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| CHANGE REQUEST |
| Meeting ID:\* | SDS 64.3 |
| Source:\* | Anupama, C-DOT, anupama@cdot.in Poornima, C-DOT, poornima@cdot.inSiddharth, C-DOT, strikha@cdot.in  |
| Date:\* | 2024-06-19 |
| Reason for Change/s:\* | See the Introduction |
| CR against: Release\* | Rel 5 |
| CR against: WI\* | [ ]  Active <Work Item number> [ ]  MNT maintenance / < Work Item number(optional)>Is this a mirror CR? Yes [ ]  No [ ] mirror CR number: (Note to Rapporteur - use latest agreed revision)[x]  STE Small Technical Enhancements / < Work Item number (optional)>Only ONE of the above shall be ticked |
| CR against: TS/TR\* | TS-0001, V5.5.0 |
| Clauses \* | 9.6.6 |
| Type of change: \* | [ ]  Editorial change[ ]  Bug Fix or Correction[ ]  Change to existing feature or functionality[x]  New feature or functionalityOnly ONE of the above shall be ticked |
| Other TS/TR(s) impacted | TS-0004 |
| 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 2020 (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.

If this is a correction, and the change applies to previous releases, a separate “mirror CR” should be posted at the same time as 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. Include any changes to references, definitions, and abbreviations in the same deliverable.

Follow the drafting rules.

All pictures must be editable.

Check spelling and grammar.

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 proposed new clause is 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 the 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 to add a new attribute- maxByteSizePerInstance in <container> resource. The purpose of this attribute is to ensure that each contentInstance resource that is being created under a <container> resource doesn’t exceed a defined limit.

**Current Behavior:**

Currently in the container resource there are maxNrOfInstances, maxByteSize policies for a container. These policies apply on all the direct child <contentInstance> resources of a container. When currentNumberOfInstances exceeds maxNrOfInstance then previous are deleted.

Similarly when currentByteSize exceeds maxByteSize, the previous contentInstances are deleted such that there is enough space for new one to be created.

**Problem:**

When the content size of one contentInstance is very large or close to maxByteSize then it leads to deletion of all the previous instances, so e.g. despite having maxNrOfInstance policy 10, varying size of data doesn’t allow that many current instances to be maintained.

Secondly, despite having a tentative understanding/definition of data size per instance, outliers (a <contentInstance> resource with very big content)can’t be rejected without having a separate policy.

**Requirement:**

* To be able to restrict creation of contentInstance which exceeds the defined limit of data size per instance.



**Use case:**

Various sub-meters are sending power readings to CSE every minute. It is required to maintain (24\*60 ~)1500 readings to ensure that at least one day's readings are available with CSE.

Tentative size of each meter reading is 1500 bytes. MaxByteSize is set as 1500\*1500=2250KB. Now if device starts sending a packet of size 100KB or 2000KB then it is not possible to restrict such behavior, instead it will lead to deletion of all the previous instances.

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

### 9.6.6 Resource Type *container*

The *<container>* resource represents a container for data instances. It is used to share information with other entities and potentially to track the data. A *<container>* resource has no associated content. It has only attributes and child resources.

The *<container>* resource shall contain the child resources specified in table 9.6.6-1.

Table 9.6.6-1: Child resources of *<container>* resource

| Child Resources of *<container>* | Child Resource Type | Multiplicity | Description | *<containerAnnc>* Child Resource Types |
| --- | --- | --- | --- | --- |
| *[variable]* | *<semanticDescriptor>* | 0..n | See clause 9.6.30 | *<semanticDescriptor>, <semanticDescriptorAnnc>* |
| *[variable]* | *<contentInstance>* | 0..n | See clause 9.6.7 | *<contentInstance>, <contentInstanceAnnc>* |
| *[variable]* | *<subscription>* | 0..n | See clause 9.6.8 | *<subscription>* |
| *[variable]* | *<container>* | 0..n | See clause 9.6.6 | *<container>**<containerAnnc>* |
| *[variable]* | *<flexContainer>* | 0..n | See clause 9.6.35 | *<flexContainer>**<flexContainerAnnc>* |
| *[variable]* | *<timeSeries>* | 0..n | See clause 9.6.36 | *<timeSeries>,**<timeSeriesAnnc>* |
| *la* | *<latest>* | 1 | See clause 9.6.27 | *None* |
| *ol* | *<oldest>* | 1 | See clause 9.6.28 | *None* |
| *[variable]* | *<transaction>* | 0..n | See clause 9.6.48 | *<transaction>* |
| *[variable]* | *<action>* | 0..n | See clause 9.6.61 | *<actionAnnc>* |

The *<container>* resource shall contain the attributes specified in table 9.6.6-2.

