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Technical Specification

**3rd Generation Partnership Project;
Technical Specification Group Core Network;
3GPP IMS Management Object (MO);
Stage 3
(Release 6)**



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Keywords

UMTS, IMS, SIP, Multimedia, Management

3GPP

Postal address

3GPP support office address

650 Route des Lucioles - Sophia Antipolis
Valbonne - FRANCE
Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Internet

<http://www.3gpp.org>

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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

This document defines a mobile device 3GPP IMS Management Object. The management object is compatible with OMA Device Management protocol specifications, version 1.1.2 and upwards, and is defined using the OMA DM Device Description Framework as described in OMA-SyncML-DMTND-V1-1 [6] and OMA-SyncML-DMStdObj-V1-1-2 [7].

The 3GPP IMS Management Object consists of relevant parameters that can be managed for the IM CN Subsystem. This includes the basic framework defined in 3GPP TS 23.228 [4] and 3GPP TS 24.229 [5], and early IMS as defined in 3GPP TS 23.221 [3].

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the 3GPP IMS Management Object 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] 3GPP TS 23.003: "Numbering, addressing and identification".
- [3] 3GPP TS 23.221: "Architectural requirements".
- [4] 3GPP TS 23.228: "IP Multimedia Subsystem (IMS); Stage 2".
- [5] 3GPP TS 24.229: "Internet Protocol (IP) multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); Stage 3".
- [6] OMA-SyncML-DMTND-V1-1: "SyncML Device Management Tree and Description".
- [7] OMA-SyncML-DMStdObj-V1-1-2: "SyncML Device Management Standardized Objects".
- [8] RFC 1123: "Requirements for Internet Hosts -- Application and Support".

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] apply.

3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

CN	Core Network
CSCF	Call Session Control Function
DDF	Device Description Framework
DM	Device Management
IMS	IP Multimedia core network Subsystem

IP	Internet Protocol
MO	Management Object
OMA	Open Mobile Alliance
P-CSCF	Proxy – CSCF
PDP	Packet Data Protocol
SIP	Session Initiation Protocol
UE	User Equipment

4 3GPP IMS Management Object

The 3GPP IMS Management Object is used to manage settings of the UE for IM CN Subsystem protocols. The Management Object covers generic parameters for the IM CN subsystem. The Management Object enables the management of the settings on behalf of the end user.

The Management Object Identifier is: org.3gpp/1.0/SIPCore

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

Management object name: 3GPP_IMS

Editor’s Note: The name of the management object to be determined by OMA.

The following nodes and leaf objects are possible under the 3GPP_IMS node:

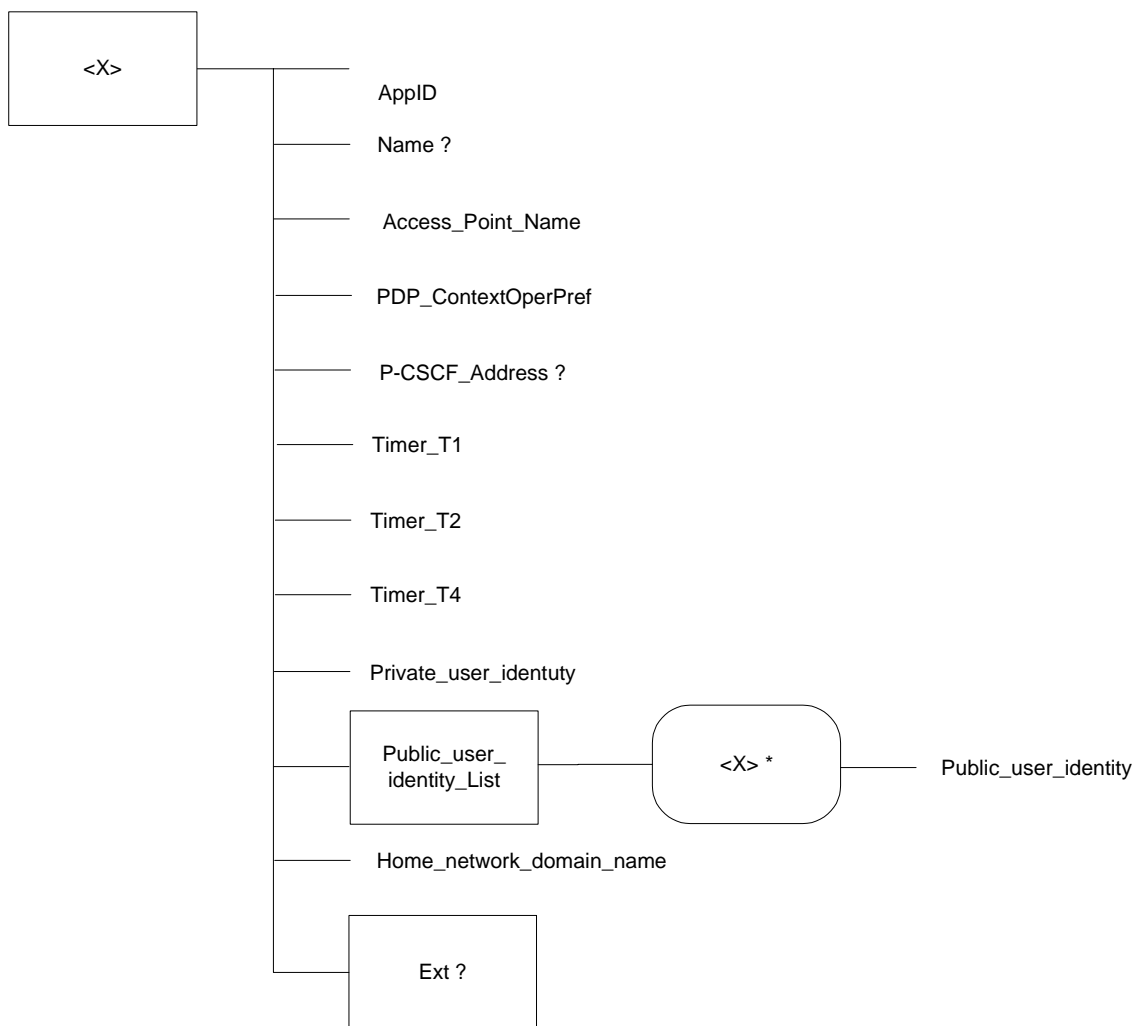


Figure 1: The 3GPP IMS Management Object

5 Management Object parameters

5.1 General

This clause describes the parameters for the 3GPP IMS Management Object.

5.2 Node: /<X>

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

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

The interior node is mandatory if the UE supports the IM CN Subsystem. Support for a UE is defined by the user agent role as defined in 3GPP TS 24.229 [5].

5.3 /<X>/AppID

The AppID identifies the type of the application service available at the described application service access point. The value is expected to be globally unique.

- Occurrence: One
- Format: chr
- Access Types: Get
- Values: <Globally unique value>

Editor's Note: The value of the 3GPP_IMS/AppID to be determined by OMA

5.4 /<X>/Name

The Name leaf is a name for the 3GPP_IMS settings.

- Occurrence: ZeroOrOne
- Format: chr
- Access Types: Get
- Values: <User displayable name>

5.5 /<X>/Access_Point_Name

The Access_Point_Name leaf defines the APN to use for where the PDP context for the SIP towards the FQDN to a P-CSCF.

- Occurrence: One
- Format: chr
- Access Types: Get, Replace
- Values: <The IMS access point name>

The format of the APN is defined by 3GPP TS 23.003 [2].

Example: operator.com

5.6 /<X>/PDP_ContextOperPref

The PDP_ContextOperPref leaf indicates an operator's preference to have a dedicated PDP context for SIP signalling.

- Occurrence: One
- Format: bin
- Access Types: Get, Replace
- Values: 0, 1
 - 0 – Indicates that the operator has no preference for a dedicated PDP context for SIP signalling.
 - 1 – Indicates that the operator has preference for a dedicated PDP context for SIP signalling.

