG/00001/00002* | Support the *cseType* attribute of <CSEBase> resource. | 1, 2 |
| *CE/REG/00001/00003* | Support the *nodeLink* attribute of <CSEBase> resource. This is dependent on the feature set for <node> resource. | 1, 2 |
| *CE/REG/00001/00004* | Support the *supportedReleaseVersions* attribute of <CSEBase> resource. | 2 |

Table 6.2.1-2: Feature set AE/REG/00001

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *AE/REG/00001/00001* | The Retrieval of <CSEBase> resource. | 1, 2 |

### 6.2.2 AE registration

The Feature Set below is composed of features for a CSE to support AE registration.

Table 6.2.2-1: Feature set CE/REG/00002

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *CE/REG/00002/00001* | Support <AE> resource with attributes multiplicity equals 1 [1] | 1, 2 |
| *CE/REG/00002/00002* | AE registration/de-registration without a pre-assigned AE-ID in the registration request and where the AE-ID Stem is configured with ‘C' | 1, 2 |
| *CE/REG/00002/00003* | AE registration/de-registration without a pre-assigned AE-ID in the registration request and where the AE-ID Stem is configured with ‘S' | 1, 2 |
| *CE/REG/00002/00004* | AE registration/de-registration without a pre-assigned AE-ID in the registration request and where no AE-ID Stem is included | 1, 2 |
| *CE/REG/00002/00005* | AE registration/de-registration without a pre-assigned AE-ID in the registration request and where the AE-ID Stem is configured with ‘S' and where announcement to an IN-CSE is needed to get an AE-ID assigned | 1, 2 |
| *CE/REG/00002/00007* | Support the *appName* attribute of <AE> resource | 1, 2 |
| *CE/REG/00002/00008* | Support the *pointOfAccess* attribute of <AE> resource | 1, 2 |
| *CE/REG/00002/00009* | AE registration/de-registration with pre-assigned AE-ID | 1, 2 |
| *CE/REG/00002/00010* | Support the *nodeLink* attribute of <AE> resource | 1, 2 |
| *CE/REG/00002/00011* | Support the *supportedReleaseVersions* attribute of <AE> resource | 2 |

The Feature Set below is composed of features to support M2M Service Subscription Profiles.

Table 6.2.2-2: Feature set CE/REG/00003

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *CE/REG/00003/00001* | Support for CRUD of <m2mServiceSubscriptionProfile> resource attributes with multiplicity equaling 1 [1] | 1, 2 |
| *CE/REG/00003/00002* | Support for CRUD of <serviceSubscribedNode> with attribute multiplicity equals 1 | 1, 2 |
| *CE/REG/00003/00003* | Support the *CSE-ID* attribute of < serviceSubscribedNode > | 1, 2 |
| *CE/REG/00003/00004* | Support the *deviceIdentifier* attribute of < serviceSubscribedNode > | 1, 2 |
| *CE/REG/00003/00005* | Support the *ruleLinks* attribute of < serviceSubscribedNode > | 1, 2 |
| *CE/REG/00003/00006* | Support for CRUD of < serviceSubscribedAppRule > resource attributes with multiplicity equaling 1 | 1, 2 |
| *CE/REG/00003/00007* | Support the *allowedApp-IDs* attribute of <serviceSubscribedAppRule > | 1, 2 |
| *CE/REG/00003/00008* | Support the *allowedAEs* attribute of <serviceSubscribedAppRule > | 1, 2 |
| *CE/REG/00003/00009* | Support the *allowedRole-IDs* attribute of <serviceSubscribedAppRule> | 1, 2 |
| *CE/REG/00003/00010* | Support the *Credential-IDs* attribute of <serviceSubscribedAppRule> | 1, 2 |

The Feature Set below is composed of features to support AE registration.

Table 6.2.2-3: Feature set AE/REG/00002

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *AE/REG/00002/00001* | Create <AE> with mandatory attributes [2] | 1, 2 |
| *AE/REG/00002/00002* | Create <AE> with *appName* | 1, 2 |
| *AE/REG/00002/00003* | Create <AE> with *pointOfAccess* | 1, 2 |
| *AE/REG/00002/00004* | Create <AE> with *nodeLink* | 1, 2 |
| *AE/REG/00002/00005* | Create <AE> with *contentSerialization* | 1, 2 |
| *AE/REG/00002/00006* | Create <AE> with *supportedReleaseVersions* | 2 |
| *AE/REG/00002/00007* | Update <AE> with *appName* | 1, 2 |
| *AE/REG/00002/00008* | Update <AE> with *pointOfAccess* | 1, 2 |
| *AE/REG/00002/00009* | Update <AE> with *nodeLink* | 1, 2 |
| *AE/REG/00002/00010* | Update <AE> with *contentSerialization* | 1, 2 |
| *AE/REG/00002/00011* | Update <AE> with *supportedReleaseVersions* | 2 |
| *AE/REG/00002/00012* | Retrieve <AE> | 1, 2 |
| *AE/REG/00002/00013* | Delete <AE> | 1, 2 |

### 6.2.3 CSE registration

The Feature Set below is composed of features to support CSE registration as a registrar CSE.

Table 6.2.3-1: Feature Set CE/REG/00004

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *CE/REG/00004/00001* | Support <remoteCSE> resource with attributes multiplicity equals 1 [1] | 1, 2 |
| *CE/REG/00004/00002* | Support the *cseType* attribute of <remoteCSE> resource | 1, 2 |
| *CE/REG/00004/00003* | Support the *pointOfAccess* attribute of <remoteCSE> resource | 1, 2 |
| *CE/REG/00004/00004* | Support the *nodeLink* attribute of <remoteCSE> resource | 1, 2 |
| *CE/REG/00004/00005* | Support the *supportedReleaseVersions* attribute of <remoteCSE> resource | 2 |

The Feature Set below is composed of features to support CSE registration as a registree CSE.

