



Cisco Nexus B22 Fabric Extender for Fujitsu Getting Started Guide

This Getting Started Guide describes the Cisco Nexus B22 Fabric Extender for Fujitsu and how to start using it. This Getting Started Guide includes the following sections:

- [Information about the Cisco Nexus B22 Fabric Extender for Fujitsu, page 1](#)
- [Shipping Box Contents, page 2](#)
- [Fujitsu Blade System Architecture, page 4](#)
- [Installing the Cisco Nexus B22 Fabric Extender for Fujitsu, page 5](#)
- [Updating NX-OS, page 6](#)
- [Configuring the Cisco Nexus B22 Fabric Extender for Fujitsu, page 7](#)
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Information about the Cisco Nexus B22 Fabric Extender for Fujitsu

The Cisco Nexus B22 Fabric Extender for Fujitsu provides an extension of the Cisco Nexus switch fabric to the Fujitsu blade servers.

The Cisco Nexus B22 Fabric Extenders behave as remote line cards for a parent Cisco Nexus switch. The Fabric Extenders are essentially extensions of the parent Cisco Nexus switch fabric, with the Fabric Extenders and the parent Cisco Nexus switch together forming a distributed modular system.

Each Cisco Nexus B22 Fabric Extender connects via 10-Gigabit Ethernet to up to 16 servers within a Fujitsu BladeSystem and contains 8 10-Gigabit Ethernet fabric uplinks towards the parent Cisco Nexus switch. Multiple low cost options are available for fabric connections between the Cisco Nexus B22 and the parent Cisco Nexus switch. Low-cost connections up to 10 meters can be made with copper Twin-ax



Americas Headquarters:
Cisco Systems, Inc., 170 West Tasman Drive, San Jose, CA 95134-1706 USA

cable, and longer connections up to 100 meters can use the Fabric Extender Transceiver. Other standard 10 Gigabit Ethernet optics such as 10Gbase-SR, 10Gbase-LR, and 10Gbase-ER are also supported for these fabric connections.

The Cisco Nexus B22 Fabric Extender for Fujitsu has the following features:

- Sixteen 10-Gigabit Ethernet ports
- Eight 10-Gigabit Ethernet SFP+ ports
- Two per port single color LED for external up link ports and no LED for internal ports.
- Thermal monitoring
- Thermal management provided by the BX900 or BX400 chassis
- Fanless
- Hot pluggable
- 12V power from chassis

Finding the Latest Documentation Online

Use the following links to check for the latest documentation for your server product:

- http://www.cisco.com/en/US/products/ps10110/tsd_products_support_series_home.html
- <http://www.fujitsu.com/global/services/computing/server/>
- <http://www.fujitsu.com/global/support/>
- <http://manuals.ts.fujitsu.com/index.php?l=en>
- <http://jp.fujitsu.com/platform/server/primergy/manual/> (for Japan)

Check these links often to verify that your documentation is up to date.

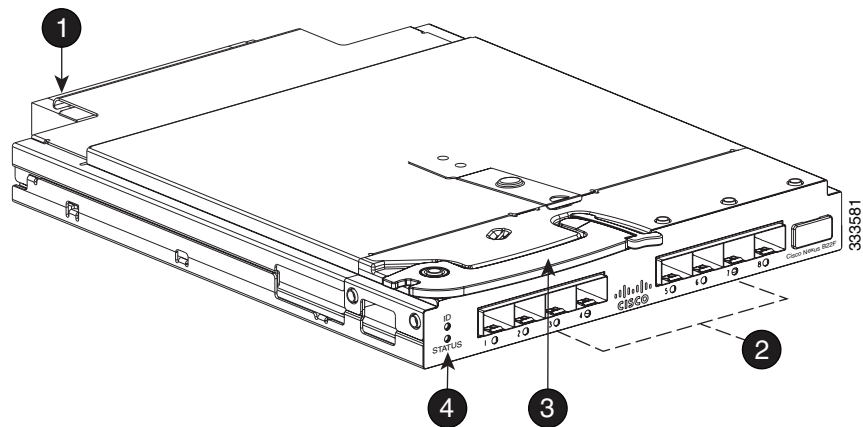
Shipping Box Contents

The Cisco Nexus B22 Fabric Extender for Fujitsu shipping box contains:

- Cisco Nexus B22 Fabric Extender for Fujitsu, with 16 internal host ports and 8 external network ports.
- This box may contain 16 Fabric Extender Transceivers. The product ID of the bundle with the Cisco Nexus B22 Fabric Extender and the Fabric Extender Transceiver is N2K-B22FTS-F.

