

MTAS Interface to Redirect Server

INTERWORK DESCR

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1 Document History

Rev	Date	Sign	Comment
A	2013-04-08	ETHNVS	New document

2 Scope and Purpose

2.1 Interface Entities

The Redirect Server is a dedicated server node used for obtaining new destinations for a given communication request. The new destinations are calculated based on the headers present in the request and the Redirect Server's own database.

The provisioning of the database is implemented on the Redirect Server. MMTel AS interacts with the Redirect Server when the MMTel AS is configured that way.

The interface between MMTel AS and the Redirect Server is the Redirect Server (RS) interface. The RS interface is implemented using the SIP protocol. This interface however is not a standard reference point within the IMS architecture.

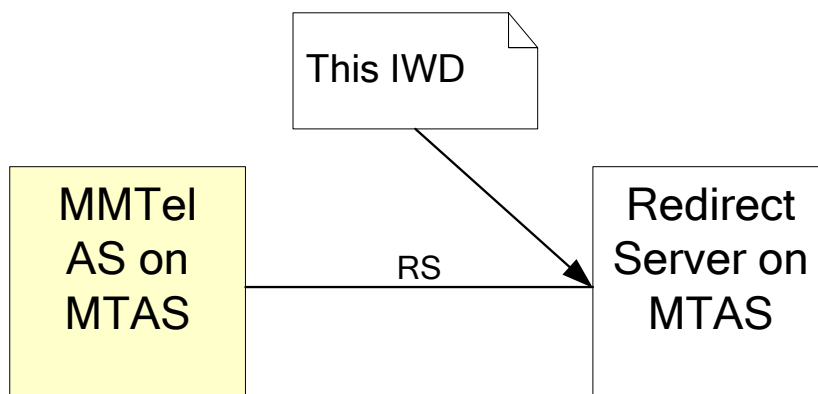


Figure 1 MMTel and Redirect Server connectivity

In the rest of the document the RS interface is referring to the interface used for interacting with the Redirect Server.

2.2 Interface Role

In the context of the RS interface of the role of MMTel AS is User Agent Client. In the context of the RS interface the role the Redirect Server is User Agent Server.

2.3 Services

Table 1: Offered Services

Offered Service	Description
Redirection Service	The Redirection Service, when triggered, maps the dialed number into a different destination if found, otherwise may return the same number or an error response.

Table 2: Used Services

Used Service	Description
-	-

2.4 Encapsulation and Addressing

2.4.1 RS Interface

The protocol on the RS interface provided by the Redirect Server is basic SIP, as described in RFC3261 [1].

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

The services offered on this interface are listed in Table 1: Offered Services. No services are used on this interface.

When the initial request over the RS interface has encountered transport failure or timeout, MMTel AS tries to contact the next element in the result of DNS SRV and/or A/AAAA lookup(s).

3 Procedures

3.1 Overview

There is only one service which can be requested over the RS interface. The request is done using SIP INVITE sent to the Redirect Server on the RS interface.

3.2 Lower Level Procedures

N/A

3.3 Redirection Service

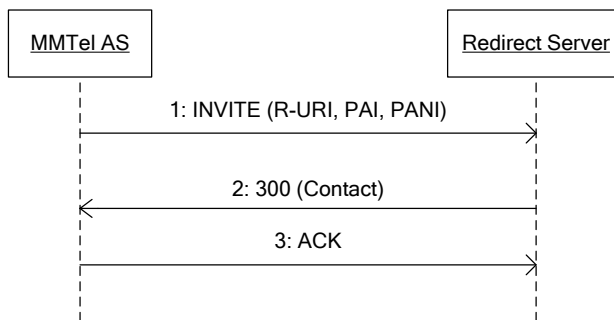


Figure 2 Triggering the Redirect Service

1. MMTel AS sends SIP INVITE to Redirect Server with Request URI, P-Asserted Identity and P-Access-Network-Identity.
The Request URI contains either a Tel URI or an embedded Tel URI and it is the URI which needs to be modified by the Redirect Server. The Request URI contains a proprietary header parameter containing language information.
The P-Asserted-Identity header identifies the originator of the call to the served user.
The P-Access-Network-Identity identifies the mobile cell from where the call is originated and it is an input for the URI modification process.
2. The Redirect Server responds with a SIP 300 Multiple Choices including a Contact header. The Contact header contains the modified URI. The Contact header may contain a proprietary header parameter containing call type information.
3. MMTel AS sends ACK to the Redirect Server.

4 Information Model

4.1 General

This section describes the SIP headers that are used by MMTel AS and the Redirect Server.

4.2 Redirection Service

MTAS uses the following SIP headers to trigger the Redirection Service:

Table 3 SIP headers for Redirection Service

Header	P	Comment
Request-URI	M	Copied from the INVITE from the served user. Contains the URI of the called user in Tel

		URI format or embedded Tel URI format. It also contains a proprietary request header parameter: "lang=<language-identity>" where <language identity> is according to RFC3066; see [2].
P-Asserted-Identity	M	Copied from the INVITE from the served user.
P-Access-Network-Identity	M	Copied from the INVITE from the served user.

The following example shows a Request-URI which contains a seven-digit phone number in an embedded Tel URI and the language tag representing English in the United States:

```
sip: 76574698@domain.com;user=phone;lang=en-US
```

The next example shows a Request-URI which contains a phone number in short-code format within a Tel URI and the language tag representing English in Canada:

```
tel: #5678;phone-context=+1722;lang=en-CA
```

The MMTel AS handles all SIP responses. The Redirect Server related responses are listed in the following table:

Table 4 SIP Responses for Redirection Service

SIP code and reason phrase	Reason
300 Multiple Choices	Redirection Service has been executed and the Contact header contains the modified URI target if changed. The Contact header may also contain a proprietary header parameter: "call-type=<value>"; where <value> can either be "local" or "long-distance" when national (ten-digit) number was sent in the INVITE. The Contact header may also be present in case when the Redirection Service has been executed but no modification of the dialed number takes place.
400 Bad Request	Redirection Service has not been executed. The received INVITE does not comply with general SIP protocol and/or this interworking description.
403 Forbidden	Redirection Service has been executed. The call is not allowed to continue.
404 Not Found	An error occurred during the Redirection Service execution.
481 Transaction Does Not Exist	The received request does not correspond to an existing SIP transaction. *
487 Request Terminated	The request was cancelled. *
503 Service Unavailable	The request could not be fulfilled due to overload.

*) These error responses can only be received in case the Redirect Server has received a CANCEL request. The MMTel AS does not send CANCEL request on the RS interface.

5 Formal Syntax or Schema

None

6 Related Standards

See RFC3261, SIP: Session Initiation Protocol [1] and RFC3066, Tags for the Identification of Languages [2].

7 Terminology

7.1 Abbreviations

RS Redirect Server

MMTel AS Multimedia Telephony Application Server

7.2 Definitions

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8 References

[1] RFC3261 - SIP: Session Initiation Protocol

[2] RFC3066 – Tags for the Identification of Languages