Preface

This preface describes the audience, organization, and conventions of the *Cisco Nexus 6000 Series NX-OS Fabric Extender Command Reference*. It also provides information on how to obtain related documentation.

This preface includes the following sections:

Audience

This publication is for experienced users who configure and maintain Cisco NX-OS devices.

Document Conventions

Command descriptions use these conventions:

Convention	Description
boldface font	Commands and keywords are in boldface.
italic font	Arguments for which you supply values are in italics.
[ ]	Elements in square brackets are optional.
{x | y | z}	Alternative keywords are grouped in braces and separated by vertical bars.
[x | y | z]	Optional alternative keywords are grouped in brackets and separated by vertical bars.
string	A nonquoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks.

Screen examples use these conventions:

`screen font`	Terminal sessions and information that the switch displays are in screen font.
`boldface screen font`	Information you must enter is in boldface screen font.

italic screen font	Arguments for which you supply values are in italic screen font.
< >	Nonprinting characters, such as passwords, are in angle brackets.
[ ]	Default responses to system prompts are in square brackets.
!, #	An exclamation point (!) or a pound sign (#) at the beginning of a line of code indicates a comment line.

This document uses the following conventions:

Note Means reader *take note*. Notes contain helpful suggestions or references to material not covered in the manual.

Caution Means reader *be careful*. In this situation, you might do something that could result in equipment damage or loss of data.

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see *What's New in Cisco Product Documentation*.

To receive new and revised Cisco technical content directly to your desktop, you can subscribe to the What's New in Cisco Product Documentation RSS feed. The RSS feeds are a free service.

A Commands

This chapter describes the Cisco NX-OS commands that begin with A that are used to manage a Cisco Nexus 2000 Series Fabric Extender from a Cisco Nexus 6000 switch.

attach fex

To access the command-line interface (CLI) of a connected Fabric Extender to run diagnostic commands, use the **attach fex** command.

attach fex *chassis_ID*

Syntax Description

chassis_ID	Fabric Extender chassis ID. The chassis ID range is from 100 to 199.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines

Use the **attach fex** command to access the CLI on a connected Fabric Extender and performing diagnostic commands. We recommend that you use this command only following direction from Cisco technical support personnel.

Examples

This example shows how to access the CLI of a connected Fabric Extender to run diagnostic commands:

```
switch# attach fex 101
```

Related Commands

Command	Description
show fex	Displays all configured Fabric Extender chassis connected to the switch.

B Commands

This chapter describes the Cisco NX-OS commands that begin with B that are used to manage a Cisco Nexus 2000 Series Fabric Extender from a Cisco Nexus 5000 Series switch.

beacon

To turn on the locator beacon LED of a Fabric Extender, use the **beacon** command. To turn off the locator beacon LED, use the **no** form of this command.

beacon

no beacon

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Fabric extender configuration mode

Command History

Release	Modification
4.0(1a)N2(1)	This command was introduced.
4.1(3)N1(1)	This command was deprecated, and the **locator-led** command was introduced.

Usage Guidelines

Use the **beacon** command to toggle the locator beacon LED of a Fabric Extender, which allows you to easily identify the machine in a busy data center.

Examples

This example shows how to turn on the locator beacon LED for a specific Fabric Extender chassis:

```
switch# configure terminal
switch(config)# fex 101
switch(config-fex)# beacon
```

This example shows how to turn off the locator beacon LED for a specific Fabric Extender chassis:

```
switch# configure terminal
switch(config)# fex 101
switch(config-fex)# no beacon
```

Related Commands

Command	Description
fex	Creates a Fabric Extender and enters Fabric Extender configuration mode.
show fex	Displays all configured Fabric Extender chassis connected to the switch.

D Commands

This chapter describes the Cisco NX-OS commands that begin with D that are used to manage a Cisco Nexus 2000 Series Fabric Extender from a Cisco Nexus 6000 switch.

description (fex)

To specify a description for a Fabric Extender, use the **description** command. To revert to the default description, use the **no** form of this command.

description *description*

no description

Syntax Description

description	Description of a Fabric Extender. The default is the string FEX*xxxx* where *xxxx* is the chassis ID. For example, if the chassis ID is 123, the default description is FEX0123. The maximum length is 20 alphanumeric characters.

Command Default

None

Command Modes

Fabric extender configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples

This example shows how to specify a description for a Fabric Extender:

```
switch# configure terminal
switch(config)# fex 101
switch(config-fex)# description Rack16_FEX101
```

This example shows how to revert to the default description for a Fabric Extender:

```
switch# configure terminal
switch(config)# fex 101
switch(config-fex)# no description
```

Related Commands

Command	Description
fex	Creates a Fabric Extender and enters Fabric Extender configuration mode.
show fex	Displays all configured Fabric Extender chassis connected to the switch.

diagnostic bootup level

To configure the bootup diagnostic level to trigger diagnostics when the device boots, use the **diagnostic bootup level** command. To remove the bootup diagnostic level configuration, use the **no** form of this command.

diagnostic bootup level {**bypass** | **complete**}

no diagnostic bootup level {**bypass** | **complete**}

Syntax Description

bypass	Specifies that all bootup tests are skipped.
complete	Specifies that all bootup diagnostics are performed. This is the default value.

Command Default

Complete

Command Modes

Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples

This example shows how to configure the bootup diagnostics level to trigger the complete diagnostics:

```
switch(config)# diagnostic bootup level complete
switch(config)#
```

This example shows how to remove the bootup diagnostics level configuration:

```
switch(config)# no diagnostic bootup level complete
switch(config)#
```

Related Commands

Command	Description
show diagnostic bootup level	Displays the bootup diagnostics level.
show diagnostic bootup result	Displays the results of the diagnostics tests.

F Commands

This chapter describes the Cisco NX-OS commands that begin with F that are used to manage a Cisco Nexus 2000 Series Fabric Extender from a Cisco Nexus 6000 switch.

fcoe

To associate a Cisco Nexus 2000 Series Fabric Extender (FEX) to a switch for pinning Fibre Channel over Ethernet (FCoE) Initialization Protocol (FIP) and FCoE traffic, use the **fcoe** command. To remove the association, use the **no** form of this command.

fcoe [**vsan** *vsan-id*]

no fcoe [**vsan**]

Syntax Description

vsan *vsan-id*	Specifies the VSAN status. The VSAN ID range is from 1 to 4094.

Command Default

None

Command Modes

FEX configuration mode
VLAN configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines

Before you use this command, make sure that you enable the Fabric Extender (FEX) features on the switch by using the **feature fex** command.

You can use this command only on Cisco Nexus 2232P and Cisco Nexus 2232PQ Fabric Extenders. When you bind an interface to a virtual Fibre Channel interface to enable FCoE traffic, you must use slot number 1. The port number can be from 1 to 32.

Examples

This example shows how to configure a FEX as FCoE enabled:

```
switch# configure terminal
switch(config)# feature fex
switch(config)# fex 100
switch(config-fex)# fcoe
switch(config-fex)#
```

This example shows how to configure a pair of FEXs to carry FCoE traffic in a fabric virtual port channel (vPC) topology, with the host uplink ports in the FEXs configured to the same port channel:

```
switch# configure terminal
switch(config)# feature lacp
switch(config)# feature fex
switch(config)# feature fcoe
switch(config)# fex 100
switch(config-fex)# fcoe
switch(config-fex)# exit
switch(config)# interface vfc 1
switch(config-if)# bind interface eth101/1/1
```

```
switch(config)# interface eth101/1/1
switch(config-if)# channel-group 1
switch(config)# fex 102
switch(config-fex)# fcoe
switch(config)# interface vfc 1
switch(config-if)# bind interface eth102/1/1
switch(config)# interface eth102/1/1
switch(config-if)# channel-group 1
switch(config-if)#
```

This example shows how to configure FCoE traffic on a VLAN:

```
switch# configure terminal
switch(config)# vlan 5
switch(config-vlan)# fcoe vsan 1
switch(config-vlan)#
```

This example shows how to disable FCoE traffic on a FEX:

```
switch# configure terminal
switch(config)# fex 100
switch(config-fex)# no fcoe
switch(config-fex)#
```

Related Commands

Command	Description
feature fcoe	Enables the FCoE feature on the switch.
feature fex	Enables the FEX feature on the switch.
feature lacp	Enables the Link Aggregation Control Protocol (LACP).
show fex	Displays information about a specific FEX.

feature fex

To enable Fabric Extender (FEX) features on the switch, use the **feature fex** command. To disable FEX, use the **no** form of this command.

feature fex

no feature fex

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples

This example shows how to enable FEX features on the switch:

```
switch(config)# feature fex
switch(config)#
```

Related Commands

Command	Description
fex	Creates a Fabric Extender and enters fabric extender configuration mode.
show feature	Displays the features enabled or disabled on the switch.

fex

To create a Fabric Extender and enter fabric extender configuration mode, use the **fex** command. To delete the Fabric Extender configuration, use the **no** form of this command.

fex *chassis_ID*

no fex *chassis_ID*

Syntax Description

chassis_ID	Fabric Extender chassis ID. The chassis ID range is from 100 to 199.

Command Default

None

Command Modes

Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines

You can create and configure the Fabric Extender before you connect and associate it to an interface on the parent switch. Once you associate the Fabric Extender to the switch, the configuration you created is transferred over to the Fabric Extender and applied.

Examples

This example shows how to enter Fabric Extender configuration mode:

```
switch# configure terminal
switch(config)# fex 101
switch(config-fex)#
```

This example shows how to delete the Fabric Extender configuration:

```
switch(config-fex)# no fex 101
switch(config)#
```

Related Commands

Command	Description
beacon	Turns on the locator beacon LED of a Fabric Extender.
description (fex)	Specifies a description for a Fabric Extender.
fex associate	Associates a Fabric Extender to an Ethernet or EtherChannel interface.
pinning max-links	Specifies the number of statically pinned uplinks connected to a Fabric Extender.
serial	Assigns a serial number to a Fabric Extender.

Command	Description
show fex	Displays all configured Fabric Extender chassis connected to the switch.
type	Specifies the Fabric Extender card.

fex associate

To associate a Fabric Extender to a fabric interface, use the **fex associate** command. To disassociate the Fabric Extender, use the **no** form of this command.

fex associate *chassis_ID*

no fex associate [*chassis_ID*]

Syntax Description

chassis_ID	Fabric Extender chassis ID. The chassis ID range is from 100 to 199.

Command Default

None

Command Modes

Interface configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines

Before you can associate an interface on the parent switch to the Fabric Extender, you must first make the interface into a fabric interface by entering the **switchport mode fex-fabric** command.

Examples

This example shows how to associate the Fabric Extender to an Ethernet interface:

```
switch# configure terminal
switch(config)# interface ethernet 1/40
switch(config-if)# switchport mode fex-fabric
switch(config-if)# fex associate 101
```

This example shows how to associate the Fabric Extender to an EtherChannel interface:

```
switch# configure terminal
switch(config)# interface port-channel 4
switch(config-if)# switchport mode fex-fabric
switch(config-if)# fex associate 101
```

Related Commands

Command	Description
show fex	Displays all configured Fabric Extender chassis connected to the switch.
switchport mode fex-fabric	Sets the interface to be an uplink port.

fex pinning redistribute

To redistribute the host interfaces on a Fabric Extender, use the **fex pinning redistribute** command.

fex pinning redistribute *chassis_ID*

Syntax Description		
	chassis_ID	Fabric Extender chassis ID. The chassis ID range is from 100 to 199.

Command Default None

Command Modes EXEC mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Usage Guidelines When you provision the Fabric Extender using the statically pinned mode (see the *Cisco Nexus 2000 Series Fabric Extender Software Configuration Guide*), the host interfaces on the Fabric Extender are pinned to the fabric interfaces in the order that they were initially configured. The next time that you reboot the Fabric Extender, the configured fabric interfaces are pinned to the host interfaces in an ascending order by the port number of the fabric interface.

