



Configuring Data Export for Cisco IOS Flexible NetFlow with Flow Exporters

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This document contains information about and instructions for configuring flow exporters to export Flexible NetFlow data to remote systems such as a UNIX server running NetFlow collector.

NetFlow is a Cisco IOS technology that provides statistics on packets flowing through the router. NetFlow is the standard for acquiring IP operational data from IP networks. NetFlow provides network and security monitoring, network planning, traffic analysis, and IP accounting.

Flexible NetFlow improves on original NetFlow by adding the capability to customize the traffic analysis parameters for your specific requirements. Flexible NetFlow makes it easier to create more complex configurations for traffic analysis and data export through the use of reusable configuration components.

Finding Feature Information

Your software release may not support all the features documented in this module. For the latest feature information and caveats, see the release notes for your platform and software release. To find information about the features documented in this module, and to see a list of the releases in which each feature is supported, see the [“Feature Information for Flexible NetFlow” section on page 16](#).

Use Cisco Feature Navigator to find information about platform support and Cisco IOS, Catalyst OS, and Cisco IOS XE software image support. To access Cisco Feature Navigator, go to <http://www.cisco.com/go/cfn>. An account on Cisco.com is not required.

Contents

- [Prerequisites for Configuring Data Export for Flexible NetFlow with Flow Exporters, page 2](#)
- [Restrictions for Configuring Data Export for Flexible NetFlow with Flow Exporters, page 2](#)
- [Information About Data Export for Flexible NetFlow with Flow Exporters, page 2](#)
- [How to Configure Data Export for Flexible NetFlow with Flow Exporters, page 3](#)



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- [Configuration Examples for Flexible NetFlow Data Export with Flow Exporters](#), page 10
- [Where to Go Next](#), page 14
- [Additional References](#), page 14
- [Feature Information for Flexible NetFlow](#), page 16

Prerequisites for Configuring Data Export for Flexible NetFlow with Flow Exporters

The following prerequisites must be met before you can configure Flexible NetFlow:

- You are familiar with the information in the “[Cisco IOS Flexible NetFlow Overview](#)” module.
- The networking device must be running a Cisco IOS release that supports Flexible NetFlow. See the “[Cisco IOS Flexible NetFlow Features Roadmap](#)” module for a list of Cisco IOS software releases that support Flexible NetFlow.

IPv4 Traffic

- The networking device must be configured for IPv4 routing.
- One of the following must be enabled on your router and on any interfaces on which you want to enable Flexible NetFlow: Cisco Express Forwarding (CEF) or distributed CEF (dCEF).

IPv6 Traffic

- The networking device must be configured for IPv6 routing.
- One of the following must be enabled on your router and on any interfaces on which you want to enable Flexible NetFlow: Cisco Express Forwarding IPv6 (CEF IPv6) or distributed CEF IPv6 (dCEF IPv6).

Restrictions for Configuring Data Export for Flexible NetFlow with Flow Exporters

The following restriction applies to configuring data export for Flexible NetFlow with flow exporters:

- The NetFlow Version 5 export protocol that was first shipped in Cisco IOS Release 12.4(22)T is supported only for flow monitors that use the Flexible NetFlow predefined records.

Information About Data Export for Flexible NetFlow with Flow Exporters

Before you configure a flow exporter, you need to understand the following:

- [Flow Exporters](#), page 3
- [Benefits of Flexible NetFlow Flow Exporters](#), page 3

Flow Exporters

Flow exporters are created as separate components in a router's configuration. Exporters are assigned to flow monitors to export the data from the flow monitor cache to a remote system such as a NetFlow collector. Flow monitors can support more than one exporter. Each exporter can be customized to meet the requirements of the flow monitor or monitors in which it is used and the NetFlow collector systems to which it is exporting data.

Benefits of Flexible NetFlow Flow Exporters

Flexible NetFlow allows you to configure many different flow exporters, depending on your requirements. Some of the benefits of Flexible NetFlow flow exporters are as follows:

- Using flow exporters, you can create an exporter for every type of traffic that you want to analyze so that you can send each type of traffic to a different NetFlow collector. Original NetFlow sends the data in a cache for all of the analyzed traffic to a maximum of two export destinations.
- Flow exporters support up to 10 exporters per flow monitor. Original NetFlow is limited to only two export destinations per cache.
- In Cisco IOS Release 12.4(20)T and newer releases, flow exporters can use class of service (CoS) in the packets that are sent to export destinations to help ensure that the packets are given the correct priority throughout the network. Original NetFlow exporters do not use CoS in the packets that are sent to export destinations.
- In Cisco IOS Release 12.4(20)T and newer releases flow exporter, traffic can be encrypted.