Table 6.2.3-2: Features of CE/REG/00005

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *CE/REG/00005/00001* | CSE Registration/De-Registration | 1, 2 |
| *CE/REG/00005/00002* | Create the <remoteCSE> with *cseType* attribute | 1, 2 |
| *CE/REG/00005/00003* | Create the <remoteCSE> with *pointOfAccess* attribute | 1, 2 |
| *CE/REG/00005/00004* | Create the <remoteCSE> with *requestReachability* | 1, 2 |
| *CE/REG/00005/00005* | Create the <remoteCSE> with *nodeLink* attribute | 1, 2 |
| *CE/REG/00005/00006* | Update the <remoteCSE> with *pointOfAccess* attribute | 1, 2 |
| *CE/REG/00005/00007* | Update the <remoteCSE> with *requestReachability* | 1, 2 |
| *CE/REG/00005/00008* | Update the <remoteCSE> with *nodeLink* attribute | 1, 2 |
| *CE/REG/00005/00009* | Retrieve the <remoteCSE> resource | 1, 2 |

## 6.3 Data Management and Repository (DMR)

### 6.3.1 Configuration of container for data sharing

The Feature Set below is composed of features to support CSE configuration of a container.

Table 6.3.1-1: Feature Set CE/DMR/00001

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *CE/DMR/00001/00001* | Support <container> resource with attributes multiplicity equals 1 [1] | 1, 2 |
| *CE/DMR/00001/00002* | Support the *maxNrOfInstances* attribute of <container> resource | 1, 2 |
| *CE/DMR/00001/00003* | Support the *maxByteSize* attribute of <container> resource | 1, 2 |
| *CE/DMR/00001/00004* | Support the *maxInstanceAge* attribute of <container> resource | 1, 2 |
| *CE/DMR/00001/00005* | Support the *disableRetrieval* attribute of <container> resource | 2 |

The Feature Set below is composed of features to support AE configuration of a container.

Table 6.3.1-2: Feature Set AE/DMR/00001

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *AE/DMR/00001/00001* | Create <container> with no attribute set | 1, 2 |
| *AE/DMR/00001/00002* | Create <container> with *maxNrOfInstances* | 1, 2 |
| *AE/DMR/00001/00003* | Create <container> with *maxByteSize* | 1, 2 |
| *AE/DMR/00001/00004* | Create <container> with *maxInstanceAge* | 1, 2 |
| *AE/DMR/00001/00005* | Create <container> with *disableRetrieval* | 2 |
| *AE/DMR/00001/00006* | Update <container> with *maxNrOfInstances* | 1, 2 |
| *AE/DMR/00001/00007* | Update <container> with *maxByteSize* | 1, 2 |
| *AE/DMR/00001/00008* | Update <container> with *maxInstanceAge* | 1, 2 |
| *AE/DMR/00001/00010* | Update <container> with *disableRetrieval* | 2 |
| *AE/DMR/00001/00011* | Delete <container> | 1, 2 |
| *AE/DMR/00001/00012* | Retrieve <container> | 1, 2 |

### 6.3.2 Managing content instances

The Feature Set below is composed of features to support a CSE managing a content instance.

Table 6.3.2-1: Feature Set CE/DMR/00002

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *CE/DMR/00002/00001* | Support <contentInstance> resource with attributes multiplicity equals 1 [1] | 1, 2 |
| *CE/DMR/00002/00002* | Support the *contentInfo* attribute of <contentInstance> resource | 1, 2 |
| *CE/DMR/00002/00003* | Support the *contentRef* attribute of <contentInstance> resource | 1, 2 |
| *CE/DMR/00002/00004* | Retrieve and Delete of latest <contentInstance> resource by <latest> virtual resource | 1, 2 |
| *CE/DMR/00002/00005* | Retrieve and Delete of oldest <contentInstance> resource by <oldest> virtual resource | 1, 2 |

The Feature Set below is composed of features to support an AE reporting of content instance.

Table 6.3.2-2: Feature Set AE/DMR/00002

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *AE/DMR/00002/00001* | Create <contentInstance> with mandatory attributes [2] | 1, 2 |
| *AE/DMR/00002/00002* | Create <contentInstance> with *contentInfo* | 1, 2 |
| *AE/DMR/00002/00003* | Create <contentInstance> with *contentRef* | 1, 2 |
| *AE/DMR/00002/00004* | Retrieve <contentInstance> resource targeting the <contentInstance> resource | 1, 2 |
| *AE/DMR/00002/00005* | Retrieve oldest <contentInstance> resource targeting the <oldest> resource | 1, 2 |
| *AE/DMR/00002/00006* | Retrieve latest <contentInstance> resource targeting the <latest> resource | 1, 2 |
| *AE/DMR/00002/00007* | Delete <contentInstance> | 1, 2 |
| *AE/DMR/00002/00008* | Delete oldest <contentInstance> resource targeting the <oldest> resource | 1, 2 |
| *AE/DMR/00002/00009* | Delete latest <contentInstance> resource targeting the <latest> resource | 1, 2 |

### 6.3.3 Managing flexcontainers

The Feature Set below is composed of features to support a CSE managing a flexcontainer.

