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Technical Specification

**Universal Mobile Telecommunications System (UMTS);
LTE;
Communication Continuity Management Object (MO)
(3GPP TS 24.216 version 7.5.0 Release 7)**



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Foreword

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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 the Communication Continuity Management Object. The management object is compatible with OMA Device Management protocol specifications, version 1.2 and upwards, and is defined using the OMA DM Device Description Framework as described in the Enabler Release Definition OMA-ERELED_DM-V1_2 [4].

The Communication Continuity Management Object consists of relevant parameters that can be managed for Communication Continuity capabilities.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the Communication Continuity 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 24.206: "Voice call continuity between Circuit Switched (CS) and IP Multimedia Subsystem (IMS); Stage 3".
- [4] OMA-ERELED-DM-V1_2-20060602-C: "Enabler Release Definition for OMA Device Management, Candidate Version 1.2".

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.

For the purposes of the present document, the following terms and definitions given in 3GPP TS 23.003 [2] apply:

VCC Domain Transfer Number (VDN)
VCC Domain Transfer URI (VDI)

3.2 Abbreviations

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

CN	Core Network
DDF	Device Description Framework
DM	Device Management
DT	Domain Transfer
IMS	IP Multimedia core network Subsystem
IP	Internet Protocol
MO	Management Object
OMA	Open Mobile Alliance

SIP	Session Initiation Protocol
UE	User Equipment
VCC	Voice Call Continuity
VDI	VCC Domain Transfer URI
VDN	VCC Domain Transfer Number

4 Communication Continuity Management Object

The Communication Continuity Management Object is used to manage settings of the UE for communication continuation capabilities. The Management Object covers parameters for communication continuation related capabilities. The Management Object enables the management of the settings on behalf of the end user.

The Communication Continuity MO covers settings of the UE for the following capabilities:

- Voice Call Continuity (VCC) as specified in 3GPP TS 24.206 [3].

NOTE: The Communication Continuity MO can be expanded to cover settings of further communication continuity capabilities.

The Management Object Identifier is: urn:oma:mo:ext-3gpp-communication-continuity:1.0.

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

The following nodes and leaf objects are possible under the Communication Continuity node:

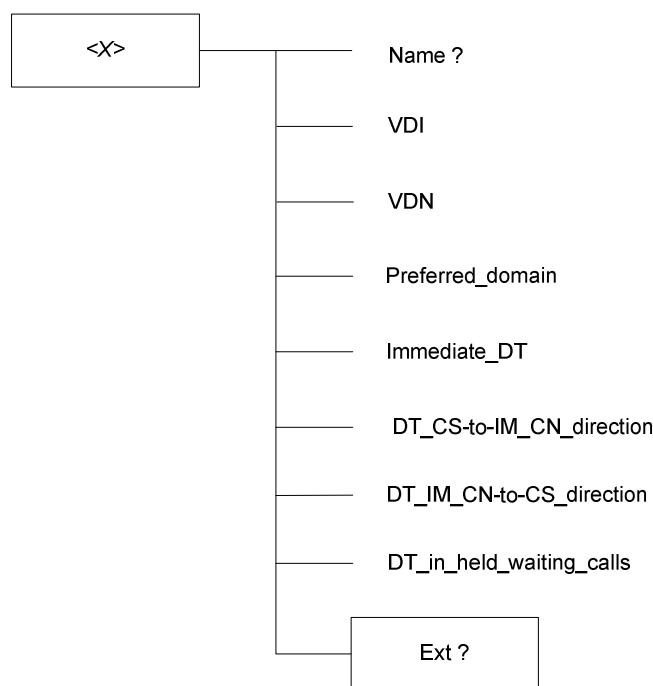


Figure 1: The Communication Continuity Object

5 Management Object parameters

5.1 General

This clause describes the parameters for the Communication Continuity 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 one or more Communication Continuity capabilities. Support for a UE is defined by the related roles as defined by the related communication continuity service, as listed in clause 4 of this specification.

NOTE: One node is normally used.

5.3 /<X>/Name

The Name leaf is a name for the Communication Continuity settings.

