



F Commands

This chapter describes the system management commands that begin with F.

feature netflow

To globally enable the NetFlow feature, use the **feature netflow** command. To disable NetFlow, use the **no** form of this command.

feature netflow

no feature netflow

Syntax Description This command does not have any arguments or keywords.

Defaults Disabled

Command Modes Global configuration mode

Command History	Release	Modification
	7.0(0)N1(1)	This command was introduced.

Usage Guidelines This command does not require a license.

Examples This example shows how to enable NetFlow on a Cisco NX-OS device:

```
switch(config)# configure terminal
switch(config)# feature netflow
switch(config)#
```

This example shows how to disable NetFlow on a Cisco NX-OS device:

```
switch(config)# no feature netflow
switch(config)#
```

Related Commands	Command	Description
	flow record	Creates a flow record and enters flow record configuration mode.
	show flow record	Displays information about NetFlow flow records.

feature ptp

To enable the PTP feature, use the **feature ptp** command. To unconfigure the PTP feature, use the **no** form of this command.

feature ptp

no feature ptp

Syntax Description

There are no arguments or keywords for this command.

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 PTP on the device:

```
switch# configure terminal
switch(config)# feature ptp
```

Related Commands

Command	Description
feature ptp	Enables or disables PTP on the device.
ptp source	Configures the source IP address for all PTP packets.
ptp domain	Configures the domain number to use for this clock.
ptp priority1	Configures the priority 1 value to use when advertising this clock.
ptp priority2	Configures the priority 1 value to use when advertising this clock.
show ptp brief	Displays the PTP status.
show ptp clock	Displays the properties of the local clock.

fex-group

To create a Fabric Extender (FEX) group, use the **fex-group** command. To delete a FEX group., use the **no** form of this command.

fex-group *name*

no fex-group *name*

Syntax Description

<i>name</i>	Specifies the name of the FEX group.
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Command Default

None

Command Modes

Global configuration mode

Command History

Release	Modification
7.3(0)N1(1)	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

This example shows how to create a FEX group “fg1”:

```
switch# fex-group fg1
```

This example shows how to delete a FEX group “fg1”:

```
switch# no fex-group fg1
```

Related Commands

Command	Description
configure maintenance profile	Enters a maintenance profile configuration session to create a custom maintenance mode profile or a custom normal mode profile.
show run mmode	Displays the currently running maintenance profile configuration on a switch.
show system mode	Displays the current system mode and the current state of the maintenance mode timer when the switch is in maintenance mode.
system mode maintenance on-reload reset-reason	Boots the switch into maintenance mode automatically in the event of a specified system crash.

Command	Description
system mode maintenance shutdown	Shuts down all protocols and interfaces except the management interface (by using the shutdown command and not the default isolate command).
system mode maintenance timeout	Configures the maintenance window timer to keep the switch in maintenance mode for a specified number of minutes.
Command	Description

filter access-group

To apply an access group to an Encapsulated Remote Switched Port Analyzer (ERSPAN) or Switched Port Analyzer (SPAN) source session, use the **filter access-group** command. To remove an access group, use the **no** form of this command.

filter access-group *acl-filter*

no filter access-group *acl-filter*

Syntax Description	<i>acl-filter</i>	Access control list (ACL) name. An ACL associates the access list with the SPAN session.
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Command Default	None
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Command Modes	SPAN session configuration mode (config-monitor) ERSPAN source session configuration mode (config-erspan-src)
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Command History	Release	Modification
	7.0(0)N1(1)	This command was introduced.

Usage Guidelines	ACL filtering allows you to filter SPAN and ERSPAN traffic so that you can reduce bandwidth congestion. An ACL is a list of permissions associated to any entity in the system; in the context of a monitoring session, an ACL is a list of rules which results in the spanning of traffic that matches the ACL criteria, saving bandwidth for more meaningful data. The filter applies to all sources in the session.
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Note

If the ACL has rules with a log option configured, the log option is ignored but the rule is implemented.

Examples

This example shows how to enable an ACL filter for a SPAN session:

```
switch# configure terminal
switch(config)# monitor session 3
switch(config-monitor)# filter access-group acl_span_ses_3
```

This example shows how to enable an ACL filter for a ERSPAN session:

```
switch# configure terminal
switch(config)# monitor session 4 type erspan-source
switch(config-erspan-src)# filter access-group acl_erspan_ses_3
```

Related Commands

Command	Description
monitor session	Creates a new SPAN or ERSPAN session.

flow monitor

To create a Flexible NetFlow flow monitor or to modify an existing Flexible NetFlow flow monitor and enter flow monitor configuration mode, use the **flow monitor** command. To remove a Flexible NetFlow flow monitor, use the **no** form of this command.

flow monitor *monitor-name*

no flow monitor *monitor-name*

Syntax Description

<i>monitor-name</i>	Name of the flow monitor that is created or modified.
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Defaults

Flow monitors are not present in the configuration until you create them.

