Doc# TST-2016-0166-announce\_deannounce\_test\_purpose

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1. **Introduction**

This contribution document consist of test purposes for announce procedures.

FROM TS-0001

### 10.2.18 Resource Announcement Procedures

#### 10.2.18.1 Procedure for AE and CSE to initiate Creation of an Announced Resource

This clause describes the procedure for an AE or a CSE to initiate the creation of an announced resource.

Figure 10.2.18.1-1 depicts how creation of an announced resource is initiated (clause 10.2.18.1) and how the announced resource is created on an announcement target CSE (clause 10.2.18.4).



**Figure 10.2.18.1-1: Announced resource CREATE procedures**

The Originator of a Request for initiating resource announcement can be either an AE or a CSE. Two methods are supported for initiating the creation of an announced resource.

* CREATE: The Originator can initiate the creation of an announced resource during the creation of the original resource by providing *announceTo* attribute in the CREATE Request.
* UPDATE: The Originator can initiate the creation of an announced resource by using the UPDATE Request to update the *announceTo* attribute at the original resource.

**Table 10.2.18.1-1: Initiate Resource Announcement: UPDATE or CREATE**

| *Initiate Resource Announcement:* CREATE or UPDATE | |
| --- | --- |
| Associated Reference Points | Mca and Mcc. |
| Information in Request message | All parameters defined in table 8.1.2-3 are applicable as indicated in that table. In addition, for the case of the CREATE procedure for a specific resource is described in clause 10.2. The Originator suggests the address(es) or the CSE-ID(s) to which the resource will be announced in the ***Content*** parameter. |
| Processing at the Originator before sending Request | ***Content*:** contains address where the resource needs to be announced (within *announceTo* attribute):   * The Originator provides either the address(es) for the announced resource or the list of CSE-IDs of the remote CSEs where the original resource needs to be announced by including such information within the *announceTo* attribute of the UPDATE or CREATE Request. |
| Processing at the Receiver | Once the Originator has been successfully authorized, the Receiver (which shall be the original resource Hosting CSE) shall grant the Request after successful validation of the Request:   * If the Request provides address(es) for the announced resource that are not already stored in the *announceTo* attribute or for newly created *announceTo* attribute, the Receiver shall announce the resource to the announcement target CSE. * If the Request provides a list of CSE-IDs of the remote CSEs that are not already stored in the *announceTo* attribute or the newly created or updated *announceTo* attribute, the Receiver shall decide the location at the remote CSE(s) identified by CSE-ID(s) and announce the resource to the announcement target CSE.   The original resource Hosting CSE shall first check if the parent resource of the original resource has a representation at the announcement target CSE. If that is the case, the announced resource shall be created as a child resource of that representation of the parent resource. If that is not the case, the original Hosting CSE shall next check if it has announced itself to the announcement target CSE. If that is the case, the announced resource shall be created as a child resource of the original Hosting CSE’s <remoteCSEAnnc> resource. Otherwise, the original Hosting CSE shall first announce itself by creating a <remoteCSEAnnc> resource as a child resource of the <CSEBase> resource of the announcement target CSE. Next, the announced resource shall be created as a child resource of the original Hosting CSE’s <remoteCSEAnnc> resource. |
| Information in Response message | On successful completion of resource announcement as in clause 10.2.18.4, the Receiver shall provide all parameters defined in table 8.1.3-1 that are applicable as indicated in that table in the Response message:   * The Receiver shall provide the address(es) of the announced resource to the Originator by updating the content of the *announceTo* attribute in the original resource and by providing it in the UPDATE or CREATE Response message depending on the type of the Request. |
| Processing at Originator after receiving Response | According to clause 10.1.1.1 in case of CREATE Request.  According to clause 10.1.3 in case of UPDATE Request. |
| Exceptions | All exceptions described in the basic procedures (clause 10.1.1) are applicable. |

#### 10.2.18.2 Procedure at AE or CSE to Retrieve information from an Announced Resource

This clause describes the procedures that shall be use for an AE or a CSE to retrieve information about an announced resource or the corresponding original resource.

Figure 10.2.18.2-1 depicts how the announced resource is retrieved from an announcement target CSE.



**Figure 10.2.18.2-1: Announced resource RETRIEVE procedures**

The Originator of a Request for initiating retrieval of information about a resource can be either an AE or a CSE. The Originator initiates this procedure by using RETRIEVE Request.

**Table 10.2.18.2-1: Announced Resource Information Retrieval: RETRIEVE**

| *Resource Retrieval:* RETRIEVE | |
| --- | --- |
| Associated Reference Points | Mca and Mcc. |
| Information in Request message | Clause 8.1.2 specifies the information to be included in the Request message. Table 8.1.2-3 also describes the parameters that are applicable in the Request message:   * Specifically, the ***To*** parameter is set to the address of the announced resource to be retrieved. * If a specific attribute is to be retrieved, the address of such attribute is included in the ***To*** parameter. * The Originator can specify one of the values for the optional ***Result Content*** parameter. * The Originator can request retrieval of the original resource by targeting the announced resource at the Hosting CSE by setting the ***Result Content*** parameter to the "original-resource". |
| Processing at the Originator before sending Request | The Originator can request retrieval of information from an announced resource at the Hosting CSE. Optionally, the Originator can request retrieval of the original resource by targeting the announced resource at the Hosting CSE by setting the ***Result Content*** parameter to the "original-resource. |
| Processing at the Receiver | Once the Originator has been successfully authorized, the Receiver (Hosting CSE) shall grant the Request after successful validation of the Request:   * Information from the identified announced resource (at Hosting CSE) shall be returned to Originator via RETRIEVE Response, as described in clause 8.1.2. * If ***Result Content*** request message parameter set to "original-resource" is included in the Request message, the Receiver shall provide the representation of the original resource indicated by the *link* attribute in the announced resource. The Receiver shall retrieve the original resource to return the representation of the original resource to the Originator. |
| Information in Response message | Information from the identified announced resource (at Hosting CSE), or the original resource shall be returned to Originator via RETRIEVE Response, as described in clause 8.1.3. |
| Exceptions | All exceptions described in the basic procedure (clause 10.1.2) are applicable. |

#### 10.2.18.3 Procedure for AE and CSE to initiate Deletion of an Announced Resource

This clause describes the procedure that shall be used for an AE or a CSE (not the original resource Hosting CSE) to initiate the deletion of an announced resource.

The Originator of a Request for initiating resource de-announcement can be either an AE or a CSE. Two methods are supported for initiating resource de-announcement.

* UPDATE: The Originator can request to initiate the deletion of an announced resource by using UPDATE Request to the *announceTo* attribute at the original resource Hosting CSE.
* DELETE: Resource de-announcement (deletion) shall also be performed when the Originator deletes the original resource at the original resource Hosting CSE by using DELETE Request.

**Table 10.2.18.3-1: Initiate Resource De-Announcement: UPDATE and DELETE**

| *Initiate Resource De-Announcement:* UPDATE or DELETE | |
| --- | --- |
| Associated Reference Points | Mca and Mcc. |
| Information in Request message | All parameters defined in table 8.1.2-3 are applicable as indicated in that table. |
| Processing at the Originator before sending Request | The Originator shall perform one of the following for the deletion of an announced resource:   * The Originator shall request to update the *announceTo* attribute at the original resource Hosting CSE by providing new content of the *announceTo* attribute which does not include the CSE-IDs of the announcement target CSEs where the announced resource needs to be de-announced (deleted) by the UPDATE operation. * The Originator shall request to delete the *announceTo* attribute at the original resource Hosting CSE by sending UPDATE Request that sets the value of the *announceTo* attribute to NULL for the deletion of all announced resources. * For DELETE operation, the Originator shall include the resource address of the original resource Hosting CSE that needs to be deleted, in the DELETE Request. * ***Content*:** Void. |
| Processing at the Receiver | Once the Originator has been successfully authorized, the Receiver (which shall be the original resource Hosting CSE) shall grant the Request after successful validation of the Request. The Receiver shall be the resource Hosting CSE. On receiving the UPDATE or DELETE Request, the Receiver shall perform as follows:   * For UPDATE Request, the Receiver shall request to delete the announced resource(s) whose address(es) is/are not included in the *announceTo* attribute of the request as per procedures in clause 10.2.18.5. * For DELETE Request, the Receiver shall request to delete all announced resources in the *announceTo* attribute as per procedures in clause 10.2.18.5. |
| Information in Response message | On successful completion of resource de-announcement procedure in clause 10.2.18.5, the Receiver knows that the announced resource has been deleted:   * The Receiver shall provide confirmation of resource de-announcement to the Originator. * The content of the updated *announceTo* attribute shall be provided to the Originator to indicate the successfully deleted announced resource, if the *announceTo* attribute is not deleted by the Originator in the Request message. |
| Exceptions | All exceptions described in the basic procedure (clause 10.1.2) are applicable for UPDATE operation.  All exceptions described in the basic procedure (clause 10.1.4) are applicable for DELETE operation. |

#### 10.2.18.4 Procedure for original resource Hosting CSE to Create an Announced Resource

This clause explains the resource announcement procedure that shall be used by the original resource Hosting CSE to announce the original resource to the remote CSE(s).

