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| CHANGE REQUEST | |
| Meeting:\* | ARC TP29 |
| Source:\* | BeiXu，Huawei，Echo.xubei@huawei.com |
| Date:\* | 2017-04-24 |
| Contact:\* | BeiXu，Huawei，Echo.xubei@huawei.com |
| Reason for Change/s:\* | Add new section about the opearation of <schedule> resource. |
| CR against: Release\* | Release 3 |
| CR against: WI\* | Active < >  MNT Maintenace / < [WI-0002](http://member.onem2m.org/Application/documentapp/downloadLatestRevision/?docId=3898) - Architecture>  STE Small Technical Enhancements / < Work Item number (optional)>  Only ONE of the above shall be ticked |
| CR against: TS/TR\* | TS-0001-Functional Architecture-V3\_4\_0 |
| Clauses/Sub Clauses\* |  |
| Type of change: \* | Editorial change  Bug Fix or Correction  Change to existing feature or functionality  New feature or functionality  Only ONE of the above shall be ticked |
| Post Freeze checking:\* | This CR contains only essential changes and corrections? YES  NO  This CR may break backwards compatibility with the last approved version of the TS? YES  NO  This CR is a mirror CR? YES  if YES, please indicate the document number of the original CR: <Document Number) : NO |
| Template Version:27 May 2015 (Dot not modify) | |

**oneM2M Notice**

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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 separated “mirror CR” should be posted at the same time of this CR

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 sections need not show surrounding clauses as long as the proposed section number clearly shows where the new section 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

The <schedule> resource contains scheduling information. The usage of the <schedule> resource is slightly different depending on the associated resource type, such as follows:

• A child <schedule> resource of the <CSEBase> and <remoteCSE> resources shall indicate the time periods when the CSE can send and receive the request.

• A child <schedule> resource of the <AE> resource shall indicate the time periods when the application of a node can be accessed.

• A child <schedule> resource of the <subscription> resource shall indicate the time periods when the notifications can be sent to be Receiver.

• A <schedule> resource linked as mgmtLink attribute of the <cmdhNwAccessRule> resource shall indicate the time periods when use of specific underlying networks is allowed.

Issue1: How to synchronize the <schedule> between the <CSEBase> and <remoteCSE>?

A *<remoteCSE>* resource shall represent a Registree CSE that is registered to the Registrar CSE. *<remoteCSE>* resources shall be located directly under the *<CSEBase>* resource of Registrar CSE. The <schedule> of <remoteCSE> shall indicate the time periods of Registrar CSE. The <schedule> of the <remoteCSE> should the announcement of the Registrar CSE.

Issue2: How to CRUDN the child <schedule> resource of the <CSEBase> and <AE> from IN-AE?

The ASN/MN-CSE/AE, ADN-AE can CUD the it’s <schedule> based on the device manufacture policy, the IN-AE can CRUDN the <schedule> of the node as well.. For example, IN-AE can subscribe the <schedule> of the node to send setting command to the node periodically. oneM2M should support to CRUDN <schedule> resource via Mca reference point.

Issue3: When ASN/MN-AE and ASN/MN-CSE host on the same node, ASN/MN-AE and ASN/MN-CSE have own *<schedule>,* should the <*schedule*> resources host on the same node be consistent or independent of each other?

The hosting CSE should keep the consistency between <*schedule*> resoures on the same node. For example, the registrar CSE is reachable on every Monday. If the registree AE creates the <*schedule*> on every Saturday, it conflics with the schedule of CSE. It means the AE is never be accessed.

Issue4: When there is <*trafficPattern*> of <*AE*> and <*schedule*> of the same <*AE*>, what’s relationship between the two <*schedule*>?

It’s FFS.

Issue5: If *requestReachability* and *<schedule>* of *<AE>* both exist, what’s the relationship between them?

RequestReachability indicates the capability of application entity whether to receive the request or not. <schedule> indicates the time when the application entity can receive the request when the RequestReachability is True.

### -----------------------Start of change 1-------------------------------------------

#### 9.6.1.1 Resource Type Summary

Table 9.6.1.1-1 introduces the normal and virtual resource types and their related child or parent resource types. Details of each resource type follow in the remainder of this clause.

Table 9.6.1.1-1 lists each specified ordinary – i.e. not announced – resource type. An addition of suffix "Annc" to the respective resource type identifier indicates the associated announced resource type. Resource types that can occur as child resources of announced resources are summarized in Table 9.6.26.1-1 "Announced Resource Types".

