**3GPP TSG-CT WG1 Meeting #130-eC1-213466**

**Electronic meeting, 20-28 May 2021**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **24.483** | **CR** | **0117** | **rev** | **-** | **Current version:** | **17.2.0** |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network |  |

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|  | | | | | | | | | | |
| ***Title:*** | MO representation rules and MOs alignment | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Nokia, Nokia Shanghai Bell, Ericsson | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | MCProtoc17 | | | | |  | ***Date:*** | | | 2021-04-28 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-17 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) ... Rel-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | TS 24.483 explicitly mentions that the defined MOs are compatible with OMA Device Management (DM) specifications. However, the informative depiction of the MOs in the figures adopts certain conventions, which are neither stated nor perfectly aligned to OMA DM design guidelines. For avoiding unclear specs and possible misinterpretation of Figures, the design rules must be clearly stated.  The general OMA guideline [1] is that “6. Named nodes can only have Occurrence values of ZeroOrOne or One.”, since each node in a management tree must have a unique URI. Thus, we have to update wherever necessary the instances in which named nodes have an occurrence value>1, with the introduction of an unnamed node and update figures accordingly.  All the changes applied with this CR are informative and the needed normative updates of MOs have to be addressed from Rel.16.  [1] White Paper on Management Object Design Guidelines | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | 1) Define the MO design and representation rules  2) Update all Figures accordingly  3) Remove Notes stating that OMA guidelines are not respected  4) Align Figures with MO descriptions, where needed  i)RulesForAffiliation? and RulesForDeaffiliation? and an extra unnamed node level is needed  ii) Corner updated to unnamed node <x>\* in Figure 5.1.5: EnterSpecificArea  iii) EnterSpecificArea? and ExitSpecificArea?  iv) ListOfActiveFunctionalAliases MO contents update to <x>\* | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The representation of MOs in figures is not perfectly aligned throughout the specs and with OMA DM and can result to different incompatible implementations | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 2, 3.3 (new), 3.4 (new), 5.1, 6.1, 8.1, 9.1, 10.1, 13.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR .24.483.. CR . 0112.. | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] OMA OMA-ERELD-DM-V1\_2-20070209-A: "Enabler Release Definition for OMA Device Management, Version 1.2".

[3] OMA OMA-TS-DM\_Protocol-V1\_2: "OMA Device Management Protocol".

[4] OMA OMA-TS-XDM\_Group-V1\_1-20120403-A: "Group XDM Specification".

[5] 3GPP TS 23.003: "Numbering, addressing and identification".

[6] 3GPP TS 23.303: "Proximity-based Services (ProSe); Stage 2".

[7] 3GPP TS 24.379: "Mission Critical Push To Talk (MCPTT) call control Protocol specification".

[8] 3GPP TS 24.380: "Mission Critical Push To Talk (MCPTT) media plane control Protocol specification".

[9] 3GPP TS 24.481: "Mission Critical Services (MCS) group management Protocol specification".

[10] 3GPP TS 31.102: "Characteristics of the USIM Application".

[11] 3GPP TS 24.482: "Mission Critical Services (MCS) identity management Protocol specification".

[12] 3GPP TS 24.484: "Mission Critical Services (MCS) configuration management Protocol specification".

[13] IETF RFC 4566 (July 2006): "Session Description Protocol".

[14] Void.

[15] 3GPP TS 23.179: "Functional architecture and information flows to support mission critical communication services; Stage 2".

[16] 3GPP TS 24.282: "Mission Critical Data (MCData) signalling control Protocol specification".

[17] 3GPP TS 24.582: "Mission Critical Data (MCData) media plane control Protocol specification".

[18] 3GPP TS 24.281: "Mission Critical Video (MCVideo) signalling control Protocol specification".

[19] 3GPP TS 24.581: "Mission Critical Video (MCVideo) media plane control Protocol specification".

[20] 3GPP TS 33.180: "Security of the mission critical service".

[x] OMA OMA-TS-DM\_StdObj-V1\_2-20070209-A: "OMA Device Management Standardized Objects", <http://www.openmobilealliance.org/release/DM/V1_2-20070209-A/OMA-TS-DM_StdObj-V1_2-20070209-A.pdf>.

\*\*\*\*\* Next change \*\*\*\*\*

## 3.3 Symbols

For the purposes of the present document, the following symbols apply to all the figures:

? zero or one occurrences

\* zero or more occurrences

+ one or more occurrences

If none of these characters is used the default occurrence is exactly once.

\*\*\*\*\* Next change \*\*\*\*\*

## 3.4 Management Object design and representation guidelines

All the Management Objects (MOs) defined in the present document are compatible with OMA OMA-TS-DM\_Protocol-V1\_2 [3].

