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| CHANGE REQUEST | |
| Meeting ID:\* | SDS #56 |
|  | Andreas Kraft, DT, [A.Kraft@telekom.de](mailto:A.Kraft@telekom.de)  Andreas Neubacher, DT, [Andreas.Neubacher@magenta.at](mailto:Andreas.Neubacher@magenta.at)  Miguel Angel Reina Ortega, ETSI, [MiguelAngel.ReinaOrtega@etsi.org](mailto:MiguelAngel.ReinaOrtega@etsi.org) |
| Date:\* | 2022-08-23 |
| Reason for Change/s:\* | Clarification of Notification Recording Procedure |
| CR against: Release\* | Release 4 |
| CR against: WI\* | Active WI-xxxx  MNT maintenance / < Work Item number(optional)>  Is this a mirror CR? Yes  No  mirror CR number: (Note to Rapporteur - use latest agreed revision)  STE Small Technical Enhancements / < Work Item number (optional)>  Only ONE of the above shall be ticked |
| CR against: TS/TR\* | TS-0004, V4.9.0 |
| Clauses \* | 7.4.8.2.3, 7.4.58.2.3 |
| Type of change: \* | Editorial change  Bug Fix or Correction  Change to existing feature or functionality  New feature or functionality  Only ONE of the above shall be ticked |
| Impacted other TS/TR(s) |  |
| Post Freeze checking:\* | This CR contains only essential changes and corrections? YES  NO  This CR may break backwards compatibility with the last approved version of the TS? YES  NO |
| 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 the necessary changes to clarify the behaviour when updating the *notificationStatsEnable* attribute in the UPDATE procedures for the <subscription> and <crossResourceSubscription> resource types.

The intended behaviour for *notificationStatEnable* is that whenever this attribute is set to “True”, the values in the *notificationStatsInfo* attribute are removed and recording starts (again). This is defined in TS-0001, Table 9.6.8-2: Attributes of <subscription> resource, and Table 9.6.58-2: Attributes of <crossResourceSubscription> resource:

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| *notificationStatsEnable* | 1 | RW | When set to "TRUE", the Hosting CSE shall clear any statistics that were previously stored in the *notificationStatsInfo* attribute and start recording notification statistics for each notification generated for this resource.  When set to "FALSE", the Hosting CSE shall stop recording notification statistics for this resource and maintain the current value of the *notificationStatsInfo* attribute.  Default is "FALSE" |
| *notificationStatsInfo* | 0..1(L) | RO | A list containing notification statistics recorded by the Hosting CSE for each notification target specified by the *notificationURI* attribute of this resource. The Hosting CSE shall maintain a separate set of notification statistics that include:   * Total number of notification requests sent to a notification target * Total number of notification responses received from a notification target   Refer to oneM2M TS 0004 [3] for further details regarding the format of this attribute. |

This means that this behaviour is independent from the previous state of the *notificationStatsEnable* attribute. Every time this attribute is assigned a value of “True” this procedure starts over, even when the previous value was “True”.

This behaviour is not clearly specified in the current specification in the UPDATE procedures for these resource types.

It is not necessary to change the specification for the CREATE procedures, because there the behaviour is clearly specified.

Change 1 proposes the correction for the <subscription> resource’s UPDATE procedure.

Change 2 proposes the correction for the <crossResourcesubscription> resource’s UPDATE procedure.

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

##### 7.4.8.2.3 Update

***Originator:***

The following change from the generic procedures in clause 7.2.2.1.

Orig-1.0: The originator shall not specify *notificationEventType* set to "Blocking\_Update".

If the Originator specifies a *missingData* condition with a duration value greater than the *periodicInterval* attribute of the <timeSeries> resource no notification on missing data points will be generated.

***Receiver:***

The following are additional Hosting CSE procedures to the generic resource handling procedures in clause 7.2.2.2.

Recv-6.4: The following steps are in addition to the procedures defined in clause 7.3.3.4:

1. Check if the *notificationEventType* in the request is set to "Blocking\_Update". If so, the request shall be rejected with a ***Response Status Code*** indicating a "BAD\_REQUEST" error.
2. Check if the notificationEventType is set to “Report on missing data points”. If the *missingData* attribute is not set in the target resource or provided in the request, the request shall be rejected with a ***Response Status Code*** indicating a "BAD\_REQUEST" error***.***
3. Check if the *missingData* element of eventNotificationCriteria is provided.

* If the subscribed-to resource (i.e. the resource given by the ***To*** parameter in the Request) is not a <timeSeries>, the request shall be rejected with a ***Response Status Code*** indicating a "BAD\_REQUEST" error.