Among the resource types listed in Table 9.6.1.1-1, the following are termed "Content Sharing Resources" in oneM2M Specifications for the purpose of referring to any of those resource types:

* *container;*
* *contentInstance;*
* *flexContainer;*
* *timeSeries;*
* *timeSeriesInstance.*

Table 9.6.1.1-1: Resource Types

| Resource Type | Short Description | Child Resource Types | Parent Resource Types | Clause |
| --- | --- | --- | --- | --- |
| *accessControlPolicy* | Stores a representation of privileges. It is associated with resources that shall be accessible to entities external to the Hosting CSE. It controls "who" is allowed to do "what" and the context in which it can be used for accessing resources | *subscription* | *AE, AEAnnc, remoteCSE, remoteCSEAnnc, CSEBase* | 9.6.2 |
| *AE* | Stores information about the AE. It is created as a result of successful registration of an AE with the Registrar CSE | *subscription, container,*  *flexContainer,*  *group, accessControlPolicy,*  *schedule, pollingChannelsemanticDescriptor,*  *timeSeries* | *CSEBase* | 9.6.5 |
| *container* | Shares data instances among entities. Used as a mediator that buffers data exchanged between AEs and/or CSEs. The exchange of data between AEs (e.g. an AE on a Node in a field domain and the peer-AE on the infrastructure domain) is abstracted from the need to set up direct connections and allows for scenarios where both entities in the exchange do not have the same reachability schedule | *container,*  *flexContainer, contentInstance, subscription, latest, oldest，semanticDescriptor* | *AE, AEAnnc, container, containerAnnc, remoteCSE, remoteCSEAnnc,*  *CSEBase,*  *flexContainer, flexContainerAnnc* | 9.6.6 |
| *contentInstance* | Represents a data instance in the *<container>* resource | *semanticDescriptor* | *Container, containerAnnc* | 9.6.7 |
| *flexContainer* | A template which allows to define specialized (customizable) versions of containers with a flexible and lightweight structure | *container,*  *flexContainer, subscription, semanticDescriptor* | *AE, AEAnnc, container, containerAnnc,*  *flexContainer, flexContainerAnnc, remoteCSE, remoteCSEAnnc,*  *CSEBase* | 9.6.35 |
| *CSEBase* | The structural root for all the resources that are residing on a CSE. Stores information about the CSE itself | *remoteCSE, remoteCSEAnnc, node, AE, container, group, accessControlPolicy, subscription, mgmtCmd, locationPolicy, statsConfig, statsCollect, request, delivery,*  *schedule,*  *notificationTargetPolicy,*  *flexContainer,*  *timeSeries* | *None specified* | 9.6.3 |
| *delivery* | Forwards requests from CSE to CSE | *subscription* | *CSEBase* | 9.6.11 |
| *eventConfig* | Defines events that trigger statistics collection | *subscription* | *statsConfig* | 9.6.24 |
| *execInstance* | Contains all execution instances of the same Management Command | *subscription* | *mgmtCmd* | 9.6.17 |
| *fanOutPoint (V)* | Virtual resource containing target for group request  It is used for addressing bulk operations to all the resources that belong to a group | *None specified* | *group* | 9.6.14 |
| *Group* | Stores information about resources of the same type that need to be addressed as a Group. Operations addressed to a Group resource shall be executed in a bulk mode for all members belonging to the Group | *fanOutPoint,*  *subscription,*  *semanticFanOutPoint, semanticDescriptor* | *AE, AEAnnc, remoteCSE, remoteCSEAnnc, CSEBase* | 9.6.13 |
| *latest (V)* | Virtual resource that points to most recently created *<contentInstance>* child resource within a *<container>* resource | *None specified* | *container* | 9.6.27 |
| *locationPolicy* | Includes information to obtain and manage geographical location. It is only referenced within a container, the *contentInstances* of the container provide location information | *subscription* | *CSEBase* | 9.6.10 |
| *mgmtCmd* | Management Command resource represents a method to execute management procedures required by existing management protocols | *execInstance,*  *subscription* | *CSEBase* | 9.6.16 |
| *mgmtObj* | Management Object resource represents management functions that provides an abstraction to be mapped to external management technology. It represents the node and the software installed in the node (see note) | *subscription, mgmtObj, schedule* | *node, mgmtObj, mgmtObjAnnc* | 9.6.15  Annex D |
| *m2mServiceSubscriptionProfile* | Data pertaining to the M2M Service Subscription | *serviceSubscribedNode,*  *subscription* | *CSEBase* | 9.6.19 |
| *Node* | Represents specific Node information | *mgmtObj,*  *subscription, semanticDescriptor* | *CSEBase* | 9.6.18 |
| *notificationTargetMgmtPolicyRef* | Represents a list of notification targets and the deletion policy | *subscription* | *subscription* | 9.6.31 |