[Figure 1](#) shows the Cisco Nexus B22 Fabric Extender for Fujitsu.

Figure 1 Cisco Nexus B22 Fabric Extender for Fujitsu

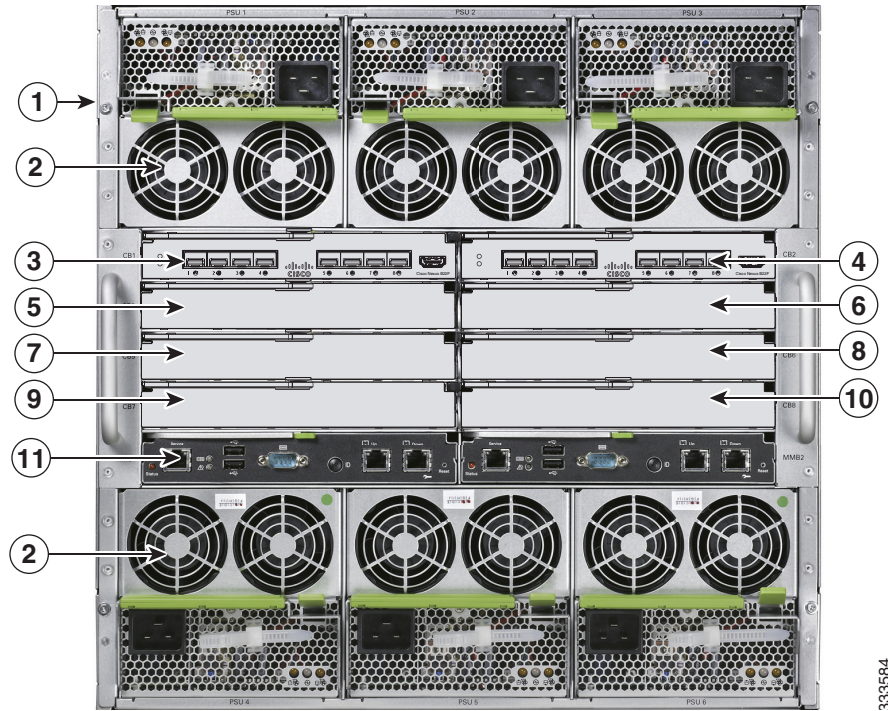


1	Midplane connector	3	Installation handle
2	<p>Eight external network ports.</p> <p>The LED corresponding to each port can be green (indicating it is connected and configured correctly), amber (indicating it is not connected or configured correctly), or off (indicating the unit is booting).</p>	4	<p>ID LED (top) and Status LED (bottom).</p> <p>The ID LED is the beacon LED and is blue. It is controlled by the Fujitsu Management Module Blade. The Status LED can be green (indicating normal operation) or amber (indicating the unit is off).</p>

Fujitsu Blade System Architecture

Figure 2 shows the rear view of the blade chassis, in which you install the switch module.

Figure 2 Rear View of the Blade Chassis



1	Chassis rear view	7	Connection Blade bay 5
2	Power supply units with integrated fans or fan units	8	Connection Blade bay 6
3	Connection Blade bay 1	9	Connection Blade bay 7
4	Connection Blade bay 2	10	Connection Blade bay 8
5	Connection Blade bay 3	11	Management Blade
6	Connection Blade bay 4		

Consider these prerequisites before you install the switch module:

- Fill any unoccupied interconnect bays or any unoccupied power module bays in the blade chassis with blanks.
- Identify the bays in which you will insert the switch modules. Plan to install the first switch module in bay 1, the second in bay 2, and so on up to bay 8, if possible. The bay in which you choose to install each switch module depends on whether mezzanine cards are installed and the type of LAN on Motherboard (LOM) in the blade server enclosure. See the blade chassis documentation information about installing and configuring the mezzanine cards or LOM ports.
- See the Fujitsu documentation for information on the port mapping between the blade chassis and the switch modules.

