



Flexible NetFlow Configuration Guide, Cisco IOS Release 15E

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CHAPTER

1

Flexible NetFlow IPFIX Export Format

The Flexible NetFlow IPFIX Export Format feature enables sending export packets using the IPFIX export protocol. The export of extracted fields from NBAR is only supported over IPFIX.

- [Finding Feature Information, page 1](#)
- [Information About Flexible NetFlow IPFIX Export Format , page 1](#)
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Finding Feature Information

Your software release may not support all the features documented in this module. For the latest caveats and feature information, see [Bug Search Tool](#) and 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 table at the end of this module.

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Information About Flexible NetFlow IPFIX Export Format

Flexible NetFlow IPFIX Export Format Overview

IPFIX is an IETF standard based on NetFlow v9.

The Flexible NetFlow IPFIX Export Format feature enables sending export packets using the IPFIX export protocol. The export of extracted fields from NBAR is only supported over IPFIX.

How to Configure Flexible NetFlow IPFIX Export Format

Configuring the Flow Exporter

Perform this required task to configure the flow exporter.



Note

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.

You can export to a destination using either an IPv4 or IPv6 address.

SUMMARY STEPS

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

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Device> enable	Enables privileged EXEC mode. <ul style="list-style-type: none"> • Enter your password if prompted.

	Command or Action	Purpose
Step 2	<p>configure terminal</p> <p>Example:</p> <pre>Device# configure terminal</pre>	Enters global configuration mode.
Step 3	<p>flow exporter <i>exporter-name</i></p> <p>Example:</p> <pre>Device(config)# flow exporter EXPORTER-1</pre>	<p>Creates the flow exporter and enters Flexible NetFlow flow exporter configuration mode.</p> <ul style="list-style-type: none"> This command also allows you to modify an existing flow exporter.
Step 4	<p>description <i>description</i></p> <p>Example:</p> <pre>Device(config-flow-exporter)# description Exports to the datacenter</pre>	(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:</p> <pre>Device(config-flow-exporter)# destination 172.16.10.2</pre>	<p>Specifies the IP address or hostname of the destination system for the exporter.</p> <p>Note You can export to a destination using either an IPv4 or IPv6 address.</p>
Step 6	<p>export-protocol {netflow-v5 netflow-v9 ipfix}</p> <p>Example:</p> <pre>Device(config-flow-exporter)# export-protocol netflow-v9</pre>	<p>Specifies the version of the NetFlow export protocol used by the exporter. The export of extracted fields from NBAR is supported only over IPFIX.</p> <ul style="list-style-type: none"> Default: netflow-v9.
Step 7	<p>dscp <i>dscp</i></p> <p>Example:</p> <pre>Device(config-flow-exporter)# dscp 63</pre>	<p>(Optional) Configures differentiated services code point (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>interface-type interface-number</i></p> <p>Example:</p> <pre>Device(config-flow-exporter)# source ethernet 0/0</pre>	(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 vrf-table} [timeout <i>seconds</i>]</p> <p>Example:</p> <pre>Device(config-flow-exporter)# option exporter-stats timeout 120</pre>	<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 86,400. Default: 600.

	Command or Action	Purpose
Step 10	output-features Example: Device(config-flow-exporter)# output-features	(Optional) Enables sending export packets using quality of service (QoS) and encryption.
Step 11	template data timeout seconds Example: Device(config-flow-exporter)# template data timeout 120	(Optional) Configures resending of templates based on a timeout. <ul style="list-style-type: none"> • The range for the <i>seconds</i> argument is 1 to 86400 (86400 seconds = 24 hours).
Step 12	transport udp udp-port Example: Device(config-flow-exporter)# transport udp 650	Specifies the UDP port on which the destination system is listening for exported datagrams. <ul style="list-style-type: none"> • The range for the <i>udp-port</i> argument is from 1 to 65536.
Step 13	ttl seconds Example: Device(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 <i>seconds</i> argument is from 1 to 255.
Step 14	end Example: Device(config-flow-exporter)# end	Exits flow exporter configuration mode and returns to privileged EXEC mode.
Step 15	show flow exporter exporter-name Example: Device# show flow exporter FLOW_EXPORTER-1	(Optional) Displays the current status of the specified flow exporter.
Step 16	show running-config flow exporter exporter-name Example: Device# show running-config flow exporter FLOW_EXPORTER-1	(Optional) Displays the configuration of the specified flow exporter.

