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| CHANGE REQUEST |
| Meeting ID:\* |  SDS #57 |
| Source:\* | Siddharth Trikha, C-DOT, strikha@cdot.inPoornima Shandilya, C-DOT, poornima@cdot.in Jagan Singh Choudhari, C-DOT jagan@cdot.in |
| Date:\* | 2022-11-29 |
| Reason for Change/s:\* | See the introduction |
| CR against: Release\* | Release 4 |
| CR against: WI\* | [ ]  Active WI-xxxx[x]  MNT maintenance / < Work Item number(optional)>Is this a mirror CR? Yes [ ]  No [ ] mirror CR number: (Note to Rapporteur - use latest agreed revision)[ ]  STE Small Technical Enhancements / < Work Item number (optional)>Only ONE of the above shall be ticked |
| CR against: TS/TR\* | TS-0001 4\_12\_0 |
| Clauses \* | 10.2.15.2, 10.2.15.4 |
| 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) |  |
| Post Freeze checking:\* | This CR contains only essential changes and corrections? YES [x]  NO [ ] This CR may break backwards compatibility with the last approved version of the TS? YES [ ]  NO [x]  |
| Template Version: January 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

This CR proposes to align the *triggerStatus* attribute values as per the mappings in TS-0026.

TRIGGER-SUBMITTED to be replaced by TRIGGERED-TRIGGERED and

TRIGGER-SUCCESS to be removed as SUCCESS maps to TRIGGER-DELIEVERED.

### \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Start of Change 1 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

#### 10.2.15.2 Create <*triggerRequest*>

This procedure shall be used for creating a *<triggerRequest>* resource.

Table 10.2.15.2-1: <*triggerRequest*> CREATE

| *<triggerRequest>* CREATE  |
| --- |
| 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 9.6.49. |
| Processing at Originator before sending Request | According to clause 10.1.2. |
| Processing at Receiver | According to clause 10.1.2 with the following modifications:* The trigger payload sent in the Trigger request shall be serialized based on the *contentSerialization* attribute of the <AE> or <remoteCSE> resource of the targeted entity.
* The CSE shall determine which NSE to send the trigger request to. The CSE may determine which NSE based on locally provisioned information or based on a DNS lookup of the M2M-Ext-ID. If an NSE cannot be determined, the IN-CSE sets the *triggerStatus* attribute to ERROR-NSE-NOT-FOUND. Otherwise, the CSE sets the *triggerStatus* attribute to PROCESSING.
* The CSE shall submit a trigger request to the appropriate NSE using the appropriate Mcn protocol. The message shall contain information needed by the NSE to generate a trigger request for the corresponding underlying network. For example, for a 3GPP trigger request the required information needed within the trigger request message is captured in oneM2M TS‑0026 [15].
* Upon receipt of trigger response(s) from the NSE, the CSE shall set the *triggerStatus* attribute of the <*triggerRequest*> resource. If the CSE receives a confirmation from the NSE that the trigger was accepted, the CSE shall set the *triggerStatus* attribute to TRIGGER-TRIGGERED. If the CSE receives an indication that the trigger request was successfully delivered, the CSE shall set the *triggerStatus* attribute to TRIGGER-DELIVERED. If the CSE receives an indication that the trigger request was not accepted or the delivery was not successful, the CSE shall set the *triggerStatus* attribute to TRIGGER-FAILED.
 |
| 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. |

#### 10.2.15.4 Update <*triggerRequest*>

This procedure shall be used for updating attributes of a *<triggerRequest>* resource.

Table 10.2.15.4-1: <*triggerRequest*> UPDATE

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| --- |
| *<triggerRequest>* UPDATE |
| 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 9.6.49. |
| Processing at Originator before sending Request | According to clause 10.1.4.The Originator determines that a trigger that is still being processed needs to be updated (i.e. replaced). The Originator initiates a device trigger replace by updating the <triggerRequest> resource. |
| Processing at Receiver | According to clause 10.1.4 with the following modifications:The CSE shall:* Check whether the trigger request can be updated or not by checking the *triggerStatus*. If the *triggerStatus* is PROCESSING, the CSE shall continue to process the UPDATE request. Otherwise, the CSE shall return an error response to the Originator and shall not update the *triggerStatus* attribute.
* Determine which NSE to send the trigger update request to. The CSE may determine which NSE based on locally provisioned information or based on a DNS lookup of the M2M-Ext-ID. If an NSE cannot be determined, the IN-CSE sets the *triggerStatus* attribute to ERROR-NSE-NOT-FOUND.
* Submit a trigger update request to the appropriate NSE using the appropriate Mcn protocol. The message shall contain information needed by the NSE to update the trigger request for the corresponding underlying network. For example, for a 3GPP trigger update request the required information needed within the trigger request message is captured in oneM2M TS‑0026 [15].
* Upon receipt of trigger update response(s) from the NSE, the CSE shall determine whether to set the *triggerStatus* attribute of the <*triggerRequest*> resource. If the CSE receives a confirmation from the NSE that the trigger update was accepted, the CSE shall update the applicable <*triggerRequest*> attributes included in the request and set the *triggerStatus* attribute to TRIGGER-TRIGGERED. If the CSE receives an indication that the trigger update request was not accepted, the CSE shall return an error response to the Originator and shall not update the *<triggerRequest*> resource.
 |
| 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. |

### \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* End of Change 1 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

