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| CHANGE REQUEST |
| Meeting ID:\* | SDS #46 |
| Source:\* | Kenichi Yamamoto, KDDI, kc-yamamoto@kddi.com |
| Date:\* | 2020-06-26 |
| Reason for Change/s:\* | Providing Release 4 Stage 3 for <nwMonitoringReq> |
| CR against: Release\* | Rel-4 |
| CR against: WI\* | [x]  Active WI-0080[ ]  MNT maintenance / < Work Item number(optional)>Is this a mirror CR? Yes [ ]  No [ ] mirror CR number: (Note to Rapporteur - use latest agreed revision)[ ]  STE Small Technical Enhancements / < Work Item number (optional)>Only ONE of the above shall be ticked |
| CR against: TS/TR\* | TS-0004 v4.1.0 |
| Clauses \* | 6.3.3, 6.3.4.2, 6.5.3, 7.4, 8.2.3, 8.2.4 |
| Type of change: \* | [ ]  Editorial change[ ]  Bug Fix or Correction[ ]  Change to existing feature or functionality[x]  New feature or functionalityOnly ONE of the above shall be ticked |
| Other TS/TR(s) impacted | TS-0001 Release 4 |
| Post Freeze checking:\* | This CR contains only essential changes and corrections? YES [x]  NO [ ] This CR may break backwards compatibility with the last approved version of the TS? YES [ ]  NO [x]  |
| Template Version: January 2019 (do not modify) |

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GUIDELINES for Change Requests:

Provide an informative introduction containing the problem(s) being solved, and a summary list of proposals.

Each CR should contain changes related to only one particular issue/problem.

In case of a correction, and the change apply to previous releases, a separate “mirror CR” should be posted at the same time of this CR

Mirror CR: applies only when the text, including clause numbering are exactly the same.

Companion CR: applies when the change means the same but the baselines differ in some way (e.g. clause number).

Follow the principle of completeness, where all changes related to the issue or problem within a deliverable are simultaneously proposed to be made E.g. A change impacting 5 tables should not only include a proposal to change only 3 tables. Includes any changes to references, definitions, and acronyms in the same deliverable.

Follow the drafting rules.

All pictures must be editable.

Check spelling and grammar to the extent practicable.

Use Change bars for modifications.

The change should include the current and surrounding clauses to clearly show where a change is located and to provide technical context of the proposed change. Additions of complete clauses need not show surrounding clauses as long as the proposed clause number clearly shows where the new clause is proposed to be located.

Multiple changes in a single CR shall be clearly separated by horizontal lines with embedded text such as, start of change 1, end of change 1, start of new clause, end of new clause.

When subsequent changes are made to content of a CR, then the accepted version should not show changes over changes. The accepted version of the CR should only show changes relative to the baseline approved text.

## Introduction

This contribution provides Stage 3 changes needed for implementation of Network Monitoring Request procedure and the introduction of the <*nwMonitoringReq*> resource (see TS-0001 V4.6.0, sections 9.6.64 and 10.2.23).

R01 updates based on offline discusson.

### ----------------------start of change 1 ----------------------------------------------------

### 6.3.3 oneM2M simple data types

Table 6.3.3‑1 describes oneM2M-specific simple data type definitions. XML Schema data type definitions for these data types can be found in the XSD file called CDT-commonTypes-v4\_1\_0.xsd.

The types in Table 6.3.3‑1 are either:

* Atomic data types derived from XML Schema data types by restrictions (other than enumeration) or union.
* List data types constructed from other XML Schema or oneM2M-defined atomic data types.

The oneM2M-defined enumeration data types are defined in clause 6.3.4.

Table 6.3.3‑1: oneM2M Simple Data Types

| XSD type name | Type Name | Examples | Description |
| --- | --- | --- | --- |
| … | … | … | ,,, |
| m2m:congestionLevel | Congestion Level | 0 or1 or31 or | Indicates the level of congestion as specified in 3GPP TS 23.003 [17]. It is an integer between 0 and 31 inclusive. |
| m2m:congestionLevels | List of Congestion Levels | 0 7 22 | The list shall contain at least one member  |
|  |  |  |  |