Command Modes

Global configuration mode

Command History

Release	Modification
7.0(0)N1(1)	This command was introduced.

Usage Guidelines

Flow monitors are the Flexible NetFlow component that is applied to interfaces to perform network traffic monitoring. Flow monitors consist of a record that you add to the flow monitor after you create the flow monitor and a cache that is automatically created at the time that the flow monitor is applied to the first interface. Flow data is collected from the network traffic during the monitoring process based on the key and nonkey fields in record that is configured for the flow monitor and stored in the flow monitor cache.

Once you enter the flow monitor configuration mode, the prompt changes to the following:

```
switch(config-flow-monitor)#
```

Within the flow monitor configuration mode, the following keywords and arguments are available to configure the flow monitor:

- **description** *description*—Provides a description for this flow monitor; you use a maximum of 63 characters.
- **exit**—Exits from the current configuration mode.
- **exporter** *name*—Specifies the name of an exporter to export records.
- **no**—Negates a command or sets its defaults.
- **record** { *record-name* | **netflow ipv4** *collection-type* | **netflow-original** }—Specifies a flow record to use as follows:
 - *record-name*—Name of a record.
 - **netflow ipv4** *collection-type*—Specifies the traditional IPv4 NetFlow collection schemes as follows:
 - original-input**—Specifies the traditional IPv4 input NetFlow.

- original-output**—Specifies the traditional IPv4 output NetFlow.
- protocol-port**—Specifies the protocol and ports aggregation scheme.
- **netflow-original**—Specifies the traditional IPv4 input NetFlow with origin autonomous systems.

The **netflow-original** and **original-input** keywords are the same and are equivalent to the following commands:

- **match ipv4 source address**
- **match ipv4 destination address**
- **match ip tos**
- **match ip protocol**
- **match transport source-port**
- **match transport destination-port**
- **match interface input**
- **collect counter bytes**
- **collect counter packet**
- **collect timestamp sys-uptime first**
- **collect timestamp sys-uptime last**
- **collect interface output**
- **collect transport tcp flags**
- **collect routing next-hop address ipv4**
- **collect routing source as**
- **collect routing destination as**

The **original-output** keywords are the same as the **original-input** keywords except for the following:

- **match interface output** (instead of **match interface input**)
- **collect interface input** (instead of **collect interface output**)

This command does not require a license.

Examples

This example shows how to create and configure a flow monitor named FLOW-MONITOR-1:

```
switch(config)# flow monitor FLOW-MONITOR-1
switch(config-flow-monitor)# description monitor location las vegas, NV
switch(config-flow-monitor)# exporter exporter-name1
switch(config-flow-monitor)# record test-record
switch(config-flow-monitor)# netflow ipv4 original-input
```

Related Commands

Command	Description
feature netflow	Enables the NetFlow feature.

flow monitor (interface)

To enable a Flexible NetFlow flow monitor for traffic that the router is receiving or forwarding, use the **flow monitor (interface)** command. To disable a Flexible NetFlow flow monitor, use the **no** form of this command.

```
{ip | ipv6} flow monitor monitor-name input sampler sampler-name
```

```
no {ip | ipv6} flow monitor monitor-name input sampler sampler-name
```

Syntax Description

ip	Configures IP Flexible NetFlow flow monitoring.
ipv6	Configures IPv6 Flexible NetFlow flow monitoring.
<i>monitor-name</i>	Name of a flow monitor that you previously configured.
input	Monitors traffic that the routers are receiving on the interface.
sampler	Specifies the name of a flow sampler for the flow monitor.
<i>sampler-name</i>	Flow sampler for this flow monitor using the name of a sampler that you previously configured.

Defaults

Disabled

Command Modes

Interface configuration (config-if)
VLAN feature configuration (config-vlan-config)

Command History

Release	Modification
7.0(0)N1(1)	This command was introduced.

Usage Guidelines

You must have already created a flow monitor by using the **flow monitor** command before you can apply the flow monitor to an interface with the **ip flow monitor** or **ipv6 flow monitor** command to enable traffic monitoring with Flexible NetFlow.

You must have already created a sampler by using the **sampler** command before you can enable a flow sampler for this flow monitor with the **ip flow monitor** or **ipv6 flow monitor** command.

When adding a sampler to a flow monitor, only packets that are selected by the named sampler are entered into the cache to form flows. Each use of a sampler results in separate statistics being stored for that usage.

You cannot add a sampler to a flow monitor after the flow monitor has been enabled on an interface. You must remove the flow monitor from the interface before you enable the same flow monitor with a sampler. See the “Examples” section for more information.



