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Approved BDGSEACK [Helena Järfvert]	Checked	Date 2018-09-04	Rev M	Reference

## MTAS Examples of Provisioning Requests

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## 1 General Information

### 1.1 Revision history

REVISION	RELEASE DATE	REVISED BY	REASON FOR REVISION
A	2013-04-17	EALISHK	Initial revision based on 1/190 01-CRA 119 2108 (rev. L). Updated Closed User Group. SIP URIs in hotline examples changed to TEL URIs. Added Call Return, CCNL, Time Zone Area in User Common Data in example files, The CCMP-confResponse-retrieve-inactive.xml example is corrected (<info:locked> element is removed), Added CCNL feature in Sh-Cc-1.xml. Updated the Multi Subscriber Number (MSN) feature. Updated Service Profiles service. Added examples for the Hotline variants

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A1	2013-05-30	ERATLIM	<p>The document is corrected:</p> <ul style="list-style-type: none"> <li>- In chapter 3.2 for CAI3G the -set examples are removed</li> <li>- In chapter 7 the figure 1 is updated</li> <li>- Internal links in the document are updated</li> <li>- In chapter 7.2 the zip file is updated</li> </ul> <p>In CAI3G all xxx-set files are removed. The following files are added:</p> <p>CAI3G-CUG-1-Create.xml CAI3G-FIP-2-with-MSN-Create.xml CAI3G-Profile-1-1-Bronze-Create.xml CAI3G-Profile-1-2-Silver-Create.xml Sh-HL-2-Unconditional.xml Sh- HL -3-Instant.xml Sh- HL -4-Delayed.xml</p> <p>The following are updated_</p> <p>CAI3G-UCD-1-Create.xml added element time-zone-area CAI3G-CC-1-Create.xml added element ccnl</p>
B	2013-09-23	ERATLIM	<p>Added features:</p> <ul style="list-style-type: none"> <li>• Number Portability Announcement</li> <li>• Distinctive Ring</li> </ul> <p>Updated and added</p> <ul style="list-style-type: none"> <li>• support for mmtel-charging-profile in UCD</li> <li>• Multi Subscriber Number (MSN) support for CDIV, CB and FCD services</li> <li>• support of values ad-hoc-temporary-presentation-restricted" and "ad-hoc-temporary-presentation-not-restricted" in features the Originating Identity Presentation Rejection</li> </ul> <p>Updated zip file</p>
C	2013-11-27	EPKAKON	<p>Added Feature:</p> <ul style="list-style-type: none"> <li>• Validate CAI3G</li> </ul> <p>Examples found in the embedded file.</p>
D	2014-05-19	ERATLIM	<p>Added</p> <ul style="list-style-type: none"> <li>• support for auto-answer-avoidance in UCD, FCD and STOD</li> <li>• support for attendant-assistance in the Service Number service</li> <li>• support for mcid-orig-mode in MCID</li> <li>• support for SIP regexp condition in FCD and UCD</li> <li>• support for Default namespace in Ut Interface</li> <li>• Document renamed</li> <li>• The zipped example files moved to a new document which is referenced</li> </ul>

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E	2014-12-03	EANNCDY	Added: <ul style="list-style-type: none"> <li>• OCNIP is enhanced with external mode provisioning</li> <li>• Media Policy</li> <li>• CAI3G-MP-1-Create and Sh-MP-1</li> <li>• support for CDIV operator rules</li> <li>• CAI3G-CDIV-6-Operator-Rules-Create and Sh-CDIV-6-Operator-Rules</li> </ul>
F	2015-11-12	ERATLIM	Added CAI3G/Sh examples for service Multi Device Conference Policy and Multi Device User Call Admission Control  Removed examples for deprecated service "Communication Diversion No Answer Timer".
G	2016-07-04	ERATLIM	Added chapters 3.2.21 and 5.1.21 for service Dialog Event Notifier.
H	2016-09-08	EDONFAR	Scope section and chapter 7.1 updated due to the removal of Scheduled Conference AS in virtualized MTAS.
J	2017-02-21	EANSAHM	Added chapters 3.2.47 and 5.1.47 for service Unified Communication Routing.
K	2017-08-10	EOPSTAA	Added CAI3G and Sh examples for service Multi-Persona
L	2018-05-16	ERATLIM	Added chapters: 3.2.17 Communication Setup Announcement 5.1.17 Communication Setup Announcement 6.1.1.50 Ut-51-SSC Correct example names to: 3.2.45.3 CAI3G-SSC-3-release-pin-Set 3.2.45.4 CAI3G-SSC-4-PIN-failure-Set
M	2018-09-04	EOPSTAA	Added chapters: 3.2.27.5 CAI3G-HL-5-Whitelist-Create 5.1.27.5 Sh-HL-5-Whitelist

## 1.2 Purpose

This document provides a set of examples showing MTAS provisioning requests. Each request provisions the transparent data in HSS.

All the examples are written in XML. Guidance is provided on how to validate the examples against an XML schema.

## 1.3 Scope

The examples provided in this document are restricted to requests

- Into MTAS over the Ut interface
- Into MTAS over the CAI3G interface

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- Into MTAS over the CCMP interface
- From MTAS over the Sh interface.

For common type definitions shared with other XML interfaces see ref [4].

Note: The CCMP related information is not available in virtualized MTAS.



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## 2 General Points

### 2.1 Request Structure

The structure of each request is consistent with an MMTel document.

The request over the Sh interface requires additional XML elements to support the overhead of the interface. These additional elements are not part of the MMTel structure.

#### 2.1.1 MMTel Document

An MMTel document comprises a user-part and an operator-part. They are brought together under an XML element called 'telephony-service-configuration'.

#### 2.1.2 User-Part

The user-part of an MMTel document always contains a simservs element. Under the simservs element, zero or more service elements may be defined. Communication Diversion (CDIV) is an example of a service element.

Within some service elements, there is a ruleset which is a container for rules.

##### 2.1.2.1 Rules

There are potentially an unlimited number of rules within a ruleset. A rule can contain 'conditions' and actions'.

##### 2.1.2.2 Conditions

A rule may contain zero or more conditions. Multiple conditions (where allowed) should be read as a logical 'AND' function.

##### 2.1.2.3 Actions

Every rule must contain at least one action. Multiple actions (where allowed) should be read as a logical 'AND' function.

#### 2.1.3 Operator-Part

The operator-part of the MMTel document contains operator service elements that are counterparts of the service elements in the user-data

Within the operator service elements there are two possible types of data.

- (a) Access rights
- (b) Operator defined rules.

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Not all operator service elements are allowed to contain operator defined rules.

## 2.2 Validation of instance documents

Each XML example in this document is an XML instance document. In order to confirm that an XML instance document is valid, it is necessary to

- (a) Provide a schema that it can be validated against.
- (b) Have an XML validation tool.

Alternatively, the files may be opened into a browser which gives the option of reading from or writing to the XML document. A browser may check that the document is well-formed but it will not be able to validate the document against an XML schema.

Note: A 'well-formed' document will have a self-consistent syntax. Well-formed is a weaker check than validation

## 2.3 Relative path to the schema

The address of the schema that is referenced in each XML instance document is defined as a relative path-name. This means that the reader who wishes to validate the schema must comply with the directory structure instructions that are given in the relevant sections of this document.

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### 3 Provisioning Requests Over CAI3G

All requests described in this section are valid for the CAI3G interface and hence can access both the user-part and the operator-part of the MMTel document.

All requests on this interface are placed in the body of a SOAP envelope message. The SOAP header is populated in line with the CAI3G specification ref [1].

#### 3.1 Basic Examples of the CAI3G Protocol

Examples concentrating on the basic CAI3G protocol rather than individual MMTel service configuration

##### 3.1.1 CAI3G-Basic-1-Login

Request to establish a CAI3G session.

##### 3.1.2 CAI3G-Basic-2-LoginResponse

Success response to Login.

##### 3.1.3 CAI3G-Basic-3-Logout

Request to clear down a CAI3G session.

##### 3.1.4 CAI3G-Basic-4-LogoutResponse

Success response to Logout.

##### 3.1.5 CAI3G-Basic-5-Create-Without-Contents

Create request without contents to create a document with the default configuration (no services activated).

##### 3.1.6 CAI3G-Basic-6-CreateResponse

Success response to Create.

##### 3.1.7 CAI3G-Basic-7-Create-With-Contents

Create a user's configuration document with specific initial contents - unconditional communication forwarding in this case.

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### 3.1.8 CAI3G-Basic-8-Delete

Request to delete a user's MMTel document.

### 3.1.9 CAI3G-Basic-DeleteResponse

Success response to Delete request.

### 3.1.10 CAI3G-Basic-10-Get

Request to get a user's MMTel document.

### 3.1.11 CAI3G-Basic-11-GetResponse

Response with the contents of a user's MMTel document.

### 3.1.12 CAI3G-Basic-12-Set

Set Request to modify a user's MMTel document - in this case changing a forwarding target.

### 3.1.13 CAI3G-Basic-13-SetResponse

Success response to Set.

### 3.1.14 CAI3G-Basic-14-Header-Fault

Example of the response to a request with a header fault.

### 3.1.15 CAI3G-Basic-15-Body-Fault

Example of a response to a request with a body fault.

### 3.1.16 CAI3G-Basic-16-Namespace-Bindings-in-Envelope

Example of namespace bindings at the beginning of the XML in the Envelope.

### 3.1.17 CAI3G-Basic-17-Just-in-Time-Default-Namespace-Bindings

Example of namespace bindings that are defined just in time and which are default namespace bindings i.e. they are associated with no prefix.

## 3.2 MMTel User Service Data CAI3G Examples

This section contains examples of provisioning each of the MMTel user services.

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### 3.2.1 Abbreviated Dialing

#### 3.2.1.1 CAI3G-ABD-1-Create

Abbreviated Dialing

An equivalent Sh request is given in 5.1.1.1.

### 3.2.2 Advice of Charge

#### 3.2.2.1 CAI3G-AOC-1-all-service-types-Create

Create all service types but AOC-D and AOC-E are not activated

An equivalent Sh request is given in 5.1.2.1

#### 3.2.2.2 CAI3G-AOC-2-aoc-s-Create

Create the AOC-S service type.

An equivalent Sh request is given in 5.1.2.2

### 3.2.3 Call Admission Control Group Membership

#### 3.2.3.1 CAI3G-Link-CACGM-to-User-1-Create

Call Admission Group Membership.

An equivalent Sh request is given in 5.1.3.1.

### 3.2.4 Communication Completion

#### 3.2.4.1 CAI3G-CC-1-Create

Communication Completion.

An equivalent Sh request is given in 5.1.4.1.

#### 3.2.4.2 CAI3G-CC-2-CCXX-B-Queue-Create-Success

Communication Completion – Successful create with monitor queue length greater than or equal to the individual limits for CCxx.

An equivalent Sh request is given in 5.1.4.2.

#### 3.2.4.3 CAI3G-CC-3-CCXX-B-Queue-Update-Success

Communication Completion – Successful update with monitor queue length greater than or equal to individual limits of CCxx.

An equivalent Sh request is given in 5.1.4.3.

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#### 3.2.4.4 CAI3G-CC-Error-1-CCXX-B-Queue-Create

Communication Completion – At least one but not all of total monitor queue and CCxx limits provided.

An equivalent Sh request is given in 5.1.4.4

#### 3.2.4.5 CAI3G-CC-Error-2-CCXX-B-Queue-Update

Communication Completion – CCxx limit larger than the total monitor queue length

An equivalent Sh request is given in 5.1.4.5.

### 3.2.5 Communication Completion Monitor Opt Out

#### 3.2.5.1 CAI3G-CCMO-1-opt-out-all-Create

Communication Completion Monitor Opt Out – opt out of all variants.