Installing the Cisco Nexus B22 Fabric Extender for Fujitsu


Caution

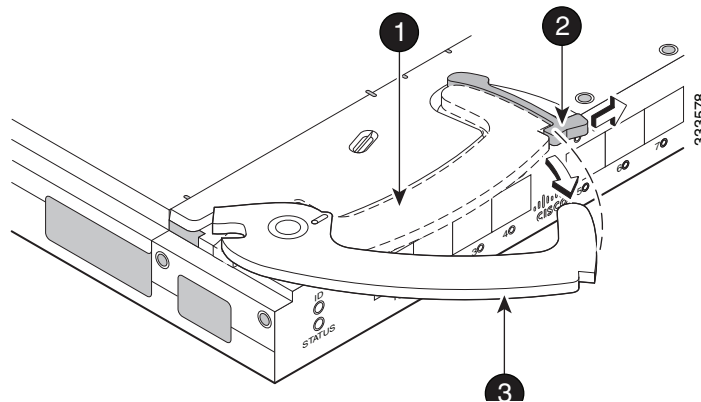
Properly ground yourself before handling the switch.

Populate all the chassis interconnect bays with a connection blade or one of the blank panels provided with the chassis.

To install the Cisco Nexus B22 Fabric Extender for Fujitsu in the chassis:

1. Locate the appropriate interconnect bay at the rear of the chassis. See the setup and installation guide provided with the chassis.
2. Press the handle latch to release the handle. See [Figure 3](#).

Figure 3 Releasing the Installation Handle



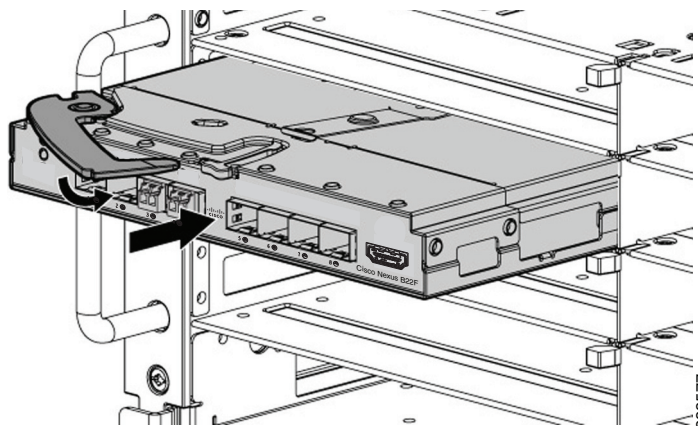
1	Installation handle in latched position	3	Installation handle (released)
2	Handle latch		


Note

The Cisco Nexus B22 Fabric Extender for Fujitsu is a hot-pluggable device. The chassis may be on or off during installation.

3. Align the Cisco Nexus B22 Fabric Extender for Fujitsu with the appropriate interconnect bay, according to the specific configuration for the chassis. Push the switch firmly into the interconnect bay. See [Figure 4](#).

Figure 4 Installing the Fabric Extender Into an Interconnect Bay



4. Press the installation handle into the latch to lock the switch into place.
5. Connect the cables.
6. Configure the parent Cisco Nexus switch to recognize and boot up the Cisco Nexus B22 Fabric Extender for Fujitsu.

Updating NX-OS

To achieve the best performance, Fujitsu recommends updating to the latest NX-OS software version.



Note

The minimum version of NX-OS is 5.2(1)N1(1)

The minimum MMB firmware versions are:

BX900 – MMB firmware version 5.02

BX400 – MMB firmware version 6.41

The Cisco Nexus B22 Fabric Extender for Fujitsu downloads the necessary firmware from the connected Cisco Nexus switch. You can update the Cisco Nexus Switch without any disruptions using the **install all** command. Contact the company from whom your Cisco Nexus Switch was purchased.

You can download NX-OS software from the Cisco website:

<http://www.cisco.com/cisco/software/navigator.html?mdfid=282076290&i=rm>

If your units are purchased through Cisco, see [Cisco Nexus 5000 Series NX-OS Software Upgrade and Downgrade Guide](#) for instructions on how to download NX-OS from Cisco.

The Cisco Nexus B22 Fabric Extender for Fujitsu is managed by its parent Cisco Nexus switch over the fabric interfaces through a zero-touch configuration model. You upgrade the Fabric Extender by upgrading the software on the parent Cisco Nexus switch.