### ----------------------end of change 1 -----------------------------------------------------

### ----------------------start of change 2 -----------------------------------------------------

#### 6.3.4.2 Enumeration type definitions

##### 6.3.4.2.1 m2m:resourceType

Table 6.3.4.2.1‑1: Interpretation of resourceType

| Value | Interpretation | Note |
| --- | --- | --- |
| 1 | accessControlPolicy |  |
| 2 | AE |  |
| 3 | container |  |
| 4 | contentInstance |  |
| 5 | CSEBase |  |
| 6 | delivery |  |
| 7 | eventConfig |  |
| 8 | execInstance |  |
| 9 | group |  |
| 10 | locationPolicy |  |
| 11 | m2mServiceSubscriptionProfile |  |
| 12 | mgmtCmd |  |
| 13 | mgmtObj |  |
| 14 | node |  |
| 15 | pollingChannel |  |
| 16 | remoteCSE |  |
| 17 | request |  |
| 18 | schedule |  |
| 19 | serviceSubscribedAppRule |  |
| 20 | serviceSubscribedNode |  |
| 21 | statsCollect |  |
| 22 | statsConfig |  |
| 23 | subscription |  |
| 24 | semanticDescriptor |  |
| 25 | notificationTargetMgmtPolicyRef |  |
| 26 | notificationTargetPolicy |  |
| 27 | policyDeletionRules |  |
| 28 | flexContainer |  |
| 29 | timeSeries |  |
| 30 | timeSeriesInstance |  |
| 31 | role |  |
| 32 | token |  |
| 33 | void |  |
| 34 | dynamicAuthorizationConsultation |  |
| 35 | authorizationDecision |  |
| 36 | authorizationPolicy |  |
| 37 | authorizationInformation |  |
| 38 | ontologyRepository |  |
| 39 | ontology |  |
| 40 | semanticMashupJobProfile |  |
| 41 | semanticMashupInstance |  |
| 42 | semanticMashupResult |  |
| 43 | AEContactList |  |
| 44 | AEContactListPerCSE |  |
| 45 | localMulticastGroup |  |
| 46 | multimediaSession |  |
| 47 | triggerRequest |  |
| 48 | crossResourceSubscription |  |
| 49 | backgroundDataTransfer |  |
| 50 | transactionMgmt |  |
| 51 | transaction |  |
| 52 | ontologyMapping |  |
| 53 | ontologyMappingAlgorithm |  |
| 54 | ontologyMappingAlgorithmRepository |  |
| 55 | reasoningJobInstance |  |
| 56 | reasoningRules |  |
| 57 | semanticRuleRepository |  |
| 58 | flexContainerInstance |  |
| XX | nwMonitoringReq |  |
| 10001 | accessControlPolicyAnnc |  |
| 10002 | AEAnnc |  |
| 10003 | containerAnnc |  |
| 10004 | contentInstanceAnnc |  |
| 10009 | groupAnnc |  |
| 10010 | locationPolicyAnnc |  |
| 10013 | mgmtObjAnnc |  |
| 10014 | nodeAnnc |  |
| 10016 | remoteCSEAnnc |  |
| 10018 | scheduleAnnc |  |
| 10024 | semanticDescriptorAnnc |  |
| 10028 | flexContainerAnnc |  |
| 10029 | timeSeriesAnnc |  |
| 10030 | timeSeriesInstanceAnnc |  |
| 10033 | void |  |
| 10034 | dynamicAuthorizationConsultationAnnc |  |
| 10038 | ontologyRepositoryAnnc |  |
| 10039 | ontologyAnnc |  |
| 10040 | semanticMashupJobProfileAnnc |  |
| 10041 | semanticMashupInstanceAnnc |  |
| 10042 | semanticMashupResultAnnc |  |
| 10046 | multimediaSessionAnnc |  |
| 10052 | ontologyMappingAnnc |  |
| 10053 | ontologyMappingAlgorithmAnnc |  |
| 10054 | ontologyMappingAlgorithmRepositoryAnnc |  |
| 10055 | reasoningJobInstanceAnnc |  |
| 10056 | reasoningRulesAnnc |  |
| 10057 | semanticRuleRepositoryAnnc |  |
| NOTE: See clause 6.4.1 Request primitive parameter data types. |

### ----------------------end of change 2 -----------------------------------------------------

### ----------------------start of change 3 -----------------------------------------------------

##### 6.3.4.2.x m2m:monitorEnable

Used for the *monitorEnable* attribute of the <nwMonitoringReq> resource.

Table 6.3.4.2.3‑1: Interpretation of monitorEnable

|  |  |  |
| --- | --- | --- |
| Value | Interpretation | Note |
| 0 | disable |  |
| 1 | monitor congestion status in an area |  |
| 2 | monitor number of devices in an area |  |
| 3 | monitor both number of devices and congestion status in an area |  |
| NOTE: See clause 7.4.x "Resource Type nwMonitoringReq". |

### ----------------------end of change 3 -----------------------------------------------------

### ----------------------start of change 4 -----------------------------------------------------

### 6.5.3 regularResource

#### 6.5.3.1 Description

This type definition includes the universal and common attributes used by the non-announceable oneM2M resources.

#### 6.5.3.2 Reference

See Table 6.3.6‑2.

#### 6.5.3.3 Usage

This type is used by the following resource types:

<delivery>, <eventConfig>, <execInstance>, <m2mServiceSubscriptionProfile>, <mgmtCommand>, <request>, <serviceSubscribedNode>, <statsCollect>, <statsConfig>, <subscription>, <serviceSubscribedAppRule>, <notificationTargetMgmtPolicyRef>, <notificationTargetPolicy>, <policyDeletionRules>, <dynamicAuthorizationConsultation>, <role>, <token>, <authorizationDecision>, <authorizationPolicy> <authorizationInformation>, <AEContactList>, <AEContactListPerCSE>, <localMulticastGroup>, <triggerRequest>, <crossResourceSubscription>, <backgroundDataTransfer>, <transactionMgmt>, <transaction>.<nwMonitoringReq>.

### ----------------------end of change 4 -----------------------------------------------------

### ----------------------start of change 5 -----------------------------------------------------

### 7.4.x Resource Type <nwMonitoringReq>

The <nwMonitoringReq> resource is used by an Originator (e.g. AE) to request network status information from an Underlying Network. The resource provides the status information for a particular geographic area of an Underlying Network such as congestion status and number of devices. Additional description of the <nwMonitoringReq> resource is contained in clauses 9.6.64 and 10.2.23 of oneM2M TS-0001 [6]. The corresponding procedures over the Mcn reference point are described in oneM2M TS‑0026 [43].