An equivalent Sh request is given in 5.1.5.1.

#### 3.2.5.2 CAI3G-CCMO-2-opt-out-partial-Create

Communication Completion Monitor Opt Out – partial opt out.

An equivalent Sh request is given in 5.1.5.2.

### 3.2.6 Call Return

#### 3.2.6.1 CAI3G-CR-1-Create

Call Return

An equivalent Sh request is given in 5.1.6.1.

### 3.2.7 Calling Name Identity Presentation

#### 3.2.7.1 CAI3G-CNIP-1-Create

Calling Name Identity Presentation

An equivalent Sh request is given in 5.1.7.1.

### 3.2.8 Calling Party Category

#### 3.2.8.1 CAI3G-CPC-1-Create

Calling Party Category

An equivalent Sh request is given in 5.1.8.1.

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### 3.2.9 Carrier Pre-Select

#### 3.2.9.1 CAI3G-CPS-1-Create

Carrier Pre-Select Service

An equivalent Sh request is given in 5.1.9.1.

### 3.2.10 Carrier Pre-Select Rn

#### 3.2.10.1 CAI3G-CPSRN-1-Create

Carrier Pre-Select Rn Service

An equivalent Sh request is given in 5.1.10.1.

### 3.2.11 Carrier Select

#### 3.2.11.1 CAI3G-CS-1-Create

Carrier Select

An equivalent Sh request is given in 5.1.11.1.

### 3.2.12 Carrier Select Rn

#### 3.2.12.1 CAI3G-CSRN-1-Create

Carrier Select Rn Service

An equivalent Sh request is given in 5.1.12.1.

### 3.2.13 Closed User Group

#### 3.2.13.1 CAI3G-CUG-1-Create

Closed User Group Service

An equivalent Sh request is given in 5.1.13.1.

### 3.2.14 Common Data

#### 3.2.14.1 CAI3G-COMD-1-Create

Common Data that is shared by other services

An equivalent Sh request is given in 5.1.14.1.

#### 3.2.14.2 CAI3G-Link-Service-Profile-to-User-Set

Link a Service Profile to a user in Common Data.

An equivalent Sh request is given in 5.1.14.2.

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### 3.2.15 Communication Distribution

#### 3.2.15.1 CAI3G-FCD-1-Create

Flexible Communication Distribution Service.

An equivalent Sh request is given in 5.1.15.1.

#### 3.2.15.2 CAI3G-FCD-2-with-CDIV-Create

Flexible Communication Distribution Service with Communication Diversion - diversion on busy, not-registered, no-answer and not-reachable conditions is not supported with Communication Distribution and must be deactivated.

An equivalent Sh request is given in 5.1.15.2.

#### 3.2.15.3 CAI3G-FCD-3-with-UCD-Create

Flexible Communication Distribution Service with User Common Data.

An equivalent Sh request is given in 5.1.15.3.

#### 3.2.15.4 CAI3G-FCD-4-with-Divert-Primary-Create

Flexible Communication Distribution Service with Divert-Primary.

An equivalent Sh request is given in 5.1.15.4.

#### 3.2.15.5 CAI3G-FCD-5-Complex-Rules-Create

Flexible Communication Distribution Service with more complex rules using various condition, actions and elements.

An equivalent Sh request is given in 5.1.15.5.

#### 3.2.15.6 CAI3G-FCD-6-with-SIP-regexp-Create

Flexible Communication Distribution Service with SIP regexp condition, provisioned and defined in User Common Data, and PRIMARY\_MOBILE target.

An equivalent Sh request is given in 5.1.15.6.

#### 3.2.15.7 CAI3G-FCD-Error-1-Divert-Primary-with-Notify-Caller-Create

Flexible Communication Distribution Service with Divert-Primary containing notify-caller in the forward-to element.

An equivalent Sh request is given in 5.1.15.7.



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### 3.2.15.8 CAI3G-FCD-Error-2-VOICEMAIL-in-Target-List-Create

Flexible Communication Distribution Service having reserved name 'VOICEMAIL' being used as an alias name in the target-list.

An equivalent Sh request is given in 5.1.15.8.

## 3.2.16 Communication Diversion

### 3.2.16.1 CAI3G-CDIV-1-All-Features-Provisioned-Create

Communication Diversion Service - all features (fine-grain options) provisioned but no rules yet.

An equivalent Sh request is given in 5.1.16.1.

### 3.2.16.2 CAI3G-CDIV-2-Plain-Rules-Create

Communication Diversion Service with plain rules of which cfb, cfmr, cfu, and dndcf could be set up via Supplementary Service Codes. A plain rule is one in which there is no condition except on the call state (busy, no-answer, not-registered, unconditional) and where this is the first rule with that call state condition, or one in which there is no condition but containing do-not-disturb action. If the call state condition is combined with another condition e.g. media then it is a complex rule. The optional <mc:forward-to> actions e.g. <mc:notify-caller> can be included within plain rules. Rules created via Supplementary Service Codes have the default values for these actions.

Multi Subscriber Number rules, i.e. the rules containing the served-identity condition as the only condition or in combination with one of the following: busy, no-answer, not-registered, not-reachable, are also considered plain rules. They can be handled with Generic Supplementary Service Codes.

An equivalent Sh request is given in 5.1.16.2.

### 3.2.16.3 CAI3G-CDIV-3-Complex-Rules-Create

Communication Diversion Service - examples of complex rules.

An equivalent Sh request is given in 5.1.16.3.

### 3.2.16.4 CAI3G-CDIV-5-Complex-Time-Rules-Create

Communication Diversion Service - examples of complex time rules.

An equivalent Sh request is given in 5.1.16.5.

### 3.2.16.5 CAI3G-CDIV-6-Operator-Rules-Create

Communication Diversion Service - example of operator defined rules.

An equivalent Sh request is given in 5.1.16.6.

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### 3.2.16.6 CAI3G-CDIV-Error-1-Service-Present-When-Not-Provisioned-Create

Communication Diversion Service - example of an invalid configuration with the user element for communication diversion present when it is not provisioned in the operator part

### 3.2.16.7 CAI3G-CDIV-Error-2-Condition-Present-When-Not-Provisioned-Create

Communication Diversion Service - example of an invalid configuration with a rule using a condition 'anonymous' without the corresponding fine-grain provisioning option, 'anonymous-condition' activated.

## 3.2.17 Communication Setup Announcement

### 3.2.17.1 CAI3G-CSA-1-Create

Communication Setup Announcement.

An equivalent Sh request is given in 5.1.17.1.

## 3.2.18 Communication Waiting

### 3.2.18.1 CAI3G-CW-1-Create

Communication Waiting.

An equivalent Sh request is given in 5.1.18.1.

## 3.2.19 Conference

### 3.2.19.1 CAI3G-Conf-1-Create

Conference service.

An equivalent Sh request is given in 5.1.19.1.

## 3.2.20 Customized Alerting Tones

### 3.2.20.1 CAI3G-CAT-1-Create

Customized Alerting Tones

An equivalent Sh request is given in 5.1.20.1.

## 3.2.21 Dial Tone Management

### 3.2.21.1 CAI3G-DTM-1-Create

Dial Tone Management

An equivalent Sh request is given in 5.1.21.1.

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**3.2.22 Dialog Event Notifier****3.2.22.1 CAI3G-DEN-1-Create**

Dialog Event Notifier

An equivalent Sh request is given in 5.1.22.1.

**3.2.23 Distinctive Ring****3.2.23.1 CAI3G-DR-1-Create**

Distinctive Ring

An equivalent Sh request is given in 5.1.23.1.

**3.2.24 Dynamic Black List****3.2.24.1 CAI3G-DBL-1-Create**

Dynamic Black List

An equivalent Sh request is given in 5.1.24.1.

**3.2.25 Explicit Communication Transfer****3.2.25.1 CAI3G-ECT-1-Create**

Explicit Communication Transfer Service.

An equivalent Sh request is given in 5.1.25.1.

**3.2.26 Flexible Identity Presentation****3.2.26.1 CAI3G-FIP-1-Create**

Flexible Identity Presentation

An equivalent Sh request is given in 5.1.26.1

**3.2.26.2 CAI3G-FIP-2-with-MSN-Create**

Flexible Identity Presentation with Multi Subscriber Number.

Note that the mapping of integer IDs to subscriber's MSN alias PUIs in the msn-fip-identity elements is needed only for provisioning MSN supplementary service rules (with served-identity conditions) with Generic Supplementary Service Codes. MSN rules provisioned directly over CAI3G or Ut interfaces do not require any FIP configuration.

An equivalent Sh request is given in 5.1.26.2.

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**3.2.27 Hotline****3.2.27.1 CAI3G-HL-1-Create**

Hotline – Unconditional, Instant and Delayed Hotline provisioned without Called Number in user-part of MMTel document.

An equivalent Sh request is given in 5.1.27.1.

**3.2.27.2 CAI3G-HL-2-Unconditional-Create**

Hotline – with only Unconditional variant.

An equivalent Sh request is given in 5.1.27.2.

**3.2.27.3 CAI3G-HL-3-Instant-Create**

Hotline – with only Instant variant.

An equivalent Sh request is given in 5.1.27.3.

**3.2.27.4 CAI3G-HL-4-Delayed-Create**

Hotline – with only Delay variant.

An equivalent Sh request is given in 5.1.27.4.

**3.2.27.5 CAI3G-HL-5-Whitelist-Create**

Hotline – with only Whitelist variant.

An equivalent Sh request is given in 5.1.27.5

**3.2.28 Incoming Communication Barring****3.2.28.1 CAI3G-ICB-1-All-Features-Provisioned-Create**

Incoming Communication Barring - all features (fine-grain options) provisioned but no rules yet.

An equivalent Sh request is given in 5.1.28.1.

**3.2.28.2 CAI3G-ICB-2-User-Rules-Create**

Incoming Communication Barring - user rules with all condition types and with do-not-disturb, play-announcement and play-segmented-announcement actions.

An equivalent Sh request is given in 5.1.28.2.

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### 3.2.28.3 CAI3G-ICB-3-Operator-Rules-Create

Incoming Communication Barring - operator rules with all conditions types and with do-not-disturb, play-announcement and play-segmented-announcement actions, and no user service.

An equivalent Sh request is given in 5.1.28.3.

### 3.2.29 Malicious Communication Identification

#### 3.2.29.1 CAI3G-MCID-1-permanent-Create

Malicious Communication Identification - permanent mode.

An equivalent Sh request is given in 5.1.29.1.

#### 3.2.29.2 CAI3G-MCID-2-terminating-originating-Create

Originating Malicious Communication Identification - permanent mode.

An equivalent Sh request is given in 5.1.29.2.

### 3.2.30 Malicious Communication Rejection

#### 3.2.30.1 CAI3G-MCR-1-Create

Malicious Communication Rejection.

An equivalent Sh request is given in 5.1.30.1.

### 3.2.31 Media Policy

#### 3.2.31.1 CAI3G- MP-1-Create

Media Policy service, creating a rule to block audio streams.

An equivalent Sh request is given in 5.1.31.1.

### 3.2.32 Multi Device Conference Policy

#### 3.2.32.1 CAI3G-MDCP-1-Create

Multi Device Conference Policy service, creating device group MOBILE.

An equivalent Sh request is given in 5.1.32.1

### 3.2.33 Multi Device User Call Admission Control

#### 3.2.33.1 CAI3G-MDUCAC-1-Create

Multi Device User Call Admission Control service, creating device groups, ALL, MOBILE and FIXED.

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An equivalent Sh request is given in. 5.1.33.1

### **3.2.34 Multi Persona**

#### **3.2.34.1 CAI3G-MUP-1-Create**

Multi Persona service.

An equivalent Sh request is given in 5.1.34.1.

