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| CHANGE REQUEST |
| Meeting ID:\* | RDM#51 |
| Source:\* | Cyrille Bareau, Orange, cyrille.bareau@orange.comMarianne Mohali, Orange, marianne.mohali@orange.com |
| Date:\* | 2021-09-14 |
| Reason for Change/s:\* | See the introduction. |
| CR against: Release\* | Release 4 |
| CR against: WI\* | [x]  Active WI-0099[ ]  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\* | TR-0067 v0.2.0 |
| Clauses \* | Clause 5.3 |
| Type of change: \* | [ ]  Editorial change[ ]  Bug Fix or Correction[x]  Change to existing feature or functionality[ ]  New feature or functionalityOnly ONE of the above shall be ticked |
| Other TS/TR(s) impacted | N/A |
| 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 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

This CR introduce an analysis and a conclusion to TR-0067.

Indeed, the action plan for this TR was to :

1. Provide a temporary TR with a mapping between <mgmtObj> and the SDT DM <flexContainer>;
2. List in this TR all the specifications and sections that will have to be updated when <mgmtObj> will be replaced by SDT;
3. List in this TR the issues to be resolved by removing the <mgmtObj> after migration and the proposed solutions;
4. Depending on the TR outcomes, decide whether <mgmtObj> should be removed or not in OneM2M Release 4.

This CR provides the outcomes of the TR study.

### \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Start of change 1 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

## 5.3 Conclusion and Proposal

In the annexes of this TR it is presented an outline of the envisionned modifications that should be made to each oneM2M Technical Specification (TS) document that handles <mgmtObj> resources in order to take into account this proposed approach for Device Management.

Each Annex is dedicated to an existing TS that deals with <mgmtObj> resources, and proposed a skeleton of the changes that could be made for using <flexContainers> instead.

### 5.3.1 Conclusion

In TS-0001, the Device Management architecture presented in clause 6.2.4 relies on Management Adapters, abstract components that communicate to external Management Servers of Management Clients through undefined interfaces ms/la. This is a very generic framework, that implies complex handling because it is the CSE itself that is responsible for managing so-called Management Sessions (in clauses 10.2.8 and TS-0004 clauses 7.3.4).

A possible implementation of this architecture relies on the IPE principles, and this is the approach that is used in TS-0014, the only existing specification of an implementation of the DMG CSF for a specific DM protocol (here LwM2M). The TS-0014 does not explicitly refer to the Adapter/ms/la concepts, but it does correspond to an implementation of the ms interface (interface between a Management Adapter and an external Management Server). Nevertheless, DMG CSF as specified in TS-0001/TS-0004 is more general.

It is interesting for managing devices that can individually register as DM clients, and it is designed to fully map an existing DM data model into oneM2M resources.

It is therefore recommanded that it is not desirable to engage in a full migration of the current DMG CSF based on <mgmtObj> to a SDT-based DM because:

* <mgmtObj> mapping requires a one-to-one mapping with external DM technology data model, which is fine for DM technologies such as OMA DM/LwM2M or BBF/TR-181, but not adapted to other IoT standards.
* <mgmtObj> are used in oneM2M security-related specifications (TS-0003, TS-0016, TS-0022, TS-0032), with specializations that are not purely DM constructs.
* It would complexify the SDT-based approach we want to propose, whereas we precisely want a simple, restrained, abstract, IPE-based approach sufficient to handle IoT networks.

5.3.2 Proposal

Finally, the conclusion of this study is that the <mgmtObj> migration is a dead end due to some features (see above) that cannot be mapped in a useful way and thus, it is proposed that <mgmtObj> should not be removed from oneM2M Release 4.

### \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* End of change 1 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*