Send feedback to nx5000-docfeedback@cisco.com

CHAPTER 2

Configuring the Fabric Extender

This chapter describes how to configure a Cisco Nexus 2000 Series Fabric Extender with a Cisco Nexus 5000 Series switch and includes the following sections:

Associating a Fabric Extender to a Fabric Interface

A Fabric Extender is connected to the switch through physical Ethernet interfaces or an EtherChannel. By default, the switch does not allow the attached Fabric Extender to connect until it has been assigned a chassis ID and is associated with the connected interface.

Note The Fabric Extender may connect to the switch through a number of separate physical Ethernet interfaces or at most one EtherChannel interface.

Caution In Release 4.0(1a)N2(1), you cannot connect the Ethernet interfaces of the Expansion Modules in the Cisco Nexus 5000 Series switch to a Fabric Extender. Only the Ethernet interfaces on the switch chassis (slot 1) can be used as fabric interfaces.

This section includes the following topics:

Send feedback to nx5000-docfeedback@cisco.com

Associating a Fabric Extender to an Ethernet Interface

To associate the Fabric Extender to an Ethernet interface, perform this task:

	Command	Purpose
Step 1	`switch# configure terminal`	Enters configuration mode.
Step 2	`switch(config)# interface ethernet` *slot/port*	Specifies an Ethernet interface to configure.
Step 3	`switch(config-if)# switchport mode fex-fabric`	Sets the interface to support an external Fabric Extender.
Step 4	`switch(config-if)# fex associate` *chassis*	Associates the chassis ID to the Fabric Extender unit attached to the interface. The range of the chassis ID is from 100 to 199.
Step 5	`switch# show interface ethernet` *port/slot* `fex-intf`	(Optional) Displays the association of a Fabric Extender to an Ethernet interface.

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

```
switch# configure terminal
switch(config)# interface ethernet 1/40
switch(config-if)# switchport mode fex-fabric
switch(config-if)# fex associate 100
```

This example shows how to display the association of the Fabric Extender and the switch:

```
switch# show interface ethernet 1/40 fex-intf
Fabric           FEX
Interface        Interfaces
---------------------------------------------------
 Eth1/40         Eth100/1/48   Eth100/1/47   Eth100/1/46   Eth100/1/45
                 Eth100/1/44   Eth100/1/43   Eth100/1/42   Eth100/1/41
                 Eth100/1/40   Eth100/1/39   Eth100/1/38   Eth100/1/37
                 Eth100/1/36   Eth100/1/35   Eth100/1/34   Eth100/1/33
                 Eth100/1/32   Eth100/1/31   Eth100/1/30   Eth100/1/29
                 Eth100/1/28   Eth100/1/27   Eth100/1/26   Eth100/1/25
                 Eth100/1/24   Eth100/1/23   Eth100/1/22   Eth100/1/21
                 Eth100/1/20   Eth100/1/19   Eth100/1/18   Eth100/1/17
                 Eth100/1/16   Eth100/1/15   Eth100/1/14   Eth100/1/13
                 Eth100/1/12   Eth100/1/11   Eth100/1/10   Eth100/1/9
                 Eth100/1/8    Eth100/1/7    Eth100/1/6    Eth100/1/5
                 Eth100/1/4    Eth100/1/3    Eth100/1/2    Eth100/1/1
```

Associating a Fabric Extender to an EtherChannel

To associate the Fabric Extender to an EtherChannel, perform this task:

	Command	Purpose
Step 1	`switch# configure terminal`	Enters configuration mode.
Step 2	`switch(config)# interface port-channnel` *channel*	Specifies an EtherChannel to configure.

Send feedback to nx5000-docfeedback@cisco.com

	Command	Purpose
Step 3	`switch(config-if)# switchport mode fex-fabric`	Sets the EtherChannel to support an external Fabric Extender.
Step 4	`switch(config-if)# fex associate` *chassis*	Associates the chassis ID to the Fabric Extender unit attached to the interface. The range of the chassis ID is from 100 to 199.
Step 5	`switch# show interface port-channel` *channel* `fex-intf`	(Optional) Displays the association of a Fabric Extender to an EtherChannel interface.