Table 7.4.x.1‑1: Data type definition of <nwMonitoringReq> resource

|  |  |  |
| --- | --- | --- |
| **Data Type ID** | **File Name** | **Note** |
| nwMonitoringReq | CDT- nwMonitoringReq-v\_4\_XX\_0.xsd |  |

Table 7.4.x.1‑2: Universal/Common Attributes of <nwMonitoringReq> resource

|  |  |
| --- | --- |
| Attribute Name | Request Optionality  |
| Create | Update |
| *@resourceName* | O | NP |
| *resourceType* | NP | NP |
| *resourceID* | NP | NP |
| *parentID* | NP | NP |
| *creationTime* | NP | NP |
| *lastModifiedTime* | NP | NP |
| *expirationTime* | O | O |
| *accessControlPolicyIDs* | O | O |
| *dynamicAuthorizationConsultationIDs* | O | O |
| *labels* | O | O |
| *announcedTo* | O | O |

Table 7.4.x.1‑3: Resource Specific Attributes of <nwMonitoringReq> resource

|  |  |  |  |
| --- | --- | --- | --- |
| Attribute Name | Request Optionality  | Data Type | Default Value and Constraints |
| Create | Update |
| *monitorEnable* | M | O | m2m: monitorEnable | No default |
| *geographicArea* | M | O | m2m:locationRegion | No default |
| *congestionLevel* | O | O | m2m:congestionLevels | No default. |
| *congestionStatus* | NP | NP | m2m:congestionLevel | No default. |
| *numberOfDevices* | NP | NP | xs:nonNegativeInteger | No default |
| *externalGroupID* | O | O | m2m:externalID | No default |
| *M2M-Ext-IDs* | NP | NP | list of m2m:externalID | No default |

Table 7.4.x.1‑4: Child Resources of <nwMonitoringReq> resource

|  |  |  |  |
| --- | --- | --- | --- |
| Child Resource Type | Child Resource Name | Multiplicity | Ref. to Resource Type Definition |
| <subscription> | [variable] | 0..n | Clause 7.4.8 |

#### 7.4.x.2 < nwMonitoringReq> resource specific procedures for CRUD operations

##### 7.4.x.2.0 Introduction

This clause describes <nwMonitoringReq> resource specific primitive behaviour for CRUD operations.

##### 7.4.x.2.1 Create

***Originator:***

No change from the generic procedures in clause 7.2.2.1.

***Receiver:***

No change from the generic procedures in clause 7.2.2.2.

##### 7.4.x.2.2 Retrieve

***Originator:***

No change from the generic procedures in clause 7.2.2.1.

***Receiver:***

No change from the generic procedures in clause 7.2.2.2.

##### 7.4.x.2.3 Update

***Originator:***

No change from the generic procedures in clause 7.2.2.1.

***Receiver:***

No change from the generic procedures in clause 7.2.2.2 with the following exception:

The Receiver shall interact with the underlying network to request network status information. In the case of interworking with 3GPP networks, the Receiver shall perform the operations defined in clause 7.15.3 in oneM2M TS-0026 [43].

##### 7.4.x.2.4 Delete

***Originator:***

No change from the generic procedures in clause 7.2.2.1.

***Receiver:***

No change from the generic procedures in clause 7.2.2.2 with the following exception:

The Receiver shall interact with the underlying network to request network status information. In the case of interworking with 3GPP networks, the Receiver shall perform the operations defined in clause 7.15.3 in oneM2M TS-0026 [43].

### ----------------------end of change 5 -----------------------------------------------------

### ----------------------start of change 6 -----------------------------------------------------

### 7.4.3 Resource Type <CSEBase>

#### 7.4.3.1 Introduction

A <CSEBase> resource shall represent a CSE. This <CSEBase> resource shall be the root for all the resources that are residing on the CSE. The detailed description can be found in clause 9.6.3 in oneM2M TS-0001 [6].

Table 7.4.3.1‑1: Data type definition of <CSEBase> resource

|  |  |  |
| --- | --- | --- |
| Data Type ID | File Name | Note |
| CSEBase | CDT-CSEBase-v4\_1\_0.xsd |  |

Table 7.4.3.1‑2: Universal/Common Attributes of <CSEBase> resource

|  |
| --- |
| Attribute Name |
|
| *@resourceName* |
| *resourceType* |
| *resourceID* |
| *parentID* |
| *creationTime* |
| *lastModifiedTime* |
| *labels* |
| *location* |

The value of the parentID attribute for the <CSEBase> resource shall be an empty string since the <CSEBase> resource does not have a parent. The common attributes *accessControlPolicyIDs* and *dynamicAuthorizationConsultationIDs* are treated as resource-specific attributes.

Table 7.4.3.1‑3: Resource Specific Attributes of <CSEBase> resource

|  |  |  |
| --- | --- | --- |
| **Attribute Name** | **Data Type** | **Default Value and Constraints** |
|
| *accessControlPolicyIDs* | m2m:acpType | No default |
| *cseType* | m2m:cseTypeID | No default |
| *CSE-ID* | m2m:ID | No default |
| *supportedResourceType* | list of m2m:resourceType | No default |
| *pointOfAccess* | m2m:poaList | No default |
| *nodeLink* | xs:anyURI | No default |
| *dynamicAuthorizationConsultationIDs* | list of xs:anyURI | No default |
| *contentSerialization* | m2m:serializations | No default |
| *e2eSecInfo* | m2m:e2eSecInfo | No default |
| *supportedReleaseVersions* | m2m:supportedReleaseVersions | No default |

