

MTAS Interface to SIPCC

Interwork Description

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1 Document History

Rev	Date	Sign	Comment
B	2019-03-28	EYEMVIT	Initial version

2 Scope and Purpose

2.1 Interface Entities

The SIP Control Channel (SIPCC) is an indirect interface between a VoLTE UE and the MMTel AS for application specific communication, related to Multimedia Telephony communication establishments.

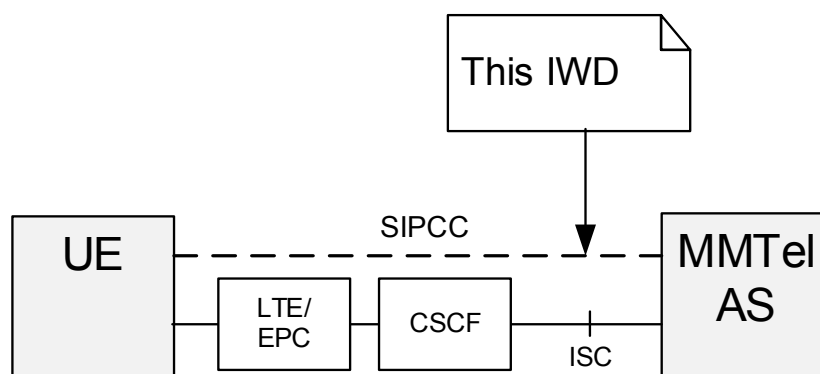


Figure 1 SIPCC interface entities

2.2 Interface Role

The MMTel AS act as a provider of the interface.

The UE establishes the SIP control channel by registering itself using a dedicated SIPCC IMPI as contact.

The SIPCC IMPI must be known by the MMTel AS..

Both the UE and the MMTel AS can initiate control signaling over an established control channel.

2.3 Services

Table 1: Offered Services

Offered Service	Description
Establish MCMP	Establishment of a Message Channel for Multi Persona. The service provides the possibility to specify what persona identity being used at communication establishments.
Persona selection at outgoing communication	The service provides the possibility to specify what persona identity being used at communication establishments by allocating an MPCN which links the called party number with the intended calling persona number.
Persona indication at incoming communication	The service provides the possibility to indicate which persona is used in terminating call.

Table 2: Used Services

Used Service	Description
-	-

2.4 Encapsulation and Addressing

2.4.1 SIPCC Interface

The SIPCC interface is a logical interface over the standard ISC interface as viewed from the MMTel AS.

On network layer either IPv4 or IPv6 can be used. In SIP headers and bodies IPv4 and IPv6 addresses can be mixed.

3 Procedures

3.1 Overview

Application signaling over the SIPCC interface are based on SIP messaging procedures using SIP MESSAGE request/responses.

The SIPCC interface can be used by different applications. The application used is specified by the Content-Type header of the MESSAGE request. The application signaling is carried by an enclosed XML body.

3.2 Lower Level Procedures

N/A

3.3 Establish MCMP

3.3.1 Initial MCMP Registration

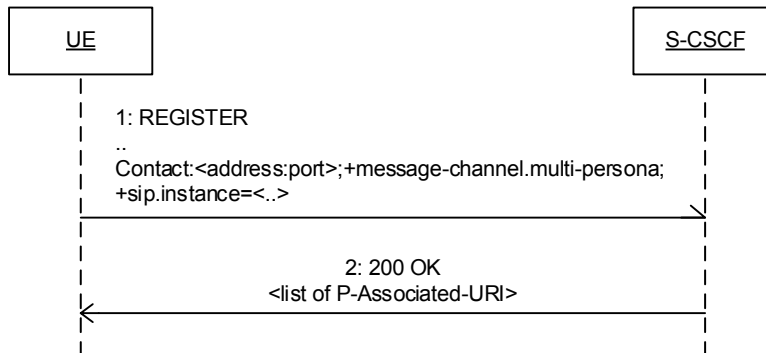


Figure 2 Initial MCMP Registration

1. When the MCMP UE registers in the IMS network it adds a proprietary MCMP feature tag to the Contact header field indicating support of a control channel for Multi-persona.
2. The S-CSCF accepts the REGISTER and sends a 200 OK response with a body containing all valid asserted identities from the IRS.