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

```
switch# configure terminal
switch(config)# interface port-channel 4
switch(config-if)# switchport mode fex-fabric
switch(config-if)# fex associate 100
switch(config-if)# exit
switch(config)# interface ethernet 1/37
switch(config-if)# switchport mode fex-fabric
switch(config-if)# fex associate 100
switch(config-if)# channel-group 4
switch(config-if)# exit
switch(config)# interface ethernet 1/38
switch(config-if)# switchport mode fex-fabric
switch(config-if)# fex associate 100
switch(config-if)# channel-group 4
switch(config-if)# exit
switch(config)# interface ethernet 1/39
switch(config-if)# switchport mode fex-fabric
switch(config-if)# fex associate 100
switch(config-if)# channel-group 4
switch(config-if)# exit
switch(config)# interface ethernet 1/40
switch(config-if)# switchport mode fex-fabric
switch(config-if)# fex associate 100
switch(config-if)# channel-group 4
```

Note You have to associate each Ethernet interface that is a members of the EtherChannel as a fabric interface as shown in the above example.

This example shows how to display the association of the Fabric Extender and the switch:

```
switch# show interface port-channel 4 fex-intf
Fabric          FEX
Interface       Interfaces
---------------------------------------------------
 Po4            Eth100/1/48   Eth100/1/47   Eth100/1/46   Eth100/1/45
                Eth100/1/44   Eth100/1/43   Eth100/1/42   Eth100/1/41
                Eth100/1/40   Eth100/1/39   Eth100/1/38   Eth100/1/37
                Eth100/1/36   Eth100/1/35   Eth100/1/34   Eth100/1/33
                Eth100/1/32   Eth100/1/31   Eth100/1/30   Eth100/1/29
                Eth100/1/28   Eth100/1/27   Eth100/1/26   Eth100/1/25
                Eth100/1/24   Eth100/1/23   Eth100/1/22   Eth100/1/21
                Eth100/1/20   Eth100/1/19   Eth100/1/18   Eth100/1/17
                Eth100/1/16   Eth100/1/15   Eth100/1/14   Eth100/1/13
                Eth100/1/12   Eth100/1/11   Eth100/1/10   Eth100/1/9
                Eth100/1/8    Eth100/1/7    Eth100/1/6    Eth100/1/5
                Eth100/1/4    Eth100/1/3    Eth100/1/2    Eth100/1/1
```

Send feedback to nx5000-docfeedback@cisco.com

Disassociating a Fabric Extender from an Interface

To disassociate the Fabric Extender from an interface, perform this task:

Command	Purpose
`switch(config-if)# no fex associate`	Disassociates the Fabric Extender unit attached to the interface.

Configuring the Fabric Extender

To configure global features for a Fabric Extender, perform this tasks:

	Command	Purpose
Step 1	`switch# configure terminal`	Enters configuration mode.
Step 2	`switch(config)# fex` *chassis*	Enters configuration mode for the specified Fabric Extender chassis ID. The range of the chassis ID is from 100 to 199.
Step 3	`switch(config-fex)# description` *desc*	Specifies the description. The default is the string FEX*xxxx* where *xxxx* is the chassis ID. If the chassis ID is 123, the description is FEX0123.
	`switch(config-fex)# no description`	Deletes the description.
	`switch(config-fex)# pinning max-links` *uplinks*	Defines the number of uplinks. The default is 1. The range is from 1 to 4. This command is only applicable if the Fabric Extender is connected to its parent switch using one or more statically pinned fabric interfaces. There can only be one EtherChannel connection.
	`switch(config-fex)# no pinning max-links`	Resets the number of uplinks to the default.
	`switch(config-fex)# serial` *serial*	Defines a serial number string. If this command is configured, then a switch will only allow the corresponding chassis ID to associate (using the **fex associate** command) if the Fabric Extender reports a matching serial number string. Configuring a serial number other than that of the given Fabric Extender will force the Fabric Extender offline.
	`switch(config-fex)# no serial`	Deletes the serial number string.
	`switch(config-fex)# beacon`	Turns on the beacon LED. This LED allows you to locate a specific Fabric Extender in a rack.
	`switch(config-fex)# no beacon`	Turns off the beacon LED.

