



APN Profile Support

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Feature Summary and Revision History

Summary Data

Table 1: Summary Data

Applicable Product(s) or Functional Area	cnSGW-C
Applicable Platform(s)	SMI
Feature Default Setting	Enabled - Configuration Required
Related Documentation	Not Applicable

Revision History

Table 2: Revision History

Revision Details	Release
Introduced support for IPv6.	2022.04.0
First introduced.	2021.01.0

Feature Description

This feature supports Access Point Name (APN) or Data Network Name (DNN) profile for the SGW (cnSGW-C) service. DNN is equivalent to APN in Evolved Packet System (EPS).

Using the Operator Policy and the Subscriber map, you can determine the DNN Profile for the cnSGW-C service.

Feature Configuration

Configuring this feature involves the following steps:

- Configure DNN Profile. For more information, refer to [Configuring DNN Profile, on page 2](#).
- Configure Network Element Profile. For more information, refer to [Configuring Network Element Profile, on page 2](#).

Configuring DNN Profile

To configure this feature, use the following configuration:

```
config
  profile dnn dnn_name
    upf-selection-policy upf_select_name
    dnn dnn_name network-function-list network_function_list
  end
```

NOTES:

- **dnn** *dnn_name*—Specify the DNN profile name. Must be a string.
- **upf-selection-policy** *upf_select_name*—Specify the UPF selection policy name. Must be a string.
- **network-function-list** *network_function_list*—Specify the list of network functions to which the selected DNN profile is sent. Must be a string.

Configuring Network Element Profile

Network element profile represents peer IP (UPF) profile and has the following configurations:

- Peer address and Port configuration
- Peer-supported DNNs or APNs. This configuration helps in UPF selection.

UPF selection considers priority and capacity parameters.

upf-group-profile indicates the UPF group to which it belongs.

To configure this feature, use the following configuration:

```
config
  profile network-element upf upf_name
    node-id node_id_value
```

```

n4-peer-address ipv6 ipv6_address
n4-peer-address ipv4 ipv4_address
n4-peer-port port_number
dual-stack-transport { true | false }
dnn-list dnn_list
capacity capacity_value
priority priority_value
upf-group-profile upf_group_name
end

```

NOTES:

- **network-element**—Specify the peer network element.
- **upf upf_name**—Specify the UPF peer name.
- **node-id node_id_value**—Specify the Node ID of the UPF node.
- **n4-peer-address ipv4 ipv4_address**—Specify the IPv4 address.
- **n4-peer-address ipv6 ipv6_address**—Specify the IPv6 address.
- **n4-peer-port port_number**—Specify the N4 peer port number. Must be an integer in the range of 0-65535.
- **dual-stack-transport { true | false }**—Enable the dual stack feature that allows you to specify IPv6 or IPv4 address. Specify true to enable this feature.
- **dnn-list dnn_list**—Specify the DNN list supported by UPF node.
- **capacity capacity_value**—Specify the capacity relative to other UPFs. This is used for load balancing. Must be an integer in the range of 0-65535. Default value is 10.
- **priority priority_value**—Specify the static priority relative to other UPFs. This is used for load balancing. Must be an integer in the range of 0-65535. Default value is 1.
- **upf-group-profile upf_group_name**—Specify the UPF group profile name. Must be a string.

Configuration Modification Impact

The following table indicates the impact or the configuration change behavior on an existing call, a new PDN, or a new subscriber.

Modification	cnSGW-C Existing Call	cnSGW-C New PDN or New subscriber
Delete the apn-profile	No impact	Applied new configuration based on the changes for the following: <ul style="list-style-type: none"> • subscriber policy • operator policy • dnn policy • dnn profile

Modification	cnSGW-C Existing Call	cnSGW-C New PDN or New subscriber
Modify the apn profile name in the operator policy	No impact	Applied new configuration based on the changes for the following: <ul style="list-style-type: none"> • subscriber policy • operator policy • dnn policy • dnn profile

Troubleshooting Information

This section describes troubleshooting information for this feature.

Configuration Errors

This section describes the errors that cnSGW-C might report during the APN profile configuration.

```
show config-error | tab
ERROR COMPONENT      ERROR DESCRIPTION
-----
SGWProfile           Subscriber policy name : sub_policy in profile sgw1 is not configured
SubscriberPolicy     Operator policy : op_policy1 under subscriber policy sub_policy2 is not
configured
OperatorPolicy       Dnn policy name : dnn_policy1 in operator policy op_policy2 is not
configured
DnnPolicy            Dnn profile name : dnn_profile1 in dnn policy dnn_policy2 is not configured
DnnProfile           UPF selection policy name : upf_sel_policy1 in dnn profile dnn_profile2
is not configured
```