P Commands

This chapter describes the Cisco NX-OS interface commands that begin with P.

peer-switch

To enable the virtual port channel (vPC) switch pair to appear as a single Spanning Tree Protocol (STP) root in the Layer 2 topology, use the **peer-switch** command. To disable the peer switch vPC topology, use the **no** form of this command.

peer-switch

no peer-switch

Syntax Description	This command has no arguments or keywords.
Defaults	Peer switch Layer 2 topology is disabled.
Command Modes	vPC domain configuration mode
SupportedUserRoles	network-admin

Command History

Release	Modification
5.2(1)N1(1)	This command was introduced.

Usage Guidelines   This command does not require a license.

Examples   This example shows how to enable the vPC switch pair to appear as a single STP root in the Layer 2 topology:

```
switch(config)# vpc domain 5
switch(config-vpc-domain)# peer-switch
2010 Apr 28 14:44:44 switch %STP-2-VPC_PEERSWITCH_CONFIG_ENABLED: vPC peer-switch
configuration is enabled. Please make sure to configure spanning tree "bridge" priority as
per recommended guidelines to make vPC peer-switch operational.
```

Related Commands

Command	Description
vpc domain	Creates a virtual port-channel (vPC) domain.

port

To configure a unified port on a Cisco Nexus 5548UP switch or Cisco Nexus 5596UP switch, use the **port** command. To remove the unified port, use the **no** form of this command.

> **port** *port-number* **type** {**ethernet** | **fc**}

> **no port** *port-number* **type** {**ethernet** | **fc**}

Syntax Description

port-number	Port number. The range is from 1 to 199.
type	Specifies the type of port to configure on a slot in a chassis.
ethernet	Specifies an Ethernet port.
fc	Specifies a Fibre Channel (FC) port.

Command Default   None

Command Modes   Slot configuration mode

Command History

Release	Modification
5.2(1)N1(1)	This command was introduced.

Usage Guidelines   Unified ports allow you to configure ports as Ethernet, native Fibre Channel or Fibre Channel over Ethernet (FCoE) ports. By default, the ports are Ethernet ports but you can change the port mode to Fibre Channel on the following unified ports:

- Any port on the Cisco Nexus 5548UP switch or the Cisco Nexus 5596UP switch.

- The ports on the Cisco N55-M16UP expansion module that is installed in a Cisco Nexus 5548P switch.

You must configure Ethernet ports and FC ports in a specified order:

- FC ports must be configured from the last port of the module.

- Ethernet ports must be configured from the first port of the module.

If the order is not followed, the following errors are displayed:

```
ERROR: Ethernet range starts from first port of the module
ERROR: FC range should end on last port of the module
```

On a Cisco Nexus 5548UP switch, the 32 ports of the main slot (slot1) are unified ports. The Ethernet ports start from port 1/1 to port 1/32. The FC ports start from port 1/32 backwards to port 1/1.

Examples   This example shows how to configure a unified port on a Cisco Nexus 5548UP switch or Cisco Nexus 5596UP switch:

```
switch# configure terminal
```

Cisco Nexus 5500 Series NX-OS Interfaces Command Reference

```
switch(config)# slot 1
switch(config-slot)# port 32 type fc
switch(config-slot)# copy running-config startup-config
switch(config-slot)# reload
```

This example shows how to configure a unified port on a Cisco N55-M16UP expansion module:

```
switch# configure terminal
switch(config)# slot 2
switch(config-slot)# port 32 type fc
switch(config-slot)# copy running-config startup-config
switch(config-slot)# reload
```

This example shows how to configure 20 ports as Ethernet ports and 12 as FC ports:

```
switch# configure terminal
switch(config)# slot 1
switch(config-slot)# port 21-32 type fc
switch(config-slot)# copy running-config startup-config
switch(config-slot)# reload
```

Related Commands	Command	Description
	slot	Enables preprovisioning of features or interfaces of a module on a slot in a chassis.
	reload	Reloads the switch and all attached Fabric Extender chassis or a specific Fabric Extender.

port-channel load-balance ethernet

To configure the load-balancing method among the interfaces in the channel-group bundle, use the **port-channel load-balance ethernet** command. To return the system priority to the default value, use the **no** form of this command.

port-channel load-balance ethernet *method* [*hash-polynomial*]

no port-channel load-balance ethernet [*method*]

Syntax Description		
method	Load-balancing method. See the "Usage Guidelines" section for a list of valid values.	
hash-polynomial	(Optional) Hash polynomial that is used to determine the egress port selected for a port channel. See the "Usage Guidelines" section for a list of valid values.	
	Note This is applicable only on a Cisco Nexus 5548 switch and a Cisco Nexus 5596 switch.	

Command Default   Loads distribution on the source and destination MAC address.
The default hash polynomial is CRC8a.

Command Modes   Global configuration mode

Command History	Release	Modification
	5.2(1)N1(1)	This command was introduced.

Usage Guidelines   The valid load-balancing *method* values are as follows:

- **destination-ip**—Loads distribution on the destination IP address.
- **destination-mac**—Loads distribution on the destination MAC address.
- **destination-port**—Loads distribution on the destination port.
- **source-destination-ip**—Loads distribution on the source and destination IP address.
- **source-destination-mac**—Loads distribution on the source and destination MAC address.
- **source-destination-port**—Loads distribution on the source and destination port.
- **source-ip**—Loads distribution on the source IP address.
- **source-mac**—Loads distribution on the source MAC address.
- **source-port**—Loads distribution on the source port.

Use the option that provides the balance criteria with the greatest variety in your configuration. For example, if the traffic on an EtherChannel is going only to a single MAC address and you use the destination MAC address as the basis of EtherChannel load balancing, the EtherChannel always chooses the same link in that EtherChannel; using source addresses or IP addresses might result in better load balancing.

Beginning with Cisco NX-OS Release 5.0(3)N2(1), the Cisco Nexus 5548 switch and Cisco Nexus 5596 switch support 8 hash polynomials that can be used for compression on the hash-parameters (software-configurable selection of source and destination MAC addresses, source and destination IP addresses, and source and destination TCP and UDP ports). Depending on variations in the load-balancing method for egress traffic flows from a port channel, different polynomials could provide different load distribution results.

The valid load-balancing *hash-polynomial* values are as follows:

- **CRC8a**—Hash polynomial CRC8a.
- **CRC8b**—Hash polynomial CRC8b.
- **CRC8c**—Hash polynomial CRC8c.
- **CRC8d**—Hash polynomial CRC8d.
- **CRC8e**—Hash polynomial CRC8e.
- **CRC8f**—Hash polynomial CRC8f.
- **CRC8g**—Hash polynomial CRC8g.
- **CRC8h**—Hash polynomial CRC8h.

Note The hash polynomial that you choose affects both the multicast and unicast traffic egressing from all the local port channels. The hash polynomial does not affect the port channels whose member ports are on a Cisco Nexus 2148T Fabric Extender, Cisco Nexus 2232P Fabric Extender, or Cisco Nexus 2248T Fabric Extender.

Examples

This example shows how to set the load-balancing method to use the source IP:

```
switch(config)# port-channel load-balance ethernet source-ip
```

This example shows how to set the load-balancing method to use the source IP and the CRC8c polynomial to hash a flow to obtain a numerical value that can be used to choose the egress physical interface on a Cisco Nexus 5548 switch:

```
switch(config)# port-channel load-balance ethernet source-ip CRC8c
```

Related Commands

Command	Description
show port-channel load-balance	Displays information on EtherChannel load balancing.