Send feedback to nx5000-docfeedback@cisco.com

Caution Changing the number of uplinks with the **pinning max-links** command or the **no pinning max-links** command disrupts all the host interface ports of the Fabric Extender.

Redistributing the Links

When you provision the Fabric Extender with statically pinned interfaces (see the "Static Pinning Fabric Interface Connection" section on page 1-5), the downlink host interfaces on the Fabric Extender are pinned to the fabric interfaces in the order they were initially configured. If you want to maintain a specific relationship of host interfaces to fabric interface across reboots, you should re-pin the links.

You may want to perform this function in these two situations:

- A change in the max-links configuration.
- If you need to maintain the pinning order of host interfaces to fabric interfaces.

Changing the Number of Links

If you initially configured port 33 on the parent switch as your only fabric interface, all 48 host interfaces are pinned to this port. If you provision another port, for example 35, then you must enter the **pinning max-links 2** command to redistribute the host interfaces. All host interfaces are brought down and host interfaces 1 to 24 are pinned to fabric interface 33 and host interfaces 25 to 48 are pinned to fabric interface 35.

Maintaining the Pinning Order

The pinning order of the host interfaces is initially determined by the order in which the fabric interfaces were configured. In this example, four fabric interfaces were configured in the following order:

```
switch# show interface ethernet 1/35 fex-intf
Fabric           FEX
Interface        Interfaces
---------------------------------------------------
 Eth1/35         Eth100/1/12   Eth100/1/11   Eth100/1/10   Eth100/1/9
                 Eth100/1/8    Eth100/1/7    Eth100/1/6    Eth100/1/5
                 Eth100/1/4    Eth100/1/3    Eth100/1/2    Eth100/1/1

switch# show interface ethernet 1/33 fex-intf
Fabric           FEX
Interface        Interfaces
---------------------------------------------------
 Eth1/33         Eth100/1/24   Eth100/1/23   Eth100/1/22   Eth100/1/21
                 Eth100/1/20   Eth100/1/19   Eth100/1/18   Eth100/1/17
                 Eth100/1/16   Eth100/1/15   Eth100/1/14   Eth100/1/13

switch# show interface ethernet 1/38 fex-intf
Fabric           FEX
Interface        Interfaces
---------------------------------------------------
 Eth1/38         Eth100/1/36   Eth100/1/35   Eth100/1/34   Eth100/1/33
                 Eth100/1/32   Eth100/1/31   Eth100/1/30   Eth100/1/29
                 Eth100/1/28   Eth100/1/27   Eth100/1/26   Eth100/1/25
```

Send feedback to nx5000-docfeedback@cisco.com

```
switch# show interface ethernet 1/40 fex-intf
Fabric           FEX
Interface        Interfaces
---------------------------------------------------
 Eth1/40         Eth100/1/48   Eth100/1/47   Eth100/1/46   Eth100/1/45
                 Eth100/1/44   Eth100/1/43   Eth100/1/42   Eth100/1/41
                 Eth100/1/40   Eth100/1/39   Eth100/1/38   Eth100/1/37
```

The next time that you reboot the Fabric Extender, the configured fabric interfaces are pinned to the host interfaces in an ascending order by port number of the fabric interface. If you want to configure the same fixed distribution of host interfaces without restarting the Fabric Extender, enter the **fex pinning redistribute** command (see the "Static Pinning Fabric Interface Connection" section on page 1-5).

To redistribute the host interfaces on the Fabric Extender, perform this task:

Command	Purpose
`switch# fex pinning redistribute` *chassis*	Redistributes the host connections. The range of the chassis ID is from 100 to 199.

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

```
switch# fex pinning redistribute 100
```

Caution The **fex pinning redistribute** command disrupts all the host interface ports of the Fabric Extender.

Upgrading the Fabric Extender

To upgrade a Cisco Nexus 2000 Series Fabric Extender, perform these steps:

Step 1 Download the new kickstart and system images to the parent switch.

Step 2 Enter the **install all** command.

While the installation is in progress, the Fabric Extender remains online.

The new image is pushed to the Fabric Extender by the parent switch. Once the software image has successfully been installed, the parent switch reboots. The Fabric Extender is also rebooted automatically to maintain the software version compatibility between the parent switch and the Fabric Extender. When the parent switch comes up, it rediscovers the Fabric Extender and brings it online.

