

ePDG Selection Using PCO

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Feature Description

The purpose of this feature is to enable the PGW to send the ePDG IP addresses in an operator PCO so that when connected to a WIFI network the UE will attach to the closest geographic ePDG. This will aid in setting up the IPSEC tunnel to the closest ePDG and therefore reducing latency for VoWIFI and other features.

A new CLI has been introduced to customize PCO options in the network.

Important This is a license-controlled feature. Contact your Cisco account or support representative for detailed licensing information.

Important ePDG PCO is supported only for the CS request which are received on the S5-S8 interface. This feature is not applicable for the GGSN calls.

How it Works

- One ePDG FQDN can be configured on an APN.
- Operator specific PCO is supported in CSReq/Res on S5/S8 interface and in PBU/PBA on PMIP S2a interface.
- P-GW uses DNS server for FQDN resolution.
- Maximum of 2 IPv4 and 2 IPv6 ePDG addresses can be sent in PCO.

Limitations

This feature is not applicable for the GGSN calls.

Configuring ePDG Selection Using PCO

Configuring epdg fqdn

Use the following example to customize PCO (Protocol Configuration Options) options in the network.

```
configure
     apn apn_name
        pco-options epdg fqdn domain_name
        no pco-options
        end
```

Notes:

- **no:** Does not send customized PCO options to any of the UEs.
- **pco-options:** Controls the sending of customized PCO (Protocol Configuration Options) options in the network.
- **epdg:** Enables operator specific epdg selection in the PCO. By default it is disabled.
- **fqdn:** Specifies fully qualified domain name. Based on this, IP addresses would be queried from the DNS.

Verifying the Configuration

The configuration of this feature can be verified using the following commands from the `exec` mode:

- **show configuration**
- **show configuration verbose**

Please see the *Monitoring and Troubleshooting* section for the command output.

Monitoring and Troubleshooting ePDG Selection Using PCO Feature

The following section describes commands available to monitor the ePDG Selection Using PCO Feature.

Show Commands for ePDG Selection Using PCO Feature

show apn *apn_name*

This command displays the following output:

```
show apn name intershat
PCO Options:
    custom1      Mode: enabled
    Link MTU:    1500
    ePDG Selection FQDN: <epdg.com> / N.A.

APN QCI Stats: Disabled
Bearer duration stats config: Disabled
Event Reporting: Disabled

HSGW Static PGW-FQDN:
    Primary  FQDN: N/A   Secondary  FQDN: N/A
```

show config

This command has been modified to display the following output when ePDG has been configured:

```
   pco-options epdg fqdn epdg.com
```

show configuration verbose

This command displays the following output when **epdg fqdn** is configured:

```
 no pco-options epdg
```

show pgw-service statistics name

This command displays the following output:

```
ePDG selection PCO statistics:

IPv6 PCO:
Request received: 20
Response sent: 18
Response not sent as configuration not present: 1
Response not sent as DNS query fails/ expires: 1

IPv4 PCO:
Request received: 20
Response sent: 18
Response not sent as configuration not present: 1
Response not sent as DNS query fails/ expires: 1
```

show saegw-service statistics name function pgw

This command displays the following output:

```
ePDG selection PCO statistics:

IPv6 PCO:
Request received: 20
Response sent: 18
Response not sent as configuration not present: 1
Response not sent as DNS query fails/ expires: 1

IPv4 PCO:
Request received: 20
Response sent: 18
```

```
Response not sent as configuration not present: 1
Response not sent as DNS query fails/ expires: 1
```