

MTAS Cell Announcement Management Guide

MTAS

USER GUIDE

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1 Introduction

This document describes how to configure the Cell Announcement service in MTAS to enable users to receive announcements about originating locations of their mobile equipment by using Supplementary Service Codes (SSC) commands.

For more information about the SSCs, refer to *MTAS Supplementary Service Codes Management Guide*.

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 basic services in the MTAS, the Multimedia Telephony (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:

- *Managed Object Model (MOM)*
- *Ericsson Command-Line Interface User Guide*

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

The Cell Announcement feature allows a subscriber to dial a feature code and receive a dynamic announcement providing the identification of the serving femtocell. To simplify services that use originating location information, the Proxy Call Session Control Function (P-CSCF) maps the femtocell ID received in the `utran-cell-id-3gpp` access-info of the PANI header to the associated macrocell ID using mapping tables. The P-CSCF then sets the `utran-cell-id-3gpp` access-info to the macrocell ID in the PANI header of the INVITE that it sends over the IP Multimedia Service Control (ISC) interface to other IMS core network elements including MTAS. The P-CSCF provides the femtocell information in a new location parameter, called `femto-utran-cell-id-3gpp`, added to the PANI header:

```
P-Access-Network-Info:3GPP-E-UTRAN-FDD;utran-cell-id-3gpp=
<macro>;femto-utran-cell-id-3gpp=<femto>
```

MTAS plays a location-dependent announcement to the calling user, triggered by an SSC command. This SSC service is performed on the Originating MTAS MMTel Telephony Application Server (AS).

The location-dependent announcement service identifies the radio access cell that the user is being served by, so it can tell that in communication with the customer care of the operator

When the user dials an SSC command for Cell Announcement service, MTAS plays a `cell_served` announcement if a matching PANI header is found. The following apply:

- The operator is required to configure a generic announcement vector with provisioned announcement segment and standalone voice variable announcement segment, where variable part is the content of a location parameter in the selected PANI header. Example:
`femto-utran-cell-id-3gpp`.
- The name of the location parameter, of which content is to be played, is operator-configurable. It is also operator-configurable which PANI header to take: the topmost PANI (user or network-provided) or the topmost network-provided PANI header, including the given location parameter.
- Charging message is generated after successful announcement.
- Cell Served Announcement Example:
 - You are currently being served by Femtocell ID
 <xxxx>



Where `xxxx` is the variable part of the announcement containing the decimal value of the last seven digits of location parameter `femto-utran-cell-id-3gpp`.

When the user dials an SSC command for the Cell Announcement service, MTAS plays a `cell not served` announcement if matching PANI header is not found. The following apply:

- Operator is required to configure generic announcement with provisioned announcement segment only.
- Charging message is generated after successful announcement.

Cell Not Served Announcement Example:

– You are not currently being served by a Femtocell.

When the user dials an SSC command for the Cell Announcement service, MTAS plays an `SSC negative` announcement in error scenarios like no PANI header received in INVITE request. Playing of negative announcement is as per legacy SSC service behavior. A charging message is generated after successful announcement.

In IMS, PANI header is responsible for conveying the user mobile location in terms of Global Cell ID. Cell ID defines the mobile location.

2.1 Subfunctions

The subfunctions included in the Cell Announcement service are described in this section.

2.1.1 Cell Announcement Interrogation

The Cell Announcement service adds a new system-defined SSC command to the MTAS MMTel Telephony AS with only interrogation activity. Activation, deactivation, and invocation commands are not applicable for this service.

2.1.2 FemtoCell Identification

- PANI Header Selection

PANI header selection allows the operator to configure the selection of PANI header. Either the top-most PANI (user or network-provided) header or the top-most network-provided PANI header is selected.

- Get Location Parameter Value from Selected PANI Header



Location parameter selection allows the operator to configure the selection of the PANI header location parameter whose value is used for mobile location announcement.

- Apply RegExp on Selected Location Parameter Value

RegExp allows the operator to get formulated mobile location from the location parameter value.

2.1.3 Play Announcement

Generic announcements provide flexibility to the operator to play Announcements with dynamic mobile location content. Generic announcement service utilizes MRFP/MRF to play the announcement. The operator must configure the generic announcement to play a segmented cell served announcement with provisioned and variable part. The operator must also configure the generic announcement to play a segmented cell not served announcement with provisioned part. No variable part can be defined.

