

# MTAS Distinctive Ring Management Guide

## MTAS

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### USER GUIDE

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# 1 Introduction

This document describes how to configure the Distinctive Ring (DR) service in the MTAS.

## 1.1 Prerequisites

It is assumed that the user of this document is familiar with the Operation and Maintenance (O&M) area, in general.

### 1.1.1 Licenses

To enable the DR service, the DR license must be installed.

For more information about the DR 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 DR service that the MTAS offers to its subscribers.

The DR service is a rule-based terminating service that allows a served user to specify different ringtones for its IP Multimedia Public Identities (IMPU) that are in the same Implicit Registration Set (IRS).

DR determines to include the appropriate Alert-Info header field in an `INVITE` request when an incoming call is made to the user by evaluating DR rules.

The rules are built up with `mmt-serv:served-identity` (called identity of the user if the MTAS is terminating) conditions, and `mmt-serv:alert-info` actions.

The `mmt-serv:served-identity` condition is evaluated to true when the Request-URI of the received `INVITE` matches the value of the served-identity element.

The `mmt-serv:alert-info` action contains a free text that is used for looking up the Alert-Info header field value from the *MtasDrAlertInfo* Managed Object (MO).

DR enables the operator to allow its subscribers to use their customized ringtone. If the user customized ringtone is not allowed, subscribers can only configure ringtones predefined by the operator.

The User Equipment (UE) generates the proper ringtone or call waiting tone, based on the call state, and the value of the Alert-Info header populated by the terminating MTAS.

The DR service is provisioned through XDMS over the Customer Administration Interface Third Generation (CAI3G). The configuration of the DR service is done through XDMS on the `Ut` or CAI3G. The service-specific data is stored as transparent data in Home Subscriber Server (HSS) over the `Sh` interface. MTAS reads the service data from the HSS on the same interface.

### 2.1 Subfunctions

The subfunctions included in the DR service are described in this section.

#### 2.1.1 DR Service without User-Defined Ringtone

The DR Service without User-Defined Ringtone subfunction is responsible for adding the appropriate Alert-Info header field to the outgoing `INVITE` request.



Alert-Info header field value is specified in a predefined mapping table (*MtasDrAlertInfo* MO).

### **2.1.2 DR Service with User-Defined Ringtone**

The DR Service with User-Defined Ringtone subfunction is responsible for adding the appropriate Alert-Info header field to the outgoing *INVITE* request. Alert-Info header field value is specified in the XML data of the served user.

### **2.1.3 Manage Subscription Data**

The Manage Subscription Data use case describes how the per-subscriber data is created, updated, and deleted. It uses the Get Subscription Data and Update Subscription Data subfunctions. For more details on how to manage the subscription data, refer to *MTAS CAI3G Interface*.

### **2.1.4 Configure Service (Node Level)**

The Configure Service (node level) use case is the CM part, see Section 3 on page 7.

### **2.1.5 Licensing**

The MTAS has on and off licensing for the DR Service. If no valid license is available for DR, then the DR service is not executed. No modification is made on the received *INVITE* request by the DR service, for instance, if the received *INVITE* request already contains an Alert-Info header field, then it is not changed by the DR service. When the DR license has expired, or when the DR function is turned on and no valid license exists, an alarm is raised. For more detailed information, refer to *Diameter Offline Charging in MTAS*

## **2.2 Interaction with Other Services**

This section describes how the DR service interacts with other services.

### **2.2.1 Charging**

The use of DR service is reported in charging messages generated during the setup of an MMTel session.

Charging events are also raised when the DR subscriber activates or deactivates the DR Service using the *UT* interface.





For details on how the use of DR is reported for offline charging and online charging, refer to the following documents:

- *Diameter Offline Charging in MTAS*
- *Diameter Online Charging in MTAS*

## **2.2.2 Communication Waiting**

The UE is responsible for playing the appropriate call waiting tone based on the call state and the value of the received Alert-Info header field present in the `INVITE` request.





## 3 DR Service Configuration

The DR service is controlled by the *MtasDr* MO. An overview of the DR MO structure is shown in Figure 1.

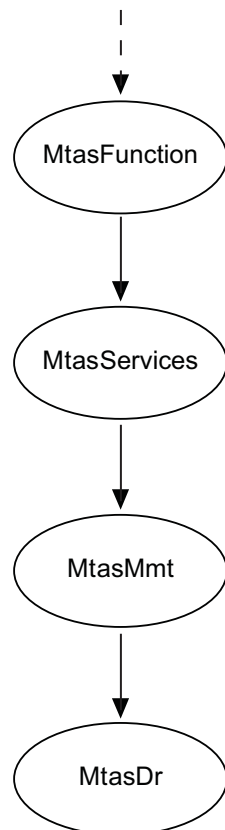


Figure 1 DR MO Structure

For configurable MOs and attributes related to general DR configuration, refer to *Managed Object Model (MOM)*

### 3.1 Distinctive Ring Administrative State Configuration

The DR service is enabled by setting the `mtasDrAdministrativeState` attribute in the *MtasDr* MO to 1 (Unlocked). If the `mtasDrAdministrativeState` is set to 0 (Locked), no DR service is provided by the MTAS.