See Figure 10.2.18.1-1 for the graphical explanation.

The Originator of this Request shall be the original resource Hosting CSE. The Originator shall request to create the announced resource by using CREATE Request.

**Table 10.2.18.4-1: Resource Hosting CSE to Announce Resource: CREATE**

| *Resource Announcement:* CREATE | |
| --- | --- |
| Associated Reference Points | Mcc. |
| Information in Request message | All parameters defined in table 8.1.2-3 are applicable as indicated in that table.  ***Content*:** contains MA attributes and OA attributes that are included in *announcedAttribute* attribute. |
| Processing at the Originator before sending Request | Other details for the information in the Request message shall be as follows:   * Attributes marked with MA and attributes marked with OA that are included in the *announcedAttribute* attribute at the original resource shall be provided in the CREATE Request. Such attributes shall have the same value as for the original resource. * *resourceType* which shall be set to the appropriate tag that identifies the *<Annc>* resource. * *expirationTime* provided by the Originator equal to the one for the original resource. * The *link* attribute of the announced resource shall have the address of the original resource in SP-relative Resource-ID format or Absolute Resource-ID format. * The *labels* attribute of the announced resource shall have the same value as for the original resource. * The *accessControlPolicyIDs* attribute shall always be provided in the CREATE Request even if it is not present in the original resource. In this case the original resource shall include *accessControlPolicyIDs* from its parent resource or from the local policy at the original resource, as needed. |
| Processing at the Receiver | Once the Originator has been successfully authorized, the Receiver shall grant the Request after successful validation of the Request. The Receiver shall perform as follows:   * The basic procedure (clause 10.1.1) for the Receiver of the CREATE Request apply. * The created announced resource shall include the common attributes specified in clause 9.6.26.1. The created announced resource shall contain the additional attributes that are provided by the Originator; i.e. attributes marked with MA and the attributes marked with OA that are included in the *announcedAttribute* attribute. * The created announced resource shall set the *accessControlPolicyIDs* attribute to the value received in the Request message, and shall set the *labels* attribute (if present) and the *link* attribute to the value received in the Request message. * Respond to the Originator with the CREATE Response. In this Response, the address of the successfully announced resource shall be provided. |
| Information in Response message | All parameters defined in table 8.1.3-1 are applicable as indicated in that table with the specific details for:   * ***Content***: address where the announced resource is created according to clause 10.1.1 |
| Processing at Originator after receiving Response | The Originator after receiving the Response from the Receiver shall perform the following steps:   * If the announced resource has been successfully created, the *announceTo* attribute of the original resource shall be updated to include the address for the successfully announced resource at the Receiver. The *announcedAttribute* attribute shall be updated as well to represent the successfully announced attributes as received in the Response. * For the attributes marked as MA and for the attributes marked as OA that are included in the *announcedAttribute* attribute, the Originator shall further take the responsibility to keep their values synchronized at the announced resource by using UPDATE operation (clause 10.1.3). |
| Exceptions | All exceptions described in the basic procedures (clause 10.1.1) are applicable. |

#### 10.2.18.5 Procedure for original resource Hosting CSE to Delete an Announced Resource

This clause explains the procedure that shall be used for deleting an announced resource (i.e. the resource de-announcement). This procedure shall be used by the original resource Hosting CSE for deleting the announced resource that resides at the remote CSE.

The Originator of this Request shall be the original resource Hosting CSE.

**Table 10.2.18.5-1: Resource Hosting CSE to De-Announce Resource: DELETE**

| *Resource De-Announcement:* DELETE | |
| --- | --- |
| Associated Reference Points | Mcc. |
| Information in Request message | All parameters defined in table 8.1.2-3 are applicable as indicate in that table.  ***From*:** Identifier of the CSE that initiates the Request.  ***To*:** The address where announced resource needs to be deleted. |
| Processing at the Originator before sending Request | The Originator shall request to delete an announced resource by using the DELETE Request.   * ***To:*** Parameter provides an address that identifies the announced resource to be deleted. |
| Processing at the Receiver | If the value of the *From* parameter in Request message is identical with the CSE-ID included in the *link* attribute in the announced resource, the Receiver shall grant the Request after successful validation of the Request:   * Delete the announced resource identified by the ***To*** parameter in the Request, as per basic procedure in clause 10.1.4. * Respond to the Originator with the appropriate DELETE Response, as per basic procedure in clause 10.1.4. |
| Information in Response message | No change from the basic procedure (clause 10.1.4). |
| Processing at Originator after receiving Response | The Originator after receiving the Response from the Receiver shall:   * If the announced resource is successfully deleted, the *announceTo* attribute in the original resource shall be updated to delete the address for the deleted announced resource. |
| Exceptions | All exceptions described in the basic procedures (clause 10.1.4) are applicable. |

#### 10.2.18.6 Procedure for AE and CSE to initiate the Creation of an Announced Attribute

This clause describes the procedure that shall be used for an AE and CSE (not the original resource Hosting CSE) to initiate the creation of an announced attribute (attribute announcement).

The Originator of a Request, for initiating attribute announcement, can be either AE or CSE (not the original resource Hosting CSE).

**Table 10.2.18.6-1: Initiate Creation of Announced Attributes**

| *Initiate Attribute Announcement:* UPDATE | |
| --- | --- |
| Associated Reference Points | Mca and Mcc. |
| Information in Request message | Parameters defined in table 8.1.2-3 that are applicable for UPDATE.  ***Content*** parameter includes the names of the attributes to be announced. |
| Processing at the Originator before sending Request | The Originator shall request attribute announcement by updating the *announcedAttribute* attribute at the original resource:   * The Originator shall update the *announcedAttribute* attribute at the original resource by adding the attribute name for the attribute that needs to be announced by using the UPDATE Request. Only the attributes marked with OA can be announced to remote announced resources. |
| Processing at the Receiver | Once the Originator has been successfully authorized, the Receiver, which shall be the original resource Hosting CSE, shall grant the Request after successful validation of the Request.   * The attributes received in the Request, which are not marked as OA, are invalid. * The attributes received in the Request, which are not present in the original resource structure, are invalid. * If some attributes received in the Request do not already exist in the *announcedAttribute* attribute, the Receiver shall announce such attributes to all announced resources listed in the *announceTo* attribute as per procedures in clause 10.2.18.8.   On successful announcement of attributes as per procedures in clause 10.2.18.8, the Receiver shall perform the following:   * The Receiver shall respond to the Originator (requesting AE/CSE) with UPDATE Response as specified in clause 10.1.3. The content of the announced attributes can be provided in such Response. |
| Information in Response message | Parameters defined in table 8.1.3-1 that are applicable. |
| Exceptions | All exceptions described in the basic procedures (clause 10.1.3) are applicable. |

#### 10.2.18.7 Procedure for AE and CSE to initiate the Deletion of an Announced Attribute

This clause describes the procedure that shall be used for an AE and CSE (not the original resource Hosting CSE) to initiate the deletion of announced attributes (attribute de-announcement).

The Originator of a Request, for initiating attribute de-announcement, can be either AE or CSE (not the original resource Hosting CSE).