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

5.4 /<X>/VDI/

The VDI leaf is the VCC Transfer URI that the user includes in SIP INVITE requests to initiate domain transfer.

- Occurrence: One
- Format: chr
- Access Types: Get, Replace
- Values: < A VCC VDI >

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

EXAMPLE: sip:domain.xfer@dtf1.home1.net

5.5 /<X>/VDN/

The VDN leaf is the VCC Transfer Number that the user includes in a circuit switched call setup to initiate domain transfer.

- Occurrence: One
- Format: chr
- Access Types: Get, Replace
- Values: < A VCC VDN >

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

EXAMPLE: +12125555555

5.6 /<X>/Preferred_domain/

The Preferred domain leaf represents the operator's preferred domain for UE originated calls/sessions.

- Occurrence: One
- Format: chr
- Access Types: Get, Replace
- Values: 0, 1, 2, 3
 - 0 – Indicates the preference for CS domain.
 - 1 – Indicates the preference for IM CN subsystem.
 - 2 – Indicates the preference for CS domain only.
 - 3 – Indicates the preference for IM CN subsystem only.

5.7 /<X>/Immediate_DT/

The Immediate Domain Transfer leaf indicates whether to initiate a VCC domain transfer immediately to the operator's preferred domain when that domain becomes available. This operator policy only affects ongoing sessions.

- Occurrence: One
- Format: bool
- Access Types: Get, Replace
- Values: 0, 1
 - 0 – Indicates the preference to not initiate domain transfer immediately to the preferred domain when that domain becomes available.
 - 1 – Indicates the preference to initiate domain transfer immediately to the preferred domain when that domain becomes available.

NOTE 1: If the Immediate Domain Transfer operator policy indicates that the domain transfer is not immediately required then it is up to the VCC UE to decide when to perform the domain transfer if the preferred domain is available.

5.8 /<X>/ DT_CS-to-IM_CN_direction /

The Domain Transfer CS-to-IM CN direction leaf indicates if a VCC domain transfer from CS domain to IMS is restricted.

- Occurrence: One
- Format: bool
- Access Types: Get, Replace
- Values: 0, 1
 - 0 – Indicates that the network operator prefers the domain transfer in the CS to IM CN subsystem direction can occur.
 - 1 – Indicates that the network operator prefers the domain transfer in the CS to IM CN subsystem direction cannot occur.

5.9 /<X>/ DT_IM_CN-to-CS_direction /

The Domain Transfer IM CN-to-CS direction leaf indicates if a VCC domain transfer from IM CN subsystem to CS domain is restricted.

- Occurrence: One
 - Format: bool
 - Access Types: Get, Replace
 - Values: 0, 1
- 0 – Indicates that the network operator prefers the domain transfer in the IM CN subsystem to CS direction can occur.
- 1 – Indicates that the network operator prefers the domain transfer in the IM CN subsystem to CS direction cannot occur.

5.10 /<X>/ DT_in_held_waiting_calls/

The Domain Transfer in held_waiting calls leaf indicates whether a VCC domain transfer is restricted when the VCC UE is engaged in an active and a held/waiting call/session on the transferring-out domain (the restriction doesn't apply in the case the VCC UE is losing coverage in the transferring-out domain). If the operator policy requires restriction in the Domain Transfer in held_waiting calls then the VCC UE should not consider other operator policy for the domain transfer.

- Occurrence: One
 - Format: bool
 - Access Types: Get, Replace
 - Values: 0, 1
- 0 – Indicates that the network operator prefers the domain transfer can occur when the VCC UE is engaged in an active and a held/waiting call/session on the transferring-out domain.
- 1 – Indicates that the network operator prefers the domain transfer cannot occur when the VCC UE is engaged in an active and a held/waiting call/session on the transferring-out domain.

5.11 /<X>/Ext/

The Ext is an interior node for where the vendor specific information about the Communication Continuity 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 one or more un-standardized sub-trees.