3.4 Persona Selection at Outgoing Communication

3.4.1 Successful Persona Selection

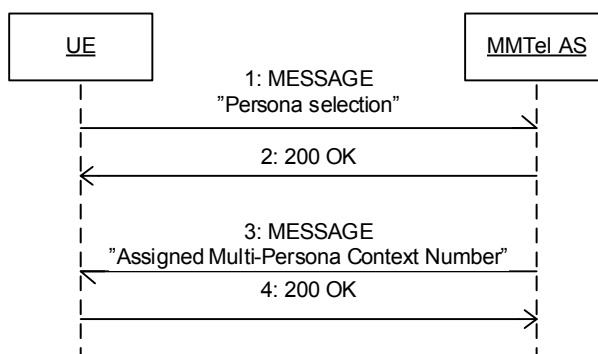


Figure 3 Successful Persona Selection

1. SIP MESSAGE request indicating the persona identity to use at outgoing call. The MESSAGE request is sent to the primary identity (default IMPU) while the wanted persona identity is specified with call-id-info XML body (see ch. [5.1](#) for details).
2. 200 OK (MESSAGE) without body replied back to UE
3. The MMTel AS constructs a new MESSAGE request with call-id-info-answer XML body (see ch. [5.2](#) for details). 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.
4. UE-A accepts the acknowledging MESSAGE request with 200 OK.

3.4.2 Unsuccessful Persona Selection

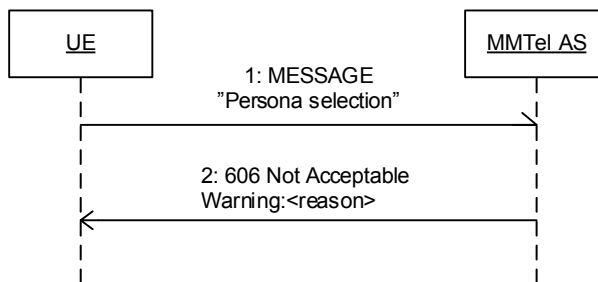


Figure 4 Unsuccessful Persona Selection Request

1. SIP MESSAGE request indicating the persona identity to use for an outgoing call.
2. The MMTel AS rejects MESSAGE request with 606 Not Acceptable error response with Warning header.

3.5 Persona Indication at Incoming Communication

3.5.1 Successful Persona Indication

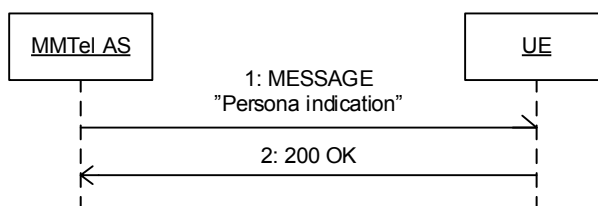


Figure 5 Successful Persona Indication

1. The MMTel AS sends a SIP MESSAGE to notify the UE about calling and called party identities at incoming communication.
2. Meanwhile the UE-B answers the MESSAGE request with 200 OK without body.

3.5.2 Unsuccessful Persona Indication

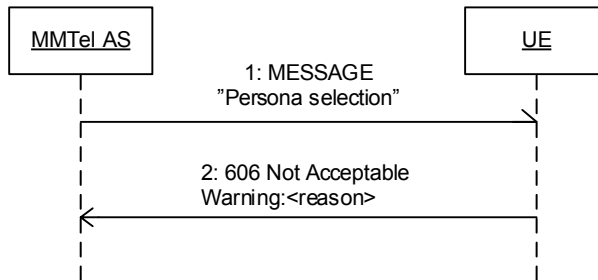


Figure 6 Unsuccessful Persona Indication

1. The MMTel AS sends a SIP MESSAGE to notify the UE about calling and called party identities at incoming communication.
2. UE-B rejects MESSAGE with 606 Not Acceptable error response and Warning header. Warning header (optional for UE) contains textual description with reject reason.

