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**LTE;
TV service configuration Management Object (MO)
(3GPP TS 24.117 version 14.1.0 Release 14)**



Reference

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Keywords

LTE

ETSI

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Contents

Intellectual Property Rights	2
Foreword.....	2
Modal verbs terminology.....	2
Foreword.....	4
1 Scope	5
2 References	5
3 Definitions and abbreviations.....	5
3.1 Definitions	5
3.2 Abbreviations	6
4 TV service configuration MO	6
4.1 General	6
4.2 TV service configuration MO structure.....	6
5 TV service configuration MO parameters.....	7
5.1 General	7
5.2 Node: <X>	7
5.3 <X>/Name	7
5.4 <X>/PLMNList.....	7
5.5 <X>/PLMNList/<X>/.....	7
5.6 <X>/PLMNList/<X>/PLMNId	8
5.7 <X>/PLMNList/<X>/TMGIConfiguration	8
5.8 <X>/PLMNList/<X>/TMGIConfiguration/TMGIListForSA	8
5.8a <X>/PLMNList/<X>/TMGIConfiguration/TMGIListForSA/<X>	8
5.8b <X>/PLMNList/<X>/TMGIConfiguration/TMGIListForSA/<X>/TMGI	9
5.8c <X>/PLMNList/<X>/TMGIConfiguration/TMGIListForSA/<X>/USD	9
5.9 <X>/PLMNList/<X>/TMGIConfiguration/TMGIListForService	9
5.10 <X>/PLMNList/<X>/TMGIConfiguration/TMGIListForService/<X>.....	9
5.11 <X>/PLMNList/<X>/TMGIConfiguration/TMGIListForService/<X>/TMGI	10
5.11a <X>/PLMNList/<X>/TMGIConfiguration/TMGIListForService/<X>/USD.....	10
5.12 <X>/PLMNList/<X>/RANInfo.....	10
5.13 <X>/PLMNList/<X>/RANInfo/<X>	10
5.14 <X>/PLMNList/<X>/RANInfo/<X>/EARFCN	11
5.15 Void.....	11
5.16 <X>/Ext	11
Annex A (informative): TV service configuration MO DDF	12
Annex B (informative): Change history	17
History	18

Foreword

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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-ERELED-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-ERELED-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".
- [9] 3GPP TS 26.346: "Multimedia Broadcast/Multicast Service (MBMS); Protocols and Codecs".

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-ERELED-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:

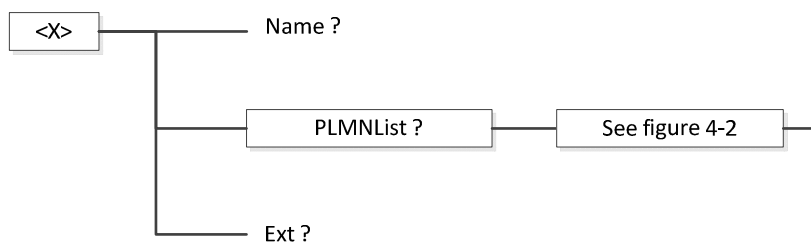


Figure 4-1: TV service configuration MO

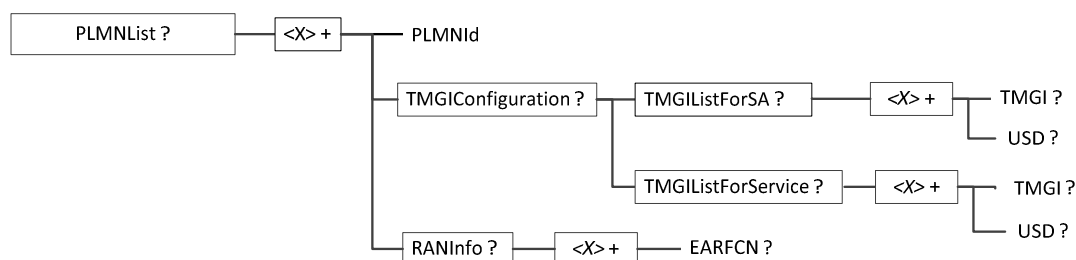


Figure 4-2: PLMNList node

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/TMGIListForSA

The TMGIViaSA node acts as a placeholder for the TMGI list and the MBMS Service Announcement information for MBMS Service Announcement service for broadcast TV services.

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.8a <X>/PLMNList/<X>/TMGIConfiguration/TMGIListForSA/<X>

This node acts as a placeholder for one or more TMGI and the MBMS Service Announcement information for MBMS Service Announcement service for broadcast TV service.

- Occurrence: OneOrMore
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.8b

<X>/PLMNList/<X>/TMGIConfiguration/TMGIListForSA/<X>
/TMGI

The TMGI leaf indicates a TMGI for the MBMS Service Announcement information for MBMS Service Announcement service for broadcast TV service.

- Occurrence: One
- Format: chr
- Access Types: Get, Replace
- Values: <TMGI>

The format of the TMGI is specified in 3GPP TS 23.003 [6]. The TMGI is a reserved value according to 3GPP 24.116 [8].

5.8c

<X>/PLMNList/<X>/TMGIConfiguration/TMGIListForSA/<X>
/USD

The USD leaf provides a the MBMS Service Announcement information for MBMS Service Announcement service for broadcast TV service.

- Occurrence: ZeroOrOne
- Format: chr
- Access Types: Get, Replace
- Values: <USD>

The format of the USD is defined in 3GPP TS 26.346 [9].

5.9 <X>/PLMNList/<X>/TMGIConfiguration/TMGIListForService

The TMGIListForService node acts as a placeholder for the TMGI list and MBMS User Service Announcement information for the MBMS User Service for broadcast TV services.

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.10

<X>/PLMNList/<X>/TMGIConfiguration/TMGIListForService
/<X>

This node acts as a placeholder for one or more TMGI and MBMS User Service Announcement information for the MBMS User Service for broadcast TV serviceconfigurations.

- Occurrence: OneOrMore

- Format: node
- Access Types: Get, Replace
- Values: N/A

5.11

**<X>/PLMNList/<X>/TMGIconfiguration/TMGIListForService
/<X>/TMGI**

The TMGI leaf indicates a TMGI for broadcast TV service.

- Occurrence: One
- Format: chr
- Access Types: Get, Replace
- Values: <TMGI>

The format of the TMGI is specified in 3GPP TS 23.003 [6]. The TMGI is a reserved value according to 3GPP 24.116 [8].

5.11a

**<X>/PLMNList/<X>/TMGIconfiguration/TMGIListForService
/<X>/USD**

The USD leaf provides an USD for broadcast TV service using MBMS. The USD leaf provides the MBMS User Service Announcement information for the MBMS User Service corresponding to the broadcast TV service.

- Occurrence: ZeroOrOne
- Format: chr
- Access Types: Get, Replace
- Values: <USD>

The format of the USD is defined in 3GPP TS 26.346 [9].

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

5.15 Void

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 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 in receive only mode.</DFTitle>
        <DFType>
          <MIME>text/plain</MIME>
        </DFType>
      </DFProperties>
    </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>
    <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>

```



```
        </DFProperties>
      </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
2017-06	CT-76	CP-171070	0001	4	B	Addition of Service Announcement and USD configuration	14.1.0

History

Document history		
V14.0.0	May 2017	Publication
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