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Communication Continuity Management Object (MO) (3GPP TS 24.216 version 15.0.0 Release 15)



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#### **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

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- 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-ERELD \_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*.
- 3GPP TR 21.905: "Vocabulary for 3GPP Specifications". [1] [2] 3GPP TS 23.003: "Numbering, addressing and identification". 3GPP TS 24.206: "Voice call continuity between Circuit Switched (CS) and IP Multimedia [3] Subsystem (IMS); Stage 3". [4] OMA-ERELD-DM-V1 2-20060602-C: "Enabler Release Definition for OMA Device Management, Candidate Version 1.2". [5] 3GPP TS 24.237: "IP Multimedia Subsystem (IMS) Service Continuity; Stage 3". [6] 3GPP TS 24.229: "IP multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); Stage 3". [7] IETF RFC 4566 (July 2006): "SDP: Session Description Protocol".

### 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

**VDN** 

MO	Management Object
OMA	Open Mobile Alliance
SC	Service Continuity
SIP	Session Initiation Protocol
ST	Session Transfer
STI	SC Transfer URI
STN	SC Transfer Number
UE	User Equipment
VCC	Voice Call Continuity
VDI	VCC Domain Transfer URI

# 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];

VCC Domain Transfer Number

- Service Continuity (SC) as specified in 3GPP TS 24.237 [5];
- inter UE transfer as specified in 3GPP TS 24.237 [5].

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:

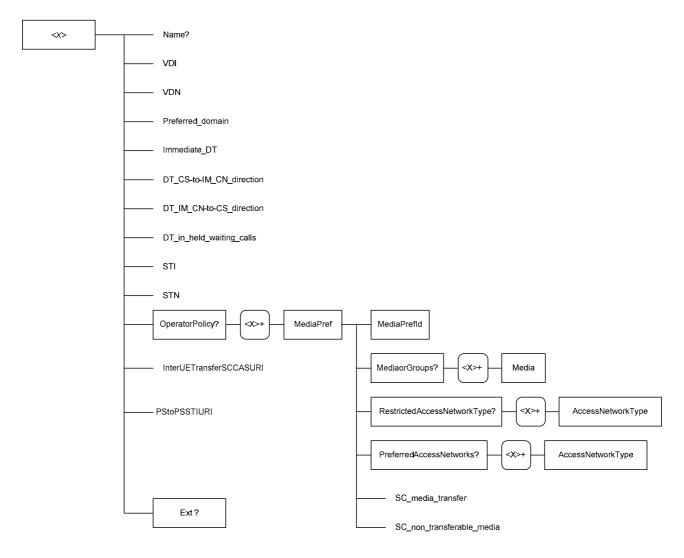


Figure 1: The Communication Continuity Object

# 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 > /STI/

The STI leaf is the SC Transfer URI that the user includes in SIP INVITE requests to initiate session transfer.

- Occurrence: One

- Format: chr

- Access Types: Get, Replace

- Values: < A SC STI >

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

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

#### 5.12 /<*X*>/STN/

The STN leaf is the SC Transfer Number that the user includes in a circuit switched call setup to initiate session transfer.

- Occurrence: One

- Format: chr

- Access Types: Get, Replace

Values: < A SC STN >

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

EXAMPLE: +12125555555

# 5.13 /<*X*>/OperatorPolicy

This interior node indicates the presence of an operator policy list used to allow the session transfer of the media of non-emergency sessions on the specified access networks.

- Occurrence: ZeroOrOne

- Format: node

- Access Types: Get, Replace

Values:N/A

# 5.14 /<X>/OperatorPolicy/<X>

This run-time node acts as a placeholder for one or more OperatorPolicy to allow the session transfer of the media on the specified access networks.

- Occurrence: OneOrMore

Format: node

- Access Types: Get, Replace

- Values: N/A

# 5.15 /<*X*>/OperatorPolicy/<*X*>/MediaPref

This interior node indicates one or more operator media preferences; each preference contains the operator preferences associated to each media or a group of media.

Occurrence: One

Format: node

- Access Types: Get, Replace

- Values: N/A

# 5.16 /<*X*>/OperatorPolicy/<*X*>/MediaPref/MediaPrefld

The MediaPrefId leaf is a name for the operator media preference.

Occurrence: One

- Format: chr

- Access Types: Get, Replace

Values: < preference number X>

# 5.17 /<X>/OperatorPolicy/<X>/MediaPref/MediaorGroups

This interior node indicates one or more media or group of media access networks that are subject to the operator preferences.

- Occurrence: OneOrMore

- Format: node

- Access Types: Get, Replace

- Values: N/A

# 5.18 /<X>/OperatorPolicy/<X>/MediaPref/MediaorGroups/<X>/

This run-time node acts as a placeholder for one or more media to which the operator preferences are applicable.