When a Fabric Extender is properly associated with a parent switch, the following upgrade operations are performed:

- The switch checks the software image compatibility and upgrades the Fabric Extender if necessary.
- The switch pushes the configuration data to the fabric extender. The Fabric Extender does not store any configuration locally.

- The Fabric Extender updates the switch with its operational status. All fabric extender information is displayed using the switch commands for monitoring and troubleshooting.

In-Service Software Upgrades (ISSUs) are supported on the parent Cisco Nexus switches. An ISSU can update the software images on your device without disrupting data traffic. An ISSU updates the Kickstart, System, and Fabric Extender image.

The **install all** command triggers the ISSU on the parent Cisco Nexus switches and the Cisco Nexus B22 Fabric Extender for Fujitsu. The command provides the following benefits:

- You can upgrade the parent Cisco Nexus switches and the Cisco Nexus B22 Fabric Extender for Fujitsu using just one command.
- You can receive descriptive information about the intended changes to your system before you continue with the installation. For example, it identifies potential disruptive upgrades.
- You can continue or cancel the upgrade when you see this question (the default is **no**):

```
Do you want to continue (y/n) [n] : y
```
- You can upgrade the Cisco NX-OS software using a nondisruptive procedure.
- The command automatically checks the image integrity, which includes the running kickstart and system images. The command sets the kickstart and system boot variables.
- The command performs a platform validity check to verify that a wrong image is not used.
- The Ctrl-c escape sequence gracefully ends the **install all** command. The command sequence completes the update step in progress and returns to the EXEC prompt.
- After issuing the **install all** command, if any step in the sequence fails, the upgrade ends.
- The following message appears to warn you about the impact of upgrading the power sequencer:

```
Warning: please do not remove or power off the module at this time.  

Note: Power-seq upgrade needs a power-cycle to take into effect.  

On success of power-seq upgrade, SWITCH OFF THE POWER to the system and then, power it  

up.
```
- You can force a disruptive upgrade.

For additional information, see the [Cisco Nexus 5000 Series NX-OS Software Upgrade and Downgrade Guide](#).

Configuring the Cisco Nexus B22 Fabric Extender for Fujitsu

This section describes how to configure a Cisco Nexus B22 Fabric Extender for Fujitsu with a Cisco Nexus 5000 Series switch and includes the following sections:

- [Associating a Fabric Extender to a Fabric Interface, page 7](#)
- [Configuring the Fabric Extender, page 10](#)
- [Redistributing the Links, page 11](#)
- [Displaying Fabric Extender Information, page 12](#)

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.

This section includes the following topics:

- [Associating a Fabric Extender to an Ethernet Interface, page 8](#)
- [Associating a Fabric Extender to an EtherChannel, page 9](#)
- [Disassociating a Fabric Extender from an Interface, page 10](#)

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
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# interface ethernet 1/19
switch(config-if)# switchport mode fex-fabric
switch(config-if)# fex associate 102
```

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

```
switch# show interface ethernet 1/19 fex-intf
Fabric          FEX
Interface       Interfaces
-----
Eth1/19         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-channel channel	Specifies an EtherChannel to configure.
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
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# interface port-channel 2
switch(config-if)# switchport mode fex-fabric
switch(config-if)# fex associate 100
switch(config-if)# exit
switch(config)# interface ethernet 1/19
switch(config-if)# switchport mode fex-fabric
switch(config-if)# fex associate 100
switch(config-if)# channel-group 2
switch(config-if)# exit
switch(config)# interface ethernet 1/20
switch(config-if)# switchport mode fex-fabric
switch(config-if)# fex associate 100
switch(config-if)# channel-group 2
switch(config-if)# exit
switch(config)# interface ethernet 1/21
switch(config-if)# switchport mode fex-fabric
switch(config-if)# fex associate 100
switch(config-if)# channel-group 2
switch(config-if)# exit
switch(config)# interface ethernet 1/22
switch(config-if)# switchport mode fex-fabric
switch(config-if)# fex associate 100
switch(config-if)# channel-group 2
switch(config-if)# exit
```



Note

You have to associate each Ethernet interface that is a member 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 2 fex-intf
Fabric          FEX
Interface       Interfaces
-----
Po2             Eth100/1/1   Eth100/1/2   Eth100/1/3   Eth100/1/4
```

```

Eth100/1/5    Eth100/1/6    Eth100/1/7    Eth100/1/8
Eth100/1/9    Eth100/1/10   Eth100/1/11   Eth100/1/12
Eth100/1/13   Eth100/1/14   Eth100/1/15   Eth100/1/16
    
```

