



# Using Cisco IOS Flexible NetFlow Top N Talkers to Analyze Network Traffic

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This document contains information about and instructions for using the Flexible NetFlow - Top N Talkers Support feature. The Flexible NetFlow - Top N Talkers Support feature helps you analyze the large amount of data that Flexible NetFlow captures from the traffic in your network by providing the ability to filter, aggregate, and sort the data in the Flexible NetFlow cache as you display it. When you are sorting and displaying the data in the cache, you can limit the display output to a specific number of entries with the highest values (Top N Talkers) for traffic volume, packet counters, and so on. The Flexible NetFlow - Top N Talkers Support feature facilitates real-time traffic analysis by requiring only the use of **show** commands, which can be entered in many different variations using the available keywords and arguments to meet your traffic data analysis requirements.

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 Top N Talkers” section on page 15](#).

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.



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# Contents

- [Prerequisites for Flexible NetFlow Top N Talkers, page 2](#)
- [Information About Flexible NetFlow Top N Talkers, page 2](#)
- [How to Analyze Network Traffic With Cisco IOS Flexible NetFlow Top N Talkers, page 4](#)
- [Examples for Flexible NetFlow Top N Talkers, page 10](#)
- [Additional References, page 13](#)
- [Feature Information for Flexible NetFlow Top N Talkers, page 15](#)

## Prerequisites for Flexible NetFlow Top N Talkers

The following prerequisites must be met before you can use the Flexible NetFlow - Top N Talkers Support feature:

- You are familiar with the information in the “[Cisco IOS Flexible NetFlow Overview](#)” module.
- The networking device is running a Cisco IOS release that supports the Flexible NetFlow - Top N Talkers Support feature. See the “[Feature Information for Flexible NetFlow Top N Talkers](#)” section on [page 15](#) for a list of Cisco IOS software releases that support Flexible NetFlow.

There are no configuration tasks associated with the Flexible NetFlow - Top N Talkers Support feature. Therefore, in order to use the Flexible NetFlow - Top N Talkers Support feature, traffic analysis with Flexible NetFlow must already be configured about the networking device. See the “[Cisco IOS Flexible NetFlow Features Roadmap](#)” module for information on configuring traffic analysis on your networking device with Flexible NetFlow.

## Information About Flexible NetFlow Top N Talkers

Before you can use the Flexible NetFlow - Top N Talkers Support feature, you should understand the following concepts:

- [Flow Filtering, page 2](#)
- [Flow Aggregation, page 3](#)
- [Flow Sorting and Top N Talkers, page 3](#)
- [Documented Command Names and Actual Command Syntax, page 3](#)
- [Combined Use of Flow Filtering, Flow Aggregation, and Flow Sorting with Top N Talkers, page 4](#)
- [Memory and Performance Impact of Top N Talkers](#)

## Flow Filtering

The flow filtering function of the Flexible NetFlow - Top N Talkers Support feature filters the flow data in a flow monitor cache based on the criteria that you specify, and displays the data.

The flow filtering function of the Flexible NetFlow - Top N Talkers Support feature is provided by the **show flow monitor cache filter** command. For more information on the **show flow monitor cache filter** command, refer to the [Cisco IOS Flexible NetFlow Command Reference](#).

## Flow Aggregation

Flow aggregation using the **show flow monitor cache aggregate** command allows you to dynamically view the flow information in a cache using a different flow record than the cache was originally created from. Only the fields in the cache will be available for the aggregated flows.

The flow aggregation function of the Flexible NetFlow - Top N Talkers Support feature is provided by the **show flow monitor cache aggregate** command. For more information on the **show flow monitor cache aggregate** command, refer to the [Cisco IOS Flexible NetFlow Command Reference](#).

## Flow Sorting and Top N Talkers

The flow sorting function of the Flexible NetFlow - Top N Talkers Support feature sorts flow data from the Flexible NetFlow cache based on the criteria that you specify and displays the data. You can also use the flow sorting function of the Flexible NetFlow - Top N Talkers Support feature to limit the display output to a specific number of entries (top *n* talkers, where *n* is the number of talkers to display) by using the **top** keyword.

