



# Multiple cnSGW Support

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## Feature Summary and Revision History

### Summary Data

*Table 1: Summary Data*

Applicable Product (s) or Functional Area	5G-UPF
Applicable Platforms	VPC-SI
Feature Default Setting	Disabled – Configuration Required
Related Changes in this Release	Not Applicable
Related Documentation	<i>UCC 5G UPF Configuration and Administration Guide</i>

### Revision History

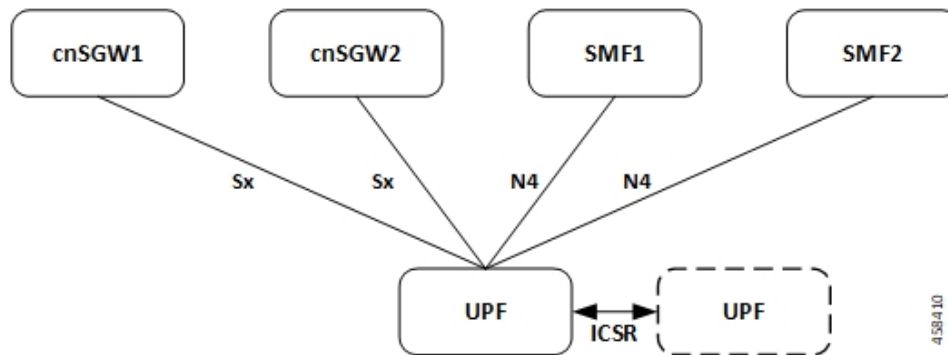
Revision Details	Release
First introduced.	2021.02.0

## Feature Description

The Multiple SMF/cnSGW Support feature enables a single UPF to establish multiple N4/Sx interfaces with cnSGWs and their paired SMFs. Integration of multiple SMF and cnSGW combinations with a single UPF results in optimal usage of resources.

### Architecture

The following illustration depicts the architecture of multiple cnSGWs/SMFs.



### Relationship to Other Features

The Multiple cnSGW Support feature is related to *Multiple N4/Sx Interface* feature.

## How it Works

The functionality of Multiple cnSGW feature involves:

- Single UPF has multiple N4/Sx interface associations with SMF/cnSGWs.
- There's no slicing of configuration in UPF per individual SMF.
- Cumulatively, a maximum of four peers—combination of cnSGW/SMF or individual cnSGW/SMF as per the need—are connected to a single UPF.
- Individual N4/Sx association release purges sessions of the impacted peer.
- UPF redundancy works seamlessly.
- All cnSGWs paired with a UPF is associated with a single user plane service.

## Configuring Multiple SMF/cnSGWs

This section provides information about CLI commands that are available in support of this feature.

## Configuring Multiple SMF/cnSGWs on UPF

Use the following CLI commands to configure multiple SMF/cnSGWs on UPF by adding multiple peer node under Control Plane Group Configuration mode.

```
configure
  user-plane-service service_name
    associate control-plane-group group_name
  control-plane-group group_name
    peer-node-id ipv4-address ipv4_address interface n4
    peer-node-id ipv4-address ipv4_address interface n4
    peer-node-id ipv4-address ipv4_address
    peer-node-id ipv4-address ipv4_address
  end
```

## Monitoring and Troubleshooting

This section provides information about monitoring and troubleshooting the Multiple cnSGW feature.

### Show Commands and/or Outputs

This section describes the show commands that are available in support of this feature.

#### show subscribers user-plane-only full all

The output of this CLI command is enhanced to display the corresponding Control Plane address.

#### show sx peers

The output of this CLI command is enhanced to display the peer ID with corresponding number of sessions.

show sx peers