Table 6.3.3-1: Feature Set CE/DMR/00003

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *CE/DMR/00003/00001* | Support <flexcontainer> resource with attributes multiplicity equals 1 [1] | 2 |
| *CE/DMR/00003/00002* | Support the *[customAttribute]* attribute of <flexcontainer> resource | 2 |

The Feature Set below is composed of features to support an AE managing of flexcontainer instance.

Table 6.3.3-2: Feature Set AE/DMR/00003

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *AE/DMR/00003/00001* | Create <flexcontainer> with mandatory attributes [2] | 2 |
| *AE/DMR/00003/00002* | Create <flexcontainer> with *containerDefinition* | 2 |
| *AE/DMR/00003/00003* | Create <flexcontainer> with *[customAttribute]* | 2 |
| *AE/DMR/00003/00004* | Update <flexcontainer> with *[customAttribute]* | 2 |
| *AE/DMR/00003/00005* | Retrieve <flexcontainer> resource | 2 |
| *AE/DMR/00003/00006* | Delete <flexContainer> resource | 2 |

### 6.3.4 Configuration of time series

The Feature Set below is composed of features to support CSE configuration of a time series.

Table 6.3.4-1: Feature Set CE/DMR/00004

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *CE/DMR/00004/00001* | Support <timeSeries> resource with attributes multiplicity equals 1 [1] | 2 |
| *CE/DMR/00004/00002* | Support the *maxNrOfInstances* attribute of <timeSeries> resource | 2 |
| *CE/DMR/00004/00003* | Support the *maxByteSize* attribute of <timeSeries> resource | 2 |
| *CE/DMR/00004/00004* | Support the *maxInstanceAge* attribute of <timeSeries> resource | 2 |
| *CE/DMR/00004/00005* | Support the *periodicInterval* attribute of <timeSeries> resource | 2 |
| *CE/DMR/00004/00006* | Support the *missingDataDetect* attribute of <timeSeries> resource | 2 |
| *CE/DMR/00004/00007* | Support the *missingDataMaxNr* attribute of <timeSeries> resource | 2 |
| *CE/DMR/00004/00008* | Support the *missingDataList* attribute of <timeSeries> resource | 2 |
| *CE/DMR/00004/00009* | Support the *missingDataCurrentNr* attribute of <timeSeries> resource | 2 |
| *CE/DMR/00004/00010* | Support the *missingDataDetectTimer* attribute of <timeSeries> resource | 2 |

The Feature Set below is composed of features to support AE configuration of a time series.

Table 6.3.4-2: Feature Set AE/DMR/00004

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *AE/DMR/00004/00001* | Create <timeSeries> with no attribute set | 2 |
| *AE/DMR/00004/00002* | Create <timeSeries> with *maxNrOfInstances* | 2 |
| *AE/DMR/00004/00003* | Create <timeSeries> with *maxByteSize* | 2 |
| *AE/DMR/00004/00004* | Create <timeSeries> with *maxInstanceAge* | 2 |
| *AE/DMR/00004/00005* | Create <timeSeries> with *periodicInterval* | 2 |
| *AE/DMR/00004/00006* | Create <timeSeries> with *missingDataDetect* | 2 |
| *AE/DMR/00004/00007* | Create <timeSeries> with *missingDataMaxNr* | 2 |
| *AE/DMR/00004/00008* | Create <timeSeries> with *missingDataList* | 2 |
| *AE/DMR/00004/00009* | Create <timeSeries> with *missingDataCurrentNr* | 2 |
| *AE/DMR/00004/00010* | Create <timeSeries> with *missingDataDetectTimer* | 2 |
| *AE/DMR/00004/00011* | Update <timeSeries> with *maxNrOfInstances* | 2 |
| *AE/DMR/00004/00012* | Update <timeSeries> with *maxByteSize* | 2 |
| *AE/DMR/00004/00013* | Update <timeSeries> with *maxInstanceAge* | 2 |
| *AE/DMR/00004/00014* | Update <timeSeries> with *missingDataMaxNr* | 2 |
| *AE/DMR/00004/00015* | Update <timeSeries> with *missingDataDetectTimer* | 2 |
| *AE/DMR/00004/00016* | Delete <timeSeries> | 2 |
| *AE/DMR/00004/00017* | Retrieve <timeSeries> | 2 |

### 6.3.5 Managing time series instances

The Feature Set below is composed of features to support a CSE managing a time series instance.

Table 6.3.5-1: Feature Set CE/DMR/00005

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *CE/DMR/00005/00001* | Support <timeSeriesInstance> resource with attributes multiplicity equals 1 [1] | 2 |
| *CE/DMR/00005/00002* | Support the *SequenceNr* attribute of <timeSeriesInstance> resource | 2 |

This Feature Set is composed of features to support an AE reporting of a time series instance.

Table 6.3.5-2: Feature Set AE/DMR/00005

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *AE/DMR/00005/00001* | Create <timeSeriesInstance> with mandatory attributes [2] | 2 |

## 6.4 Discovery (DIS)

### 6.4.1 Resource discovery

The Feature Set below is about CSE supporting resource discovery.

Table 6.4.1-1: Features of CE/DIS/00001

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *CE/DIS/00001/00001* | Support the Discovery request with filterUsage equals to "Discovery" | 1, 2 |
| *CE/DIS/00001/00002* | Support discovery with filterCriteria (*createdBefore, createdAfter, modifiedSince, unmodifiedSince, stateTagSmaller, stateTagBigger, expireBefore, expireAfter, labels, resourceType, sizeAbove, sizeBelow, contentType, limit, attribute*) | 1, 2 |
| *CE/DIS/00001/00003* | Support discovery with filterCriteria (*level, offset*) | 2 |
| *CE/DIS/00001/00004* | Support discovery with content filter (*contentFilterSyntax, contentFilterQuery* of *filterCriteria*) | 2 |
| *CE/DIS/00001/00005* | Support discovery with filterCriteria (*filterOperation*) | 2 |
| *CE/DIS/00001/00006* | Support discovery with filterCriteria (*labels*) | 1, 2 |

The Feature Set below is about AE supporting Discovery Request.