The flow sorting and Top N Talkers function of the Flexible NetFlow - Top N Talkers Support feature is provided by the **show flow monitor cache sort** command. For more information on the **show flow monitor cache sort** command, refer to the [Cisco IOS Flexible NetFlow Command Reference](#).

## Documented Command Names and Actual Command Syntax

The three commands that make up the Flexible NetFlow - Top N Talkers Support feature are documented using the Cisco documentation convention of using the initial words in the CLI syntax, omitting a subsequent words in the CLI syntax, and using a word in the CLI syntax that follows the omitted words. Therefore the syntax that you use for entering the commands is different from the actual documented command name. [Table 1](#) shows the documented commands names and the actual command CLI syntax. The *monitor-name* argument is the name of a flow monitor that was previously configured.



### Note

The arguments and keywords that you can use after **filter**, **aggregation**, and **sort** are not included in [Table 1](#). For more information on the arguments and keywords that you can use after **filter**, **aggregation**, and **sort**, refer to the [Cisco IOS Flexible NetFlow Command Reference](#).

**Table 1** Documented Command Names and Actual Command Syntax

Documented Command Name	Actual CLI Syntax for Using the Command
show flow monitor cache filter	show flow monitor <i>monitor-name</i> cache filter
show flow monitor cache aggregation	show flow monitor <i>monitor-name</i> cache aggregation
show flow monitor cache sort	show flow monitor <i>monitor-name</i> cache sort

## Combined Use of Flow Filtering, Flow Aggregation, and Flow Sorting with Top N Talkers

Although each of the **show** commands that make up the Flexible NetFlow - Top N Talkers Support feature can be used individually for traffic analysis; they provide much greater analytical capabilities when they are used together. When you use any combination of the three **show** commands, you enter only the common prefix of **show flow monitor *monitor-name* cache** followed by **filter**, **aggregation**, **sort**, and the arguments and keywords available for **filter**, **aggregation**, **sort**, as required. For example,

```
show flow monitor monitor-name cache filter options aggregation options sort options
```

where *options* is any permissible combination of arguments and keywords. See the “[Examples for Flexible NetFlow Top N Talkers](#)” section on page 10 for more information.

## Memory and Performance Impact of Top N Talkers

The Flexible NetFlow - Top N Talkers Support feature can use a large number of CPU cycles and possibly also system memory for a short time. However, because Flexible NetFlow - Top N Talkers Support feature uses only **show** commands, the CPU usage should be run at a low priority because there is no real-time data processing involved. The memory usage can be mitigated by using a larger granularity of aggregation, or no aggregation at all.

## How to Analyze Network Traffic With Cisco IOS Flexible NetFlow Top N Talkers

The tasks in this section are examples of using the Flexible NetFlow - Top N Talkers Support feature to analyze traffic in a network:

- [Filtering Flow Data from the Flexible NetFlow Cache, page 4](#)
- [Aggregating Flow Data from the Flexible NetFlow Cache, page 6](#)
- [Sorting Flow Data from the Flexible NetFlow Cache, page 6](#)
- [Sorting Flow Data from the Flexible NetFlow Cache and Displaying the Top N Talkers, page 8](#)

## Filtering Flow Data from the Flexible NetFlow Cache

This task shows you how to use the **show flow monitor cache filter** command with a regular expression to filter the flow monitor cache data, and display the results. For more information on regular expressions and the **show flow monitor cache filter** command, refer to the [Cisco IOS Flexible NetFlow Command Reference](#).

To filter the flow monitor cache data using a regular expression and display the results, perform the following task.

