

# MTAS Three Party Management Guide

## MTAS

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### USER GUIDE

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# 1 Introduction

This document describes how to configure the Three Party (3PTY) session service in the 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 basic services in the MTAS, the MMTel license must be installed.

For more information about the MMTel 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

The following condition must apply:

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





## 2 Overview

This document describes the basic 3PTY service that the MTAS offers to its subscribers.

The service allows a user who is involved in two separate Two Party (2PTY) sessions with two other participants to convert to a 3PTY session by reusing the existing dialogs from the 2PTY sessions. The user starting the 3PTY session is called “3PTY originator” and is able to toggle participants in and out of the 3PTY session. Both 2PTY sessions have to be put on hold before the request for the 3PTY session is issued. The 3PTY originator has a possibility to resume back to 2PTY session with any of the 3PTY participants.

For 3PTY-sequence, refer to the [3GPP 24.605](#) standard.

Although the 3PTY service is provisioned and activated for the served user, a 3PTY session establishment attempt can be suppressed using the Flexible Service Format Selection (FSFS) service. For details about the service interaction between the 3PTY and FSFS services, see Section 2.2.5 Flexible Service Format Selection on page 8.

### 2.1 Subfunctions

The 3PTY session service function consists of the following subfunctions:

- 3PTY service
- 3PTY policies
- 3PTY media handling

#### 2.1.1 3PTY Service

The 3PTY service is the central administrator of a 3PTY session. It applies policies, controls the MRFP, and maintains a signaling relationship with the participants involved in the 3PTY session, and interworks with other services when required.

A 3PTY session is started by sending an `INVITE` to a 3PTY Factory. Upon the receipt of the `INVITE` with URI-list, the 3PTY service verifies the following:

- The URI list contains only two entries and each of these entries has a `Session-ID` parameter.
- Each `Session-ID` specified in the URI-list matches the `Session-ID` of a 2PTY session involving the 3PTY originator.



- Indicated that 2PTY sessions have been put on hold by the “3PTY originator”, and the participants are being played Hold announcements on the 2PTY dialogs.
- None of the dialogs indicated that by `Session-IDs` are involved in another 3PTY session or conference, that is, has an `isfocus` tag.
- Media defined in the Session Description Protocol (SDP) in the `INVITE`, and the media in the 2PTY session SDP, is either audio or video types or has the port number set to zero, that is, media is not used.
- None of the dialogs indicated that by `Session-IDs` are indicated by the FSFS service to be suppressed from joining any 3PTY session.
- The “3PTY originator” cannot be put on hold by any of the invited participants during a 3PTY establishment. In that case, the 3PTY request is rejected by the 3PTY service.

If any of these conditions are not fulfilled, the request is rejected, `403 Forbidden`. In the case where 3PTY is suppressed by the FSFS service, the `403 Forbidden` contains the warning header “The service is suppressed”.

Following the successful validation of the request for a 3PTY session, the 3PTY service initiates creation of the 3PTY session by sending `re-INVITE` requests to the 3PTY participants on the same dialogs that have been used in the 2PTY sessions to the participants. The same media types used in the 2PTY sessions are also used in 3PTY sessions.

**Note:** 3PTY must have an SDP in the 3PTY `INVITE` to work properly. If it does not get an SDP, it rejects the `INVITE` with `403 Forbidden`.

## 2.1.2 3PTY Policy

The 3PTY policies are static, which means they do not change between 3PTY sessions, nor do they change during a session.

The policies enforced by the 3PTY service are as follows:

- A 3PTY session can be initiated by a user who is already involved in two separate 2PTY sessions with two users that the user wants to bring into a 3PTY session, and these two sessions have been placed on hold by the user initiating the 3PTY session.
- Only 3PTY originator can toggle participants in and out of the 3PTY session.
- Any participant, other than the 3PTY originator, can leave the 3PTY session at any time without this affecting the rest of the 3PTY session.
- If originator leaves the 3PTY session, the session is terminated.
- Anyone can change the ports on which they receive media during the 3PTY session.