Table 6.4.1-2: Features of AE/DIS/00001

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *AE/DIS/00001/00001* | Support discovery of resources without *filterCriteria* | 1, 2 |
| *AE/DIS/00001/00002* | Support filter according to creation time (*createdBefore, createdAfter*) | 1, 2 |
| *AE/DIS/00001/00003* | Support filter according to modified time (*modifiedSince, unmodifiedSinse*) | 1, 2 |
| *AE/DIS/00001/00004* | Support filter according to state tag (*stateTagSmaller, stateTagBigger*) | 1, 2 |
| *AE/DIS/00001/00005* | Support filter according to expiration time (*expireBefore, expireAfter*) | 1, 2 |
| *AE/DIS/00001/00006* | Support filter according to labels (*labels*) | 1, 2 |
| *AE/DIS/00001/00007* | Support filter according to resource type (*resourceType*) | 1, 2 |
| *AE/DIS/00001/00008* | Support filter according to resource size (*sizeAbove, sizeBelow*) | 1, 2 |
| *AE/DIS/00001/00009* | Support filter according to contentType (*contentType*) | 1, 2 |
| *AE/DIS/00001/00010* | Support limit the number of resources in the response (*limit*) | 1, 2 |
| *AE/DIS/00001/00011* | Support filter according to attributes (*attribute*) | 1, 2 |
| *AE/DIS/00001/00012* | Support the logical operation between multiple criteria (*filterOperation*) | 2 |
| *AE/DIS/00001/00013* | Support limit the level of the discovery (*level*) | 1, 2 |
| *AE/DIS/00001/00014* | Support indicating the offset when returning the discovered results (*offset*) | 1, 2 |
| *AE/DIS/00001/00015* | Support content based discovery (*contentFilterSyntax, contentFilterQuery*) | 2 |
|  |  |  |
|  |  |  |

## 6.5 Group Management (GMG)

### 6.5.1 Configuration of group

The Feature Set below is about CSE supporting configuration of group.

Table 6.5.1-1: Feature Set CE/GMG/00001

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *CE/GMG/00001/00001* | Support the <group> resource with attributes multiplicity equals 1 [1] | 1, 2 |

The Feature Set below is about CSE supporting configuration of group with memberType other than MIXED.

Table 6.5.1-2: Feature Set CE/GMG/00002

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *CE/GMG/00002/00001* | Support *consistencyStrategy* | 1, 2 |

The Feature Set below is about AE supporting configuration of group.

Table 6.5.1-3: Feature Set AE/GMG/00001

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *AE/GMG/00001/00001* | Create <group> resource with mandatory attributes [2] | 1, 2 |
| *AE/GMG/00001/00003* | Create <group> resource with *membersAccessControlPolicyIDs* | 1, 2 |
| *AE/GMG/00001/00005* | Update <group> resource with *maxNrOfMembers* | 1, 2 |
| *AE/GMG/00001/00006* | Update <group> resource with *memberIDs* | 1, 2 |
| *AE/GMG/00001/00007* | Update <group> resource with *membersAccessControlPolicyIDs* | 1, 2 |
| *AE/GMG/00001/00008* | Delete <group> resource | 1, 2 |
| *AE/GMG/00001/00009* | Retrieve <group> resource | 1, 2 |

### 6.5.2 Fan out using group

The Feature Set below is about CSE supporting fan out of requests through group.

Table 6.5.2-1: Feature Set CE/GMG/00003

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *CE/GMG/00003/00001* | Fan out of request to all members | 1, 2 |
| *CE/GMG/00003/00002* | Create sub group resource in case multiple members belong to same member CSE | 1, 2 |
| *CE/GMG/00003/00003* | Create <subscription> resource via group | 1, 2 |
|  |  |  |

The Feature Set below is about AE supporting fan out of requests through group.

Table 6.5.2-2: Feature Set AE/GMG/00002

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *AE/GMG/00002/00001* | Request by addressing *fanOutPoint* of group resource | 1, 2 |
| *AE/GMG/00002/00002* | Create <subscription> resource via group without aggregating notifications | 1, 2 |
| *AE/GMG/00002/00003* | Create <subscription> resource via group and aggregate notifications | 1, 2 |

## 6.6 Subscription (SUB)

### 6.6.1 Configuration of subscription for data Notification

The Feature Set below is about CSE supporting configuration of subscription.

Table 6.6.1-1: Features of CE/SUB/00001

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *CE/SUB/00001/00001* | The Support of <subscription> resource with attributes multiplicity equals 1 [1] | 1, 2 |
| *CE/SUB/00001/00002* | Support *notificationSchedule* feature | 1, 2 |

The Feature Set below is about CSE supporting configuration of policies related to notification.

