

Software FEX Mode Configuration

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By default, Cisco Nexus switches operate in the switch mode. However, Cisco Nexus 9300-FX3 platform switches also support the FEX mode. This FEX mode allows a switch to operate like a Cisco Nexus 2000 Series Fabric Extender. As a result, the switch will not require any independent software upgrades, configuration backups, or other maintenance tasks.

Make sure that you disassociate FEX and configure FEX on the switch before replacing 48 interface type FEX with 32 interface type FEX. For detailed steps, see Associating a Fabric Extender to a Fabric Interface.

Note Security Group Access Control Lists (SGACL) are not supported on FEX ports or configurations. Do not configure SGACL on FEX-attached interfaces.

Cisco Nexus switches in software FEX mode support 25G FEX connectivity to the host for a single point of management use cases.

See Platform Support Matrix, to check for the supported switches.

HIF and NIF Port Details

In the Cisco Nexus 9000 Series Switches software FEX mode, Host Interface (HIF) ports and Network Interface (NIF) ports play crucial roles in network connectivity and performance. HIF ports are used to connect end devices to the network, facilitating communication and data transfer at high speeds. NIF ports, on the other hand, are used to link the FEX to the parent switch, ensuring efficient data routing and network management.

The following table provides a detailed overview of the Host Interface (HIF) and Network Interface (NIF) port configurations for the specified Cisco Nexus 9000 Series Switches models:

Model	Host Interface (HIF) Ports	Network Interface (NIF) Ports
N9K-C93180YC-FX3/FX3S	48 x 100M/1G/10G/25 Gbps SFP28	6 x QSFP28 10/40/25/100 Gbps
N9K-C93108TC-FX3P	48 x 1/10 Gbps BASE-T	6 x QSFP28 10/40/25/100 Gbps

TOR/Switch to FEX Conversion

This section describes how to convert the switch usage from TOR/switch mode to FEX mode.

- Configure the switch in a way that it does not boot from Cisco NX-OS mode.
- Run the **copy running-config startup-config** command before booting the FEX image.
- Run the **boot fex** command. This command sets the FEX as the boot variable.
- Reload the switch.

Note Do not run the **copy running-config startup-config** command after you run the **boot fex** command.

A sample ToR to FEX conversion is provided below.

```
switch(config)# write erase
switch(config)# no boot nxos
switch(config)# copy running-config startup-config
switch(config)# boot fex
switch(config)# reload
```

FEX to TOR/Switch Conversion

This section describes how to convert the switch usage from FEX to switch/TOR mode.

- Run the conversion command, boot nx-os bootflash:/<nxos image> from the FEX terminal.
- You must upload a Cisco NX-OS image when you use this conversion command.
- This conversion command verifies the Cisco NX-OS image and sets the boot variable. Hence the FEX boots with the specified Cisco NX-OS image on the reload.

Note FEX does not have or save any configuration. Hence you must save the running configuration as the startup configuration.

A sample FEX to ToR conversion is provided below.

```
fex-1(config)# boot nxos bootflash:/<nxos image>
fex-1(config)# reload
```

You can use the following commands to configure management IP and copy the NX-OS image to FEX.

Commands	Uses
dir	Lists all files in bootlfash.
delete *file-name*	Removes file in bootlfash.
interface mgmt *0* **ip address** *ip address network mask* **ip route** *network_gateway*	Configures management IP to FEX. The management IP must be connected physically.

Commands	Uses
show interface mgmt *0* **brief**	Verifies the configured management IP.
copy scp:[//[username@]server][/path] bootflash:[filename]	Copies the Cisco NX-OS image file to FEX for converting it to ToR mode.

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