ETSI TS 124 117 V14.0.0 (2017-05)

TECHNICAL SPECIFICATION

LTE;
TV service configuration Management Object (MO)
(3GPP TS 24.117 version 14.0.0 Release 14)

Reference

DTS/TSGC-0124117ve00

Keywords

LTE

ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00   Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

Important notice

The present document can be downloaded from:
http://www.etsi.org/standards-search

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the only prevailing document is the print of the Portable Document Format (PDF) version kept on a specific network drive within ETSI Secretariat.

Users of the present document should be aware that the document may be subject to revision or change of status. Information on the current status of this and other ETSI documents is available at
https://portal.etsi.org/TB/ETSIDeliverableStatus.aspx

If you find errors in the present document, please send your comment to one of the following services:
https://portal.etsi.org/People/CommiteeSupportStaff.aspx

Copyright Notification

ETSI

Intellectual Property Rights

IPRs essential or potentially essential to the present document may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: *"Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards"*, which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (https://ipr.etsi.org/).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

Foreword

This Technical Specification (TS) has been produced by ETSI 3rd Generation Partnership Project (3GPP).

The present document may refer to technical specifications or reports using their 3GPP identities, UMTS identities or GSM identities. These should be interpreted as being references to the corresponding ETSI deliverables.

The cross reference between GSM, UMTS, 3GPP and ETSI identities can be found under http://webapp.etsi.org/key/queryform.asp.

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the ETSI Drafting Rules (Verbal forms for the expression of provisions).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

Contents

Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

x   the first digit:

1   presented to TSG for information;

2   presented to TSG for approval;

3   or greater indicates TSG approved document under change control.

y   the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.

z   the third digit is incremented when editorial only changes have been incorporated in the document.

1   Scope

The present document defines a Management Object (MO) that can be used to configure the parameters related to TV service provided via a PLMN.

The MO is compatible with the OMA Device Management (DM) protocol specifications, version 1.2 and upwards, and is defined using the OMA DM Device Description Framework (DDF) as described in the Enabler Release Definition OMA-ERELD-DM-V1_2 [2].

The MO consists of nodes and leaves conveying configuration parameters used for selecting and receiving TV service from a PLMN, according to the procedures described in 3GPP TS 23.246 [3] and 3GPP TS 24.116 [8].

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-ERELD-DM-V1_2: "Enabler Release Definition for OMA Device Management".

[3]   3GPP TS 23.246: "Multimedia Broadcast/Multicast Service (MBMS); Architecture and functional description".

[4]   IETF RFC 3629 (November 2003): "UTF-8, a transformation format of ISO 10646".

[5]   "Unicode 5.1.0, Unicode Standard Annex #15; Unicode Normalization Forms", March 2008. http://www.unicode.org.

[6]   3GPP TS 23.003: "Numbering, addressing and identification".

[7]   3GPP TS 36.101: "Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) radio transmission and reception".

[8]   3GPP TS 24.116: "Stage 3 aspects of architecture enhancements for TV service".

3   Definitions and abbreviations

3.1   Definitions

For the purposes of the present document, the terms and definitions given in 3GPP TR 21.905 [1] and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in 3GPP TR 21.905 [1].

For the purposes of the present document, the following terms and definitions given in 3GPP TS 24.116 [8   ] apply:

Receive only mode

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TR 21.905 [1] and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in 3GPP TR 21.905 [1].

MO   Management object
TV   Television

4 TV service configuration MO

4.1 General

The TV service configuration MO is used to manage configuration parameters related to the TV service in receive only mode, as defined in the 3GPP TS 24.116 [8], for a device supporting provisioning of such information.

The MO identifier is: urn:oma:mo:ext-3gpp-tv-config:1.0.

The OMA DM Access Control List (ACL) property mechanism (see 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 TV service configuration MO.