2.1.4 Configure Service

- SSC Command Syntax Configuration

The operator must configure the SSC command syntax for the Cell Announcement service in the attribute `mtasSscCellAnnComSyntInt` of the Managed Object *MtasSscCellAnn*.

The MTAS SSC Cell Announcement service is started if user-dialed SSC code matches with interrogation command syntax mentioned in `mtasSscCellAnnComSyntInt`.

- Cell Announcement Configuration for Dialed SSC Code

Cell announcement configuration allows the operator to play different announcements by configuring different location parameters or segmented announcements for different SSC codes dialed by user. The dialed SSC code is to be, as per command syntax, configured for the Cell Announcement service by the operator.

2.1.5 Generate Charging Message

Multimedia Telephony (MMTel) sessions that use the Cell Announcement service support charging. The Credit Control Request (CCR), Initial Request, and Accounting Request (ACR) start generated by the originating MTAS on which Cell Announcement service was started, include the following Attribute-Value Pairs (AVPs) within the MMT Information AVP:

- Supplementary-Service-Information (group)



Supplementary-Service-Identity – Cell Ann Service
Supplementary-Service-Action – Use of Service

For more information about offline and online charging, refer to *Diameter Offline Charging in MTAS* and *Diameter Online Charging in MTAS*.

2.1.6 Provisioning of Service

Provisioning of service is responsible for Service Data Management. The subscriber must be provisioned with the SSC service to utilize cell announcement service.

2.1.7 Get Subscriber Data

This subfunction is called whenever the subscriber service data is to be read from the HSS.



3 Configure SSC Cell Announcement Service

The configuration of the Cell Announcement service can be broken down into the following steps:

1. Setting the MOs that define the SSC for the Cell Announcement service.
2. Setting the MOs that define cell announcement configurations.
3. Setting the MOs that define the generic announcement for cell announcement.

3.1 Configure SSC for Cell Announcement Service

This section describes how to configure SSC for the Cell Announcement service.

3.1.1 Configure *MtasSscCellAnn* MO

The *MtasSscCellAnn* MO is the main MO responsible for the SSC Cell Announcement service. It is a system-created MO under the existing *MtasSSC* MO.

Configure the following attributes properly for the SSC Cell Announcement service.

3.1.1.1 Configure *MtasSscCellAnnComSyntInt* Attribute

The *mtasSscCellAnnComSyntInt* attribute defines the command syntax to parse the SSC code dialed by user to avail the Cell Announcement service.

The cell announcement interrogation command syntax must be configured so it only allows dialing of telephone numbers that consist of *, #, and digits 0–9.

For more information about the command syntax configuration, refer to *MTAS Supplementary Service Codes Management Guide*.

A list of 10 different command syntaxes can be configured by the operator to play different cell announcements. For example, as follows:

- *mtasSscCellAnnComSyntInt* : *48#
 - The user can dial only *48# to get the Cell Announcement service.
- *mtasSscCellAnnComSyntInt* : *48N#
 - N range is 0–9. So the operator is allowing 10 different SSC codes for the Cell Announcement service.



- The user can dial 10 different SSC codes to get 10 different cell announcements. Dialed string: *480# through *489#.
- `mtasSscCellAnnComSyntInt` : *48#, *48N#
- Allow all 11 possible combinations from these two examples.

3.1.1.2 Configure `MtasSscCellAnnConfigs` Attribute

To play cell announcements for each valid SSC code, the operator must configure this attribute with a value that matches the dialed string.

Maximum 20 instances of this attribute with different values can be configured inside the `MtasSscCellAnn` Managed Object Class (MOC).

It is up to the operator to configure `MtasSscCellAnnConfigs` for all possible dialed strings as per command syntax or only for few combinations. For undefined combination, no announcement is played to the user. Proper error messages are generated and the Performance Management (PM) counter is incremented for statistics.

To define the `MtasSscCellAnnConfigs` attribute value from dialed string, replace star (*) with `s` and replace hash (#) with `h`.

Example 1

SSC command syntax `mtasSscCellAnnComSyntInt` : *48# is configured as follows:

- User dials string: *48#

One instance of `mtasSscCellAnnConfigs` attribute is needed, with the following value:

– `mtasSscCellAnnConfigs` : s48h

Example 2

SSC command syntax `mtasSscCellAnnComSyntInt`: *48N# is configured as follows:

- User dials string: *481#, or *485#, or *488#

Three instances of the `mtasSscCellAnnConfigs` MO are needed, with the following values:

– `mtasSscCellAnnConfigs` : s481h

– `mtasSscCellAnnConfigs` : s485h

– `mtasSscCellAnnConfigs` : s488h



Before configuring this attribute, the operator must configure the `MtasSscCellAnnConfig` MO with the same instance name as the attribute value, see Section 3.2.2 Configure `MtasSscCellAnnConfig` MO on page 9.