1. If the Originator provides a value of *childResourceType* which is not a valid child of thesubscribed-to resource, the request shall be rejected with a ***Response Status Code*** indicating a “BAD\_REQUEST” error.
2. If the Originator provides *missingData*, check that the subscribed-to resource is of type <timeSeries>. If not, the request shall be rejected with a ***Response Status Code*** indicating a "BAD\_REQUEST" error.
3. If the UPDATE operation would result in both *operationMonitor* and *notificationEventType* being present in the resource, the request shall be rejected with a ***Response Status Code*** indicating a “BAD\_REQUEST” error.
4. Check if a new *associatedCrossResourceSub* is provided. If so, check that the Hosting CSE ID value in the *associatedCrossResourceSub* is the same as the ***From*** parameter of the request.
5. If the *notificationContentType* is invalid for a given operation (refer to oneM2M TS-0001 [6] Table 9.6.8-4: Default and allowed values of *notificationContentType*) the request shall be rejected with a ***Response Status Code*** indicating a “BAD\_REQUEST” error.

Recv-6.5. The following steps are in addition to the procedures defined in clause 7.3.3.7:

1. If a <crossResourceSubscription> Hosting CSE ID is removed from *associatedCrossResourceSub*, the Hosting CSE shall send a Notify request for Subscription Deletion, using the procedures in clause 7.5.1.2.4, to the <crossResourceSubscription> Hosting CSE*.*
2. If the *notificationStatsEnable* attribute in the resource is true and the *notificationStatsEnable* attribute in the request is false, the Hosting CSE shall stop collecting notification statistics for the *<*subscription*>* resource. The Hosting CSE shall maintain the current value of the *notificationStatsInfo* attribute.
3. If the *notificationStatsEnable* attribute in the resource is true or false and the *notificationStatsEnable* attribute in the request is true, the Hosting CSE shall update the value of the *notificationStatsEnable* attribute in the resource to true, delete any values stored in the *notificationStatsInfo* attribute of the resource and then start recording notification statistics.
4. Check if the *pendingNotification* attribute is being removed by the request or is being changed from "sendAllPending" to "sendLatest". If the *pendingNotification* attribute is being removed, then all cached pending Notify request primitives for the subscription resource shall be removed. If the *pendingNotification* attribute is being changed from "sendAllPending" to "sendLatest", then all cached pending Notify request primitives except the latest notification for the subscription resource shall be removed.

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

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

##### 7.4.58.2.3 Update

***Originator:***

No change from the generic procedures in clause 7.2.2.1.

***Receiver:***

The following are changes to the receiver procedures described in clause 7.2.2.2.

1. Recv-6.5: The following steps are in addition to the generic Update procedures defined in clause 7.3.3.7:

a) If *regularResourcesAsTarget* is updated, the Hosting CSE shall perform the following tasks:

i) If a target resource has been removed in the new *regularResourcesAsTarget* attribute value delete the associated <subscription> child resource using the procedure in clause 7.4.8.2.4.

ii) If the updated *regularResourcesAsTarget* attribute value contains new target resources, the Hosting CSE shall send a Create <subscription> request message to each new target resource as described in clause 7.4.58.2.1.

b) If *subscriptionResourcesAsTarget* is updated, the Hosting CSE shall perform the following tasks:

iii) If a <subscription> resource has been removed in the new *subscriptionResourcesAsTarget* attribute value the Hosting CSE shall update the <subscription> resource using the procedure in clause 7.4.8.2.4 to remove this <crossResourceSubscription> from the <subscription> resource's *associatedCrossResourceSub* attribute.

iv) If the updated *subscriptionResourcesAsTarget* attribute value contains new a <subscription>resource, the Hosting CSE shall add the resource identifier of this <crossResourceSubscription> resource to the *associatedCrossResourceSub* attribute of each <subscription> resource indicated in *subscriptionResourcesAsTarget* as described in clause 7.4.58.2.1.

1. If *eventNotificationCriteriaSet* is updated, the Hosting CSE shall update the *eventNotificationCriteria* of each previously created <subscription> child resource of the targets listed in the *regularResourcesAsTarget* attribute to reflect the received *eventNotificationCriteria* content using the procedures in clause 7.4.8.2.3.
2. If *timeWindowSize* or *timeWindowType* is updated in the resource representation the receiver shall restart the timer as described in clause 7.4.58.2.1.
3. If any of the above Update procedures are unsuccessful the receiver shall send an unsuccessful response with a "CROSS\_RESOURCE\_OPERATION\_FAILURE" ***Response Status Code*** to the Originator; the receiver shall also restore all resources to the states they were in prior to this request.
4. If the *notificationStatsEnable* attribute in the resource is true and the *notificationStatsEnable* attribute in the request is false, the Hosting CSE shall stop collecting notification statistics for the *<*crossResource*S*ubscription*>* resource. The Hosting CSE shall maintain the current value of the *notificationStatsInfo* attribute.
5. If the *notificationStatsEnable* attribute in the resource is true or false and the *notificationStatsEnable* attribute in the request is true, the Hosting CSE shall update the value of the *notificationStatsEnable* attribute in the resource to true, delete any values stored in the *notificationStatsInfo* attribute of the resource and then start recording notification statistics.

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