- Occurrence: OneOrMore

Format: node

- Access Types: Get, Replace

- Values: N/A

#### 5.19

# /<*X*>/OperatorPolicy/<*X*>/MediaPref/MediaorGroups/<*X*>/Media

This leaf indicates the media, for which the operator policy are applicable by the UE with SC capabilities for session transfer

- Occurrence: One

Format: chr

Access Types: Get, Replace

- Values: one or more of the value coded according to the IETF RFC 4566 [7].

#### 5.20

# /<*X*>/OperatorPolicy/<*X*>/MediaPref/RestrictedAccessNetw orkType

The RestrictedAccessNetworkType node indicates one or more restricted access technologies according to the operator preferences related to the session origination and the session transfer of the media on the specified access networks.

Occurrence: ZeroOrOne

Format: node

- Access Types: Get, Replace

Values: N/A

#### 5.21

# /<X>/OperatorPolicy/<X>/MediaPref/RestrictedAccessNetw orkType/<X>

This run-time node acts as a placeholder for one or more access networks, according to the operator preferences to avoid the session origination and the session transfer of the media on the specified access networks.

- Occurrence: OneOrMore

- Format: node

- Access Types: Get, Replace

- Values: N/A

#### 5.22

# /<*X*>/OperatorPolicy/<*X*>/MediaPref/RestrictedAccessNetworkType /<*X*>/AccessNetworkType

The AccessNetworkType leaf indicates an access technology that should be avoided if the current rule is active, according to the operator preferences to avoid the session origination and the session transfer of the media on the specified access networks type.

Occurrence: One

- Format: chr

- Access Types: Get, Replace

- Values: one of the following values:

- coded according to the access-type field defined for the P-Access-Network-Info header in 3GPP TS 24.229 [6]; or
- "CS".

#### 5.23

# /<X>/OperatorPolicy/<X>/MediaPref/PreferredAccessNetworks

The PreferredAccessNetworks node indicates one or more preferred access network technologies according to the operator preferences related to the session origination and the session transfer of the media on the specified access networks.

Occurrence: ZeroOrOne

- Format: node

- Access Types: Get, Replace

- Values: N/A

### 5.24 /<X>/OperatorPolicy/<X>/MediaPref/ PreferredAccessNetworks/<X>

This run-time node acts as a placeholder for one or more access networks, according to the operator policy are preferred for the session origination and the session transfer of the media on the specified access networks.

Occurrence: OneOrMore

Format: node

- Access Types: Get, Replace

- Values: N/A

# 5.25 /<*X*>/OperatorPolicy/<*X*>/MediaPref/ PreferredAccessNetworks/<*X*>/AccessNetworkType

The AccessNetworkType leaf indicates an access technology that should be considered preferred if the current rule is active, for the session origination and the session transfer of the media on the specified access networks type.

Occurrence: One

- Format: chr

- Access Types: Get, Replace

- Values: one of the following values:

- coded according to the access-type field defined for the P-Access-Network-Info header in 3GPP TS 24.229 [6]; or
- "CS".

### 5.26 /<X>/OperatorPolicy/<X>/MediaPref/SC\_media\_transfer

This leaf provides to the UE the indication whether the media shall/should/may transferred to target access network according to the operator preferences to allow the session transfer of the media on the specified access networks.

Occurrence: One

Format: chr

- Access Types: Get, Replace
- Values: <shall,should,may>

shall– Indicates that the UE shall start session transfer according to the home operator's list of preferred access networks as soon as possible;

should – Indicates that the UE start session transfer according to the home operator's list of preferred access networks, if session transfer is possible and desirable after having taken into account the Local Operating Environment Information;

may - Indicates that the UE is free.to decide whether or not to start session transfer in accordance with user preferences (when configured), if session transfer is possible and desirable after having taken into account the Local Operating Environment Information.

# 5.27 /<*X*>/OperatorPolicy/<*X*>/MediaPref/ SC non transferable media /

This leaf provides to the UE the indication on the behaviour expected in case of media which cannot be transferred to other Access Networks, according to the operator preferences to allow the session transfer of the media on the specified access networks.

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

keep- Indicates that the UE will prevent the execution of the media transfer for those media.

drop- Indicates that the UE will perform the media transfer dropping the non transferable media.

#### 5.28 /<X>/InterUETransferSCCASURI/

This leaf contains the inter UE transfer SCC AS URI used in 3GPP TS 24.237 [5].

- Occurrence: One

- Format: chr

Access Types: Get, Replace

- Value: <A SIP URI>

#### 5.29 /<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

### 5.30 /<X>/PStoPSSTIURI/

This leaf contains the PS to PS STI URI used in 3GPP TS 24.237 [5].