**Table 10.2.18.7-1: Initiate Deletion of Announced Attributes**

| *Initiate Attribute De-Announcement:* UPDATE | |
| --- | --- |
| Associated Reference Points | Mca and Mcc. |
| Information in Request message | Parameters defined in table 8.1.2-3 that are applicable for UPDATE.  ***Content*** parameter does not include the names of the attributes to be de‑announced. |
| Processing at the Originator before sending Request | The Originator shall request attribute de-announcement by updating the *announcedAttribute* attribute at the original resource as follows:   * The Originator shall update the *announcedAttribute* attribute at the original resource by deleting the attribute name for the attribute that needs to be de-announced by using the UPDATE Request. Only the attributes marked with OA can be de-announced to remote announced resources. |
| Processing at the Receiver | Once the Originator has been successfully authorized, the Receiver, which shall be the original resource Hosting CSE, shall grant the Request after successful validation of the Request:   * The attributes received in the Request, which are not marked as OA, are invalid. * If some attributes that exist in the *announcedAttribute* attribute are not received in the Request (i.e. attributes that need to be deleted by the UPDATE Request), the Receiver shall de-announce such attributes to all announced resources listed in the *announceTo* attributes as per procedure in clause 10.2.18.9.   On successful de-announcement of all attributes as per procedures in clause 10.2.18.9, the Receiver shall perform the following:   * The Receiver shall respond to the Originator (requesting AE/CSE) with UPDATE Response as specified in clause 10.1.3. The names of the de-announced attributes can be provided in such Response. |
| Information in Response message | Parameters defined in table 8.1.3-1 that are applicable. |
| Exceptions | All exceptions described in the basic procedures (clause 10.1.3) are applicable. |

#### 10.2.18.8 Procedure for original resource Hosting CSE for Announcing Attributes

This clause describes procedure that shall be used by the original resource Hosting CSE to create announced attributes at the remote announced resources (i.e. the attribute announcement).

The Originator of this Request shall be the original resource Hosting CSE.

**Table 10.2.18.8-1: Original Resource Hosting CSE to Announce Attribute: UPDATE**

| *Attribute Announcement:* UPDATE | |
| --- | --- |
| Associated Reference Points | Mcc |
| Information in Request message | Information described for the Originator of the UPDATE Request as in clause 10.1.3.  ***Content:*** Parameter includes the names of the attributes to be announced and their values. |
| Processing at the Originator before sending Request | The Originator shall request to create attributes at the announced resources by using the UPDATE Request as specified in clause 10.1.3. Only parameters marked with OA can be announced. |
| Processing at the Receiver | Once the Originator has been successfully authorized, the Receiver (CSE hosting announced resource) shall grant the Request after successful validation of the Request. The Receiver shall perform as follows:   * Create announced attributes at the announced resource as per procedures in clause 10.1.3. The initial value for the announced attributes shall use the same value as with the original resource. * Respond to the Originator with UPDATE Response as in clause 10.1.3. |
| Information in Response message | Parameters defined in table 8.1.3-1 that are applicable. |
| Processing at Originator after receiving Response | Originator after receiving the Response from the Receiver shall perform the following steps:   * If the announced attributes have been successfully created, the *announcedAttribute* attribute shall be updated to include the attribute names for the successfully announced attributes. * For the newly announced attributes in the *announcedAttribute* attribute, the Originator shall take the responsibility to keep their values synchronized at the announced resources by using UPDATE operation as in clause 10.1.3. |
| Exceptions | All exceptions described in the basic procedures (clause 10.1.3) are applicable. |

#### 10.2.18.9 Procedure for original resource Hosting CSE for De-Announcing Attributes

This clause describes procedure that shall be used by the original resource Hosting CSE to remove announced attributes at remote announced resources (i.e. the attribute de-announcement).

The Originator of this Request shall be the original resource Hosting CSE.

**Table 10.2.18.9-1: Original Resource Hosting CSE to De-Announce Attribute: UPDATE**

| *Attribute De-Announcement:* UPDATE | |
| --- | --- |
| Associated Reference Point | Mcc. |
| Information in Request message | Information described for the Originator of the UPDATE Request as in clause 10.1.3.  ***Content:*** Parameter includes the names of the attributes to be deleted (de-announced) with their values set to NULL. |
| Processing at the Originator before sending Request | The Originator shall request to delete the announced attributes by using the UPDATE Request as specified in clause 10.1.3. Only attributes marked as OA can be de-announced:   * ***Content:*** Parameter in the UPDATE Request shall provide the names of the attributes to be de-announced by setting their values set to NULL. |
| Processing at the Receiver | If the value of the *From* parameter in Request message is identical with the CSE-ID included in the *link* attribute in the announced resource, the Receiver (CSE hosting announced resource) shall grant the Request after successful validation of the Request. The Receiver shall perform as follows:   * Delete the de-announced attributes identified by the ***Content*** parameter in the UPDATE Request as per procedures in clause 10.1.3. * Respond to the Originator with the appropriate UPDATE Response as in clause 10.1.3. |
| Information in Response message | Parameters defined in table 8.1.3-1 that are applicable. |
| Processing at Originator after receiving Response | The Originator after receiving the Response from the Receiver shall perform the following steps:   * If the attributes have been successfully removed, the *announcedAttribute* attribute shall be updated so as to remove the attribute names for the successfully de-announced attributes. |
| Exceptions | All exceptions described in the basic procedures (clause 10.1.3) are applicable. |

#### 10.2.18.10 Procedure for original resource Hosting CSE for Updating Attributes

This clause describes procedure that shall be used by the original resource Hosting CSE to update announced attributes at the remote announced resources.The Originator of this Request shall be the original resource Hosting CSE.

**Table 10.2.18.10-1: Original Resource Hosting CSE to Update Attribute: UPDATE**

| *Attribute Update:* UPDATE | |
| --- | --- |
| Associated Reference Point | Mcc. |
| Information in Request message | Information described for the Originator of the UPDATE Request as in clause 10.1.3.  ***Content:*** Parameter includes the names of the attributes to be updated with their target values. |
| Processing at the Originator before sending Request | The Originator shall request to update the announced attributes by using the UPDATE Request as specified in clause 10.1.3. Attributes marked as MA or OA can be updated:   * ***Content:*** Parameter in the UPDATE Request shall provide the names of the attributes to be updated by setting their target values. |
| Processing at the Receiver | If the value of the *From* parameter in Request message is identical with the CSE-ID included in the *link* attribute in the announced resource, the Receiver (CSE hosting announced resource) shall grant the Request after successful validation of the Request. The Receiver shall perform as follows:   * Update the target attributes identified by the ***Content*** parameter in the UPDATE Request as per procedures in clause 10.1.3. * Respond to the Originator with the appropriate UPDATE Response as in clause 10.1.3. |
| Information in Response message | Parameters defined in table 8.1.3-1 that are applicable. |
| Exceptions | All exceptions described in the basic procedures (clause 10.1.3) are applicable. |

#### 10.2.18.11 Notification Procedure targeting an AE Announced Resource

This clause describes handling of notifications received at an <AEAnnc> resource Hosting CSE.

**Table 10.2.18.11-1: Notification Procedure for AE Announced Resource**

| *Notification Procedure for AE Announced Resource* | |
| --- | --- |
| Associated Reference Point | Mcc |
| Information in Request message | Notification message made according to clause 10.2.12. |
| Processing at the Originator before sending Request | According to clause 10.1.5 |
| Processing at the Receiver | *<AEAnnc>* hosting CSE shall forward received notification message to original resource Hosting CSE targeting original *<AE>* resource when *<AE>* resource is available |
| 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 |

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#### Update the resource

If the Operation Execution Time parameter is given in the request, the Hosting CSE should perform the following procedures at that time and shall not perform the procedures before that time.

Attributes that are not included in the ***Content*** parameter of the addressed resource shall not be changed by the Hosting CSE. For attributes provided in the ***Content*** parameter, their content shall be updated while the following rules apply:

If the *announceTo* attribute or *announcedAttribute* attribute of the resource is requested to be updated, the Hosting CSE shall update the attribute as described in the "announce the resource or attribute" and "de-announce the resource or attribute" procedures as specified in the clause 7.3.1.4 and clause 7.3.1.5, respectively.

**O attribute for update request**

If an attribute value is provided in the ***Content*** parameter and the value is accepted, the server shall use the provided value in the resource representation of the updated resource.

If the attribute is not provided in the ***Content*** parameter, but the attribute exists in the target resource, , the Hosting CSE shall leave the value of that attribute unchanged.

If this attribute is provided in the ***Content*** parameter and does not exist in the target resource, the Hosting CSE shall create such attribute with the provided value.

If this attribute is set to NULL in the ***Content*** parameter and exists in the target resource, the Hosting CSE shall delete such attribute if the deletion of the attribute is allowed by the local policy.

If the ***expirationTime*** attribute is present and modified by the procedure and it is set to a non-negative time, then an expiration timer shall be re-started by the Hosting CSE. At timer expiration the related resource is deleted by "Delete the addressed resource".

**NP attribute for update request**

If the update is successful, the Hosting CSE shall set the *lastModifiedTime* to the current time and the Hosting CSE shall increment the *stateTag* if present.