### **3.2.35 Northbound Call Control**

#### **3.2.35.1 CAI3G- NCC-1-CAP-Create**

Northbound Call Control using CAMEL application data.

An equivalent Sh request is given in 5.1.35.1.

#### **3.2.35.2 CAI3G-NCC-2-ParlayX-Create**

Northbound Call Control using Parlay X application data.

An equivalent Sh request is given in 5.1.35.2.

### **3.2.36 Number Portability Announcement**

#### **3.2.36.1 CAI3G-NPA-1-Create**

Number Portability Announcement service.

An equivalent Sh request is given in 5.1.36.1.

### **3.2.37 Operator Controlled Outgoing Barring Programs**

#### **3.2.37.1 CAI3G-OCOBP-1-Create**

Operator Controlled Outgoing Barring service.

An equivalent Sh request is given in 5.1.37.1.

#### **3.2.37.2 CAI3G-OCOBP-2-dial-plan-Create**

Dial plan example using permitted program.

An equivalent Sh request is given in 5.1.37.2.

### **3.2.38 Originating Calling Name Identity Presentation**

#### **3.2.38.1 CAI3G-OCNIP-1-Provisioned-Mode-Create**

Originating Calling Name Identity Presentation – Provisioned Mode

An equivalent Sh request is given in 5.1.38.1.

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### 3.2.38.2 CAI3G-OCNIP-2-External-Mode-Create

Originating Calling Name Identity Presentation – External Mode

An equivalent Sh request is given in 5.1.38.2.

## 3.2.39 Outgoing Barring Programs

### 3.2.39.1 CAI3G-OBP-1-Single-Scheme-Create

Outgoing Barring Programs - Single Scheme.

An equivalent Sh request is given in 5.1.39.1.

### 3.2.39.2 CAI3G-OBP-2-Multiple-Scheme-Create

Outgoing Barring Programs Service - Multiple Scheme.

An equivalent Sh request is given in 5.1.39.2.

### 3.2.39.3 CAI3G-OBP-3-Default-Barring-Program-Create

Outgoing Barring Programs Service - Default Barring Program.

An equivalent Sh request is given in 5.1.39.3.

## 3.2.40 Outgoing Communication Barring

### 3.2.40.1 CAI3G-OCB-1-All-Features-Provisioned-Create

Outgoing Communication Barring - all features (fine-grain options) provisioned but no rules yet.

An equivalent Sh request is given in 5.1.40.1.

### 3.2.40.2 CAI3G-OCB-2-User-Rules-Create

Outgoing Communication Barring - user rules with all condition types and with play-announcement and play-segmented-announcement actions.

An equivalent Sh request is given in 5.1.40.2.

### 3.2.40.3 CAI3G-OCB-3-Operator-Rules-Create

Outgoing Communication Barring - operator rules with all condition types and with play-announcement and play-segmented-announcement actions, and no user service.

An equivalent Sh request is given in 5.1.40.3.

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#### 3.2.40.4 CAI3G-OCB-4-Carrier-Condition-Create

Outgoing Communication Barring – operator rules with carrier conditions, and no user service.

An equivalent Sh request is given in 5.1.40.4.

#### 3.2.40.5 CAI3G-OCB-5-Carrier-Condition-with-Carrier-Select-Code-Create

Outgoing Communication Barring – user rules with carrier conditions containing carrier-select-code.

An equivalent Sh request is given in 5.1.40.5.

### 3.2.41 Originating Identity Presentation

#### 3.2.41.1 CAI3G-OIP-1-Create

Originating Identity Presentation Service.

An equivalent Sh request is given in 5.1.41.1.

### 3.2.42 Originating Identity Presentation Restriction

#### 3.2.42.1 CAI3G-OIR-1-Create

Originating Identity Presentation Restriction Service.

An equivalent Sh request is given in 5.1.42.1.

#### 3.2.42.2 CAI3G-OIR-2-permanent-mode-Create

Originating Identity Presentation Restriction Service in permanent mode.

An equivalent Sh request is given in 5.1.42.2.

#### 3.2.42.3 CAI3G-OIR-3-with-mode-ad-hoc-temporary-presentation-restricted-Create

Originating Identity Presentation Restriction Service in ad-hoc-temporary-presentation-restricted mode.

An equivalent Sh request is given in 5.1.42.3.

#### 3.2.42.4 CAI3G-OIR- 4-with-mode-ad-hoc-temporary-presentation-not-restricted--Create

Originating Identity Presentation Restriction Service in ad-hoc-temporary-presentation-not-restricted mode.

An equivalent Sh request is given in 5.1.42.4.



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### 3.2.43 Priority Call

#### 3.2.43.1 CAI3G-PRC-1-Create

Priority Call Service.

An equivalent Sh request is given in 5.1.43.1.

### 3.2.44 Session Transfer To Own Device

#### 3.2.44.1 CAI3G-STOD-1-Create

Session Transfer To Own Device Service.

An equivalent Sh request is given in 5.1.44.1

#### 3.2.44.2 CAI3G-STOD-2-with-UCD-Create

Session Transfer To Own Device with User Common Data.

An equivalent Sh request is given in 5.1.44.2

### 3.2.45 Supplementary Service codes

#### 3.2.45.1 CAI3G-SSC-1-Create

Supplementary Service Codes.

An equivalent Sh request is given in 5.1.45.1.

#### 3.2.45.2 CAI3G-SSC-2-MD5-hash-Create

Supplementary Service Codes – PIN encoded as MD5 hash

An equivalent Sh request is given in 5.1.45.2

#### 3.2.45.3 CAI3G-SSC-3-release-pin-Set

Supplementary Service Codes – Release of PIN failures.

#### 3.2.45.4 CAI3G-SSC-4-PIN-failure-Set

Supplementary Service Codes – Example with one PIN failure.

An equivalent Sh request is given in 5.1.45.3.

### 3.2.46 Terminating Identity Presentation

#### 3.2.46.1 CAI3G-TIP-1-Create

Terminating Identity Presentation Service.

An equivalent Sh request is given in 5.1.46.1.

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### 3.2.47 Terminating Identity Presentation Restriction

#### 3.2.47.1 CAI3G-TIR-1-Create

Terminating Identity Presentation Restriction Service.

An equivalent Sh request is given in 5.1.47.1.

#### 3.2.47.2 CAI3G-TIR-2-permanent-mode-Create

Terminating Identity Presentation Restriction Service in permanent mode.

An equivalent Sh request is given in 5.1.47.2.

### 3.2.48 Three Party

#### 3.2.48.1 CAI3G-3PTY-1-Create

Three Party Service

An equivalent Sh request is given in 5.1.48.1.

### 3.2.49 Unified Communication Routing

#### 3.2.49.1 CAI3G-UCR-1-Create

Unified Communication Routing

An equivalent Sh request is given in 5.1.49.1.

### 3.2.50 User Call Admission Control

#### 3.2.50.1 CAI3G-UCAC-1-Create

User Call Admission Control

An equivalent Sh request is given in 5.1.50.1

### 3.2.51 User Common Data

#### 3.2.51.1 CAI3G-UCD-1-Create

User Common Data

An equivalent Sh request is given in 5.1.51.1.

### 3.2.52 Voice Mail

#### 3.2.52.1 CAI3G-VM-1-Create

Voice Mail

An equivalent Sh request is given in 5.1.52.1.

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### 3.2.53 Multi-Service Examples

#### 3.2.53.1 CAI3G-Multi-1-1-All-Services-Create

All services provisioned via a Create request

An equivalent Sh request is given in 5.1.53.1.

#### 3.2.53.2 CAI3G-Multi-1-3-All-Services-GetResponse

A GetResponse with all services provisioned as in 3.2.53.1.

Equivalent Sh data is given in 5.1.53.1.

#### 3.2.53.3 CAI3G-Multi-2-Withdraw-All-Services-Create

Request to withdraw all services.

An equivalent Sh request is given in 5.1.53.2.

### 3.3 MMTel Group Service Data CAI3G Examples

This section contains examples of each of the MMTel group services on the CAI3G interface.

Notice that "MmtGroupServiceConfig" serviceindicator must be configured in HSS to be able to do provisioning:

```
applicatonName=HSS, HSS-  
ServiceIndicationContainerName=HSS-ServiceIndication,  
HSS-ServiceIndicationId=MmtGroupServiceConfig
```

#### 3.3.1 Group Call Admission Control

##### 3.3.1.1 CAI3G-Group-GCAC-1-Create

Group Call Admission Control with limits specified in xml data.

An equivalent Sh example is given in 5.2.1.1.

##### 3.3.1.2 CAI3G-Group-GCAC-2-Profile-Create

Group Call Admission Control with group profile identified.

An equivalent Sh example is given in 5.2.1.2.

#### 3.3.2 All Service Examples

##### 3.3.2.1 CAI3G-Group-Multi-1-1-All-Services-Create

All MMTel group services provisioned via a Create request

An equivalent Sh request is given in 5.2.2.1.

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### 3.3.2.2 CAI3G-Group-Multi-1-1-All-Services-GetResponse

A GetResponse with all MMTel group services provisioned as in 3.3.2.1.

Equivalent Sh data is given in 5.2.2.1.

### 3.3.2.3 CAI3G-Group-Multi-2-Withdraw-All-Services-Create

Request to withdraw all MMTel group services.

An equivalent Sh request is given in 5.2.2.2.

## 3.4 MMTEL Service Profile CAI3G Examples

This section contains examples of MMTel Service Profiles on the CAI3G interface.

Please notice that "MmtServiceProfileConfig" serviceindicator must be configured in HSS to be able to do SP provisioning:

```
applicationName=HSS, HSS-
ServiceIndicationContainerName=HSS-ServiceIndication,
HSS-ServiceIndicationId=MmtServiceProfileConfig
```

### 3.4.1 Create Service Profiles

#### 3.4.1.1 CAI3G-Profile-1-1-Bronze-Create

A basic create request with one service that has both service options and user data.

An equivalent Sh request is given in 5.3.1.1

#### 3.4.1.2 CAI3G-Profile-1-2-Silver-Create

A basic create request with two services. One that has both service options and user data and one that has only service options

An equivalent Sh request is given in 5.3.1.2

## 3.5 MMTel Service-Number Data CAI3G Examples

This section contains examples of MMTel Service Number on the CAI3G interface.