All figures are informative and the design principles of OMA OMA-TS-DM\_StdObj-V1\_2 [x] are applied with the following differences:

- interior nodes are represented as rectangles with solid border;

- leaf nodes are represented without any border;

- un-named nodes are represented by less than and a greater than characters containing a lower-case or an uppercase character, e.g. <x>,<X> ;

- a stadium with solid border is used for informative text i.e. to point to a figure describing the contents of an MO; and

- named nodes that share the same contents can refer to the same figure to represent their MO contents.

A representative example is shown in figure 3.4.1.



Figure 3.4.1: The MO graphical notation

\*\*\*\*\* Next change \*\*\*\*\*

## 5.1 General

The MCPTT user profile configuration Management Object (MO) is used to configure the MCPTT Client behaviour for the on-network or off-network MCPTT Service. The MCPTT user profile configuration parameters may be stored in the ME, or in the USIM as specified in 3GPP TS 31.102 [10], or in both the ME and the USIM. If both the ME and the USIM contain the same parameters, the values stored in the USIM shall take precedence.

The Management Object Identifier is: urn:oma:mo:ext-3gpp-MCPTT-user-profile:1.0.

Protocol compatibility: This MO is compatible with OMA OMA DM 1.2 [3].

The OMA DM ACL property mechanism (see OMA OMA-ERELD-DM-V1\_2 [2]) may be used to grant or deny access rights to OMA DM servers in order to modify nodes and leaf objects of the MCPTT user profile MO.

The following nodes and leaf objects are possible under the MCPTT user profile node as described in figure 5.1.1, figure 5.1.2, figure 5.1.3, figure 5.1.4, figure 5.1.5, figure 5.1.6, figure 5.1.7, and figure 5.1.8.



Figure 5.1.1: The MCPTT user profile MO (1 of 3)



Figure 5.1.2: The MCPTT user profile MO (2 of 3)



Figure 5.1.3: The MCPTT user profile MO (3 of 3)



NOTE 1: The LocationCriteriaForDeactivation MO contents are identical.

NOTE 2: This figure is referenced by figures 5.1.3, 10.1.2 and 13.1.2.

Figure 5.1.4: LocationCriteriaForActivation MO contents



NOTE: The ExitSpecificArea MO contents are identical.

Figure 5.1.5: EnterSpecificArea MO contents



NOTE 1: The RulesForDeaffiliation MO contents are identical.

NOTE 2: This figure is referenced by figures 5.1.3, 10.1.2 and 13.1.2.

Figure 5.1.6: RulesForAffiliation MO contents



Figure 5.1.7: ListOfLocationCriteria MO contents



Figure 5.1.8: ListOfActiveFunctionalAliases MO contents

\*\*\*\*\* Next change \*\*\*\*\*

## 6.1 General

The MCS group configuration Management Object (MO) is used to configure the MCS Client behaviour for the on-network or off-network MC services. The MCS group configuration parameters may be stored in the ME, or in the USIM as specified in 3GPP TS 31.102 [10], or in both the ME and the USIM. If both the ME and the USIM contain the same parameters, the values stored in the USIM shall take precedence.

NOTE: For historical reasons some of the elements in the MCS group configuration Management Object (MO) use the terminology "MCPTT", however this MO is common to all MCS with some MCPTT specific elements, some MCData specific elements and some MCVideo specific elements. Not all elements that contain the terminology "MCPTT" are just MCPTT specific. In the subclauses that follow, it is made clear what aspects are specific to MCPTT and what aspects are specific to all MC services. MCData specific elements are contained under "MCData" nodes. MCVideo specific elements are contained under "MCVideo" nodes.

The Management Object Identifier is: urn:oma:mo:ext-3gpp-MCPTT-group-configuration:1.0.

Protocol compatibility: This MO is compatible with OMA OMA DM 1.2 [3].

The OMA DM ACL property mechanism (see OMA OMA-ERELD-DM-V1\_2 [2]) may be used to grant or deny access rights to OMA DM servers in order to modify nodes and leaf objects of the MCS group configuration MO.

The following nodes and leaf objects are possible under the MCS group configuration node as described in figure 6.1.1.



Figure 6.1.1: The MCS group configuration MO (1 of 5)



Figure 6.1.2: The MCS group configuration MO (2 of 5)



Figure 6.1.3: The MCS group configuration MO (3 of 5)



Figure 6.1.4: The MCS group configuration MO (4 of 5)



Figure 6.1.5: The MCS group configuration MO (5 of 5)

\*\*\*\*\* Next change \*\*\*\*\*

## 8.1 General

The MCS UE initial configuration Management Object (MO) is used to configure the MCS Client behaviour for the on-network or off-network MCS Service. The MCS UE initial configuration parameters may be stored in the ME, or in the USIM as specified in 3GPP TS 31.102 [10], or in both the ME and the USIM. If both the ME and the USIM contain the same parameters, the values stored in the USIM shall take precedence.