Disassociating a Fabric Extender from an Interface

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

Command	Purpose
<code>switch(config-if)# no fex associate</code>	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	<code>switch# configure terminal</code>	Enters configuration mode.
Step 2	<code>switch(config)# fex chassis</code>	Enters configuration mode for the specified Fabric Extender chassis ID. The range of the chassis ID is from 100 to 199.
Step 3	<code>switch(config-fex)# description desc</code>	Specifies the description. The default is the string FEXxxx where xxx is the chassis ID. If the chassis ID is 123, the description is FEX0123.
	<code>switch(config-fex)# no description</code>	Deletes the description.
	<code>switch(config-fex)# pinning max-links uplinks</code>	Defines the number of uplinks. The default is 1. The range is from 1 to 8. 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.
	<code>switch(config-fex)# no pinning max-links</code>	Resets the number of uplinks to the default.
	<code>switch(config-fex)# serial serial</code>	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.
	<code>switch(config-fex)# no serial</code>	Deletes the serial number string.
	<code>switch(config-fex)# beacon</code>	Turns on the beacon LED. This LED allows you to locate a specific Fabric Extender in a rack.
<code>switch(config-fex)# no beacon</code>	Turns off the beacon LED.	

**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, 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 19 on the parent switch as your only fabric interface, all 16 host interfaces are pinned to this port. If you provision another port, for example 20, 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 8 are pinned to fabric interface 19 and host interfaces 9 to 16 are pinned to fabric interface 20.

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(config-fex) #
switch(config-fex) #
switch(config-fex) # show interface ethernet 1/19 fex-intf
Fabric          FEX
Interface       Interfaces
-----
Eth1/19         Eth100/1/4   Eth100/1/3   Eth100/1/2   Eth100/1/1

switch(config-fex) # show interface ethernet 1/20 fex-intf
Fabric          FEX
Interface       Interfaces
-----
Eth1/20         Eth100/1/8   Eth100/1/7   Eth100/1/6   Eth100/1/5

switch(config-fex) # show interface ethernet 1/21 fex-intf
Fabric          FEX
Interface       Interfaces
-----
Eth1/21         Eth100/1/12  Eth100/1/11  Eth100/1/10  Eth100/1/9

switch(config-fex) # show interface ethernet 1/22 fex-intf
Fabric          FEX
Interface       Interfaces
-----
Eth1/22         Eth100/1/16  Eth100/1/15  Eth100/1/14  Eth100/1/13
```

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.

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.

For additional information about configuring the Cisco Nexus B22 Fabric Extender for Fujitsu and parent Cisco Nexus Switches, see the following documentation:

- **Cisco Nexus 2000 Series Fabric Extender Software Configuration Guide**
http://www.cisco.com/en/US/products/ps10110/tsd_products_support_configure.html
- **Cisco Nexus 5000 Series NX-OS Software Configuration Guide**
http://www.cisco.com/en/US/products/ps9670/tsd_products_support_configure.html

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 12](#)
- [Displaying Chassis Management Information, page 14](#)

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(config-fex)# show fex
      FEX          FEX          FEX          FEX
Number  Description      State      Model          Serial
-----
100     FEX0100          Online     N2K-B22FTS-P  FOC1516ZZLS
switch(config-fex)#
```