4.2 TV service configuration MO structure

The structure of the TV service configuration MO is shown in figure 4-1 and figure 4-2:
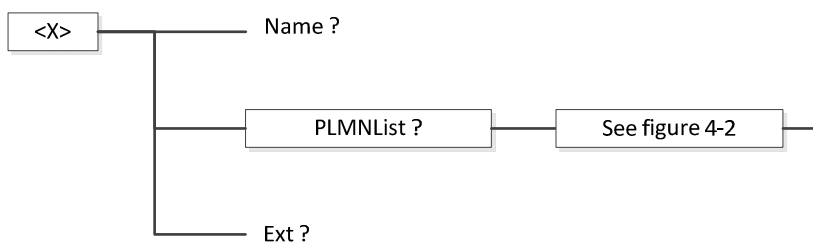
Figure 4-1: TV service configuration MO
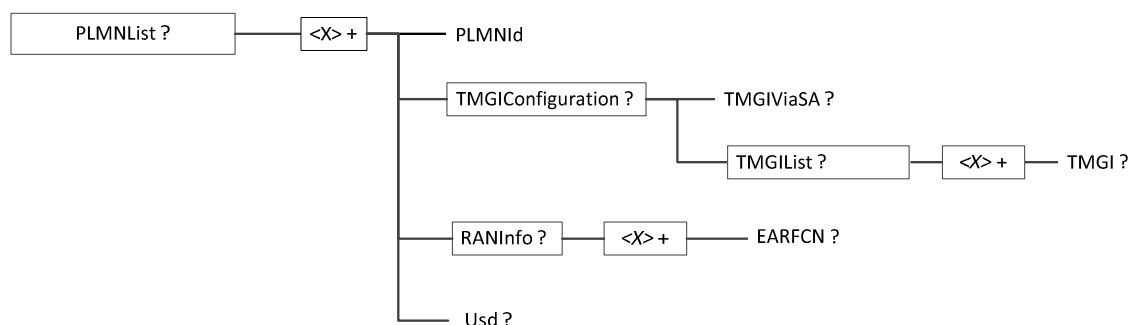
Figure 4-2: PLMNList node

5 TV service configuration MO parameters

5.1 General

This clause describes the nodes and leaves of the TV service configuration MO conveying the configuration parameters.

5.2 Node: *<X>*

This interior node acts as a placeholder for zero or one accounts for a fixed node.

- Occurrence: ZeroOrOne

- Format: node

- Access Types: Get

- Values: N/A

5.3 *<X>*/Name

The Name leaf is a name for the TV service configuration MO settings.

- Occurrence: ZeroOrOne

- Format: chr

- Access Types: Get

- Values: <User displayable name>

The User displayable name shall be represented by Unicode characters encoded as UTF-8 as specified in
IETF RFC 3629 [4] and formatted using Normalization Form KC (NFKC) as specified in Unicode Standard Annex #15;
Unicode Normalization Forms [5].

5.4 *<X>*/PLMNList

The PlmnList node acts as a placeholder for per-PLMN TV service configuration.

- Occurrence: ZeroOrOne

- Format: node

- Access Types: Get, Replace

- Values: N/A

5.5 *<X>*/PLMNList/*<X>*/

This interior node acts as a placeholder for a TV service configuration for one PLMN.

- Occurrence: OneOrMore

- Format: node

- Access Types: Get, Replace

- Values: N/A

5.6 *<X>*/PLMNList/*<X>*/PLMNId

The PlmnId leaf indicates a PLMN identity of the PLMN for which the TV service configuration applies.

- Occurrence: One

- Format: chr

- Access Types: Get, Replace

- Values: <PLMN identity>

The format of the PLMN identity is specified in 3GPP TS 23.003 [6].

5.7 *<X>*/PLMNList/*<X>*/TMGIConfiguration

The TMGIConfiguration node acts as a placeholder for the TMGI configuration in the PLMN identified by the PlmnId leaf.

- Occurrence: One

- Format: chr

- Access Types: Get, Replace

- Values: N/A

5.8 *<X>*/PLMNList/*<X>*/TMGIConfiguration/TMGIViaSA

The TMGIViaSA leaf indicates whether the TMGI are provided via service announcement or not.

- Occurrence: ZeroOrOne

- Format: bool

- Access Types: Get, Replace

- Values: 0, 1

    0   Indicates that the TMGI are not provided via service announcement.

    1   Indicates that the TMGI are provided via service announcement.

The default value 0 applies if this leaf is not provisioned.