## SUMMARY STEPS

1. **enable**
2. **show flow monitor [name] monitor-name cache filter options [regex regex] [...options [regex regex] [format {csv | record | table}]**

## DETAILED STEPS

### Step 1 enable

Enters privileged EXEC mode.

```
Router> enable
```

### Step 2 show flow monitor [name] monitor-name cache filter options [regex regex] [...options [regex regex] [format {csv | record | table}]

Filters the flow monitor cache data on the IPv4 type of service (ToS) value.

```
Router# show flow monitor FLOW-MONITOR-3 cache filter ipv4 tos regex 0x(C0|50)
```

```
Cache type:                               Normal
Cache size:                               4096
Current entries:                           19
High Watermark:                            38
```

```
Flows added:                               3516
Flows aged:                                3497
- Active timeout ( 1800 secs)              52
- Inactive timeout ( 15 secs)              3445
- Event aged                                0
- Watermark aged                            0
- Emergency aged                            0
```

```
IPV4 SOURCE ADDRESS:                       10.1.1.1
IPV4 DESTINATION ADDRESS:                   255.255.255.255
TRNS SOURCE PORT:                           520
TRNS DESTINATION PORT:                     520
INTERFACE INPUT:                            Et0/0
FLOW SAMPLER ID:                            0
IP TOS:                                     0xC0
IP PROTOCOL:                                17
ip source as:                               0
ip destination as:                          0
ipv4 next hop address:                      0.0.0.0
ipv4 source mask:                           /24
ipv4 destination mask:                      /0
tcp flags:                                  0x00
interface output:                           Null
counter bytes:                               52
counter packets:                             1
timestamp first:                            18:59:46.199
timestamp last:                             18:59:46.199
```

```
Matched 1 flow
```

## Aggregating Flow Data from the Flexible NetFlow Cache

This task shows you how to use the **show flow monitor cache aggregate** command to aggregate the flow monitor cache data with a different record than the cache was created with, and display the results. For more information on the **show flow monitor cache aggregate** command, refer to the [Cisco IOS Flexible NetFlow Command Reference](#).

To aggregate the flow monitor cache data and display the results, perform the following task.

### SUMMARY STEPS

1. **enable**
2. **show flow monitor [name] monitor-name cache aggregate** { {options [...options]} [collect options [...options]] | record record-name} [format {csv | record | table}]

### DETAILED STEPS

#### Step 1 enable

Enters privileged EXEC mode.

```
Router> enable
```

#### Step 2 show flow monitor [name] monitor-name cache aggregate { {options [...options]} [collect options [...options]] | record record-name} [format {csv | record | table}]

Aggregates the flow monitor cache data on the IPv4 destination address and displays the cache data for the IPv4 protocol type and input interface non-key fields:

```
Router# show flow monitor FLOW-MONITOR-3 cache aggregate ipv4 destination address collect
ipv4 protocol interface input
```

```
Processed 17 flows
Aggregated to 7 flows
```

IPV4 DST ADDR	intf input	flows	bytes	pkts	ip prot
224.192.16.4	Et0/0	3	42200	2110	1
224.192.16.1	Et0/0	3	17160	858	1
224.192.18.1	Et0/0	4	18180	909	1
224.192.45.12	Et0/0	4	14440	722	1
255.255.255.255	Et0/0	1	52	1	17
224.0.0.13	Et0/0	1	54	1	103
224.0.0.1	Et0/0	1	28	1	2

## Sorting Flow Data from the Flexible NetFlow Cache

This task shows you how to use the **show flow monitor cache sort** command to sort the flow monitor cache data, and display the results. For more information on the **show flow monitor cache sort** command, refer to the [Cisco IOS Flexible NetFlow Command Reference](#).

To sort the flow monitor cache data and display the results, perform the following task.

## SUMMARY STEPS

1. **enable**
2. **show flow monitor [name] monitor-name cache sort options [top [number]] [format {csv | record | table}]**

## DETAILED STEPS

### Step 1 enable

Enters privileged EXEC mode.

```
Router> enable
```

### Step 2 show flow monitor [name] monitor-name cache sort options [top [number]] [format {csv | record | table}]

Displays the cache data sorted on the number of packets from highest to lowest.