Table 6.6.1-2: Features of CE/SUB/00002

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *CE/SUB/00002/00001* | Support the *expirationCounter* attribute of <subscription> resource | 1, 2 |
| *CE/SUB/00002/00002* | Support the *batchNotify* attribute of <subscription> resource | 1, 2 |
| *CE/SUB/00002/00003* | Support the *rateLimit* attribute of <subscription> resource | 1, 2 |
| *CE/SUB/00002/00004* | Support the *preSubscriptionNotify* attribute of <subscription> resource | 1, 2 |
| *CE/SUB/00002/00005* | Support the *pendingNotification* attribute of <subscription> resource | 1, 2 |
| *CE/SUB/00002/00006* | Support thenotification congestion policy features | 1, 2 |
| *CE/SUB/00002/00007* | Support the *latestNotify* attribute of <subscription> resource | 1, 2 |
| *CE/SUB/00002/00008* | Support the *notificationEventCat* attribute of <subscription> resource | 1, 2 |
| *CE/SUB/00002/00009* | Support the eventNotificationCriteria (all) attribute of <subscription> resource | 1, 2 |

The Feature Set below is about CSE supporting configuration of subscription through group.

Table 6.6.1-3: Features of CE/SUB/00003

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *CE/SUB/00003/00001* | Support the *groupID* attribute of <subscription> resource | 1, 2 |
| *CE/SUB/00003/00002* | Support the *notificationForwardingURI* attribute of <subscription> resource. | 1, 2 |

The Feature Set below is about AE supporting configuration of subscription.

Table 6.6.1-4: Features of AE/SUB/00001

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *AE/SUB/00001/00001* | Create <subscription> with mandatory attributes [2] | 1, 2 |
| *AE/SUB/00001/00002* | Create <subscription> with *labels* attribute | 1, 2 |
| *AE/SUB/00001/00003* | Create <subscription> with *expirationTime* attribute | 1, 2 |
| *AE/SUB/00001/00004* | Create <subscription> with *creator* attribute | 1, 2 |
| *AE/SUB/00001/00005* | Create <subscription> with *subscriberURI* attribute | 1, 2 |
| *AE/SUB/00001/00006* | Update <subscription> with *labels* attribute | 1, 2 |
| *AE/SUB/00001/00007* | Update <subscription> with *expirationTime* attribute | 1, 2 |
| *AE/SUB/00001/00008* | Update <subscription> with *creator* attribute | 1, 2 |
| *AE/SUB/00001/00009* | Delete <Subscription> | 1, 2 |
| *AE/SUB/00001/00010* | Retrieve <Subscription> | 1, 2 |

The Feature Set below is about AE supporting configuration of policies related to notification.

Table 6.6.1-5: Features of AE/SUB/00002

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *AE/SUB/00002/00001* | Create <subscription> with *eventNotificationCriteria* attribute | 1, 2 |
| *AE/SUB/00002/00002* | Create <subscription> with *expirationCounter* attribute | 1, 2 |
| *AE/SUB/00002/00003* | Create <subscription> with *batchNotify* attribute | 1, 2 |
| *AE/SUB/00002/00004* | Create <subscription> with *rateLimit* attribute | 1, 2 |
| *AE/SUB/00002/00005* | Create <subscription> with *preSubscriptionNotify* attribute | 1, 2 |
| *AE/SUB/00002/00006* | Create <subscription> with *pendingNotification* attribute | 1, 2 |
| *AE/SUB/00002/00007* | Create <subscription> with *notificationStoragePriority* attribute | 1, 2 |
| *AE/SUB/00002/00008* | Create <subscription> with *latestNotify* attribute | 1, 2 |
| *AE/SUB/00002/00009* | Create <subscription> with *notificationContentType* attribute | 1, 2 |
| *AE/SUB/00002/00010* | Create <subscription> with *notificationEventCat* attribute | 1, 2 |
| *AE/SUB/00002/00011* | Update <subscription> with *eventNotificationCriteria* attribute | 1, 2 |
| *AE/SUB/00002/00012* | Update <subscription> with *expirationCounter* attribute | 1, 2 |
| *AE/SUB/00002/00013* | Update <subscription> with *batchNotify* attribute | 1, 2 |
| *AE/SUB/00002/00014* | Update <subscription> with *rateLimit* attribute | 1, 2 |
| *AE/SUB/00002/00015* | Update <subscription> with *pendingNotification* attribute | 1, 2 |
| *AE/SUB/00002/00016* | Update <subscription> with *notificationStoragePriority* attribute | 1, 2 |
| *AE/SUB/00002/00017* | Update <subscription> with *latestNotify* attribute | 1, 2 |
| *AE/SUB/00002/00018* | Update <subscription> with *notificationContentType* attribute | 1, 2 |
| *AE/SUB/00002/00019* | Update <subscription> with *notificationEventCat* attribute | 1, 2 |

The Feature Set below is about AE supporting configuration of subscription through group.

Table 6.6.1-6: Features of AE/SUB/00003

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *AE/SUB/00003/00001* | Create <subscription> with *notificationForwardingURI* attribute | 1, 2 |

### 6.6.2 Trigger notification pertaining to subscription

The Feature Set below is about CSE supporting trigger notification pertaining to subscription.

Table 6.6.2-1: Features of CE/SUB/00004

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *CE/SUB/00004/00001* | Notify the address indicated in *notificationURI* with notification elements multiplicity equals 1 [2] | 1, 2 |
| *CE/SUB/00004/00002* | Notify with notificationEvent/representation set in the notification | 1, 2 |
| *CE/SUB/00004/00003* | Support of subscription verification | 1, 2 |
| *CE/SUB/00004/00004* | Support subscriptions with *notificationEventType* equal to “G” [1] | 3 |

The Feature Set below is about AE supporting reception of notification.

Table 6.6.2-2: Features of AE/SUB/00004

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *AE/SUB/00004/00001* | Respond to a notification | 1,2,3 |
| *AE/SUB/00004/00002* | Respond to a notification where *notificationEventType* equal to “G” [1] | 3 |

## 6.7 Security (SEC)

### 6.7.1 Configuration of access control policy

The Feature Set below is about CSE supporting configuration of access control policy.

