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| CHANGE REQUEST | |
| Meeting ID:\* | PRO 31 |
| Source:\* | Poornima, C-DOT, [poornima@cdot.in](mailto:poornima@cdot.in)  Giribabu Naik, C-DOT, [moode@cdot.in](mailto:moode@cdot.in) |
| Date:\* | 2017-09-12 |
| Reason for Change/s:\* | See the introduction |
| CR against: Release\* | Release 3 |
| 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)  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 \* | Annexure D.2 |
| 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) | <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  NO  This CR may break backwards compatibility with the last approved version of the TS? YES  NO |
| Template Version: January 2017 (Do not modify) | |

**oneM2M Notice**

The document to which this cover statement is attached is submitted to oneM2M. Participation in, or attendance at, any activity of oneM2M, constitutes acceptance of and agreement to be bound by terms of the Working Procedures and the Partnership Agreement, including the Intellectual Property Rights (IPR) Principles Governing oneM2M Work found in Annex 1 of the Partnership Agreement.

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

[firmware] procedure assumes that firmware image is downloaded at CREATE [firmware] command. So update uses this downloaded image to install the firmware on device. So, if download does not occur in the CREATE request then in the UPDATE request we need to download the firmware image before installating.

Table D.2-2: Attributes of *[firmware]* resource

| Attributes of  *[firmware]* | 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. |
| *expirationTime* | 1 | RW | See clause 9.6.1.3. |
| *accessControlPolicyIDs* | 0..1 (L) | RW | See clause 9.6.1.3. |
| *creationTime* | 1 | RO | See clause 9.6.1.3. |
| *lastModifiedTime* | 1 | RO | See clause 9.6.1.3. |
| *labels* | 0..1(L) | RW | See clause 9.6.1.3. |
| *mgmtDefinition* | 1 | WO | See clause 9.6.15. Has fixed value *"firmware"* to indicate the resource is for firmware management. |
| *objectIDs* | 0..1 (L) | WO | See clause 9.6.15. |
| *objectPaths* | 0..1 (L) | WO | See clause 9.6.15. |
| *description* | 0..1 | RW | See clause 9.6.15. |
| *version* | 1 | RW | The version of the firmware. This attribute is a specialization of *[objectAttribute]* attribute. |
| *name* | 1 | RW | The name of the firmware to be used on the device. This attribute is a specialization of *[objectAttribute]* attribute. |
| *URL* | 1 | RW | The URL from which the firmware image can be downloaded. This attribute is a specialization of *[objectAttribute]* attribute. |
| *update* | 1 | RW | The action that downloads and installs a new firmware in a single operation. The action is triggered by assigning value "TRUE" to this attribute. This attribute is a specialization of *[objectAttribute]* attribute. |
| *updateStatus* | 1 | RW | Indicates the status of the update. This attribute is a specialization of *[objectAttribute]* attribute. |

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

1. 1. Resource [firmware]
      1. Introduction

The detailed description of the [firmware] resource can be found in clause D.2 of the oneM2M TS-0001 [6].

Table D.2.1‑1: Data Type Definition of [firmware]

|  |  |  |
| --- | --- | --- |
| Data Type ID | File Name | Note |
| firmware,  firmwareAnnc | CDT-firmware-v3\_3\_0.xsd |  |

Table D.2.1‑2: Resource specific attributes of [firmware]

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Attribute Name | Request Optionality | | Data Type | Default Value and Constraints |
| Create | Update |
| mgmtDefinition | M | NP | See clause 7.4.15 | 1001 (firmware) |
| objectIDs | O | NP | See clause 7.4.15 |  |
| objectPaths | O | NP | See clause 7.4.15 |  |
| description | O | O | See clause 7.4.15 |  |
| version | M | O | xs:string |  |
| firmwareName | M | O | xs:string |  |
| URL | M | O | xs:anyURI |  |
| update | M | O | xs:boolean |  |
| updateStatus | NP | O | m2m:actionStatus |  |

* + 1. Resource specific procedure on CRUD operations

D.2.2.0. Introduction

When management is performed using technology specific protocols, the procedures defined in clause 7.4.15.2 <mgmtObj> specific procedures shall be used. The following clauses define additional procedures besides the generic procedure defined in clause 7.2.2.

* + - 1. Create

***Originator:***

No change from the generic procedures in clause 7.2.2.1.

***Receiver:***

Primitive specific step after generic procedure defined in clause 7.2.2.2.

May start to download the firmware image from the location indicated by attribute URL in the firmware resource.

* + - 1. Update

***Originator:***

No change from the generic procedures in clause 7.2.2.1.

***Receiver:***

Primitive specific operation additional to Recv-6.5 "Create/Update/Retrieve/Delete/Notify operation is performed":

When the attribute *update* of the firmware resource is updated to TRUE, download firmware image if it is not already downloaded else use the downloaded firmware image to update the current using firmware. The Receiver may need to update the *fwVersion* attribute of the [deviceInfo] resource if needed.

* + - 1. Retrieve

***Originator:***

No change from the generic procedures in clause 7.2.2.1.

***Receiver:***

No change from the generic procedures in clause 7.2.2.2.

* + - 1. Delete

***Originator:***

No change from the generic procedures in clause 7.2.2.1.

***Receiver:***

Primitive specific step after generic procedure defined in clause 7.2.2.2:

Delete the downloaded firmware image locally.

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