#### Note

When the **top** keyword is not used, the default number of sorted flows shown is 20.

```
Router# show flow monitor FLOW-MONITOR-1 cache sort highest counter packets
```

```
Processed 26 flows
Aggregated to 26 flows
Showing the top 20 flows

IPV4 SOURCE ADDRESS:      10.1.1.3
IPV4 DESTINATION ADDRESS: 172.16.10.11
TRNS SOURCE PORT:        443
TRNS DESTINATION PORT:   443
INTERFACE INPUT:         Et0/0.1
FLOW SAMPLER ID:         0
IP TOS:                   0x00
IP PROTOCOL:              6
ip source as:             0
ip destination as:       0
ipv4 next hop address:    172.16.7.2
ipv4 source mask:         /0
ipv4 destination mask:   /24
tcp flags:                0x00
interface output:        Et1/0.1
counter bytes:            22760
counter packets:         1569
timestamp first:         19:42:32.924
timestamp last:          19:57:28.656
```

```
IPV4 SOURCE ADDRESS:      10.10.11.2
IPV4 DESTINATION ADDRESS: 172.16.10.6
TRNS SOURCE PORT:        65
TRNS DESTINATION PORT:   65
INTERFACE INPUT:         Et0/0.1
FLOW SAMPLER ID:         0
IP TOS:                   0x00
IP PROTOCOL:              6
ip source as:             0
ip destination as:       0
ipv4 next hop address:    172.16.7.2
ipv4 source mask:         /0
ipv4 destination mask:   /24
```

```

tcp flags:                0x00
interface output:        Et1/0.1
counter bytes:           22720
counter packets:         568
timestamp first:         19:42:34.264
timestamp last:          19:57:28.428
.
.
.
IPV4 SOURCE ADDRESS:     192.168.67.6
IPV4 DESTINATION ADDRESS: 172.16.10.200
TRNS SOURCE PORT:        0
TRNS DESTINATION PORT:   3073
INTERFACE INPUT:         Et0/0.1
FLOW SAMPLER ID:         0
IP TOS:                   0x00
IP PROTOCOL:             1
ip source as:            0
ip destination as:       0
ipv4 next hop address:   172.16.7.2
ipv4 source mask:        /0
ipv4 destination mask:   /24
tcp flags:                0x00
interface output:        Et1/0.1
counter bytes:           15848
counter packets:         344
timestamp first:         19:42:36.852
timestamp last:          19:57:27.836

IPV4 SOURCE ADDRESS:     10.234.53.1
IPV4 DESTINATION ADDRESS: 172.16.10.2
TRNS SOURCE PORT:        0
TRNS DESTINATION PORT:   2048
INTERFACE INPUT:         Et0/0.1
FLOW SAMPLER ID:         0
IP TOS:                   0x00
IP PROTOCOL:             1
ip source as:            0
ip destination as:       0
ipv4 next hop address:   172.16.7.2
ipv4 source mask:        /0
ipv4 destination mask:   /24
tcp flags:                0x00
interface output:        Et1/0.1
counter bytes:           15848
counter packets:         213
timestamp first:         19:42:36.904
timestamp last:          19:57:27.888

```

---

## Sorting Flow Data from the Flexible NetFlow Cache and Displaying the Top N Talkers

This task shows you how to use the **show flow monitor cache sort** command to sort the flow monitor cache data, and to limit the display results to a specific number of high volume flows. For more information on the **show flow monitor cache sort** command, refer to the [Cisco IOS Flexible NetFlow Command Reference](#).

To sort the flow monitor cache data and limit the display output using to a specific number of high volume flows, perform the following task:

## SUMMARY STEPS

1. **enable**
2. **show flow monitor [name] monitor-name cache sort options [top [number]] [format { csv | record | table}]**