Table 6.7.1-1: Features of CE/SEC/00001

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *CE/SEC/00001/00001* | Support <accessControlPolicy> resource with attributes multiplicity equals 1 [1] | 1, 2 |
| *CE/SEC/00002/00002* | Support for *accessControlPolicyIDs* attribute for all applicable resources | 1, 2 |

The Feature Set below is about AE supporting configuration of access control policy.

Table 6.7.1-2: Features of AE/SEC/00001

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *AE/SEC/00001/00001* | Create <accessControlPolicy> resource with mandatory attributes [2] | 1, 2 |
| *AE/SEC/00001/00002* | Update <accessControlPolicy> resource with *privileges* | 1, 2 |
| *AE/SEC/00001/00003* | Update <accessControlPolicy> resource with *selfPrivileges* | 1, 2 |
| *AE/SEC/00001/00004* | Delete <accessControlPolicy> resource | 1, 2 |
| *AE/SEC/00001/00005* | Retrieve <accessControlPolicy> resource | 1, 2 |
| *AE/SEC/00001/00006* | Retrieval of *accessControlPolicyIDs* attribute for all applicable resources | 1, 2 |
| *AE/SEC/00001/00007* | Configure *accessControlPolicyIDs* attribute upon Create or Update for all applicable resources | 1, 2 |

The Feature Set below is about CSE supporting access control to the addressed resources.

Table 6.7.1-3: Features of CE/SEC/00002

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *CE/SEC/00002/00001* | Support *accessControlPolicyIDs* attribute for <resource> that the Implementation supports. | 1, 2 |
| *CE/SEC/00002/00002* | Support access control decision and enforcement making on the Hosting CSE | 1, 2 |

## 6.8 Resource Announcement (ANNC)

### 6.8.1 Announce a Resource

The Feature Set below is about CSE supporting announcement of a resource.

Table 6.8.1-1: Feature Set CE/ANNC/00001

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *CE/ANNC/00001/00001* | Announce a resource and the MA attributes | 1, 2 |
| *CE/ANNC/00001/00002* | Announce "OA" attributes | 1, 2 |
| *CE/ANNC/00001/00003* | Update announced resources | 1, 2 |
| *CE/ANNC/00001/00004* | Delete an announced resource | 1, 2 |
| *CE/ANNC/00001/00005* | De-Announce "OA" attributes | 1, 2 |

The Feature Set below is about AE supporting announcement of a resource.

Table 6.8.1-2: Feature Set AE/ANNC/00001

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *AE/ANNC/00001/00001* | Announce a resource | 1, 2 |
| *AE/ANNC/00001/00002* | Announce "OA" attributes | 1, 2 |
| *AE/ANNC/00001/00003* | De-Announce an announced resource | 1, 2 |
| *AE/ANNC/00001/00004* | De-Announce "OA" attributes | 1, 2 |

### 6.9.2 Announced Resource Procedures

The Feature Set below is about CSE supporting operations on an announced resource.

Table 6.9.2-1: Feature Set CE/ANNC/00002

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *CE/ANNC/00002/00001* | Handle Notification sent to AEAnnc | 1, 2 |
| *CE/ANNC/00002/00002* | Retrieve an <original> resource | 1, 2 |

## 6.9 Polling Channel (PCH)

### 6.9.1 Configure a Polling Channel

The Feature Set below is about CSE supporting Polling Channel Configuration.

Table 6.9.1-1: Feature Set CE/PCH/00001

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *CE/PCH/00001/00001* | Support <pollingChannel> resource with attributes multiplicity equals 1 [1] | 1, 2 |

The Feature Set below is about AE supporting announcement of a resource.

Table 6.9.1-2: Feature Set GE/PCH/00001

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *GE/PCH/00001/00001* | Create <pollingChannel> | 1, 2 |
| *GE/PCH/00001/00002* | Retrieve <pollingChannel> | 1, 2 |
| *GE/PCH/00001/00003* | Delete <pollingChannel> | 1, 2 |

### 6.10.2 Long Polling Procedures

The Feature Set below is about CSE supporting long polling operations.

Table 6.9.2-1: Feature Set CE/PCH/00002

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *CE/PCH/00002/00001* | Support <pollingChannelURI> | 1, 2 |

The Feature Set below is about GE supporting long polling operations.

Table 6.9.2-2: Feature Set GE/PCH/00002

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *GE/PCH/00002/00001* | Retrieve <pollingChannelURI> | 1, 2 |

## 6.10 Service Charging and Accounting (SCA)

### 6.10.1 Configure an Event Based Statistics Collection

The Feature Set below is about CSE supporting statistics collection configuration.

Table 6.10.1-1: Feature Set CE/SCA/00001

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *CE/SCA/00001/00001* | Support <statsConfig> resource with attributes multiplicity equals 1 | 2 |
| *CE/SCA/00001/00002* | Support <eventConfig> resource with attributes multiplicity equals 1 | 2 |
| *CE/SCA/00001/00003* | Support Event Based Collection | 2 |
| *CE/SCA/00001/00004* | Support Storage Based Collection | 2 |
| *CE/SCA/00001/00005* | Support Timer Based Collection | 2 |
| *CE/SCA/00001/00006* | Support <statsCollect> resource with attributes multiplicity equals 1 | 2 |
| *CE/SCA/00001/00007* | Support the *collectPeriod* attribute of <statsCollect> resource. | 2 |
| *CE/SCA/00001/00008* | Support the *collectedEntityID* attribute of <statsCollect> resource. | 2 |
| *CE/SCA/00001/00009* | Support the *eventID* attribute of <statsCollect> resource. | 2 |

The Feature Set below is about AE supporting announcement of a resource.