| *notificationTargetPolicy* | Represents a notification target deletion policy with pre-defined action and deletion rules | *subscription, policyDeletionRules* | *CSEBase* | 9.6.32 |
| *notificationTargetSelfReference (V)* | Virtual resource used to remove the Notification Target | *None specified* | *subscription* | 9.6.34 |
| *oldest (V)* | Virtual resource that points to first created *<contentInstance>* child resource within a *<container>* resource | *None specified* | *container* | 9.6.28 |
| *pollingChannel* | Represent a channel that can be used for a request-unreachable entity | *pollingChannelURI* | *remoteCSE, AE* | 9.6.21 |
| *pollingChannelURI (V)* | Virtual resource used to perform service layer long polling of a resource Hosting CSE by a request-unreachable entity | *None specified* | *pollingChannel* | 9.6.22 |
| *policyDeletionRules* | Represents a set of rules which is associated with notification target removal policy | *subscription* | *notificationTargetPolicy* | 9.6.33 |
| *remoteCSE* | Represents a remote CSE for which there has been a registration procedure with the registrar CSE identified by the CSEBase resource | *container, containerAnnc,*  *flexContainer, flexContainerAnnc,*  *group, groupAnnc, accessControlPolicy, accessControlPolicyAnnc, subscription, pollingChannel, schedule,*  *timeSeries,*  *timeSeriesAnnc,*  *remoteCSEAnnc,*  *nodeAnnc,*  *AEAnnc,*  *locationPolicyAnnc* | *CSEBase* | 9.6.4 |
| *request* | Expresses/access context of an issued Request | *subscription* | *CSEBase* | 9.6.12 |
| *schedule* | Contains scheduling information for delivery of messages | *subscription* | *subscription, CSEBase,*  *AE,* *trafficPattern* | 9.6.9 |
| *serviceSubscribedNode* | Node information | *subscription* | *m2mServiceSubscriptionProfile* | 9.6.20 |
| *statsCollect* | Defines triggers for the IN-CSE to collect statistics for applications | *subscription* | *CSEBase (in IN‑CSE)* | 9.6.25 |
| *statsConfig* | Stores configuration of statistics for applications | *eventConfig,*  *subscription* | *CSEBase (in IN‑CSE)* | 9.6.23 |
| *subscription* | Subscription resource represents the subscription information related to a resource. Such a resource shall be a child resource for the subscribe-to resource | *schedule, notificationTargetSelfReference, notificationTargetMgmtPolicyRef* | *accessControlPolicy,accessControlPolicyAnnc, AE, AEAnnc, container, containerAnnc, CSEBase, delivery, eventConfig, execInstance, group, groupAnnc, locationPolicy, locationPolicyAnnc, mgmtCmd, mgmtObj, mgmtObjAnnc, m2mServiceSubscriptionProfile, node, nodeAnnc, serviceSubscribedNode, remoteCSE, remoteCSEAnnc, request, schedule, scheduleAnnc,*  *semanticDescriptor, semanticDescriptorAnnc, statsCollect, statsConfig,*  *flexContainer, flexContainerAnnc,*  *timeSeries, timeSeriesAnnc* | 9.6.8 |
| *serviceSubscribedAppRule* | Represents a rule that defines allowed App-ID and AE-ID combinations that are acceptable for registering an AE on a Registrar CSE | *subscription* | *CSEBase* | 9.6.29 |
| *semanticDescriptor* | Stores semantic description pertaining to a resource and potentially sub-resources. | *subscription* | *AE, container, contentInstance，group, node, flexContainer, timeSeries* | 9.6.30 |
| *semanticFanOutPoint* | Virtual resource used as target for semantic discovery aimed at a logical graph distributed over multiple *semanticDescriptor* resources, which belong to the corresponding *group* parent resource | *None specified* | *Group* | 9.6.14a |
| *trafficPattern* | Represents the communication pattern and the mobility pattern of a Field Domain Node. | schedule,  subscription | *Node, AE* | 9.6.41 |
| *dynamicAuthorizationConsultation* | Represents consultation information used by a CSE when performing consultation-based dynamic authorization | None Specified | *AE, AEAnnc, remoteCSE, remoteCSEAnnc, CSEBase* | 9.6.40 |
| *timeSeries* | Stores and Shares Time Series Data instances among entities. | *timeSeriesInstance, subscription, semanticDescriptor* | *AE, AEAnnc, remoteCSE, remoteCESAnnc, CSEBase* | 9.6.36 |
| *timeSeriesInstance* | Represents a Time Series Data instance in the *<timeSeries>* resource | *None specified* | *timeSeries, timeSeriesAnnc* | 9.6.37 |
| *authorizationDecision* | Represents an access control decision point | *subscription* | *CSEBase* | 9.6.42 |
| *authorizationPolicy* | Represents an access control policy retrieval point | *subscription* | *CSEBase* | 9.6.43 |
| *authorizationInformation* | Represents an access control information point | *role*  *token*  *subscription* | *CSEBase* | 9.6.44 |
| *localMulticastGroup* | Stores local multicast group information of member hosting CSE. | *None specified* | *CSEBase* | 9.6.45 |
| NOTE: See clause 9.6.12 for a summary of specializations of *<mgmtObj>.* | | | | |