Use the **fex pinning redistribute** command if you want to configure the same fixed distribution of host interfaces without restarting the Fabric Extender after your initial configuration.

Caution This command disrupts all the host interface ports of the Fabric Extender. However, the disruption is shorter than would be the case if you reboot the Fabric Extender.

Examples This example shows how to redistribute the host interfaces on a Fabric Extender:

```
switch# fex pinning redistribute 101
switch#
```

Related Commands	Command	Description
	pinning max-links	Defines the number of uplinks on a Fabric Extender.
	show fex	Displays all configured Fabric Extender chassis connected to the switch.
	show interface fex-intf	Displays the Fabric Extender ports pinned to a specific switch interface.

fex queue-limit

To limit the amount of input buffer space (in bytes) allocated to each Fabric Extender port, use the **fex queue-limit** command. To disable the drop threshold and allow a Fabric Extender port to use all available buffer space, use the **no** form of this command.

fex queue-limit

no fex queue-limit

Syntax Description

This command has no arguments or keywords.

Command Default

Fabric Extender queue limit is available in the default configuration and is set on.

Command Modes

System QoS configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines

By default, the drop threshold applies to each Fabric Extender port to limit the amount of buffer being allocated for each port. To restore the default queue limit of each Fabric Extender port, use the **fex queue-limit** command.

Examples

This example shows how to set the queue limit for the input buffer for each Fabric Extender port:

```
switch(config)# system qos
switch(config-sys-qos)# fex queue-limit
switch(config-sys-qos)#
```

This example shows how to restore the default queue limit for each Fabric Extender port:

```
switch(config)# system qos
switch(config-sys-qos)# no fex queue-limit
switch(config-sys-qos)#
```

Related Commands

Command	Description
show fex	Displays all configured Fabric Extender chassis connected to the switch.

H Commands

This chapter describes the Cisco NX-OS commands that begin with H that are used to manage a Cisco Nexus 2000 Series Fabric Extender from a Cisco Nexus 6000 switch.

hardware buffer-threshold

To limit the amount of input hardware buffer usage for each Fabric Extender, use the **hardware buffer-threshold** command. To revert to the default and allow a Fabric Extender to use all available hardware buffer space, use the **no** form of this command.

hardware *fex_card_typ* **buffer-threshold** *buffer-limit*

no hardware *fex_card_typ* **buffer-threshold**

Syntax Description

fex_card_type	Fabric Extender card type. The following Fabric Extender card types are supported: • **N2148T**—Fabric Extender 48x1G 4x10G SFP+ Module See the "Usage Guidelines" section for a description of this Fabric Extender.
buffer-limit	Buffer threshold limit in bytes. The range is from 81920 to 316160.

Command Default

None

Command Modes

Fabric extender configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines

Note This command is supported only on a Cisco Nexus 2148T Fabric Extender.

The Cisco Nexus 2148T Fabric Extender has four 10-Gigabit Ethernet fabric interfaces for its uplink connection to the parent Cisco Nexus 6000 Series switch and 48 1000BASE-T (1-Gigabit) Ethernet host interfaces for its downlink connection to servers or hosts.

The **buffer-threshold** keyword sets the consumption level of input buffers before an indication is sent to the egress queue to start observing the tail drop threshold. If the buffer usage is lower than the configured buffer threshold, the tail drop threshold is ignored.

Examples

This example shows how to configure the hardware buffer threshold limit on a Cisco Nexus 2148T Fabric Extender:

```
switch(config)# fex 110
switch(config-fex)# hardware N2148T buffer-threshold 163840
switch(config-fex)#
```

This example shows how to remove the hardware buffer threshold configured on a Cisco Nexus 2148T Fabric Extender:

```
switch(config)# fex 110
switch(config-fex)# no hardware N2148T buffer-threshold
switch(config-fex)#
```

Related Commands

Command	Description
fex	Creates a Fabric Extender and enters fabric extender configuration mode.
show fex	Displays all configured Fabric Extender chassis connected to the switch.
show queuing interface	Displays information about interface queuing parameters, including buffer threshold and queue limits.
show running-config fex	Displays the running configuration for Fabric Extenders.

hardware N2248PQ uplink-load-balance-mode

To enable the load balancing queues for the Cisco Nexus 2248PQ Fabric Extender, use the **hardware N2248PQ uplink-load-balance-mode** command. To disable load balancing queues,use the **no** form of this command.

hardware N2248PQ uplink-load-balance-mode

no hardware N2248PQ uplink-load-balance-mode

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Fabric extender configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines

Note This command is supported only on a Cisco Nexus 2248PQ Fabric Extender.

The Cisco Nexus 2248PQ has 48 10-Gigabit Ethernet host interfaces with SFP+ interface adapters and 16 10-Gigabit Ethernet fabric interfaces corresponding to 4 QSFP interface adapters for its uplink connection to the parent switch.

Examples

This example shows how to enable the load balancing queues for a Cisco Nexus 2248PQ Fabric Extender:

```
switch(config)# fex 100
switch(config-fex)# hardware N2248PQ uplink-load-balance-mode
switch(config-fex)#
```

This example shows how to disable the load balancing queues for a Cisco Nexus 2248PQ Fabric Extender:

```
switch(config)# fex 100
switch(config-fex)# no hardware N2248PQ uplink-load-balance-mode
switch(config-fex)#
```

Related Commands

Command	Description
fex	Creates a Fabric Extender and enters fabric extender configuration mode.
show fex	Displays all configured Fabric Extender chassis connected to the switch.
show queuing interface	Displays information about interface queuing parameters, including buffer threshold and queue limits.
show running-config fex	Displays the running configuration for Fabric Extenders.

hardware queue-limit

To control the egress queue tail drop threshold level on a Fabric Extender, use the **hardware queue-limit** command. To disable the drop threshold and allow a Fabric Extender to use all available hardware buffer space, use the **no** form of this command.

hardware *fex_card_typ* **queue-limit** [*queue-limit*] [**rx** | **tx**]

no hardware *fex_card_typ* **queue-limit** [**rx** | **tx**]

Syntax Description

fex_card_type	Fabric Extender card type. The following Fabric Extender card types are supported: • **N2148T**—Fabric Extender 48x1G 4x10G SFP+ Module • **N2224TP**—Fabric Extender 24x1G 2x10G SFP+ Module • **N2232P**—Fabric Extender 32x10G SFP+ 8x10G SFP+ Module • **N2232TM**—Fabric Extender 32x10GBase-T 8x10G SFP+ Module • **N2248T**—Fabric Extender 48x1G 4x10G SFP+ Module • **N2248TP-E**—Fabric Extender 48x1G 4x10G SFP+ Module • **N2248PQ**—Fabric Extender 48x10G SFP+ 16x10G SFP+ Module See the "Usage Guidelines" section for a description of these Fabric Extenders.
queue-limit	(Optional) Queue limit in bytes. The range is from 81920 to 652800 for a Cisco Nexus 2148T Fabric Extender, from 32768 to 33538048 for a on a Cisco Nexus 2248TP-E Fabric Extender, and from 5120 to 652800 for all other supported Fabric Extenders.
rx	(Optional) Specifies the default queue-limit for receiving (ingress). **Note** This keyword is supported only on a Cisco Nexus 2248TP-E Fabric Extender.
tx	(Optional) Specifies the default queue-limit for transmission (egress). **Note** This keyword is supported only on a Cisco Nexus 2248TP-E Fabric Extender.

Command Default

The default queue-limit for **rx** (ingress) on a Cisco Nexus 2248TP-E Fabric Extender is 1MB.

The default queue-limit for **tx** (egress) on a Cisco Nexus 2248TP-E Fabric Extender is 4MB.

Command Modes

Fabric extender configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines

You can use a lower queue limit value on the Fabric Extender to prevent one blocked receiver from affecting traffic being sent to other noncongested receivers (head-of-line blocking); however, this will increase burst absorption on the ingress traffic. A higher queue limit value provides better burst absorption and less head-of-line blocking protection.

Supported Cisco Nexus 2000 Series Fabric Extender

The following Cisco Nexus 2000 Series Fabric Extenders are supported on a Cisco Nexus 6000 Series switch:

- Cisco Nexus 2148T Fabric Extender—It has four 10-Gigabit Ethernet fabric interfaces for its uplink connection to the parent Cisco Nexus switch and 48 1000BASE-T (1-Gigabit) Ethernet host interfaces for its downlink connection to servers or hosts.
- Cisco Nexus N2224TP Fabric Extender—It has two 10-Gigabit Ethernet fabric interfaces with small form-factor pluggable (SFP+) interface adapters for its uplink connection to the parent Cisco Nexus switch and 24 1000BASE-T (1-Gigabit) Ethernet host interfaces for its downlink connection to servers or hosts. It does not support Fibre Channel over Ethernet (FCoE).
- Cisco Nexus 2232P Fabric Extender—It has eight 10-Gigabit Ethernet fabric interfaces with small form-factor pluggable (SFP+) interface adapters for its uplink connection to the parent Cisco Nexus switch and 32 10-Gigabit Ethernet fabric interfaces with SFP+ interface adapters for its downlink connection to servers or hosts.
- Cisco Nexus 2232TM Fabric Extender—It has eight 10-Gigabit Ethernet fabric interfaces with small form-factor pluggable (SFP+) interface adapters for its uplink connection to the parent Cisco Nexus switch and 32 10-Gigabit BASE-T Ethernet fabric interfaces for its downlink connection to servers or hosts.
- Cisco Nexus 2248T Fabric Extender—It has four 10-Gigabit Ethernet fabric interfaces with SFP+ interface adapters for its uplink connection to the parent Cisco Nexus switch and 48 1000BASE-T (1-Gigabit) Ethernet host interfaces for its downlink connection to servers or hosts.
- Cisco Nexus N2248TP-E Fabric Extender—It has four 10-Gigabit Ethernet fabric interfaces for its uplink connection to the parent Cisco Nexus switch and 48 1000BASE-T (1-Gigabit) Ethernet host interfaces with small form-factor pluggable (SFP+) interface adapters for its downlink connection to servers or hosts.
- Cisco Nexus 2248PQ Fabric Extender—It has 48 10-Gigabit Ethernet host interfaces with SFP+ interface adapters and 16 10-Gigabit Ethernet fabric interfaces corresponding to 4 QSFP interface adapters for its uplink connection to the parent switch.

Examples

This example shows how to configure the hardware buffer queue limit on a Cisco Nexus 2248T Fabric Extender:

```
switch(config)# fex 110
switch(config-fex)# hardware N2248T queue-limit 327680
switch(config-fex)#
```

This example shows how to remove the hardware buffer queue limit configured on a Cisco Nexus 2248T Fabric Extender:

```
switch(config)# fex 110
switch(config-fex)# no hardware N2248T queue-limit
switch(config-fex)#
```

Related Commands

Command	Description
fex	Creates a Fabric Extender and enters fabric extender configuration mode.
show fex	Displays all configured Fabric Extender chassis connected to the switch.
show queuing interface	Displays information about interface queuing parameters, including buffer threshold and queue limits.
show running-config fex	Displays the running configuration for Fabric Extenders.

hardware shared-buffer-size

To configure the shared buffer size for a Cisco Nexus 2000 Series Fabric Extender, use the **hardware shared-buffer-size** command. To revert to the default setting, use the **no** form of this command.

hardware *fex_card_type* **shared-buffer-size** [*buffer-size*]

no hardware *fex_card_type* **shared-buffer-size** [*buffer-size*]

Syntax Description

fex_card_type	Fabric Extender card type. The following Fabric Extender card types are supported: • **N2248TP-E**—Fabric Extender 48x1G 4x10G SFP+ Module • **N2248PQ**—Fabric Extender 48x10G SFP+ 16x10G SFP+ Module See the "Usage Guidelines" section for a description of this Fabric Extender.
buffer-size	(Optional) Shared buffer size (KB). The range is from 10800KB to 25392KB.