3.2 Configure Cell Announcement Configurations

Cell announcement is played based on its configuration. The following section defines how it can be configured to play different announcements for different SSC codes. See Section 6.2 `mtasSscCellAnn` and Related MOs Configuration Example on page 22 for an MO configuration example.

3.2.1 `MtasSscCellAnnouncementConfigs` MO

The `MtasSscCellAnnouncementConfigs` MO serves as a structural MO under which all the configured `MtasSscCellAnnConfig` MOs are collected. `MtasSscCellAnnouncementConfigs` is part of the `mtasSscCellAnn` MO.

This MO must list at least all the `MtasSscCellAnnConfig` MOs whose instance name is the same as the value of the `mtasSscCellAnnConfigs` attributes in the `mtasSscCellAnn` MO.

It is possible that the `MtasSscCellAnnouncementConfigs` MO has some `MtasSscCellAnnConfig` MO whose corresponding `mtasSscCellAnnConfigs` attribute in the `mtasSscCellAnn` MO does not exist.

Note: The `MtasSscCellAnnConfig` MO can only be deleted if its instance name is not referred as value of the `mtasSscCellAnnConfigs` attribute in the `mtasSscCellAnn` MO.

Example:

For the Cell Announcement service, define the `MtasSscCellAnnConfig` MO with instance name `MtasSscCellAnnConfig : s48h`.

3.2.2 Configure `MtasSscCellAnnConfig` MO

The `MtasSscCellAnnConfig` MO is the main MO that controls the fetching of cell ID from the PANI header and which generic announcement to be played for dialed SSC code.

3.2.2.1 Configure `mtasSscCellAnnConfigServAnn` Attribute

The `mtasSscCellAnnConfigServAnn` attribute value defines the MTAS generic announcement instance name that is played to the user as `cell served` announcement, with `CellID` as variable part when a matching PANI header is found.



Before setting this attribute, it is important that the operator configures `mtasGaAnn` with the same instance name, see Section 3.3.1 Configure MtasGaAnn MO on page 12.

Note: The variable announcement instance name must be set to `CellID`. Wrong or missing instance name is indicated by playing only fixed part of the `cell served` announcement.

Sometimes, the `cell served` announcement is played with variable set to 0000000. If variable part of the `cell served` announcement consist of any characters other than 0–9, the `cell served` announcement is played with variable part set to zero, which is 0000000. See Section 6.4 Cell ID Extraction from PANI Header on page 24 for more examples.

Example:

For the Cell Announcement service, define the attribute as `mtasSscCellAnnConfigServAnn : CellServedAnnouncement`.

3.2.2.2 Configure MtasSscCellAnnConfigNotServAnn Attribute

The `mtasSscCellAnnConfigNotServAnn` attribute value defines the MTAS generic announcement instance name that is played to the user as `cell not served` announcement. No variable part exists.

Before setting this attribute, the operator must configure `mtasGaAnn` with the same instance name, see Section 3.3.1 Configure MtasGaAnn MO on page 12.

Example:

For the Cell Announcement service, define the attribute as `mtasSscCellAnnConfigNotServAnn : CellNotServedAnnouncement`.

3.2.2.3 Configure MtasSscCellAnnConfigOpt Attribute

The `mtasSscCellAnnConfigOpt` attribute defines the Cell Announcement configuration, which is in the following format. Three name-value pairs (NVPs), which are comma-separated. All NVPs are case-insensitive except the “rule” value.

```
parameter=param,np=true|false,rule=/expression/substitution/
```

The default value of the `mtasSscCellAnnConfigOpt` attribute is `parameter=femto-utran-cell-id-3gpp,np=false,rule=/^.*([0-9a-fA-F]{7})$/H'\1'/.`

If the operator does not want to change the default configuration, configure the `mtasSscCellAnnConfigOpt` attribute value to default value only, which is `parameter=femto-utran-cell-id-3gpp,np=false,rule=/^.*([0-9a-fA-F]{7})$/H'\1'/.`



Note: If the operator misses specifying any NVP when modifying the attribute, at the end of modification, the default value is considered for missing NVP.

