VXLAN Commands

For detailed information about VXLAN concepts, configuration tasks, and examples, see the *L2VPN and Ethernet Services Configuration Guide for Cisco ASR 9000 Series Routers*.

anycast source-interface loopback

To configure the anycast mode parameters for the VXLAN Tunnel EndPoint (VTEP), use the **anycast source-interface loopback** command in interface configuration submode.

anycast source-interface loopback *loopback-interface-identifier* **sync-group** *ip-address*

Syntax Description

anycast	Configures the anycast mode parameters for the VTEP.
source-interface loopback *loopback-interface-identifier*	Configures loopback interface as the source interface for the VTEP. The variable *loopback-interface-identifier* is the loopback interface instance.
sync-group *ip-address*	Assigns a bidirectional multicast group for synchronization between anycast gateways.

Command Default

None

Command Modes

Interface configuration submode

Command History

Release	Modification
Release 5.3.1	This command was introduced.

Usage Guidelines

No specific guidelines impact the use of this command.

This example shows how to configure anycast mode parameters for VTEP.

```
RP/0/RSP0/CPU0:router# configure
RP/0/RSP0/CPU0:router(config)# interface nve 45
RP/0/RSP0/CPU0:router(config-if)# overlay-encapsulation vxlan
RP/0/RSP0/CPU0:router(config-if)# source-interface loopback 0
RP/0/RSP0/CPU0:router(config-if)# member vni 1 mcast-group 192.20.9.2 0.0.0.0
RP/0/RSP0/CPU0:router(config-if)# anycast source-interface loopback 0 sync-group 192.20.9.2
```

interface nve

To create a network virtualization endpoint (NVE) interface and enter the NVE interface configuration mode, use the **interface nve** command in Global Configuration mode. To remove the NVE interface, use the **no** form of this command.

interface nve *nve-id*

Syntax Description

nve-id	The NVE interface ID. It can take values from 1 to 65535.

Command Default

None

Command Modes

Global Configuration

Command History

Release	Modification
Release 5.2.0	This command was introduced.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes appropriate task IDs. If the user group assignment is preventing you from using a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operation
interface	read, write

Example

The following example shows how to create an NVE interface and enter the NVE interface configuration mode.

```
RP/0/RSP0/CPU0:router(config)# interface nve 1
RP/0/RSP0/CPU0:router(config-if)#
```

member

To associate a VNI member or range of members with the NVE interface and set the multicast group, use the **member** command in NVE interface configuration mode. To disassociate the VNI member or range, use the **no** form of this command.

member vni {*numberstart_number-end_number*} **mcast-group** *ip_address* [*end_ip_address*]

Syntax Description

vni	The member VNI.
number	The VNI for a single VXLAN. The valid values are from 1 to 16777215.
start_number	The first VNI from a range.
end_number	The end VNI from a range.
mcast-group	The multicast group.
ip_address	A single multicast IP address or the starting multicast IP address from a range.
end_ip_address	The end multicast IP address from a range.

Command Default

None

Command Modes

NVE interface configuration

Command History

Release	Modification
Release 5.2.0	This command was introduced.

Usage Guidelines

To associate discontiguous VXLANs or VXLAN ranges with the NVE interface, perform this step for each VXLAN or VXLAN range. For instance,

```
RP/0/RSP0/CPU0:router(config-if)# member vni 10 mcast-group 224.2.2.10
RP/0/RSP0/CPU0:router(config-if)# member vni 23 mcast-group 224.2.2.23
RP/0/RSP0/CPU0:router(config-if)# member vni 50-59 mcast-group 224.2.2.50 224.2.2.59
RP/0/RSP0/CPU0:router(config-if)# member vni 100-120 mcast-group 224.2.2.100 224.2.2.120
```

To use this command, you must be in a user group associated with a task group that includes appropriate task IDs. If the user group assignment is preventing you from using a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operation
interface	read, write
tunnel	read, write

Example

The following example shows VNIs from 5000 to 5009 associated with the nve interface "1" and multicast IP address range 200.0.0.1 to 200.0.0.20.

```
RP/0/RSP0/CPU0:router(config)# interface nve 1
RP/0/RSP0/CPU0:router(config-if)# overlay-encapsulation vxlan
RP/0/RSP0/CPU0:router(config-if)# member vni 5000-5009 mcast-group 228.0.0.0 228.0.0.9
```

member vni

To map a VXLAN to a bridge domain, use the **member vni** command in bridge-domain configuration mode. To remove the VXLAN from the bridge domain, use the **no** form of this command.

member vni *number*

Syntax Description

vni	The member virtual network identifier (VNI).
number	The ID of the VXLAN to be mapped to the bridge domain. The valid values are from 1 to 16777215.

