



Configuring Unidirectional Ethernet

This chapter describes how to configure Unidirectional Ethernet on the Cisco Nexus 9000 series switches.

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Unidirectional Ethernet

Unidirectional Ethernet (UDE) is a network technology that lets you communicate using a single fiber strand for transmitting or receiving data.

With unidirectional links, you can transmit or receive traffic video streaming applications. In these scenarios, most traffic is sent as one-way streams that are not acknowledged.

To create a unidirectional link, configure the port with a bidirectional transceiver so it transmits or receives traffic in one direction.

Use UDE when an appropriate unidirectional transceiver is not available. If transmit-only transceivers are unavailable, configure transmit-only links with software-based UDE.

Best practices for Unidirectional Ethernet configuration

Use these best practices and recommendations to configure UDE on your Nexus switches

- Configure UDE in send-only mode on your Nexus switches. You *cannot* use UDE receive-only in releases before Cisco NX-OS Release 10.1(2).
- You can enable UDE on all ports at the same time.
- You can use breakout support for UDE starting with Cisco NX-OS Release 10.1(1) and later.
- Port flapping may occur when you configure UDE on a port. You can add physical interfaces with and without UDE configuration into a port-channel. Only add send-only interfaces are added to a port channel. If you mix send-only configuration with other interfaces, UDE might *not* work.
- If you configure all members of the port channel as UDE send-only, the port channel may *not* receive packets.

- Special control plane traffic pruning is *not* configurable on send-only ports.
- Unidirectional ports do *not* support features or protocols that require negotiation with the remote port. Disable all features that require bi-directional communication.

UDE support on Nexus switches

- UDE support is available only for native 10G-LR/10G-LRS transceivers. UDE *cannot* be used with QSAs or breakout cables.
- Beginning with Cisco NX-OS Release 10.1(2), UDE is supported on these Cisco Nexus switches:
 - N9K-X9624D-R2
 - N9K-X9636Q-R
 - N9K-X9636C-RX
 - N9K-X96136YC-R
 - N9K-X9624D-R2
 - N9K-X9636C-R
 - Cisco Nexus 3636C-R and Cisco Nexus 36180YC-R modules.
- You can use UDE at the hardware level only on Cisco Nexus 9500 switches with X97160YC-EX line cards
- Beginning with Cisco NX-OS Release 10.1(1), UDE is supported on these switches:
 - Cisco Nexus 9000 EX, FX, FX2 and FX3 platform switches
 - N9K-C9336C-FX2
 - N9KC93240YC-FX2
 - N9K-C93180YC-FX
 - N9K-C93360YC-FX2 TOR switches
 - N9K-X97160YC-EX line card.
- Beginning with Cisco NX-OS Release 10.1(1), UDE supports the following transceivers: 10G-SR, 10G-AOC, 40G-SR, 40G-LR, 40G-AOC, 100G-SR, 100G-LR, and 100G-AOC.

Configure Unidirectional Ethernet

Configure the ethernet interface for unidirectional communication on the switch. Set the interface to send-only or receive-only mode.

Procedure

	Command or Action	Purpose
Step 1	Enter interface configuration mode using the interface ethernet {type slot /port} command. Example: switch(config)# interface ethernet 3/1	
Step 2	Configure send-only mode using the unidirectional send-only command. Example: switch(config-if)# unidirectional send-only	
Step 3	Configure receive-only mode using the unidirectional receive-only command. Example: switch(config-if)# unidirectional receive-only	
Step 4	Exit interface mode using the exit command. Example: switch(config)# exit	
Step 5	Display the running configuration for the interface using the show running-config interface {type slot /port} command. Example: switch(config)# show running-config interface ethernet 3/1	
Step 6	Save the configuration using the copy running-config startup-config command. Example: switch(config)# copy running-config startup-config	

You have configured the Ethernet interface for unidirectional operation.

Example

This example shows how to configure an Ethernet interface for send-only unidirectional communication.

```
switch# configure terminal
switch(config)# interface ethernet 3/1
switch(config-if)# unidirectional send-only
switch(config-if)# exit
switch(config)# exit
switch#
```

This example shows how to display the running configuration for the interface to verify the unidirectional setting and save the configuration.

```
switch# show running-config interface ethernet 3/1
!  
interface ethernet 3/1  
    unidirectional send-only  
!
```