Table 7.4.3.1‑4: Child resources of <CSEBase> resource

|  |  |  |  |
| --- | --- | --- | --- |
| Child Resource Type | Child Resource Name | Multiplicity | Ref. to Resource Type Definition |
| <remoteCSE> | [variable] | 0..n | Clause 7.4.4 |
| <remoteCSEAnnc> | [variable] | 0..n | Clause 7.4.4 |
| <node> | [variable] | 0..n | Clause 7.4.18 |
| <AE> | [variable] | 0..n | Clause 7.4.5 |
| <container> | [variable] | 0..n | Clause 7.4.6 |
| <group> | [variable] | 0..n | Clause 7.4.13 |
| <accessControlPolicy> | [variable] | 0..n | Clause 7.4.2 |
| <subscription> | [variable] | 0..n | Clause 7.4.8 |
| <mgmtCmd> | [variable] | 0..n | Clause 7.4.16 |
| <locationPolicy> | [variable] | 0..n | Clause 7.4.10 |
| <statsConfig> | [variable] | 0..n | Clause 7.4.23 |
| <statsCollect> | [variable] | 0..n | Clause 7.4.25 |
| <request> | [variable] | 0..n | Clause 7.4.12 |
| <delivery> | [variable] | 0..n | Clause 7.4.11 |
| <schedule> | [variable] | 0..1 | Clause 7.4.9 |
| <m2mServiceSubscriptionProfile> | [variable] | 0..n | Clause 7.4.19 |
| <serviceSubscribedAppRule> | [variable] | 0..n | Clause 7.4.29 |
| <notificationTargetPolicy> | [variable] | 0..n | Clause 7.4.31 |
| <dynamicAuthorizationConsultation> | [variable] | 0..n | Clause 7.4.36 |
| <flexContainer> | [variable] | 0..n | Clause 7.4.37 |
| <timeSeries> | [variable] | 0..n | Clause 7.4.38 |
| <role> | [variable] | 0..n | Clause 7.4.40 |
| <token> | [variable] | 0..n | Clause 7.4.41 |
| <authorizationDecision> | [variable] | 0..n | Clause 7.4.43 |
| <authorizationPolicy> | [variable] | 0..n | Clause 7.4.44 |
| <authorizationInformation> | [variable] | 0..n | Clause 7.4.45 |
| <ontologyRepository> | [variable] | 0..1 | Clause 7.4.46 |
| <semanticMashupJobProfile> | [variable] | 0..n | Clause 7.4.49 |
| <semanticMashupInstance> | [variable] | 0..n | Clause 7.4.50 |
| <AEContactList> | [variable] | 0..1 | Clause 7.4.53 |
| <localMulticastGroup> | [variable] | 0..n | Clause 7.4.55 |
| <crossResourceSubscription> | [variable] | 0..n | Clause 7.4.58 |
| <backgroundDataTransfer> | [variable] | 0..n | Clause 7.4.59 |
| <transactionMgmt> | [variable] | 0..n | Clause 7.4.60 |
| <transaction> | [variable] | 0..n | Clause 7.4.61 |
| <nwMonitoringReq> | [variable] | 0..n | Clause 7.4.x |

### ----------------------end of change 6 -----------------------------------------------------

### ----------------------start of change 7 -----------------------------------------------------

### 7.4.4 Resource Type <remoteCSE>

#### 7.4.4.1 Introduction

A <remoteCSE> resource shall represent a remote CSE that is registered to the Registrar CSE. <remoteCSE> resources shall be located directly under the <CSEBase> of the Registrar CSE.

In addition each registered CSE shall have a <remoteCSE> resource representing its Registrar CSE. This is located directly under the registered CSE's <CSEBase>.

The detailed description can be found in clause 9.6.4 in oneM2M TS-0001 [6].

Table 7.4.4.1‑1: Data type definition of <remoteCSE> resource

|  |  |  |
| --- | --- | --- |
| Data Type ID | File Name | Note |
| remoteCSE | CDT-remoteCSE-v4\_1\_0.xsd |  |

Table 7.4.4.1‑2: Universal/Common Attributes of <remoteCSE> resource

|  |  |
| --- | --- |
| Attribute Name | Request Optionality  |
| Create | Update |
| *@resourceName* | O | NP |
| *resourceType* | NP | NP |
| *resourceID* | NP | NP |
| *parentID* | NP | NP |
| *accessControlPolicyIDs* | O | O |
| *creationTime* | NP | NP |
| *expirationTime* | O | O |
| *lastModifiedTime* | NP | NP |
| *labels* | O | O |
| *announceTo* | O | O |
| *announcedAttribute* | O | O |
| *dynamicAuthorizationConsultationIDs* | O | O |
| *location* | O | O |

Table 7.4.4.1‑3: Resource Specific Attributes of <remoteCSE> resource

|  |  |  |  |
| --- | --- | --- | --- |
| Attribute Name | Request Optionality  | Data Type | Default Value and Constraints |
| Create | Update |
| *cseType* | O | NP | m2m:cseTypeID | No default |
| *pointOfAccess* | O | O | m2m:poaList | No default |
| *CSEBase* | M | NP | xs:anyURI | No default |
| *CSE-ID* | M | NP | m2m:ID | No default |
| *M2M-Ext-ID* | O | O | m2m:externalID  | No default |
| *Trigger-Recipient-ID* | O | O | m2m:triggerRecipientID | No default |
| *requestReachability* | M | O | xs:boolean | No default |
| *nodeLink* | O | O | xs:anyURI | No default |
| *triggerReferenceNumber* | O | O | xs:unsignedInt | No default |
| *contentSerialization* | O | O | m2m:serializations | No default |
| *e2eSecInfo* | O | O | m2m:e2eSecInfo | No default |
| *descendantCSEs* | O | O | m2m:listOfM2MID | No default |
| *supportedReleaseVersions* | M | O | m2m:supportedReleaseVersions | No default |
| *multicastCapability* | O | O | m2m:multicastCapability | No default |
| *externalGroupID* | O | O | m2m:externalID | No default |
| *triggerEnable* | O | O | xs:boolean | false |
| *activityPatternElements* | O | O | m2m:activityPatternElements | No default |