Command Default

None

Command Modes

Bridge-domain configuration

Command History

Release	Modification
Release 5.2.0	This command was introduced.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes appropriate task IDs. If the user group assignment is preventing you from using a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operation
interface	read, write
tunnel	read, write

Example

The following example shows the VXLAN with VNI "5010" associated with the bridge domain "bd1".

```
RP/0/RSP0/CPU0:router(config)# l2vpn
RP/0/RSP0/CPU0:router(config-l2vpn)# bridge group bg1
RP/0/RSP0/CPU0:router(config-l2vpn-bg)# bridge-domain bd1
RP/0/RSP0/CPU0:router(config-l2vpn-bg-bd)# member vni 5010
```

overlay-encapsulation

To set a Network Virtualization Endpoint (NVE) interface to provide VXLAN, use the **overlay-encapsulation** command in NVE interface configuration mode. To remove the configured encapsulation on the NVE interface, use the **no** form of this command.

overlay-encapsulation {**vxlan**}

Syntax Description

vxlan	Sets the NVE interface as a VXLAN Terminal EndPoint (VTEP).

Command Default

The NVE interface provides VXLAN encapsulation.

Command Modes

NVE interface configuration

Command History

Release	Modification
Release 5.2.0	This command was introduced.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes appropriate task IDs. If the user group assignment is preventing you from using a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operation
interface	read, write
tunnel	read, write

Example

The following example shows an NVE interface configured for VXLAN encapsulation.

```
RP/0/RSP0/CPU0:router(config)# interface nve 1
RP/0/RSP0/CPU0:router(config-if)# overlay-encapsulation vxlan
```

show nve interface

To display the network virtualization endpoint (NVE) interface information, use the **show nve interface** command in EXEC mode.

show nve interface [{**detail** | **nve** *nve-id*}]

Syntax Description

detail	Displays detailed information about NVE interfaces.
nve *nve-id*	Displays information only about the specified NVE interface.

Command Default

None

Command Modes

EXEC

Command History

Release	Modification
Release 5.2.0	This command was introduced.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes appropriate task IDs. If the user group assignment is preventing you from using a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operation
interface	read

Example

The following shows an example output of the **show interface nve** command.

```
RP/0/RSP0/CPU0:router(config)# show interface nve nve1 detail
Interface: nve1, State:up, encapsulation:VXLAN
source-interface: Lo1 (primary:10.0.0.1, secondary:1.1.1.2)

VNI          mcast       VNI state
10.10        239.1.1.1   UP
11.10        239.1.1.1   UP
```

show nve peers

To display the network virtualization endpoint (NVE) peers configured on the router, use the **show nve peers** command in EXEC mode.

show nve peers [{**interface nve** *nve-id* | **vni** *vni-id*}]

Syntax Description

interface nve *nve-id*	Displays NVE peers of the specified NVE interface.
vni *vni-id*	Displays NVE peers of the specified VNIs.

Command Default

None

Command Modes

EXEC

Command History

Release	Modification
Release 5.2.0	This command was introduced.

Usage Guidelines

The router learns about NVE peers through data plane traffic. Therefore, the **show nve peers** command output displays NVE peers only after VXLAN traffic traverses through the router.

To use this command, you must be in a user group associated with a task group that includes appropriate task IDs. If the user group assignment is preventing you from using a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operation
tunnel	read

Example

The following shows an example output of the **show nve peers** command.

```
RP/0/RSP0/CPU0:router# show nve peers
Interface  Peer-IP         VNI      Up Time
nve1       10.0.0.1        1000    10h
nve2       10.0.0.2        2000    20h
```

show nve vni

To display list of all VNIs that are associated with various NVE interfaces and the associated multicast IP address that is used for multi-destination frames, use the **show nve vni** command in EXEC mode.

show nve vni [{**vni_number** | **detail** | **interface nve** *nve-id*}]

Syntax Description

vni_number	Displays output for the specific VXLAN.
detail	Displays more detailed output.
interface nve *nve-id*	Displays details for the specific NVE interface.

Command Default

None

Command Modes

EXEC

Command History

Release	Modification
Release 5.2.0	This command was introduced.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes appropriate task IDs. If the user group assignment is preventing you from using a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operation
tunnel	read

Example

The following shows an example output of this show command:

```
RP/0/RSP0/CPU0:router# show nve vni
Interface  VNI          mcast       VNI state
nve1       10.10        239.1.1.1   UP
nve2       11.10        239.1.1.1   UP
```

source-interface loopback

To specify the IP address for a Network Virtualization Endpoint (NVE) interface, use the **source-interface loopback** command to specify a loopback interface whose IP address should be set as the IP address for the NVE interface.

source-interface loopback *interface-id*

Syntax Description

loopback	Specifies a loopback interface as providing IP address for the NVE interface.
interface-id	Specifies the loopback interface ID. It can take values from 0 to 65535.

Command Default

None

Command Modes

NVE interface configuration

Command History

Release	Modification
Release 5.2.0	This command was introduced.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes appropriate task IDs. If the user group assignment is preventing you from using a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operation
tunnel	read, write
interface	read, write

Example

The following example shows how to configure the IP address of an NVE interface as the IP address of a loopback interface.

```
RP/0/RSP0/CPU0:router(config)# interface nve 1
RP/0/RSP0/CPU0:router(config-if)# source-interface loopback 1
```