### -----------------------End of change 1-------------------------------------------

### -----------------------Start of change 2-------------------------------------------

### 9.6.9 Resource Type *schedule*

The *<schedule>* resource contains scheduling information. The usage of the *<schedule>* resource is slightly different depending on the associated resource type, such as follows:

* A child *<schedule>* resource of the *<CSEBase>* resource shall indicate the time periods when the CSE can send and receive the request.
* A child <*schedule*> resource of the <*AE*> resource shall indicate the time periods when the application entity can be accessed.
* NOTE: The ASN/MN-CSE needs to assure the consistency between the information in the child <*schedule*> resourceof <*AE*> and child <*schedule*> resource of <*CSEBase*>.

Editor’s Note: the definition of consistency and the mechanism to assure consistency between <*schedule*> resources are FFS.

* A child *<schedule>* resource of the *<subscription>* resource shall indicate the time periods when the notifications can be sent to be Receiver.
* A *<schedule>* resource linked as *mgmtLink* attribute of the *<cmdhNwAccessRule>* resource shall indicate the time periods when use of specific underlying networks is allowed.
* A child <*schedule*> resource of the <*trafficPattern*> resource shall indicate the time periods when the traffic pattern of a node applies to the underlying network that is indicated by the *targetNetwork* attribute of the <*trafficPattern*> resource

An Originator shall have the same access control privileges to the *<schedule>* resource as it has to its parent resource.



Figure 9.6.9-1: Structure of *<schedule>* resource

The <schedule> resource shall contain the child resource specified in table 9.6.9-1.

Table 9.6.9-1: Child resources of *<schedule>* resource

| Child Resources of *<schedule>* | Child Resource Type | Multiplicity | Description | *<scheduleAnnc>* Child Resource Types |
| --- | --- | --- | --- | --- |
| *[variable]* | *<subscription>* | 0..n | See clause 9.6.8 | None |

The *<schedule>* resource shall contain the attributes specified in table 9.6.9-2.

Table 9.6.9-2: Attributes of *<schedule>* resource

| Attributes of  *<schedule>* | Multiplicity | RW/  RO/  WO | Description | *<scheduleAnnc>* Attributes |
| --- | --- | --- | --- | --- |
| *resourceType* | 1 | RO | See clause 9.6.1.3. | NA |
| *resourceID* | 1 | RO | See clause 9.6.1.3. | NA |
| *resourceName* | 1 | WO | See clause 9.6.1.3. | NA |
| *parentID* | 1 | RO | See clause 9.6.1.3. | NA |
| *expirationTime* | 1 | RW | See clause 9.6.1.3. | MA |
| *creationTime* | 1 | RO | See clause 9.6.1.3. | NA |
| *lastModifiedTime* | 1 | RO | See clause 9.6.1.3. | NA |
| *Labels* | 0..1 (L) | RW | See clause 9.6.1.3. | MA |
| *announceTo* | 0..1 (L) | RW | See clause 9.6.1.3. | NA |
| *announcedAttribute* | 0..1 (L) | RW | See clause 9.6.1.3. | NA |
| *dynamicAuthorizationConsultationIDs* | 0..1 (L) | RW | See clause 9.6.1.3. | OA |
| *scheduleElement* | 1 (L) | RW | A *scheduleElement* shall be composed by seven fields of second, minute, hour, day of month, month, day of week and year. | OA |