Please notice that "MmtServiceNumberConfig" serviceindicator must be configured in HSS to be able to do Service Number provisioning:

```
applicationName=HSS, HSS-
ServiceIndicationContainerName=HSS-ServiceIndication,
HSS-ServiceIndicationId=HSS-
ServiceIndicationId=MmtServiceNumberConfig
```

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```
applicatonName=HSS, HSS-  
ServiceIndicationContainerName=HSS-ServiceIndication,  
HSS-ServiceIndicationId=HSS-  
ServiceIndicationId=MmtServiceNumberConfig0
```

```
applicatonName=HSS, HSS-  
ServiceIndicationContainerName=HSS-ServiceIndication,  
HSS-ServiceIndicationId=HSS-  
ServiceIndicationId=MmtServiceNumberConfig1
```

```
applicatonName=HSS, HSS-  
ServiceIndicationContainerName=HSS-ServiceIndication,  
HSS-ServiceIndicationId=HSS-  
ServiceIndicationId=MmtServiceNumberConfig2
```

```
applicatonName=HSS, HSS-  
ServiceIndicationContainerName=HSS-ServiceIndication,  
HSS-ServiceIndicationId=HSS-  
ServiceIndicationId=MmtServiceNumberConfig3
```

### 3.5.1 CAI3G-Service-Number-Create

All MMTel service number provisioned via a Create request

An equivalent Sh request is given in 5.4.1.

### 3.5.2 CAI3G-Service-Number-GetResponse

A GetResponse with MMTel service number

An equivalent Sh request is given in 5.4.1.

### 3.5.3 CAI3G-Service-Number-Withdraw

Request to withdraw MMTel service number

An equivalent Sh request is given in 5.4.2.

## 3.6 MMTel Scheduled-Conference Data CAI3G Examples

### 3.6.1 CAI3G-Link-Scheduled-Conference-to-User-Create

A MMTel scheduled conference provisioned for a user via a Create request

An equivalent Sh request is given in 5.5.1.

### 3.6.2 CAI3G-Link-Scheduled-Conference-to-User-GetResponse

A GetResponse with MMTel scheduled conference

An equivalent Sh request is given in 5.5.1.

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### 3.6.3 CAI3G-Link-Scheduled-Conference-to-User-Set-Deactivate

All MMTel scheduled conference provisioned via a Set request. This is equivalent to 3.6.1 but using a Set rather than Create.

An equivalent Sh request is given in 5.5.2.

### 3.6.4 CAI3G-Link-Scheduled-Conference-to-User-Withdraw

Request to withdraw MMTel scheduled conference

An equivalent Sh request is given in 5.5.3

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## 4 Validate Requests Over CAI3G

The requests described in this section are valid for the CAI3G interface and it can be used with all services supported in User Document and Service Profile CAI3G.

All requests on this interface are placed in the body of a SOAP envelope message. The SOAP header is populated in line with the CAI3G specification ref [1].

### 4.1 Validate Examples of the CAI3G Protocol

Examples concentrating on validate of CAI3G request rather than individual MMTel service configuration.

#### 4.1.1 CAI3G-Validate-Create

Request to validate a CAI3G Create.

#### 4.1.2 CAI3G-Validate-Profile-Create

Request to validate a CAI3G Create for Service Profile.

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## 5 Provisioning Requests Over Sh

### 5.1 MMTel User Service Data Sh Examples

This section contains examples of each of the MMTel user services on the Sh interface.

#### 5.1.1 Abbreviated Dialing

##### 5.1.1.1 Sh-ABD-1

Abbreviated Dialing

This is equivalent to the CAI3G request in 3.2.1.1.

#### 5.1.2 Advice of Charge

##### 5.1.2.1 Sh-AOC-1-all-service-types

Create all service types but AOC-D and AOC-E are not activated

An equivalent CAI3G request is given in 3.2.2.1

##### 5.1.2.2 Sh-AOC-2-aoc-s

Create the AOC-S service type.

An equivalent CAI3G request is given in 3.2.2.2

#### 5.1.3 Call Admission Control Group Membership

##### 5.1.3.1 Sh-CACG-1

Call Admission Group Membership.

This is equivalent to the CAI3G request in 3.2.3.1.

#### 5.1.4 Communication Completion

##### 5.1.4.1 Sh-CC-1

Communication Completion.

This is equivalent to the CAI3G request in 3.2.4.1.

##### 5.1.4.2 Sh-CC-2-CCXX-B-Queue-Create-Success

Communication Completion.

This is equivalent to the CAI3G request in 3.2.4.2.



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#### 5.1.4.3 Sh-CC-3-CCXX-B-Queue-Update-Success

Communication Completion.

This is equivalent to the CAI3G request in 3.2.4.3.

#### 5.1.4.4 Sh-CC-Error-1-CCXX-B-Queue-Create

Communication Completion.

This is equivalent to the CAI3G request in 3.2.4.4.

#### 5.1.4.5 Sh-CC-Error-2-CCXX-B-Queue-Update

Communication Completion.

This is equivalent to the CAI3G request in 3.2.4.5.

### 5.1.5 Communication Completion Monitor Opt Out

#### 5.1.5.1 Sh-CCMO-1-opt-out-all

Communication Completion Monitor Opt Out - opt out of all variants.

This is equivalent to the CAI3G request in 3.2.5.1.

#### 5.1.5.2 Sh-CCMO-2-opt-out-partial

Communication Completion Monitor Opt Out - partial opt out.

This is equivalent to the CAI3G request in 3.2.5.2.

### 5.1.6 Call Return

#### 5.1.6.1 Sh-CR-1

Call Return

This is equivalent to the CAI3G request in 3.2.6.1.

### 5.1.7 Calling Name Identity Presentation

#### 5.1.7.1 Sh-CNIP-1

Calling Name Identity Presentation

This is equivalent to the CAI3G request in 3.2.7.1.

### 5.1.8 Calling Party Category

#### 5.1.8.1 Sh-CPC-1

Calling Party Category

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This is equivalent to the CAI3G request in 3.2.8.1.

#### **5.1.9 Carrier Pre-Select**

##### **5.1.9.1 Sh-CPS-1**

Carrier Pre-Select service

This is equivalent to the CAI3G request in 3.2.9.1.

#### **5.1.10 Carrier Pre-Select Rn**

##### **5.1.10.1 Sh-CPSRN-1**

Carrier Pre-Select Rn service

This is equivalent to the CAI3G request in 3.2.10.1.

#### **5.1.11 Carrier Select**

##### **5.1.11.1 Sh-CS-1**

Carrier Select

This is equivalent to the CAI3G request in 3.2.11.1.

#### **5.1.12 Carrier Select Rn**

##### **5.1.12.1 Sh-CSRN-1**

Carrier Select Rn

This is equivalent to the CAI3G request in 3.2.12.1.

#### **5.1.13 Closed User Group**

##### **5.1.13.1 Sh-CUG-1**

Closed User Group

This is equivalent to the CAI3G request in 3.2.13.1.

#### **5.1.14 Common Data**

##### **5.1.14.1 Sh-COMD-1**

Common Data shared across services

This is equivalent to the CAI3G request in 3.2.14.1.

##### **5.1.14.2 Sh-Link-Service-Profile-to-User-Set**

Common Data shared across services

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This is equivalent to the CAI3G request in 3.2.14.2.

#### **5.1.15 Communication Distribution**

##### **5.1.15.1 Sh-FCD-1**

Flexible Communication Distribution service.

This is equivalent to the CAI3G request in 3.2.15.1.

##### **5.1.15.2 Sh-FCD-2-with-CDIV**

Flexible Communication Distribution Service with Communication Diversion - diversion on busy, not-registered, no-answer and not-reachable conditions is not supported with Communication Distribution and must be deactivated.

This is equivalent to the CAI3G request in 3.2.15.2.

##### **5.1.15.3 Sh-FCD-3-with-UCD**

Flexible Communication Distribution Service with User Common data.

This is equivalent to the CAI3G request in 3.2.15.3.

##### **5.1.15.4 Sh-FCD-4-with-Divert-Primary**

Flexible Communication Distribution Service with Divert-Primary service.

This is equivalent to the CAI3G request in 3.2.15.3.

##### **5.1.15.5 Sh-FCD-5-Complex-Rules**

Flexible Communication Distribution Service with more complex rules using various condition, actions and elements.

This is equivalent to the CAI3G request in 3.2.15.5.

##### **5.1.15.6 Sh-FCD-6-with-SIP-regexp**

Flexible Communication Distribution Service with SIP regexp condition, provisioned and defined in User Common Data, and PRIMARY\_MOBILE target.

This is equivalent to the CAI3G request in 3.2.15.6

##### **5.1.15.7 Sh-FCD-Error-1-Divert-Primary-with-Notify-Caller**

Flexible Communication Distribution Service with Divert-Primary containing notify-caller in the forward-to element

This is equivalent to the CAI3G request in 3.2.15.7.

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#### 5.1.15.8 Sh-FCD-Error-2-VOICEMAIL-in-Target-List

Flexible Communication Distribution Service having reserved name 'VOICEMAIL' being used as an alias name in the target-list

This is equivalent to the CAI3G request in 3.2.15.8.

### 5.1.16 Communication Diversion

#### 5.1.16.1 Sh-CDIV-1-All-Features-Provisioned

Communication Diversion Service - all features (fine-grain options) provisioned but no rules yet.

This is equivalent to the CAI3G request in 3.2.16.1.

#### 5.1.16.2 Sh-CDIV-2-Plain-Rules

Communication Diversion Service with plain rules of which cfb, cfmr, cfu, and dndcf could be set up via Supplementary Service Codes. A plain rule is one in which there is no condition except on the call state (busy, no-answer, not-registered, unconditional) and where this is the first rule with that call state condition, or one in which there is no condition but containing do-not-disturb action. If the call state condition is combined with another condition e.g. media then it is a complex rule. The optional <mc:forward-to> actions e.g. <mc:notify-caller> can be included within plain rules. Rules created via Supplementary Service Codes have the default values for these actions.

Multi Subscriber Number rules, i.e. the rules containing the served-identity condition as the only condition or in combination with one of the following: busy, no-answer, not-registered, not-reachable, are also considered plain rules. They can be handled with Generic Supplementary Service Codes.

This is equivalent to the CAI3G request in 3.2.16.2.

#### 5.1.16.3 Sh-CDIV 3-Complex-Rules

Communication Diversion Service - examples of complex rules.

This is equivalent to the CAI3G request in 3.2.16.3.

#### 5.1.16.4 Sh-CDIV-4-identity-except-id-redundant-with-except-domain

To show that CDIV request with a redundant 'except' element is valid.

#### 5.1.16.5 Sh-CDIV-5-Complex-Time-Rules

Communication Diversion Service - examples of complex time rules.

This is equivalent to the CAI3G request in 3.2.16.4.

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#### 5.1.16.6 Sh-CDIV-6-Operator-Rules

Communication Diversion Service - example of operator defined rules.

This is equivalent to the CAI3G request in 3.2.16.5.

#### 5.1.16.7 Sh-CDIV-Error-1-anon-plus-identity

To show that a CDIV request containing the conditions of anonymous and identity is rejected.

#### 5.1.16.8 Sh-CDIV-Error-2-busy-plus-no-answer

To show that a CDIV request containing the conditions of busy and no-answer is rejected.

#### 5.1.16.9 Sh-CDIV-Error-3-busy-plus-not-registered

To show that a CDIV request containing the conditions of busy and not-registered is rejected.

#### 5.1.16.10 Sh-CDIV-Error-4-identity-one-contradicts-except-to-2nd-many

To show that a CDIV request is rejected when identity in 'one' is the same as the 'except' in a 'many'.

#### 5.1.16.11 Sh-CDIV-Error-5-double-anonymous

To show that a CDIV request should fail because it contains the 'anonymous' condition twice.

#### 5.1.16.12 Sh-CDIV-Error-6-double-busy

To show that a CDIV request should fail because the 'busy' condition appears twice.

#### 5.1.16.13 Sh-CDIV-Error-7-double-rule-deactivated

To show that a CDIV request should fail because the 'rule-deactivated' condition appears twice.