## DETAILED STEPS

### Step 1 enable

Enters privileged EXEC mode.

```
Router> enable
```

### Step 2 show flow monitor [name] monitor-name cache sort options [top [number]] [format { csv | record | table}]

Displays the cache data sorted on the number of packets from highest to lowest and limits the output to the three highest volume flows:

```
Router# show flow monitor FLOW-MONITOR-1 cache sort highest counter packets top 3
```

```
Processed 25 flows
Aggregated to 25 flows
Showing the top 3 flows

IPV4 SOURCE ADDRESS:      10.1.1.3
IPV4 DESTINATION ADDRESS: 172.16.10.11
TRNS SOURCE PORT:        443
TRNS DESTINATION PORT:   443
INTERFACE INPUT:         Et0/0.1
FLOW SAMPLER ID:         0
IP TOS:                   0x00
IP PROTOCOL:              6
ip source as:             0
ip destination as:       0
ipv4 next hop address:    172.16.7.2
ipv4 source mask:         /0
ipv4 destination mask:   /24
tcp flags:                0x00
interface output:        Et1/0.1
counter bytes:            32360
counter packets:         1897
timestamp first:         19:42:32.924
timestamp last:          20:03:47.100

IPV4 SOURCE ADDRESS:      10.10.11.2
IPV4 DESTINATION ADDRESS: 172.16.10.6
TRNS SOURCE PORT:        65
TRNS DESTINATION PORT:   65
INTERFACE INPUT:         Et0/0.1
FLOW SAMPLER ID:         0
IP TOS:                   0x00
IP PROTOCOL:              6
ip source as:             0
ip destination as:       0
ipv4 next hop address:    172.16.7.2
ipv4 source mask:         /0
```

```

ipv4 destination mask:    /24
tcp flags:               0x00
interface output:       Et1/0.1
counter bytes:          32360
counter packets:        809
timestamp first:        19:42:34.264
timestamp last:         20:03:48.460

IPV4 SOURCE ADDRESS:    172.16.1.84
IPV4 DESTINATION ADDRESS: 172.16.10.19
TRNS SOURCE PORT:      80
TRNS DESTINATION PORT: 80
INTERFACE INPUT:       Et0/0.1
FLOW SAMPLER ID:       0
IP TOS:                 0x00
IP PROTOCOL:            6
ip source as:           0
ip destination as:     0
ipv4 next hop address:  172.16.7.2
ipv4 source mask:      /24
ipv4 destination mask: /24
tcp flags:              0x00
interface output:       Et1/0.1
counter bytes:          32320
counter packets:        345
timestamp first:        19:42:34.512
timestamp last:         20:03:47.140

```

---

## Examples for Flexible NetFlow Top N Talkers

This section contains the following example:

- [Filtering, Aggregating, and Sorting Flow Data from the Flexible NetFlow Cache and Displaying the Top Talkers: Example, page 10](#)
- [Filtering Using Multiple Filtering Criterion: Example, page 12](#)
- [Aggregation Using Multiple Aggregation Criterion: Example, page 13](#)

## Filtering, Aggregating, and Sorting Flow Data from the Flexible NetFlow Cache and Displaying the Top Talkers: Example

The following example combines filtering, aggregation, collecting additional field data, sorting the flow monitor cache data, and limiting the display output to a specific number of high volume flows (top talkers).

This sample runs in privileged EXEC mode:

```

Router# show flow monitor FLOW-MONITOR-1 cache filter ipv4 protocol regexp (1|6) aggregate
ipv4 destination address collect ipv4 protocol sort counter bytes top 4

Processed 26 flows
Matched 26 flows
Aggregated to 13 flows
Showing the top 4 flows

```

IPV4 DST ADDR	flows	bytes	pkts
=====	=====	=====	=====
172.16.10.2	12	1358370	6708
172.16.10.19	2	44640	1116
172.16.10.20	2	44640	1116
172.16.10.4	1	22360	559

The following example combines filtering using a regular expression, aggregation using a predefined record, sorting the flow monitor cache data, limiting the display output to a specific number of high volume flows (top talkers), and displaying the output in record format.