#### Delete the resource

If the Operation Excution Time is given in the request, the Hosting CSE should perform the following procedures at the time and shall not perform the procedures before the time.

The addressed resource with all its attributes shall be deleted. Any expiration timer shall be stopped. This same procedure shall be invoked (recursively) for each child resource of the deleted resource in case the child resource is only linked to the deleted resource.

The parent resource of the addressed resource shall be updated to remove the reference to the deleted resource. If the parent resource has a ***lastModificationTime*** attribute then this attribute shall be set to the time of the deletion.

If the resource is announced, the CSE shall try to de-announce the resource correspondingly.

#### Notify re-targeting

If the Operation Excution Time is given in the request, the Hosting CSE should perform the following procedures at the time and shall not perform the procedures before the time.

When the Hosting CSE receives a Notify request primitive targeting (i.e., ***To*** parameter) its <AE> resource, the Hosting CSE re-targets the primitive to the AE if the <AE> resource does not have any <pollingChannel> resource as a child.

1. Get ***pointOfAccess*** attribute value of the corresponding <AE> resource. If there is no available pointOfAccess address then the Hosting CSE shall send the Notify response primitive with a ***Response Status Code*** indicating "TARGET\_NOT\_REACHABLE" error.
2. Forward the Notify request primitive to the first address retrieved from pointOfAccess value
3. If the forwarding is failed due to "Target not reachable", iterate 2) with the next address.
4. If the Hosting CSE cannot forward it in the end, then it send the Notify response primitive with a ***Response Status Code*** indicating "TARGET\_NOT\_REACHABLE" error.

#### Announce the resource or attribute

If a CREATE request that contains an *announceTo* attribute is received,

* Compose the CREATE Request primitive as follows:
* The *link* attribute is set to the URI of the original resource.
* If accessControlPolicyIDs attribute of the original resource is not present, accessControlPolicyIDs attribute is set to the same value with the parent resource or from the local policy of the original resource.
* Attributes marked with MA and attributes marked with OA that are included in the *announcedAttribute* attribute. Such attributes shall be present in the original resource and set to same value as the original resource.
* The *resourceType* attribute is set to the announced variant of the original resource corresponding value to the value for the orginal resource (see the table 6.3.4.2.1-1)
* If *announceTo* attribute contains a list of CSE-ID(s) ,
  + Check if the parent resource of the original resource has been announced to the announcement target CSE(s).
    - If yes , announce the original resource by sending a CREATE Request to the CSE(s) specified in the *announceTo* and that targets the announced parent resource.
    - If no, check if the CSE hosting the original resource has registered and created a <remoteCSE> resource to the announcement target CSE(s).
      * If yes , announce the original resource by sending a CREATE Request to the CSE(s) specified in the *announceTo* and that targets the <remoteCSE> of the CSE hosting the original resource.
* If no, then check if the CSE hosting the original resource has been announced to the announcement target CSE(s) and created a <remoteCSEAnnc> resource.
  + - * + If yes, announce the original resource by sending a CREATE Request to the CSE(s) specified in the *announceTo* and that targets the <remoteCSEAnnc> resource
        + If no, then CSE hosting the original resource shall perform the following steps.

Announce itself to the CSE(s) specified in the *announceTo* attribute such that its <remoteCSEAnnc> resource is present at the announcement target CSE(s).

Send a CREATE Request to the CSE(s) specified in the *announceTo* of the request and that target the <remoteCSEAnnc> resource.

* Otherwise, Send a CREATE Request to the CSE(s) represented by exact URI(s) in the *announceTo* of the request.
* Wait for the Response primitive
* Add the URI of successfully announced resource to the *announceTo* attribute of the resource
* Include updated *announceTo* attribute in the ***Content*** parameter in the Response to the received CREATE Request.

If UPDATE request that adds the URI or CSE-ID into the *announceTo* attribute is received,

* Compose the CREATE Request primitive as follows:
* Link is set to the URI of the original resource.
* If accessControlPolicyIDs of the original resource is not present, accessControlPolicyIDs is set to the same value with the parent resource or from the local policy of the original resource.
* Attributes marked with MA and attributes marked with OA that are included in the *announcedAttribute* attribute. Such attributes shall be present in the original resource and set to same value as the original resource.
* If *announceTo* attribute contains a list of CSE-ID(s) ,
  + Check if the parent resource of the original resource has been announced to the announcement target CSE(s).
    - If yes , announce the original resource by sending a CREATE Request to the CSE(s) specified in the *announceTo* and that targets the announced parent resource.
    - If no, check if the CSE hosting the original resource has registered and created a <remoteCSE> resource to the announcement target CSE(s).
      * If yes , announce the original resource by sending a CREATE Request to the CSE(s) specified in the *announceTo* and that targets the <remoteCSE> of the CSE hosting the original resource.
* If no, then check if the CSE hosting the original resource has been announced to the announcement target CSE(s) and created a <remoteCSEAnnc> resource.
  + - * + If yes, announce the original resource by sending a CREATE Request to the CSE(s) specified in the *announceTo* and that targets the <remoteCSEAnnc> resource
        + If no, then CSE hosting the original resource shall perform the following steps.

Announce itself to the CSE(s) specified in the *announceTo* attribute such that its <remoteCSEAnnc> resource is present at the announcement target CSE(s).

Send a CREATE Request to the CSE(s) specified in the *announceTo* of the request and that target the <remoteCSEAnnc> resource.

* Otherwise, Send a CREATE Request to the CSE(s) represented by exact URI(s) in the announceTo of the request.
* Wait for Response primitive
* Add the URI of successfully announced resource to the *announceTo* attribute of the resource
* Include updated *announceTo* attribute in the ***Content*** parameter in the Response to the received UPDATE Request.

If UPDATE request that adds the attribute name into the *announcedAttribute* attribute is received,

* Compose the UPDATE Request. The UPDATE Request shall provide the attribute name for the attribute to be announced, and the initial value for the attribute in the ***Content*** parameter. The initial value shall be the same with the value from the original resource. The attribute that will be announced shall be marked as OA.
* Send UPDATE Requests to all announced resources listed in the *announceTo* attribute.
* Wait for Response primitive.
* Add the attribute name of the successfully announced attribute to the *announcedAttribute* attribute.
* Include updated *announcedAttribute* attribute in the ***Content*** parameter in the Response to the received UPDATE Request.

If an attribute(s) specified as MA (See TS-0001 [**Error! Reference source not found.**]) or an attribute(s) included in the *announcedAttribute* attribute is updated:

* Compose an UPDATE Request primitive by including the updated attribute(s) with its associated updated value.
* Send the UPDATE Request to all CSE(s) represented by the URI(s) in the *announceTo* attribute of the original resource.

If an attribute(s) specified as MA (See TS-0001 [**Error! Reference source not found.**]) or an attribute(s) included in the *announcedAttribute* attribute is deleted:

* Compose an UPDATE Request primitive by including the updated attribute(s) with its value set to NULL.
* Send the UPDATE Request to all CSE(s) represented by the URI(s) in the *announceTo* attribute of the original resource.

#### De-announce the resource or attribute

If UPDATE Request that deletes the URI from the *announceTo* attribute is received:

* Compose the DELETE Request primitive.
* Send a DELETE Request to the CSE(s) represented by URI(s) in the *announceTo* attribute of the resource, which is not included in the announceTo of the request. The ***To*** parameter in the DELETE Request shall be set to the URI for the announced resource that will be deleted.
* Wait for Response primitive.
* Remove the URI of successfully de-announced resource from the *announceTo* attribute of the resource.
* Include updated *announceTo* attribute in the ***Content*** parameter in the Response to the UPDATE Request of the original resource.

If DELETE Request is received:

* Compose the DELETE Request primitive.
* Send DELETE Requests to all announced resources addressed by the URI(s) in the *announceTo* attribute of the resource.
* Wait for Response primitive.

If UPDATE request that deletes the attribute name from the *announcedAttribute* attribute is received:

* Compose the UPDATE Request primitive. The ***To*** parameter in the UPDATE Request shall be set to the URI for the announced resource. The UPDATE Request shall set the attribute that will be de-announced (i.e. to be deleted) in the ***Content*** parameter to NULL. The attribute that will be de-announced shall be marked as OA.
* Send UPDATE Requests to all announced resources listed in the *announceTo* attribute of the original resource.
* Wait for Response primitive.
* Delete the attribute name of the successfully de-announced attribute from the *announcedAttribute* attribute.
* Include updated *announcedAttribute* attribute in the ***Content*** parameter in the Response to the received UPDATE Request.