- Chaining of the 3PTY sessions is not allowed.
- Notifications and announcements are not sent to 3PTY participants, including the originator, during the 3PTY session.
- Any of the participants can set the 3PTY session on Hold.

If CMs `mtas3ptyServiceDisabledAnnName` or `mtas3ptyBadInvocationAnnName` are configured, generic announcement is sent to the originator in case of the following error scenarios:

- The user tries to start the 3PTY service but the user does not have the service provisioned.
- The user tries to start the 3PTY service but the service is disabled in MMTel AS.
- The user tries to start the 3PTY service but uses the incorrect URI-list in an `INVITE` message.

### 2.1.3

#### 3PTY Media Handling

The 3PTY service supports audio and video media types in the 3PTY session. To ensure that the SDP offer answer specifications for SIP are met, the media types included in the `re-INVITE` on the existing 2PTY sessions with the 3PTY participants can only include media types which were included in the SDP of the original 2PTY session. While it is valid to include additional media types in the SDP offer included in the `re-INVITE` to the remote 3PTY participants, only the media capabilities that were negotiated on the original session is offered.

The SDP offer included in each of the `re-INVITE` requests to the remote parties include all the media types included in the SDP exchanged between the 3PTY originator and the remote party in the 2PTY session in the same order as it was included in the 2PTY session. Only media lines for which media streams were requested from the 3PTY MRFP has an active port number, that is, non-zero. All other media types have the port number set to zero, that is, these media types are not usable. Only one audio and one video stream are supported. The reason for this policy is that it would be difficult to revert to the previously negotiated SDP when resuming to a 2PTY session.

An example of a 3PTY media handling is given in Example 1.



The 3PTY originator and a remote party are in a 2PTY session in which only audio media was included in the SDP exchanged in the session setup. No additional media has been requested in the session. A second session is established between the 3PTY originator and a second remote party which uses audio, video, and text media types. The 3PTY originator then requests the establishment of a 3PTY session between himself and the two remote parties that are on Hold. The request is for an audio and video 3PTY session.

#### *Example 1 3PTY Media Handling*

Media offered to the participants are as follows:

- Remote participant 1: audio only
- Remote participant 2: audio and video

The media in the SDP in the `re-INVITEs` is as follows:

- Remote participant 1: audio port x
- Remote participant 2: audio port x, video port y, text port 0

### 2.1.4 3PTY Generic Announcement Support

The 3PTY service supports playing of generic announcement before call rejection in some error cases.

The following are error cases when using the attribute `mtas3ptyServiceDisabledAnnName` for announcement configuration:

- The user tries to start the 3PTY service but the user does not have the service provisioned.
- The user tries to start the 3PTY service but the service is disabled in MMTel AS.

The following is an error case when using the attribute `mtas3ptyBadInvocationAnnName` for announcement configuration:

- The user tries to start the 3PTY service but uses the incorrect URI-list in an `INVITE` message.

## 2.2 Interaction with Other Services

This section describes how the 3PTY interact with other services.



### 2.2.1 Hold

The 3PTY service uses the Hold service when playing announcements on dialogs that are put on hold.

For more information about the Hold service, refer to *MTAS Hold Communication Management Guide*.

### 2.2.2 Call Admission Control

The 3PTY originator has two dialogs when the request for a 3PTY call is received by the MTAS. The request for a 3PTY call is counted as one call, thus the user must have a Call Admission Control (CAC) limit of at least three to be able to make a 3PTY call.

For more information about the CAC service, refer to *MTAS Call Admission Control Management Guide*.

### 2.2.3 Advise of Charge

No Advice of Charge (AoC) information is sent to the user on the SIP dialog for requesting a 3PTY call. The AoC information is sent on the SIP dialogs for the 2PTY calls.

For more information about the AoC service, refer to *MTAS Advice of Charge Management Guide*.