This sample runs in privileged exec mode:

```
Router# show flow monitor FLOW-MONITOR-1 cache filter ipv4 source address regexp 10.*
aggregate record netflow ipv4 protocol-port sort transport destination-port top 5 format
record
```

```
Processed 26 flows
Matched 15 flows
Aggregated to 10 flows
Showing the top 5 flows

TRANS SOURCE PORT:      0
TRANS DESTINATION PORT: 0
FLOW DIRECTION:        Input
IP PROTOCOL:           1
counter flows:          1
counter bytes:          387800
counter packets:        700
timestamp first:        17:12:30.712
timestamp last:         17:30:52.936

TRANS SOURCE PORT:      20
TRANS DESTINATION PORT: 20
FLOW DIRECTION:        Input
IP PROTOCOL:           6
counter flows:          2
counter bytes:          56000
counter packets:        1400
timestamp first:        17:12:29.532
timestamp last:         17:30:53.148

TRANS SOURCE PORT:      21
TRANS DESTINATION PORT: 21
FLOW DIRECTION:        Input
IP PROTOCOL:           6
counter flows:          2
counter bytes:          56000
counter packets:        1400
timestamp first:        17:12:29.572
timestamp last:         17:30:53.196

TRANS SOURCE PORT:      22
TRANS DESTINATION PORT: 22
FLOW DIRECTION:        Input
IP PROTOCOL:           6
counter flows:          1
counter bytes:          28000
counter packets:        700
timestamp first:        17:12:29.912
timestamp last:         17:30:52.168

TRANS SOURCE PORT:      25
TRANS DESTINATION PORT: 25
```

```

FLOW DIRECTION:      Input
IP PROTOCOL:         6
counter flows:       2
counter bytes:       56000
counter packets:     1400
timestamp first:     17:12:29.692
timestamp last:      17:30:51.968

```

## Filtering Using Multiple Filtering Criterion: Example

The following example filters the cache data on the IPv4 destination address and the destination port:

This sample runs in privileged exec mode:

```

Router# show flow monitor FLOW-MONITOR-1 cache filter ipv4 destination address regexp
172.16.10* transport destination-port 21

```

```

Cache type:                               Normal
Cache size:                               4096
Current entries:                           26
High Watermark:                            26

```

```

Flows added:                              241
Flows aged:                                215
- Active timeout ( 1800 secs)              50
- Inactive timeout ( 15 secs)              165
- Event aged                                0
- Watermark aged                            0
- Emergency aged                            0

```

```

IPV4 SOURCE ADDRESS:      10.10.10.2
IPV4 DESTINATION ADDRESS: 172.16.10.2
TRNS SOURCE PORT:         21
TRNS DESTINATION PORT:    21
INTERFACE INPUT:          Et0/0.1
FLOW SAMPLER ID:         0
IP TOS:                   0x00
IP PROTOCOL:              6
ip source as:              0
ip destination as:        0
ipv4 next hop address:    172.16.7.2
ipv4 source mask:         /0
ipv4 destination mask:   /24
tcp flags:                0x00
interface output:         Et1/0.1
counter bytes:            17200
counter packets:          430
timestamp first:          17:03:58.071
timestamp last:           17:15:14.615

```

```

IPV4 SOURCE ADDRESS:      172.30.231.193
IPV4 DESTINATION ADDRESS: 172.16.10.2
TRNS SOURCE PORT:         21
TRNS DESTINATION PORT:    21
INTERFACE INPUT:          Et0/0.1
FLOW SAMPLER ID:         0
IP TOS:                   0x00
IP PROTOCOL:              6
ip source as:              0
ip destination as:        0
ipv4 next hop address:    172.16.7.2

```

```

ipv4 source mask:          /0
ipv4 destination mask:    /24
tcp flags:                0x00
interface output:        Et1/0.1
counter bytes:            17160
counter packets:          429
timestamp first:          17:03:59.963
timestamp last:           17:15:14.887

```

```
Matched 2 flows
```

## Aggregation Using Multiple Aggregation Criterion: Example

The following example aggregates the flow monitor cache data on the destination and source IPv4 addresses:

This sample runs in privileged exec mode:

```
Router# show flow monitor FLOW-MONITOR-1 cache aggregate ipv4 destination address ipv4
source address
```

```
Processed 26 flows
Aggregated to 17 flows
```