5.9 *<X>*/PLMNList/*<X>*/TMGIConfiguration/TMGIList

The TMGIList node acts as a placeholder for the TMGI list.

- Occurrence: ZeroOrOne

- Format: chr

- Access Types: Get, Replace

- Values: N/A

5.10 *<X>*/PLMNList/*<X>*/TMGIConfiguration/TMGIList/*<X>*

This node acts as a placeholder for one or more TMGI configurations.

- Occurrence: OneOrMore

- Format: chr

- Access Types: Get, Replace

- Values: N/A

5.11 *<X>*/PLMNList/*<X>*/TMGIConfiguration/TMGIList/*<X>*/TMGI

The TMGIId leaf indicates a TMGI.

- Occurrence: One

- Format: chr

- Access Types: Get, Replace

- Values: <TMGI>

The format of the TMGI is specified in 3GPP TS 23.003 [6].

5.12 *<X>*/PLMNList/*<X>*/RANInfo

The RANInfo node acts as a placeholder for the RAN-specific information.

- Occurrence: ZeroOrOne

- Format: chr

- Access Types: Get, Replace

- Values: N/A

5.13 *<X>*/PLMNList/*<X>*/RANInfo/*<X>*

This node acts as a placeholder for one or more E-UTRA ARFCN values of one or more MBMS frequencies.

- Occurrence: OneOrMore

- Format: chr

- Access Types: Get, Replace

- Values: N/A

5.14 *<X>*/PLMNList/*<X>*/RANInfo/*<X>*/EARFCN

The EARFCN leaf indicates the E-UTRA ARFCN value of one MBMS frequency.

- Occurrence: One

- Format: int

- Access Types: Get, Replace

- Values: <EARFCN>

The value of the EARCN is a 32-bit long unsigned integer. The format of the EARFCN is specified in 3GPP TS 36.101 [7].

5.15 *<X>*/PLMNList/*<X>*/Usd

The Usd leaf provides information about the user service description for the TV service.

- Occurrence: ZeroOrOne

- Format: chr

- Access Types: Get, Replace

- Values: <TBD>

Editor's note: the values for the Usd node are FFS.

5.16 <X>/Ext

The Ext is an interior node for where the vendor specific information about the TV service configuration MO is being placed (vendor meaning application vendor, device vendor etc.). Usually the vendor extension is identified by vendor specific name under the ext node. The tree structure under the vendor identifier is not defined and can therefore include one or more non-standardized sub-trees.

- Occurrence: ZeroOrOne

- Format: node

- Access Types: Get

- Values: N/A

Annex A (informative):
TV service configuration MO DDF

This DDF is the standardized minimal set. A vendor can define its own DDF for the complete device. This DDF can include more features than this minimal standardized version.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE MgmtTree PUBLIC "-//OMA//DTD-DM-DDF 1.2//EN"
"http://www.openmobilealliance.org/tech/DTD/dm_ddf-v1_2.dtd">

<MgmtTree>
    <VerDTD>1.2</VerDTD>
    <Man>--The device manufacturer--</Man>
    <Mod>--The device model--</Mod>

    <Node>
        <NodeName/>
        <DFProperties>
            <AccessType>
                <Get/>
            </AccessType>
            <Description>TV service configuration for receive only mode</Description>
            <DFFormat>
                <node/>
            </DFFormat>
            <Occurrence>
                <ZeroOrOne/>
            </Occurrence>
            <DFTitle>The TV service configuration Management Object.</DFTitle>
            <DFType>
                <DDFName>urn:oma:mo:ext-3gpp-tv-config:1.0</DDFName>
            </DFType>
        </DFProperties>

        <Node>
            <NodeName>Name</NodeName>
            <DFProperties>
                <AccessType>
                    <Get/>
                </AccessType>
                <DFFormat>
                    <chr/>
                </DFFormat>
                <Occurrence>
                    <ZeroOrOne/>
                </Occurrence>
                <DFTitle>User displayable name for the node.</DFTitle>
                <DFType>
                    <MIME>text/plain</MIME>
                </DFType>
            </DFProperties>
        </Node>