Table 6.10.1-2: Feature Set AE/SCA/00001

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *AE/SCA/00001/00001* | Create <statsConfig> resource with mandatory attributes | 2 |
| *AE/SCA/00001/00002* | Create <eventConfig> resource with mandatory attributes | 2 |
| *AE/SCA/00001/00003* | Create <eventConfig> resource with Timer based collection | 2 |
| *AE/SCA/00001/00004* | Create <eventConfig> resource with Operation based collection | 2 |
| *AE/SCA/00001/00005* | Create <eventConfig> resource with Storage based collection | 2 |
| *AE/SCA/00001/00006* | Update <eventConfig> resource with Timer based collection | 2 |
| *AE/SCA/00001/00007* | Update <eventConfig> resource with Operation based collection | 2 |
| *AE/SCA/00001/00008* | Update <eventConfig> resource with Storage based collection | 2 |
| *AE/SCA/00001/00009* | Retrieve <eventConfig> resource | 2 |
| *AE/SCA/00001/00010* | Delete <eventConfig> resource | 2 |
| *AE/SCA/00001/00011* | Create <statsCollect> resource with mandatory attributes | 2 |
| *AE/SCA/00001/00012* | Create <statsCollect> resource with event based collection | 2 |
| *AE/SCA/00001/00013* | Create <statsCollect> resource with subscriber based collection | 2 |

### 6.10.2 Service Statistics Collection Procedures

The Feature Set below is about CSE supporting long polling operations.

Table 6.10.2-1: Feature Set CE/SCA/00002

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *CE/SCA/00002/00001* | Support transfer of Statistics Collection record over the Mch reference point | 2 |

## 6.11 Semantics (SEM)

### 6.11.1 Semantic annotation

The Feature Set below is about CSE supporting semantic annotation.

Table 6.11.1-1: Features of CE/SEM/00001

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *CE/SEM/00001/00001* | Support <semanticDescriptor> resource with mandatory attributes [1] | 2 |

The Feature Set below is about AE managing semantic annotations.

Table 6.11.1-2: Features of AE/SEM/00001

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *AE/SEM/00001/00001* | Create <semanticDescriptor> resource with mandatory attributes [2] | 2 |
| *AE/SEM/00001/00002* | Update <semanticDescriptor> resource with *descriptor* | 2 |
| *AE/SEM/00001/00003* | Support partial update to <semanticDescriptor> resource through *semanticOpExec* | 2 |
| *AE/SEM/00001/00004* | Retrieve <semanticDescriptor> | 2 |
| *AE/SEM/00001/00005* | Delete <semanticDescriptor> | 2 |

### 6.11.2 Semantic discovery

The Feature Set below is about CSE supporting semantic discovery.

Table 6.11.2-1: Features of CE/SEM/00002

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *CE/SEM/00002/00001* | Support the Semantic Discovery request | 2 |
| *CE/SEM/00002/00002* | Support discovery request targeting to a <*semanticFanOutPoint*> resource | 2 |

*.*

The Feature Set below is about AE supporting semantic discovery request.

Table 6.11.2-2: Features of AE/SEM/00002

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *AE/SEM/00002/00001* | Support filter according to a specific SPARQL statement (*semanticFilter*) | 2 |

## 6.12 Home Appliances Information Model (HAIM)

### 6.12.1 Modeling of HAIM devices

The feature set below is about the AE supporting generation of HAIM.