TP/oneM2M/CSE/ANNC/BV/001

================Start of Test Purposes – Announce/De-Announce =================

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| **TP Id** | | TP/oneM2M/CSE/GFOP/BV/001 | |
| **Test objective** | | Check that the <group> resource access control policy is used in case members membersAccessControlPolicyID’s is not provided | |
| **Reference** | | TS-0001 10.2.7.7 | |
| **Config Id** | | CF01 | |
| **PICS Selection** | | PICS\_CSE | |
| **Initial conditions** | **with {**  the IUT **being** in the "initial state"  **and** the IUT **having registered** the AE  **and** the IUT **having** a resource at TARGET\_RESOURCE\_ADDRESS**allowing**  a child resource type <group>  **and** the AE **having** privileges to perform CREATE operation on the TARGET\_RESOURCE\_ADDRESS  **and** the IUT **having** a resource at MEMBER\_RESOURCE\_ADDRESS  **}** | | |
| **Expected behaviour** | **Test events** | | **Direction** |
| **when {**  the IUT **receives** an valid CREATE request **from** AE **containing**  To **set to** TARGET\_RESOURCE\_ADDRESS**and**  Resource Type **set to** *<group>*  **and**  From **set to** AE-ID **and**  Content **set to** *<group>* resource **containing**  memberIDs attribute **set to** MEMBER\_RESOURCE\_ADDRESS  **}** | | IUT 🡨 AE |
| **then {**  the IUT **sends** a Response message **containing**  Response Status Code **set** 2001 (CREATED)  Content **set to** *<group>* resource **containing**  memberIDs attribute **set to**  MEMBER\_RESOURCE\_ADDRESS  **and**  <acpi>group Resource access control policy ID</acpi> for each member  **}** | | IUT 🡪 AE |

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| **TP Id** | | TP/oneM2M/CSE/GFOP/BV/002 | |
| **Test objective** | | Check that the membersAccessControlPolicyID’s are used in case members membersAccessControlPolicyID’s are provided | |
| **Reference** | | TS-0001 10.2.7.7 | |
| **Config Id** | | CF01 | |
| **PICS Selection** | | PICS\_CSE | |
| **Initial conditions** | **with {**  the IUT **being** in the "initial state"  **and** the IUT **having registered** the AE  **and** the IUT **having** a resource at TARGET\_RESOURCE\_ADDRESS**allowing**  a child resource type <group>  **and** the AE **having** privileges to perform CREATE operation on the TARGET\_RESOURCE\_ADDRESS  **and** the IUT **having** a resource at MEMBER\_RESOURCE\_ADDRESS  **}** | | |
| **Expected behaviour** | **Test events** | | **Direction** |
| **when {**  the IUT **receives** an valid CREATE request **from** AE **containing**  To **set to** TARGET\_RESOURCE\_ADDRESS**and**  Resource Type **set to** *<group>*  **and**  From **set to** AE-ID **and**  Content **set to** *<group>* resource **containing**  memberIDs attribute **set to** MEMBER\_RESOURCE\_ADDRESS  **}** | | IUT 🡨 AE |
| **then {**  the IUT **sends** a Response message **containing**  Response Status Code **set** 2001 (CREATED)  Content **set to** *<group>* resource **containing**  memberIDs attribute **set to**  MEMBER\_RESOURCE\_ADDRESS  **and**  <acpi>members access control policy ID</acpi> for each member  **}** | | IUT 🡪 AE |

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| **TP Id** | | TP/oneM2M/CSE/GFOP/BV/003 | |
| **Test objective** | | Check that ID’s of all the members resources should obtained from the attribute memberIDs of the addressed <group> resource | |
| **Reference** | | TS-0001 10.2.7.7 | |
| **Config Id** | | CF01 | |
| **PICS Selection** | | PICS\_CSE | |
| **Initial conditions** | **with {**  the IUT **being** in the "initial state"  **and** the IUT **having registered** the AE  **and** the IUT **having** a resource at TARGET\_RESOURCE\_ADDRESS**allowing**  a child resource type <group>  **and** the AE **having** privileges to perform CREATE operation on the TARGET\_RESOURCE\_ADDRESS  **and** the IUT **having** a resource at MEMBER\_RESOURCE\_ADDRESS  **}** | | |
| **Expected behaviour** | **Test events** | | **Direction** |
| **when {**  the IUT **receives** an valid CREATE request **from** AE **containing**  To **set to** TARGET\_RESOURCE\_ADDRESS**and**  Resource Type **set to** *<group>*  **and**  From **set to** AE-ID **and**  Content **set to** *<group>* resource **containing**  memberIDs attribute **set to** MEMBER\_RESOURCE\_ADDRESS1  MEMBER\_RESOURCE\_ADDRESS2  MEMBER\_RESOURCE\_ADDRESS3  **}** | | IUT 🡨 AE |
| **then {**  the IUT **sends** a Response message **containing**  Response Status Code **set** 2001 (CREATED)  Content **set to** *<group>* resource **containing**  memberIDs attribute **set to**  <m2m:Agr>  <m2m:primcon> rn="MEMBER\_RESOURCE\_ADDRESS1”  </m2m:primcon>  <m2m:primcon> rn="MEMBER\_RESOURCE\_ADDRESS2”  </m2m:primcon>  <m2m:primcon> rn="MEMBER\_RESOURCE\_ADDRESS3”  </m2m:primcon>  </m2m:Agr>  **}** | | IUT 🡪 AE |

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| **TP Id** | TP/oneM2M/CSE/GFOP/BV/004 | |
| **Test objective** | Check that group fanoutpoint created successfully with aggregated results and the associated members list | |
| **Reference** | TS-0001 10.2.7.7 | |
| **Config Id** | CF01 | |
| **PICS Selection** | PICS\_CSE | |
| **Initial conditions** | **with {**  the IUT **being** in the "initial state"  **and** the IUT **having registered** the AE  **and** the IUT **having** a resource at TARGET\_RESOURCE\_ADDRESS**allowing**  a child resource type <group>  **and**  *group is created containing 2 members of type <container>*  **}** | |
| **Expected behaviour** | **Test events** | **Direction** |
| **when {**  the IUT **receives** an valid CREATE fanout request **from** AE to create <fanoutpoint> in each group member with no group request identifier  **}** | IUT  AE |
| **then {**  the IUT **sends** a Response message **containing**  the aggregrate response includes responses from each member of the group  Response Status Code **set** 201 (CREATED)  <m2m:rsp> </m2m:rsp> for each resource  **}** | IUT AE |

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| **TP Id** | TP/oneM2M/CSE/GFOP/BV/005 | |
| **Test objective** | Check that for fanoutpoint request a unique group request identifier should be generated in case it is not present already | |
| **Reference** | TS-0001 10.2.7.7 | |
| **Config Id** | CF01 | |
| **PICS Selection** | PICS\_CSE | |
| **Initial conditions** | **with {**  the IUT **being** in the "initial state"  **and** the IUT **having registered** the AE  **and** the IUT **having** a resource at TARGET\_RESOURCE\_ADDRESS**allowing**  a child resource type <group>  **and**  *group is created containing 2 members resources of any type e.g. <container>*  **}** | |
| **Expected behaviour** | **Test events** | **Direction** |
| **when {**  the IUT **receives** an valid CREATE fanout request **from** AE to create <fanoutpoint> in each group member with no group request identifier  **}** | IUT  AE |
| **then {**  the IUT **sends** a Response message **containing**  the aggregrate response includes responses from each member of the group  Response Status Code **set** 201 (CREATED)  <m2m:rsp> <ri>grp\_request\_identifier001</ri></m2m:rsp> for each container  **}** | IUT AE |

=================== End of CREATE operation - Test Purposes ==================

===================Start of RETRIEVE operation - Test Purposes=================

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| **TP Id** | | TP/oneM2M/CSE/GFOP/BV/006 | |
| **Test objective** | | Check that the <group> resource access control policy is used (having the retrieve permissions) in case members membersAccessControlPolicyID’s is not provided | |
| **Reference** | | TS-0001 10.2.7.8 | |
| **Config Id** | | CF01 | |
| **PICS Selection** | | PICS\_CSE | |
| **Initial conditions** | **with {**  the IUT **being** in the "initial state"  **and** the IUT **having registered** the AE    **}** | | |
| **Expected behaviour** | **Test events** | | **Direction** |
| **when {**  the IUT **receives** an valid Retrieve ‘latest’request **from** AE to the fanoutPoint of <group> resource    **}** | | IUT 🡨 AE |
| **then {**  the IUT **sends** a Response message **containing**  the aggregrate response includes responses from each member of the group  Response Status Code **set** 200 (CONTENT)  <m2m:rsp> </m2m:rsp> for each container  **and**  <acpi>group Resource access control policy ID</acpi> for each member  **}** | | IUT 🡪 AE |

