

TMSI Based NRI Container IE

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Feature Summary and Revision History

Summary Data

Applicable Product(s) or Functional Area	MME
Applicable Platform(s)	• ASR 5500 • VPC-DI
Feature Default	Disabled - Configuration Required
Related Changes in This Release	Not Applicable
Related Documentation	• *Command Line Interface Reference* • *MME Administration Guide* • *Statistics and Counters Reference*

Revision History

Revision Details	Release
TMSI based NRI container IE in LUR message over SGs interface is supported.	21.28

Feature Description

MME supports Temporary Mobile Subscriber Identity (TMSI) based Network Resource Identifier (NRI) container IE in the Location Update Request (LUR) message over SGs interface. The UE sends this IE through the Combined Attach or Tracking Area Update (TAU) Request message. After the IE gets received, it gets parsed, processed, and sent through the SGs interface to the Visitor Location Register (VLR) in the LUR message.

How it Works

UE sends IE value to MME through S1Ap interface. The value is sent either in the Combined Attach or the TAU request. Now, MME sends the value in the LUR message to the VLR.

If UE does not send TMSI based NRI container in the Combined Attach or the TAU Request message, and if MME determines that the serving VLR changed for UE, MME includes the non-broadcasted Location Area Indentifier (LAI) in the old LAI field of the LUR message. Using the below mentioned configurations, the non-broadcasted LAI can be configured, which will be included in LUR message if serving VLR changed for the UE.

Table 1: LUR Content Based on the TMSI Based NRI Container IE Value and Serving VLR Change

Sl. No	IEs present in the Combined Attach or TAU message	MME deducts change in serving VLR	Resultant LUR content	Non-braodcast LAI CLI Content used
1	TMSI-based NRI container IE, old LAI IE	yes	TMSI-based NRI container IE, old LAI	No
		No	TMSI-based NRI container IE, old LAI	No
2	TMSI-based NRI container IE, no old LAI IE	Yes	TMSI-based NRI container IE	No
		No	TMSI-based NRI container IE	No
3	No TMSI-based NRI container IE, old LAI IE	Yes	Non-broadcast LAI For more information, refer the Note.	Yes
		No	Old LAI	No
4	No TMSI-based NRI container IE, no old LAI IE	Yes	Non-broadcast LAI For more information, refer the Note.	Yes
		No	No IE	No

Note Sending the 'Non-broadcast LAI' in Location Update Request (LUR) applies to TAU scenarios where the MME can detect VLR changes. This doesn't apply to attach scenarios because the MME lacks prior VLR context due to detachment.

Configuring NonBroadcast LAI

Use the following configuration to configure nonbroadcast lai.

```
configure
  context context_name
    sgs-service service_name
      [ no ] lai non-bradcast mcc mcc_id mnc mnc_id lac lac_id
  end
```

NOTES:

- **no**: Removes the nonbroadcast LAI configuration.
- **lai non-broadcast**: Specifies the Location Area Identity (LAI), not assigned to any area.
- **mcc** *mcc_id*: Configures the mobile country code (MCC). mcc_id is a 3-digit number between 000 to 999.
- **mnc** *mnc_id*: Configures the mobile network code (MNC). mnc_id is a 2- or 3-digit number between 00 to 999.
- **lac** *lac_id*: Configures the location area code (LAC). lac_id is an integer from 0 to 65535.

Monitoring and Troubleshooting

This section provides information on how to monitor and troubleshoot using show commands to support this feature.

Show Commands and Output

This section provides information regarding show commands and their outputs for this feature.

show sgs-service all

The output of this command is enhanced to display the following fields.

Table 2: show sgs-service all Command Output Descriptions

Field	Description
Non-Broadcast LAI	

Field	Description
MCC	Displays the configured MCC value.
MNC	Displays the configured MNC value.
LAC	Displays the configured LAC value.