This process is the least disruptive process for the hosts and servers connected to the Fabric Extender.

Displaying Fabric Extender Information

This section describes the **show** commands that are available to display the configuration and status of the Fabric Extender and includes the following topics:

- Displaying Configuration Information, page 2-7
- Displaying Chassis Management Information, page 2-10

Send feedback to nx5000-docfeedback@cisco.com

Displaying Configuration Information

To display configuration information about the defined interfaces, perform one of these tasks:

Command	Purpose
switch# **show fex** [*chassis* [**detail**]	Displays information about a specific Fabric Extender or all attached units.
switch# **show interface** *type number* **fex-intf**	Displays the Fabric Extender ports pinned to a specific switch interface.
switch# **show interface fex-fabric**	Displays the switch interfaces that have detected a Fabric Extender uplink.

This example shows how to display all the attached Fabric Extender units:

```
switch# show fex
  FEX             FEX             FEX                  FEX
Number       Description          State      Model            Serial
------------------------------------------------------------------------
  100           FEX0100        Online   N5K-C5110T-BF-1GE   FOX1242GJSQ
```

This example shows how to display the detailed status of a specific Fabric Extender:

```
switch# show fex 100 detail
FEX: 100 Description: FEX0100   state: Online
  FEX version: 4.0(1a)N2(0.101) [Switch version: 4.0(1a)N2(0.101)]
  Extender Model: N5K-C5110T-BF-1GE, Extender Serial: JAF1241BLFN
  Part No: 73-12009-02
  Card Id: 70, Mac Addr: 00:0d:ec:b1:28:42, Num Macs: 64
  Module Sw Gen: 17 [Switch Sw Gen: 17]
 pinning-mode: static    Max-links: 1
  Fabric port for control traffic: Eth1/40
  Fabric interface state:
    Eth1/40 - Interface Up. State: Active
  Fex Port        State  Fabric Port  Primary Fabric
       Eth100/1/1    Up     Eth1/40     Eth1/40
       Eth100/1/2  Down     Eth1/40     Eth1/40
       Eth100/1/3  Down     Eth1/40     Eth1/40
       Eth100/1/4  Down     Eth1/40     Eth1/40
       Eth100/1/5  Down     Eth1/40     Eth1/40
       Eth100/1/6  Down     Eth1/40     Eth1/40
       Eth100/1/7  Down     Eth1/40     Eth1/40
       Eth100/1/8  Down     Eth1/40     Eth1/40
       Eth100/1/9  Down     Eth1/40     Eth1/40
      Eth100/1/10  Down     Eth1/40     Eth1/40
      Eth100/1/11  Down     Eth1/40     Eth1/40
      Eth100/1/12  Down     Eth1/40     Eth1/40
      Eth100/1/13  Down     Eth1/40     Eth1/40
      Eth100/1/14  Down     Eth1/40     Eth1/40
      Eth100/1/15    Up     Eth1/40     Eth1/40
      Eth100/1/16  Down     Eth1/40     Eth1/40
      Eth100/1/17  Down     Eth1/40     Eth1/40
      Eth100/1/18  Down     Eth1/40     Eth1/40
      Eth100/1/19  Down     Eth1/40     Eth1/40
      Eth100/1/20  Down     Eth1/40     Eth1/40
      Eth100/1/22  Down     Eth1/40     Eth1/40
      Eth100/1/24  Down     Eth1/40     Eth1/40
      Eth100/1/25  Down     Eth1/40     Eth1/40
      Eth100/1/26  Down     Eth1/40     Eth1/40
```