How to Configure Data Export for Flexible NetFlow with Flow Exporters

The tasks in this section explain how to export the data that is collected by Flexible NetFlow to a remote system for further analysis and storage.

Flow Exporters

Flow exporters are used to send the data that you collect with Flexible NetFlow to a remote system such as a NetFlow collector. Flow exporters use UDP as the transport protocol.

Restrictions

Each flow exporter supports only one destination. If you want to export the data to multiple destinations, you must configure multiple flow exporters and assign them to the flow monitor. Flow exporters are added to flow monitors to enable data export from the flow monitor cache.

**Note**

Only the keywords and arguments required for the Flexible NetFlow commands used in these tasks are explained in these tasks. For information about the other keywords and arguments available for these Flexible NetFlow commands, refer to the [Cisco IOS Flexible NetFlow Command Reference](#).

To configure data export for Flexible NetFlow, perform the tasks in this section:

- [Configuring the Flow Exporter, page 4](#)
- [Verifying the Flow Exporter, page 6](#) (optional)
- [Configuring and Enabling Flexible NetFlow with Data Export, page 7](#)
- [Verifying That Data Export Is Enabled for the Flow Monitor, page 10](#) (optional)

Configuring the Flow Exporter

To configure the flow exporter, perform the following required task.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **flow exporter** *exporter-name*
4. **description** *string*
5. **destination** {*ip-address* | *hostname*} [**vrf** *vrf-name*]
6. **export-protocol** {**netflow-v5** | **netflow-v9**}
7. **dscp** *dscp*
8. **source** *type number*
9. **option** {{**exporter-stats** | **interface-table** | **sampler-table**} [**timeout** *seconds*]}
10. **output-features**
11. **template data timeout** *seconds*
12. **transport udp** *udp-port*
13. **ttl** *tll*
14. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	configure terminal Example: Router# configure terminal	Enters global configuration mode.
Step 3	flow exporter <i>exporter-name</i> Example: Router(config)# flow exporter EXPORTER-1	Creates the flow exporter and enters flow exporter configuration mode. <ul style="list-style-type: none"> • This command also allows you to modify an existing flow exporter.

	Command or Action	Purpose
Step 4	<p>description <i>string</i></p> <p>Example: Router(config-flow-exporter)# description Exports to the Chicago datacenter</p>	(Optional) Configures a description to the exporter that will appear in the configuration and the display of the show flow exporter command.
Step 5	<p>destination {<i>ip-address</i> <i>hostname</i>} [vrf <i>vrf-name</i>]</p> <p>Example: Router(config-flow-exporter)# destination 172.16.10.2</p>	Specifies the IP address or hostname of the destination system for the exporter.
Step 6	<p>export-protocol {netflow-v5 netflow-v9}</p> <p>Example: Router(config-flow-exporter)# destination 172.16.10.2</p>	Specifies the version of the NetFlow export protocol used by the exporter. Default: netflow-v9 .
Step 7	<p>dscp <i>dscp</i></p> <p>Example: Router(config-flow-exporter)# dscp 63</p>	<p>(Optional) Configures DSCP parameters for datagrams sent by the exporter.</p> <ul style="list-style-type: none"> The range for the <i>dscp</i> argument is from 0 to 63. Default: 0.
Step 8	<p>source <i>type number</i></p> <p>Example: Router(config-flow-exporter)# source ethernet 0/0</p>	(Optional) Specifies the local interface from which the exporter will use the IP address as the source IP address for exported datagrams.
Step 9	<p>option {{exporter-stats interface-table sampler-table} [timeout <i>seconds</i>]}</p> <p>Example: Router(config-flow-exporter)# option exporter-stats timeout 120</p>	<p>(Optional) Configures options data parameters for the exporter.</p> <ul style="list-style-type: none"> You can configure all three options concurrently. The range for the <i>seconds</i> argument is 1 to 86400. Default: 600
Step 10	<p>output-features</p> <p>Example: Router(config-flow-exporter)# output-features</p>	(Optional) Enables sending export packets using quality of service (QoS) and encryption.
Step 11	<p>template data timeout <i>seconds</i></p> <p>Example: Router(config-flow-exporter)# template data timeout 120</p>	<p>(Optional) Configure resending of templates based on a timeout.</p> <ul style="list-style-type: none"> The range for the <i>seconds</i> argument is 1 to 86400 seconds. (86400 seconds = 24 hours)
Step 12	<p>transport udp <i>udp-port</i></p> <p>Example: Router(config-flow-exporter)# transport udp 650</p>	<p>Specifies the UDP port on which the destination system is listening for exported datagrams.</p> <ul style="list-style-type: none"> The range for the <i>udp-port</i> argument is from 1 to 65536.