The following describes the NVP syntax:

- `np=true|false`
 - Allowed values: `true` or `false`.
 - If `true`, it indicates that PANI header selection first searches for top PANI header with network-provided. If `false`, It indicates that PANI header selection considers the topmost PANI header with user or network provided.
 - Default = `false`
- `parameter=param`
 - Allowed values: any PANI header access-info name
 - Denotes the access-info or extension-access-info name string which value is to be announced.
 - It must be same as what is present in the PANI header.
 - Default = `femto-utran-cell-id-3gpp`
- `rule=/expression/substitution/`
 - Gives a regular expression for processing the location parameter value string, that is, finding the relevant substring in the access location parameter. The substitution part defines one announcement segment that allows the combination of back references and alphanumerical characters. Only `H'` and hexadecimal characters are allowed, which results in decimal number after hexadecimal to decimal conversion.
 - `H' . . \` notation is used to allow hexadecimal to decimal conversion in substitution string. For hexadecimal to decimal conversion, the operator must prefix the relevant substring with `H'` and suffix it with `\`.
 - Default = `/^.*([0-9a-fA-F]{7})$/H'\1'/`

It takes the last seven characters from the cell ID string and converts the value from hexadecimal to decimal notation.

For more examples, see Section 6.4 Cell ID Extraction from PANI Header on page 24.



3.3 Configure Cell (Not) Served Announcement

The MTAS Generic announcement feature is used to play segmented announcements. For more information, refer to *MTAS Generic Announcement Management Guide*.

The Cell Announcement service has the following two types of segmented announcement:

- Cell Served announcement vector, consisting of the following two parts:
 - First part is a provisioned announcement segment that is a fixed part of the `cell_served` announcement.
 - Second part is a standalone voice variable that is a dynamic part of the `cell_served` announcement. It must contain decimal digits only.

The operator can also configure a vector with any number of provisioned announcement segments, but with only one standalone voice variable that must be `CellID`.

The operator can configure announcement segments in vector in any order.

Example:

```
You are currently being served by Femtocell ID <xxxx>
```

Where `xxxx` is the variable part of the announcement containing the decimal value of the femtocell ID.

- Cell Not Served announcement, consisting of one part, as follows:
 - A provisioned announcement segment that is a fixed part of the `cell_not_served` announcement.

The operator can also configure a vector with any number of provisioned announcement segments with any order.

Example:

```
You are not currently being served by a Femtocell.
```

For an MO configuration example for the Cell Announcement service, see Section 6.1 *MtasGaAnn and Related MOs Configuration Examples* on page 21.

3.3.1 Configure MtasGaAnn MO

The `MtasGaAnn` MO allows the operator to configure the segmented announcements.

Before defining the `mtasSscCellAnnServAnn` and `mtasSscCellAnnNotServAnn` attributes in the `MtasSscCellAnnConfig` MO, the operator must



ensure that the `mtasGaAnn` instance name exists with the same key attribute value.

If many `MtasSscCellAnnConfig` MOs are defined, then `mtasGaAnn` is to have those many instances of the `mtasSscCellAnnServAnn` and `mtasSscCellAnnNotServAnn` attributes defined in each `MtasSscCellAnnConfig` MO.

The operator can reuse the same `mtasGaAnn` instance in more than one `MtasSscCellAnnConfig` MO. In that case, one instance of `mtasGaAnn` is enough, which is referred in more than one `MtasSscCellAnnConfig` MO.

Example:

For cell announcement, define two `mtasGaAnn` instances with names as follows:

- `CellServedAnnouncement`
 - `mtasGaAnnAudioCode` : 0
 - `mtasGaAnnVideoCode` : 0
 - `mtasGaAnnAVAudioCode` : 0

The `mtasGaAnnSegmentVectors` attribute value is to be set to one of the existing instances of the `MtasSegmentVector` MO, see Section 3.3.2 Configure `MtasSegmentVector` MO on page 14.

Example:

```
mtasGaAnnSegmentVectors : CellAnnVector_01
```

Segment vector defines the sequence of provisioned and variable announcement segment, the way it is played to the user by the Media Resource Function Processor (MRFP).

- `CellNotServedAnnouncement`
 - Audio, Video, and AV code attributes are to be set to zero

The `mtasGaAnnSegmentVectors` attribute value is to be set to one of the existing instances of the `MtasSegmentVector` MO, see Section 3.3.2 Configure `MtasSegmentVector` MO on page 14.

Example:

```
mtasGaAnnSegmentVectors : CellAnnVector_02
```

Segment vector defines the sequence of provisioned and variable announcement segment, the way it is played to user by the MRFP.