### -----------------------End of change 2-------------------------------------------

### -----------------------Start of change 3-------------------------------------------

### 9.6.4 Resource Type *remoteCSE*

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

Similarly *<remoteCSE>* resource shall also represent a Registrar CSE. *<remoteCSE>* resource shall be located directly under the *<CSEBase>* resource of Registree CSE.

For example, when CSE1 (Registree CSE) registers with CSE2 (Registrar CSE), there will be two *<remoteCSE>* resources created: one in CSE1: *<CSEBase1>/<remoteCSE2>* and one in CSE2: *<CSEBase2>/<remoteCSE1>.*

Note that the creation of the two resources does not imply mutual registration. The *<CSEBase1>/<remoteCSE2>* does not mean CSE2 registered with CSE1 in the example above.



Figure 9.6.4-1: Structure of *<remoteCSE>* resource

The *<remoteCSE>* resource shall contain the child resources specified in table 9.6.4-1. The *<remoteCSE>* resource may contain *<remoteCSEAnnc>* child resources.

Table 9.6.4-1: Child resources of *<remoteCSE>* resource

| Child Resources of *<remoteCSE>* | Child Resource Type | Multiplicity | Description | *<remoteCSEAnnc>* Child Resource Types |
| --- | --- | --- | --- | --- |
| *[variable]* | *<container>* | 0..n | See clause 9.6.6 | *<container>* |
| *[variable]* | *<containerAnnc>* | 0..n | Announced variant of <*container>.* See clause 9.6.6 | *<containerAnnc>* |
| *[variable]* | *<flexContainer>* | 0..n | See clause 9.6.35 | *<flexContainer>* |
| *[variable]* | *<flexContaineAnnc>* | 0..n | Announced variant of <flexC*ontainer>.* See clause 9.6.35 | *<flexContainerAnnc>* |
| *[variable]* | *<group>* | 0..n | See clause 9.6.13 | *<group>* |
| *[variable]* | *<groupAnnc>* | 0..n | Announced variant of <*group>.* See clause 9.6.13 | *<groupAnnc>* |
| *[variable]* | *<accessControlPolicy>* | 0..n | See clause 9.6.2 | *<accessControlPolicy>* |
| *[variable]* | *<accessControlPolicyAnnc>* | 0..n | Announced variant of <*accessControlPolicy>.* See clause 9.6.2 | *<accessControlPolicyAnnc>* |
| *[variable]* | *<subscription>* | 0..n | See clause 9.6.8 | *<subscription>* |
| *[variable]* | *<pollingChannel>* | 0..1 | See clause 9.6.21. If *requestReachability* is FALSE, the CSE that created this *<remoteCSE>* resource should create a *<pollingChannel>* resource and perform long polling. The <*pollingChannel*> shall be utilized by the the parent resource. | *None* |
| *[variable]* | *<scheduleAnnc>* | 0..1 | Announced variant of <schedule> which defines the reachability schedule information of the node. See clause 9.6.9 for *<schedule>*. | *<scheduleAnnc>* |
| *[variable]* | *<nodeAnnc>* | 0..n | Announced variant of <*node>.* This announced resource is assoiated with a <node> resource that is hosted on a CSE which is represented by the parent <*remoteCSE*> or <*remoteCSEAnnc*> resource. See clause 9.6.18 for *<node>*. | *<nodeAnnc>* |
| *[variable]* | *<dynamicAuthorizationConsultation>* | 0..n | See clause 9.6.40 |  |
| *[variable]* | *<timeSeries>* | 0..n | See clause 9.6.36 | *<timeSeries>* |
| *[variable]* | *<timeSeriesAnnc>* | 0..n | Announced variant of <*timeSeries>.* See clause 9.6.36 | *<timeSeriesAnnc>* |
| *[variable]* | *<remoteCSEAnnc>* | 0..n | Announced variant of <*remoteCSE>* defined in the present clause 9.6.4. | *<remoteCSEAnnc>* |
| *[variable]* | *<AEAnnc>* | 0..n | Announced variant of <*AE>.* See clause 9.6.5 | <*AEAnnc>* |
| *[variable]* | *<locationPolicyAnnc>* | 0..n | Announced variant of <*locationPolicy>.* See clause 9.6.10 | <*locationPolicyAnnc>* |

The <remoteCSE> resource shall contain the attributes specified in table 9.6.4-2.

