

MTAS Multi-Persona Management Guide

MTAS

USER GUIDE

Copyright

© Ericsson AB 2019. All rights reserved. No part of this document may be reproduced in any form without the written permission of the copyright owner.

Disclaimer

The contents of this document are subject to revision without notice due to continued progress in methodology, design and manufacturing. Ericsson shall have no liability for any error or damage of any kind resulting from the use of this document.

Trademark List

All trademarks mentioned herein are the property of their respective owners. These are shown in the document Trademark Information.



Contents

1	Introduction	1
1.1	Prerequisites	1
2	Overview	3
2.1	Subfunctions	3
3	Multi-Persona Service Configurations	9
3.1	Multi-Persona on CS Configuration	9
4	Performance Management	11
5	Fault Management	13





1 Introduction

This document describes how to configure the Multi-Persona (MUP) service in MTAS.

1.1 Prerequisites

It is assumed that the user of this document is familiar with the O&M area, in general.

1.1.1 Licenses

To enable the MUP service, the MUP license must be installed. For more information about the MUP license, refer to [MTAS Licenses](#).

1.1.2 Documents

Before starting any procedure in this document, ensure that the following documents are available:

- [Ericsson Command-Line Interface User Guide](#)
- [Managed Object Model \(MOM\)](#)

1.1.3 Conditions

Before starting any procedure in this document, ensure that the following condition is met:

- An Ericsson Command-Line Interface (ECLI) session in Exec mode is in progress.





2 Overview

This document describes the Multi-Persona service that MTAS offers to its subscribers.

The Multi-Persona service allows a device to have more than one phone number for the same served user, and makes it possible to select the identity for outgoing communication (outgoing call). The alternative lines are supported on VoLTE, Wi-Fi calling, and CS access.

All personas of the served user must be defined in the IRS. The first (and default) IMPU of the IRS is regarded as the primary persona while all others are alternative personas.

2.1 Subfunctions

2.1.1 Basic Multi-Persona

The basic functionality of Multi-Persona is to report about the selected line identity when the caller is using a primary or alternative persona. MMTel indicates to the offline/online charging node which persona initiates the call, when the Multi-Persona service is involved in the call.

2.1.2 Multi-Persona on CS Domain

Multi-Persona presents an alternative called identity and indicates the preferred calling identity for a user when camping on CS (2G/3G). It is also able to allocate, fetch, and use a Multi-Persona Context Number (MPCN). For this subfunction to work, Multi-Persona enhanced mode must be enabled.

The UE uses specific registration information in the Contact header to inform MTAS that the UE has established a 2G/3G SIP message control channel (SIPCC) to be utilized for multi-persona number notification signaling by including the feature tag “+message-channel.multi-persona” at registration. This registration information is referred to as Message Channel Multi-Persona (MCMP) feature tag.

Multi-Persona control signaling of the SIP MESSAGE request is described in a specific XML body, specified by Content-Type header value “application/vnd.call-id-info+xml” and “application/vnd.call-id-info-answer+xml” in originating successful cases, in terminating successful cases MUP is described in the XML body, specified only by Content-Type header value “application/vnd.call-id-info+xml”.

The device sends a SIP MESSAGE with its own primary IMPU as destination. An acknowledging MESSAGE request is used to send new information back after successful originating MESSAGE processing. The Call-ID value from the original



MESSAGE request is used as the value in the In-Reply-To header to associate acknowledging MESSAGE request with original MESSAGE.

The MMTel AS allocates a specific Multi-Persona Context Number (MPCN) dial-string resource per originating valid request. MPCN is the number that links the called party number with the intended calling party number. Since a subscriber can have multiple simultaneous session, MPCN identifies the persona-specific identity per destination. The same allocated MPCN number range is used on all subscribers without inter-dependencies. One MPCN is only used for one call at a time. Thus the range only needs to be dimensioned to cover the maximum number of simultaneous calls allowed per subscriber.

MMTel AS will specify the caller preference “+message-channel.multi-persona;explicit;require” in the Accept-Contact header to reach all devices having an MCMP channel established at terminating calls.

Table 1 Description of "application/vnd.call-id-info-answer+xml" XML Elements.

XML Element		Description
<call-id-info-answer>		
Element to be used in a positive acknowledgement request		
	<dial-string>	Either SIP embedded tel or tel URI of MPCN allocated by Multi-Persona service; phone number to be dialed by the UE, in E.164 format.
	<expires>	Time period during which the provided information is valid, in seconds.

Table 2 Description of "application/vnd.call-id-info+xml" XML Elements.

XML Element		Description
<call-id-info>		
Element to be used in an original request in the originating case only		
	<instance-id>	The value of the “sip.instance” media feature tag used during MCMP establishment. This is a Uniform Resource Name (URN) that uniquely identifies UE instance.
Elements common both to originating and terminating MESSAGE requests		



XML Element		Description
	<calling-party>	<p>In originating case, either SIP embedded tel or tel URI of a persona originating a call.</p> <p>In terminating case, either SIP embedded tel or tel URI of a calling party.</p>
	<called-party>	<p>In originating case, either SIP embedded tel or tel URI of a called party.</p> <p>In terminating case, either SIP embedded tel or tel URI of a persona terminating a call</p>
	<expires>	Time period during which the provided information is valid, in seconds.