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| **TP Id** | | TP/oneM2M/CSE/GFOP/BV/007 | |
| **Test objective** | | Check that the individual membersAccessContromPolicy is being used (having the retrieve permissions) in case members membersAccessControlPolicyID’s is provided | |
| **Reference** | | TS-0001 10.2.7.8 | |
| **Config Id** | | CF01 | |
| **PICS Selection** | | PICS\_CSE | |
| **Initial conditions** | **with {**  the IUT **being** in the "initial state"  **and** the IUT **having registered** the AE    **}** | | |
| **Expected behaviour** | **Test events** | | **Direction** |
| **when {**  the IUT **receives** an valid Retrieve ‘latest’request **from** AE to the fanoutPoint of <group> resource    **}** | | IUT 🡨 AE |
| **then {**  the IUT **sends** a Response message **containing**  the aggregrate response includes responses from each member of the group  Response Status Code **set** 200 (CONTENT)  <m2m:rsp> </m2m:rsp> for each container  **and**  <acpi>individual members control policy ID</acpi> for each member  **}** | | IUT 🡪 AE |

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| **TP Id** | | TP/oneM2M/CSE/GFOP/BV/008 | |
| **Test objective** | | Check that ID’s of all the members resources should obtained from the attribute memberIDs of the addressed <group> resource during retrieval process of group fanoutpoint | |
| **Reference** | | TS-0001 10.2.7.8 | |
| **Config Id** | | CF01 | |
| **PICS Selection** | | PICS\_CSE | |
| **Initial conditions** | **with {**  the IUT **being** in the "initial state"  **and** the IUT **having registered** the AE    **}** | | |
| **Expected behaviour** | **Test events** | | **Direction** |
| **when {**  the IUT **receives** an valid Retrieve ‘latest’request **from** AE to the fanoutPoint of <group> resource    **}** | | IUT 🡨 AE |
| **then {**  the IUT **sends** a Response message **containing**  the aggregrate response includes responses from each member of the group  Response Status Code **set** 200 (CONTENT)  <m2m:rsp> </m2m:rsp> for each container  **and**  memberIDs attribute **set to**  <m2m:Agr>  <m2m:primcon> rn="MEMBER\_RESOURCE\_ADDRESS1”  </m2m:primcon>  <m2m:primcon> rn="MEMBER\_RESOURCE\_ADDRESS2”  </m2m:primcon>  <m2m:primcon> rn="MEMBER\_RESOURCE\_ADDRESS3”  </m2m:primcon>  </m2m:Agr>  **}** | | IUT 🡪 AE |

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| **TP Id** | | TP/oneM2M/CSE/GFOP/BV/009 | |
| **Test objective** | | Check that for fanoutpoint request a unique group request identifier should be generated in case it is not present already for retrieving group fanoutpoint | |
| **Reference** | | TS-0001 10.2.7.8 | |
| **Config Id** | | CF01 | |
| **PICS Selection** | | PICS\_CSE | |
| **Initial conditions** | **with {**  the IUT **being** in the "initial state"  **and** the IUT **having registered** the AE    **}** | | |
| **Expected behaviour** | **Test events** | | **Direction** |
| **when {**  the IUT **receives** an valid Retrieve ‘latest’request **from** AE to the fanoutPoint of <group> resource    **}** | | IUT 🡨 AE |
| **then {**  the IUT **sends** a Response message **containing**  the aggregrate response includes responses from each member of the group  Response Status Code **set** 200 (CONTENT)  <m2m:rsp> </m2m:rsp> for each resource  **and**  <m2m:rsp> <ri>grp\_request\_identifier001</ri></m2m:rsp> for each resource  **}** | | IUT 🡪 AE |

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| **TP Id** | | TP/oneM2M/CSE/GFOP/BV/010 | |
| **Test objective** | | Check that group fanoutpoint retrieved successfully with aggregated results and the associated members list | |
| **Reference** | | TS-0001 10.2.7.8 | |
| **Config Id** | | CF01 | |
| **PICS Selection** | | PICS\_CSE | |
| **Initial conditions** | **with {**  the IUT **being** in the "initial state"  **and** the IUT **having registered** the AE    **}** | | |
| **Expected behaviour** | **Test events** | | **Direction** |
| **when {**  the IUT **receives** an valid Retrieve ‘latest’request **from** AE to the fanoutPoint of <group> resource    **}** | | IUT 🡨 AE |
| **then {**  the IUT **sends** a Response message **containing**  the aggregrate response includes responses from each member of the group  Response Status Code **set** 200 (CONTENT)  <m2m:rsp> </m2m:rsp> for each container  **}** | | IUT 🡪 AE |

===================End of RETRIEVE operation - Test Purposes=================

===================Start of UPDATE operation - Test Purposes=================

|  |  |  |  |
| --- | --- | --- | --- |
| **TP Id** | | TP/oneM2M/CSE/GFOP/BV/011 | |
| **Test objective** | | Check that if originator does not have the UPDATE permission then access control policy defined at group should be used | |
| **Reference** | | TS-0001 10.2.7.9 | |
| **Config Id** | | CF01 | |
| **PICS Selection** | | PICS\_CSE | |
| **Initial conditions** | **with {**  the IUT **being** in the "initial state"  **and** the IUT **having registered** the AE    **}** | | |
| **Expected behaviour** | **Test events** | | **Direction** |
| **when {**  the IUT **receives** an valid Update ‘request **from** AE to the fanoutPoint of <group> resource    **}** | | IUT 🡨 AE |
| **then {**  the IUT **sends** a Response message **containing**  the aggregrate response includes responses from each member of the group  Response Status Code **set** 200 (CHANGED)  <m2m:rsp> </m2m:rsp> for each RESOURCE  **and**  <acpi>group Resource access control policy ID’s</acpi> for each member  **}** | | IUT 🡪 AE |

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| --- | --- | --- | --- |
| **TP Id** | | TP/oneM2M/CSE/GFOP/BV/012 | |
| **Test objective** | | Check that if originator have the individual UPDATE permission then access control policy for the originator should be used | |
| **Reference** | | TS-0001 10.2.7.9 | |
| **Config Id** | | CF01 | |
| **PICS Selection** | | PICS\_CSE | |
| **Initial conditions** | **with {**  the IUT **being** in the "initial state"  **and** the IUT **having registered** the AE    **}** | | |
| **Expected behaviour** | **Test events** | | **Direction** |
| **when {**  the IUT **receives** an valid Update ‘request **from** AE to the fanoutPoint of <group> resource    **}** | | IUT 🡨 AE |
| **then {**  the IUT **sends** a Response message **containing**  the aggregrate response includes responses from each member of the group  Response Status Code **set** 200 (CHANGED)  <m2m:rsp> </m2m:rsp> for each RESOURCE  **and**  <acpi>originator individual access control policy ID’s</acpi> for each member  **}** | | IUT 🡪 AE |