#### 5.1.16.14 Sh-CDIV-Error-8-double-forward-to

To show that a CDIV request should fail because the 'forward-to' action appears twice.

#### 5.1.16.15 Sh-CDIV-Error-9-double-identity

To show that a CDIV request should fail because the 'identity' condition appears twice.

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#### 5.1.16.16 Sh-CDIV-Error-10-double-no-answer

To show that a CDIV request should fail because the 'no-answer' condition appears twice.

#### 5.1.16.17 Sh-CDIV-Error-11-double-not-registered

To show that a CDIV request should fail because the 'not-registered' condition appears twice.

#### 5.1.16.18 Sh-CDIV-Error-12-double-validity

To show that a CDIV request should fail because the 'validity' condition appears twice.

#### 5.1.16.19 Sh-CDIV-Error-13-empty-except

To show that a CDIV request should fail because the element 'except' is empty.

#### 5.1.16.20 Sh-CDIV-Error-14-except-id-not-sip-or-tel

To show that a CDIV request should fail because the 'id' value in the 'except' element is not valid (i.e. not sip or tel).

#### 5.1.16.21 Sh-CDIV-Error-15-except-outside-domain

To show that a CDIV request should fail because the 'except' value is not within the domain specified in the containing 'many'.

#### 5.1.16.22 Sh-CDIV-Error-16-unsupported-condition

To show that a CDIV request should fail because the requested condition is not supported.

#### 5.1.16.23 Sh-CDIV-Error-17-invalid-one-id

To show that a CDIV request should fail because the 'id' value in the 'one' element is not valid (i.e. not sip or tel).

#### 5.1.16.24 Sh-CDIV-Error-18-invalid-target

To show that a CDIV request should fail because the 'id' value in the 'target' element is not valid (i.e. not sip or tel).

#### 5.1.16.25 Sh-CDIV-Error-19-missing-domain-in-target

To show that a CDIV request should fail because 'target' value is missing a domain name.

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#### 5.1.16.26 Sh-CDIV-Error-20-no-answer-plus-not-registered

To show that a CDIV request should fail because a rule contains conditions of 'no-answer' and 'not-registered'.

#### 5.1.16.27 Sh-CDIV-Error-21-div-to-bar

To show that a CDIV request should fail because the user is barred from sending calls to the identity specified in the CDIV 'target'.

#### 5.1.16.28 Sh-CDIV-Error-22-unsupported-action

To show that an CDIV request should fail because the requested action is not supported.

#### 5.1.16.29 Sh-CDIV-Error-23-one-and-except-to-many-with-no-domain

To show that a CDIV request should fail because the 'one' element and the 'except' of the 'many' element contradict.

#### 5.1.16.30 Sh-CDIV-Error-24-invalid-domain-in-target

To show that a CDIV request should fail because 'target' value has an @ in lieu of domain name.

### 5.1.17 Communication Setup Announcement

#### 5.1.17.1 Sh-CSA-1

Communication Setup Announcement

This is equivalent to the CAI3G request in 3.2.17.1.

### 5.1.18 Communication Waiting

#### 5.1.18.1 Sh-CW-1

Communication Waiting

This is equivalent to the CAI3G request in 3.2.18.1.

### 5.1.19 Conference

#### 5.1.19.1 Sh-Conf-1

Conference service.

This is equivalent to the CAI3G request in 3.2.19.1.

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## **5.1.20 Customized Alerting Tones**

### **5.1.20.1 Sh-CAT-1**

Customized Alerting Tones

This is equivalent to the CAI3G request in 3.2.20.1.

## **5.1.21 Dial Tone Management**

### **5.1.21.1 Sh-DTM-1**

Dial Tone Management

This is equivalent to the CAI3G request in 3.2.21.1.

## **5.1.22 Dialog Event Notifier**

### **5.1.22.1 Sh-DEN-1**

Dialog Event Notifier

This is equivalent to the CAI3G request in 3.2.22.1.

## **5.1.23 Distinctive Ring**

### **5.1.23.1 Sh-DR-1**

Distinctive Ring

This is equivalent to the CAI3G request in 3.2.23.1.

## **5.1.24 Dynamic Black List**

### **5.1.24.1 Sh-DBL-1**

Dynamic Black List

This is equivalent to the CAI3G request in 3.2.24.1.

## **5.1.25 Explicit Communication Transfer**

### **5.1.25.1 Sh-ECT-1**

Explicit Communication Transfer Service.

This is equivalent to the CAI3G request in 3.2.25.1.

## **5.1.26 Flexible Identity Presentation**

### **5.1.26.1 Sh-FIP-1**

Flexible Identity Presentation



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This is equivalent to the CAI3G request in 3.2.26.1

#### 5.1.26.2 Sh-FIP-2-MSN

Flexible Identity Presentation with Multi Subscriber Number.

Note that the mapping of integer IDs to subscriber's MSN alias PUIs in the msn-fip-identity elements is needed only for provisioning MSN supplementary service rules (with served-identity conditions) with Generic Supplementary Service Codes. MSN rules provisioned directly over CAI3G or Ut interfaces do not require any FIP configuration.

This is equivalent to the CAI3G request in 3.2.26.2.

### 5.1.27 Hotline

#### 5.1.27.1 Sh-HL-1

Hotline

This is equivalent to the CAI3G request in 3.2.27.1.

#### 5.1.27.2 Sh-HL-2-Unconditional

Hotline with only Unconditional variant

This is equivalent to the CAI3G request in 3.2.27.2.

#### 5.1.27.3 Sh-HL-3-Instant

Hotline with only Instant variant

This is equivalent to the CAI3G request in 3.2.27.3.

#### 5.1.27.4 Sh-HL-4-Delayed

Hotline with only Delay variant

This is equivalent to the CAI3G request in 3.2.27.4.

#### 5.1.27.5 Sh-HL-5-Whitelist

Hotline with only Whitelist variant

This is equivalent to the CAI3G request in 3.2.27.5.

### 5.1.28 Incoming Communication Barring

#### 5.1.28.1 Sh-ICB-1-All-Features-Provisioned

Incoming Communication Barring - all features (fine-grain options) provisioned but no rules yet.

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This is equivalent to the CAI3G request in 3.2.28.1.

#### 5.1.28.2 Sh-ICB-2-User-Rules

Incoming Communication Barring - user rules with all condition types and with do-not-disturb, play-announcement and play-segmented-announcement actions.

This is equivalent to the CAI3G request in 3.2.28.2.

#### 5.1.28.3 Sh-ICB-3-Operator-Rules

Incoming Communication Barring - operator rules with all conditions types and with do-not-disturb, play-announcement and play-segmented-announcement actions, and no user service.

This is equivalent to the CAI3G request in 3.2.28.3.

#### 5.1.28.4 Sh-ICB-Error-1-no-action

To show that an ICB request should fail because the rule is missing an 'action'.

#### 5.1.28.5 Sh-ICB-Error-2-unsupported-action

To show that an ICB request should fail because the requested action is not supported.

#### 5.1.28.6 Sh-ICB-Error-3-anonymous-plus-other-identity

To show that an ICB request should fail because it contains conditions of 'anonymous' and 'other-identity'.

#### 5.1.28.7 Sh-ICB-Error-4-except-id-not-sip-or-tel

To show that an ICB request should fail because the 'id' requested in the 'except' element is invalid.

#### 5.1.28.8 Sh-ICB-Error-5-identity-one-contradicts-except-no-domain

To show that an ICB request should fail because the identity in the 'except' element is the same as the identity in the 'one' element.

#### 5.1.28.9 Sh-ICB-Error-6-identity-one-not-sip-or-tel

To show that an ICB request should fail because the 'one' identity is invalid.

#### 5.1.28.10 Sh-ICB-Error-7-double-anonymous

To show that an ICB request should fail because the 'anonymous' condition appears twice.

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#### 5.1.28.11 Sh-ICB-Error-8-double-communication-diverted

To show that an ICB request should fail because the condition 'communication-diverted' appears twice.

#### 5.1.28.12 Sh-ICB-Error-9-double-rule-deactivated

To show that an ICB request should fail because the condition 'rule-deactivated' appears twice.

#### 5.1.28.13 Sh-ICB-Error-10-identity-plus-other-identity

To show that an ICB request should fail because the conditions of 'identity' and 'other-identity' appear in the same rule.

#### 5.1.28.14 Sh-ICB-Error-11-double-other-identity

To show that an ICB request should fail because the condition 'other-identity' appears twice.

#### 5.1.28.15 Sh-ICB-Error-12-double-allow-action

To show that an ICB request should fail because the action 'allow' appears twice.

#### 5.1.28.16 Sh-ICB-Error-13-identity-one-not-sip-or-tel

To show that an ICB request should fail because the 'identity' in the 'one' element is not valid

### 5.1.29 Malicious Communication Identification

#### 5.1.29.1 Sh-MCID-1-permanent

Malicious Communication Identification - permanent mode.

This is equivalent to the CAI3G request in 3.2.29.1.

#### 5.1.29.2 Sh-MCID-2-terminating-originating

Originating Malicious Communication Identification - permanent mode.

This is equivalent to the CAI3G request in 3.2.29.2.

### 5.1.30 Malicious Communication Rejection

#### 5.1.30.1 Sh-MCR-1

Malicious Communication Rejection.

This is equivalent to the CAI3G request in 3.2.30.1.

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**5.1.31 Media Policy**

## 5.1.31.1 Sh-MP-1

Media Policy service, a rule to block audio streams.

This is equivalent to the CAI3G request in 3.2.31.1.

**5.1.32 Multi Device Conference Policy**

## 5.1.32.1 Sh-MDCP-1

Multi Device Conference Policy service, creating device group MOBILE.

This is equivalent to the CAI3G request in 3.2.32.1

**5.1.33 Multi Device User Call Admission Control**

## 5.1.33.1 Sh-MDUCAC-1

Multi Device User Call Admission Control service, creating device groups, ALL, MOBILE and FIXED.

This is equivalent to the CAI3G request in 3.2.33.1.

**5.1.34 Multi Persona**

## 5.1.34.1 Sh-MUP-1

Multi Persona service.

This is equivalent to the CAI3G request in 3.2.34.1.

**5.1.35 Northbound Call Control**

## 5.1.35.1 Sh-NCC-1-CAP

Northbound Call Control using CAMEL application data.

This is equivalent to the CAI3G request in 3.2.35.1.

## 5.1.35.2 Sh-NCC-2-ParlayX

Northbound Call Control using Parlay X application data.

This is equivalent to the CAI3G request in 3.2.35.2.

**5.1.36 Number Portability Announcement**

## 5.1.36.1 Sh-NPA-1

Number Portability Announcement service.

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This is equivalent to the CAI3G request in 3.2.36.1.

### **5.1.37 Operator Controlled Outgoing Barring Programs**

#### **5.1.37.1 Sh-OCOBP-1**

Operator Controlled Outgoing Barring Programs.

This is equivalent to the CAI3G request in 3.2.37.1.

#### **5.1.37.2 Sh-OCOBP-2-dial-plan**

Dial plan example using permitted program.

This is equivalent to the CAI3G request in 3.2.37.2.

### **5.1.38 Originating Calling Name Identity Presentation**

#### **5.1.38.1 Sh-OCNIP-1-Provisioned-Mode**

Originating Calling Name Identity Presentation – Provisioned Mode

This is equivalent to the CAI3G request in 3.2.38.1.

#### **5.1.38.2 Sh-OCNIP-2-External-Mode**

Originating Calling Name Identity Presentation – External Mode

This is equivalent to the CAI3G request in 3.2.38.2.

### **5.1.39 Outgoing Barring Programs**

#### **5.1.39.1 Sh-OBP-1-Single-Scheme**

Outgoing Barring Programs - Single Scheme.

This is equivalent to the CAI3G request in 3.2.39.1.

#### **5.1.39.2 Sh-OBP-2-Multiple-Scheme**

Outgoing Barring Programs Service - Multiple Scheme.

This is equivalent to the CAI3G request in 3.2.39.2.

#### **5.1.39.3 Sh-OBP-3-Default-Barring-Program**

Outgoing Barring Programs Service – Default Barring Program.