3.3.2 Configure MtasSegmentVector MO

The `mtasSegmentVector` is a set of announcement segments. It defines the order of segmented announcement play out.

Note: The standalone voice variable announcement segment name must be set to `CellID` (case sensitive) only in the `cell_served` announcement. If it is not set to `CellID`, only the provisioned part of the segmented cell served announcement is played. No Variable part announcement. Proper error messages are generated and the PM counter is incremented for statistics.

Example:

For the Cell Announcement service, define two `mtasSegmentVector` instances with names as follows:

- `CellAnnVector_01`

Define `mtasSegmentVectorSegments` attribute with a list of two MTAS announcement segments as follows: `mtasSegmentVectorSegments` : `[cell_served_ann, CellID]`

First, the `cell_served_ann` segment announcement is played, then the `CellID` segmented announcement is played as part of this vector configuration.

The `cell_served_ann` is of provisioned announcement segment type.

Before setting the `mtasSegmentVectorSegments` attribute, make sure the `MtasAnnouncementSegment` MO exists with instance name `cell_served_ann`, see Section 3.3.3 Configure `MtasAnnouncementSegment` MO on page 15.

The `CellID` is of standalone voice variable announcement segment type.

Before setting the `mtasSegmentVectorSegments` attribute, make sure the `MtasAnnouncementSegment` MO exists with instance name `CellID`, see Section 3.3.3 Configure `MtasAnnouncementSegment` MO on page 15.

- `CellAnnVector_02`

Define the `mtasSegmentVectorSegments` attribute with a list of one MTAS announcement segment, as follows:

`mtasSegmentVectorSegments` : `[cell_not_served_ann]`

Only the `cell_not_served_ann` segment announcement is played as part of this vector configuration.

The `cell_not_served_ann` is of provisioned announcement segment type.



Before setting the `mtasSegmentVectorSegments` attribute, make sure the `MtasAnnouncementSegment` MO exists with instance name `cell_not_served_ann`, see Section 3.3.3 Configure `MtasAnnouncementSegment` MO on page 15.

3.3.3 Configure `MtasAnnouncementSegment` MO

The `MtasAnnouncementSegment` MO defines the announcement segment that is referred in the `mtasSegmentVector` MO.

Announcement segment is of two types: provisioned (fixed voice content) or variable (dynamic voice content).

Example:

For the Cell Announcement service, define three instances of the `MtasAnnouncementSegment` MO, as follows:

- `cell_served_ann`: MO instance, which defines the provisioned part of the `cell_served` announcement.
Announcement Segment type: 0 [Provisioned Announcement Segment]
- `cell_not_served_ann`: MO instance, which defines the provisioned part of the `cell_not_served` announcement.
Announcement Segment type: 0 [Provisioned Announcement Segment]
- `CellID`: MO instance, which defines the variable part of the `cell_served` announcement.
 - Instance name must be set to `CellID` (case sensitive)
 - Announcement Segment type: 1 [Standalone voice variable Announcement Segment]
 - Before configuring this MO, the operator must make sure that the `MtasAnnouncementVariable` MO exists with same instance name, see Section 3.3.4 Configure `MtasAnnouncementVariable` MO on page 15.

3.3.4 Configure `MtasAnnouncementVariable` MO

Create the `MtasAnnouncementVariable` MO instance for each `mtasAnnouncementSegment` MO of type standalone voice variable type. The instance name of both MOs must be the same.

For the Cell Announcement service, the operator must define the `MtasAnnouncementVariable` MO with instance name as `CellID`.



Set the `mtasAnnouncementVariableType` attribute to `T_digits`.
`T_digits` type is already defined in MTAS.

Example:

- `mtasAnnouncementVariable : CellID`
- `mtasAnnouncementVariableType : T_digits`

3.4 Service Data Management

This section describes how to configure the service data.

3.5 Operator Subscription Level Service Configuration

Provisioning specified in this section pertains to the data set through the EMA using CAI3G protocol. The `<ssc-operator-configuration>` must be activated for the subscriber.

```
<mc:supplementary-service-codes>
  <mc:ssc-operator-configuration>
    <mc:activated>true</mc:activated>
  </mc:ssc-operator-configuration>
</mc:supplementary-service-codes>
```

For more information, refer to *MTAS Supplementary Service Codes Management Guide* and *MTAS CAI3G Interface*.

3.6 Subscriber Subscription Level Service Configuration

No service data for the Cell announcement service is configured in the subscriber part of the subscriber data.



