

MME Support for EN-DC SON Configuration Transfer IE on S1-AP

- Feature Summary and Revision History, on page 1
- Feature Description, on page 2
- Monitoring and Troubleshooting, on page 2

Feature Summary and Revision History

Summary Data

Applicable Product(s) or Functional Area	MME
Applicable Platform(s)	• ASR 5500 • VPC-DI • VPC-SI
Default Setting	Configuration Not Required
Related Changes in This Release	Not Applicable
Related Documentation	*MME Administration Guide*

Revision History

Revision Details	Release
This feature is fully qualified in this release.	21.18
First introduced. **Important** This feature is not fully qualified in this release, and is available only for testing purposes. For more information, contact your Cisco Account representative.	21.17

Feature Description

Configuration Transfer enables the transfer of information between two eNodeBs at any time via S1 interface and the Core Network.

MME supports EN-DC SON Configuration Transfer IE in eNB Configuration Transfer Message and MME Configuration Transfer Message in compliance with specification 36.413 V15.6.0.

eNB Configuration Transfer procedure is initiated with eNB configuration transfer message sent from the eNB to the MME. If the MME receives the EN-DC SON Configuration Transfer IE, it transparently transfers the EN-DC SON Configuration Transfer IE either towards the eNB indicated in the Target eNB-ID IE or towards an eNB connected to the en-gNB indicated in the Target en-gNB-ID IE which is included in the EN-DC SON Configuration Transfer IE. MME sends EN-DC SON Configuration information through the Configuration Transfer Tunnel Message to the peer MME.

MME identifies the dynamic eNB to en-gNB mapping entries through the Connected en-gNB List IE in the S1 Setup Request message. The connected en-gNB List IE includes Connected en-gNB To Be Added List IE and Connected en-gNB To Be Removed List IE in eNB Configuration Update message. MME maintains eNB and en-gNB mapping entries to handle enb config transfer messages that are received with target engnb-id but without target enb-id.

Fetch the target eNB connected to a target en-gNB ID: In some scenarios, when the UE moves to a coverage of en-gNB, which is not added as secondary node to the eNB, but the UE is presently connected to eNB will use ANR procedures to add en-gNB as secondary node and send ENB CONFIGURATION TRANSFER message to the MME. Currently eNB may not send the right Tracking Area Update (TAC) in the selected TAI of target en-gNB. This mapping of eNodeB to en-gNB id with PLMN and TAC in MME, could result in secondary node addition failure.

To overcome this scenario, MME supports seamless mobility between two gNBs connected with eNBs in the same or different TACs. MME maps eNodeB to en-gNB ID plus bPLMN received in the S1 setup and eNB Configuration Update requests. Thus the en-gNB ID and PLMN key fetch target eNB connected to target en-gNB ID seamlessly. If a multiple target eNB ID matches, the first available eNB with the association state in MME as **UP** is selected.

Monitoring and Troubleshooting

This section provides information regarding show commands available to monitor and troubleshoot the MME feature.

Show Commands and Outputs

show mme-service enodeb-association connected-en-gnb all

The output of this command includes the following field:

- connected-en-gnb all — Shows all the en-gNBs connected to all eNodeBs.

  The sample configuration output is an example for the **show mme-service enodeb-association connected-en-gnb all** command :

```
asr5500# show mme-service enodeb-association connected-engnb all
  MMEMgr                        : Instance 1
```

```
  Peerid                          : 17301506
  Global ENodeB ID         : 123:123:456
    Connected engNB ID : 4194306
    Broadcast PLMNs        :123:456
                           123:455
    TAC                    : 2400
```

show mme-service enodeb-association connected-en-gnb enodeb-name <enb name>

The output of this command includes the following field::

- connected-en-gnb enodeb-name <enb name> — Shows en-gNBs connected to specific eNodeB.

  The sample configuration output is an example for the **show mme-service enodeb-association connected-en-gnb enodeb-name <enb name>** command

```
]asr5500# show mme-service enodeb-association connected-engnb enodeb-name enb1
MMEMgr                          : Instance 1
  Peerid                        : 17301506
  Global ENodeB ID    : 123:123:456
     Connected engNB ID     : 4194306
    Broadcast PLMNs          :123:456
                              123:455
    TAC                       : 2400
```