

LTE Subscriber Map Configuration Mode Commands

The LTE Subscriber Map Configuration Mode is used to create and manage subscriber maps for applying operator policy templates to individual subscribers and/or groups of subscribers.

Subscriber mappings are ordered lists containing explicit UE matching criteria. The maps are examined for specific UE identity information such as the UE's IMSI. The system uses the first map that matches the criteria to associate an operator policy with the UE.

Subscriber maps can be modified but will only affect future subscribers and not subscribers already attached to UEs.

Command Modes

Exec > Global Configuration > LTE Policy Configuration > LTE Subscriber Map Configuration

configure > lte-policy > subscriber-map *subscriber_map_name*

Entering the above command sequence results in the following prompt:

```
[local]host_name(subscriber-map)#
```

Important The commands or keywords/variables that are available are dependent on platform type, product version, and installed license(s).

Important For information on common commands available in this configuration mode, refer to the Common Commands chapter.

- precedence, on page 1

precedence

Sets the order of precedence, the matching criteria and the association to an operator policy for subscribers meeting the match criteria.

Product

MME

SAEGW

SaMOG

S-GW

Privilege

Administrator

Command Modes

Exec > Global Configuration > LTE Policy Configuration > LTE Subscriber Map Configuration

configure > lte-policy > subscriber-map *subscriber_map_name*

Entering the above command sequence results in the following prompt:

```
[local]host_name(subscriber-map)#
```

Syntax Description

For MME:

precedence *number* **match-criteria { all | imei-tac group** *group_name* **| imsi mcc** *mcc_num* **mnc** *mnc_num* **[msin first** *start_range* **last** *end_range* **] | imsi-group** *group_name* **| msisdn-group** *group_name* **| service-plmnid** *plmnid* **} operator-policy-name** *policy_name*

For SaMOG:

precedence *number* **match-criteria { all | domain** *domain_name* **| imei-tac group** *group_name* **| service-plmnid** *plmid* **[ssid** *ssid* **] | ssid** *ssid* **| imsi mcc** *mcc_num* **mnc** *mnc_num* **[msin first** *start_range* **last** *end_range* **] [service-plmnid** *plmn_id* **] [ssid** *ssid* **] } operator-policy-name** *policy_name*

For SAEGW and S-GW:

precedence *number* **match-criteria { all | imsi mcc** *mcc_num* **mnc** *mnc_num* **[msin first** *start_range* **last** *end_range* **] } operator-policy-name** *policy_name*

For all:

no precedence *number*

no

Removes the selected precedence number definition from the subscriber map.

number

Specifies the order of precedence for the subscriber map. 1 (the lowest number) takes the highest precedence.

In releases prior to 21.8: *number* must be an integer value from 1 to 1024.

In 21.8 and later releases: *number* must be an integer value from 1 to 10000.

match-criteria

Specifies that the keyword following this keyword is the criteria to be used to match a UE.

all

Specifies that all UEs are to be associated with the operator policy.

imei-tac group *group_name*

MME only; releases 18.6 and higher.

Identifies a previously configured IMEI-TAC group (with **imei-tac-group** command LTE-Policy configuration mode) to associate with this precedence definition. IMEI-TAC groups comprise up to 500 individual IMEI-TACs and/or up to 20 ranges of IMEI-TAC values. The IMEI-TAC group contents are used as the selection criteria for the MME to select/re-select an operator policy based on the UE's unique international mobile equipment identity - type allocation code (IMEI-TAC). *group_name* must be a string of up to 64 alphanumeric characters.