### \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Start of Change 2 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Table 9.6.49-2: Attributes of *<triggerRequest>* resource

| Attributes of *<triggerRequest>* | Multiplicity | RW/RO/WO | Description |
| --- | --- | --- | --- |
| *resourceType* | 1 | RO | See clause 9.6.1.3. |
| *resourceID* | 1 | RO | See clause 9.6.1.3. |
| *resourceName* | 1 | WO | See clause 9.6.1.3. |
| *parentID* | 1 | RO | See clause 9.6.1.3. |
| *creationTime* | 1 | RO | See clause 9.6.1.3. |
| *lastModifiedTime* | 1 | RO | See clause 9.6.1.3. |
| *expirationTime* | 1 | RW | See clause 9.6.1.3. |
| *accessControlPolicyIDs* | 0..1 (L) | RW | See clause 9.6.1.3. |
| *labels* | 0..1 (L) | RW | See clause 9.6.1.3. |
| *dynamicAuthorizationConsultationIDs* | 0..1 (L) | RW | See clause 9.6.1.3. |
| *custodian* | 0..1 | RW | See clause 9.6.1.3. |
| *M2M-Ext-ID* | 1 | WO | M2M External Identifier of the device being triggered. See clause 7.1.8.This attribute shall be configured by the Originator when the resource is created. |
| *Trigger-Recipient-ID* | 1 | RW | Trigger-Recipient-ID of the ASN/MN-CSE or ADN-AE that is hosted on the device being triggered. See clause 7.1.10.This attribute shall be configured by the Originator when the resource is created and may also be updated when performing a trigger replace procedure. See clause 8.3.3.2.2.This attribute is application port ID for device trigger to uniquely identify the triggered application. |
| *triggerPurpose* | 1 | RW | The purpose of the trigger. See clause 8.3.3.2.1.This attribute may be configured by the Originator when the resource is created and may also be updated when performing a trigger replace procedure.The allowed values are:* establishConnection
* enrolmentRequest
* registrationRequest
* executeCRUD

If not specified by the Originator, the default is "establishConnection". |
| *triggerStatus* | 1 | RO | The status of the trigger request.The Hosting CSE shall control the value of this attribute.The following values are valid values.* PROCESSING
* ERROR-NSE-NOT-FOUND
* TRIGGER-TRIGGERED
* TRIGGER-DELIVERED
* TRIGGER-FAILED
* TRIGGER-REPLACED
* TRIGGER-EXPIRED
* TRIGGER-UNCONFIRMED
* TRIGGER-TERMINATED
 |
| *triggerValidityTime* | 1 | RW | The time duration for which the trigger request is valid. After this time expires, the trigger shall be recalled (i.e. cancelled) by the Hosting CSE.This attribute may be configured by the Originator when the resource is created and may also be updated when performing a trigger replace procedure. See clause 8.3.3.2.2.If this attribute is not set, the CSE may configure the *triggerValidityTime* attribute based on local policy. |
| *triggerInfoAE-ID* | 0..1 | RW | When the *triggerPurpose* is "executeCRUD", this attribute is mandatory otherwise it is not applicable.This attribute is configured with the AE-ID of the ASN/MN-AE that should perform the CRUD operation.When this attribute is configured, the trigger originator shall also configure the *triggerInfoAddress*, *triggerInfoOperation* and *targetedResourceType* attributes. |
| *triggerInfoAddress* | 0..1 | RW | When the triggerPurpose is "enrolmentRequest", this field shall be configured with the absolute URI of the <*MEFBase*> resource of the MEF that the ASN/MN-CSE or ADN-AE shall enrol to.When the triggerPurpose is "establishConnection" and the *pointOfAccess* attribute of the <*AE*> or <*remoteCSE*> representing the ASN/MN-CSE or ADN-AE needs updating, this field shall be configured with an unstructured CSE-Relative-Resource-ID of the <*remoteCSE*> or <*AE*> resource. If this attribute is not provided, the trigger recipient shall establish a network connection with its registrar CSE but not update its pointOfAccess.When the triggerPurpose is "registrationRequest", and this field is provided by the trigger originator, then this field shall be configured with the unstructured CSE-Relative-Resource-ID of the Registrar CSE's <cseBase> resource that the trigger recipient shall register to. When the triggerPurpose is "registrationRequest", and this field is not provided by the trigger originator, the trigger recipient shall register to the Registrar CSE using a pre-provisioned address of the Registrar CSE. The pre-provisioning method is outside the scope of the present document.When the *triggerPurpose* is "executeCRUD", this attribute shall be configured with an unstructured CSE-Relative-Resource-ID of the resource that the ASN/MN-AE shall perform the CRUD operation on.When this attribute is configured for "executeCRUD", the trigger originator shall also configure the *triggerInfoAE-ID*, *triggerInfoOperation* and *targetedResourceType* attributes. |
| *triggerInfoOperation* | 0..1 | RW | When the *triggerPurpose* is "executeCRUD", this attribute is mandatory otherwise it is not applicable.This attribute is configured with the CRUD operation that the ASN/MN-AE should perform on the targeted resource specified by *triggerInfoAddress*.When this attribute is configured, the trigger originator shall also configure the *triggerInfoAE-ID, triggerInfoAddress* and *targetedResourceType* attributes. |
| *targetedResourceType* | 0..1 | RW | When the *triggerPurpose* is "executeCRUD", this attribute is mandatory otherwise it is not applicable.This attribute is configured with the resource type of the targeted resource specified by *triggerInfoAddress*.When this attribute is configured, the trigger originator shall also configure the *triggerInfoAE-ID, triggerInfoAddress* and *triggerInfoOperation* attributes. |
| *triggerReference* | 0..1 | RO | This attribute is a reference number which is allocated by the CSE of a transaction and is used in all subsequent messages related to that transaction to support device triggering. |

### \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* End of Change 2 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*