4 Performance Management

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

The following three new PM counters are introduced for the Cell Announcement service performance measurement:

- `MtasSSCodesIntCellAnnOk`: The counter is incremented by 1 when the Cell Served Announcement completed successfully.
- `MtasSSCodesIntCellAnnNOk`: The counter is incremented by 1 when the Cell Not Served Announcement completed successfully.
- `MtasSSCodesIntCellAnnErr`: The counter is incremented by 1 when SSC Negative Announcement for the Cell Announcement service completed successfully or no announcement is played because of error.





5 Fault Management

Not applicable.





6 Additional Information

This section contains some additional information regarding cell announcements.

6.1 MtasGaAnn and Related MOs Configuration Examples

The examples in this section show the configuration of `mtasGaAnn` and related MOs.

<code>MtasGaAnn</code>	<code>CellServedAnnouncement</code>
<code>mtasGaAnnPlayVideoAnnouncement</code>	0
<code>mtasGaAnnAVAudioCode</code>	0
<code>mtasGaAnnPlayAudioAnnouncement</code>	1
<code>mtasGaAnnAVVideoCode</code>	0
<code>mtasGaAnnAudioCode</code>	0
<code>mtasGaAnnSegmentVectors</code>	<code>CellAnnVector_01</code>
<code>mtasGaAnnVideoCode</code>	0

Example 1 MtasGaAnn = CellServedAnnouncement

<code>MtasGaAnn</code>	<code>CellNotServedAnnouncement</code>
<code>mtasGaAnnPlayVideoAnnouncement</code>	0
<code>mtasGaAnnAVAudioCode</code>	0
<code>mtasGaAnnPlayAudioAnnouncement</code>	1
<code>mtasGaAnnAVVideoCode</code>	0
<code>mtasGaAnnAudioCode</code>	0
<code>mtasGaAnnSegmentVectors</code>	<code>CellAnnVector_02</code>
<code>mtasGaAnnVideoCode</code>	0

Example 2 MtasGaAnn = CellNotServedAnnouncement



```
MtasSegmentedAnnouncements=0  
MtasSegmentVectors=0  
  
MtasSegmentVector=CellAnnVector_01  
(  
- mtasSegmentVectorSegments=[cell_served_ann, CellID]  
)  
  
MtasSegmentVector=CellAnnVector_02  
(  
- mtasSegmentVectorSegments=[cell_not_served_ann]  
)  
MtasAnnouncementSegments=0  
  
MtasAnnouncementSegment=cell_served_ann  
(  
- mtasAnnouncementSegmentType=Provisioned  
)  
  
MtasAnnouncementSegment=cell_not_served_ann  
(  
- mtasAnnouncementSegmentType=Provisioned  
)  
  
MtasAnnouncementSegment=CellID  
(  
- mtasAnnouncementSegmentType=StandAloneVoiceVariable  
)  
MtasAnnouncementVariables=0  
  
MtasAnnouncementVariable=CellID  
(  
- mtasAnnouncementVariableType=T_digits  
)
```

Example 3 MtasSegmentedAnnouncements=0

6.2 mtasSscCellAnn and Related MOs Configuration Example

The following example shows configuration of `mtasSscCellAnn` and related MOs.



```

mtasSscCellAnn=0
(
- mtasSscCellAnnComSyntInt= *48#,*48N#
- mtasSscCellAnnConfigs=s48h
- mtasSscCellAnnConfigs=s481h
)
mtasSscCellAnnouncementConfigs = 0
mtasSscCellAnnConfig=s48h
(
- mtasSscCellAnnConfigServAnn = CellServedAnnouncement
- mtasSscCellAnnConfigNotServAnn = CellNotServedAnnouncement
- mtasSscCellAnnConfigOpt=
parameter=femto-utran-cell-id-3gpp,np=false,
rule=/^.*([0-9a-fA-F]{7})$/H'\1'/
)

mtasSscCellAnnouncementConfigs = 0
mtasSscCellAnnConfig=s481h
(
- mtasSscCellAnnConfigServAnn = CellServedAnnouncement
- mtasSscCellAnnConfigNotServAnn = CellNotServedAnnouncement
- mtasSscCellAnnConfigOpt=
parameter=femto-utran-cell-id-3gpp,np=false,
rule=/^.*([0-9a-fA-F]{7})$/H'\1'/
)

```

Example 4 MtasSscCellAnn=0

6.3 MTAS SSC Cell Ann MOC Model

Configuration of the new MTAS SSC Cell Announcement service including wholesale support.