Command Default

The default size of the shared buffer is 25392KB.

Command Modes

Fabric Extender configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced. The Cisco Nexus N2248TP-E Fabric Extender and the Cisco Nexus N2248PQ Fabric Extender were introduced.

Usage Guidelines

Note This command is supported only on Cisco Nexus 2248TP-E and Cisco Nexus N2248PQ Fabric Extenders.

The Cisco Nexus N2248TP-E Fabric Extender has four 10-Gigabit Ethernet fabric interfaces for its uplink connection to the parent Cisco Nexus switch and 48 1000BASE-T (1-Gigabit) Ethernet host interfaces with small form-factor pluggable (SFP+) interface adapters for its downlink connection to servers or hosts.

The total available buffer is 32MB which is shared in both direction (ingress, egress).

The default size of the shared buffer is 25392KB. However, when configuring an Ethernet-based pause no-drop class, the shared buffer size changes to 10800KB. This change is required to increase the dedicated buffer that supports the pause no-drop class. The pause no-drop class does not use buffer space from the shared-pool.

The Cisco Nexus 2248PQ Fabric Extender has 48 10-Gigabit Ethernet host interfaces with SFP+ interface adapters and 16 10-Gigabit Ethernet fabric interfaces corresponding to 4 QSFP interface adapters for its uplink connection to the parent switch.

Examples

This example shows how to configure the hardware buffer size on a Cisco Nexus 2248TP-E Fabric Extender:

```
switch# configure terminal
switch(config)# fex 100
switch(config-fex)# hardware N2248TTP-E shared-buffer-size 25000
switch(config-fex)#
```

This example shows how to remove the hardware pause no-drop configuration between a Cisco Nexus 2248TTP-E Fabric Extender and a switch:

```
switch# configure terminal
switch(config)# fex 100
switch(config-fex)# no hardware N2248TTP-E shared-buffer-size 25000
switch(config-fex)#
```

Related Commands

Command	Description
fex	Creates a Fabric Extender and enters fabric extender configuration mode.
show fex	Displays all configured Fabric Extender chassis connected to the switch.
show running-config fex	Displays the running configuration for Fabric Extenders.

hardware uplink-pause-no-drop

To configure a pause no-drop class up to a distance of 3000 meters between the Cisco Nexus 2000 Series Fabric Extender and a Cisco Nexus 6000 switch, use the **hardware uplink-pause-no-drop** command. To revert to the default setting, use the **no** form of this command.

hardware *fex_card_type* **uplink-pause-no-drop distance** [*distance-value*]

no hardware *fex_card_type* **uplink-pause-no-drop distance** [*distance-value*]

Syntax Description

fex_card_type	Fabric Extender card type. The following Fabric Extender card types are supported: • **N2248TP-E**—Fabric Extender 48x1G 4x10G SFP+ Module • **N2248PQ**—Fabric Extender 48x10G SFP+ 16x10G SFP+ Module See the "Usage Guidelines" section for a description of this Fabric Extender.
distance	Specifies the distance between the Fabric Extender and switch.
distance-value	(Optional) Distance in meters. The range is from 300 to 3000.

Command Default

The default distance between a Fabric Extender and the switch is 300 meters.

Command Modes

Fabric Extender configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced. The Cisco Nexus N2248TP-E Fabric Extender and the Cisco Nexus N2248PQ Fabric Extender were introduced.

Usage Guidelines

Note This command is supported only on Cisco Nexus 2248TP-E and Cisco Nexus N2248PQ Fabric Extenders.

The Cisco Nexus N2248TP-E Fabric Extender has four 10-Gigabit Ethernet fabric interfaces for its uplink connection to the parent Cisco Nexus switch and 48 1000BASE-T (1-Gigabit) Ethernet host interfaces with small form-factor pluggable (SFP+) interface adapters for its downlink connection to servers or hosts.

The Cisco Nexus 2248PQ Fabric Extender has 48 10-Gigabit Ethernet host interfaces with SFP+ interface adapters and 16 10-Gigabit Ethernet fabric interfaces corresponding to 4 QSFP interface adapters for its uplink connection to the parent switch.

Examples

This example shows how to configure the hardware pause no-drop class up to a distance of 3000 meters between a Cisco Nexus 2248TTP-E Fabric Extender and a switch:

```
switch# configure terminal
switch(config)# fex 100
switch(config-fex)# hardware N2248TTP-E pause-no-drop distance 3000
switch(config-fex)#
```

This example shows how to remove the hardware pause no-drop configuration between a Cisco Nexus 2248TTP-E Fabric Extender and a switch:

```
switch# configure terminal
switch(config)# fex 100
switch(config-fex)# no hardware N2248TTP-E pause-no-drop distance 3000
switch(config-fex)#
```

Related Commands

Command	Description
fex	Creates a Fabric Extender and enters fabric extender configuration mode.
show fex	Displays all configured Fabric Extender chassis connected to the switch.
show running-config fex	Displays the running configuration for Fabric Extenders.

I Commands

This chapter describes the Cisco NX-OS commands that begin with I that are used to manage a Cisco Nexus 2000 Series Fabric Extender from a Cisco Nexus 6000 switch.

install fex

To perform a nondisruptive preload and upgrade of Fabric Extenders (FEX) which are online with a switch, use the **install fex** command.

install fex {*fex_id* | *fex_range*}

Note You can use either a FEX ID, a FEX range, multiple FEX IDs or FEX ranges, or a combination of both FEX IDs and FEX ranges.

Syntax Description

fex_id	Fabric Extender ID. The FEX ID ranges from 100 to 199.
fex_range	Fabric Extender range. The range is from 100 to 199.

Command Default

None.

Command Modes

EXEC mode.

Command History

Release	Modification
7.1(4)N1(1)	This command was introduced.

Usage Guidelines

We recommend to use the **install all** command to upgrade the FEX devices along with the switch.

Use the **install fex** command only when one or more FEX devices fail during a nondisruptive upgrade process executed using the **install all** command.

The install process executed using the **install fex** command will display the upgrade failure of that particular FEX devices but will continue the upgrade process for other remaining FEXs.

Note These are the two uses cases for the **install fex** command:

- For VPC topology, it is recommended to execute the **install fex** command after upgrading both the switches, and should be executed for FEX devices that failed to upgrade. Although the **install fex** command can be used after upgrading the first switch, but it is less recommended.
- For straight through single-homed FEX topology, execute the **install fex** command only after the switch upgrade.

Examples

This example shows how to do the install process for a specific FEX ID:

```
switch# install fex 120
switch#
```

This example shows how to do the install process for a FEX ID and a FEX range:

```
switch# install fex 120, 130-145
switch#
```

This example shows how to do the install process for multiple FEX IDs and FEX ranges:

```
switch# install fex 120, 130-145, 148-155, 199
switch#
```

Related Commands

Command	Description
show fex	Displays all configured Fabric Extender chassis connected to the switch.

L Commands

This chapter describes the Cisco NX-OS commands that begin with L that are used to manage a Cisco Nexus 2000 Series Fabric Extender from a Cisco Nexus 6000 switch.

locator-led fex

To turn on the locator LED of a Fabric Extender, use the **locator-led** command. To turn off the locator LED, use the **no** form of this command.

locator-led fex *chassis_ID*

no locator-led fex *chassis_ID*

Syntax Description

chassis_ID	Fabric Extender chassis ID. The range is from 100 to 199.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines

Use the **locator-led** command to toggle the locator LED of a Fabric Extender, which allows you to easily identify the machine in a busy data center.

Examples

This example shows how to turn on the locator LED for a specific Fabric Extender chassis:

```
switch# locator-led fex 100
switch#
```

This example shows how to turn off the locator beacon LED for a specific Fabric Extender chassis:

```
switch# no locator-led fex 100
switch#
```

Related Commands

Command	Description
show fex	Displays all configured Fabric Extender chassis connected to the switch.
show locator-led	Displays the status of the locator LED in Fabric Extender modules.

logging fex

To set the logging alert level for Fabric Extender events, use the **logging fex** command. To reset the logging level, use the **no** form of this command.

logging fex [*severity-level*]

no logging fex [*severity-level*]

Syntax Description

severity-level	(Optional) Number of the desired severity level at which messages should be logged. Messages at or numerically lower than the specified level are logged. Severity levels are as follows: • 0—emergency: System unusable • 1—alert: Immediate action needed • 2—critical: Critical condition—default level • 3—error: Error condition • 4—warning: Warning condition • 5—notification: Normal but significant condition • 6—informational: Informational message only • 7—debugging: Appears during debugging only

Command Default

None

Command Modes

Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples

This example shows how to set the logging alert level for Fabric Extender events:

```
switch(config)# logging fex 4
```

This example shows how to reset the logging level:

```
switch(config)# no logging fex
```

Related Commands

Command	Description
show fex	Displays all configured Fabric Extender chassis connected to the switch.

N Commands

This chapter describes the Cisco NX-OS commands that begin with N that are used to manage a Cisco Nexus 2000 Series Fabric Extender from a Cisco Nexus 6000 series switch.

negotiate auto

To enable the autonegotiation protocol to configure the speed, duplex, and automatic flow-control of the Gigabit Ethernet interface, use the **negotiate** command in interface configuration mode. To disable automatic negotiation, use the **no negotiate auto** command.

negotiate auto

no negotiate auto

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Interface configuration mode

Command History

Release	Modification
7.3(2)N1(1)	This command was introduced.

Usage Guidelines

The **no negotiate auto** command is supported only in Cisco Nexus 2248PQ 10GE Fabric Extender, Cisco Nexus 2232PP 10GE Fabric Extender, and Cisco Nexus 2348UPQ 10GE Fabric Extender with 1G-based SFP.

Examples

This example shows how to enable autonegotiation:

```
switch# configure terminal
switch(config)# interface ethernet 2/2
switch(config-if)# negotiate auto
```

This example shows how to disable autonegotiation:

```
switch# configure terminal
switch(config)# interface ethernet 2/2
switch(config-if)# no negotiate auto
```

Related Commands

Command	Description
show interface	Displays the interface configuration information.

P Commands

This chapter describes the Cisco NX-OS commands that begin with P that are used to manage a Cisco Nexus 2000 Series Fabric Extender from a Cisco Nexus 6000 switch.

pace fex

To introduce delay between 2 Fabric Extenders (FEXs) while coming online, use the **pace fex** command in the global configuration mode. To unconfigure the FEX pacing time, use the **no** form of the command.

pace fex *0-3600*

no pace fex

Syntax Description

fex	FEX configuration.
0-3600	Specifies the pacing time, in seconds, between the 2 FEXs while coming online.

Command Default

None.

Command Modes

Global configuration mode.

Command History

Release	Modification
7.1(4) N1(1)	This command was introduced.

Usage Guidelines

The default FEX pacing time for Cisco Nexus 5500 series is 30 seconds. If **no pace fex** command is configured on a switch, the pacing time will be displayed as 0.

Examples

This example shows how to configure FEX pacing time of 40 seconds for a Fabric Extender:

```
switch(config)# pace fex 40
switch(config)#
```

Related Commands

Command	Description
show system internal fex info global verbose	Displays the pacing FEX time configured on the switch.

pinning max-links

To specify the number of statically pinned uplinks, use the **pinning max-links** command. To reset to the default, use the **no** form of this command.

pinning max-links *uplinks*

no pinning max-links

Syntax Description

uplinks	Number of uplinks. The range is from 1 to 8. The default is 1. This command is applicable only if the Fabric Extender is connected to its parent switch using one or more statically pinned fabric interfaces.

Command Default

The default number of uplinks is 1.

Command Modes

Fabric extender configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines

Use the **pinning max-links** command when you create a number of pinned fabric interface connections to enable the parent switch to determine a distribution of host interfaces. The host interfaces are divided by the number of *uplinks* and distributed accordingly.