Configuration Examples for Flexible NetFlow IPFIX Export Format

Example: Configuring Flexible NetFlow IPFIX Export Format

The following example shows how to configure IPFIX export format for Flexible NetFlow.

This sample starts in global configuration mode:

```

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

```

Feature Information for Flexible NetFlow: IPFIX Export Format

The following table provides release information about the feature or features described in this module. This table lists only the software release that introduced support for a given feature in a given software release train. Unless noted otherwise, subsequent releases of that software release train also support that feature.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to www.cisco.com/go/cfn. An account on Cisco.com is not required.

Table 1: Feature Information for Flexible NetFlow : IPFIX Export Format

Feature Name	Releases	Feature Information
Flexible NetFlow: IPFIX Export Format	Cisco IOS15.2(1)E Cisco IOS 15.2(2)E	Enables sending export packets using the IPFIX export protocol. The export of extracted fields from NBAR is only supported over IPFIX. The following command was introduced: export-protocol .



Flexible Netflow Export to an IPv6 Address

The Export to an IPv6 Address feature enables Flexible NetFlow to export data to a destination using an IPv6 address.

- [Finding Feature Information, page 7](#)
- [Information About Flexible Netflow Export to an IPv6 Address, page 7](#)
- [How to Configure Flexible Netflow Export to an IPv6 Address, page 8](#)
- [Configuration Examples for Flexible Netflow Export to an IPv6 Address, page 11](#)
- [Additional References, page 11](#)
- [Feature Information for Flexible NetFlow Export to an IPv6 Address, page 12](#)

Finding Feature Information

Your software release may not support all the features documented in this module. For the latest caveats and feature information, see [Bug Search Tool](#) and 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 table at the end of this module.

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Information About Flexible Netflow Export to an IPv6 Address

Flexible Netflow Export to an IPv6 Address Overview

This feature enables Flexible NetFlow to export data to a destination using an IPv6 address.

How to Configure Flexible Netflow Export to an IPv6 Address

Configuring the Flow Exporter

Perform this required task to configure the flow exporter.



Note

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.

You can export to a destination using either an IPv4 or IPv6 address.

SUMMARY STEPS

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

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Device> enable	Enables privileged EXEC mode. <ul style="list-style-type: none"> • Enter your password if prompted.

	Command or Action	Purpose
Step 2	configure terminal Example: Device# configure terminal	Enters global configuration mode.
Step 3	flow exporter <i>exporter-name</i> Example: Device(config)# flow exporter EXPORTER-1	Creates the flow exporter and enters Flexible NetFlow flow exporter configuration mode. • This command also allows you to modify an existing flow exporter.
Step 4	description <i>description</i> Example: Device(config-flow-exporter)# description Exports to the datacenter	(Optional) Configures a description to the exporter that will appear in the configuration and the display of the show flow exporter command.
Step 5	destination {<i>ip-address</i> <i>hostname</i>} [<i>vrf vrf-name</i>] Example: Device(config-flow-exporter)# destination 172.16.10.2	Specifies the IP address or hostname of the destination system for the exporter. Note You can export to a destination using either an IPv4 or IPv6 address.
Step 6	export-protocol {<i>netflow-v5</i> <i>netflow-v9</i> <i>ipfix</i>} Example: Device(config-flow-exporter)# export-protocol netflow-v9	Specifies the version of the NetFlow export protocol used by the exporter. The export of extracted fields from NBAR is supported only over IPFIX. • Default: netflow-v9 .
Step 7	dscp <i>dscp</i> Example: Device(config-flow-exporter)# dscp 63	(Optional) Configures differentiated services code point (DSCP) parameters for datagrams sent by the exporter. • The range for the <i>dscp</i> argument is from 0 to 63. Default: 0.
Step 8	source <i>interface-type interface-number</i> Example: Device(config-flow-exporter)# source ethernet 0/0	(Optional) Specifies the local interface from which the exporter will use the IP address as the source IP address for exported datagrams.
Step 9	option {<i>exporter-stats</i> <i>interface-table</i> <i>sampler-table</i> <i>vrf-table</i>} [<i>timeout seconds</i>] Example: Device(config-flow-exporter)# option exporter-stats timeout 120	(Optional) Configures options data parameters for the exporter. • You can configure all three options concurrently. • The range for the <i>seconds</i> argument is 1 to 86,400. Default: 600.