Send feedback to nx5000-docfeedback@cisco.com

```
      Eth100/1/27  Down     Eth1/40     Eth1/40
      Eth100/1/28  Down     Eth1/40     Eth1/40
      Eth100/1/29  Down     Eth1/40     Eth1/40
      Eth100/1/30  Down     Eth1/40     Eth1/40
      Eth100/1/31    Up     Eth1/40     Eth1/40
      Eth100/1/32  Down     Eth1/40     Eth1/40
      Eth100/1/33  Down     Eth1/40     Eth1/40
      Eth100/1/34  Down     Eth1/40     Eth1/40
      Eth100/1/35  Down     Eth1/40     Eth1/40
      Eth100/1/36  Down     Eth1/40     Eth1/40
      Eth100/1/37  Down     Eth1/40     Eth1/40
      Eth100/1/38  Down     Eth1/40     Eth1/40
      Eth100/1/39  Down     Eth1/40     Eth1/40
      Eth100/1/40  Down     Eth1/40     Eth1/40
      Eth100/1/41  Down     Eth1/40     Eth1/40
      Eth100/1/42  Down     Eth1/40     Eth1/40
      Eth100/1/43  Down     Eth1/40     Eth1/40
      Eth100/1/44  Down     Eth1/40     Eth1/40
      Eth100/1/45  Down     Eth1/40     Eth1/40
      Eth100/1/46  Down     Eth1/40     Eth1/40
      Eth100/1/47    Up     Eth1/40     Eth1/40
      Eth100/1/48  Down     Eth1/40     Eth1/40
Logs:
[12/10/2008 00:11:40.698999] Module timed out
[12/10/2008 00:11:44.501221] Module register received
[12/10/2008 00:11:44.502240] Registration response sent
[12/10/2008 00:11:44.587581] Module Online Sequence
[12/10/2008 00:11:49.140170] Module Online
[12/10/2008 00:18:46.662135] Module disconnected
[12/10/2008 00:18:46.663222] Offlining Module
[12/10/2008 00:18:46.663856] Module Offline Sequence
[12/10/2008 00:18:49.317584] Module Offline
[12/10/2008 00:19:30.427864] Module register received
[12/10/2008 00:19:30.428875] Registration response sent
[12/10/2008 00:19:30.456882] Module Online Sequence
[12/10/2008 00:19:32.62827] Module Online
[12/10/2008 00:20:37.196648] Module disconnected
[12/10/2008 00:20:37.197782] Offlining Module
[12/10/2008 00:20:37.199299] Module Offline Sequence
[12/10/2008 00:20:39.859971] Module Offline
[12/10/2008 00:21:13.945372] Module register received
[12/10/2008 00:21:13.946435] Registration response sent
[12/10/2008 00:21:13.974962] Module Online Sequence
[12/10/2008 00:21:15.737667] Module Online
```

This example shows how to display the Fabric Extender interfaces pinned to a specific switch interface:

```
switch# show interface ethernet 1/40 fex-intf
Fabric           FEX
Interface        Interfaces
---------------------------------------------------
 Eth1/40         Eth100/1/48   Eth100/1/47   Eth100/1/46   Eth100/1/45
                 Eth100/1/44   Eth100/1/43   Eth100/1/42   Eth100/1/41
                 Eth100/1/40   Eth100/1/39   Eth100/1/38   Eth100/1/37
                 Eth100/1/36   Eth100/1/35   Eth100/1/34   Eth100/1/33
                 Eth100/1/32   Eth100/1/31   Eth100/1/30   Eth100/1/29
                 Eth100/1/28   Eth100/1/27   Eth100/1/26   Eth100/1/25
                 Eth100/1/24   Eth100/1/22   Eth100/1/20   Eth100/1/19
                 Eth100/1/18   Eth100/1/17   Eth100/1/16   Eth100/1/15
                 Eth100/1/14   Eth100/1/13   Eth100/1/12   Eth100/1/11
                 Eth100/1/10   Eth100/1/9    Eth100/1/8    Eth100/1/7
                 Eth100/1/6    Eth100/1/5    Eth100/1/4    Eth100/1/3
                 Eth100/1/2    Eth100/1/1
```

Send feedback to nx5000-docfeedback@cisco.com

This example shows how to display the switch interfaces that are connected to a Fabric Extender uplink:

```
switch# show interface fex-fabric
     Fabric      Fabric       Fex                FEX
Fex  Port      Port State    Uplink    Model          Serial
--------------------------------------------------------------
---    Eth1/1    Discovered     1    N5K-C5110T-BF-1GE  FOX1242GJSQ
---    Eth1/2    Discovered     4    N5K-C5110T-BF-1GE  FOX1242GJSQ
---    Eth1/3    Discovered     2    N5K-C5110T-BF-1GE  FOX1242GJSQ
100   Eth1/40        Active     3    N5K-C5110T-BF-1GE  FOX1242GJSQ
```

Note The above example shows a Fabric Extender with four uplink connections, only one of which is currently active.