4 Information Model

4.1 General

This section describes the SIP signals sent over the SIPCC interface.

4.2 Persona Selection at Outgoing Communication

4.2.1 Selection Request

Table 3 SIP MESSAGE Request headers for persona selection request

Header	P	Comment
Content-Type		The type of application specific control signaling. Value application/vnd.call-id-info+xml

Request-URI		The primary identity (default IMPU)
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Table 4 SIP MESSAGE Responses

SIP code and reason phrase	Reason
200 OK	Request accepted. A Persona Selection Response will be given.
606 Not Acceptable	Request refused. Reason presented in a Warning header.

4.2.2 Selection Request Answer

Table 5 SIP MESSAGE Request headers for persona selection answer

Header	P	Comment
In-Reply-To		Call-ID header value of Selection Request
Content-Type		The type of application specific control signaling. Value application/vnd.call-id-info-answer+xml

Table 6 SIP MESSAGE Responses

SIP code and reason phrase	Reason
200 OK	MESSAGE received.

4.3 Persona Indication at Incoming Communication

Table 7 SIP MESSAGE Request headers for persona indication

Header	P	Comment
Content-Type		The type of application specific control signaling. Value application/vnd.call-id-info+xml

Table 8 SIP MESSAGE Responses

SIP code and reason phrase	Reason
200 OK	Request accepted. A Persona Selection Response will be given.
606 Not Acceptable	Request refused. Reason of rejection can be present in Warning header (optional). Used only for debug purposes and not used directly by MTAS

5 Formal Syntax or Schema

5.1 'call-id-info'

XML element	Description
<call-id-info>	

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

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns:mct="http://schemas.ericsson.com/mmtel/sip"
targetNamespace=" http://schemas.ericsson.com/mmtel/sip"
elementFormDefault="qualified" attributeFormDefault="unqualified">
<xs:element name="call-id-info">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="calling-party" type="xs:anyURI"
minOccurs="1" maxOccurs="1" />
      <xs:element name="called-party" type="xs:anyURI"
minOccurs="1" maxOccurs="1" />
      <xs:element name="expires" type="xs:integer" minOccurs="1"
maxOccurs="1" />
      <xs:element name="instance-id" type="xs:string"
minOccurs="0" maxOccurs="1" />
    </xs:sequence>
  </xs:complexType>
</xs:element>
</xs:schema>
```

5.2 'call-id-info-answer'

XML element	Description
<call-id-info-answer>	
<dial-string>	Either SIP embedded tel or tel URI with phone number to be dialed by the UE

XML element	Description
<expires>	Time period during which the provided information is valid, in seconds

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns:mct="http://schemas.ericsson.com/mmtel/sip"
targetNamespace=" http://schemas.ericsson.com/mmtel/sip"
elementFormDefault="qualified" attributeFormDefault="unqualified">
<xs:element name="call-id-info-answer">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="dial-string" type="xs:anyURI"
minOccurs="1" maxOccurs="1" />
      <xs:element name="expires" type="xs:integer" minOccurs="1"
maxOccurs="1" />
    </xs:sequence>
  </xs:complexType>
</xs:element>
</xs:schema>
```

6 Related Standards

See [1] and [2].

7 Terminology

7.1 Abbreviations

MCMP	Message Channel Multi Persona
MPCN	Multi-Persona Context Number
SIPCC	SIP Control Channel

7.2 Definitions

...

8 References

- [1] RFC3261 - SIP: Session Initiation Protocol
- [2] RFC3428 – Session Initiation Protocol (SIP) Extension for Instant Messaging
- [3] TSP: MTAS Parameter Description, 1/190 84-AVA 901 09/n**
CBA: Managed Object Model MTAS, 155 54-LZN 765 0163/n**

**See the Customer or Support library for the Application System in question to get the correct document version.