- Occurrence: One

- Format: chr

- Access Types: Get, Replace

- Value: <A SIP URI>

# 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.
      <DFType>
      <DDFName/>
      </DFType>
   </DFProperties>
      <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.
  <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.
  <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>
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   </Occurrence>
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   </DFType>
   </DFProperties>
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   <AccessType>
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      <Replace/>
   </AccessType>
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      <bool/>
   </DFFormat>
   <Occurrence>
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   </Occurrence>
   <\!\!DFTitle\!\!>DT\_IM\_CN\text{-to-CS\_direction}<\!\!/DFTitle\!\!>
   <DFType>
      <MIME>text/plain</MIME>
   </DFType>
   </DFProperties>
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   <Occurrence>
      <One/>
   </Occurrence>
```

```
<DFTitle> DT_in_held_waiting_calls </DFTitle>
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  </DFType>
   </DFProperties>
</Node>
<Node>
  <NodeName>STI</NodeName>
  <DFProperties>
  <AccessType>
      <Get/>
      <Replace/>
  </AccessType>
  <DFFormat>
      <chr/>
  </DFFormat>
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  </Occurrence>
  <DFTitle>The SC Transfer URI.
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      <DDFName/>
  </DFType>
  </DFProperties>
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  </DFFormat>
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   </DFType>
   </DFProperties>
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      <DFProperties>
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   </DFProperties>
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```

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      <Replace/>
   </AccessType>
   <DFFormat>
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      <DDFName/>
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   <!-- The Extension node starts here. -->
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      <DDFName/>
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   </DFProperties>
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# Annex B (informative): Change history

	Change history									
Date	TSG #	TSG Doc	CR	R ev	Subject/Comment Old New				New	WG doc
2007-01					Version 0.0.0: Preliminary proposal				0.0.0	
2007-01					Version	Version 0.0.1: Version after CT1#45 0.0.0 0.0.1				
2007-02					35 for i	ersion 2.0.0: Editor introduced TS number, sent to TSG CT 0.0.1 1.0.0 5 for information and approval				
2007-03						ersion 1.0.0 approved by CT#35 in CP-070128 and version 1.0.0 7.0.0 0.0 created by MCC				
2007-06	CT#36	CP-07037	7 0001	1	Correct	tions to	parameters in 24.216	7.0.0	7.1.0	C1-070942
2007-06	CT#36	CP-07037	7 0002	1	Introdu	ction c	of operator policies	7.0.0	7.1.0	C1-071341
2007-09	CT-37	CP-07059	3 0003		Editoria	ditorial modification of the CC object 7.1.0 7.2.0				C1-071541
2008-12	CT-42	CP-08087	4 0008		CC MC	<b>URN</b>		7.2.0	7.3.0	C1-085083
2008-12		CP-08096	8 0009			ntroduction of STI, STN in SC MO and IMS SC Operator 7.3.0 8.0.0 Policy coding				
2008-12	CT-42				Editoria	Editorial cleanup by MCC 7.3.0 8.0.0				
2009-03	CT-43	CP-09011	9 0011	1	MO syr	MO syntax correction 8.0.0 8.1.0				C1-091022
2009-03	CT-43	CP-09014	7 0012	1	IMS SC	MS SC Operator Policy coding 8.0.0 8.1.0				C1-090917
2009-03	CT-43	CP-09011	9 0014		MO DE	MO DDF XML bug fix 8.0.0 8.1.0				C1-090291
2009-09	CT-45	CP-09066	9 0016	2	Alignm					C1-093020
2009-12	CT-46					Jpgrade to Rel-9 8.2.0 9.0.0				
2010-03	CT-47	CP-10014	2 0019		Inter U					C1-100706
2010-06	CT-48	CP-10034	4 0021	1	Update					C1-101898
2010-09	CT-49	CP-10049	3 0023	1	Correct	Correcting DDF and Description of Communication Continuity 9.2.0 9.3.0				C1-102698
2010-09	CT-49	CP-10051	9 0029	2				C1-103505		
2012-09					Upgrade to Rel-11 10.0.0 11.0.0					
2012-12	CT-58	CP-12079	3 0030	1				C1-124870		
2014-09	CT-65				Upgrade to Rel-12 11.1.0 12.0.0					
2015-12	CT-70				Upgrade to Rel-13 12.0.0 13.0.0					
							Change history			
Date	Meeti	ng TDoo		CR	Rev	Cat	Subject/Comment N			New version
2016-09	CT-	73 CP-	160518	0031		F	Emergency calls not impacted by the policy in / </td <td>X&gt;/Opera</td> <td>atorPolic</td> <td>y 14.0.0</td>	X>/Opera	atorPolic	y 14.0.0
2018-06						15.0.0				

# History

Document history					
V15.0.0	June 2018	Publication			