Table 6.12.1-1: Features of AE/HAIM/00001

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *AE/HAIM/00001/00001* | Support for device3Dprinter information model | 3 |
| *AE/HAIM/00001/00002* | Support for deviceAirConditioner information model | 3 |
| *AE/HAIM/00001/00003* | Support for *deviceAirPurifier* information model | 3 |
| *AE/HAIM/00001/00004* | Support for *deviceAirQualityMonitor* information model | 3 |
| *AE/HAIM/00001/00005* | Support for *deviceAudioReceiver* information model | 3 |
| *AE/HAIM/00001/00006* | Support for *deviceBloodPressureMonitor* information model | 3 |
| *AE/HAIM/00001/00007* | Support for *deviceCamera* information model | 3 |
| *AE/HAIM/00001/00008* | Support for *deviceClothesDryer* information model | 3 |
| *AE/HAIM/00001/00009* | Support for *deviceClothesWasher* information model | 3 |
| *AE/HAIM/00001/00010* | Support for *deviceClothesWasherDryer* information model | 3 |
| *AE/HAIM/00001/00011* | Support for *deviceCoffeeMachine* information model | 3 |
| *AE/HAIM/00001/00012* | Support for *deviceCookerHood* information model | 3 |
| *AE/HAIM/00001/00013* | Support for *deviceCooktop* information model | 3 |
| *AE/HAIM/00001/00014* | Support for *deviceDehumidifier* information model | 3 |
| *AE/HAIM/00001/00015* | Support for *deviceDishwasher* information model | 3 |
| *AE/HAIM/00001/00016* | Support for *deviceDoor* information model | 3 |
| *AE/HAIM/00001/00017* | Support for *deviceDoorLock* information model | 3 |
| *AE/HAIM/00001/00018* | Support for *deviceElectricVehicleCharger* information model | 3 |
| *AE/HAIM/00001/00019* | Support for *deviceFan* information model | 3 |
| *AE/HAIM/00001/00020* | Support for *deviceFoodProbe* information model | 3 |
| *AE/HAIM/00001/00021* | Support for *deviceFreezer* information model | 3 |
| *AE/HAIM/00001/00022* | Support for *deviceGlucosemeter* information model | 3 |
| *AE/HAIM/00001/00023* | Support for *deviceHeartRateMonitor* information model | 3 |
| *AE/HAIM/00001/00024* | Support for *deviceHomeCCTV* information model | 3 |
| *AE/HAIM/00001/00025* | Support for *deviceHumidifier* information model | 3 |
| *AE/HAIM/00001/00026* | Support for *deviceKettle* information model | 3 |
| *AE/HAIM/00001/00027* | Support for *deviceLight* information model | 3 |
| *AE/HAIM/00001/00028* | Support for *deviceMicrogeneration* information model | 3 |
| *AE/HAIM/00001/00029* | Support for *deviceMultifunctionPrinter* information model | 3 |
| *AE/HAIM/00001/00030* | Support for *deviceOutdoorLamp* information model | 3 |
| *AE/HAIM/00001/00031* | Support for *deviceOven* information model | 3 |
| *AE/HAIM/00001/00032* | Support for *devicePrinter* information model | 3 |
| *AE/HAIM/00001/00033* | Support for *devicePulseOximeter* information model | 3 |
| *AE/HAIM/00001/00034* | Support for *deviceRefrigerator* information model | 3 |
| *AE/HAIM/00001/00035* | Support for *deviceRobotCleaner* information model | 3 |
| *AE/HAIM/00001/00036* | Support for *deviceScanner* information model | 3 |
| *AE/HAIM/00001/00037* | Support for *deviceSecurityPanel* information model | 3 |
| *AE/HAIM/00001/00038* | Support for *deviceSetTopBox* information model | 3 |
| *AE/HAIM/00001/00039* | Support for *deviceSmartElectricMeter* information model | 3 |
| *AE/HAIM/00001/00040* | Support for *deviceSmartPlug* information model | 3 |
| *AE/HAIM/00001/00041* | Support for *deviceSteamCloset* information model | 3 |
| *AE/HAIM/00001/00042* | Support for *deviceStorageBattery* information model | 3 |
| *AE/HAIM/00001/00043* | Support for *deviceSwitch* information model | 3 |
| *AE/HAIM/00001/00044* | Support for *deviceTelevision* information model | 3 |
| *AE/HAIM/00001/00045* | Support for *deviceThermometer* information model | 3 |
| *AE/HAIM/00001/00046* | Support for *deviceThermostat* information model | 3 |
| *AE/HAIM/00001/00047* | Support for *deviceWaterHeater* information model | 3 |
| *AE/HAIM/00001/00048* | Support for *deviceWaterValve* information model | 3 |
| *AE/HAIM/00001/00049* | Support for *deviceWeightScaleAndBodycompositionAnalyser* information model | 3 |
| *AE/HAIM/00001/00050* | Support for *deviceWindowShade* information model | 3 |

## 6.13 Network Service Exposure, Service Execution and Triggering (NSSE) on 3GPP Network

### 6.13.1 Device Triggering

The Feature Set below is about CSE supporting sending a trigger request over the 3GPP Network.

Table 6.5.1-1: Feature Set CE/NSSE/00001

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *CE/NSSE/00001/00001* | Support a <triggerRequest> resource to an oneM2M entity on a UE | 3 |

The Feature Set below is about an AE/CSE supporting trigger requests from a CSE.

Table 6.5.1-2: Feature Set GE/NSSE/00001

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *GE/NSSE/00001/00001* | Support processing a trigger request for enrolment | 3 |
| *GE/NSSE/00001/00002* | Support processing a trigger request for establishConnection | 3 |
| *GE/NSSE/00001/00003* | Support processing a trigger request for registrationRequest | 3 |
| *GE/NSSE/00001/00004* | Support processing a trigger request for executeCRUD | 3 |

The Feature Set below is about AE initiating a trigger request to an AE/CSE on a UE.

Table 6.5.1-3: Feature Set AE/NSSE/00001

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Feature Description** | **Release** |
| *AE/NSSE/00001/00001* | Manage <triggerRequest> resource for enrolment | 3 |
| *AE/NSSE/00001/00002* | Manage <triggerRequest> resource for establishConnection | 3 |
| *AE/NSSE/00001/00003* | Manage <triggerRequest> resource for registrationRequest | 3 |
| *AE/NSSE/00001/00004* | Manage <triggerRequest> resource for executeCRUD | 3 |

# History

|  |  |  |
| --- | --- | --- |
| **Publication history** | | |
| V2.0.0 | 2018-05-29 | Release 2A Publication |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

|  |  |  |
| --- | --- | --- |
| **Draft history** (to be removed on publication) | | |
| V2.1.0 | 2018-05-30 | Incorporates agreed contributions at ARC#35:  1. ARC-2018-0127R01-TS-0031\_Missing\_feature\_adding  2. ARC-2018-0128R01-TS-0031\_Overlap\_description\_deletion |
| V2.2.0 | 2018-08-08 | Incorporates agreed contributions at ARC#36:   1. ARC-2018-0104R01-Feature\_Catalogue\_For\_Semantics 2. ARC-2018-0191R01-TS-0031\_HAIM\_related\_features |
| V2.3.0 | 2019-03-20 | Incorporates agreed contributions at TDE#39 |
| V3.0.0 | 2019-03-20 | Incorporates agreed contributions at TDE#39   1. TDE-2019-0032R01-TS-0031\_NSSE\_update |