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

```
switch# show fex 114 detail
FEX: 114 Description: FEX0114 state: Online
  FEX version: 5.2(1)N1(1) [Switch version: 5.2(1)N1(1)]
  FEX Interim version: 5.2(1)N1(0.204)
  Switch Interim version: 5.2(1)N1(0.204)
  Extender Serial: FOC1613ROUP
  Extender Model: N2K-B22FTS-P, Part No: 73-14631-01
  Bay: 4
  Rack: RackName12345
  Enclosure: EncloeNam12345
  Enclosure Serial: BX900YKNNM003663
  Rack Id: 123456789012345
  Card Id: 209, Mac Addr: 44:2b:03:58:82:02, Num Macs: 262208
  Module Sw Gen: 12594 [Switch Sw Gen: 21]
  post level: complete
  pinning-mode: static Max-links: 1
  Fabric port for control traffic: Eth1/4
  FCoE Admin: false
  FCoE Oper: true
  FCoE FEX AA Configured: false
  Fabric interface state:
    Eth1/4 - Interface Up. State: Active
  Fex Port      State Fabric Port
    Eth114/1/1  Down  Eth1/4
    Eth114/1/2  Down  Eth1/4
    Eth114/1/3  Down  Eth1/4
    Eth114/1/4  Down  Eth1/4
    Eth114/1/5  Down  Eth1/4
    Eth114/1/6  Down  Eth1/4
    Eth114/1/7  Down  Eth1/4
    Eth114/1/8  Down  Eth1/4
    Eth114/1/9  Down  Eth1/4
    Eth114/1/10 Up    Eth1/4
    Eth114/1/11 Up    Eth1/4
    Eth114/1/12 Up    Eth1/4
    Eth114/1/13 Up    Eth1/4
    Eth114/1/14 Up    Eth1/4
    Eth114/1/15 Up    Eth1/4
    Eth114/1/16 Down  Eth1/4
  Logs:
  01/01/2009 00:04:06.811032: Module register received5.2(1)N1(1)
```

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

```
switch(config-fex)# show interface ethernet 1/19 fex-intf
'Fabric          FEX
Interface        Interfaces
-----
Eth1/19          Eth100/1/4      Eth100/1/3      Eth100/1/2      Eth100/1/1
```

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

```
switch(config-fex)# show interface fex-fabric
Fabric          Fabric          Fex          FEX
```

```

Fex  Port      Port State  Uplink  Model      Serial
-----
100  Eth1/19     Active    1 N2K-B22FTS-P FOC1514256S
100  Eth1/20     Active    2 N2K-B22FTS-P FOC1514256S
100  Eth1/21     Active    3 N2K-B22FTS-P FOC1514256S
100  Eth1/22     Active    4 N2K-B22FTS-P FOC1514256S
switch(config-fex)#

```



Note

The above example shows a Fabric Extender with four uplink connections.

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.

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.

Command	Purpose
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(config-fex)# show module fex
FEX Mod Ports Card Type                               Model                               Status.
-----
100 1    16    Fabric Extender 16x10GE + 8x10G Module N2K-B22FTS-P present

FEX Mod Sw                Hw                World-Wide-Name(s) (WWN)
-----
100 1    5.2(1)N1(1)        0.102  --

FEX Mod  MAC-Address(es)                               Serial-Num
-----
100 1    442b-0358.8200 to 442b.0358.820f          FOC1613R0UP
switch(config-fex)# show module fex 100
FEX Mod Ports Card Type                               Model                               Status.
-----
100 1    16    Fabric Extender 16x10GE + 8x10G Module N2K-B22FTS-P present

FEX Mod Sw                Hw                World-Wide-Name(s) (WWN)
-----
100 1    5.2(1)N1(1)        0.102  --

FEX Mod  MAC-Address(es)                               Serial-Num
-----
100 1    442b-0358.8200 to 442b.0358.820f          FOC1613R0UP
switch(config-fex)#
```

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

```
switch(config-fex)# show inventory fex 100
NAME: "FEX 100 CHASSIS", DESCR: "N2K-B22FTS-P CHASSIS"
PID: N2K-B22FTS-P , VID: V00 , SN: FOC1613R0UP

NAME: "FEX 100 Module 1", DESCR: "Fabric Extender Module: 16x10GE, 8x10GE Supervisor"
PID: N2K-B22FTS-P , VID: V00 , SN: FOC16125KR8
switch(config-fex)#
```

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

```
switch(config-fex)# show diagnostic result fex 100
FEX-100: Fabric Extender 16x10GE + 8x10G Module SerialNo   : FOC16125KR8
Overall Diagnostic Result for FEX-100   : OK

Test results: (. = Pass, F = Fail, U = Untested)
TestPlatform:
0)          SPROM: -----> .
1)  Inband interface: -----> .
2)          Fan: -----> .
3)    Power Supply: -----> .
4) Temperature Sensor: -----> .
Eth   1  2  3  4  5  6  7  8
Port -----
. . . . .
```

```

Eth    9 10 11 12 13 14 15 16
Port  -----
      . . . . .