	Command or Action	Purpose
Step 13	<code>ttl ttl</code> Example: Router(config-flow-exporter)# ttl 15	(Optional) Configures the time-to-live (TTL) value for datagrams sent by the exporter. <ul style="list-style-type: none"> The range for the <code>ttl</code> argument is from 1 to 255.
Step 14	<code>end</code> Example: Router(config-flow-exporter)# end	Exits flow exporter configuration mode and returns to privileged EXEC mode.

Verifying the Flow Exporter

To view the current status of a flow exporter and verify the configuration commands that you entered, perform the following optional task.

SUMMARY STEPS

1. `enable`
2. `show flow exporter`
3. `show running-config flow exporter`

DETAILED STEPS

Step 1 `enable`

The `enable` command enters privileged EXEC mode (enter the password if prompted).

```
Router> enable
Router#
```

Step 2 `show flow exporter`

The `show flow exporter` command shows the current status of the flow exporter that you specify.

```
Router# show flow exporter EXPORTER-1

Flow Exporter EXPORTER-1:
  Description:           Exports to the Chicago datacenter
  Transport Configuration:
    Destination IP address: 172.16.10.2
    Source IP address:     172.16.6.2
    Source Interface:      Ethernet0/0
    Transport Protocol:    UDP
    Destination Port:      650
    Source Port:           55864
    DSCP:                  0x3F
    TTL:                   15
    Output Features:       Used
  Options Configuration:
    exporter-stats (timeout 120 seconds)
    interface-table (timeout 120 seconds)
    sampler-table (timeout 120 seconds)
```

Step 3 `show running-config flow exporter`

The **show running-config flow exporter** command shows the configuration commands of the flow exporter that you specify.

```
Router# show running-config flow exporter EXPORTER-1

Building configuration...

Current configuration:
!
flow exporter EXPORTER-1
  description Exports to the Chicago datacenter
  destination 172.16.10.2
  source Ethernet0/0
  output-features
  dscp 63
  ttl 15
  transport udp 650
  template data timeout 120
  option exporter-stats timeout 120
  option interface-table timeout 120
  option sampler-table timeout 120
!
end
```

Configuring and Enabling Flexible NetFlow with Data Export

You must create a flow monitor to configure the types of traffic for which you want to export the cache data. You must enable the flow monitor by applying it to at least one interface to start exporting data. To configure and enable Flexible NetFlow with data export, perform this required task.

Flow Monitors

Each flow monitor has a separate cache assigned to it. Each flow monitor requires a record to define the contents and layout of its cache entries. The record format can be one of the predefined record formats, or an advanced user may create his or her own record format using the **collect** and **match** commands in flow record configuration mode.

Restrictions

You must remove a flow monitor from all of the interfaces to which you have applied it before you can modify the **record** format of the flow monitor.

When you specify the “NetFlow original” or the “NetFlow IPv4 original input” or the “NetFlow IPv6 original input” predefined record for the flow monitor to emulate original NetFlow, the flow monitor can be used only for analyzing input (ingress) traffic.

When you specify the “NetFlow IPv4 original output” or the “NetFlow IPv6 original output” predefined record for the flow monitor to emulate the Egress NetFlow Accounting feature, the flow monitor can be used only for analyzing output (egress) traffic.