        <Node>
            <NodeName>ReceiveOnlyModeActivated</NodeName>
            <DFProperties>
                <AccessType>
                    <Get/>
                    <Replace/>
                </AccessType>
                <DFFormat>
                    <bool/>
                </DFFormat>
                <Occurrence>
                    <ZeroOrOne/>
                </Occurrence>
                <DFTitle>Receive only mode activated or not.</DFTitle>
                <DFType>
                    <MIME>text/plain</MIME>
                </DFType>
            </DFProperties>
        </Node>

        <Node>
            <NodeName>PlmnList</NodeName>
```

```
                <!-- The per-PLMN configuration starts here. -->
                <DFProperties>
                    <AccessType>
                        <Get/>
                        <Replace/>
                    </AccessType>
                    <DFFormat>
                        <node/>
                    </DFFormat>
                    <Occurrence>
                        <ZeroOrOne/>
                    </Occurrence>
                    <DFTitle>Per-PLMN configuration for TV service.</DFTitle>
                    <DFType>
                        <DDFName/>
                    </DFType>
                </DFProperties>

                <Node>
                    <NodeName></NodeName>
                    <DFProperties>
                        <AccessType>
                            <Get/>
                            <Replace/>
                        </AccessType>
                        <DFFormat>
                            <node/>
                        </DFFormat>
                        <Occurrence>
                            <OneOrMore/>
                        </Occurrence>
                        <DFType>
                            <DDFName></DDFName>
                        </DFType>
                    </DFProperties>

                    <Node>
                        <NodeName>PlmnId</NodeName>
                        <DFProperties>
                            <AccessType>
                                <Get/>
                                <Replace/>
                            </AccessType>
                            <DFFormat>
                                <chr/>
                            </DFFormat>
                            <Occurrence>
                                <One/>
                            </Occurrence>
                            <DFTitle>PLMN identity.</DFTitle>
                            <DFType>
                                <MIME>text/plain</MIME>
                            </DFType>
                        </DFProperties>
                    </Node>

                    <Node>
                        <NodeName>TmgiConfiguration</NodeName>
                        <!-- The per-PLMN TMGI configuration starts here. -->
                        <DFProperties>
                            <AccessType>
                                <Get/>
                                <Replace/>
                            </AccessType>
                            <DFFormat>
                                <node/>
                            </DFFormat>
                            <Occurrence>
                                <One/>
                            </Occurrence>
                            <DFTitle>Per-PLMN TMGI configuration.</DFTitle>
                            <DFType>
                                <DDFName/>
                            </DFType>
                        </DFProperties>

                        <Node>
                            <NodeName>TmgiViaSA</NodeName>
```

```
                <DFProperties>
                    <AccessType>
                        <Get/>
                        <Replace/>
                    </AccessType>
                    <DFFormat>
                        <bool/>
                    </DFFormat>
                    <Occurrence>
                        <ZeroOrOne/>
                    </Occurrence>
                    <DFTitle>TMGI provided via service announcement or not.</DFTitle>
                    <DFType>
                        <MIME>text/plain</MIME>
                    </DFType>
                </DFProperties>
        </Node>

        <Node>
            <NodeName>TmgiList</NodeName>
            <!-- The per-PLMN configuration starts here. -->
            <DFProperties>
                <AccessType>
                    <Get/>
                    <Replace/>
                </AccessType>
                <DFFormat>
                    <node/>
                </DFFormat>
                <Occurrence>
                    <ZeroOrOne/>
                </Occurrence>
                <DFTitle>List of TMGI for TV service in receive only mode.</DFTitle>
                <DFType>
                    <DDFName/>
                </DFType>
            </DFProperties>

            <Node>
                <NodeName></NodeName>
                <DFProperties>
                    <AccessType>
                        <Get/>
                        <Replace/>
                    </AccessType>
                    <DFFormat>
                        <node/>
                    </DFFormat>
                    <Occurrence>
                        <OneOrMore/>
                    </Occurrence>
                    <DFType>
                        <DDFName></DDFName>
                    </DFType>
                </DFProperties>