TestFabricPorts:
Fabric 1 2 3 4 5 6 7 8
Port  -----
      . . . . .
switch(config-fex)#
    
```

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

```

switch(config-fex)# show environment fex 100
Temperature Fex 100:
-----
Module   Sensor      MajorThresh  MinorThres  CurTemp     Status
        (Celsius)  (Celsius)   (Celsius)
-----
1        Outlet-1    85           75          39          ok
1        Outlet-2    85           75          48          ok
1        Inlet-1     85           75          36          ok
1        Inlet-2     85           75          27          ok
1        Die-1      110          105         55          ok
switch(config-fex)#
    
```

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

```

switch(config-fex)# show sprom fex 100 all
DISPLAY FEX 100 SUP sprom contents
Common block:
Block Signature : 0xabab
Block Version   : 3
Block Length    : 160
Block Checksum  : 0x1829
EEPROM Size     : 65535
Block Count     : 3
FRU Major Type  : 0x6002
FRU Minor Type  : 0x0
OEM String      : Cisco Systems, Inc.
Product Number  : N2K-B22FTS-P
Serial Number   : FOC16125KR8
Part Number     : 73-14631-01
Part Revision   : 03
Mfg Deviation   : 0
H/W Version     : 0.102
Mfg Bits        : 0
Engineer Use    : 0
snmpOID         : 9.12.3.1.9.78.5.0
Power Consump   : 625
RMA Code        : 0-0-0-0
CLEI Code       : CMUCACGBAA
VID             : V00
Supervisor Module specific block:
Block Signature : 0x6002
Block Version   : 2
Block Length    : 103
Block Checksum  : 0x261C
Feature Bits    : 0x0
HW Changes Bits : 0x0
Card Index      : 11073
MAC Addresses   : 00-00-00-00-00-00
Number of MACs  : 0
Number of EPLD  : 0
    
```



```

Port Type-Num      : 1-8
Sensor #1          : 85,75
Sensor #2          : 85,75
Sensor #3          : 85,75
Sensor #4          : 85,75
Sensor #5          : 95,85
Sensor #6          : -128,-128
Sensor #7          : -128,-128
Sensor #8          : -128,-128
Max Connector Power: 625
Cooling Requirement: 8
Ambient Temperature: 40

```

DISPLAY FEX 100 backplane srom contents:

Common block:

```

Block Signature : 0xabab
Block Version   : 3
Block Length    : 160
Block Checksum  : 0x180b
EEPROM Size     : 65535
Block Count     : 5

```

```

FRU Major Type : 0x6001
FRU Minor Type : 0x0
OEM String     : Cisco Systems, Inc.
Product Number : N2K-B22FTS-P
Serial Number  : FOC1613R0UP
Part Number    : 68-4476-01
Part Revision  : 04
Mfg Deviation  : 0
H/W Version    : 0.102
Mfg Bits       : 0
Engineer Use   : 0
snmpOID        : 9.12.3.1.3.1210.0.0
Power Consump  : 0
RMA Code       : 0-0-0-0
CLEI Code      : CMUCACGBAA
VID            : V00

```

Chassis specific block:

```

Block Signature : 0x6001
Block Version   : 3
Block Length    : 39
Block Checksum  : 0x217
Feature Bits    : 0x0
HW Changes Bits : 0x0
Stackmib OID    : 0
MAC Addresses   : 44-2b-03-58-82-00
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
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 UPLINK 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  :
Mfg Deviation  :
H/W Version    : 0.0
Mfg Bits       : 0
Engineer Use   : 0
snmpOID        : 0.0.0.0.0.0.0.0
Power Consump  : 0
RMA Code       : 0-0-0-0
CLEI Code      :
VID            : V00

```

Supervisor Module specific block:

```

Block Signature : 0x0
Block Version   : 0
Block Length    : 0
Block Checksum  : 0x0
Feature Bits    : 0x0

```

```

HW Changes Bits : 0x0
Card Index      : 0
MAC Addresses   : 00-00-00-00-00-00
Number of MACs  : 0
Number of EPLD  : 0
Port Type-Num   : 0-0
Sensor #1       : 0,0
Sensor #2       : 0,0
Sensor #3       : 0,0
Sensor #4       : 0,0
Sensor #5       : 0,0
Sensor #6       : 0,0
Sensor #7       : 0,0
Sensor #8       : 0,0
Max Connector Power: 0
Cooling Requirement: 0
Ambient Temperature: 0
switch(config-fex)#
switch(config-fex)#
switch(config-fex)#
switch(config-fex)#
switch(config-fex)#
switch(config-fex)#