This example shows how to display the SFP+ transceiver and diagnostic optical monitoring (DOM) information for Fabric Extender uplinks:

```
switch# show interface ethernet 1/40 transceiver
Ethernet1/40
    sfp is present
    name is CISCO-EXCELIGHT
    part number is SPP5101SR-C1
    revision is A
    serial number is ECL120901AV
    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

switch# show interface ethernet 1/40 transceiver fex-fabric
Ethernet1/40
    sfp is present
    name is CISCO-EXCELIGHT
    part number is SPP5101SR-C1
    revision is A
    serial number is ECL120601U0
    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
```

Note The first **show** command above shows the SFP+ transceiver that is plugged into the parent switch interface. The second **show** command displays the SFP+ transceiver that is plugged into the uplink port on the Fabric Extender.

Send feedback to nx5000-docfeedback@cisco.com

Displaying Chassis Management Information

To display configuration information used on the switch supervisor to manage the Fabric Extender, perform one of these tasks:

Command	Purpose
switch# **show diagnostic result fex** chassis	Displays results from the diagnostic test for a Fabric Extender chassis.
switch# **show inventory fex** chassis	Displays inventory information for a Fabric Extender chassis.
switch# **show module fex** chassis	Displays module information about a Fabric Extender chassis.

This example shows how to display the module information about all connected Fabric Extender units:

```
switch# show module fex
FEX Mod Ports Card Type                          Model               Status.
--- --- ----- ---------------------------------- ------------------ -----------
100 1   48    Fabric Extender 48x1GE Module      N2K-C2148T-1GE     ok

FEX Mod Sw              Hw      World-Wide-Name(s) (WWN)
--- --- --------------  ------  ---------------------------------------------
100 1   4.0(1a)N2(1)    0.2     --

FEX Mod  MAC-Address(es)                         Serial-Num
--- ---  ------------------------------------  ----------
100 1    000d.ecb1.3f00 to 000d.ecb1.3f2fff      JAF1244ATER
```

This example shows how to display the module information about a specific Fabric Extender unit:

```
switch# show module fex 100
FEX Mod Ports Card Type                          Model               Status.
--- --- ----- ---------------------------------- ------------------ -----------
100 1   48    Fabric Extender 48x1GE Module      N2K-C2148T-1GE     ok

FEX Mod Sw              Hw      World-Wide-Name(s) (WWN)
--- --- --------------  ------  ---------------------------------------------
100 1   4.0(1a)N2(1)    0.2     --

FEX Mod  MAC-Address(es)                         Serial-Num
--- ---  ------------------------------------  ----------
100 1    000d.ecb1.3f00 to 000d.ecb1.3f2fff      JAF1244ATER
```

This example shows how to display the inventory information about a specific Fabric Extender unit:

```
switch# show inventory fex 100
NAME: "FEX 100 CHASSIS", DESCR: "N2K-C2148T-1GE  CHASSIS"
PID: N2K-C2148T-1GE    , VID: V00 , SN: JAF1244ATER

NAME: "FEX 100 Module 1", DESCR: "Fabric Extender Module: 48x1GE, 4X10GE Supervisor"
PID: N2K-C2148T-1GE    , VID: V00 , SN: FOX1242GJT4

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: PAC12473L2J
```

Send feedback to nx5000-docfeedback@cisco.com

This example shows how to display diagnostic test results for a specific Fabric Extender unit:

```
switch# show diagnostic result fex 100
FEX-100: 48x1GE/Supervisor  SerialNo   : JAF1241BLFN
Overall Diagnostic Result for FEX-100  : OK

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

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 ------------
       .  .  .  .
```