The PDP_ContextOperPref leaf indicates a preference only. 3GPP TS 24.229 [5] describes the normative options and the procedures for establishment of a dedicated PDP context for SIP signalling.

5.7 /<X>/P-CSCF_Address

The P-CSCF_Address leaf defines an FQDN to an IPv4 P-CSCF.

- Occurrence: ZeroOrOne
- Format: chr
- Access Types: Get, Replace
- Values: <A fully qualified domain name>

The P-CSCF_Address leaf shall only be used in early IMS implementations as described in 3GPP TS 23.221 [3].

The FQDN, or domain name as defined by RFC 1123 [8], is represented as character-labels with dots as delimiters.

Example: operator.com

5.8 /<X>/Timer_T1

The Timer_T1 leaf defines the SIP timer T1 – the RTT estimate.

- Occurrence: One
- Format: chr
- Access Types: Get, Replace
- Values: <The round trip time>

The Timer_T1 leaf is an estimate for the round trip time in the system (UE – P-CSCF). The timer value shall be given in milliseconds. The recommended value is defined in 3GPP TS 24.229 [5].

Example: 2000 (milliseconds)

5.9 /<X>/Timer_T2

The Timer_T2 leaf defines the SIP timer T2 – the maximum retransmit interval for non-INVITE requests and INVITE responses.

- Occurrence: One
- Format: chr
- Access Types: Get, Replace
- Values: < The maximum retransmit interval for non-INVITE requests and INVITE responses>

The Timer_T2 leaf is an estimate for the maximum retransmit interval for non-INVITE requests and INVITE responses. The timer value shall be given in milliseconds. The recommended value is defined in 3GPP TS 24.229 [5].

Example: 16000 (milliseconds)

5.10 /<X>/Timer_T4

The Timer_T4 leaf defines the SIP timer T4 – the maximum duration a message will remain in the network.

- Occurrence: One

- Format: chr
- Access Types: Get, Replace
- Values: <The maximum duration a message will remain in the network>

The Timer_T4 leaf is an estimate for the maximum duration a message will remain in the network. The timer value shall be given in milliseconds. The recommended value is defined in 3GPP TS 24.229 [5].

Example: 17000 (milliseconds)

5.11 /<X>/Private_user_identity

The Private_user_identity leaf represents the private user identity.

- Occurrence: One
- Format: chr
- Access Types: Get
- Values: <A private user identity>

NOTE: The Private_user_identity leaf value is populated by the UE using the procedures to obtain the private user identity specified in 3GPP TS 24.229 [5].

The format of the private user identity is defined by 3GPP TS 23.003 [2].

Example: 23415099999999@ims.mnc015.mcc234.3gppnetwork.org

5.12 /<X>/Public_user_identity_List/

The Public_user_identity_List interior node is used to allow a reference to a list of public user identities.

- Occurrence: One
- Format: node
- Access Types: Get
- Values: N/A

5.13 /<X>/Public_user_identity_List/<X>

This run-time node acts as a placeholder for one or more public user identities.

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

5.14 /<X>/Public_user_identity_List/<X>/Public_user_identity

The Public_user_identity leaf represents one or more public user identities.

- Occurrence: One
- Format: chr
- Access Types: Get
- Values: <A public user identity>

NOTE: The Public_user_identity leaf value is populated by the UE using the procedures to obtain the public user identity specified in 3GPP TS 24.229 [5].

The temporary public user identity if derived is populated and stored as the topmost element in the Public_user_identity_List as specified in 3GPP TS 24.229 [5].

The format of the public user identity is defined by 3GPP TS 23.003 [2].

Example: sip:user@domain

5.15 /<X>/Home_network_domain_name

The Home_network_domain_name leaf indicates the operator's home network domain.

- Occurrence: One
- Format: chr
- Access Types: Get
- Values: <The home network domain name>

NOTE: The Home_network_domain_name leaf value is populated by the UE using the procedures to obtain the home network domain name specified in 3GPP TS 24.229 [5].

The format of the home network domain name is defined by 3GPP TS 23.003 [2].

