cnBNG User Plane Subscriber Management Commands

This chapter describes the Cisco IOS XR software commands that are used to configure subscriber management for the cnBNG user plane on Cisco ASR 9000 Series Routers. For details regarding the related configurations, see the Cloud Native BNG User Plane Configuration Guide for Cisco ASR 9000 Series Routers.

clear cnbng-nal subscriber sub-type

To clear the session record for the user plane of cloud native BNG (cnBNG), use the **clear cnbng-nal subscriber sub-type** command in EXEC mode.

clear cnbng-nal { **ipoe** | **ipoe-l2-connected** | **ipoe-routed** | **lac** | **lns** | **pppoe** }

Syntax Description

ipoe	Clears the IPoE L2 and routed subscriber session records.
ipoe-l2-connected	Clears the IPoE L2 connected subscriber session records.
ipoe-routed	Clears the IPoE routed subscriber records.
lac	Clears the LAC subscriber session records.
lns	Clears the LNS subscriber session records.
pppoe	Clears the PPPoE subscriber session records.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
Release 7.3.1	This command was introduced.
Release 25.1.1	The command was modified to include the **ipoe-l2-connected** and **ipoe-routed** keywords.

Usage Guidelines

No specific guidelines impact the use of this command.

Task ID

Task ID	Operation
network	read, write

This example shows how to clear IPOE subscriber session records:

```
Router# clear cnbng-nal subscriber sub-type ipoe
```

This example shows how to clear routed subscriber session records:

```
Router# clear cnbng-nal subscriber sub-type ipoe-routed
```

dhcp profile

To specify a DHCP profile for the Dynamic Host Configuration Protocol (DHCP) IPv4 and IPv6 component and to enter the profile mode, use the **profile** command in DHCP IPv4 or DHCP IPv6 configuration submode. To disable a profile and exit the profile mode, use the **no** form of this command.

dhcp { **ipv4** | **ipv6** } **profile** *profile_name* **cnbng**

Syntax Description

profile_name	Specifies the name of the profile that uniquely identifies the proxy or server.
cnbng	Creates a cloud native BNG (cnBNG) profile.

Command Default

None

Command Modes

DHCP IPv4 configuration

DHCP IPv6 configuration

Command History

Release	Modification
Release 7.4.2	Support for the DHCP IPv4 and DHCP IPv6 cnbng profile was added for cnBNG.

Usage Guidelines

The *profile-name* and the *class-name* should be unique per base profile.

Task ID

Task ID	Operations
ip-services	read, write

Examples

This example shows how to create a DHCPv4 cnBNG profile:

```
Router(config)#dhcp ipv4
Router(config-dhcpv4)#profile cnbng_1 cnbng
Router(config-dhcpv4-cnbng-profile)#exit
Router(config-dhcpv4)#interface bundle-Ether 1.1 cnbng profile cnbng_1
Router(config-dhcpv4)#interface bundle-Ether 2.1 cnbng profile cnbng_1
Router(config-dhcpv4)#commit
```

This example shows how to create a DHCPv6 cnBNG profile:

```
Router(config)#dhcp ipv6
Router(config-dhcpv4)#profile cnbng_1 cnbng
Router(config-dhcpv4-cnbng-profile)#exit
Router(config-dhcpv4)#interface bundle-Ether 1.1 cnbng profile cnbng_1
Router(config-dhcpv4)#interface bundle-Ether 2.1 cnbng profile cnbng_1
Router(config-dhcpv4)#commit
```

initiator dhcp

To enable DHCP as first-sign-of-life protocol for IPv4 or IPv6 subscriber, use the **initiator dhcp** command in the appropriate configuration submode. To disable this feature, use the **no** form of this command.

initiator dhcp { **prefix-len** *length* | **src-ip-dual-lookup** }

Syntax Description

prefix-len *length*	Specifies the prefix-length for IAPD IP addresses. The range is from 1 to 127.
src-ip-dual-lookup	Enables lookup of IPv6 IANA or IAPD source address for ingress packets from subscriber interface.

Command Default

None

Command Modes

IP subscriber IPv4 L2-connected configuration

IP subscriber IPv6 L2-connected configuration

Command History

Release	Modification
Release 7.4.2	This command was introduced.
Release 25.1.1	The command was modified to include the **prefix-len** and **src-ip-dual-lookup** keywords.

Usage Guidelines

This command is not supported for IPv6 routed subscribers. Starting from Release 25.1.1, you can use this command for IPv6 routed subscriber sessions.

Task ID

Task ID	Operation
network	read, write

This is an example of configuring the **initiator dhcp** command in the Interface configuration mode:

```
Router# configure
Router(config)# interface Bundle-Ether 56
Router(config-if)# ipsubscriber ipv4 l2-connected
Router(config-if-ipsub-ipv4-l2conn)# initiator dhcp
```

This is an example of configuring the **initiator dhcp** command in the Interface configuration mode:

```
Router# configure
Router(config)# interface Bundle-Ether 56
Router(config-if)# ipsubscriber ipv6 l2-connected
Router(config-cnbng-nal-ipsub-l2conn)# initiator dhcp
```

Enable the configuration of prefix-length for IAPD IP addresses to enable routed subscriber sessions.