                <Node>
                    <NodeName>Tmgi</NodeName>
                    <DFProperties>
                        <AccessType>
                            <Get/>
                            <Replace/>
                        </AccessType>
                        <DFFormat>
                            <chr/>
                        </DFFormat>
                        <Occurrence>
                            <One/>
                        </Occurrence>
                        <DFTitle>TMGI for TV service inr eceive only mode.</DFTitle>
                        <DFType>
                            <MIME>text/plain</MIME>
                        </DFType>
                    </DFProperties>
                </Node>
            </Node>
        </Node>
    </Node>
```

```
<Node>
    <NodeName>RanInfo</NodeName>
    <!-- The per-PLMN RAN configuration starts here. -->
    <DFProperties>
        <AccessType>
            <Get/>
            <Replace/>
        </AccessType>
        <DFFormat>
            <node/>
        </DFFormat>
        <Occurrence>
            <ZeroOrOne/>
        </Occurrence>
        <DFTitle>RAN-specific info for TV service in receive only mode.</DFTitle>
        <DFType>
            <DDFName/>
        </DFType>
    </DFProperties>

    <Node>
        <NodeName></NodeName>
        <DFProperties>
            <AccessType>
                <Get/>
                <Replace/>
            </AccessType>
            <DFFormat>
                <node/>
            </DFFormat>
            <Occurrence>
                <OneOrMore/>
            </Occurrence>
            <DFType>
                <DDFName></DDFName>
            </DFType>
        </DFProperties>

        <Node>
            <NodeName>Earfcn</NodeName>
            <DFProperties>
                <AccessType>
                    <Get/>
                    <Replace/>
                </AccessType>
                <DFFormat>
                    <int/>
                </DFFormat>
                <Occurrence>
                    <One/>
                </Occurrence>
                <DFTitle>EARFCN of one MBMS frequency.</DFTitle>
                <DFType>
                    <MIME>text/plain</MIME>
                </DFType>
            </DFProperties>
        </Node>
    </Node>
</Node>

<Node>
    <NodeName>Usd</NodeName>
    <DFProperties>
        <AccessType>
            <Get/>
            <Replace/>
        </AccessType>
        <DFFormat>
            <chr/>
        </DFFormat>
        <Occurrence>
            <ZeroOrOne/>
        </Occurrence>
        <DFTitle>user service description</DFTitle>
        <DFType>
            <MIME>text/plain</MIME>
        </DFType>
```

```
                    </DFProperties>
                </Node>
            </Node>
        </Node>

        <Node>
            <NodeName>Ext</NodeName>
            <DFProperties>
                <AccessType>
                    <Get/>
                </AccessType>
                <DFFormat>
                    <node/>
                </DFFormat>
                <Occurrence>
                    <ZeroOrOne/>
                </Occurrence>
                <DFTitle>A collection of all extension objects.</DFTitle>
                <DFType>
                    <DDFName/>
                </DFType>
            </DFProperties>
        </Node>
    </Node>
</MgmtTree>
```

Annex B (informative): Change history

Change history							
Date	**Meeting**	**TDoc**	**CR**	**Rev**	**Cat**	**Subject/Comment**	**New version**
2016-11	CT1#101					Skeleton for the TV service configuration MO (C1-165344)	0.0.0
2016-11	CT1#101					Inclusion of C1-165396, C1-163597 and editorial changes from the rapporteur.	0.1.0
2016-11	CT-74	CP-160779				Creation of v1.0.0 for presentation for information to CT plenary	1.0.0
2017-01	CT-74					Spec number added	1.0.1
2017-02	CT1#101bis					Inclusion of C1-170204, C1-170501 and C1-171215.	1.1.0
2017-02	CT-75					Creation of v2.0.0 for presentation for approval to CT plenary	2.0.0
2017-03	CT-75					Creation of v14.0.0 after approval at CT plenary	14.0.0

History

Document history		
V14.0.0	May 2017	Publication