This is equivalent to the CAI3G request in 3.2.39.3.

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## **5.1.40 Outgoing Communication Barring**

### **5.1.40.1 Sh-OCB-1-All-Features-Provisioned**

Outgoing Communication Barring - all features (fine-grain options) provisioned but no rules yet.

This is equivalent to the CAI3G request in 3.2.40.1.

### **5.1.40.2 Sh-OCB-2-User-Rules**

Outgoing Communication Barring - user rules with all condition types and with play-announcement and play-segmented-announcement actions.

This is equivalent to the CAI3G request in 3.2.40.2.

### **5.1.40.3 Sh-OCB-3-Operator-Rules**

Outgoing Communication Barring - operator rules with all condition types and with play-announcement and play-segmented-announcement actions, and no user service.

This is equivalent to the CAI3G request in 3.2.40.3.

### **5.1.40.4 Sh-OCB-4-Carrier-Condition**

Outgoing Communication Barring – operator rules with carrier conditions and no user service.

This is equivalent to the CAI3G request in 3.2.40.4.

### **5.1.40.5 Sh-OCB-5-Carrier-Condition-with-Carrier-Select-Code**

Outgoing Communication Barring – user rules with carrier conditions containing carrier-select-code.

This is equivalent to the CAI3G request in 3.2.40.5.

## **5.1.41 Originating Identity Presentation**

### **5.1.41.1 Sh-OIP-1**

Originating Identity Presentation Service.

This is equivalent to the CAI3G request in 3.2.41.1.

## **5.1.42 Originating Identity Presentation Restriction**

### **5.1.42.1 Sh-OIR-1**

Originating Identity Presentation Restriction Service.

This is equivalent to the CAI3G request in 3.2.42.1.

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**5.1.42.2 Sh-OIR-2-permanent-mode**

Originating Identity Presentation Restriction Service in permanent mode.

This is equivalent to the CAI3G request in 3.2.42.2.

**5.1.42.3 Sh-OIR- 3-with-mode-ad-hoc-temporary-presentation-restricted**

Originating Identity Presentation Restriction Service in ad-hoc-temporary-presentation-restricted mode.

This is equivalent to the CAI3G request in 3.2.42.3.

**5.1.42.4 Sh-OIR- 4-with-mode-ad-hoc-temporary-presentation-not-restricted**

Originating Identity Presentation Restriction Service in ad-hoc-temporary-presentation-not-restricted mode.

This is equivalent to the CAI3G request in 3.2.42.4.

**5.1.43 Priority Call****5.1.43.1 Sh-PRC-1**

Priority Call Service.

This is equivalent to the CAI3G request in 3.2.43.1.

**5.1.44 Session Transfer To Own Device****5.1.44.1 Sh-STOD-1**

Session Transfer To Own Device Service.

This is equivalent to the CAI3G request in 3.2.44.1

**5.1.44.2 Sh-STOD-2-with-UCD**

Session Transfer To Own Device Service using User Common Data.

This is equivalent to the CAI3G request in 3.2.44.2

**5.1.45 Supplementary Service codes****5.1.45.1 Sh-SSC-1**

Supplementary Service Codes.

This is equivalent to the CAI3G request in 3.2.45.1.

**5.1.45.2 Sh-SSC-2-MD5-hash**

Supplementary Service Codes – PIN encoded as MD5 hash.

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This is equivalent to the CAI3G request in 3.2.45.2.

#### 5.1.45.3 Sh-SSC-4-PIN-failure

Supplementary Service Codes – Example with one PIN failure.

This is equivalent to the CAI3G request in 3.2.45.4.

### 5.1.46 Terminating Identity Presentation

#### 5.1.46.1 Sh-TIP-1

Terminating Identity Presentation Service.

This is equivalent to the CAI3G request in 3.2.46.1

### 5.1.47 Terminating Identity Presentation Restriction

#### 5.1.47.1 Sh-TIR-1

Terminating Identity Presentation Restriction Service.

This is equivalent to the CAI3G request in 3.2.47.1.

#### 5.1.47.2 Sh-TIR-2-permanent-mode

Terminating Identity Presentation Restriction Service in permanent mode.

This is equivalent to the CAI3G request in 3.2.47.2.

### 5.1.48 Three Party

#### 5.1.48.1 Sh-3PTY-1

Three Party Service.

This is equivalent to the CAI3G request in 3.2.48.1.

### 5.1.49 Unified Communication Routing

#### 5.1.49.1 Sh-UCR-1

Unified Communication Routing

This is equivalent to the CAI3G request in 3.2.49.1.

### 5.1.50 User Call Admission Control

#### 5.1.50.1 Sh-UCAC-1

User Call Admission Control

This is equivalent to the CAI3G request in 3.2.50.1.



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## 5.1.51 User Common Data

### 5.1.51.1 Sh-UCD-1

User Common Data

This is equivalent to the CAI3G request in 3.2.51.1.

## 5.1.52 Voice Mail

### 5.1.52.1 Sh-VM-1

Voice Mail

This is equivalent to the CAI3G request in 3.2.52.1

## 5.1.53 Multi-Service Examples

### 5.1.53.1 Sh-Multi-1-All-Services

All MMTel user services provisioned.

This is equivalent to the CAI3G messages in 3.2.53.1 and 3.2.53.2

### 5.1.53.2 Sh-Multi-2-Withdraw-All-Services

Request to withdraw all MMTel user services.

This is equivalent to the CAI3G request in 3.2.53.3.

### 5.1.53.3 Sh-Multi-3-Full-Request

To build a very large provisioning request that shows all access rights and all service elements with every condition and every action. In the real world, it would never be sensible to create the same rules in the user-data part and in the operator-data part but the primary purpose here is to create a large request for system testing.

## 5.2 MMTel Group Service Data Sh Examples

This section contains examples of each of the MMTel group services on the Sh interface.

### 5.2.1 Group Call Admission Control

#### 5.2.1.1 Sh-Group-GCAC-1

Group Call Admission Control with limits specified in xml data.

This is equivalent to the CAI3G request in 3.3.1.1.

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#### 5.2.1.2 Sh-Group-GCAC-2-Profile

Group Call Admission Control with group profile identified.

This is equivalent to the CAI3G request in 3.3.1.2.

### 5.2.2 All Service Examples

#### 5.2.2.1 Sh-Group-Multi-1-All-Services

All MMTel group services provisioned.

This is equivalent to the CAI3G messages in 3.3.2.1 and 3.3.2.2.

#### 5.2.2.2 Sh-Group-Multi-2-Withdraw-All-Services

Request to withdraw all MMTel group services.

This is equivalent to the CAI3G request in 3.3.2.3.

### 5.3 MMTEL Service Profile Sh Examples

#### 5.3.1.1 Sh-Profile-1-create-bronze-profile

A basic create request with one service that has both service options and user data.

This is equivalent to the CAI3G request in 3.4.1.1.

#### 5.3.1.2 Sh-Profile-2-create-silver-profile

A basic create request with two services. One that has both service options and user data and one that has only service options.

This is equivalent to the CAI3G request in 3.4.1.2.

### 5.4 MMTel Service-Number Data Sh Examples

This section contains examples of each of the MMTel service number on the Sh interface.

#### 5.4.1 Sh-Service-Number

MMTel service number provisioned.

This is equivalent to the CAI3G messages in 3.5.1 and 3.5.2.

#### 5.4.2 Sh-Service-Number-Withdraw

Request to withdraw MMTel service number.

This is equivalent to the CAI3G request in 3.5.3.

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### 5.4.3 Sh-Reference-Table

Reference table, which stores the pin code (moderator or participants) and identity of the owner of scheduled conference.

This is a part of the Sh requests done during CCMP request 7.1.1.

## 5.5 MMTel Scheduled Conference Data Sh Examples

This section contains examples of each of the MMTel service number on the Sh interface.

### 5.5.1 Sh-Scheduled-Conference-only-service-number

MMTel Scheduled Conference service provisioned.

This is equivalent to the CAI3G messages in 3.6.1.

### 5.5.2 Sh-Scheduled-Conference-deactivated

MMTel Scheduled Conference service provisioned.

This is equivalent to the CAI3G messages in 3.6.3.

### 5.5.3 Sh- Scheduled-Conference-Withdraw

Request to withdraw MMTel scheduled conference.

This is equivalent to the CAI3G request in 3.6.4.

### 5.5.4 Sh- Scheduled-Conference

Request to store the service number and a scheduled conference in the scheduled conference data.

This is a part of the Sh requests done during CCMP request 7.1.1.

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## 6 Provisioning Requests Over Ut

### 6.1 MMTel User Service Data Ut Examples

This section contains examples for provisioning the MMTel user services over Ut.

#### 6.1.1 Non-Number Normalization Examples

##### 6.1.1.1 Ut-1-Full-Request

This is a request to provision all the service elements of the user-part of an MMTel document. All service elements are populated to show at least one usage of all allowed conditions and all allowed actions. This is the same as the Ut part of 5.1.53.3.

##### 6.1.1.2 Ut-2-Request-OIP-OIR

Pre-request: Run the CAI3G example files CAI3G-OIP-1-Create and CAI3G-OIR-1-Create.

This is a request to provision the OIP and OIR services in the user-part of an MMTel document.

##### 6.1.1.3 Ut-3-Request-TIP-TIR

Pre-request: Run the CAI3G example files CAI3G-TIP-1-Create and CAI3G-TIR-1-Create.

This is a request to provision the TIP and TIR services in the user-part of an MMTel document.

##### 6.1.1.4 Ut-4-Request-CDIV-Identity

Pre-request: Run the CAI3G example file CAI3G-CDIV-1-All-Features-Provisioned-Create.

This is a request to provision the communication diversion service element with the condition 'identity'. 'Identity' is a complex structure that can contain a potentially unlimited number of elements that are either type 'one' or type 'many'.

Within the 'many' element, it is possible to define exceptions (within the scope of many) by using the 'except' element.

##### 6.1.1.5 Ut-5-Request-CDIV-Media

Pre-request: Run the CAI3G example file CAI3G-CDIV-1-All-Features-Provisioned-Create.

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This is a request to provision the communication diversion service element with the condition 'media'. This example includes multiple media conditions.

#### 6.1.1.6 Ut-6-Request-CDIV-Presence

Pre-request: Run the CAI3G example file CAI3G-CDIV-1-All-Features-Provisioned-Create.

To provision CDIV with a rule of multiple presence-status.

#### 6.1.1.7 Ut-7-ICB-Request-blacklist

Pre-request: Run the CAI3G example file CAI3G-CDIV-1-All-Features-Provisioned-Create.

This is a request to provision the Incoming Call Barring (ICB) service element with a list of identities whose calls are barred. The example uses the 'identity' condition to build up a list. Setting the 'allow' action to false means the list of identities is barred.

#### 6.1.1.8 Ut-8-Error-2-Busy-elements-in-CDIV

Pre-request: Run the CAI3G example file CAI3G-CDIV-1-All-Features-Provisioned-Create.

This is a request to provision the simservs element that contains the busy condition twice in the same rule within the Communication Diversion Service Element. This request is an error. It should be rejected by the MTAS application checks.

#### 6.1.1.9 Ut-9-Error-2-CDIV-elements

Pre-request: Run the CAI3G example file CAI3G-CDIV-1-All-Features-Provisioned-Create.

This is a request to provision the simservs element that contains 2 Communication Diversion Service Elements. This request is an error. It should be rejected by the MTAS application checks.

#### 6.1.1.10 Ut-10-Error-Not-Registered-but-inform-user

Pre-request: Run the CAI3G example file CAI3G-CDIV-1-All-Features-Provisioned-Create.