Table 7.4.4.1‑4: Child resources of <remoteCSE> resource

|  |  |  |  |
| --- | --- | --- | --- |
| Child Resource Type  | Child Resource Name | Multiplicity | Ref. to Resource Type Definition |
| <container> | [variable] | 0..n | Clause 7.4.6 |
| <containerAnnc> | [variable] | 0..n | Clause 7.4.6 |
| <flexContainer> | [variable] | 0..n | Clause 7.4.37 |
| <flexContainerAnnc> | [variable] | 0..n | Clause 7.4.37 |
| <group> | [variable] | 0..n | Clause 7.4.13 |
| <groupAnnc> | [variable] | 0..n | Clause 7.4.13 |
| <accessControlPolicy> | [variable] | 0..n | Clause 7.4.2 |
| <accessControlPolicyAnnc> | [variable] | 0..n | Clause 7.4.2 |
| <subscription> | [variable] | 0..n | Clause 7.4.8 |
| <pollingChannel> | [variable] | 0..1 | Clause 7.4.21 |
| <nodeAnnc> | [variable] | 0..n | Clause 7.4.36 |
| <dynamicAuthorizationConsultation> | [variable] | 0..n | Clause 7.4.36 |
| <flexContainer> | [variable] | 0..n | Clause 7.4.37 |
| <timeSeries> | [variable] | 0..n | Clause 7.4.38 |
| <timeSeriesAnnc> | [variable] | 0..n | Clause 7.4.38 |
| <remoteCSEAnnc> | [variable] | 0..n | Clause 7.4.4 |
| <AEAnnc> | [variable] | 0..n | Clause 7.4.5 |
| <locationPolicyAnnc> | [variable] | 0..n | Clause 7.4.10 |
| <ontologyRepositoryAnnc> | [variable] | 0..1 | Clause 7.4.46 |
| <semanticMashupJobProfile> | [variable] | 0..n | Clause 7.4.49 |
| <semanticMashupJobProfileAnnc> | [variable] | 0..n | Clause 7.4.49 |
| <semanticMashupInstance> | [variable] | 0..n | Clause 7.4.50 |
| <semanticMashupInstanceAnnc> | [variable] | 0..n | Clause 7.4.50 |
| <crossResourceSubscription> | [variable] | 0..n | Clause 7.4.58 |
| <transactionMgmt> | [variable] | 0..n | Clause 7.4.60 |
| <transaction> | [variable] | 0..n | Clause 7.4.61 |
| <nwMonitoringReq> | [variable] | 0..n | Clause 7.4.x |

### ----------------------end of change 7 -----------------------------------------------------

### ----------------------start of change 8 -----------------------------------------------------

### 7.4.5 Resource Type <AE>

#### 7.4.5.1 Introduction

The <AE> resource represents information about an Application Entity known to a given Common Services Entity.

The detailed description can be found in clause 9.6.5 in oneM2M TS-0001 [6].

Table 7.4.5.1‑1: Data type definition of <AE> resource

|  |  |  |
| --- | --- | --- |
| Data Type ID | File Name | Note |
| AE | CDT-AE-v4\_1\_0.xsd | XSD schema for AE resource |

Table 7.4.5.1‑2: Universal/Common Attributes of <AE> resource

|  |  |
| --- | --- |
| Attribute Name | Request Optionality  |
| Create | Update |
| *@resourceName* | O | NP |
| *resourceType* | NP | NP |
| *resourceID* | NP | NP |
| *parentID* | NP | NP |
| *accessControlPolicyIDs* | O | O |
| *creationTime* | NP | NP |
| *expirationTime* | O | O |
| *lastModifiedTime* | NP | NP |
| *labels* | O | O |
| *announceTo* | O | O |
| *announcedAttribute* | O | O |
| *dynamicAuthorizationConsultationIDs* | O | O |
| *location* | O | O |

Table 7.4.5.1‑3: Resource Specific Attributes of <AE> resource

|  |  |  |  |
| --- | --- | --- | --- |
| Attribute Name | Request Optionality  | Data Type | Default Value and Constraints |
| Create | Update |
| *appName* | O | O | xs:string | No default |
| *App-ID* | M | NP | xs:string | No default |
| *AE-ID* | NP | NP | m2m:ID | No default |
| *pointOfAccess* | O | O | m2m:poaList | No default |
| *ontologyRef* | O | O | xs:anyURI | No default |
| *nodeLink* | O | O | xs:anyURI | No default |
| *requestReachability* | M | O | xs:boolean | No default |
| *contentSerialization* | O | O | m2m:serializations | No default |
| *e2eSecInfo* | O | O | m2m:e2eSecInfo | No default |
| *M2M-Ext-ID* | O | O | m2m:externalID | No default |
| *supportedReleaseVersions* | M | O | m2m:supportedReleaseVersions | No default |
| *registrationStatus* | O | O | m2m:AERegistrationStatus | No default |
| *trackRegistrationPoints* | O | O | xs:boolean | No default |
| *sessionCapabilities* | O | O | m2m:sessionCapabilities | No default |
| *triggerEnable* | O | O | xs:boolean | false |
| *activityPatternElements* | O | O | m2m:activityPatternElements | No default |

Table 7.4.5.1‑4: Child resources of <AE> resource

|  |  |  |  |
| --- | --- | --- | --- |
| Child Resource Type  | Child Resource Name | Multiplicity | Ref. to Resource Type Definition |
| <subscription> | [variable] | 0..n | Clause 7.4.8 |
| <container> | [variable] | 0..n | Clause 7.4.6 |
| <group> | [variable] | 0..n | Clause 7.4.13 |
| <accessControlPolicy> | [variable] | 0..n | Clause 7.4.2 |
| <pollingChannel> | [variable] | 0..n | Clause 7.4.21 |
| <semanticDescriptor> | [variable] | 0..n | Clause 7.4.34 |
| <dynamicAuthorizationConsultation> | [variable] | 0..n | Clause 7.4.36 |
| <flexContainer> | [variable] | 0..n | Clause 7.4.37 |
| <timeSeries> | [variable] | 0..n | Clause 7.4.38 |
| <semanticMashupInstance> | [variable] | 0..n | Clause 7.4.50 |
| <multimediaSession> | [variable] | 0..n | Clause 7.4.56 |
| <triggerRequest> | [variable] | 0..n | Clause 7.4.57 |
| <crossResourceSubscription> | [variable] | 0..n | Clause 7.4.58 |
| <transactionMgmt> | [variable] | 0..n | Clause 7.4.60 |
| <transaction> | [variable] | 0..n | Clause 7.4.61 |
| <nwMonitoringReq> | [variable] | 0..n | Clause 7.4.x |

### ----------------------end of change 8 -----------------------------------------------------

### ----------------------start of change 9 -----------------------------------------------------

### 8.2.3 Resource attributes

In protocol bindings, resource attributes names shall be translated into short names shown in the following tables.