NOTE: For historical reasons some of the elements in the MCS UE initial MO uses the terminology "MCPTT", however this MO is common to all MCS with some MCPTT specific elements, some MCData specific elements and some MCVideo specific elements. Not all elements that contain the terminology "MCPTT" are just MCPTT specific.

The Management Object Identifier is: urn:oma:mo:ext-3gpp-MCPTT-UE-initial-configuration:1.0.

Protocol compatibility: This MO is compatible with OMA OMA DM 1.2 [3].

The OMA DM ACL property mechanism (see OMA OMA-ERELD-DM-V1\_2 [2]) may be used to grant or deny access rights to OMA DM servers in order to modify nodes and leaf objects of the MCPTT user profile MO.

The following nodes and leaf objects are possible under the MCPTT node as described in figure 8.1.1, figure 8.1.2, figure 8.1.3 and figure 8.1.4.



Figure 8.1.1: The MCS UE initial configuration MO (1 of 6)



Figure 8.1.2: The MCS UE initial configuration MO (2 of 6)



Figure 8.1.3: The MCS UE initial configuration MO (3 of 6)



Figure 8.1.4: The MCS UE initial configuration MO (4 of 6)



Figure 8.1.5: The MCS UE initial configuration MO (5 of 6)



Figure 8.1.6: The MCS UE initial configuration MO (6 of 6)

\*\*\*\*\* Next change \*\*\*\*\*

## 9.1 General

The MCData UE configuration Management Object (MO) is used to configure MCData Client behaviour for the on-network or off-network MCData Service. The MCData UE configuration parameters may be stored in the ME, or in the USIM as specified in 3GPP TS 31.102 [10], or in both the ME and the USIM. If both the ME and the USIM contain the same parameters, the values stored in the USIM shall take precedence.

The Management Object Identifier is: urn:oma:mo:ext-3gpp-MCData-UE-configuration:1.0.

Protocol compatibility: This MO is compatible with OMA OMA DM 1.2 [3].

The OMA DM ACL property mechanism (see OMA OMA-ERELD-DM-V1\_2 [2]) may be used to grant or deny access rights to OMA DM servers in order to modify nodes and leaf objects of the MCData UE configuration MO.

The following nodes and leaf objects are possible under the MCData UE configuration node as described in figure 9.1.1 and figure 9.1.2.



Figure 9.1.1: The MCData UE configuration MO (1 of 2)



Figure 9.1.2: The MCData UE configuration MO (2 of 2)

\*\*\*\*\* Next change \*\*\*\*\*

## 10.1 General

The MCData user profile configuration Management Object (MO) is used to configure the MCData Client behaviour for the on-network or off-network MCData Service. The MCData user profile configuration parameters may be stored in the ME, or in the USIM as specified in 3GPP TS 31.102 [10], or in both the ME and the USIM. If both the ME and the USIM contain the same parameters, the values stored in the USIM shall take precedence.

The Management Object Identifier is: urn:oma:mo:ext-3gpp-MCData-user-profile:1.0.

Protocol compatibility: This MO is compatible with OMA OMA DM 1.2 [3].

The OMA DM ACL property mechanism (see OMA OMA-ERELD-DM-V1\_2 [2]) may be used to grant or deny access rights to OMA DM servers in order to modify nodes and leaf objects of the MCData user profile MO.

The following nodes and leaf objects are possible under the MCData user profile node as described in figures 10.1.1 through 10.1.4.



Figure 10.1.1: The MCData user profile MO (1 of 4)



Figure 10.1.2: The MCData user profile MO (2 of 4)



Figure 10.1.3: The MCData user profile MO (3 of 4)



Figure 10.1.4: The MCData user profile MO (4 of 4)

\*\*\*\*\* Next change \*\*\*\*\*

## 13.1 General

The MCVideo user profile configuration Management Object (MO) is used to configure the MCVideo Client behaviour for the on-network or off-network MCVideo Service. The MCVideo user profile configuration parameters may be stored in the ME, or in the USIM as specified in 3GPP TS 31.102 [10], or in both the ME and the USIM. If both the ME and the USIM contain the same parameters, the values stored in the USIM shall take precedence.

The Management Object Identifier is: urn:oma:mo:ext-3gpp-MCVideo-user-profile:1.0.

Protocol compatibility: This MO is compatible with OMA OMA DM 1.2 [3].

The OMA DM ACL property mechanism (see OMA OMA-ERELD-DM-V1\_2 [2]) may be used to grant or deny access rights to OMA DM servers in order to modify nodes and leaf objects of the MCVideo user profile MO.

The following nodes and leaf objects are possible under the MCVideo user profile node as described in figure 13.1.1, figure 13.1.2 and figure 13.1.3.



Figure 13.1.1: The MCVideo user profile MO (1 of 3)



Figure 13.1.2: The MCVideo user profile MO (2 of 3)



Figure 13.1.3: The MCVideo user profile MO (3 of 3)

\*\*\*\*\* End of change \*\*\*\*\*