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| --- | --- | --- | --- |
| **TP Id** | | TP/oneM2M/CSE/GFOP/BV/013 | |
| **Test objective** | | Check that ID’s of all the members resources should obtained from the attribute memberIDs of the addressed <group> resource during update request of group fanoutpoint | |
| **Reference** | | TS-0001 10.2.7.9 | |
| **Config Id** | | CF01 | |
| **PICS Selection** | | PICS\_CSE | |
| **Initial conditions** | **with {**  the IUT **being** in the "initial state"  **and** the IUT **having registered** the AE    **}** | | |
| **Expected behaviour** | **Test events** | | **Direction** |
| **when {**  the IUT **receives** an valid update request **from** AE to the fanoutPoint of <group> resource    **}** | | IUT 🡨 AE |
| **then {**  the IUT **sends** a Response message **containing**  the aggregrate response includes responses from each member of the group  Response Status Code **set** 200 (CHANGED)  <m2m:rsp> </m2m:rsp> for each resource  **and**  memberIDs attribute **set to**  <m2m:Agr>  <m2m:primcon> rn="MEMBER\_RESOURCE\_ADDRESS1”  </m2m:primcon>  <m2m:primcon> rn="MEMBER\_RESOURCE\_ADDRESS2”  </m2m:primcon>  <m2m:primcon> rn="MEMBER\_RESOURCE\_ADDRESS3”  </m2m:primcon>  </m2m:Agr>  **}** | | IUT 🡪 AE |

|  |  |  |  |
| --- | --- | --- | --- |
| **TP Id** | | TP/oneM2M/CSE/GFOP/BV/014 | |
| **Test objective** | | Check that for fanoutpoint request a unique group request identifier should be generated in case it is not present already for updating group fanoutpoint | |
| **Reference** | | TS-0001 10.2.7.9 | |
| **Config Id** | | CF01 | |
| **PICS Selection** | | PICS\_CSE | |
| **Initial conditions** | **with {**  the IUT **being** in the "initial state"  **and** the IUT **having registered** the AE    **}** | | |
| **Expected behaviour** | **Test events** | | **Direction** |
| **when {**  the IUT **receives** an valid UPDATE request **from** AE to the fanoutPoint of <group> resource    **}** | | IUT 🡨 AE |
| **then {**  the IUT **sends** a Response message **containing**  the aggregrate response includes responses from each member of the group  Response Status Code **set** 200 (CHANGED)  <m2m:rsp> </m2m:rsp> for each resource  **and**  <m2m:rsp> <ri>grp\_request\_identifier001</ri></m2m:rsp> for each resource  **}** | | IUT 🡪 AE |

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| **TP Id** | | TP/oneM2M/CSE/GFOP/BV/015 | |
| **Test objective** | | Check that group fanoutpoint retrieved successfully with aggregated results and the associated members list for update request | |
| **Reference** | | TS-0001 10.2.7.9 | |
| **Config Id** | | CF01 | |
| **PICS Selection** | | PICS\_CSE | |
| **Initial conditions** | **with {**  the IUT **being** in the "initial state"  **and** the IUT **having registered** the AE    **}** | | |
| **Expected behaviour** | **Test events** | | **Direction** |
| **when {**  the IUT **receives** an valid UPDATE request **from** AE to the fanoutPoint of <group> resource    **}** | | IUT 🡨 AE |
| **then {**  the IUT **sends** a Response message **containing**  the aggregrate response includes responses from each member of the group  Response Status Code **set** 200 (CHANGED)  <m2m:rsp> </m2m:rsp> for each container  **}** | | IUT 🡪 AE |

===================End of UPDATE operation - Test Purposes==================

===================Start of DELETE operation - Test Purposes=================

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| --- | --- | --- | --- |
| **TP Id** | | TP/oneM2M/CSE/GFOP/BV/016 | |
| **Test objective** | | Check that if originator does not have the DELETE permission then access control policy defined at group should be used | |
| **Reference** | | TS-0001 10.2.7.10 | |
| **Config Id** | | CF01 | |
| **PICS Selection** | | PICS\_CSE | |
| **Initial conditions** | **with {**  the IUT **being** in the "initial state"  **and** the IUT **having registered** the AE    **}** | | |
| **Expected behaviour** | **Test events** | | **Direction** |
| **when {**  the IUT **receives** an valid DELETE ‘request **from** AE to the fanoutPoint of <group> resource    **}** | | IUT 🡨 AE |
| **then {**  the IUT **sends** a Response message **containing**  the aggregrate response includes responses from each member of the group  Response Status Code **set** 200 (DELETED)  <m2m:rsp> </m2m:rsp> for each RESOURCE  **and**  <acpi>group Resource access control policy ID’s</acpi> for each member  **}** | | IUT 🡪 AE |

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| **TP Id** | | TP/oneM2M/CSE/GFOP/BV/017 | |
| **Test objective** | | Check that if originator have the individual DELETE permission then access control policy for the originator should be used | |
| **Reference** | | TS-0001 10.2.7.10 | |
| **Config Id** | | CF01 | |
| **PICS Selection** | | PICS\_CSE | |
| **Initial conditions** | **with {**  the IUT **being** in the "initial state"  **and** the IUT **having registered** the AE    **}** | | |
| **Expected behaviour** | **Test events** | | **Direction** |
| **when {**  the IUT **receives** an valid DELETE ‘request **from** AE to the fanoutPoint of <group> resource    **}** | | IUT 🡨 AE |
| **then {**  the IUT **sends** a Response message **containing**  the aggregrate response includes responses from each member of the group  Response Status Code **set** 200 (DELETED)  <m2m:rsp> </m2m:rsp> for each RESOURCE  **and**  <acpi>originator individual access control policy ID’s</acpi> for each member  **}** | | IUT 🡪 AE |

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| **TP Id** | | TP/oneM2M/CSE/GFOP/BV/018 | |
| **Test objective** | | Check that ID’s of all the members resources should obtained from the attribute memberIDs of the addressed <group> resource during DELETE request of group fanoutpoint | |
| **Reference** | | TS-0001 10.2.7.10 | |
| **Config Id** | | CF01 | |
| **PICS Selection** | | PICS\_CSE | |
| **Initial conditions** | **with {**  the IUT **being** in the "initial state"  **and** the IUT **having registered** the AE    **}** | | |
| **Expected behaviour** | **Test events** | | **Direction** |
| **when {**  the IUT **receives** an valid DELETE request **from** AE to the fanoutPoint of <group> resource    **}** | | IUT 🡨 AE |
| **then {**  the IUT **sends** a Response message **containing**  the aggregrate response includes responses from each member of the group  Response Status Code **set** 200 (DELETED)  <m2m:rsp> </m2m:rsp> for each resource  **and**  memberIDs attribute **set to**  <m2m:Agr>  <m2m:primcon> rn="MEMBER\_RESOURCE\_ADDRESS1”  </m2m:primcon>  <m2m:primcon> rn="MEMBER\_RESOURCE\_ADDRESS2”  </m2m:primcon>  <m2m:primcon> rn="MEMBER\_RESOURCE\_ADDRESS3”  </m2m:primcon>  </m2m:Agr>  **}** | | IUT 🡪 AE |

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| **TP Id** | | TP/oneM2M/CSE/GFOP/BV/019 | |
| **Test objective** | | Check that for fanoutpoint request a unique group request identifier should be generated in case it is not present already for Deleting group fanOutPoint | |
| **Reference** | | TS-0001 10.2.7.10 | |
| **Config Id** | | CF01 | |
| **PICS Selection** | | PICS\_CSE | |
| **Initial conditions** | **with {**  the IUT **being** in the "initial state"  **and** the IUT **having registered** the AE    **}** | | |
| **Expected behaviour** | **Test events** | | **Direction** |
| **when {**  the IUT **receives** an valid DELETE request **from** AE to the fanoutPoint of <group> resource    **}** | | IUT 🡨 AE |
| **then {**  the IUT **sends** a Response message **containing**  the aggregrate response includes responses from each member of the group  Response Status Code **set** 200 (DELETED)  <m2m:rsp> </m2m:rsp> for each resource  **and**  <m2m:rsp> <ri>grp\_request\_identifier001</ri></m2m:rsp> for each resource  **}** | | IUT 🡪 AE |

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| **TP Id** | | TP/oneM2M/CSE/GFOP/BV/020 | |
| **Test objective** | | Check that group fanoutpoint retrieved successfully with aggregated results and the associated members list for DELETE request | |
| **Reference** | | TS-0001 10.2.7.10 | |
| **Config Id** | | CF01 | |
| **PICS Selection** | | PICS\_CSE | |
| **Initial conditions** | **with {**  the IUT **being** in the "initial state"  **and** the IUT **having registered** the AE    **}** | | |
| **Expected behaviour** | **Test events** | | **Direction** |
| **when {**  the IUT **receives** an valid DELETE request **from** AE to the fanoutPoint of <group> resource    **}** | | IUT 🡨 AE |
| **then {**  the IUT **sends** a Response message **containing**  the aggregate response includes responses from each member of the group  Response Status Code **set** 200 (DELETED)  <m2m:rsp> </m2m:rsp> for each container  **}** | | IUT 🡪 AE |

===================End of DELETE operation - Test Purposes=================

===============Start of Subscribe/Un-subscribe operation – Test Purposes============