…

Table 8.2.3‑3: Resource attribute short names (3/6)

| Attribute Name | Occurs in | Short Name |
| --- | --- | --- |
| *objectPaths* | mgmtObj | ***obps*** |
| *mgmtSchema* | mgmtObj | ***mgs*** |
| *nodeID* | node | ***ni*** |
| *hostedCSELink* | node | ***hcl*** |
| *mgmtClientAddress* | node | ***mgca*** |
| *hostedAELinks* | node | ***hael*** |
| *hostedServiceLinks* | node | ***hsl*** |
| *networkID* | node | ***nid*** |
| *roamingStatus* | node | ***rms*** |
| *nodeType* | node | ***nty*** |
| *CSEBase* | remoteCSE | ***cb\**** |
| *M2M-Ext-ID* | remoteCSE, AE, locationPolicy, triggerRequest, nwMonitoringReq | ***mei*** |
| *Trigger-Recipient-ID* | remoteCSE, triggerRequest | ***tri*** |
| *requestReachability* | remoteCSE | ***rr*** |
| *triggerReferenceNumber* | remoteCSE | ***trn*** |
| *descendantCSEs* | remoteCSE | ***dcse*** |
| *multicastCapability* | remoteCSE | ***mtcc*** |
| *originator* | request | ***org*** |
| *metaInformation* | request | ***mi*** |
| *requestStatus* | request | ***rs*** |
| *operationResult* | request | ***ors*** |
| *operation* | request | ***op\**** |
| *requestID* | request | ***rid*** |
| *scheduleElement* | schedule | ***se*** |
| *networkCoordinated* | schedule | ***nco*** |
| *deviceIdentifier* | serviceSubscribedNode | ***di*** |
| *ruleLinks* | serviceSubscribedNode | ***rlk*** |
| *niddRequired* | serviceSubscribedNode | ***nrq*** |
| *statsCollectID* | statsCollect | ***sci*** |
| *collectingEntityID* | statsCollect | ***cei*** |
| *collectedEntityID* | statsCollect | ***cdi*** |
| *devStatus* | areaNwkDeviceInfo | ***ss*** |
| *statsRuleStatus* | statsCollect | ***srs*** |
| *statModel* | statsCollect | ***sm*** |
| *collectPeriod* | statsCollect | ***cp*** |
| *eventNotificationCriteria* | subscription | ***enc*** |
| *expirationCounter* | subscription, crossResourceSubscription | ***exc*** |
| *notificationURI* | subscription, crossResourceSubscription | ***nu*** |
| *groupID* | subscription | ***gpi*** |
| *notificationForwardingURI* | subscription | ***nfu*** |
| *batchNotify* | subscription | ***bn*** |
| *rateLimit* | subscription | ***rl*** |
| *preSubscriptionNotify* | subscription | ***psn*** |
| *pendingNotification* | subscription | ***pn*** |
| *notificationStoragePriority* | subscription | ***nsp*** |
| *latestNotify* | subscription | ***ln*** |
| *notificationContentType* | subscription | ***nct*** |
| *notificationEventCat* | subscription, crossResourceSubscription | ***nec*** |
| *subscriberURI* | subscription, crossResourceSubscription | ***su*** |
| *version* | firmware, software, token | ***vr*** |
| *URL* | firmware, software | ***url*** |
| *update* | firmware | ***ud*** |
| *updateStatus* | firmware | ***uds*** |
| *install* | software | ***in*** |
| *uninstall* | software | ***un*** |
| *installStatus* | software | ***ins*** |
| *activate* | software | ***act*** |
| *deactivate* | software | ***dea*** |
| *activeStatus* | software, areaNwkInfo | ***acts*** |
| *memAvailable* | memory | ***mma*** |
| *memTotal* | memory | ***mmt*** |

…

Table 8.2.3‑6: Resource attribute short names (6/6)

