5G Capable SPGW Selection by MME

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	Enabled - 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
First introduced.	21.12.2

Feature Description

MME is enabled to select 5G capable and co-located SPGW during initial attach, and additional PDN and SGW relocation scenarios. When multiple entries are configured, selection of a candidate is based on weight.

Relationship to Other Features

For dynamic selection mechanism to select PGW-C+SMF, SGW-C+ SMF, Peer AMF with 5G UEs, refer to the configurations such as Configure PGW-C with SMF Combined under the Peer AMF Configuration section in the *MME Administration Guide* .

Configuring 5G Capable SPGW Selection by MME

This section provides information on the CLI commands to configure 5G capable SPGW selection by MME.

collocated-node, ue-usage-type in apn-profile mode

Use the following configuration to configure co-located-node/ue-usage-type for SPGW selection at MME.

```
configure
       apn-profile apn_profile_name
         pgw-address ip_address [ co-located-node collocated_node_name [
primary | secondary | weight value ] | [ ue-usage-type ue_usage_type_value
  [ collocated-node | primary | secondary | weight value ] ]
         no pgw-address [ collocated-node collocated_node_name ] [
ue-usage-type ue_usage_type_value collocated-node collocated_node_name ]
         end
```

NOTES:

- **no**: Disables the following options.
- **collocated-node** *collocated_node_name*: Configures the collocation name to select the co-located SPGW node IP addresses for MME. *collocated_node_name* must be string of size 1 to 255.
- **ue-usage-type** *ue_usage_type_value*: Configures the ue-usage for the gateway. *ue_usage_type_value* must be an integer between 1 and 255.
- **weight** *value*: Enter a weight for this address.*value* must be an integer from 1 and 100.

collocated-node, ue-usage-type in mme-service mode

Use the following configuration to configure collocated-node/ue-usage-type for SPGW selection at MME.

```
configure
   context context_name
          mme-service mme_service_name
            pgw-address ip_address [ collocated-node collocated_node_name [
```

```
weight value ] ] | [ ue-usage-type ue_usage_type_value [ collocated-node |
 weight value ] ]
            no pgw-address [ collocated-node collocated_node_name ] [
ue-usage-type ue_usage_type_value collocated-node collocated_node_name ]
            end
```

NOTES:

- **no**: Disables the following options.
- **collocated-node** *collocated_node_name*: Configures the collocation name to select the collocated S/PGW node IP addresses for MME. *collocated_node_name* must be a string of size 1 to 255.
- **ue-usage-type** *ue_usage_type_value*: Configures the ue-usage for the gateway. *ue_usage_type_value* must be an integer between 1 through 255.
- **weight** *value*: Enter a weight for this address.*value* must be an integer from 1 through 100.

collocated-node, ue-usage-type in lte-emergency-profile mode

Use the following configuration to configure collocated-node/ue-usage-type for SPGW selection at MME.

```
configure
       lte-policy
          lte-emergency-profile lte_emergency_profile_name
            pgw-address ip-address ip_address protocol { both | gtp | pmip
 }   weight value [ collocated-node collocated_node_name ] | [ ue-usage-type
 ue_usage_type_value [ collocated-node collocated_node_name ] ]
            no pgw-address ip-address ip_address [ collocated-node
collocated_node_name ] [ ue-usage-type ue_usage_type_value collocated-node
collocated_node_name ]
            end
```

NOTES:

- **no**: Disables the following options.
- **collocated-node** *collocated_node_name*: Configures the collocation name to select the collocated SPGW node IP addresses for MME. *collocated_node_name* must be an alphanumeric string of 1 through 255.
- **ue-usage-type** *ue_usage_type_value*: Configures the ue-usage for the gateway. *ue_usage_type_value* must be an integer between 1 and 255.
- **weight** *value*: Specifies the weight used for pgw selection.*value* must be an integer from 1 and 100.

collocated-node, ue-usage-type in tai-mgmt-obj mode

Use the following configuration to configure collocated-node/ue-usage-type for SPGW selection at MME.

```
configure
       lte-policy
          tai-mgmt-db tai_mgmt_db_name
             tai-mgmt-obj tai_mgmt_obj_name
                sgw-address ip_address s5-s8-protocol { both | gtp | pmip }
```

```
 weight  value  [ attach-only | collocated-node  collocated_node_name  [
attach-only ]   ] | [ ue-usage-type  ue_usage_type_value  [ collocated-node
  collocated_node_name [ attach-only ] ] ]
                no sgw-address  ip_address  s5-s8-protocol { both | gtp | pmip
 } [ collocated-node  collocated_node_name  ] [ ue-usage-type  ue_usage_type_value
  collocated-node  collocated_node_name  ]
                end
```

NOTES:

- **no**: Disables the following options.
- **attach-only** : Specifies the SGW preference for SGW-relocation.
- **collocated-node** *collocated_node_name*: Configures the collocated node name to select the collocated S/PGW node IP addresses. *collocated_node_name*must be an alphanumeric string of 1 through 255.
- **ue-usage-type** *ue_usage_type_value*: Specifies the S-GW supported ue-usage-type. *ue_usage_type_value* must be an integer between 1 and 255.
- **weight** *value*: Specifies the protocol supported by the SGW (GTP, PMIP or both). *value* must be an integer from 1 and 100.

Monitoring and Troubleshooting

This section provides information regarding show commands available to monitor and troubleshoot the 5G Capable SPGW Selection by MME feature.

Show Commands and Outputs

show mme-service name

The output of this command includes the following fields:

- ue_usage_type
- collocated_node

Important "ue_usage_type" and "collocated_node" appears more than once based on number no of P-GW addresses configured.

show lte-policy tai-mgmt-db name

The output of this command includes the following fields:

- ue-usage-type
- collocated-node

Important "ue_usage_type" and "collocated_node" appears more than once based on number no of S-GW addresses configured.

show apn-profile full name

The output of this command includes the following fields:

- ue-usage-type
- collocated-node

Important "ue_usage_type" and "collocated_node" appears more than once based on number no of P-GW addresses configured.

show lte-policy lte-emergency-profile name

The output of this command includes the following fields:

- ue-usage-type
- collocated-node

Important "ue_usage_type" and "collocated_node" appears more than once based on number no of P-GW addresses configured.