Caution Changing the value of *uplinks* is disruptive. All the host interfaces on the Fabric Extender are brought down and back up as the parent switch reassigns its static pinning.

Examples

This example shows how to specify the number of statically pinned uplinks for a Fabric Extender:

```
switch# configure terminal
switch(config)# fex 101
switch(config-fex)# pinning max-links 4
```

This example shows how to revert to the uplink count to the default for a Fabric Extender:

```
switch# configure terminal
switch(config)# fex 101
switch(config-fex)# no pinning max-links
```

Related Commands

Command	Description
fex	Creates a Fabric Extender and enters fabric extender configuration mode.
fex pinning redistribute	Redistributes the host interfaces on a Fabric Extender.
show fex	Displays all configured Fabric Extender chassis connected to the switch.

provision

To preprovision a module in a chassis slot, use the **provision** command. To remove a preprovisioned module from a slot, use the **no** form of this command.

provision model *model-name*

no provision model [*model-name*]

Syntax Description

model	Specifies the type of module to be provisioned.
model-name	Module name. The supported modules are as follows: • **N2K-C2148T**—Cisco Nexus 2000 Series Fabric Extender 48x1G 4x10G Module • **N2K-C2232P**—Cisco Nexus 2000 Series Fabric Extender 32x10G Module • **N2K-C2232TM**—Cisco Nexus 2000 Series Fabric Extender 32x10G Module • **N2K-C2248T**—Cisco Nexus 2000 Series Fabric Extender 48x1G 4x10G Module • **N2K-N2224TP**—Cisco Nexus 2000 Series Fabric Extender 24x1G 2x10G SFP+ Module • **N2248PQ**—Cisco Nexus 2000 Series Fabric Extender 48x10G SFP+ 16x10G SFP+ Module • **N55-M16FP**—Cisco 16 port Port Fiber Channel Expansion Module 16 x SFP • **N55-M16P**—Cisco 16x10-Gigabit Ethernet Expansion Module • **N55-M16UP**—Cisco 16x10-Gigabit Flexible Ethernet Expansion Module • **N55-M8P8FP**—Cisco 8 Port 1/2/4/8-Gigabit Fibre Channel + 8 Port 10-Gigabit Ethernet Expansion Module • **N5K-M1008**—Cisco 8 Port Fiber Channel Expansion Module 8 x SFP • **N5K-M1060**—Cisco 6 Port Fiber Channel Expansion Module 6 x SFP • **N5K-M1404**—Expansion Module 4 x 10GBase-T LAN, 4 x Fiber Channel • **N5K-M1600**—Cisco 6-port 10 Gigabit Ethernet SFP Module 6 x SFP

Command Default

None

Command Modes

Slot configuration mode
Switch profile configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines

Use this command to define the modules (line card or Cisco Nexus 2000 Series Fabric Extender) to preprovision. If the card type does not match the card in the slot or the module is not compatible with the chassis, you see the following messages:

```
ERROR: The card type does not match the card in slot
```

or

```
ERROR: This module cannot be configured for this chassis
```

You can configure features or interfaces (Ethernet, Fibre Channel) on the modules before the modules are inserted in the switch chassis. You can also use this command to manage the configuration of these features or interfaces when the module is offline due to a failure or scheduled downtime. These configurations are applied when the module comes online.

When you preprovision a module by specifying the type of module, platform manager will allow only modules of matching type to come online. If you configure the interfaces for the module without specifying the module type, the configuration is applied when the module comes online, regardless of the module type.

You can preprovision modules and interfaces in a switch profile. The modules and interfaces are preprovisioned when you apply (commit) the switch profile. Once the module is inserted and interfaces are created, the preprovisioning module passes on the configuration to the respective applications before the interfaces come up.

Mutual exclusion is a mechanism where configuration outside the switch profile is not allowed in the switch profile and vice-versa. This requirement is to ensure that configuration in the switch profile is exactly the same on both switches. Preprovisioned configuration is the same as a configuration when the module is online, so mutual exclusion checks would continue to apply normally.

Examples

This example shows how to preprovision a module in slot 2 of the chassis:

```
switch(config)# slot 2
switch(config-slot)# provision model N5K-M1404
switch(config-slot)#
```

This example shows how to remove a preprovisioned module from a chassis slot:

```
switch(config)# slot 2
switch(config-slot)# no provision model N5K-M1404
switch(config-slot)#
```

This example shows how to remove all preprovisioned modules or line cards from a chassis slot:

```
switch(config)# slot 2
switch(config-slot)# no provision model
switch(config-slot)#
```

Related Commands

Command	Description
show module	Displays module information.
show provision	Displays provisioned modules.
show switch-profile	Displays switch profile information.
show running-config exclude-provision	Displays the running configuration excluding the preprovisioned features.
slot	Enables a slot for preprovisioning a module.
switch-profile	Configures a switch profile.

S Commands

This chapter describes the Cisco NX-OS commands that begin with S that are used to manage a Cisco Nexus 2000 Series Fabric Extender from a Cisco Nexus 6000 series switch.

serial

To assign a serial number to a Fabric Extender, use the **serial** command. To remove the serial number, use the **no** form of this command.

serial *serial_string*

no serial

Syntax Description

serial_string	Serial number string for the Fabric Extender. The string is alphanumeric, case sensitive, and has a maximum length of 20 characters.

Command Default

None

Command Modes

Fabric extender configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines

The serial number string you define with the **serial** command must match the serial number of the Fabric Extender. If you configure a serial number and then you use the **fex associate** command to associate the corresponding chassis ID to the switch, the association will succeed only if the Fabric Extender reports a matching serial number string.

Caution Configuring a serial number other than that of the given Fabric Extender will force the Fabric Extender offline.

Examples

This example shows how to specify a serial number for a Fabric Extender:

```
switch# configure terminal
switch(config)# fex 101
switch(config-fex)# serial Rack16_FEX101
```

This example shows how to remove a serial number from a Fabric Extender:

```
switch# configure terminal
switch(config)# fex 101
switch(config-fex)# no serial
```

Related Commands

Command	Description
fex	Creates a Fabric Extender and enters fabric extender configuration mode.
fex associate	Associates a Fabric Extender to an Ethernet or EtherChannel interface.
show fex	Displays all configured Fabric Extender chassis connected to the switch.

slot

To enable preprovisioning on a slot in a chassis, use the **slot** command. To disable the slot for preprovisioning, use the **no** form of this command.

slot *slot-number*

no slot *slot-number*

Syntax Description

slot-number	Slot number in the chassis. The range is from 2 to 199.

Command Default

None

Command Modes

Global configuration mode
Configuration synchronization mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines

Use this command to enable preprovisioning of features or interfaces of a module on a slot in a chassis. Preprovisioning allows you to configure features or interfaces (Ethernet, Fibre Channel) on modules before the modules are inserted in the switch chassis.

Examples

This example shows how to enable a chassis slot for preprovisioning of a module:

```
switch(config)# slot 2
switch(config-slot)#
```

This example shows how to disable a chassis slot for preprovisioning of a module:

```
switch(config)# no slot 2
switch(config)#
```

Related Commands

Command	Description
port	Configures ports as Ethernet, native Fibre Channel or Fibre Channel over Ethernet (FCoE) ports.
provision	Preprovisions a module in a slot.
show running-config exclude-provision	Displays the running configuration excluding the preprovisioned features.

speed

To configure the port speed, use the **speed** command. To reset to the default speed, use the **no** form of this command.

speed {**10** | **100** | **1000** | **10000** | **100000** | **40000** | **auto** [**100**] }

no speed

Syntax Description

10	Sets the speed to 10 Mbps.
100	Sets the speed to 100 Mbps.
1000	Sets the speed to 1 Gbps.
10000	Sets the speed to 10 Gbps.
100000	Sets the speed to 100 Gbps.
40000	Sets the speed to 40 Gbps.
auto	Auto negotiates the speed of the port.
auto [100]	Auto negotiates the speed to 100 Mbps.

Command Default

The default speed is 10 Gbps.

Command Modes

Interface configuration mode

Command History

Release	Modification
7.3(2)N(1)	The **auto 100** keyword was added.
6.0(2)N1(1)	This command was introduced.

Usage Guidelines

From Cisco NX-OS Release 7.3(2)N1(1), the **speed 100** command for ports with 1G Cu SFP GLC-T is supported only by Cisco Nexus 2348UPQ 10GE Fabric Extender, and the **speed auto 100** command is supported only by Cisco Nexus 2248TP-E Fabric Extender.

Examples

This example shows how to set the speed to 100 Mbps:

```
switch(config)# interface ethernet 2/2
switch(config-if)# speed 100
```

This example shows how to set an interface port to automatically negotiate the speed to 100 Mbps:

```
switch(config)# interface ethernet 2/2
switch(config-if)# speed auto 100
```

Related Commands

Command	Description
show interface	Displays the interface configuration information.

switchport mode fex-fabric

To set the interface type to be an uplink port for a Fabric Extender, use the **switchport mode fex-fabric** command.

switchport mode fex-fabric

no switchport mode fex-fabric

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Interface configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples

This example shows how to set an Ethernet interface to be an uplink port for a Fabric Extender:

```
switch# configure terminal
switch(config)# interface ethernet 1/40
switch(config-if)# switchport mode fex-fabric
```

This example shows how to set an EtherChannel interface to be an uplink port for a Fabric Extender:

```
switch# configure terminal
switch(config)# interface port-channel 4
switch(config-if)# switchport mode fex-fabric
```

Related Commands

Command	Description
fex associate	Associates a Fabric Extender to an Ethernet or EtherChannel interface.
show fex	Displays all configured Fabric Extender chassis connected to the switch.

Show Commands

This chapter describes the Cisco NX-OS **show** commands used to manage a Cisco Nexus 2000 Series Fabric Extender from a Cisco Nexus 6000 switch.

show diagnostic result fex

To display the results from the diagnostic tests for a Fabric Extender chassis, use the **show diagnostic result fex** command.

show diagnostic result fex *chassis_ID*

Syntax Description

chassis_ID	Fabric Extender chassis ID. The chassis ID range is from 100 to 199.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples

This example shows how to display the results from the diagnostic tests for a Fabric Extender:

```
switch# show diagnostic result fex 100
FEX-100: 48x1GE/Supervisor  SerialNo   : JAF1237ABSE
Overall Diagnostic Result for FEX-100  : OK

Test results: (. = Pass, F = Fail, U = Untested)
TestPlatform:
0)              SPROM: ---------------> .
1)          MV88E6095: ---------------> .
2)                Fan: ---------------> .
3)       Power Supply: ---------------> .
4) Temperature Sensor: ---------------> .

TestForwardingPorts:
Eth    1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Port ------------------------------------------------------------------------
       .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .

Eth   25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
Port ------------------------------------------------------------------------
       .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .

TestFabricPorts:
Fabric 1  2  3  4
Port ------------
       .  .  .  .

switch#
```

Related Commands

Command	Description
show fex	Displays all configured Fabric Extender chassis connected to the switch.

show environment fex

To display the environmental sensor status, use the **show environment fex** command.

show environment fex {**all** | *chassis_ID*} [**temperature** | **power** | **fan**]

Syntax Description

all	Displays information for all Fabric Extender chassis.
chassis_ID	Fabric Extender chassis ID. The chassis ID range is from 100 to 199.
temperature	(Optional) Displays temperature sensor information.
power	(Optional) Displays power capacity and power distribution information.
fan	(Optional) Displays fan information.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples

This example shows how to display the environmental sensor status for a Fabric Extender:

```
switch# show environment fex 100

Temperature Fex 100:
-----------------------------------------------------------------------
Module   Sensor     MajorThresh   MinorThres   CurTemp     Status
                    (Celsius)     (Celsius)    (Celsius)
-----------------------------------------------------------------------
1        Outlet-1   85            75           50          ok
1        Inlet-1    100           90           37          ok


Fan Fex: 100:
-----------------------------------------------------
Fan             Model                Hw         Status
-----------------------------------------------------
Chassis         N2K-C2148-FAN        --          ok
PS-1            N5K-PAC-200W         --          ok
PS-2            --                   --          absent


Power Supply Fex 100:
------------------------------------------------------------------------------
Voltage: 12 Volts
-------------------------------------------------------
PS  Model                Power       Power     Status
                         (Watts)     (Amp)
-------------------------------------------------------
1   N5K-PAC-200W            0.00      0.00     ok
```

```
2   --                          --        --     --


Mod Model                Power     Power       Power     Power       Status
                         Requested Requested   Allocated Allocated
                         (Watts)   (Amp)       (Watts)   (Amp)
--- -------------------  -------   ----------  --------- ----------  ----------
1    N5K-C5110T-BF-1GE   24.00     2.00        24.00     2.00        powered-up


Power Usage Summary:
--------------------
Power Supply redundancy mode:                redundant

Total Power Capacity                              0.00 W

Power reserved for Supervisor(s)                 24.00 W
Power currently used by Modules                   0.00 W

                                                -------------
Total Power Available                            -24.00 W
                                                -------------
switch#
```

Related Commands

Command	Description
show fex	Displays all configured Fabric Extender chassis connected to the switch.

show fex

To display information about a specific Fabric Extender or all attached chassis, use the **show fex** command.

show fex [*chassis_ID* [**detail**]]

Syntax Description

chassis_ID	(Optional) Fabric Extender chassis ID. The chassis ID range is from 100 to 199.
detail	(Optional) Displays a detailed listing.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples

This example shows how to display information about all attached Fabric Extender chassis:

```
switch# show fex
FEX         FEX           FEX                         FEX
Number    Description      State            Model            Serial
------------------------------------------------------------------------
111         FEX111              Online     N2K-C2248TP-1GE   SSI15450FZS
---       --------           Discovered    N2K-C2232PP-10GE   SSI15500F4Q
---       --------           Discovered    N2K-C2232PP-10GE   SSI1552044S
---       --------           Discovered     N2K-C2248TP-1GE   SSI154800HHswitch#
```

This example shows how to display information about a specific Fabric Extender chassis:

```
switch# show fex 111
FEX: 111 Description: FEX111   state: Online
  FEX version: 6.0(2)N1(1) [Switch version: 6.0(2)N1(1)]
  Extender Serial: SSI15450FZS
  Extender Model: N2K-C2248TP-1GE,  Part No: 73-13232-01
  Pinning-mode: static    Max-links: 1
  Fabric port for control traffic: Eth1/2/3
  FCoE Admin: false
  FCoE Oper: true
  FCoE FEX AA Configured: false
  Fabric interface state:
    Po113 - Interface Up. State: Active
    Eth1/2/3 - Interface Up. State: Active
    Eth1/2/4 - Interface Up. State: Active
    Eth1/3/3 - Interface Down. State: Configured
    Eth1/4/4 - Interface Down. State: Configuredswitch#
```

This example shows how to display the detailed information about a specific Fabric Extender chassis:

```
switch# show fex 111 detail
FEX: 111 Description: FEX111   state: Online
  FEX version: 6.0(2)N1(1) [Switch version: 6.0(2)N1(1)]
  FEX Interim version: 6.0(2)N1(0.365)
  Switch Interim version: 6.0(2)N1(0.365)
  Extender Serial: SSI15450FZS
  Extender Model: N2K-C2248TP-1GE,  Part No: 73-13232-01
  Card Id: 99, Mac Addr: a4:56:30:0b:01:42, Num Macs: 64
  Module Sw Gen: 12594  [Switch Sw Gen: 21]
  post level: complete
pinning-mode: static    Max-links: 1
  Fabric port for control traffic: Eth1/2/3
  FCoE Admin: false
  FCoE Oper: true
  FCoE FEX AA Configured: false
  Fabric interface state:
    Po113 - Interface Up. State: Active
    Eth1/2/3 - Interface Up. State: Active
    Eth1/2/4 - Interface Up. State: Active
    Eth1/3/3 - Interface Down. State: Configured
    Eth1/4/4 - Interface Down. State: Configured
  Fex Port        State  Fabric Port
       Eth111/1/1    Up       Po113
       Eth111/1/2    Up       Po113
       Eth111/1/3  Down        None
       Eth111/1/4  Down        None
       Eth111/1/5  Down        None
       Eth111/1/6  Down       Po113
       Eth111/1/7  Down       Po113
       Eth111/1/8  Down       Po113
       Eth111/1/9  Down       Po113
      Eth111/1/10  Down       Po113
      Eth111/1/11  Down       Po113
      Eth111/1/12  Down       Po113
      Eth111/1/13  Down       Po113
      Eth111/1/14  Down       Po113
      Eth111/1/15  Down       Po113
      Eth111/1/16  Down       Po113
      Eth111/1/17  Down       Po113
      Eth111/1/18  Down       Po113
      Eth111/1/19  Down       Po113
      Eth111/1/20  Down       Po113
      Eth111/1/21  Down       Po113
      Eth111/1/22  Down       Po113
      Eth111/1/23  Down       Po113
      Eth111/1/24  Down       Po113
      Eth111/1/25  Down       Po113
      Eth111/1/26  Down       Po113
      Eth111/1/27  Down       Po113
      Eth111/1/28  Down       Po113
      Eth111/1/29  Down       Po113
      Eth111/1/30  Down       Po113
      Eth111/1/31  Down       Po113
      Eth111/1/32  Down       Po113
      Eth111/1/33  Down       Po113
      Eth111/1/34  Down       Po113
      Eth111/1/35  Down       Po113
      Eth111/1/36  Down       Po113
      Eth111/1/37  Down       Po113
      Eth111/1/38  Down       Po113
      Eth111/1/39  Down       Po113
      Eth111/1/40  Down       Po113
      Eth111/1/41  Down       Po113
      Eth111/1/42  Down       Po113
```

```
      Eth111/1/43  Down       Po113
      Eth111/1/44  Down       Po113
      Eth111/1/45  Down       Po113
      Eth111/1/46  Down       Po113
      Eth111/1/47  Down       Po113
      Eth111/1/48  Down       Po113
Logs:
01/01/2013 22:01:14.276559: Module register received
01/01/2013 22:01:14.279440: Registration response sent
01/01/2013 22:01:14.452868: create module inserted event.
01/01/2013 22:01:14.453798: Module Online Sequence
01/01/2013 22:01:19.223358: Module Online
switch#
```

Related Commands

Command	Description
fex	Creates a Fabric Extender and enters fabric extender configuration mode.

show fex detail

To display detailed information about a specific Fabric Extender or all attached chassis, use the **show fex detail** command.

show fex detail

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples

This example shows how to display detailed information about all attached Fabric Extender chassis:

```
switch# show fex detail
FEX: 111 Description: FEX111   state: Online
  FEX version: 6.0(2)N1(1) [Switch version: 6.0(2)N1(1)]
  FEX Interim version: 6.0(2)N1(0.365)
  Switch Interim version: 6.0(2)N1(0.365)
  Extender Serial: SSI15450FZS
  Extender Model: N2K-C2248TP-1GE,  Part No: 73-13232-01
  Card Id: 99, Mac Addr: a4:56:30:0b:01:42, Num Macs: 64
  Module Sw Gen: 12594  [Switch Sw Gen: 21]
  post level: complete
pinning-mode: static    Max-links: 1
  Fabric port for control traffic: Eth1/2/3
  FCoE Admin: false
  FCoE Oper: true
  FCoE FEX AA Configured: false
  Fabric interface state:
    Po113 - Interface Up. State: Active
    Eth1/2/3 - Interface Up. State: Active
    Eth1/2/4 - Interface Up. State: Active
    Eth1/3/3 - Interface Down. State: Configured
    Eth1/4/4 - Interface Down. State: Configured
  Fex Port        State  Fabric Port
       Eth111/1/1    Up       Po113
       Eth111/1/2    Up       Po113
       Eth111/1/3  Down        None
       Eth111/1/4  Down        None
       Eth111/1/5  Down        None
       Eth111/1/6    Up       Po113
       Eth111/1/7    Up       Po113
       Eth111/1/8    Up       Po113
       Eth111/1/9    Up       Po113
      Eth111/1/10    Up       Po113
      Eth111/1/11    Up       Po113
```

```
      Eth111/1/12    Up       Po113
      Eth111/1/13    Up       Po113
      Eth111/1/14    Up       Po113
      Eth111/1/15    Up       Po113
      Eth111/1/16    Up       Po113
      Eth111/1/17    Up       Po113
      Eth111/1/18    Up       Po113
      Eth111/1/19    Up       Po113
      Eth111/1/20    Up       Po113
      Eth111/1/21    Up       Po113
      Eth111/1/22    Up       Po113
      Eth111/1/23    Up       Po113
      Eth111/1/24    Up       Po113
      Eth111/1/25    Up       Po113
      Eth111/1/26    Up       Po113
      Eth111/1/27    Up       Po113
      Eth111/1/28    Up       Po113
      Eth111/1/29    Up       Po113
      Eth111/1/30    Up       Po113
      Eth111/1/31    Up       Po113
      Eth111/1/32    Up       Po113
      Eth111/1/33    Up       Po113
      Eth111/1/34    Up       Po113
      Eth111/1/35    Up       Po113
      Eth111/1/36    Up       Po113
      Eth111/1/37    Up       Po113
      Eth111/1/38    Up       Po113
      Eth111/1/39    Up       Po113
      Eth111/1/40    Up       Po113
      Eth111/1/41    Up       Po113
      Eth111/1/42    Up       Po113
      Eth111/1/43    Up       Po113
      Eth111/1/44    Up       Po113
      Eth111/1/45    Up       Po113
      Eth111/1/46    Up       Po113
      Eth111/1/47    Up       Po113
      Eth111/1/48    Up       Po113
Logs:
01/01/2013 22:01:14.276559: Module register received
01/01/2013 22:01:14.279440: Registration response sent
01/01/2013 22:01:14.452868: create module inserted event.
01/01/2013 22:01:14.453798: Module Online Sequence
01/01/2013 22:01:19.223358: Module Online
switch#
```

Related Commands

Command	Description
fex	Creates a Fabric Extender and enters fabric extender configuration mode.
show fex	Displays all configured Fabric Extender chassis connected to the switch.

show fex transceiver

To display information about the transceiver connecting a Fabric Extender to the Cisco Nexus 6000 switch, use the **show fex transceiver** command.

show fex *chassis_ID* **transceiver** [**calibration** | **detail**]

Syntax Description

chassis_ID	Fabric Extender chassis ID. The chassis ID range is from 100 to 199.
calibration	(Optional) Displays detailed calibration information about the transceiver.
detail	(Optional) Displays detailed diagnostic information about the transceiver.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples

This example shows how to display information about the transceiver that connects a Fabric Extender to the Cisco Nexus 6000 switch:

```
switch# show fex 101 transceiver

Fex Uplink: 1
Fabric Port: Ethernet3/5
    sfp is present
    name is CISCO-AVAGO
    part number is SFBR-7700SDZ
    revision is B4
    serial number is AGD113921ZR
    nominal bitrate is 10300 MBits/sec
    Link length supported for 50/125mm fiber is 82 m(s)
    Link length supported for 62.5/125mm fiber is 26 m(s)
    cisco id is --
    cisco extended id number is 4


Fex Uplink: 2
Fabric Port: Ethernet3/6
    sfp is present
    name is CISCO-AVAGO
    part number is SFBR-7700SDZ
    revision is B4
    serial number is AGD113422LS
    nominal bitrate is 10300 MBits/sec
    Link length supported for 50/125mm fiber is 82 m(s)
    Link length supported for 62.5/125mm fiber is 26 m(s)
    cisco id is --
    cisco extended id number is 4
```

```
Fex Uplink: 3
Fabric Port: --
    sfp is present
    name is CISCO-AVAGO
    part number is SFBR-7700SDZ
    revision is B4
    serial number is AGD11392258
    nominal bitrate is 10300 MBits/sec
    Link length supported for 50/125mm fiber is 82 m(s)
    Link length supported for 62.5/125mm fiber is 26 m(s)
--More--
switch#
```