This is a request to provision the simservs element that specifies communication diversion if the called party (the served user) is not-registered. The rule also specifies an action of 'notify-served-user' but the 'served user' is not registered (by definition). This request is an error. It should be rejected by the MTAS application checks.

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#### 6.1.1.11 Ut-11-Error-except-is-outside-many

Pre-request: Run the CAI3G example file CAI3G-CDIV-1-All-Features-Provisioned-Create.

This is a request to provision the simservs element that specifies communication diversion on 'identity' where identity is the 'domain' of 'many' with the exception a specified user. The user specified in 'except' is not within the 'domain' of 'many'. This request is an error. It should be rejected by the MTAS application checks.

#### 6.1.1.12 Ut-12-outgoing-barring-programs-single

Pre-request: Run the CAI3G example file CAI3G-OBP-1-Single-Scheme-Create.

This is a request to provision the outgoing-barring-programs service in single program mode.

For this request to succeed a matching element with the same program type (single) needs to exist in the operator data.

#### 6.1.1.13 Ut-13-NN-pure-sip

Pre-request: Run the CAI3G example file CAI3G-CDIV-1-All-Features-Provisioned-Create.

This is a successful request that contains valid 'sip:' identities that are not associated with numbers

#### 6.1.1.14 Ut-14-NN-tel-in-sip

Pre-request: Run the CAI3G example file CAI3G-CDIV-1-All-Features-Provisioned-Create.

This is a request which contains telephone numbers within a 'sip:' identity. This request would be rejected because not all of the numbers are already normalised.

#### 6.1.1.15 Ut-15-NN-pure-tel

Pre-request: Run the CAI3G example file CAI3G-CDIV-1-All-Features-Provisioned-Create.

This is a request that contains 'tel:' identities. Each of the identities is normalisable. However the request would be rejected because not all of the numbers are already normalised.

#### 6.1.1.16 Ut-16-NN-bad-tel

Pre-request: Run the CAI3G example file CAI3G-ICB-1-All-Features-Provisioned-Create.

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To show a provisioning request with an invalid tel: URI. This request should fail because the tel: URI is invalid (Case 7) - the character string '.com' is not allowed in a phone number.

#### 6.1.1.17 Ut-17-NN-bad-tel-in-sip

Pre-request: Run the CAI3G example file CAI3G-OCB-1-All-Features-Provisioned-Create.

To show a provisioning request with an invalid telephone number in a SIP URI. This request should fail because the tel: URI is invalid (Case 4) - the characters 'ABC' are not allowed in a phone number.

#### 6.1.1.18 Ut-18-CW

Pre-request: Run the CAI3G example file CAI3G-CW-1-Create.

This is a request to provision the Communication Waiting service in the user-part of an MMTel document.

#### 6.1.1.19 Ut-19-CNIP

Pre-request: Run the CAI3G example file CAI3G-CNIP-1-Create.

This is a request to provision the Calling Name Identity Presentation service in the user-part of an MMTel document.

#### 6.1.1.20 Ut-21-ABD

Pre-request: Run the CAI3G example file CAI3G-ABD-1-Create.

This is a request to provision the Abbreviated Dialing service in the user-part of an MMTel document.

#### 6.1.1.21 Ut-22-FCD

Pre-request: Run the CAI3G example file CAI3G-FCD-1-Create.

This is a request to provision the Flexible Communication Distribution service in the user-part of an MMTel document.

#### 6.1.1.22 Ut-23-UCD

Pre-request: Run the CAI3G example file CAI3G-UCD-1-Create.

This is a request to provision the User Common Data service in the user-part of an MMTel document.

#### 6.1.1.23 Ut-24-FCD-UCD

Pre-request: Run the CAI3G example files CAI3G-FCD-1-Create and CAI3G-UCD-1-Create.

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This is a request to provision the Flexible Communication Distribution and User Common Data services in the user-part of an MMTel document.

#### 6.1.1.24 Ut-25-DNDCF-with-generic-announcement

Pre-request: Run the CAI3G example file CAI3G-CDIV-1-All-Features-Provisioned-Create.

This is a request to provision the communication diversion service element with Do-Not-Disturb service with the 'do-not-disturb' actions element and to support playing the operator-named announcement (generic announcement) with the 'play-announcement' actions element.

#### 6.1.1.25 Ut-26-CFNR-with-generic-announcement

Pre-request: Run the CAI3G example file CAI3G-CDIV-1-All-Features-Provisioned-Create.

This is a request to provision the communication diversion service element with no-answer conditions element and playing the operator-named announcement (generic announcement) with the 'play-announcement' actions element.

#### 6.1.1.26 Ut-27-DNDCB-with-generic-announcement

Pre-request: Run the CAI3G example file CAI3G-ICB-1-All-Features-Provisioned-Create.

This is a request to provision the Incoming Communication Barring (ICB) service element with a list of identities whose calls are barred. The call is barred with Do Not Disturb service and the caller will be presented with operator-named announcement (generic announcement).

#### 6.1.1.27 Ut-28-OCB-with-generic-announcement

Pre-request: Run the CAI3G example file CAI3G-CDIV-1-All-Features-Provisioned-Create.

This is a request to provision the Outgoing Communication Barring (OCB) service element with barring the outgoing communication to certain domain and play generic announcement to the caller (to the served-user in this case).

#### 6.1.1.28 Ut-29-OCB-with-carrier-condition

Pre-request: Run the CAI3G example file CAI3G-OCB-1-All-Features-Provisioned-Create.

This is a request to provision Outgoing Communication Barring (OCB) rules with carrier condition.



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## 6.1.1.29 Ut-30-UCD-enhanced-time

Pre-request: Run the CAI3G example file CAI3G-UCD-1-Create.

This is a request to provision User Common Data with elements used by time conditions (validity, valid-periods and invalidity).

## 6.1.1.30 Ut-31-CDIV-enhanced-time

Pre-request: Run the CAI3G example file CAI3G-CDIV-1-All-Features-Provisioned-Create.

This is a request to provision Communication Diversion (CDIV) rules with enhanced time conditions (valid-periods and invalidity).

## 6.1.1.31 Ut-32-Barring-enhanced-time

Pre-request: Run the CAI3G example files CAI3G-ICB-1-All-Features-Provisioned-Create and CAI3G-OCB-1-All-Features-Provisioned-Create.

This is a request to provision Outgoing Communication Barring (OCB) and Incoming Communication Barring (ICB) rules with enhanced time conditions (valid-periods and invalidity).

## 6.1.1.32 Ut-33-FCD-Divert-Primary

Pre-request: Run the CAI3G example file CAI3G-FCD-4-with-Divert-Primary-Create.

This is a request to provision the Flexible Communication Distribution service with the Divert-Primary service in the user-part of an MMTel document.

## 6.1.1.33 Ut-34-Error-FCD-Divert-Primary-with-Notify-Caller

Pre-request: Run the CAI3G example file CAI3G-FCD-4-with-Divert-Primary-Create.

This is a request to provision the Flexible Communication Distribution service with the Divert-Primary but containing notify-caller in the forward-to element. This request is an error. It should be rejected by the MTAS application checks.

## 6.1.1.34 Ut-35-Error-FCD-VOICEMAIL-in-Target-List

Pre-request: Run the CAI3G example file CAI3G-FCD-1-Create.

This is a request to provision the Flexible Communication Distribution service but having reserved name 'VOICEMAIL' being used as an alias name in the <mmt-serv:target-list>. This request is an error. It should be rejected by the MTAS application checks.

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#### 6.1.1.35 Ut-36-DNDCB-with-segmented-announcement

Pre-request: Run the CAI3G example file CAI3G-ICB-1-All-Features-Provisioned-Create.

This is a request to provision the Incoming Communication Barring (ICB) service element with a list of identities whose calls are barred. The call is barred with Do Not Disturb service and the caller will be presented with operator-named segmented announcement (generic announcement).

#### 6.1.1.36 Ut-37-OCB-with-generic-announcement

Pre-request: Run the CAI3G example file CAI3G-OCB-1-All-Features-Provisioned-Create.

This is a request to provision the Outgoing Communication Barring (OCB) service element with barring the outgoing communication to a certain destination and play segmented announcement to the caller (to the served-user in this case).

#### 6.1.1.37 Ut-38-FIP

Pre-request: Run the CAI3G example file CAI3G-FIP-1-Create.

This is a request to activate the Flexible Identity Presentation service in the user-part of an MMTel document.

#### 6.1.1.38 Ut-39-STOD

Pre-request: Run the CAI3G example file CAI3G-STOD-1-Create.

This is a request to activate the Session Transfer To Own Device service in the user-part of an MMTel document.

#### 6.1.1.39 Ut-40-HL

Pre-request: Run the CAI3G example file CAI3G-HL-1-Create.

This is a request to activate the Delayed Hotline Voicemail service and set Called Number in the user-part of and MMTel document.

#### 6.1.1.40 Ut-41-FIP-with-MSN

Pre-request: Run the CAI3G example file CAI3G-FIP-1-Create.

This is a request to activate the Flexible Identity Presentation and Multi Subscriber Number service in the user-part of an MMTel document.

#### 6.1.1.41 Ut-42-CDIV-with-MSN

Pre-request: Run the CAI3G example CAI3G-CDIV-1-All-Features-Provisioned-Create.

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This is a request to provision Communication diversion (CDIV) rules with served-identity condition.

#### 6.1.1.42 Ut-43-FCD-with-served-identity

Pre-request: Run the CAI3G example CAI3G-FCD-1-Create.

This is a request to provision Flexible Communication Distribution (FCD) rules with served-identity condition.

#### 6.1.1.43 Ut-44-OCB-with-served-identity

Pre-request: Run the CAI3G example CAI3G-OCB-1-All-Features-Provisioned-Create.

This is a request to provision the Outgoing Communication Barring (OCB) service element with barring the outgoing communication to served identity.

#### 6.1.1.44 Ut-45-ICB-with-served-identity

Pre-request: Run the CAI3G example CAI3G-ICB-1-All-Features-Provisioned-Create.

This is a request to provision the Incoming Call Barring (ICB) service element with a served identity whose calls are barred.

#### 6.1.1.45 Ut-46-DR

Pre-request: Run the CAI3G example file CAI3G-DR-1-Create.

This is a request to provision the Distinctive Ring in the user-part of an MMTel document.

#### 6.1.1.46 Ut-47-FCD-with-SIP-regexp

Pre-request: Run the CAI3G example file CAI3G-FCD-6-with-SIP-regexp-Create.

This is a request to provision Flexible Communication Distribution rules with SIP regexp condition and PRIMARY\_MOBILE target. The SIP regexp condition has been provisioned and defined in the User Common Data (CAI3G-FCD-6-with-SIP-regexp-Create).

#### 6.1.1.47 Ut-48-STOD-with-UCD

Pre-request: Run the CAI3G example file CAI3G-STOD-2-with-UCD-Create.

This is a request to provision the Session Transfer To Own Device with User Common Data (CAI3G-FCD-6-with-SIP-regexp-Create).in the user-part of an MMTel document.