Note

The statistics for each flow needs to be scaled to give the expected true usage. For example, if you are using a 1 in 16 sampler, you must multiply the packet and byte counters by 16.

This command does not require a license.

Examples

This example shows how to enable an IPv6 flow monitor for monitoring input traffic on a VLAN:

```
switch(config)# vlan configuration 2
switch(config-vlan-config)# ip flow monitor FLOW-MONITOR-1 input sampler vlan-sampler
```



Note

- VLAN configuration mode enables you to configure VLANs independently of their creation, which is required for VTP client support.
- Egress NetFlow on VLAN is not supported

This example shows how to enable a flow monitor for monitoring input traffic:

```
switch(config)# interface ethernet1/1
switch(config-if)# ip flow monitor FLOW-MONITOR-1 input sampler sampler-1
```

This example shows how to enable two different flow monitors on two different interfaces for monitoring input traffic:

```
switch(config)# interface ethernet1/1
switch(config-if)# ip flow monitor FLOW-MONITOR-1 input sampler sampler-2
switch(config)# interface ethernet1/2
switch(config-if)# ip flow monitor FLOW-MONITOR-2 input sampler sampler-3
```

This example shows how to enable a flow monitor for monitoring input traffic with a sampler to limit the input packets that are sampled:

```
switch(config)# interface ethernet1/1
switch(config-if)# ip flow monitor FLOW-MONITOR-1 input sampler SAMPLER-1
```

This example shows how to remove the flow monitor and sampler from an IPv6 interface:

```
switch(config)# interface Ethernet1/1
switch(config-if)# no ipv6 flow monitor FLOW-MONITOR-1 input sampler SAMPLER-1
```

Related Commands

Command	Description
flow exporter	Creates a flow exporter.
flow monitor	Creates a flow monitor.
flow record	Creates a flow record.
sampler	Creates a flow sampler.

flow record

To create a Flexible NetFlow flow record or to modify an existing Flexible NetFlow flow record and enter flow record configuration mode, use the **flow record** command. To remove a Flexible NetFlow flow record, use the **no** form of this command.

flow record *record-name*

no flow record *record-name*

Syntax Description

<i>record-name</i>	Name of the flow record that is created or modified.
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Defaults

Flow records are not present in the configuration until you create them.

Command Modes

Global configuration mode

Command History

Release	Modification
7.0(0)N1(1)	This command was introduced.

Usage Guidelines

Flexible NetFlow uses key and nonkey fields just as original NetFlow does to create and populate flows in a cache. In Flexible NetFlow, a combination of key and nonkey fields is called a record. Original NetFlow and Flexible NetFlow both use the values in key fields in IP datagrams, such as the IP source or destination address and the source or destination transport protocol port, as the criteria for determining when a new flow must be created in the cache while network traffic is being monitored. A flow is defined as a stream of packets between a given source and a given destination. New flows are created whenever NetFlow analyzes a packet that has a unique value in one of the key fields.

Once you enter the flow record configuration mode, the prompt changes to the following:

```
switch(config-flow-record)#
```

Within the flow record configuration mode, the following keywords and arguments are available to configure the flow record:

- **collect**—Specifies a nonkey field. See the **collect** command for additional information.
- **description** *description*—Provides a description for this flow record; you use a maximum of 63 characters.
- **exit**—Exits from the current configuration mode.
- **match**—Specifies a key field. See the **match** command for additional information.
- **no**—Negates a command or sets its defaults.

Cisco NX-OS enables the following match fields by default when you create a flow record:

- **match interface input**
- **match interface output**

- **match flow direction**

This command does not require a license.

Examples

This example shows how to create a flow record and enter flow record configuration mode:

```
switch(config)# flow record FLOW-RECORD-1  
switch(config-flow-record)#
```

Related Commands

Command	Description
flow monitor	Creates a flow monitor.

flow timeout

To create a Flexible NetFlow flow timeout or to modify an existing Flexible NetFlow flow timeout, use the **flow timeout** command. To remove a Flexible NetFlow flow timeout, use the **no** form of this command.

flow timeout [*seconds*]

no flow timeout [*seconds*]

Syntax Description	<i>seconds</i>	Flow timeout value in seconds. The range is from 5 to 60 seconds.
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Defaults	The default settings is 15 seconds.
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Command Modes	Global configuration mode
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Command History	Release	Modification
	7.0(0)N1(1)	This command was introduced.

Usage Guidelines	Cisco NX-OS exports data to the remote collector, using UDP frames, whenever a timeout occurs. By default, the flow timeout value is set to 15 seconds.
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This command does not require a license.

Examples	This example shows how to specify the flow timeout in seconds:
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```
switch(config)# flow timeout 45
switch(config)#
```

Related Commands	Command	Description
	flow record	Creates a flow exporter.
	flow monitor	Creates a flow monitor.