This example shows how to display the environment status for a specific Fabric Extender unit:

```
switch# show environment fex 100


Temperature Fex 100:
----------------------------------------------------------------------
Module   Sensor     MajorThresh   MinorThres   CurTemp     Status
                    (Celsius)     (Celsius)    (Celsius)
----------------------------------------------------------------------
1        Outlet-1   60            50           29          ok
1        Inlet-1    50            40           21          ok


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


Power Supply Fex 100:
------------------------------------------------------------------------------
Voltage: 12 Volts
------------------------------------------------------
PS  Model                Power       Power     Status
                         (Watts)     (Amp)
------------------------------------------------------
1   --                       --        --     fail/shutdown
2   N5K-PAC-200W          200.04     16.67     ok


Mod Model                Power     Power       Power     Power       Status
                         Requested Requested   Allocated Allocated
```

Send feedback to nx5000-docfeedback@cisco.com

```
                          (Watts)    (Amp)        (Watts)    (Amp)
--- -------------------  -------   ----------  ---------- ----------  ----------
1    N5K-C5110T-BF-1GE   96.00     8.00         96.00      8.00        powered-up


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

Total Power Capacity                             200.04 W

Power reserved for Supervisor(s)                  96.00 W
Power currently used by Modules                    0.00 W

                                                 -------------
Total Power Available                             104.04 W
                                                 -------------
```

This example shows how to display the SPROM for a specific Fabric Extender unit:

```
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  : 0x1774
 EEPROM Size     : 4096
 Block Count     : 3
 FRU Major Type  : 0x6002
 FRU Minor Type  : 0x0
 OEM String      : Cisco Systems, Inc.
 Product Number  : N2K-C2148T-1GE
 Serial Number   : JAF1244ATER
 Part Number     : 73-12009-02
 Part Revision   : 07
 Mfg Deviation   : 0
 H/W Version     : 0.2
 Mfg Bits        : 0
 Engineer Use    : 0
 snmpOID         : 9.12.3.1.9.72.8.0
 Power Consump   : -800
 RMA Code        : 0-0-0-0
 CLEI Code       : COMEB00ARA
 VID             : V00
Supervisor Module specific block:
 Block Signature : 0x6002
 Block Version   : 2
 Block Length    : 103
 Block Checksum  : 0x592
 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   : 1-48;2-4
 Sensor #1       : 60,50
 Sensor #2       : 60,50
 Sensor #3       : 60,50
 Sensor #4       : 60,50
 Sensor #5       : 50,40
 Sensor #6       : 50,40
 Sensor #7       : 50,40
```

Send feedback to nx5000-docfeedback@cisco.com

```
 Sensor #8       : 50,40
 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  : 0x173f
 EEPROM Size     : 65535
 Block Count     : 5
 FRU Major Type  : 0x6001
 FRU Minor Type  : 0x0
 OEM String      : Cisco Systems, Inc.
 Product Number  : N2K-C2148T-1GE
 Serial Number   : FOX1242GJT4
 Part Number     : 68-3342-02
 Part Revision   : 05
 Mfg Deviation   : 0
 H/W Version     : 0.0
 Mfg Bits        : 0
 Engineer Use    : 0
 snmpOID         : 9.12.3.1.3.820.0.0
 Power Consump   : 0
 RMA Code        : 0-0-0-0
 CLEI Code       : COMEB00ARA
 VID             : V00
Chassis specific block:
 Block Signature : 0x6001
 Block Version   : 3
 Block Length    : 39
 Block Checksum  : 0x2b6
 Feature Bits    : 0x0
 HW Changes Bits : 0x2
 Stackmib OID    : 0
 MAC Addresses   : 00-0d-ec-b1-3f-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
 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
```

Send feedback to nx5000-docfeedback@cisco.com

```
 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
 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  : 0x1610
 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   : PAC12473L2J
 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

DISPLAY FEX 100 power-supply 2 sprom contents:
Common block:
 Block Signature : 0x0
 Block Version   : 0
 Block Length    : 0
 Block Checksum  : 0x0
 EEPROM Size     : 0
 Block Count     : 0
 FRU Major Type  : 0x0
 FRU Minor Type  : 0x0
 OEM String      :
 Product Number  :
 Serial Number   :
 Part Number     :
 Part Revision   :
 CLEI Code       :
 VID             : V00
 snmpOID         : 0.0.0.0.0.0.0.0
```

Send feedback to nx5000-docfeedback@cisco.com

```
H/W Version      : 0.0
Current          : 0
RMA Code         : 0-0-0-0
```

Send feedback to nx5000-docfeedback@cisco.com