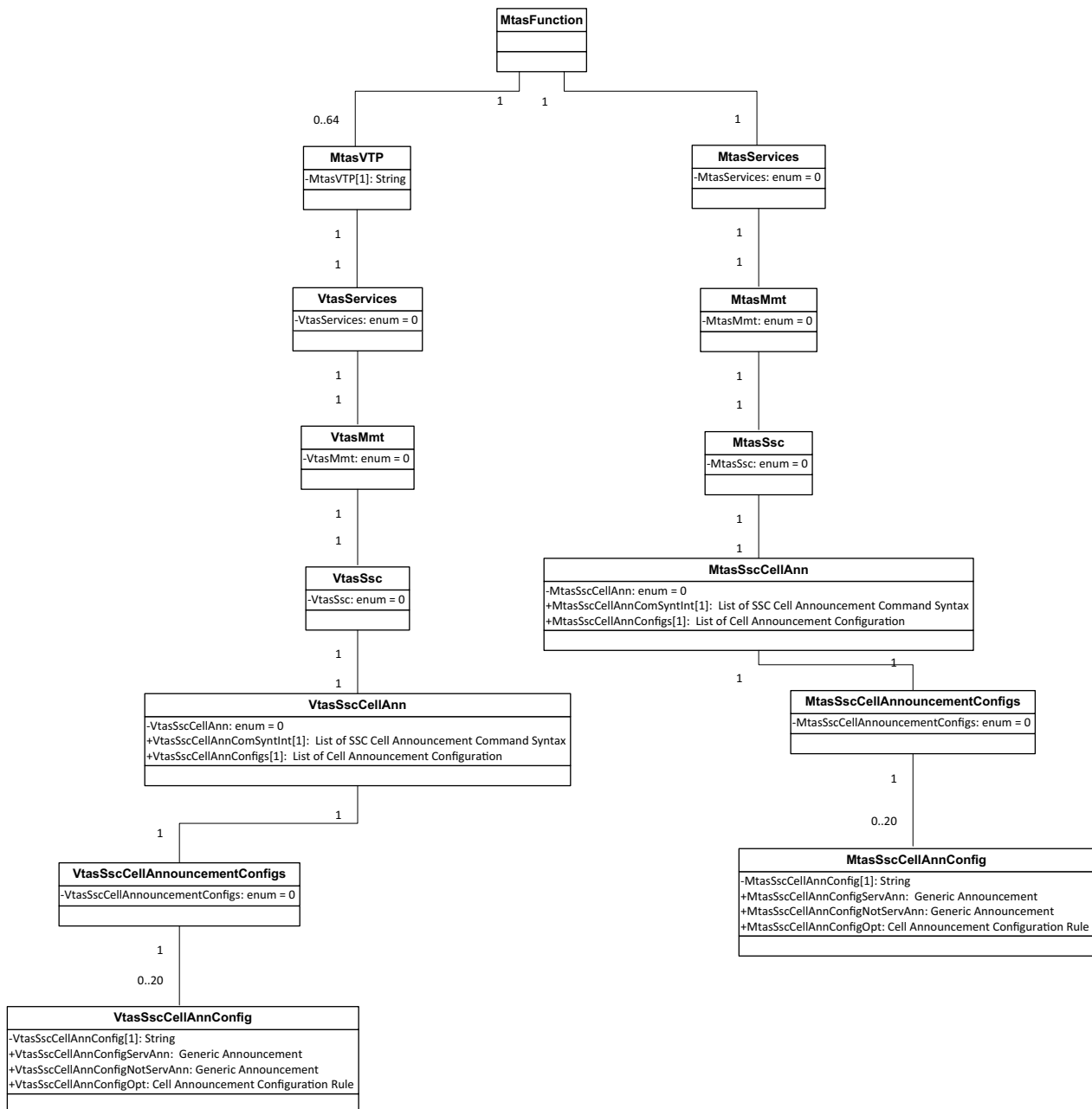


Figure 1 MTAS SSC Cell Ann MOC Model

6.4 Cell ID Extraction from PANI Header

This section shows examples of cell ID extraction from the PANI header.