| Attribute Name | Occurs in | Short Name |
| --- | --- | --- |
| *serviceName* | genericInterworkingService | ***gisn*** |
| *operationName* | genericInterworkingOperationInstance | ***gion*** |
| *inputDataPointLinks* | genericInterworkingService, genericInterworkingOperationInstance | ***giip*** |
| *outputDataPointLinks* | genericInterworkingService, genericInterworkingOperationInstance | ***giop*** |
| *inputLinks* | genericInterworkingOperationInstance | ***giil*** |
| *outputLinks* | genericInterworkingOperationInstance | ***giol*** |
| *operationState* | genericInterworkingOperationInstance | ***gios*** |
| *direction* | allJoynApp | ***dir*** |
| *objectPath* | allJoynSvcObject | ***ajop*** |
| *interfaceIntrospectXmlRef* | allJoynInterface | ***ajir*** |
| *input* | allJoynMethodCall | ***inp*** |
| *callStatus* | allJoynMethodCall | ***clst*** |
| *output* | allJoynMethodCall | ***out*** |
| *currentValue* | allJoynProperty | ***crv*** |
| *requestedValue* | allJoynProperty | ***rqv*** |
| *decision* | authorizationDecision | ***dec*** |
| *status* | authorizationDecision, authorizationPolicy, authorizationInformation | ***sus*** |
| *to* | authorizationDecision, authorizationPolicy | ***to\**** |
| *from* | authorizationDecision, authorizationInformation | ***fr\**** |
| *requestedResourceType* | authorizationDecision | ***rrt*** |
| *operation* | authorizationDecision | ***op\**** |
| *filterUsage* | authorizationDecision | ***fu*** |
| *roleIDs* | authorizationDecision, authorizationInformation | ***rids\**** |
| *tokenIDs* | authorizationDecision, authorizationInformation | ***tids\**** |
| *tokens* | authorizationDecision | ***tkns\**** |
| *requestTime* | authorizationDecision | ***rtm*** |
| *originatorLocation* | authorizationDecision | ***olo*** |
| *originatorIP* | authorizationDecision | ***oip*** |
| *policies* | authorizationPolicy | ***ps*** |
| *combiningAlgorithm* | authorizationPolicy | ***ca*** |
| *ontologyFormat* | ontology | ***ontf*** |
| *ontologyContent* | ontology | ***ontc*** |
| *sourceOntology* | ontologyMapping | ***sont*** |
| *targetOntology* | ontologyMapping | ***tont*** |
| *mappingPolicy* | ontologyMapping | ***mpol*** |
| *mappingAlgorithmLinks* | ontologyMapping | ***mpal*** |
| *mappingResultFormat* | ontologyMapping | ***mprf*** |
| *mappingResult* | ontologyMapping | ***mpr*** |
| *executable* | ontologyMappingAlgorithm | ***exec*** |
| *algorithmType* | ontologyMappingAlgorithm | ***algt*** |
| *mappingThreshold* | ontologyMappingAlgorithm | ***mpth*** |
| *memberFilter* | semanticMashupJobProfile | ***mbft*** |
| *smiID* | semanticMashupJobProfile | ***miid*** |
| *inputDescriptor* | semanticMashupJobProfile | ***iptd*** |
| *outputDescriptor* | semanticMashupJobProfile | ***uptd*** |
| *functionDescriptor* | semanticMashupJobProfile | ***fucd*** |
| *smjpID* | semanticMashupInstance | ***mjid*** |
| *smjpInputParameter* | semanticMashupInstance, semanticMashupResult | ***jpin*** |
| *memberStoreType* | semanticMashupInstance | ***mst*** |
| *mashupMember* | semanticMashupInstance | ***msm*** |
| *resultGenType* | semanticMashupInstance | ***rgt*** |
| *periodForResultGen* | semanticMashupInstance | ***prg*** |
| *mashupResultFormat* | semanticMashupResult | ***mrf*** |
| *mashupResult* | semanticMashupResult | ***mrt*** |
| *ruleRepresentation* | reasoningRules | ***rrep*** |
| *ruleRepresentationFormat* | reasoningRules | ***rrepf*** |
| *reasoningType* | reasoningJobInstance | ***rtyp*** |
| *reasoningMode* | reasoningJobInstance | ***rmod*** |
| *reasoningPeriod* | reasoningJobInstance | ***rper*** |
| *factSet* | reasoningJobInstance | ***rfst*** |
| *ruleSet* | reasoningJobInstance | ***rrst*** |
| *resultRepresentation* | reasoningJobInstance | ***rsrp*** |
| *resultRepresentationFormat* | reasoningJobInstance | ***rsrpf*** |
| *numberImpactedCSEs* | AEContactList | ***nic*** |
| *externalGroupID* | LocalMulticastGroup, remoteCSE, nwMonitoringReq | ***egid*** |
| *multicastAddress* | LocalMulticastGroup | ***mad*** |
| *multicastGroupFanoutTarget* | LocalMulticastGroup | ***mgft*** |
| *memberList* | LocalMulticastGroup | ***mli*** |
| *responseTarget* | LocalMulticastGroup | ***rstt*** |
| *responseTimeWindow* | LocalMulticastGroup | ***rstw*** |
| *TMGI* | LocalMulticastGroup | ***tmgi*** |
| *sessionOriginatorID* | multimediaSession | ***soi*** |
| *acceptedSessionDescriptions* | multimediaSession | ***asd*** |
| *offeredSessionDescriptions* | multimediaSession | ***osd*** |
| *sessionState* | multimediaSession | ***sst*** |
| *triggerPurpose* | triggerRequest | ***tpe*** |
| *triggerStatus* | triggerRequest | ***tst*** |
| *triggerValidityTime* | triggerRequest | ***tvt*** |
| *triggerInfoAE-ID* | triggerRequest | ***tiae*** |
| *triggerInfoAddress* | triggerRequest | ***tia*** |
| *triggerInfoOperation* | triggerRequest | ***tio***  |
| *targetedResourceType* | triggerRequest | ***tirt***  |
| *triggerReference* | triggerRequest | ***trf*** |
| *regularResourcesAsTarget* | crossResourceSubscription | ***rrat*** |
| *subscriptionResourcesAsTarget* | crossResourceSubscription | ***srat*** |
| *timeWindowType* | crossResourceSubscription | ***twt*** |
| *timeWindowSize* | crossResourceSubscription | ***tws*** |
| *eventNotificationCriteriaSet* | crossResourceSubscription | ***encs*** |
| *associatedCrossResourceSub* | subscription | ***acrs*** |
| *volumePerNode* | backgroundDataTransfer | ***vpn*** |
| *numberOfNodes* | backgroundDataTransfer | ***non*** |
| *desiredTimeWindow* | backgroundDataTransfer | ***dtw*** |
| *transferSelectionGuidance* | backgroundDataTransfer | ***tsg*** |
| *geographicInformation* | backgroundDataTransfer | ***ggi*** |
| *groupLink* | backgroundDataTransfer | ***gli*** |
| *transactionLockTime* | transactionMgmt, transaction | ***tltm*** |
| *transactionExecuteTime* | transactionMgmt, transaction | ***text*** |
| *transactionCommitTime* | transactionMgmt, transaction | ***tct*** |
| *transactionExpirationTime* | transactionMgmt | ***tept*** |
| *transactionMode* | transactionMgmt | ***tmd*** |
| *transactionLockType* | transactionMgmt, transaction | ***tltp*** |
| *transactionControl* | transactionMgmt, transaction | ***tctl*** |
| *transactionState* | transactionMgmt, transaction | ***trst*** |
| *transactionMaxRetries* | transactionMgmt | ***tmr*** |
| *transactionMgmtHandling* | transactionMgmt | ***tmh*** |
| *requestPrimitives* | transactionMgmt | ***rqps*** |
| *responsePrimitives* | transactionMgmt | ***rsps*** |
| *transactionID* | transaction | ***tid*** |
| *monitorEnable* | nwMonitoringReq |  |
| *geographicArea* | nwMonitoringReq |  |
| *congestionLevel* | nwMonitoringReq |  |
| *congestionStatus* | nwMonitoringReq |  |
| *numberOfDevices* | nwMonitoringReq |  |
| NOTE: \* marked short names have been already assigned in Table 8.2.2-1. |