### 2.2.4 Charging

The communication request initiating the 3PTY session is treated as an originating session for charging purposes. Charging for the original 2PTY sessions (A-B and A-C) continues throughout the period that the sessions are included in the 3PTY session.

The following service-specific AVPs are applicable to charging for the 3PTY session.

- Supplementary Service Information – indicating 2PTY session transition or involvement.
- Related ICID – used for correlation purposes.

For further details of the charging actions performed by the MTAS, refer to *Diameter Offline Charging in MTAS* and *Diameter Online Charging in MTAS*.



## 2.2.5 Flexible Service Format Selection

The 3PTY service can be suppressed using the FSFS service. When at least one of the 2-party dialogs is indicated by the FSFS service to be suppressed from joining any 3PTY session, the user is not able to initiate the 3PTY service. The 3PTY service invocation attempt is responded with `403 Forbidden` containing the warning header “The service is suppressed”.

For more information about the FSFS service, refer to *MTAS Flexible Service Format Selection Management Guide*.



## 3 3PTY Configuration

The 3PTY service is controlled by the *Mtas3pty* Managed Object (MO). An overview of the Identity Presentation MO structure is shown in Figure 1.

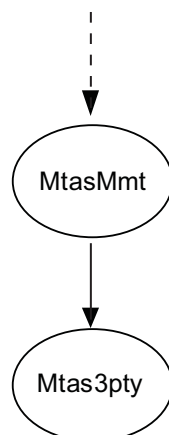


Figure 1 3PTY MO Structure

For configurable MOs and attributes related to the 3PTY services, refer to *Managed Object Model (MOM)*.

### 3.1 Configuration Activities

More configuration activities are listed in Table 1.

Table 1 Configuration Activities

Activity	Attribute
Defining the 3PTY factory URI (subdomain-based PSI), consisting of a username and a subdomain. Example: 3pty@factory.operator.net	mtas3ptyFactoryUri

For more information about the 3PTY attributes, refer to *Managed Object Model (MOM)*.

### 3.2 3PTY Administrative State Configuration

The 3PTY service is enabled by setting the `mtas3ptyAdministrativeState` attribute in the *Mtas3pty* MO to 1 (Unlocked). If the `mtas3ptyAdministrativeState` is set to 0 (Locked), no 3PTY service is provided by the MTAS.



### 3.3 Wholesale for 3PTY Configuration

The 3PTY service supports Wholesale. 3PTY is configurable on Virtual Telephony Provider level.

Wholesale for 3PTY is activated when the following attributes are set to 1 (Unlocked):

- The `vtas3ptyAdministrativeState` attribute in the *Vtas3pty* MO
- The `mtas3ptyAdministrativeState` attribute in the *Mtas3pty* MO

For more information about the Wholesale service, refer to *MTAS Wholesale Support Management Guide*.

### 3.4 Generic Announcement for 3PTY Configuration

The 3PTY service has configured generic announcement by setting the `mtas3ptyServiceDisabledAnnName` attribute in the *Mtas3pty* MO to existing value from *MtasGaAnn* MO. This value from *MtasGaAnn* MO should have full configuration for announcement.

The 3PTY service has configured generic announcement by setting the `mtas3ptyBadInvocationAnnName` attribute in the *Mtas3pty* MO to existing value from *MtasGaAnn* MO. This value from *MtasGaAnn* MO should have full configuration for announcement.

### 3.5 Service Data Configuration

This section describes how to configure the service data.

#### 3.5.1 Operator Subscription Level Service Configuration

In the 3PTY configuration data for a subscriber, the operator indicates whether the subscriber is allowed to create the 3PTY session through the CAI3G protocol, refer to *MTAS CAI3G Interface*.

#### 3.5.2 Subscriber Subscription Level Service Configuration

No service data for the 3PTY service is configured in the subscriber part of the subscriber data.



## 4 Performance Management

For measurements related to the 3PTY services, refer to *Managed Object Model (MOM)*.







## 5 Fault Management

The 3PTY service has no alarms.