SUMMARY STEPS

1. **enable**
2. **configure terminal**

3. **flow monitor** *monitor-name*
4. **record** {*record-name* | **netflow-original** | **netflow** {**ipv4** | **ipv6**} *record* [**peer**]}
5. **exporter** *exporter-name*
6. **exit**
7. **interface** *type number*
8. {**ip** | **ipv6**} **flow monitor** *monitor-name* {**input** | **output**}
9. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	configure terminal Example: Router# configure terminal	Enters global configuration mode.
Step 3	flow monitor <i>monitor-name</i> Example: Router(config)# flow monitor FLOW-MONITOR-1	Creates a flow monitor and enters Flexible NetFlow flow monitor configuration mode. <ul style="list-style-type: none"> • This command also allows you to modify an existing flow monitor.
Step 4	record { <i>record-name</i> netflow-original netflow { ipv4 ipv6 } <i>record</i> [peer]} Example: Router(config-flow-monitor)# record netflow ipv4 original-input and/or Example: Router(config-flow-monitor)# record netflow ipv6 original-input	Specifies the record for the flow monitor.
Step 5	exporter <i>exporter-name</i> Example: Router(config-flow-monitor)# exporter EXPORTER-1	Specifies the name of an exporter that you created previously.
Step 6	exit Example: Router(config-flow-monitor)# exit	Exits Flexible NetFlow flow monitor configuration mode and returns to global configuration mode.

	Command or Action	Purpose
Step 7	<p>interface <i>type number</i></p> <p>Example: Router(config)# interface ethernet 0/0</p>	Specifies an interface and enters interface configuration mode.
Step 8	<p>{ip ipv6} flow monitor <i>monitor-name</i> {input output}</p> <p>Example: Router(config-if)# ip flow monitor FLOW-MONITOR-1 input</p> <p>and/or</p> <p>Example: Router(config-if)# ipv6 flow monitor FLOW-MONITOR-2 input</p>	Activates the flow monitor that you created previously by assigning it to the interface to analyze traffic.
Step 9	<p>end</p> <p>Example: Router(config-if)# end</p>	Exits flow interface configuration mode and returns to privileged EXEC mode.

Verifying That Data Export Is Enabled for the Flow Monitor

To verify that data export is enabled for the flow monitor cache, perform the following optional task.

Prerequisites

Before you can view the flows in the flow monitor cache, the interface to which you applied the input flow monitor must be receiving traffic that meets the criteria defined by the NetFlow original record.

SUMMARY STEPS

1. **enable**
2. **show flow monitor name** *monitor-name*

DETAILED STEPS

Step 1 **enable**

The **enable** command enters privileged EXEC mode (enter the password if prompted).

```
Router> enable
```

```
Router#
```

Step 2 **show flow monitor name** *monitor-name*

Displays the status and statistics for a flow monitor.

```
Router# show flow monitor name FLOW-MONITOR-1
```

```
Flow Monitor FLOW-MONITOR-1:
  Description:      User defined
  Flow Record:     netflow original-input
  Flow Exporter:   EXPORTER-1
  Cache:
    Type:          normal
    Status:        allocated
    Size:          4096 entries / 311316 bytes
    Inactive Timeout: 15 secs
    Active Timeout: 1800 secs
    Update Timeout: 1800 secs
```

Configuration Examples for Flexible NetFlow Data Export with Flow Exporters

This section provides the following configuration examples:

- [Configuring Multiple Export Destinations: Example, page 11](#)
- [Configuring Sending Export Packets Using QoS: Example, page 11](#)
- [Configuring Version 5 Export: Example, page 13](#)

Configuring Multiple Export Destinations: Example

The following example shows how to configure multiple export destinations for Flexible NetFlow for IPv4 and IPv6 traffic.

This sample starts in global configuration mode:

```
!  
flow exporter EXPORTER-1  
  destination 172.16.10.2  
  transport udp 90  
  exit  
!  
flow exporter EXPORTER-2  
  destination 172.16.10.3  
  transport udp 90  
  exit  
!  
flow monitor FLOW-MONITOR-1  
  record netflow ipv4 original-input  
  exporter EXPORTER-2  
  exporter EXPORTER-1  
!  
!  
flow monitor FLOW-MONITOR-2  
  record netflow ipv6 original-input  
  exporter EXPORTER-2  
  exporter EXPORTER-1  
!  
  
ip cef  
!  
interface Ethernet0/0  
  ip address 172.16.6.2 255.255.255.0  
  ipv6 address 2001:DB8:2:ABCD::2/48  
  ip flow monitor FLOW-MONITOR-1 input  
  ipv6 flow monitor FLOW-MONITOR-2 input  
  
!
```

The following display output shows that the flow monitor is exporting data to the two exporters:

```
Router# show flow monitor FLOW-MONITOR-1  
Flow Monitor FLOW-MONITOR-1:  
  Description:      User defined  
  Flow Record:     netflow original-input  
  Flow Exporter:   EXPORTER-1  
                  EXPORTER-2  
  
Cache:  
  Type:            normal  
  Status:          allocated  
  Size:            4096 entries / 311316 bytes  
  Inactive Timeout: 15 secs  
  Active Timeout:  1800 secs  
  Update Timeout:  1800 secs
```

Configuring Sending Export Packets Using QoS: Example

The following example shows how to configure sending Flexible NetFlow export packets using quality of service (QoS).