### 3.2 Service Data Configuration

This section describes how to configure the service data.



### 3.2.1 Operator Subscription Level Service Configuration

The operator can activate or deactivate the DR service subscription for the subscriber, by providing or deleting the DR XML structure in the user subscriber data.

For more information about schema definition, refer to *MTAS CAI3G Interface*.

### 3.2.2 Subscriber Subscription Level Service Configuration

The user subscriber data is configured through the *Ut* interface using the XDMS.

The *Ut* interface and the XML schema for the *Ut* interface are described in *MTAS Ut Interface* and *MTAS Ut Structure*.

## 3.3 XML Example

A Sh example is shown in Example 1.

```
<RepositoryData>
  <ServiceIndication>MmtServiceConfig</ServiceIndication>
  <SequenceNumber>0</SequenceNumber>
  <ServiceData>
    <mmt-data:telephony-service-configuration
      xmlns:cp="urn:ietf:params:xml:ns:common-policy"
      xmlns:mmt-data="http://schemas.ericsson.com/mmtel/service-data"
      xmlns:mmt-op="http://schemas.ericsson.com/mmtel/operator-service-data"
      xmlns:mmt-serv="http://schemas.ericsson.com/mmtel/services"
      xmlns:ocp="urn:oma:xml:xdm:common-policy"
      xmlns:ss="http://uri.etsi.org/ngn/params/xml/simservs/xcap">
      <mmt-data:user-configuration>
        <ss:simservs>

          <mmt-serv:distinctive-ring active="true">
            <cp:ruleset>
              <cp:rule id="distinctive-ring-primary-number">
                <cp:conditions>
                  <mmt-serv:served-identity>
                    <mmt-serv:one id="tel:+36306435420"/>
                  </mmt-serv:served-identity>
                </cp:conditions>
                <cp:actions>
                  <mmt-serv:alert-info>normalBeep</mmt-serv:alert-info>
                </cp:actions>
              </cp:rule>
              <cp:rule id="distinctive-ring-virtual-number1">
                <cp:conditions>
                  <mmt-serv:served-identity>
```



```

        <mmt-serv:one id="sip:my-son@ericsson.com"/>
      </mmt-serv:served-identity>
    </cp:conditions>
    <cp:actions>
      <mmt-serv:alert-info>longBeep</mmt-serv:alert-info>
    </cp:actions>
  </cp:rule>
  <cp:rule id="distinctive-ring-virtual-number2">
    <cp:conditions>
      <mmt-serv:served-identity>
        <mmt-serv:one id="sip:my-wife@ericsson.com"/>
      </mmt-serv:served-identity>
    </cp:conditions>
    <cp:actions>
      <mmt-serv:alert-info>shortBeep</mmt-serv:alert-info>
    </cp:actions>
  </cp:rule>
  <cp:rule id="distinctive-ring-virtual-number3">
    <cp:conditions>
      <mmt-serv:served-identity>
        <mmt-serv:one id="tel:+36306435421"/>
      </mmt-serv:served-identity>
    </cp:conditions>
    <cp:actions>
      <mmt-serv:alert-info>dst_ring_4</mmt-serv:alert-info>
    </cp:actions>
  </cp:rule>
  <cp:rule id="distinctive-ring-virtual-number4-customized">
    <cp:conditions>
      <mmt-serv:served-identity>
        <mmt-serv:one id="tel:+36306435422"/>
      </mmt-serv:served-identity>
    </cp:conditions>
    <cp:actions>
      <mmt-serv:alert-info>http://127.0.0.1/nortel/dst_ring_5</mmt-serv:aler
    </cp:actions>
  </cp:rule>
</cp:ruleset>
</mmt-serv:distinctive-ring>

</ss:simservs>
</mmt-data:user-configuration>
<mmt-data:operator-configuration>
  <mmt-data:operator-service-data>
    <mmt-op:operator-distinctive-ring activated="true"/>
  </mmt-data:operator-service-data>
</mmt-data:operator-configuration>
</mmt-data:telephony-service-configuration>
</ServiceData>
</RepositoryData>

```



</Sh-Data>

*Example 1 Sh Example*



## 4 Performance Management

For measurements related to the DR service, refer to *Managed Object Model (MOM)*.







## 5 Fault Management

For alarms related to the DR service, refer to *MTAS Alarm List*.