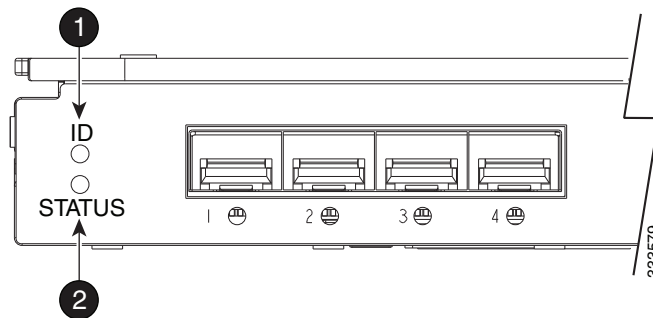
```

Verifying the Configuration

To verify the configuration,

1. Locate the LEDs. See [Figure 5](#).

Figure 5 Identifying LEDs



1	UID LED	2	Health LED
----------	---------	----------	------------

2. Check the LEDs and refer to the indicators described in the following table.

Item	Description	Indicators
1	UID LED—Helps locate a specific module in the BladeSystem, such as for replacement.	Off
2	Health LED—Indicates normal operation.	Steady green light

Additional Information

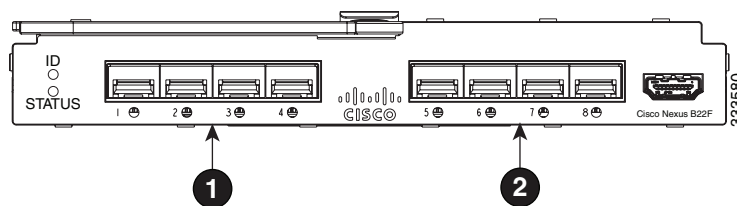
For more information on the association between the server mezzanine bays and the chassis interconnect bays, see the setup and installation guide provided with your chassis. For more information see the Fujitsu websites:

- <http://manuals.ts.fujitsu.com/index.php?l=en>
- <http://jp.fujitsu.com/platform/server/primergy/manual/> (for Japan)

The location where you install the mezzanine card determines where you need to install the connection blades such as the Cisco Nexus B22 Fabric Extender for Fujitsu.

Figure 6 shows the external ports for the Cisco Nexus B22 Fabric Extender for Fujitsu.

Figure 6 External Ports



1	External ports 1, 2, 3, and 4	2	External ports 5, 6, 7, and 8
----------	-------------------------------	----------	-------------------------------



Note

For specific information about the Blade system chassis internal port mapping, see the setup and installation guide provided with the chassis.

Related Documentation

Documentation for Cisco Nexus 5000 Series Switches is available at the following URL:
http://www.cisco.com/en/US/products/ps9670/tsd_products_support_series_home.html

Documentation for the Cisco Nexus 2000 Series Fabric Extenders is available at the following URL:
http://www.cisco.com/en/US/products/ps10110/tsd_products_support_series_home.html

Information about the Fujitsu BladeServers is available at:
<http://jp.fujitsu.com/platform/server/primergy/blade/> (for Japan)

Technical Support

Technical support for the Cisco Nexus B22 Fabric Extender for Fujitsu can be obtained from either Cisco or Fujitsu. This topic includes the following sections:

- [For Fujitsu Support, page 21](#)
- [For Cisco Support, page 21](#)

For Fujitsu Support

For hardware replacement under warranty, contact Fujitsu.

For support information, see the Fujitsu support and downloads page at:
<http://www.fujitsu.com/global/support/>

Fujitsu offers country specific support. Use the country selector on the Fujitsu support and downloads page to find support or contact information.

For contact options in the United States, see <http://www.fujitsu.com/us/support/>.

To contact Fujitsu by phone call 1-888-FUJITSU. This service is available 24 hours a day, 7 days a week. For continuous quality improvement, calls may be recorded or monitored.

For Cisco Support

For configuration or troubleshooting assistance, the Cisco Nexus B22 Fabric Extender for Fujitsu is covered under the Cisco support contract of the parent Cisco Nexus switch.

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

Subscribe to the *What's New in Cisco Product Documentation* as an RSS feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service. Cisco currently supports RSS Version 2.0.

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