	Command or Action	Purpose
Step 10	output-features Example: Device(config-flow-exporter)# output-features	(Optional) Enables sending export packets using quality of service (QoS) and encryption.
Step 11	template data timeout seconds Example: Device(config-flow-exporter)# template data timeout 120	(Optional) Configures resending of templates based on a timeout. <ul style="list-style-type: none"> • The range for the <i>seconds</i> argument is 1 to 86400 (86400 seconds = 24 hours).
Step 12	transport udp udp-port Example: Device(config-flow-exporter)# transport udp 650	Specifies the UDP port on which the destination system is listening for exported datagrams. <ul style="list-style-type: none"> • The range for the <i>udp-port</i> argument is from 1 to 65536.
Step 13	ttl seconds Example: Device(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 <i>seconds</i> argument is from 1 to 255.
Step 14	end Example: Device(config-flow-exporter)# end	Exits flow exporter configuration mode and returns to privileged EXEC mode.
Step 15	show flow exporter exporter-name Example: Device# show flow exporter FLOW_EXPORTER-1	(Optional) Displays the current status of the specified flow exporter.
Step 16	show running-config flow exporter exporter-name Example: Device# show running-config flow exporter FLOW_EXPORTER-1	(Optional) Displays the configuration of the specified flow exporter.

Configuration Examples for Flexible Netflow Export to an IPv6 Address

Additional References

Related Documents

Related Topic	Document Title
Cisco IOS commands	Cisco IOS Master Command List, All Releases
Flexible NetFlow conceptual information and configuration tasks	<i>Flexible NetFlow Configuration Guide</i>
Flexible NetFlow commands	<i>Cisco IOS Flexible NetFlow Command Reference</i>

Standards/RFCs

Standard	Title
No new or modified standards/RFCs are supported by this feature.	—

MIBs

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

Technical Assistance

Description	Link
The Cisco Support and Documentation website provides online resources to download documentation, software, and tools. Use these resources to install and configure the software and to troubleshoot and resolve technical issues with Cisco products and technologies. Access to most tools on the Cisco Support and Documentation website requires a Cisco.com user ID and password.	http://www.cisco.com/cisco/web/support/index.html

Feature Information for Flexible NetFlow Export to an IPv6 Address

The following table provides release information about the feature or features described in this module. This table lists only the software release that introduced support for a given feature in a given software release train. Unless noted otherwise, subsequent releases of that software release train also support that feature.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to www.cisco.com/go/cfn. An account on Cisco.com is not required.

Table 2: Feature Information for Flexible NetFlow Export to an IPv6 Address

Feature Name	Releases	Feature Information
Flexible NetFlow: Export to an IPv6 Address	Cisco IOS15.2(1)E Cisco IOS 15.2(2)E	<p>This feature enables Flexible NetFlow to export data to a destination using an IPv6 address.</p> <p>The following commands were introduced or modified:</p> <p>destination</p> <p>In Cisco IOS Release 15.2(2)E, this feature is supported on the following platforms:</p> <ul style="list-style-type: none"> • Catalyst 3650 Series Switches • Catalyst 3750 Series Switches • Catalyst 3850 Series Switches