**Note**

The Flexible NetFlow export packets to the destination host (IP address 10.0.1.2) are transmitted on Ethernet 0/1 using QoS.

This sample starts in global configuration mode:

```

!
flow record FLOW-RECORD-1
  match ipv4 source address
  collect counter packets
!
flow exporter FLOW-EXPORTER-1
  destination 10.0.1.2
  output-features
  dscp 18
!
flow monitor FLOW-MONITOR-1
  record FLOW-RECORD-1
  exporter FLOW-EXPORTER-1
  cache entries 1024
!
ip cef
!
class-map match-any COS3
!
policy-map PH_LABS_FRL_64k_16k_16k_8k_8k
  class COS3
    bandwidth percent 2
    random-detect dscp-based
    random-detect exponential-weighting-constant 1
    random-detect dscp 18 200 300 10
!
interface Ethernet0/0
  ip address 10.0.0.1 255.255.255.0
  ip flow monitor FLOW-MONITOR-1 input
!
interface Ethernet0/1
  ip address 10.0.1.1 255.255.255.0
  service-policy output PH_LABS_FRL_64k_16k_16k_8k_8k
!

```

The following display output shows that the flow monitor is exporting data using output feature support that enables the exported data to use QoS:

```

Router# show flow monitor FLOW-MONITOR-1
Flow Exporter FLOW-EXPORTER-1:
  Description:          User defined
  Transport Configuration:
    Destination IP address: 10.0.1.2
    Source IP address:     10.0.0.1
    Transport Protocol:    UDP
    Destination Port:      9995
    Source Port:           56750
    DSCP:                  0x12
    TTL:                   255
    Output Features:       Used

```

Configuring Version 5 Export: Example

The following example shows how to configure version 5 export for Flexible NetFlow.

This sample starts in global configuration mode:

```
!  
flow exporter EXPORTER-1  
  destination 172.16.10.2  
  export-protocol netflow-v5  
  transport udp 90  
  exit  
!  
flow monitor FLOW-MONITOR-1  
  record netflow ipv4 original-input  
  exporter EXPORTER-1  
!  
  
ip cef  
!  
interface Ethernet0/0  
  ip address 172.16.6.2 255.255.255.0  
  ip flow monitor FLOW-MONITOR-1 input  
  
!
```

The following display output shows that the flow monitor is exporting data to the two exporters:

```
Router# #show flow exporter FLOW-EXPORTER-6  
Flow Exporter FLOW-EXPORTER-6:  
  Description:          User defined  
  Export protocol:      NetFlow Version 5  
  Transport Configuration:  
    Destination IP address: 172.31.90.23  
    Source IP address:     10.1.1.2  
    Transport Protocol:    UDP  
    Destination Port:      90  
    Source Port:           55950  
    DSCP:                  0x0  
    TTL:                   255  
    Output Features:       Not Used
```

Where to Go Next

For information on advanced Flexible NetFlow configurations for specific purposes such as quality of service (QoS) and bandwidth monitoring, application and user flow monitoring and profiling, and security analysis, refer to the [“Customizing Cisco IOS Flexible NetFlow Flow Records and Flow Monitors”](#) module.

If you want to configure flow sampling to reduce the CPU overhead of analyzing traffic, refer to the [“Using Cisco IOS Flexible NetFlow Flow Sampling to Reduce the CPU Overhead of Analyzing Traffic”](#) module.

If you want to configure any of the predefined records for Flexible NetFlow refer, to the [“Configuring Cisco IOS Flexible NetFlow with Predefined Records”](#) module.

Additional References

The following sections provide references related to Flexible NetFlow.