Example: ims.mnc015.mcc234.3gppnetwork.org

5.16 /<X>/Ext/

The Ext is an interior node for where the vendor specific information about the 3GPP-IMS 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 identified is not defined and can therefore include un-standardized sub-tree.

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

Annex A (informative): Management Object DDF

This DDF is the standardized minimal set. A vendor can define it's 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 SYNCML-DMDDF 1.2//EN"
http://www.openmobilealliance.org/tech/DTD/OMA-SyncML-DMDDF-1_2.dtd>
<MgmtTree>
  <VerDTD>1.2</VerDTD>
  <Man>--The device manufacturer--</Man>
  <Mod>--The device model--</Mod>

  <Node>
    <NodeName>3GPP_IMS</NodeName>
    <DFProperties>
      <AccessType>
        <Get/>
      </AccessType>
      <Description>3GPP IMS settings</Description>
      <DFFormat>
        <node/>
      </DFFormat>
      <Occurrence>
        <OneOrMore/>
      </Occurrence>
      <Scope>
        <Permanent/>
      </Scope>
      <DFTitle>The 3GPP IMS Management Object.</DFTitle>
      <DFType>
        <DDFName/>
      </DFType>
    </DFProperties>

    <Node>
      <NodeName>AppID</NodeName>
      <DFProperties>
        <AccessType>
          <Get/>
        </AccessType>
        <DFFormat>
          <chr/>
        </DFFormat>
        <Occurrence>
          <One/>
        </Occurrence>
        <Scope>
          <Permanent/>
        </Scope>
        <DFTitle>The Application ID.</DFTitle>
        <DFType>
          <MIME>text/plain</MIME>
        </DFType>
      </DFProperties>
    </Node>

    <Node>
      <NodeName>Name</NodeName>
```

```

    <DFProperties>
      <AccessType>
        <Get/>
      </AccessType>
      <DFFormat>
        <chr/>
      </DFFormat>
      <Occurrence>
        <ZeroOrOne/>
      </Occurrence>
      <Scope>
        <Dynamic/>
      </Scope>
      <DFTitle>User displayable name for the node.</DFTitle>
      <DFType>
        <MIME>text/plain</MIME>
      </DFType>
    </DFProperties>
  </Node>
</Node>
<Node>
  <nodeName>Access_Point_Name</nodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <chr/>
    </DFFormat>
    <Occurrence>
      <One/>
    </Occurrence>
    <Scope>
      <Permanent/>
    </Scope>
    <DFTitle>The IMS access point name.</DFTitle>
    <DFType>
      <MIME>text/plain</MIME>
    </DFType>
  </DFProperties>
</Node>
<Node>
  <nodeName>PDP_ContextOperPref</nodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <bin/>
    </DFFormat>
    <Occurrence>
      <One/>
    </Occurrence>
    <Scope>
      <Permanent/>
    </Scope>
    <DFTitle>Indication of the operator's preference for a dedicated PDP context for IMS
signalling.</DFTitle>
    <DFType>
      <MIME>text/plain</MIME>

```

```

    </DFType>
  </DFProperties>
</Node>
<Node>
  <nodeName>P-CSCF_Address</nodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <chr/>
    </DFFormat>
    <Occurrence>
      <ZeroOrOne/>
    </Occurrence>
    <Scope>
      <Dynamic/>
    </Scope>
    <DFTitle>The address of the P-CSCF.</DFTitle>
    <DFType>
      <MIME>text/plain</MIME>
    </DFType>
  </DFProperties>
</Node>
<Node>
  <nodeName>Timer_T1</nodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <chr/>
    </DFFormat>
    <Occurrence>
      <One/>
    </Occurrence>
    <Scope>
      <Permanent/>
    </Scope>
    <DFTitle>RFC 3261, timer T1.</DFTitle>
    <DFType>
      <MIME>text/plain</MIME>
    </DFType>
  </DFProperties>
</Node>
<Node>
  <nodeName>Timer_T2</nodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <chr/>
    </DFFormat>
    <Occurrence>
      <One/>
    </Occurrence>

```