### ----------------------end of change 9 -----------------------------------------------------

### ----------------------start of change 10 -----------------------------------------------------

### 8.2.4 Resource types

In protocol bindings resource type names shall be translated into short names of Table 8.2.4‑1.

**Table 8.2.4‑1: Resource and specialization type short names**

| Resource Type Name | Short Name |
| --- | --- |
| … | ***…*** |
| *nwMonitoringReq* |  |

### ----------------------end of change 10 -----------------------------------------------------

### ----------------------start of change 11 -----------------------------------------------------

##### 6.3.4.2.11 m2m:memberType

Used for the *memberType* attribute of the <group> resource.

Table 6.3.4.2.11‑1: Interpretation of memberType

| Value | Interpretation | Note |
| --- | --- | --- |
| 0 | mixed | A mixture of all the resource types (except mixed itself). |
| 1 | accessControlPolicy |  |
| 2 | AE |  |
| 3 | container |  |
| 4 | contentInstance |  |
| 5 | CSEBase |  |
| 6 | delivery |  |
| 7 | eventConfig |  |
| 8 | execInstance |  |
| 9 | group |  |
| 10 | locationPolicy |  |
| 11 | m2mServiceSubscription |  |
| 12 | mgmtCmd |  |
| 13 | mgmtObj |  |
| 14 | node |  |
| 15 | pollingChannel |  |
| 16 | remoteCSE |  |
| 17 | request |  |
| 18 | schedule |  |
| 19 | serviceSubscribedAppRule |  |
| 20 | serviceSubscribedNode |  |
| 21 | statsCollect |  |
| 22 | statsConfig |  |
| 23 | subscription |  |
| 24 | semanticDescriptor |  |
| 25 | notificationTargetMgmtPolicyRef |  |
| 26 | notificationTargetPolicy |  |
| 27 | policyDeletionRules |  |
| 28 | flexContainer |  |
| 29 | timeSeries |  |
| 30 | timeSeriesInstance |  |
| 31 | role |  |
| 32 | token |  |
| 33 | void |  |
| 34 | dynamicAuthorizationConsultation |  |
| 35 | authorizationDecision |  |
| 36 | authorizationPolicy |  |
| 37 | authorizationInformation |  |
| 38 | ontologyRepository |  |
| 39 | ontology |  |
| 40 | semanticMashupJobProfile |  |
| 41 | semanticMashupInstance |  |
| 42 | semanticMashupResult |  |
| 43 | AEContactList |  |
| 44 | AEContactListPerCSE |  |
| 46 | multimediaSession |  |
| 47 | triggerRequest |  |
| 48 | crossResourceSubscription |  |
| 49 | backgroundDataTransfer |  |
| 50 | transactionMgmt |  |
| 51 | transaction |  |
| 52 | ontologyMapping |  |
| 53 | ontologyMappingAlgorithm |  |
| 54 | ontologyMappingAlgorithmRepository |  |
| 55 | reasoningJobInstance |  |
| 56 | reasoningRules |  |
| 57 | semanticRuleRepository |  |
| 58 | flexContainerInstance |  |
| XX | nwMonitoringReq |  |
| 10001 | accessControlPolicyAnnc |  |
| 10002 | AEAnnc |  |
| 10003 | containerAnnc |  |
| 10004 | contentInstanceAnnc |  |
| 10009 | groupAnnc |  |
| 10010 | locationPolicyAnnc |  |
| 10013 | mgmtObjAnnc |  |
| 10014 | nodeAnnc |  |
| 10016 | remoteCSEAnnc |  |
| 10018 | scheduleAnnc |  |
| 10024 | semanticDescriptorAnnc |  |
| 10028 | flexContainerAnnc |  |
| 10029 | timeSeriesAnnc |  |
| 10030 | timeSeriesInstanceAnnc |  |
| 10033 | void |  |
| 10034 | dynamicAuthorizationConsultationAnnc |  |
| 10038 | ontologyRepositoryAnnc |  |
| 10039 | ontologyAnnc |  |
| 10040 | semanticMashupJobProfileAnnc |  |
| 10041 | semanticMashupInstanceAnnc |  |
| 10042 | semanticMashupResultAnnc |  |
| 10046 | multimediaSessionAnnc |  |
| 10052 | ontologyMappingAnnc |  |
| 10053 | ontologyMappingAlgorithmAnnc |  |
| 10054 | ontologyMappingAlgorithmRepositoryAnnc |  |
| 10055 | reasoningJobInstanceAnnc |  |
| 10056 | reasoningRulesAnnc |  |
| 10057 | semanticRuleRepositoryAnnc |  |
| 20001 | oldest |  |
| 20002 | latest |  |
| 20003 | mashup |  |
| NOTE: See clause 7.4.13 "Resource Type group". |

### ----------------------end of change 11 -----------------------------------------------------