Related Documents

Related Topic	Document Title
Cisco IOS commands	Cisco IOS Master Commands List, All Releases
Overview of Flexible NetFlow	“Cisco IOS Flexible NetFlow Overview”
Flexible NetFlow Feature Roadmap	“Cisco IOS Flexible NetFlow Features Roadmap”
Emulating original NetFlow with Flexible NetFlow	“Getting Started with Configuring Cisco IOS Flexible NetFlow”
Customizing Flexible NetFlow	“Customizing Cisco IOS Flexible NetFlow Flow Records and Flow Monitors”
Configuring flow sampling to reduce the overhead of monitoring traffic with Flexible NetFlow	“Using Cisco IOS Flexible NetFlow Flow Sampling to Reduce the CPU Overhead of Analyzing Traffic”
Configuring Flexible NetFlow using predefined records	“Configuring Cisco IOS Flexible NetFlow with Predefined Records”
Using Flexible NetFlow Top N Talkers to Analyze Network Traffic	“Using Cisco IOS Flexible NetFlow Top N Talkers to Analyze Network Traffic”
Configuring IPv4 Multicast Statistics Support for Flexible NetFlow	“Configuring IPv4 Multicast Statistics Support for Cisco IOS Flexible NetFlow”
Configuration commands for Flexible NetFlow	Cisco IOS Flexible NetFlow Command Reference

Standards

Standard	Title
There are no standards associated with this feature.	—

MIBs

MIB	MIBs Link
None.	To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL: http://www.cisco.com/go/mibs

RFCs

RFC	Title
RFC 3954	<i>Cisco Systems NetFlow Services Export Version 9</i>

Technical Assistance

Description	Link
<p>The Cisco Support website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies.</p> <p>To receive security and technical information about your products, you can subscribe to various services, such as the Product Alert Tool (accessed from Field Notices), the Cisco Technical Services Newsletter, and Really Simple Syndication (RSS) Feeds.</p> <p>Access to most tools on the Cisco Support website requires a Cisco.com user ID and password.</p>	http://www.cisco.com/cisco/web/support/index.html

Feature Information for Flexible NetFlow

Table 1 lists the features in this module and provides links to specific configuration information. Only features that were introduced or modified in Cisco IOS Release 12.2(1) or Cisco IOS Releases 12.2(1) or 12.0(3)S or a later release appear in the table.

For information on a feature in this technology that is not documented here, see the “[Cisco IOS Flexible NetFlow Features Roadmap](#)”.

Not all commands may be available in your Cisco IOS software release. For release information about a specific command, see the command reference documentation.

Use Cisco Feature Navigator to find information about platform support and software image support. Cisco Feature Navigator enables you to determine which Cisco IOS, Catalyst OS, and Cisco IOS XE software images support a specific software release, feature set, or platform. To access Cisco Feature Navigator, go to <http://www.cisco.com/go/cfn>. An account on Cisco.com is not required.

**Note**

Table 1 lists only the Cisco IOS software release that introduced support for a given feature in a given Cisco IOS software release train. Unless noted otherwise, subsequent releases of that Cisco IOS software release train also support that feature.

Table 1 Feature Information for Flexible NetFlow

Feature Name	Releases	Feature Configuration Information
Flexible NetFlow	12.4(9)T 12.2(33)SRC	<p>Flexible NetFlow is introduced.</p> <p>Support for this feature was added for Cisco 7200 series routers in Cisco IOS Release 12.2(33)SRC.</p> <p>Information about the Flexible NetFlow feature is included in the following sections:</p> <ul style="list-style-type: none"> • Prerequisites for Configuring Data Export for Flexible NetFlow with Flow Exporters, page 2 • Information About Data Export for Flexible NetFlow with Flow Exporters, page 2 • How to Configure Data Export for Flexible NetFlow with Flow Exporters, page 3 • Configuration Examples for Flexible NetFlow Data Export with Flow Exporters, page 10 <p>The following commands were introduced or modified: cache (Flexible NetFlow), clear flow exporter, clear flow monitor, clear sampler, collect counter, collect flow, collect interface, collect ipv4, collect ipv4 destination, collect ipv4 fragmentation, collect ipv4 section, collect ipv4 source, collect ipv4 total-length, collect ipv4 ttl, collect routing, collect timestamp sys-uptime, collect transport, collect transport icmp ipv4, collect transport tcp, collect transport udp, debug flow exporter, debug flow monitor, debug flow record, debug sampler, description (Flexible NetFlow), destination, dscp (Flexible NetFlow), exporter, flow exporter, flow monitor, flow record, ip flow monitor, match flow, match interface (Flexible NetFlow), match ipv4, match ipv4 destination, match ipv4 fragmentation, match ipv4 section, match ipv4 source, match ipv4 total-length, match ipv4 ttl, match routing, match transport, match transport icmp ipv4, match transport tcp, match transport udp, mode (Flexible NetFlow), option (Flexible NetFlow), record, sampler, show flow exporter, show flow interface, show flow monitor, show flow record, show sampler, source (Flexible NetFlow), statistics packet, template data timeout, transport (Flexible NetFlow).</p>