Table 9.6.4-2: Attributes of *<remoteCSE>* resource

| Attributes of *<remoteCSE>* | Multiplicity | RW/  RO/  WO | Description | *<remoteCSEAnnc>* Attributes |
| --- | --- | --- | --- | --- |
| *resourceType* | 1 | RO | See clause 9.6.1.3. | NA |
| *resourceID* | 1 | RO | See clause 9.6.1.3. | NA |
| *resourceName* | 1 | WO | See clause 9.6.1.3. | NA |
| *parentID* | 1 | RO | See clause 9.6.1.3. | NA |
| *creationTime* | 1 | RO | See clause 9.6.1.3. | NA |
| *lastModifiedTime* | 1 | RO | See clause 9.6.1.3. | NA |
| *expirationTime* | 1 | RW | See clause 9.6.1.3. | MA |
| *accessControlPolicyIDs* | 0..1 (L) | RW | See clause 9.6.1.3. | MA |
| *Labels* | 0..1 (L) | RW | See clause 9.6.1.3. | MA |
| *announceTo* | 0..1 (L) | RW | See clause 9.6.1.3. | NA |
| *announcedAttribute* | 0..1 (L) | RW | See clause 9.6.1.3. | NA |
| *dynamicAuthorizationConsultationIDs* | 0..1 (L) | RW | See clause 9.6.1.3. | OA |
| *cseType* | 0..1 | WO | Indicates the type of CSE represented by the created resource.   * Mandatory for an IN-CSE, hence multiplicity (1). * Its presence is subject to SP configuration in case of an ASN-CSE or a MN-CSE. | OA |
| *pointOfAccess* | 0..1 (L) | RW | For request-reachable remote CSE it represents the list of physical addresses to be used to connect to it (e.g. IP address, FQDN).  If this information is not provided and <pollingChannel> resource does exis, the CSE should use *<pollingChannel>* resource. Then the Hosting CSE can forward a request to the CSE without using the PoA. | OA |
| *CSEBase* | 1 | WO | The address of the <*CSEBase>* resource represented by this *<remoteCSE>* resource. | OA |
| *CSE-ID* | 1 | WO | The CSE identifier of the remote CSE represented by this <*remoteCSE*> resource in SP-relative CSE-ID format (clause 7.2). | OA |
| *M2M-Ext-ID* | 0..1 | RW | Supported when Registrar is IN-CSE.  See clause 7.1.8 where this attribute is described. This attribute is used only for the case of dynamic association of M2M-Ext-ID and CSE-ID. | NA |
| *Trigger-Recipient-ID* | 0..1 | RW | Supported when Registrar is IN-CSE. See clause 7.1.10 where this attribute is described. This attribute is used only for the case of dynamic association of M2M‑Ext-ID and CSE-ID. | NA |
| *requestReachability* | 1 | RW | If the CSE that created this *<remoteCSE>* resource can receive a request from other AE/CSE(s), this attribute is set to "TRUE" otherwise "FALSE" (see note) | OA |
| *nodeLink* | 0..1 | RW | The *resource identifier* of a *<node>* resource that stores the node specific information of the node on which the CSE represented by this *<remoteCSE>* resource resides. | OA |
| *e2eSecInfo* | 0..1 | RW | See clause 9.6.1.3. | MA |
| *triggerReferenceNumber* | 0..1 | RW | This is to identify device trigger procedure request. This attribute is used only for device trigger and assigned by the IN-CSE. | NA |
| *descendantCSEs* | 0..1(L) | RW | This attribute contains a list of identifiers of descendent CSEs of the Registree CSE represented by this <remoteCSE> resource. A descendant CSE is a CSE that either registers to the CSE represented by this <remoteCSE>, or registers to another CSE which is a descendant CSE of this <remoteCSE>.  The Registree CSE represented by this <remoteCSE> shall configure this attribute with a list of descendent CSEs upon creation of the <remoteCSE> resource.  The Registree CSE shall update this attribute whenever a new descendent CSE either registers or de-registers. The Registree CSE shall detect when a descendent CSE registers or de-registers by monitoring its <remoteCSE> resources and the descendentCSEs attribute(s) of these <remoteCSE> resources.  For a <remoteCSE> resource representing a Registrar CSE this attribute shall not be set. | OA |
| NOTE: Even if this attribute is set to "FALSE", it does not mean it AE/CSE is always unreachable by all entities. E.g. the requesting AE/CSE is behind the same NAT, so it can communicate within the same NAT. | | | | |

### -----------------------End of change 3-------------------------------------------

### -----------------------Start of change 4-------------------------------------------

#### 10.2.x Schedule Management

#### 10.2.x.1 Introduction

This clause describes the procedures for creation, retrieval, update and deletion of the <*schedule*> resource.