Related Commands

Command	Description
fex	Creates a Fabric Extender and enters fabric extender configuration mode.

show fex version

To display the version information about a Fabric Extender, use the **show fex version** command.

show fex *chassis_ID* **version**

Syntax Description

chassis_ID	Fabric Extender chassis ID. The chassis ID range is from 100 to 199.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples

This example shows how to display the version information about a Fabric Extender:

```
switch# show fex 111 version
Software
  Bootloader version:           0.2
  System boot mode:             primary
  System image version:         6.0(2)N1(1) [build 6.0(2)N1(0.365)]

Hardware
  Module:                       Fabric Extender 48x1GE + 4x10G Module
  CPU:                          Motorola, e300c4
  Serial number:                FOC16021LR8
  Bootflash:                    locked

Kernel uptime is 25 day(s), 3 hour(s), 8 minutes(s), 14 second(s)

Last reset at Sat Dec 15 02:11:58 2012
  Reason: Kernel Reboot
  Service: Reload new image
switch#
```

Related Commands

Command	Description
fex	Creates a Fabric Extender and enters fabric extender configuration mode.

show interface fex-fabric

To display all Fabric Extender fabric interfaces, use the **show interface fex-fabric** command.

show interface fex-fabric

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples

This example shows how to display all Fabric Extender fabric interfaces:

```
switch# show interface fex-fabric
Fabric      Fabric       Fex                FEX
Fex  Port      Port State    Uplink    Model          Serial
--------------------------------------------------------------
105    Eth1/5        Active     5    N2K-C2232P-10GE  JAF1331AKBM
105    Eth1/6        Active     6    N2K-C2232P-10GE  JAF1331AKBM
105    Eth1/7        Active     8    N2K-C2232P-10GE  JAF1331AKBM
105    Eth1/8        Active     7    N2K-C2232P-10GE  JAF1331AKBM
102   Eth1/17        Active     1    N5K-C5110T-BF-1GE  JAF1241BLHQ
102   Eth1/18    Configured     0
102   Eth1/19        Active     3    N5K-C5110T-BF-1GE  JAF1241BLHQ
102   Eth1/20        Active     4    N5K-C5110T-BF-1GE  JAF1241BLHQ
100    Eth3/3        Active     1    N5K-C5110T-BF-1GE  JAF1237ABSE
100    Eth3/4        Active     2    N5K-C5110T-BF-1GE  JAF1237ABSE
101    Eth3/5        Active     1    N2K-C2248TP-1GE  JAF11223333
101    Eth3/6        Active     2    N2K-C2248TP-1GE  JAF11223333
switch#
```

Related Commands

Command	Description
show fex	Displays all configured Fabric Extender chassis connected to the switch.

show interface fex-intf

To display the host interfaces pinned to a fabric interface, use the **show interface fex-intf** command.

show interface *interface* **fex-intf**

Syntax Description

interface	Ethernet or EtherChannel interface.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples

This example shows how to display the host interfaces pinned to an Ethernet fabric interface on the parent switch:

```
switch# show interface ethernet 1/1 fex-intf
```

This example shows how to display the host interfaces pinned to an EtherChannel fabric interface on the parent switch:

```
switch# show interface port-channel 1 fex-intf
```

Related Commands

Command	Description
show fex	Displays all configured Fabric Extender chassis connected to the switch.

show interface transceiver fex-fabric

To display information about all transceivers connected to fabric interfaces, use the **show interface transceiver fex-fabric** command.

show interface transceiver fex-fabric [**calibration** | **detail**]

Syntax Description

calibration	(Optional) Displays detailed calibration information about the transceiver.
detail	(Optional) Displays detailed diagnostic information about the transceiver.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples

This example shows how to display information about all transceivers that connect to fabric interfaces:

```
switch# show interface transceiver fex-fabric
Ethernet1/5
    sfp is present
    name is CISCO-MOLEX INC
    part number is 74752-9025
    revision is A
    serial number is MOC12302468
    nominal bitrate is 12000 MBits/sec
    Link length supported for 50/125mm fiber is 0 m(s)
    Link length supported for 62.5/125mm fiber is 0 m(s)
    cisco id is --
    cisco extended id number is 4

Ethernet1/6
    sfp is present
    name is CISCO-MOLEX INC
    part number is 74752-9025
    revision is A
    serial number is MOC12260214
    nominal bitrate is 12000 MBits/sec
    Link length supported for 50/125mm fiber is 0 m(s)
    Link length supported for 62.5/125mm fiber is 0 m(s)
    cisco id is --
    cisco extended id number is 4

Ethernet1/7
    sfp is present
    name is CISCO-MOLEX INC
    part number is 74752-9025
    revision is A
    serial number is MOC12301888
```

```
    nominal bitrate is 12000 MBits/sec
    Link length supported for 50/125mm fiber is 0 m(s)
    Link length supported for 62.5/125mm fiber is 0 m(s)
    cisco id is --
    cisco extended id number is 4

Ethernet1/8
    sfp is present
    name is CISCO-MOLEX INC
--More--
switch#
```

Related Commands

Command	Description
show fex	Displays all configured Fabric Extender chassis connected to the switch.

show inventory fex

To display the physical inventory of a Fabric Extender, such as the name, description, and volume ID, use the **show inventory fex** command.

show inventory fex *chassis_ID*

Syntax Description

chassis_ID	Fabric Extender chassis ID. The chassis ID range is from 100 to 199.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples

This example shows how to display the physical inventory of a specific Fabric Extender chassis:

```
switch# show inventory fex 100
NAME: "FEX 100 CHASSIS", DESCR: "N5K-C5110T-BF-1GE  CHASSIS"
PID: N5K-C5110T-BF-1GE , VID: V01 , SN: JAF1237ABSE

NAME: "FEX 100 Module 1", DESCR: "Fabric Extender Module: 48x1GE, 4X10GE Supervi
sor"
PID: N5K-C5110T-BF-1GE , VID: V00 , SN: JAF1237ABSE

NAME: "FEX 100 Fan 1", DESCR: "Fabric Extender Fan module"
PID: N2K-C2148-FAN     , VID: N/A , SN: N/A

NAME: "FEX 100 Power Supply 1", DESCR: "Fabric Extender AC power supply"
PID: N5K-PAC-200W      , VID: 00V0, SN: PAC12473L17

switch#
```

Related Commands

Command	Description
show fex	Displays all configured Fabric Extender chassis connected to the switch.

show locator-led

To display the status of the locator LED in a Fabric Extender, use the **show locator-led** command.

show locator-led status

Syntax Description

status	Displays the status of the locator LED in a Fabric Extender module.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines

Use the **locator-led** command to toggle the locator LED of a Fabric Extender.

Examples

This example shows how to display the modules that have the locator LED set to off or on:

```
switch# show locator-led status
Component        Locator LED Status
------------------------------------
FEX 100          off
FEX 101          off
FEX 102          off
FEX 103          off
FEX 105          off
switch#
```

Related Commands

Command	Description
locator-led	Turns on the locator LED of a Fabric Extender chassis.
show fex	Displays all configured Fabric Extender chassis connected to the switch.

show module fex

To display the module information for a Fabric Extender, use the **show module fex** command.

show module fex [**all** | *chassis_ID*]

Syntax Description

chassis_ID	Fabric Extender chassis ID. The chassis ID range is from 100 to 199.
all	Displays information about all Fabric Extender modules.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples

This example shows how to display the module information of Fabric Extenders:

```
switch# show module fex all
FEX Mod Ports Card Type                          Model               Status.
--- --- ----- ---------------------------------- ------------------ -----------
100 1   48    Fabric Extender 48x1GE Module      N5K-C5110T-BF-1GE  present
101 1   48    Fabric Extender 48x1GE + 4x10G Mod N2K-C2248TP-1GE    present
102 1   48    Fabric Extender 48x1GE Module      N5K-C5110T-BF-1GE  present
105 1   32    Fabric Extender 32x10GE + 8x10G Mo N2K-C2232P-10GE    present

FEX Mod Sw              Hw      World-Wide-Name(s) (WWN)
--- --- --------------  ------  ---------------------------------------------
100 1   4.2(1)N1(1)     0.0     --
101 1   4.2(1)N1(1)     0.103   --
102 1   4.2(1)N1(1)     0.2     --
105 1   4.2(1)N1(1)     1.0     --

FEX Mod  MAC-Address(es)                         Serial-Num
--- ---  ------------------------------------  ----------
100 1    000d.ecb1.1300 to 000d.ecb1.132f        JAF1237ABSE
101 1    0022.bdd1.3cc0 to 0022.bdd1.3cef        JAF11223333
102 1    000d.ecb1.25c0 to 000d.ecb1.25ef        JAF1241BLHQ
105 1    000d.ecca.6f40 to 000d.ecca.6f5f        JAF1331AKBM
switch#
```

This commands shows how to display the module information for a specific Fabric Extender:

```
switch# show module fex 100
FEX Mod Ports Card Type                          Model               Status.
--- --- ----- ---------------------------------- ------------------ -----------
100 1   48    Fabric Extender 48x1GE Module      N5K-C5110T-BF-1GE  present

FEX Mod Sw              Hw      World-Wide-Name(s) (WWN)
--- --- --------------  ------  ---------------------------------------------
```

```
100 1   4.2(1)N1(1)     0.0     --

FEX Mod  MAC-Address(es)                         Serial-Num
--- ---  ------------------------------------  ----------
100 1    000d.ecb1.1300 to 000d.ecb1.132f        JAF1237ABSE
switch#
```

Related Commands

Command	Description
show fex	Displays all configured Fabric Extender chassis connected to the switch.

show provision

To display information about provision, use the **show provision** command.

show provision failed-config *slot-number*

Syntax Description

failed-config	Displays the configuration that failed to be applied to the slot.
slot-number	Slot number in the chassis. The range is from 2 to 199.

Command Default

None

Command Modes

EXEC mode
Configuration synchronization mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples

This example shows how to display the preprovisioning configuration that failed to be applied to slot 2:

```
switch# show provision failed-config 2
Config has not been applied yet for this slot.

switch#
```

Related Commands

Command	Description
provision	Preprovisions a module in a slot.
show running-config exclude-provision	Displays the running configuration excluding the preprovisioned features.
slot	Enables a slot for preprovisioning a module.

show queuing interface

To display the queuing information of interfaces, use the **show queuing interface** command.

show queuing interface [**ethernet** *slot-chassis-no*/*port-slot-no*/*port-no*]

Syntax Description

ethernet	(Optional) Specifies that queuing information be displayed for an Ethernet interface or a Fabric Extender.
slot-chassis-no	Slot number of the Ethernet interface or chassis ID of the Fabric Extender. The range is from 1 to 255.
port-slot-no	Port number of the Ethernet interface or the remote slot ID of the Fabric Extender. The range is from 1 to 128.
port-no	Port number of the Fabric Extender. The range is from 1 to 48.

Command Default

Displays the queuing information for all interfaces.