Table 1 Feature Information for Flexible NetFlow

Feature Name	Releases	Feature Configuration Information
Flexible NetFlow—IPv4 Unicast Flows	12.4(9)T 12.2(33)SRC	<p>Enables Flexible NetFlow to monitor IPv4 traffic.</p> <p>Support for this feature was added for Cisco 7200 series routers in Cisco IOS Release 12.2(33)SRC.</p> <p>Information about the Flexible NetFlow—IPv4 Unicast Flows feature is included in the following sections:</p> <ul style="list-style-type: none"> • Configuring and Enabling Flexible NetFlow with Data Export, page 7 • Configuring Multiple Export Destinations: Example, page 11 <p>The following commands were introduced or modified: collect routing, debug flow record, collect ipv4, collect ipv4 destination, collect ipv4 fragmentation, collect ipv4 section, collect ipv4 source, ip flow monitor, match ipv4, match ipv4 destination, match ipv4 fragmentation, match ipv4 section, match ipv4 source, match routing, record, show flow monitor, show flow record.</p>
Flexible NetFlow—NetFlow v9 Export Format	12.4(9)T 12.2(33)SRE	<p>Enables sending export packets using the Version 9 export format.</p> <p>Support for this feature was added for Cisco 7200 and 7300 NPE series routers in Cisco IOS Release 12.2(33)SRE.</p> <p>Information about the Flexible NetFlow—NetFlowV9 Export Format feature is included in the following sections:</p> <ul style="list-style-type: none"> • Configuring the Flow Exporter, page 4 <p>No commands were introduced or modified by this feature.</p>

Table 1 Feature Information for Flexible NetFlow

Feature Name	Releases	Feature Configuration Information
Flexible NetFlow—IPv6 Unicast Flows	12.4(20)T 12.2(33)SRE	<p>Enables Flexible NetFlow to monitor IPv6 traffic.</p> <p>Support for this feature was added for Cisco 7200 and 7300 NPE series routers in Cisco IOS Release 12.2(33)SRE.</p> <p>Information about the Flexible NetFlow—IPv6 Unicast Flows feature is included in the following sections:</p> <ul style="list-style-type: none"> • Configuring and Enabling Flexible NetFlow with Data Export, page 7 • Configuring Multiple Export Destinations: Example, page 11 <p>The following commands were introduced or modified: collect routing, debug flow record, match routing, record, show flow monitor, show flow record, collect ipv6, collect ipv6 destination, collect ipv6 extension map, collect ipv6 fragmentation, collect ipv6 hop-limit, collect ipv6 length, collect ipv6 section, collect ipv6 source, collect transport icmp ipv6, ipv6 flow monitor, match ipv6, match ipv6 destination, match ipv6 extension map, match ipv6 fragmentation, match ipv6 hop-limit, match ipv6 length, match ipv6 section, match ipv6 source, match transport icmp ipv6.</p>
Flexible NetFlow—Output Features on Data Export	12.4(20)T	<p>Enables sending export packets using quality of service (QoS) and encryption.</p> <p>Information about the Flexible NetFlow—Output Features on Data Export feature is included in the following sections:</p> <ul style="list-style-type: none"> • Configuring the Flow Exporter, page 4 • Configuring Sending Export Packets Using QoS: Example, page 11 <p>The following command was introduced: output-features.</p>
Flexible NetFlow—NetFlow V5 export protocol	12.4(22)T 12.2(33)SRE	<p>Enables sending export packets using the Version 5 export protocol.</p> <p>Support for this feature was added for Cisco 7200 and 7300 NPE series routers in Cisco IOS Release 12.2(33)SRE.</p> <p>Information about the Flexible NetFlow—NetFlowV5 export protocol feature is included in the following sections:</p> <ul style="list-style-type: none"> • Restrictions for Configuring Data Export for Flexible NetFlow with Flow Exporters, page 2 • Configuring the Flow Exporter, page 4 • Configuring Version 5 Export: Example, page 13 <p>The following command was introduced: export-protocol.</p>

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