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| **TP Id** | | TP/oneM2M/CSE/GFOP/BV/021 | |
| **Test objective** | | Check that the IUT Rejects in case originator does not have the permission for subscription | |
| **Reference** | | TS-0001 10.2.7.11 | |
| **Config Id** | | CF01 | |
| **PICS Selection** | | PICS\_CSE | |
| **Initial conditions** | **with {**  the IUT **being** in the "initial state"  **and** the IUT **having registered** the AE  **and** the IUT **having** a resource at TARGET\_RESOURCE\_ADDRESS**allowing**  a child resource type <group>  **and** the AE **having** privileges to perform CREATE operation on the TARGET\_RESOURCE\_ADDRESS  **and** the IUT **having** a resource at MEMBER\_RESOURCE\_ADDRESS  **}** | | |
| **Expected behaviour** | **Test events** | | **Direction** |
| **when {**  the IUT **receives** an valid CREATE request **from** AE **containing**  To **set to** TARGET\_RESOURCE\_ADDRESS**and**  Resource Type **set to** *<group>*  **and**  From **set to** AE-ID **and**  Content **set to** *<group>* resource **containing**  memberIDs attribute **set to** MEMBER\_RESOURCE\_ADDRESS  **}** | | IUT 🡨 AE |
| **then {**  the IUT **sends** a Response message **containing**  Response Status Code **set** 4001 (REJECTED)    **}** | | IUT 🡪 AE |

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| **TP Id** | | TP/oneM2M/CSE/GFOP/BV/022 | |
| **Test objective** | | Check that the IUT allows the subscription creation in case originator have the permission for subscription creation | |
| **Reference** | | TS-0001 10.2.7.11 | |
| **Config Id** | | CF01 | |
| **PICS Selection** | | PICS\_CSE | |
| **Initial conditions** | **with {**  the IUT **being** in the "initial state"  **and** the IUT **having registered** the AE  **and** the IUT **having** a resource at TARGET\_RESOURCE\_ADDRESS**allowing**  a child resource type <group>  **and** the AE **having** privileges to perform CREATE operation on the TARGET\_RESOURCE\_ADDRESS  **and** the IUT **having** a resource at MEMBER\_RESOURCE\_ADDRESS  **}** | | |
| **Expected behaviour** | **Test events** | | **Direction** |
| **when {**  the IUT **receives** an valid CREATE request **from** AE **containing**  To **set to** TARGET\_RESOURCE\_ADDRESS**and**  Resource Type **set to** *<group>*  **and**  From **set to** AE-ID **and**  Content **set to** *<group>* resource **containing**  memberIDs attribute **set to** MEMBER\_RESOURCE\_ADDRESS  **}** | | IUT 🡨 AE |
| **then {**  the IUT **sends** a Response message **containing**  Response Status Code **set** 2001 (CREATED)    **}** | | IUT 🡪 AE |

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| **TP Id** | | TP/oneM2M/CSE/GFOP/BV/023 | |
| **Test objective** | | Check that the IUT uses *membersAccessControlPolicyID’s if defined for individual resources* | |
| **Reference** | | TS-0001 10.2.7.11 | |
| **Config Id** | | CF01 | |
| **PICS Selection** | | PICS\_CSE | |
| **Initial conditions** | **with {**  the IUT **being** in the "initial state"  **and** the IUT **having registered** the AE  **and** the IUT **having** a resource at TARGET\_RESOURCE\_ADDRESS**allowing**  a child resource type <group>  **and** the AE **having** privileges to perform CREATE operation on the TARGET\_RESOURCE\_ADDRESS  **and** the IUT **having** a resource at MEMBER\_RESOURCE\_ADDRESS  **}** | | |
| **Expected behaviour** | **Test events** | | **Direction** |
| **when {**  the IUT **receives** an valid CREATE request **from** AE **containing**  To **set to** TARGET\_RESOURCE\_ADDRESS**and**  Resource Type **set to** *<group>*  **and**  From **set to** AE-ID **and**  Content **set to** *<group>* resource **containing**  memberIDs attribute **set to** MEMBER\_RESOURCE\_ADDRESS  **}** | | IUT 🡨 AE |
| **then {**  the IUT **sends** a Response message **containing**  Response Status Code **set** 2001 (CREATED) **and**  <acpi>originator individual access control policy ID’s</acpi> for each member    **}** | | IUT 🡪 AE |

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| **TP Id** | | TP/oneM2M/CSE/GFOP/BV/024 | |
| **Test objective** | | Check that the IUT uses group access control policy if individual *membersAccessControlPolicyID’s not defined* | |
| **Reference** | | TS-0001 10.2.7.11 | |
| **Config Id** | | CF01 | |
| **PICS Selection** | | PICS\_CSE | |
| **Initial conditions** | **with {**  the IUT **being** in the "initial state"  **and** the IUT **having registered** the AE  **and** the IUT **having** a resource at TARGET\_RESOURCE\_ADDRESS**allowing**  a child resource type <group>  **and** the AE **having** privileges to perform CREATE operation on the TARGET\_RESOURCE\_ADDRESS  **and** the IUT **having** a resource at MEMBER\_RESOURCE\_ADDRESS  **}** | | |
| **Expected behaviour** | **Test events** | | **Direction** |
| **when {**  the IUT **receives** an valid CREATE request **from** AE **containing**  To **set to** TARGET\_RESOURCE\_ADDRESS**and**  Resource Type **set to** *<group>*  **and**  From **set to** AE-ID **and**  Content **set to** *<group>* resource **containing**  memberIDs attribute **set to** MEMBER\_RESOURCE\_ADDRESS  **}** | | IUT 🡨 AE |
| **then {**  the IUT **sends** a Response message **containing**  Response Status Code **set** 2001 (CREATED) **and**  <acpi>group access control policy ID’s</acpi> for each member    **}** | | IUT 🡪 AE |

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| **TP Id** | | TP/oneM2M/CSE/GFOP/BV/025 | |
| **Test objective** | | Check that on successful validation ID’s of all resources should retrieved and all ID’s should appended with the ID of the *<subscription>* resource to be created | |
| **Reference** | | TS-0001 10.2.7.11 | |
| **Config Id** | | CF01 | |
| **PICS Selection** | | PICS\_CSE | |
| **Initial conditions** | **with {**  the IUT **being** in the "initial state"  **and** the IUT **having registered** the AE  **and** the IUT **having** a resource at TARGET\_RESOURCE\_ADDRESS**allowing**  a child resource type <group>  **and** the AE **having** privileges to perform CREATE operation on the TARGET\_RESOURCE\_ADDRESS  **and** the IUT **having** a resource at MEMBER\_RESOURCE\_ADDRESS  **}** | | |
| **Expected behaviour** | **Test events** | | **Direction** |
| **when {**  the IUT **receives** an valid CREATE request **from** AE **containing**  To **set to** TARGET\_RESOURCE\_ADDRESS**and**  Resource Type **set to** *<group>*  **and**  From **set to** AE-ID **and**  Content **set to** *<group>* resource **containing**  memberIDs attribute **set to** MEMBER\_RESOURCE\_ADDRESS  **}** | | IUT 🡨 AE |
| **then {**  the IUT **sends** a Response message **containing**  the aggregate response includes responses from each member of the group  Response Status Code **set** 200 (OK)  <m2m:rsp> resourceName1\_subscriptionResourceID </m2m:rsp>  <m2m:rsp> resourceName2\_subscriptionResourceID </m2m:rsp>  <m2m:rsp> resourceName3\_subscriptionResourceID </m2m:rsp>  **}** | | IUT 🡪 AE |

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| **TP Id** | TP/oneM2M/CSE/GFOP/BV/026 | |
| **Test objective** | Check that after receiving the responses respond to the Originator with the aggregated results and the associated *memberIDs* | |
| **Reference** | TS-0001 10.2.7.11 | |
| **Config Id** | CF01 | |
| **PICS Selection** | PICS\_CSE | |
| **Initial conditions** | **with {**  the IUT **being** in the "initial state"  **and** the IUT **having registered** the AE  **and** the IUT **having** a resource at TARGET\_RESOURCE\_ADDRESS**allowing**  a child resource type <group>  **}** | |
| **Expected behaviour** | **Test events** | **Direction** |
| **when {**  the IUT **receives** an valid CREATE request **from** AE **containing**  To **set to** TARGET\_RESOURCE\_ADDRESS**and**  Resource Type **set to** *<group>*  **and**  From **set to** AE-ID **and**  Content **set to** *<group>* resource **containing**  memberIDs attribute **set to** MEMBER\_RESOURCE\_ADDRESS  **}** | IUT  AE |
| **then {**  the IUT **sends** a Response message **containing**  the aggregrate response includes responses from each member of the group  Response Status Code **set** 201 (CREATED)  <m2m:rsp> </m2m:rsp> for each resource  **}** | IUT AE |

===============End of Subscribe/Un-subscribe operation – Test Purposes============