#### 10.2.x.2 Create <*schedule*>

This procedure shall be used for creating an *<schedule>* resource

Table 10.2.2.2-1: *<schedule>* CREATE

| *<schedule>* CREATE | |
| --- | --- |
| Associated Reference Point | Mca, Mcc and Mcc' |
| Information in Request message | All parameters defined in table 8.1.2-3 apply with the specific details for:  ***Content:*** The resource content shall provide the information as defined in clause 9.6.9 |
| Processing at Originator before sending Request | According to clause 10.1.2 |
| Processing at Receiver | According to clause 10.1.2 |
| Information in Response message | According to clause 10.1.2 |
| Processing at Originator after receiving Response | According to clause 10.1.2. |
| Exceptions | According to clause 10.1.2. |

#### 10.2.x.3 Retrieve <*schedule*>

This procedure shall be used for retrieving the representation of the *<schedule>* resource.

Table 10.2.2.3-1: *<schedule>* RETRIEVE

|  |  |
| --- | --- |
| *<schedule>* RETRIEVE | |
| Associated Reference Point | Mca, Mcc and Mcc' |
| Information in Request message | All parameters defined in table 8.1.2-3 |
| Processing at Originator before sending Request | According to clause 10.1.3 |
| Processing at Receiver | According to clause 10.1.3 |
| Information in Response message | All parameters defined in table 8.1.3-1 apply with the specific details for:  ***Content***: attributes of the *<schedule>* resource as defined in clause 9.6.9 |
| Processing at Originator after receiving Response | According to clause 10.1.3 |
| Exceptions | According to clause 10.1.3 |

#### 10.2.x.4 Update <*schedule*>

This procedure shall be used for updating the attributes and the actual data of an *<schedule>* resource.

Table 10.2.2.4-1: *<schedule>* UPDATE

|  |  |
| --- | --- |
| *<schedule>* UPDATE | |
| Associated Reference Point | Mca, Mcc and Mcc' |
| Information in Request message | All parameters defined in table 8.1.2-3 apply with the specific details for:  ***Content*:** attributes of the *<schedule>* resource as defined in clause 9.6.9 which need be updated |
| Processing at Originator before sending Request | According to clause 10.1.4 |
| Processing at Receiver | According to clause 10.1.4 |
| Information in Response message | According to clause 10.1.4 |
| Processing at Originator after receiving Response | According to clause 10.1.4 |
| Exceptions | According to clause 10.1.4 |

#### 10.2.x.5 Delete <*schedule*>

This procedure shall be used for deleting the *<schedule>* resource with all related information.

Table 10.2.2.5-1: *<schedule>* DELETE

|  |  |
| --- | --- |
| *<schedule>* DELETE | |
| Associated Reference Point | Mca, Mcc and Mcc' |
| Information in Request message | All parameters defined in table 8.1.2-3 apply |
| Processing at Originator before sending Request | According to clause 10.1.5 |
| Processing at Receiver | According to clause 10.1.5 |
| Information in Response message | According to clause 10.1.5 |
| Processing at Originator after receiving Response | According to clause 10.1.5 |
| Exceptions | According to clause 10.1.5 |

### -----------------------End of change 4-------------------------------------------

CHECK LIST

* Does this change request include an informative introduction containing the problem(s) being solved, and a summary list of proposals.?
* Does this CR contain changes related to only one particular issue/problem?
* Have any mirror crs been posted?
* Does this change request make **all** the changes necessary to address the issue or problem? 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?
* Does this change request follow the drafting rules?
* Are all pictures editable?
* Have you checked the spelling and grammar?
* Have you used change bars for all modifications?
* Does the change 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 sections need not show surrounding clauses as long as the proposed section number clearly shows where the new section is proposed to be located.)
* Are multiple changes in this CR 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.?