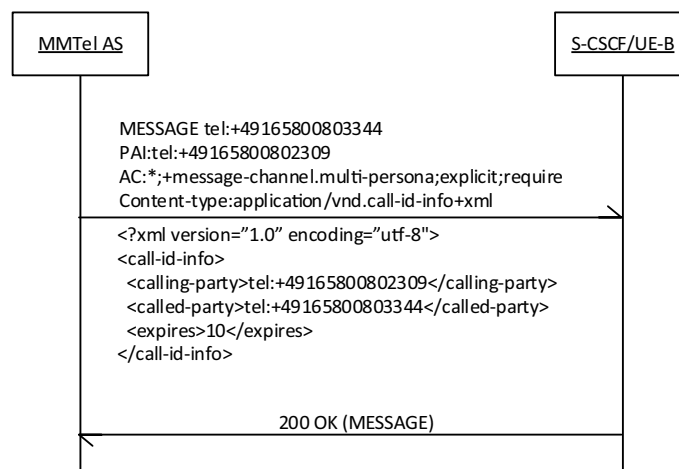


Figure 1 Call Flow of Persona Selection for Terminating Case

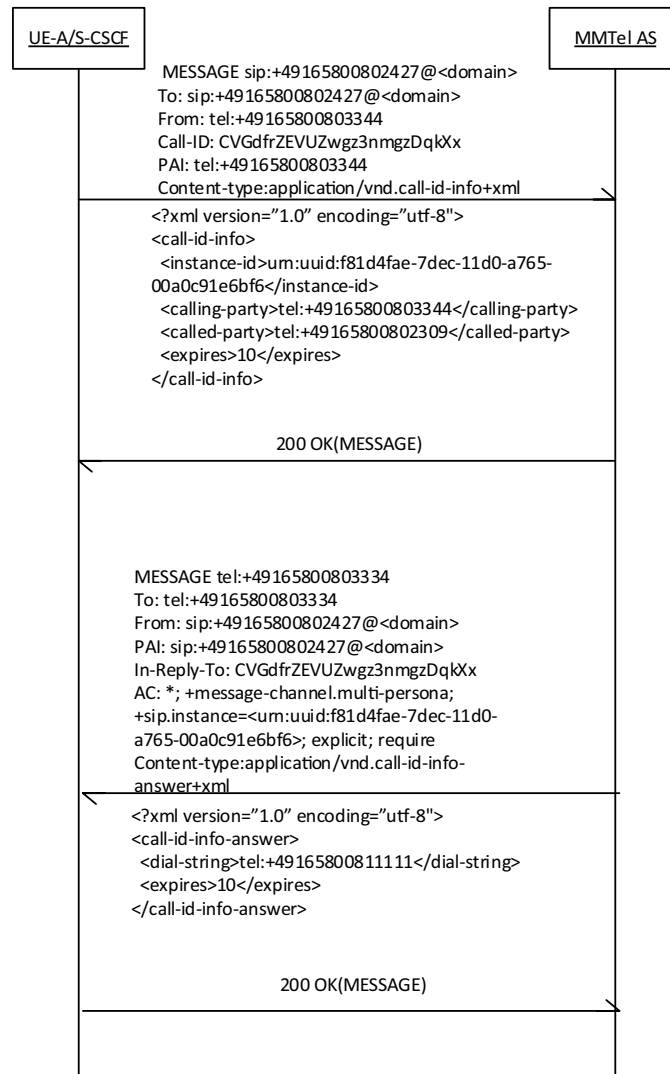


Figure 2 Call Flow of Persona Selection for Originating Case

2.1.3 Failure Cases of Multi-Persona on CS

If any error occurred, then the MESSAGE request is rejected with a 606 Not Acceptable and Warning header. The warning header contains an error text depending on the error occurred:

- “Calling Number Not Found”, if the calling party number is not equal to P-Asserted-Identity;
- “XML body is missing or incorrect”, if the request lacks a well-formed XML body with attributes calling-party, called-party, and expires;



- “Expires value is incorrect”, if the value of the expires attribute is greater than the CM parameter `mtasMultiPersonaMpcnMaxLifetime`;
- “MPCN allocation failed”, if MMTel AS fails to allocate MPCN;
- “Multi-Persona service is not provisioned”, if the Multi-Persona service is not provisioned to the user;
- “Not Acceptable Here”, if the operator has no valid license for Multi-Persona service, or the administrative state of the Multi-Persona service is locked, or Multi-Persona is in basic mode (`mtasMultiPersonaEnhancement` and `mtasMmtMobileBehavior` is disabled), or the Content-Type of the received MESSAGE is not related to Multi-Persona service (if Content-Type is different from “application/vnd.call-id-info+xml”).