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#### 6.1.1.48 Ut-49-Documents-Without-Namespaces-Prefix

Pre-request: Run the CAI3G example file CAI3G-Multi-1-1-All-Services-Create.

This is a request to provision service elements in the user-part of an MMTel document. Elements that have the default namespace are without prefix.

#### 6.1.1.49 Ut-50-CDIV-Rule-Without-Namespaces-Prefix

Pre-request: Run the CAI3G example file CAI3G-CDIV-2-Plain-Rules-Create.

This is a request to add a CDIV rule element in the user-part of an MMTel document. Elements that have the default namespace are without prefix.

#### 6.1.1.50 Ut-51-SSC

Pre-request: Run the CAI3G example file CAI3G-SSC-1-Create.

This is a request to set user configuration to active="true".

### 6.1.2 Number Normalization Examples

This test maps the possible types of URI against the types of possible Normalise Number. The itemised case numbers in table appear again in the example where the element identity appears.

	Normalised	Not Normalised	Cannot be Normalised	Telephone number not present
Pure SIP Request	Cannot happen	Cannot happen	Cannot happen	<b>Case 1</b>
Tel embedded in SIP request	<b>Case 2</b>	<b>Case 3</b>	<b>Case 4</b>	Cannot happen
Pure Tel Request	<b>Case 5</b>	<b>Case 6</b>	<b>Case 7</b>	Cannot happen

*Note:* The formats of the identities are only examples and the actual results of the Number Normalisation check will depend on the Number Normalisation data values that the node has been configured with and the domain names of the P-Asserted-Identity in an XCAP request or the MOld of a CAI3G request.

#### 6.1.2.1 Ut-13-NN-pure-sip

This is a successful request that contains valid 'sip:' identities that are not associated with numbers

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- (a) in its simplest form (Case 1a)
- (b) with a % encoded character (Case 1b)
- (c) a number that is a pure 'sip' identity. This number might appear to be a telephone identity but it is not because both:
  - a. the identity does not contain a "user-phone" parameter
  - b. the domain in the identity is not configured in the numNormProfileDomNameEr configuration object.

This is case 1c.

Whenever item 'a' is true or item 'b' is true then the number is treated as a telephone identity. See case 3a and 3b respectively.

There are no number normalization issues associated with a pure sip identity.

#### 6.1.2.2 Ut-14-NN-tel-in-sip

This is a request which contains telephone numbers within a 'sip:' identity. Each of the identities is normalisable. However the request would be rejected because not all of the numbers are already normalised.

The example shows the following variations

- (a) A normalised number (Case 2)
- (b) A non-normalised number with a parameter saying 'user=phone' (Case 3a)
- (c) A non-normalised number without a parameter (Case 3b)

Note: For details of usage of the 'phone-context' parameter, see the next example.

#### 6.1.2.3 Ut-15-NN-pure-tel

This is a request that contains 'tel:' identities. Each of the identities is normalisable. However the request would be rejected because not all of the numbers are already normalised.

The example shows the following variations

- (a) A normalised number (Case 5)
- (b) A non-normalised number without a 'phone-context' parameter (Case 6a)
- (c) A non-normalised number with a 'phone-context' parameter (Case 6b)

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#### 6.1.2.4 Ut-16-NN-bad-tel

To show a provisioning request with an invalid tel: URI. This request should fail because the tel: URI is invalid (Case 7) - the character string “.com” is not allowed in a phone number.

#### 6.1.2.5 Ut-17-NN-bad-tel-in-sip

To show a provisioning request with an invalid telephone number in a SIP URI. This request should fail because the tel: URI is invalid (Case 4) – the characters “ABC” are not allowed in a phone number.

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## 7 Provisioning Requests Over CCMP

### 7.1 Scheduled Conferences CCMP Examples

This section contains examples for provisioning Scheduled Conferences to users over CCMP.

Note: The CCMP interface is not available in virtualized MTAS.

#### 7.1.1 CCMP-confRequest-create

This is a request example to create a new scheduled conference.

Equivalent Sh requests are given in 5.5.4 and 5.4.3.

#### 7.1.2 CCMP-confRequest-delete

This is a request example to delete a scheduled conference.

An equivalent Sh request is given in 5.5.1.

#### 7.1.3 CCMP-confRequest-retrieve

This is a request example to retrieve a scheduled conference.

#### 7.1.4 CCMP-confRequest-update

This is a request example to update a scheduled conference.

Equivalent Sh request is given in 5.5.4.

#### 7.1.5 CCMP-userRequest-create

This is a request example to add a new scheduled conference participant to a conference.

No equivalent Sh request exists.

#### 7.1.6 CCMP-userRequest-delete

This is a request example to remove a scheduled conference participant from a conference.

No equivalent Sh request exists.

#### 7.1.7 CCMP-userRequest-update

This is a request example to update a scheduled conference participant in a conference.

No equivalent Sh request exists.

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**7.1.8 CCMP-confResponse-create**

This is a successful response example from a create request as in 7.1.1.

**7.1.9 CCMP-confResponse-create-error-message-409**

This is a 409 CCMP error response example from a create request as in 7.1.1, with a missing password element.

**7.1.10 CCMP-confResponse-create-error-message-421**

This is a 421 CCMP error response example from a create request with an invalid user.

**7.1.11 CCMP-confResponse-delete**

This is a successful response example from a delete request as in 7.1.2.

**7.1.12 CCMP-confResponse-retrieve-active**

This is a successful response example from a retrieve request as in 7.1.3 with a currently active conference, including participants.

**7.1.13 CCMP-confResponse-retrieve-inactive**

This is a successful response example from a retrieve request as in 7.1.3 with a currently inactive conference.

**7.1.14 CCMP-confResponse-update**

This is a successful response example from an update request as in 7.1.4.

**7.1.15 CCMP-userResponse-create**

This is a successful response example from a create request as in 7.1.5.

**7.1.16 CCMP-userResponse-create-error-message-409**

This is a 409 CCMP error response example from a create request as in 7.1.5, when the maximum number of participants is already reached.

**7.1.17 CCMP-userResponse-delete**

This is a successful response example from a delete request as in 7.1.6.

**7.1.18 CCMP-userResponse-update**

This is a successful response example from an update request as in 7.1.7.



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## 8 Embedded Files

### 8.1 Directory Structure

The examples contain relative pathnames to the related schema files to support validation. If the zip file available in ref [6] is used as it is provided then the directory structure and the relative pathnames are maintained.

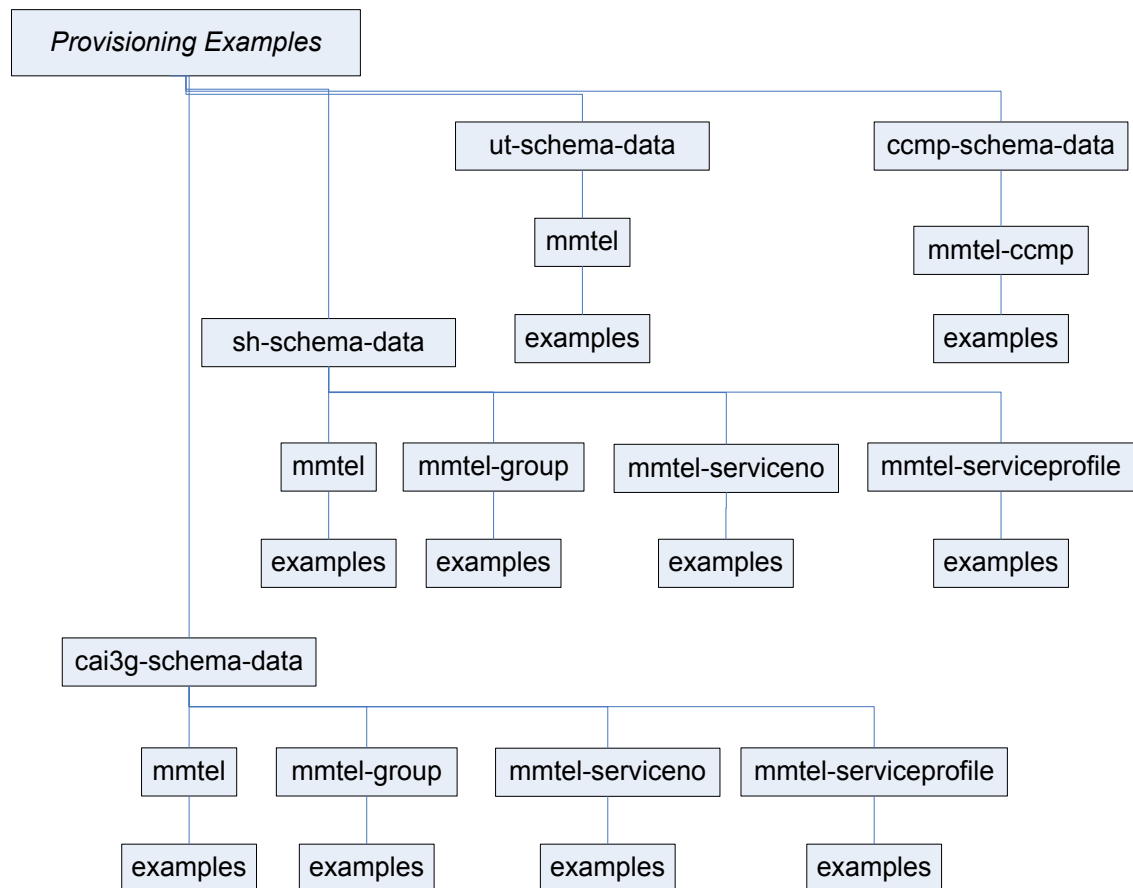


Figure 1 Directory structure for schemas and examples

The Ut schemas are available in ref [2]. The Sh schemas are available in ref [3]. The CAI3G schemas are available in ref [6]. Common types are available in ref [4]. The CCMP schemas are available in ref [5].

### 8.2 Examples

The examples are available in ref [6].

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## 9 Glossary

### 9.1 Terms

<u>Term</u>	<u>Explanation</u>
Application Check	In addition to schema validation, MTAS performs application checks on each request which check the semantics of the request.
CCMP interface	Interface between the CCMP client and CCMP server, as defined by IETF
MMTel Document	Every user who subscribes to Multi-Media Telephony services is allocated an MMTel document where details of his services are stored.
nillable	An XML element with the attribute 'nillable' in the schema definition allows that XML element in an instance document to be removed by assigning 'nil=true'.
Number normalization	Conversion of a telephone number into an international format.
Operator-Part	The part of the MMTel document that only the operator can read from and write to i.e. the user has no access to the operator-part  (The operator can access the user-part).
Sh Interface	Interface into HSS within an IMS, as defined by 3GPP
Simservs	Simservs is an XML element in the MMTel document that contains the Service Elements in the user-data.  Outside this document, the term 'simservs' is also used to refer to a <ul style="list-style-type: none"><li>• schema file</li><li>• namespace</li></ul>
User-Part	The part of the MMTel document that the user can read from and write to.

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<u>Term</u>	<u>Explanation</u>
Ut Interface	Interface between the XCAP client and XCAP server (XDMS) within an IMS, as defined by 3GPP
sub-Managed Object	A CA3G classification of an XML element where <ul style="list-style-type: none"><li>• The element can occur more than once</li><li>• The contents of the elements is further elements</li></ul>

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## 9.2 Abbreviations

3GPP	3 <sup>rd</sup> Generation Partnership Project
AOC	Advice of Charge
AOC-S	AOC-Start
CAI3G	Customer Administration Interface 3 <sup>rd</sup> Generation
CAMEL	Customized Applications for Mobile Enhanced Logic
CCBS	Communication Completion Busy Subscriber
CCMP	Centralized Conferencing Manipulation Protocol
CCNL	Communication Completion Not Logged in
CCNR	Communication Completion No Reply
CCxx	Communication Completion, CCBS and CCNR
CDIV	Communication Diversion
CFB	Communication Forwarding Busy
CFNR	Communication Forwarding No Reply
CFU	Communication Forwarding Unconditional
CPC	Calling Party Category
CUG	Closed User Group
DND	Do Not Disturb
DNDCB	Do Not Disturb Communication Barring
DND CF	Do Not Disturb Communication Forwarding
ECT	Explicit Communication Transfer
FIP	Flexible Identity Presentation
HL	Hotline
ICB	Incoming Communication Barring
IETF	Internet Engineering Task Force

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IMS	IP Multi-Media System
IP	Internet Protocol
MO	Managed Object
NCC	Northbound Call Control
NN	Number Normalization
OCB	Outgoing Communication Barring
OIP	Originating Identity Presentation
OIR	Originating Identity Restriction
OMA	Open Mobile Alliance
SE	Service Element
STOD	Session Transfer To Own Device
SOAP	Simple Object Access Protocol
TIP	Terminating Identity Presentation
TIR	Terminating Identity Restriction
TISPAN	Telecoms and Internet converged Services and Protocols for Advanced Networks
URI	Unique Resource Identifier
XDMS	XML Document Management Server
XML	Extensible Markup Language

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## 10 References

- [1] MTAS CAI3G Interface, 22/155 19-AVA 901 18
- [2] MTAS Ut Schemas, 2/190 09-AVA 901 18
- [3] MTAS Service Data Schemas, 6/190 09-AVA 901 18
- [4] MTAS Common Types Schemas, 4/190 09-AVA 901 18
- [5] MTAS CCMP Schemas, 3/190 09-AVA 901 18
- [6] MTAS Examples of XML Provisioning Requests, 5/190 09-AVA 901 18