For Routed subscriber sessions, ensure that the IAPD route prefix length (**prefix-len**) matches the prefix length configured under the access interface. If not cNBNG CP request is rejected. Routed subscriber access interface configuration should only be applied to the bundle main interface.

```
Router#configure
Router(config)#interface bundle-ether 1
Router(config-if)#ipsubscriber
Router(config-cnbng-nal-ipsub)#ipv6 routed
Router(config-cnbng-nal-ipsub-ipv6-routed)#initiator dhcp prefix-len 20 src-ip-dual-lookup

Router(config-cnbng-nal-ipsub-ipv6-routed)#
```

l2tp enable

To establish the LAC session on cloud native BNG (cnBNG), use the **l2tp enable** command in cnbng-nal configuration mode. To remove this configuration, use the **no** form of this command.

l2tp enable

This command has no keywords or arguments.

None

Command Modes

cnbng-nal

Command History

Release	Modification
Release 7.4.2	This command was introduced.

Usage Guidelines

No specific guidelines impact the use of this command.

Task ID

Task ID	Operation
config-services	read, write

This example shows how to configure LAC on the user plane of cnBNG:

```
Router#configure
Router(config)#cnbng-nal location 0/0/CPU0
Router(config-cnbng-nal-local)#l2tp enable
Router(config-cnbng-nal-local)#commit
Router(config-cnbng-nal-local)#exit
```

lns enable

To establish the LNS session on cloud native BNG (cnBNG), use the **lns enable** command in cnbng-nal configuration mode. To remove this configuration, use the **no** form of this command.

lns enable

This command has no keywords or arguments.

None

Command Modes

cnbng-nal

Command History

Release	Modification
Release 7.4.2	This command was introduced.

Task ID

Task ID	Operation
config-services	read, write

This example shows how to configure LNS on the user plane of cnBNG:

```
Router(config)#interface bundle-ether 1.1
Router(config-subif)#ipv4 address 192.5.1.1 255.255.255.0
Router(config-subif)#ipv6 enable
Router(config-subif)#lns enable
Router(config-subif)#commit
Router(config-subif)#exit
```

pppoe enable

To enable pppoe on an interface, use the **pppoe enable** command in interface configuration mode. To disable the pppoe on the interface, use the **no** form of this command.

pppoe enable

This command has no keywords or arguments.

None

Command Modes

Interface configuration

Command History

Release	Modification
Release 7.4.2	This command was introduced.

Usage Guidelines

No specific guidelines impact the use of this command.

Task ID

Task ID	Operation
ppp	read, write

This is an example for configuring the **pppoe enable** command in interface configuration mode:

```
Router#configure
Router(config)#interface Bundle-Ether100.10
Router(config-if)# pppoe enable
```

subscriber redundancy

To configure subscriber redundancy group, use the **subscriber redundancy** command in cnbng-nal configuration mode. To disable the subscriber redundancy, use the **no** form of this command.

subscriber-redundancy group *name* [**access-interface-list interface** *name* | **access-tracking** *name* | **core-tracking** *name* | **damping-timer-val** *value* | **fast-switchover-disable** | **route-tag** *value* | **virtual-mac** *mac-address*]

Syntax Description

group *name*	Specifies the subscriber redundancy group name.
access-interface-listinterface *name*	Specifies the access interface for the specified subscriber redundancy group.
access-tracking *name*	Specifies the access tracking object for the specified subscriber redundancy group.
core-tracking *name*	Specifies the core tracking object for the specified subscriber redundancy group.
damping-timer-val *value*	Specifies the damping timer value for the specified subscriber redundancy group. Allowed range is from 60-600 seconds.
fast-switchover-disable	Disables the fast switchover mode for the specified subscriber redundancy group.
route-tag *value*	Specifies the route tag value to be applied for subnet routes. Allowed range is from 1 to 4294967295.
virtual-mac *mac-address value*	Specifies the virtual mac address for the specified subscriber redundancy group.

None

Command Modes

cnbng-nal configuration mode

Command History

Release	Modification
Release 7.8.1	This command was introduced.

Usage Guidelines

No specific guidelines impact the use of this command.

Task ID

Task ID	Operation
config-services	read, write

This is an example of configure the subscriber redundancy group:

```
Router#configure
Router(config)#cnbng-nal location 0/0/CPU0
Router(config-cnbng-nal-local)#subscriber-redundancy
Router(config-cnbng-nal-sub-red)#group group1
Router(config-cnbng-nal-srg-grp)#virtual-mac 0aaa.0bbb.0c01
Router(config-cnbng-nal-srg-grp)# core-tracking core1
Router(config-cnbng-nal-srg-grp)#access-tracking track1
Router(config-cnbng-nal-srg-grp)#access-interface-list
Router(config-cfg-srg-grp-intf)#interface Bundle-Ether1.1
Router(config-cfg-srg-grp-intf)# exit
Router(config-cfg-srg-grp)# fast-switchover-disable
Router(config-cfg-srg-grp)# exit
```