Command Modes

EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples

This example shows how to display the queuing information, including the buffer threshold and queue limit values, of a specified interface:

```
switch# show queuing interface eth101/1/1
Ethernet101/1/1 queuing information:
  Input buffer allocation:
  Qos-group: 0  3  4  (shared)
  frh: 3
  drop-type: drop
  cos: 0 2 3 4 6 7
  xon       xoff      buffer-size
  ---------+---------+-----------
  11520     21760     44800

  Qos-group: 2
  frh: 2
  drop-type: no-drop
  cos: 1 5
  xon       xoff      buffer-size
  ---------+---------+-----------
  12800     23040     46080

  Queueing:
  queue    qos-group    cos            priority  bandwidth mtu
  --------+------------+--------------+---------+---------+----
  3        0 3 4        0 2 3 4 6       WRR         99      9280
  2        2            1 5             WRR          1      9280
```

```
  Buffer threshold: 163840 bytes
  Queue limit: 327680 bytes

  Queue Statistics:
  queue  rx
  ------+---------------
  3      38557
  2      0

  Port Statistics:
  tx queue drop
  ---------------
  26374

  Priority-flow-control enabled: no
  Flow-control status:
  cos     qos-group   rx pause  tx pause  masked rx pause
  -------+-----------+---------+---------+---------------
  0              0    xon       xon       xon
  1              2    xon       xon       xon
  2              3    xon       xon       xon
  3              0    xon       xon       xon
  4              3    xon       xon       xon
  5              2    xon       xon       xon
  6              0    xon       xon       xon
  7            n/a    xon       xon       xon
switch#
```

This example shows how to display the queuing information, including the buffer threshold and queue limit values, of a specified interface:

```
switch# show queuing interface ethernet 1/4
Interface Ethernet1/4 TX Queuing
qos-group  sched-type  oper-bandwidth
    0       WRR             50
    1       WRR             50
    5       priority         0

Interface Ethernet1/4 RX Queuing
qos-group  0:
    q-size: 102400, MTU: 1538
    drop-type: drop, xon: 0, xoff: 640
    Statistics:
        Pkts received over the port             : 1
        Ucast pkts sent to the cross-bar        : 0
        Mcast pkts sent to the cross-bar        : 1
        Ucast pkts received from the cross-bar  : 1577841
        Pkts sent to the port                   : 1577841
        Pkts discarded on ingress               : 0
        Per-priority-pause status               : Rx (Inactive), Tx (Inactive)

qos-group  1:
    q-size: 76800, MTU: 2240
    drop-type: no-drop, xon: 128, xoff: 240
    Statistics:
        Pkts received over the port             : 0
        Ucast pkts sent to the cross-bar        : 0
        Mcast pkts sent to the cross-bar        : 0
        Ucast pkts received from the cross-bar  : 0
        Pkts sent to the port                   : 0
        Pkts discarded on ingress               : 0
        Per-priority-pause status               : Rx (Inactive), Tx (Inactive)
```

```
qos-group  5:
    q-size: 122880, MTU: 1538
    drop-type: drop, xon: 0, xoff: 768
    Statistics:
        Pkts received over the port             : 0
        Ucast pkts sent to the cross-bar        : 0
        Mcast pkts sent to the cross-bar        : 0
        Ucast pkts received from the cross-bar  : 0
        Pkts sent to the port                   : 1
        Pkts discarded on ingress               : 0
        Per-priority-pause status               : Rx (Inactive), Tx (Inactive)
switch#
```

Table 1 describes the significant fields shown in the display.

Table 1 show queuing interface Field Descriptions

Field	Description
Ethernet ...	Ethernet interface information.
qoS-group	Information about QoS groups configured on the switch.
sched-type	Type of schedule.
WRR	Weighted round robin(WRR). Queue eight for scheduling.
Priority	Priority of the queue.
q-size	Queue size.
drop-type	Queue drop type can be either drop or no-drop.
MTU	Maximum transmit unit (MTU) for the queue.
Xon	Transmission on at this threshold.
Xoff	Transmission off at this threshold.
Buffer threshold	Buffer threshold value for the interface.
Queue limit	Queue limit value for the interface.

Related Commands

Command	Description
hardware buffer-threshold	Configures the hardware buffer threshold.
hardware queue-limit	Configures the hardware queue limit.
show fex	Displays all configured Fabric Extender chassis connected to the switch.

show running-config exclude-provision

To display the running configuration without the configuration for offline preprovisioned interfaces, use the **show running-config exclude-provision** command.

show running-config exclude-provision

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples

This example shows how to display the running configuration without the offline preprovisioned interfaces:

```
switch# show running-config exclude-provision

!Command: show running-config exclude-provision
!Time: Mon Jan 6 08:10:16 2013

version 6.0(2)N1(1)
feature fcoe

feature telnet
feature tacacs+
cfs ipv4 distribute
cfs eth distribute
feature udld
feature interface-vlan
feature lacp
feature vpc
feature lldp
feature vtp
feature fex

username admin password 5 $1$wmFN7Wly$/pjqx1DfAkCCAg/KyxbUz/  role network-admin
username install password 5 !  role network-admin
username praveena password 5 !  role network-operator
no password strength-check
ip domain-lookup
ip domain-lookup
tacacs-server host 192.168.131.54 key 7 "wawy1234"
tacacs-server host 192.168.131.37
tacacs-server host 192.168.131.37 test username user1
aaa group server tacacs+ t1
    server 192.168.131.54
```

```
aaa group server tacacs+ tacacs
radius-server host 192.168.128.5 key 7 "KkwyCet" authentication accounting
aaa group server radius r1
    server 192.168.128.5
hostname BEND-2
vlan dot1Q tag native
logging event link-status default
logging event trunk-status default
no service recover-errdisable
errdisable recovery interval 600
no errdisable detect cause link-flap
errdisable recovery cause link-flap
errdisable recovery cause udld
--More--
<--output truncated-->
switch#
```

Related Commands

Command	Description
copy running-config startup-config	Copies the running configuration to the startup configuration.
provision	Preprovisions a module in a slot.
show provision	Displays the preprovisioned module information.
show startup-config exclude-provision	Displays the startup configuration without the preprovisioning information for offline interfaces.
slot	Configures a chassis slot for a predefined module.

show running-config fex

To display the running configuration for Fabric Extenders (FEXs), use the **show running-config fex** command.

show running-config fex [**all**]

Syntax Description

all	(Optional) Displays FEX information including default settings.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples

This example shows how to display information on the running FEX configuration, including the buffer threshold value and queue limit:

```
switch# show running-config fex


!Command: show running-config fex
!Time: Wed Jan  9 05:22:01 2013

version 6.0(2)N1(1)
feature fex

fex 111
  pinning max-links 1
  description "FEX111"

interface port-channel113
  fex associate 111

interface Ethernet1/2/3
  fex associate 111

interface Ethernet1/2/4
  fex associate 111

interface Ethernet1/3/3
  fex associate 111

interface Ethernet1/4/4
  fex associate 111

switch#
```

Related Commands

Command	Description
hardware buffer-threshold	Configures the hardware buffer threshold.
hardware queue-limit	Configures the hardware queue limit.
show fex	Displays all configured Fabric Extender chassis connected to the switch.

show sprom fex

To display information about the SPROM, use the **show sprom fex** command.

show sprom fex {**all** | *chassis_ID* {**all** | **backplane** | **powersupply** *module_no*}}

Syntax Description

chassis_ID	Fabric Extender chassis ID. The chassis ID range is from 100 to 199.
all	Displays all SPROM content for a specific Fabric Extender.
backplane	Displays the backplane SPROM content for a specific Fabric Extender.
powersupply	Displays the power supply SPROM content for a specific Fabric Extender.
module_no	Power supply module number for a specific Fabric Extender. The range is from 1 to 2.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples

This example shows how to display all SPROM content for a specific Fabric Extender:

```
switch# show sprom fex 100 all
DISPLAY FEX 100 SUP sprom contents
Common block:
 Block Signature : 0xabab
 Block Version   : 3
 Block Length    : 160
 Block Checksum  : 0x18c9
 EEPROM Size     : 65535
 Block Count     : 3
 FRU Major Type  : 0x6003
 FRU Minor Type  : 0x0
 OEM String      : Cisco Systems, Inc.
 Product Number  : N5K-C5110T-BF-1GE
 Serial Number   : JAF1237ABSE
 Part Number     : 73-12009-02
 Part Revision   : 00
 Mfg Deviation   : 0
 H/W Version     : 0.0
 Mfg Bits        : 0
 Engineer Use    : 0
 snmpOID         : 9.12.3.1.9.72.5.0
 Power Consump   : -200
 RMA Code        : 0-0-0-0
 CLEI Code       : 00000000000
 VID             : V00
Supervisor Module specific block:
```

```
 Block Signature : 0x6002
 Block Version   : 2
 Block Length    : 103
 Block Checksum  : 0x2648
 Feature Bits    : 0x0
 HW Changes Bits : 0x2
Card Index      : 11011
 MAC Addresses   : 00-00-00-00-00-00
 Number of MACs  : 0
 Number of EPLD  : 0
 Port Type-Num   : 2-52
 Sensor #1       : 85,75
 Sensor #2       : 100,90
 Sensor #3       : 100,90
 Sensor #4       : 100,90
 Sensor #5       : 100,90
 Sensor #6       : 100,90
 Sensor #7       : 100,90
 Sensor #8       : 100,90
 Max Connector Power: 1000
 Cooling Requirement: 300
 Ambient Temperature: 40

DISPLAY FEX 100 backplane sprom contents:
Common block:
 Block Signature : 0xabab
 Block Version   : 3
 Block Length    : 160
 Block Checksum  : 0x195d
 EEPROM Size     : 65535
 Block Count     : 5
 FRU Major Type  : 0x6001
 FRU Minor Type  : 0x0
 OEM String      : Cisco Systems, Inc.
 Product Number  : N5K-C5110T-BF-1GE
Serial Number   : JAF1237ABSE
 Part Number     : 73-12009-02
 Part Revision   : 00
 Mfg Deviation   : 0
 H/W Version     : 0.0
 Mfg Bits        : 0
 Engineer Use    : 0
 snmpOID         : 9.12.3.1.3.719.0.0
 Power Consump   : -800
 RMA Code        : 0-0-0-0
 CLEI Code       : 00000000
 VID             : V01
Chassis specific block:
 Block Signature : 0x6001
 Block Version   : 3
 Block Length    : 39
 Block Checksum  : 0x28a
 Feature Bits    : 0x0
 HW Changes Bits : 0x2
 Stackmib OID    : 0
 MAC Addresses   : 00-0d-ec-b1-13-00
 Number of MACs  : 64
 OEM Enterprise  : 0
 OEM MIB Offset  : 0
 MAX Connector Power: 0
WWN software-module specific block:
 Block Signature : 0x6005
 Block Version   : 1
 Block Length    : 0
```

```
 Block Checksum  : 0x66
wwn usage bits:
 00 00 00 00 00 00 00 00
 00 00 00 00 00 00 00 00
 00 00 00 00 00 00 00 00
 00 00 00 00 00 00 00 00
 00 00 00 00 00 00 00 00
 00 00 00 00 00 00 00 00
 00 00 00 00 00 00 00 00
 00 00 00 00 00 00 00 00
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 00 00 00 00 00 00 00 00
 00 00 00 00 00 00 00 00
 00 00 00 00 00 00 00 00
 00 00 00 00 00 00 00 00
 00 00 00 00 00 00 00 00
 00 00
License software-module specific block:
 Block Signature : 0x6006
 Block Version   : 1
 Block Length    : 16
 Block Checksum  : 0x77
lic usage bits:
 00 00 00 00 00 00 00 00

DISPLAY FEX 100 power-supply 1 sprom contents:
Common block:
 Block Signature : 0xabab
 Block Version   : 3
 Block Length    : 124
 Block Checksum  : 0x15fc
 EEPROM Size     : 124
 Block Count     : 1
 FRU Major Type  : 0xab01
 FRU Minor Type  : 0x1
 OEM String      : Cisco Systems, Inc.
 Product Number  : N5K-PAC-200W
 Serial Number   : PAC12473L17
 Part Number     : 341-0335-01
 Part Revision   : 01
 CLEI Code       : COUPADSBAA
 VID             : 00V0
 snmpOID         : 0.0.0.0.0.0.0.0
 H/W Version     : 0.1
 Current         : 1667
RMA Code        : 0-0-0-0
switch#
```