```

    <Scope>
      <Permanent/>
    </Scope>
    <DFTitle>RFC 3261, timer T2.</DFTitle>
    <DFType>
      <MIME>text/plain</MIME>
    </DFType>
  </DFProperties>
</Node>
<Node>
  <NodeName>Timer_T4</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <chr/>
    </DFFormat>
    <Occurrence>
      <One/>
    </Occurrence>
    <Scope>
      <Permanent/>
    </Scope>
    <DFTitle>RFC 3261, timer T4.</DFTitle>
    <DFType>
      <MIME>text/plain</MIME>
    </DFType>
  </DFProperties>
</Node>
<Node>
  <NodeName>Private_user_identity</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
    </AccessType>
    <DFFormat>
      <chr/>
    </DFFormat>
    <Occurrence>
      <One/>
    </Occurrence>
    <Scope>
      <Permanent/>
    </Scope>
    <DFTitle>The private user identity.</DFTitle>
    <DFType>
      <MIME>text/plain</MIME>
    </DFType>
  </DFProperties>
</Node>
<Node>
  <NodeName>Public_user_identity_List</NodeName>
  <!-- The Public_user_identity_List node starts here. -->
  <DFProperties>
    <AccessType>
      <Get/>
    </AccessType>
    <DFFormat>

```

```

    <node/>
  </DFFormat>
  <Occurrence>
    <One/>
  </Occurrence>
  <Scope>
    <Permanent/>
  </Scope>
  <DFTitle>A collection of public user identity objects.</DFTitle>
  <DFType>
    <DDFName/>
  </DFType>
</DFProperties>
<Node>
  <NodeName/>
  <DFProperties>
    <AccessType>
      <Get/>
    </AccessType>
    <DFFormat>
      <node/>
    </DFFormat>
    <Occurrence>
      <OneOrMore/>
    </Occurrence>
    <Scope>
      <Dynamic/>
    </Scope>
    <DFTitle>The "name" node for a public user identity object.</DFTitle>
    <DFType>
      <DDFName/>
    </DFType>
  </DFProperties>
</Node>
  <NodeName>Public_user_identity</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
    </AccessType>
    <DFFormat>
      <chr/>
    </DFFormat>
    <Occurrence>
      <One/>
    </Occurrence>
    <Scope>
      <Permanent/>
    </Scope>
    <DFTitle>The public user identity.</DFTitle>
    <DFType>
      <MIME>text/plain</MIME>
    </DFType>
  </DFProperties>
</Node>
</Node>
</Node>
<Node>
  <NodeName>Home_network_domain_name</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>

```



```
</AccessType>
<DFFormat>
  <chr/>
</DFFormat>
<Occurrence>
  <One/>
</Occurrence>
<Scope>
  <Permanent/>
</Scope>
<DFTitle>The home network domain name.</DFTitle>
<DFType>
  <MIME>text/plain</MIME>
</DFType>
</DFProperties>
</Node>
<Node>
  <nodeName>Ext</nodeName>
  <!-- The Extension node starts here. -->
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <node/>
    </DFFormat>
    <Occurrence>
      <ZeroOrOne/>
    </Occurrence>
    <Scope>
      <Dynamic/>
    </Scope>
    <DFTitle>A collection of all Extension objects.</DFTitle>
    <DFType>
      <DDFName/>
    </DFType>
  </DFProperties>
</Node>
</Node>
</MgmtTree>
```

Annex B (informative): Change history

Change history								
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New	WG doc
2004-10					Version 0.0.1: Preliminary proposal		0.0.1	
2004-11					Version 0.0.2: Version after CN1 #36	0.0.1	0.0.2	
2004-12					Version 1.0.0: Version after CN1#36 and editorial corrections	0.0.2	1.0.0	
2005-02					Version 1.1.0: Version after CN1#37 and editorial corrections	1.0.0	1.1.0	N1-050330 N1-050393
2005-02					Version 2.0.0 created by MCC	1.1.0	2.0.0	