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| CHANGE REQUEST |
| Meeting ID:\* | PRO 31 |
| Source:\* | Anupama, C-DOT, anupama@cdot.in Poornima, C-DOT, poornima@cdot.inGiri, C-DOT, moode@cdot.in |
| Date:\* | 2017-09-05 |
| Reason for Change/s:\* | See the introduction  |
| CR against: Release\* | Release 3 |
| CR against: WI\* | [ ]  Active <Work Item number> [x]  MNT maintenance / < Work Item number(optional)>Is this a mirror CR? Yes [ ]  No [x] mirror CR number: (Note to Rapporteur - use latest agreed revision)[ ]  STE Small Technical Enhancements / < Work Item number (optional)>Only ONE of the above shall be ticked |
| CR against: TS/TR\* | TS-0004 Version 3.3.0 |
| Clauses \* | 7.4.15.2 |
| Type of change: \* | [ ]  Editorial change[x]  Bug Fix or Correction[ ]  Change to existing feature or functionality[ ]  New feature or functionalityOnly ONE of the above shall be ticked |
| Impacted other TS/TR(s) | <TS/TR number>, <Version Number>, and <Description on which aspect should be reflected in this TS/TR> |
| Post Freeze checking:\* | This CR contains only essential changes and corrections? YES [x]  NO [ ] This CR may break backwards compatibility with the last approved version of the TS? YES [ ]  NO [ ]  |
| Template Version: January 2017 (Do not modify) |

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GUIDELINES for Change Requests:

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

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

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

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

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

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

Follow the drafting rules.

All pictures must be editable.

Check spelling and grammar to the extent practicable.

Use Change bars for modifications.

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

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

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

## Introduction

The CR proposes following changes:

* References to clauses added
* For update and delete request, if <mgmtObj> is updated or deleted before making the changes on the managed entity then it may happen that managed entity object is not updated or deleted and some exception occurred but its representation will already be updated or deleted. So to avoid it, update and delete at CSE should be executed only after operation is successful at the managed entity.
* <mgmtObj> updation in delete operation is invalid. So line is removed.

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

#### <mgmtObj> resource specific procedure on CRUD operations

##### Introduction

This clause describes <mgmtObj> resource specific procedure on resource Hosting CSE for CRUD operations.

The procedures are defined for management when technology specific protocols are used. When service layer management is performed, generic procedures defined in clause 7.2.2 shall comply for resource creation, update, retrieval and deletion. Procedures additional to resource manipulations to perform the management are further defined in Annex D.

##### Create

Primitive specific operation before Orig-C-1.0 "Compose Request primitive":

1. Primitive specific operation: If the originator is the managed entity, it shall generate the <mgmtObj> resource representation based on the technology specific data model object of the managed entity to be exposed. The ***objectIDs*** and ***objectPaths*** attributes may be set with the Request.

Following steps 2, 3, 4 and 5 shall be performed after Recv-6.4 “Check validity of resource representation for the given resource type” and before Recv-6.5 "Create/Update/Retrieve/Delete/Notify operation is performed" if the originator is an IN-AE:

1. "Identify the managed entity and the technology specific protocol". Refer clause 7.3.4.1.

Primitive specific operation: the receiver shall generate the technology specific data model object to be added to the managed entity based on the <mgmtObj> resource representation provided in the Request primitive. The receiver may determine the target location on the managed entity where the generated technology specific data model object shall be added based on the ***objectIDs*** and ***objectPaths*** provided in the request primitive and the technology specific data model being used. The receiver may also choose to let the managed entity decide the target location where the generated technology specific data model object shall be added using technology specific mechanism.

1. "Establish a management session with the managed entity". Refer clause 7.3.4.3.
2. "Send the management request(s) to the managed entity corresponding to the received Request primitive". Refer clause 7.3.4.4. If the receiver receives an error response from the managed entity because the technology specific data model object to be added already exists on the managed entity, the receiver shall check (by using e.g. OMA-DM Get command or TR069 GetParameterValues/GetParameterAttributes command) if the existing technology specific data model object is the same as the one to be added, then it shall consider the requested primitive as successfully performed instead of sending an error response primitive; otherwise, it shall reject the request with the ***Response Status Code*** indicating "ALREADY\_EXISTS" error in the Response primitive. The receiver shall also record the location where the technology specific data model object is added to the managed entity in the successful case. The ***objectIDs*** and ***objectPaths*** attributes may be set with the Request.
3. The receiver may repeat Step 4 in order to add to the managed entity the technology specific data model objects that are mapped from the mandatory sub-resources (including any descendants) that are required to be created automatically with the default attribute values.

##### Retrieve

Primitive specific operation after Recv-6.5 "Create/Update/Retrieve/Delete/Notify operation is performed" and before Recv-6.6 "Announce/De-announce the resource" if the originator is an IN-AE:

1. "Identify the managed entity and the technology specific protocol". Refer clause 7.3.4.1.
2. "Locate the technology specific data model objects to be managed on the managed entity". Refer clause 7.3.4.2.
3. "Establish a management session with the managed entity". Refer clause 7.3.4.3.
4. "Send the management request(s) to the managed entity corresponding to the received Request primitive". Refer clause 7.3.4.4. The receiver may also update the <mgmtObj> resource representation with the retrieved technology specific data model object if required according to the local policy.

##### Update

The Update primitive is used for the update of the resource as well as the execution of a management procedure. The execution is performed using an Update primitive which without any content as the payload part of the primitive by addressing specific attribute to start the management procedure.

Primitive specific operation after Recv-6.4 "Check validity of resource representation" and before Recv-6.5 "Create/Update/Retrieve/Delete/Notify operation is performed" if the originator is IN-AE.

1. "Identify the managed entity and the technology specific protocol". Refer clause 7.3.4.1.
2. "Locate the technology specific data model objects to be managed on the managed entity". Refer clause 7.3.4.2.
3. "Establish a management session with the managed entity". Refer clause 7.3.4.3.
4. "Send the management request(s) to the managed entity corresponding to the received Request primitive". Refer clause 7.3.4.4. The receiver may also update the <mgmtObj> resource representation with the retrieved technology specific data model object information if required according to the local policy.

##### Delete

Primitive specific operation after Recv-6.4 "Check validity of resource representation" and before Recv-6.5 "Create/Update/Retrieve/Delete/Notify operation is performed" if the originator is IN-AE.

1. "Identify the managed entity and the technology specific protocol". Refer clause 7.3.4.1.
2. "Locate the technology specific data model objects to be managed on the managed entity". Refer clause 7.3.4.2.
3. "Establish a management session with the managed entity". Refer clause 7.3.4.3.
4. "Send the management request(s) to the managed entity corresponding to the received Request primitive". Refer clause 7.3.4.4.

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

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 include a proposal to change only 3 tables?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 clauses need not show surrounding clauses as long as the proposed clause number clearly shows where the new clause 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.?