This command shows how to display the power supply SPROM contents for a specific Fabric Extender:

```
switch# show sprom fex 100 powersupply 1
DISPLAY FEX 100 power-supply 1 sprom contents:
Common block:
 Block Signature : 0xabab
 Block Version   : 3
 Block Length    : 124
 Block Checksum  : 0x15fc
 EEPROM Size     : 124
 Block Count     : 1
 FRU Major Type  : 0xab01
 FRU Minor Type  : 0x1
 OEM String      : Cisco Systems, Inc.
 Product Number  : N5K-PAC-200W
 Serial Number   : PAC12473L17
 Part Number     : 341-0335-01
 Part Revision   : 01
 CLEI Code       : COUPADSBAA
 VID             : 00V0
 snmpOID         : 0.0.0.0.0.0.0.0
 H/W Version     : 0.1
 Current         : 1667
 RMA Code        : 0-0-0-0
switch#
```

Related Commands

Command	Description
show fex	Displays all configured Fabric Extender chassis connected to the switch.

show startup-config exclude-provision

To display the startup configuration that excludes the configuration for offline preprovisioned interfaces, use the **show startup-config exclude-provision** command.

show startup-config exclude-provision

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples

This example shows how to display the startup configuration without the offline preprovisioned interfaces:

```
switch# show startup-config exclude-provision
```

Related Commands

Command	Description
provision	Preprovisions a module in a slot.
show provision	Displays the preprovisioned module information.
show running-config exclude-provision	Displays the running configuration excluding the preprovisioned features.
slot	Configures a chassis slot for a predefined module.

show system reset-reason fex

To display the reason for the last reset of the Fabric Extender, use the **show system reset-reason fex** command.

show system reset-reason fex *chassis_ID*

Syntax Description		
	chassis_ID	Fabric Extender chassis ID. The chassis ID range is from 100 to 199.

Command Default None

Command Modes EXEC mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Examples This example shows how to display the last reset reason for a specific Fabric Extender:

```
switch# show system reset-reason fex 111
---- reset reason for FEX 111 ---

1) At 553612 usecs after Sat Dec 15 02:11:58 2012
    Reset Reason: Kernel Reboot (1)
    Service (Additional Info): Reload new image
    Image Version: 6.0(2)N1(1)

2) At 334319 usecs after Fri Dec 14 00:18:23 2012
    Reset Reason: Kernel Reboot (1)
    Service (Additional Info): Reload new image
    Image Version: 6.0(2)N1(1)

3) At 525416 usecs after Thu Dec 13 02:32:25 2012
    Reset Reason: Kernel Reboot (1)
    Service (Additional Info): Reload new image
    Image Version: 6.0(2)N1(1)

4) At 684084 usecs after Wed Dec  5 00:12:46 2012
    Reset Reason: Kernel Reboot (1)
    Service (Additional Info): Reload new image
    Image Version: 6.0(2)N1(1)

switch#
```

Related Commands	Command	Description
	show fex	Displays all configured Fabric Extender chassis connected to the switch.

show system internal fex copy

To copy the debug logs from an internal fabric extender (FEX) to the bootfalsh on a switch, use the **show system internal fex** command in the privileged exec mode (#).

show system internal fex copy *logs*

Syntax Description

copy	Copies from FEX to switch.
logs	Copies the logs from FEX to switch.

Command Default

None.

Command Modes

Privileged EXEC mode.

Command History

Release	Modification
7.1(4)N1(1)	This command was introduced.

Usage Guidelines

To view the debug log files from the bootflash execute the switch# **dir** command.

Examples

This example shows how to copy the debug logs an internal Fabric Extender to the bootflash on a switch:

```
switch# show system internal fex copy logs
switch# 2016 Jul 18 11:39:09 N128-A %$ VDC-1 %$ %FEX-5-FEX_LOG_COPY: Logs
debugLogs_Fexid_130.tar copied to bootflash
2016 Jul 18 11:39:09 N128-A %$ VDC-1 %$ %FEX-5-FEX_LOG_COPY: Logs debugLogs_Fexid_140.tar
copied to bootflash
2016 Jul 18 11:39:11 N128-A %$ VDC-1 %$ %FEX-5-FEX_LOG_COPY: Logs debugLogs_Fexid_125.tar
copied to bootflash
2016 Jul 18 11:39:11 N128-A %$ VDC-1 %$ %FEX-5-FEX_LOG_COPY: Logs debugLogs_Fexid_150.tar
copied to bootflash
2016 Jul 18 11:39:14 N128-A %$ VDC-1 %$ %FWM-2-STM_LEARNING_RE_ENABLE: Re enabling dynamic
learning on all interfaces
2016 Jul 18 11:39:16 N128-A %$ VDC-1 %$ %FWM-2-STM_LOOP_DETECT: Loops detected in the
network for mac 001b.2198.9209 among ports Eth140/1/3 and Eth140/1/4 vlan 1 - Disabling
dynamic learn notifications for 180 seconds
switch#
```

This example shows how to view the debug log files from the bootflash:

```
switch# dir
4096 Apr 27 11:46:24 2016 .maintenance-mode/
296960 Jul 18 11:39:11 2016 debugLogs_Fexid_125.tar
217088 Jul 18 11:39:09 2016 debugLogs_Fexid_130.tar
297984 Jul 18 11:39:09 2016 debugLogs_Fexid_140.tar
276480 Jul 18 11:39:11 2016 debugLogs_Fexid_150.tar
116310 Aug 31 17:50:34 2015 installer_deta
```

Related Commands

Command	Description
show fex	Displays all configured fabric extender chassis connected to the switch.

show system internal fex info global

To display the pacing FEX time configured on a switch, use the **show system internal fex info global** command in global configuration mode.

show system internal fex info global *verbose*

Syntax Description

global	Displays internal FEX information on the switch.
verbose	Checks the pacing time.

Command Default

None.

Command Modes

Global configuration mode.

Command History

Release	Modification
7.1(4)N1(1)	This command was introduced.

Examples

This example shows how to display the pacing fex time configured on a switch:

```
switch(config)# show system internal fex info global verbose
sw_id:1, sw_mts:257, preload_in_prog:0
sdp_mac:00:00:00:00:00:00
m_id:80ed6b4f608c, m_no:1, d_no:0, chas_ven:Cisco Systems, chas_mod:Nexus 7000 S
eries
chas_ser:----------, mod_ser:----------, fab_id:0, mgmt_ins:, conf_val:0
pacing_time: 40, mapped slot bmap:65602
switch(config)#
```

Note In the above example, the pacing time is 40 seconds. If pacing fex time is not configured on a switch then the pacing time will be 0.

This example displays the output when pace fex time is not configured on a switch:

```
switch(config)# show system internal fex info global verbose
sw_id:1, sw_mts:257, preload_in_prog:0
sdp_mac:00:00:00:00:00:00
m_id:20b25a4f608c, m_no:1, d_no:0, chas_ven:Cisco Systems, chas_mod:Nexus 7000 S
eries
chas_ser:----------, mod_ser:----------, fab_id:0, mgmt_ins:, conf_val:0
pacing_time: 0, mapped slot bmap:2
switch(config)#
```

Command	Description
show fex	Displays all configured Fabric Extender chassis connected to the switch.

show version fex

To display the software version information about a Fabric Extender, use the **show version fex** command.

show version fex *chassis_ID*

Syntax Description		
	chassis_ID	Fabric Extender chassis ID. The chassis ID range is from 100 to 199.

Command Default None

Command Modes EXEC mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Examples This example shows how to display the software version of a Fabric Extender:

```
switch# show version fex 100
Software
  Bootloader version:           1.12
  System boot mode:             primary
  System image version:         4.2(1)N2(1) [build 4.2(1)N2(1)]

Hardware
  Module:                       Fabric Extender 48x1GE Module
  CPU:                          Motorola, e300c1
  Serial number:                JAF1302ABDP
  Bootflash:                    locked

Kernel uptime is 0 day(s), 9 hour(s), 9 minutes(s), 16 second(s)

Last reset at Fri Jul 02 04:27:04 2010
  Reason: Reset Requested by CLI command reload
  Service: Reload requested by supervisor
switch#
```

Related Commands	Command	Description
	show fex	Displays all configured Fabric Extender chassis connected to the switch.

T Commands

This chapter describes the Cisco NX-OS commands that begin with T that are used to manage a Cisco Nexus 2000 Series Fabric Extender from a Cisco Nexus 6000 switch.

type

To set the Fabric Extender card type to a specific card, use the **type** command. To revert to the default FEX card, use the **no** form of this command.

type *fex_card_type*

no type

Syntax Description

fex_card_type	Fabric Extender card type. The following Fabric Extender card types are supported: • **N2148T**—Fabric Extender 48x1G 4x10G SFP+ Module • **N2224TP**—Fabric Extender 24x1G 2x10G SFP+ Module • **N2232P**—Fabric Extender 32x10G SFP+ 8x10G SFP+ Module • **N2232TM**—Fabric Extender 32x10GBase-T 8x10G SFP+ Module • **N2248T**—Fabric Extender 48x1G 4x10G SFP+ Module • **N2248PQ**—Fabric Extender 48x10G SFP+ 16x10G SFP+ Module

Command Default

None

Command Modes

Fabric extender configuration mode

Command History

Release	Modification
4.2(1)N1(1)	This command was introduced.

Usage Guidelines

The following Cisco Nexus 2000 Series Fabric Extenders are supported on a Cisco Nexus 6000 Series switch:

- Cisco Nexus 2148T Fabric Extender—It has four 10-Gigabit Ethernet fabric interfaces for its uplink connection to the parent Cisco Nexus switch and 48 1000BASE-T (1-Gigabit) Ethernet host interfaces for its downlink connection to servers or hosts.
- Cisco Nexus N2224TP Fabric Extender—It has two 10-Gigabit Ethernet fabric interfaces with small form-factor pluggable (SFP+) interface adapters for its uplink connection to the parent Cisco Nexus switch and 24 1000BASE-T (1-Gigabit) Ethernet host interfaces for its downlink connection to servers or hosts. It does not support Fibre Channel over Ethernet (FCoE).
- Cisco Nexus 2232P Fabric Extender—It has eight 10-Gigabit Ethernet fabric interfaces with small form-factor pluggable (SFP+) interface adapters for its uplink connection to the parent Cisco Nexus switch and 32 10-Gigabit Ethernet fabric interfaces with SFP+ interface adapters for its downlink connection to servers or hosts.

- Cisco Nexus 2232TM Fabric Extender—It has eight 10-Gigabit Ethernet fabric interfaces with small form-factor pluggable (SFP+) interface adapters for its uplink connection to the parent Cisco Nexus switch and 32 10-Gigabit BASE-T Ethernet fabric interfaces for its downlink connection to servers or hosts.
- Cisco Nexus 2248T Fabric Extender—It has four 10-Gigabit Ethernet fabric interfaces with SFP+ interface adapters for its uplink connection to the parent Cisco Nexus switch and 48 1000BASE-T (1-Gigabit) Ethernet host interfaces for its downlink connection to servers or hosts.
- Cisco Nexus 2248PQ Fabric Extender—It has 48 10-Gigabit Ethernet host interfaces with SFP+ interface adapters and 16 10-Gigabit Ethernet fabric interfaces corresponding to 4 QSFP interface adapters for its uplink connection to the parent switch.

Examples

This example shows how to configure the Fabric Extender card:

```
switch(config)# fex 100
switch(config-fex)# type N2148T
switch(config-fex)#
```

Related Commands

Command	Description
fex	Creates a Fabric Extender and enters fabric extender configuration mode.
show fex	Displays all configured Fabric Extender chassis connected to the switch.