IPV4 SRC ADDR	IPV4 DST ADDR	flows	bytes	pkts
10.251.10.1	172.16.10.2	2	1400828	1364
192.168.67.6	172.16.10.200	1	19096	682
10.234.53.1	172.16.10.2	3	73656	2046
172.30.231.193	172.16.10.2	3	73616	2045
10.10.10.2	172.16.10.2	2	54560	1364
192.168.87.200	172.16.10.2	2	54560	1364
10.10.10.4	172.16.10.4	1	27280	682
10.10.11.1	172.16.10.5	1	27280	682
10.10.11.2	172.16.10.6	1	27280	682
10.10.11.3	172.16.10.7	1	27280	682
10.10.11.4	172.16.10.8	1	27280	682
10.1.1.1	172.16.10.9	1	27280	682
10.1.1.2	172.16.10.10	1	27280	682
10.1.1.3	172.16.10.11	1	27280	682
172.16.1.84	172.16.10.19	2	54520	1363
172.16.1.85	172.16.10.20	2	54520	1363
172.16.6.1	224.0.0.9	1	52	1

```
Router#
```

## Additional References

The following sections provide references related to the Flexible NetFlow - Top N Talkers Support feature.

## Related Documents

Related Topic	Document Title
Overview of Flexible NetFlow	<a href="#">“Cisco IOS Flexible NetFlow Overview”</a>
Flexible NetFlow Feature Roadmap	<a href="#">“Cisco IOS Flexible NetFlow Features Roadmap”</a>
Configuring flow exporters to export Flexible NetFlow data	<a href="#">“Configuring Data Export for Cisco IOS Flexible NetFlow with Flow Exporters”</a>
Customizing Flexible NetFlow	<a href="#">“Customizing Cisco IOS Flexible NetFlow Flow Records and Flow Monitors”</a>
Configuring flow sampling to reduce the overhead of monitoring traffic with Flexible NetFlow	<a href="#">“Using Cisco IOS Flexible NetFlow Flow Sampling to Reduce the CPU Overhead of Analyzing Traffic”</a>
Configuring Flexible NetFlow using predefined records	<a href="#">“Configuring Cisco IOS Flexible NetFlow with Predefined Records”</a>
Configuring IPv4 Multicast Statistics Support for Flexible NetFlow	<a href="#">“Configuring IPv4 Multicast Statistics Support for Cisco IOS Flexible NetFlow”</a>
Configuration commands for Flexible NetFlow	<i>Cisco IOS Flexible NetFlow Command Reference</i>

## 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: <a href="http://www.cisco.com/go/mibs">http://www.cisco.com/go/mibs</a>

## RFCs

RFC	Title
There are no RFCs associated with this feature.	—

## 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>	<p><a href="http://www.cisco.com/techsupport">http://www.cisco.com/techsupport</a></p>

## Feature Information for Flexible NetFlow Top N Talkers

Table 2 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 2 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 2**      **Feature Information for Flexible NetFlow**

Feature Name	Releases	Feature Usage Information
Flexible NetFlow - Top N Talkers Support	12.4(22)T	<p>Helps you analyze the large amount of data Flexible NetFlow captures from the traffic in your network by providing the ability to filter, aggregate, and sort the data in the Flexible NetFlow cache as you display it.</p> <p>Information about the Flexible NetFlow - Top N Talkers Support feature is included in the following sections:</p> <ul style="list-style-type: none"> <li>• <a href="#">Prerequisites for Flexible NetFlow Top N Talkers, page 2</a></li> <li>• <a href="#">Information About Flexible NetFlow Top N Talkers, page 2</a></li> <li>• <a href="#">How to Analyze Network Traffic With Cisco IOS Flexible NetFlow Top N Talkers, page 4</a></li> <li>• <a href="#">Examples for Flexible NetFlow Top N Talkers, page 10</a></li> </ul> <p>The following commands were introduced or modified:</p> <p><b>show flow monitor cache aggregate, show flow monitor cache filter, show flow monitor cache sort.</b></p>

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