Table 9.6.6-2: Attribute of *<container>* resource

| Attributes of *<container>* | Multiplicity | RW/RO/WO | Description | *<containerAnnc>* Attributes |
| --- | --- | --- | --- | --- |
| *resourceType* | 1 | RO | See clause 9.6.1.3. | NA |
| *resourceID* | 1 | RO | See clause 9.6.1.3. | NA |
| *resourceName* | 1 | WO | See clause 9.6.1.3. | NA |
| *parentID* | 1 | RO | See clause 9.6.1.3. | NA |
| *expirationTime* | 1 | RW | See clause 9.6.1.3. | MA |
| *accessControlPolicyIDs* | 0..1 (L) | RW | See clause 9.6.1.3. | MA |
| *labels* | 0..1 (L) | RW | See clause 9.6.1.3. | MA |
| *creationTime* | 1 | RO | See clause 9.6.1.3. | NA |
| *lastModifiedTime* | 1 | RO | See clause 9.6.1.3. | NA |
| *stateTag* | 1 | RO | See clause 9.6.1.3. | NA |
| *announceTo* | 0..1 (L) | RW | See clause 9.6.1.3. | NA |
| *announcedAttribute* | 0..1 (L) | RW | See clause 9.6.1.3. | NA |
| *announceSyncType* | 0..1 | RW | See clause 9.6.1.3. | MA |
| *dynamicAuthorizationConsultationIDs* | 0..1 (L) | RW | See clause 9.6.1.3. | OA |
| *creator* | 0..1 | RO | See clause 9.6.1.3. | NA |
| *custodian* | 0..1 | RW | See clause 9.6.1.3. | NA |
| *location* | 0..1 | RW | See clause 9.6.1.3. | OA |
| *maxNrOfInstances* | 0..1 | RW | Maximum number of direct child *<contentInstance>* resources in the <*container*> resource. | OA |
| *maxByteSize* | 0..1 | RW | Maximum size in bytes of data (i.e. *content* attribute of a <*contentInstance*> resource) that is allocated for the *<container>* resource for all direct child <*contentInstance*> resources in the *<container>* resource. | OA |
| *maxByteSizePerInstance* | 0..1 | RW | Maximum *contentSize* permitted for any direct child <*contentInstance*> resource to be created in this container. | OA |
| *maxInstanceAge* | 0..1 | RW | Maximum age of a direct child *<contentInstance>* resource in the *<container> resource*. The value is expressed in seconds. | OA |
| *currentNrOfInstances* | 1 | RO | Current number of direct child <*contentInstance*> resource in the *<container>* resource. It is limited by the *maxNrOfInstances*. The *currentNrOfInstances* attribute of the <container> resource shall be updated on successful creation or deletion of direct child <contentInstance> resource of <container> resource. | NA |
| *currentByteSize* | 1 | RO | Current size in bytes of data (i.e. *content* attribute of a <*contentInstance*> resource) stored in all direct child *<contentInstance>* resources of a *<container>* resource. This is the summation of *contentSize* attribute values of the <*contentInstance*> resources. It is limited by the *maxByteSize*. The *currentByteSize* attribute of the <container> resource shall be updated on successful creation of deletion of direct child <contentInstance> resource of <container> resource. | NA |
| *locationID* | 0..1 | RO | An ID of the resource where the attributes/policies that define how location information are obtained and managed. This attribute is defined only when the *<container>* resource is used for containing location information. | OA |
| *ontologyRef* | 0..1 | RW | A reference (URI) of the ontology used to represent the information that is stored in the child *<contentInstance>* resources of the present *<container>* resource (see note). | OA |
| *disableRetrieval* | 0..1 | RW | Boolean value to control RETRIE/UPDATE/DELETE operation on the child *<contentInstance>* resource.When the value is set to "TRUE", RETRIEVE/DELETE/UPDATE operations for child <contentInstance> shall be rejected at all times.When the value is updated from "TRUE" to "FALSE", all existing <contentInstance> are deleted immediately.When the value is set to "FALSE", all operations are permitted on the <contentInstance> resource as per existing procedures. | OA |
| NOTE: The access to this URI is out of scope of oneM2M. |

### -----------------------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.?