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get, Replace
- 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-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>Communication_Continuity</NodeName>
    <DFProperties>
      <AccessType>
        <Get/>
      </AccessType>
      <Description>Communication Continuity settings</Description>
      <DFFormat>
        <node/>
      </DFFormat>
      <Occurrence>
        <OneOrMore/>
      </Occurrence>
      <DFTitle>The Communication Continuity Management Object.</DFTitle>
      <DFType>
        <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>VDI</NodeName>
      <DFProperties>
        <AccessType>
          <Get/>
          <Replace/>
        </AccessType>
        <DFFormat>

```

```

    <chr/>
  </DFFormat>
  <Occurrence>
    <One/>
  </Occurrence>
  <DFTitle>The VCC Transfer URI.</DFTitle>
  <DFType>
    <DDFName/>
  </DFType>
</DFProperties>
</Node>

<Node>
  <NodeName>VDN</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <chr/>
    </DFFormat>
    <Occurrence>
      <One/>
    </Occurrence>
    <DFTitle>The VCC Transfer Number.</DFTitle>
    <DFType>
      <DDFName/>
    </DFType>
  </DFProperties>
</Node>

<Node>
  <NodeName>Preferred_domain</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <chr/>
    </DFFormat>
    <Occurrence>
      <One/>
    </Occurrence>
    <DFTitle> Preferred_domain </DFTitle>
    <DFType>
      <MIME>text/plain</MIME>
    </DFType>
  </DFProperties>
</Node>

<Node>
  <NodeName>Immediate_DT</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <bool/>
    </DFFormat>

```

```

    <Occurrence>
      <One/>
    </Occurrence>
    <DFTitle> Immediate_DT </DFTitle>
    <DFType>
      <MIME>text/plain</MIME>
    </DFType>
  </DFProperties>
</Node>

<Node>
  <NodeName>DT_CS-to-IM_CN_direction</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <bool/>
    </DFFormat>
    <Occurrence>
      <One/>
    </Occurrence>
    <DFTitle> DT_CS-to-IM_CN_direction </DFTitle>
    <DFType>
      <MIME>text/plain</MIME>
    </DFType>
  </DFProperties>
</Node>

<Node>
  <NodeName>DT_IM_CN-to-CS_direction</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <bool/>
    </DFFormat>
    <Occurrence>
      <One/>
    </Occurrence>
    <DFTitle> DT_IM_CN-to-CS_direction </DFTitle>
    <DFType>
      <MIME>text/plain</MIME>
    </DFType>
  </DFProperties>
</Node>

<Node>
  <NodeName>DT_in_held_waiting_calls</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <bool/>
    </DFFormat>
    <Occurrence>
      <One/>
    </Occurrence>
  </DFProperties>
</Node>

```

```
        </Occurrence>
        <DFTitle> DT in held_waiting calls </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>
      <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
2007-01					Version 0.0.0: Preliminary proposal		0.0.0	
2007-01					Version 0.0.1: Version after CT1#45	0.0.0	0.0.1	
2007-02					Version 2.0.0: Editor introduced TS number, sent to TSG CT 35 for information and approval	0.0.1	1.0.0	
2007-03					Version 1.0.0 approved by CT#35 in CP-070128 and version 7.0.0 created by MCC	1.0.0	7.0.0	
2007-06	CT#36	CP-070377	0001	1	Corrections to parameters in 24.216	7.0.0	7.1.0	C1-070942
2007-06	CT#36	CP-070377	0002	1	Introduction of operator policies	7.0.0	7.1.0	C1-071341
2007-09	CT-37	CP-070593	0003		Editorial modification of the CC object	7.1.0	7.2.0	C1-071541
2008-12	CT-42	CP-080874	0008		CC MO URN	7.2.0	7.3.0	C1-085083
2009-03	CT-43	CP-090119	0010	1	MO syntax correction	7.3.0	7.4.0	C1-091021
2009-03	CT-43	CP-090119	0013		MO DDF XML bug fix	7.3.0	7.4.0	C1-090290
2010-09	CT-49	CP-100484	0028	1	Correcting DDF of Communication Continuity MO	7.4.0	7.5.0	C1-102845

History

Document history		
V7.1.0	June 2007	Publication
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