6.4.1 Example 1: Default Configuration

- P-Access-Network-Info:



```
3GPP-E-UTRAN-FDD;utran-cell-id-3gpp= 3114809600002583d
;femto-utran-cell-id-3gpp=3114803a0500bbc02
```

- Cell Announcement configuration:

```
parameter=femto-utran-cell-id-3gpp,np=false,rule=/^.*
*([0-9a-fA-F]{7})$/H'\1'/
```

- Location parameter selection:

```
femto-utran-cell-id-3gpp = 3114803a0500bbc02
```

- RegExp evaluation:

– Input

- rule=/^.*([0-9a-fA-F]{7})\$/H'\1'/
- Input string: 3114803a0500bbc02

– Output

- Output string: H'00bbc02'
- Final output after hexadecimal to decimal conversion: Cell ID value 769026
- Cell served announcement is played to the user by MTAS with variable 769026, as part of the cell served announcement.

6.4.2

Example 2: Configuration Fault

- P-Access-Network-Info:

```
3GPP-E-UTRAN-FDD;utran-cell-id-3gpp= 3114809600002583d
;femto-utran-cell-id-3gpp=3114803a0500bbc02
```

- Cell Announcement configuration:

```
parameter=femto-utran-cell-id-3gpp,np=false,rule=/^.*(
[0-9a-fA-F]{7})$/H'\1/
```

- Location parameter selection:

```
femto-utran-cell-id-3gpp = 3114803a0500bbc02
```

- RegExp evaluation:

– Input

- rule=/^.*([0-9a-fA-F]{7})\$/H'\1/
- Input string: 3114803a0500bbc02



- Output

- Output string: H' 00bbc02
- No hexadecimal to decimal conversion possible: Cell ID value 0000000
- The operator has not properly configured the rule. Closing apostrophe (') is missing to specify the end of relevant substring for hexadecimal to decimal conversion.
- MTAS plays a cell served announcement with variable set to 0000000 as part of the cell served announcement.
- Proper warning log messages are generated and the PM counter is incremented for statistics.

6.4.3 Example 3: PANI Header with no femto-utran-cell-id-3gpp ID Value

- P-Access-Network-Info:


```
3GPP-E-UTRAN-FDD;utran-cell-id-3gpp= 3114809600002583d
;femto-utran-cell-id-3gpp=
```
- Cell Announcement configuration:


```
parameter=femto-utran-cell-id-3gpp,np=false,rule=/^.*([0-9a-fA-F]{7})$/H'\1/
```
- Location parameter selection:


```
femto-utran-cell-id-3gpp = empty string
```
- MTAS plays a cell served announcement with variable set to 0000000 as part of the cell served announcement.
- Proper warning log messages are generated and the PM counter is incremented for statistics.

6.4.4 Example 4: 'rule' Configuration Fault

- P-Access-Network-Info:


```
3GPP-E-UTRAN-FDD;utran-cell-id-3gpp= 3114809600002583d
;femto-utran-cell-id-3gpp=3114803a0500bbc02
```
- Cell Announcement configuration:
 - parameter=femto-utran-cell-id-3gpp,np=false,rule=///
 - or



- `parameter=femto-utran-cell-id-3gpp,np=false,rule=/^.*([0-9a-fA-F]{7})$//`
- Location parameter selection:


```
femto-utran-cell-id-3gpp = 3114803a0500bbc02
```
- RegExp evaluation:
 - Input
 - `rule=/// or /^.*([0-9a-fA-F]{7})$//`
 - Input string: 3114803a0500bbc02
 - Output
 - Output string: *empty string*
 - No hexadecimal to decimal conversion possible: Cell ID value 0000000
- The operator has not properly configured the rule. Expression or substitution, or both, are missing in the rule.
- MTAS plays a `cell served` announcement with variable set to 0000000 as part of the `cell served` announcement.
- Proper warning log messages are generated and the PM counter is incremented for statistics.

6.4.5

Example 5: 'rule' Configuration Fault

- P-Access-Network-Info:


```
3GPP-E-UTRAN-FDD;utran-cell-id-3gpp= 3114809600002583d
;femto-utran-cell-id-3gpp=31148032050056602
```
- Cell Announcement configuration:


```
parameter=femto-utran-cell-id-3gpp,np=false,rule=/^.*([0-9a-fA-F]{7})$/\1H' '/
```
- Location parameter selection:


```
femto-utran-cell-id-3gpp = 3114803a0500bbc02
```
- RegExp evaluation:
 - Input
 - `rule=/^.*([0-9a-fA-F]{7})$/\1H' '/`
 - Input string: 3114803a0500bbc02



– Output

- Output string: 0056602H' '
- No hexadecimal to decimal conversion possible: H' ' is replaced with an extra 0

Cell ID value: 00566020

- MTAS plays a cell served announcement with variable set to 00566020 as part of the cell served announcement.