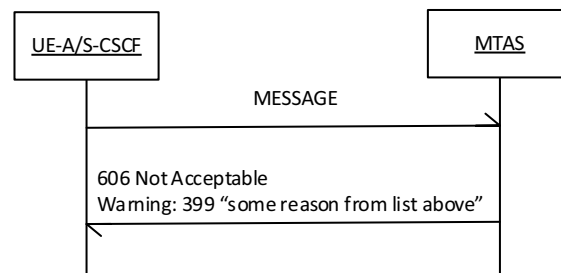


Figure 3 Call Flow in Originating Failure Case

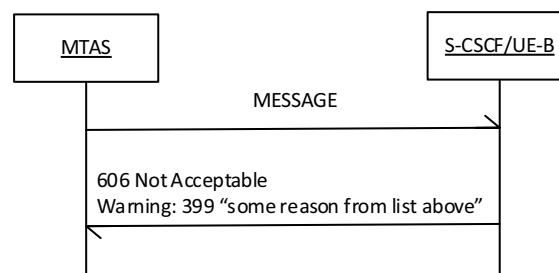


Figure 4 Call Flow in Terminating Failure Case





3 Multi-Persona Service Configurations

The Multi-Persona service is controlled by the MtasMultiPersona Managed Object Class (MOC).

The Managed Object (MO) structure of the MUP service is shown in Figure 5.

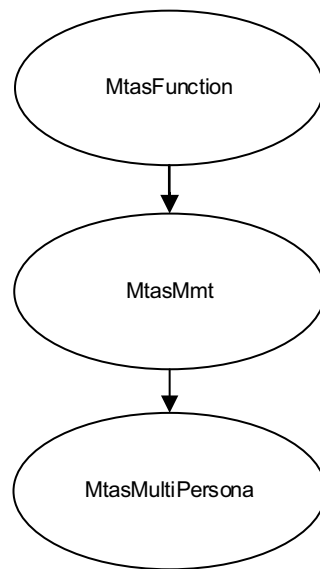


Figure 5 MUP Service MO Structure

For configurable MOs and attributes related to general Multi-Persona service configuration, refer to [Managed Object Model \(MOM\)](#).

3.1 Multi-Persona on CS Configuration

An O&M operator can configure the set of Multi-Persona Context Number (MPCN) ranges for the Multi-Persona service invocation. The service is active when the administrative state is enabled (`mtasMultiPersonaAdministrativeState=1`) and support for Multi-Persona feature enhancement is enabled (`mtasMultiPersonaEnhancement=1`).

For this subfunction to work, SIPCC with MCMP must be established by adding “+message-channel.multi-persona” in `mtasMmtSipccIdentification` and in the Contact header of the registration message as feature tag.

The CM attributes for the Multi-Persona service are as follows:

- MtasMultiPersonaMpcnRange



- `mtasMultiPersonaMpcnRangeFirst`
- `mtasMultiPersonaMpcnRangeLast`

```
MtasMmt=0
  MtasServices=0
    MtasMutliPersona=0
      mtasMultiPersonaAdministrativeState: 1
      mtasMultiPersonaEnhancement: 1
      mtasMultiPersonaMpcnMaxLifetime: 5
      MtasMultiPersonaMpcnRange=0
        mtasMultiPersonaMpcnRangeFirst: +12345600000
        mtasMultiPersonaMpcnRangeLast: +12345600100
      MtasMultiPersonaMpcnRange=1
        mtasMultiPersonaMpcnRangeFirst: +12345600400
        mtasMultiPersonaMpcnRangeFirst: +12345600500
    [...]
```

Example 1 CM Attributes for the Multi-Persona on CS Domain Service

The Multi-Persona service uses these parameters to configure the pool of free Multi-Persona Context numbers to allocate for connecting with CS domain.

The MO structure of the `MtasMultiPersonaMpcnRange` MOC for the Multi-Persona service is shown in Figure 6.

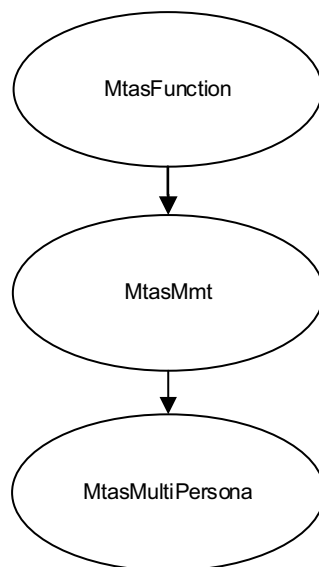


Figure 6 `MtasMultiPersonaMpcnRange` MO Structure

For configurable MOs and attributes related to the Multi-Persona service and `MtasMultiPersonaMpcnRange`, refer to *Managed Object Model (MOM)*.



4 Performance Management

An operator can receive statistics on Multi-Persona service invocations. Statistics are provided in the following three dimensions:

- Successful service.
- Unsuccessful because of external reasons.
- Unsuccessful because of internal reasons.

For information on measurements related to the Multi-Persona service, see [MTAS Performance Measurements](#).





5 Fault Management

For information on alarms related to the Multi-Persona service, see [MTAS Alarm List](#).