Beginning with releases 19.4 and higher, it is possible to configure greater level of granularity for the IMEI-TAC matching criteria by optionally including, either singly or in pairs, as part of the command:

- mcc + mnc
- imsi
- service-plmnid

So with release 19.4 the behavior of the syntax has modified slightly so that if **imei-tac-group** is the selected matching criteria, then the command syntax would be similar to:

precedence *precedence_value* **match-criteria imei-tac group** *group_name* **[imsi mcc** *mcc* **mnc** *mnc* **| msin { first** *start_msin_value* **last** *end_msin_value* **}] [service-plmnid** *plmn_id***] operator-policy** *policy_name*

Warning The use of the range value starting with '0' is inoperable during IMEI retrieval based on operator policy (IMEI-TAC). All attach requests with missing IMEI, selects the "000000" operator policy when configured.

imsi mcc *mcc_num* mnc *mnc_num* [msin first *start_range* last *end_range* | service-plmnid *id*]

Specifies that UEs with criteria matching the International Mobile Subscriber Identifier (IMSI) information (MCC and MNC) are to be associated with a specified operator policy.

mcc *mcc_num*: Specifies the mobile country code (MCC) portion of the IMSI identifier as an integer value between 100 and 999.

mnc *mnc_num*: Specifies the mobile network code (MNC) portion of the IMSI identifier as a 2- or 3-digit integer value between 00 and 999.

msin first *start_range* **last** *end_range*: Optionally specifies a range of Mobile Subscriber Identification Numbers that further narrows the match criteria for the IMSI match configuration. *start_range* and *end_range* must each be an integer value of 10 digits.

service-plmnid *plmn_id*: Optionally specifies a local service PLMN ID number used further narrow the IMSI-based operator policy selection. *plmn_id* must be an integer value of five digits minimum and six digits maximum (the combination of the MCC and MNC).

imsi-group*group_name*

Specifies the IMSI group. *group_name* must be an alphanumeric string of 1 through 64 characters.

msisdn-group*group_name*

Specifies the MSISDN group. *group_name* must be an alphanumeric string of 1 through 64 characters

service-plmnid*plmn_id*

Specifies a local service PLMN ID number used for PLMN ID-based operator policy selection. *id* must be an integer value of five digits minimum and six digits maximum (the combination of the MCC and MNC).

ssid *id*

Specifies a local SSID used for SSID-based operator policy selection to support the SaMOG Local Break Out (LBO) feature. The operator policy and associated call control profile are selected based on the SSID received in the Called-Station-Id attribute in Access-Request.

id must be an alphanumeric string of 1 through 32 characters.

The SaMOG LBO feature is license dependant. Contact your Cisco account representative for more information.

operator-policy-name *policy_name*

Sets the operator policy with which the matching criteria is associated. *policy_name* must be an existing operator policy expressed as an alphanumeric string of 1 through 64 characters. Operator policies are configured in the Operator Policy Configuration Mode. For more information about operator policies, refer to the *Operator Policy Configuration Mode Commands* chapter.

Usage Guidelines

The operator policy provides mechanisms to fine tune the behavior of subsets of subscribers above and beyond the behaviors described in the user profile. It is also used to control the behavior or visiting subscribers in roaming scenarios, enforce roaming agreements, and provide a measure of local protection against foreign subscribers.

Example

The following command associates the operator policy named *op_pol1* with UEs associated with an IMSI MCC of *111*, an MNC of *222*, and a service PLMN ID of *123456*:

```
precedence 100 match-criteria imsi mcc 111 mnc 222 service-plmnid 123456
 operator-policy-name op_pol1
```

The following command gives the match-criteria configuration a precedence of *155* and instructs the MME to select and apply the *nokia1* operator policy for UEs with IMEI-TAC that matches one of the following IMEI-TAC: *35850000* or *01124500*

```
precedence 155 match-criteria imei-tac value 35850000 01124500
operator-policy-name nokia1
```

The following command identifies this as having the highest precedence and sets the matching criteria for the operator policy selection to based on IMEI-TAC + MCC-MNC of UE + Serving PLMNID:

```
precedence 1 match-criteria imei-tac-group myGroup imsi mcc 123 mnc 234
service-plmnid 56789 operator-policy-name BESTpol
```