



## Using Top-N Reports

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This chapter describes how to use Top-N reports in Cisco IOS Release 12.2SX.



### Note

For complete syntax and usage information for the commands used in this chapter, see the Cisco IOS Master Command List, at this URL:

[http://www.cisco.com/en/US/docs/ios/mcl/allreleasemcl/all\\_book.html](http://www.cisco.com/en/US/docs/ios/mcl/allreleasemcl/all_book.html)

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### Tip

For additional information about Cisco Catalyst 6500 Series Switches (including configuration examples and troubleshooting information), see the documents listed on this page:

[http://www.cisco.com/en/US/products/hw/switches/ps708/tsd\\_products\\_support\\_series\\_home.html](http://www.cisco.com/en/US/products/hw/switches/ps708/tsd_products_support_series_home.html)

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This chapter consists of these sections:

- [Understanding Top-N Reports, page 70-1](#)
- [Using Top-N Reports, page 70-2](#)

## Understanding Top-N Reports

These sections describe Top-N reports:

- [Top-N Reports Overview, page 70-1](#)
- [Understanding Top-N Reports Operation, page 70-2](#)

## Top-N Reports Overview

Top-N reports allows you to collect and analyze data for each physical port on a switch. When Top-N reports start, they obtain statistics from the appropriate hardware counters and then go into sleep mode for a user-specified interval. When the interval ends, the reports obtain the current statistics from the same hardware counters, compare the current statistics from the earlier statistics, and store the difference. The statistics for each port are sorted by one of the statistic types that are listed in [Table 70-1](#).

**Table 70-1** Valid Top-N Statistic Types

Statistic Type	Definition
broadcast	Number of input/output broadcast packets
bytes	Number of input/output bytes
errors	Number of input errors
multicast	Number of input/output multicast packets
overflow	Number of buffer overflows
packets	Number of input/output packets
utilization	Utilization

**Note**

When calculating the port utilization, Top-N reports bundles the Tx and Rx lines into the same counter and also looks at the full-duplex bandwidth when calculating the percentage of utilization. For example, a Gigabit Ethernet port would be 2000-Mbps full duplex.

## Understanding Top-N Reports Operation

When you enter the **collect top** command, processing begins and the system prompt reappears immediately. When processing completes, the reports are not displayed immediately on the screen; the reports are saved for later viewing. The Top-N reports notify you when the reports are complete by sending a syslog message to the screen.

To view the completed reports, enter the **show top counters interface report** command. Only completed reports are displayed. For reports that are not completed, there is a short description of the process information.

To terminate a Top-N reports process, enter the **clear top counters interface report** command. Pressing **Ctrl-C** does not terminate Top-N reports processes. The completed reports remain available for viewing until you remove them by entering the **clear top counters interface report {all | report\_num}** command.

## Using Top-N Reports

These sections describe how to use Top-N reports:

- [Enabling Top-N Reports Creation, page 70-3](#)
- [Displaying Top-N Reports, page 70-3](#)
- [Clearing Top-N Reports, page 70-4](#)

## Enabling Top-N Reports Creation

To enable Top-N reports creation, perform this task:

Command	Purpose
Router# <b>collect top</b> [ <i>number_of_ports</i> ] <b>counters interface</b> { <i>type</i> <sup>1</sup>   <b>all</b>   <b>layer-2</b>   <b>layer-3</b> } [ <b>sort-by</b> <i>statistic_type</i> <sup>2</sup> ] [ <b>interval</b> <i>seconds</i> ]	Enables Top-N reports creation.

- type* = **fastethernet, gigabitethernet, tengigabitethernet, port-channel**
- statistic\_type* = **broadcast, bytes, errors, multicast, overflow, packets, utilization**

When enabling Top-N reports creation, note the following information:

- You can specify the number of busiest ports for which to create reports (the default is 20).
- You can specify the statistic type by which ports are determined to be the busiest (the default is utilization).
- You can specify the interval over which statistics are collected (range: 0 through 999; the default is 30 seconds).
- Except for a utilization report (configured with the **sort-by utilization** keywords), you can specify an interval of zero to create a report that displays the current counter values instead of a report that displays the difference between the start-of-interval counter values and the end-of-interval counter values.

This example shows how to enable Top-N reports creation for an interval of 76 seconds for the four ports with the highest utilization:

```
Router# collect top 4 counters interface all sort-by utilization interval 76
TopN collection started.
```

## Displaying Top-N Reports

To display Top-N reports, perform this task:

Command	Purpose
Router# <b>show top counters interface report</b> [ <i>report_num</i> ]	Displays Top-N reports.
	<b>Note</b> To display information about all the reports, do not enter a <i>report_num</i> value.

Top-N reports statistics are not displayed in these situations:

- If a port is not present during the first poll.
- If a port is not present during the second poll.
- If a port's speed or duplex changes during the polling interval.
- If a port's type changes from Layer 2 to Layer 3 during the polling interval.
- If a port's type changes from Layer 3 to Layer 2 during the polling interval.

This example shows how to display information about all the Top-N reports:

```
Router# show top counters interface report
Id Start Time                Int N  Sort-By  Status  Owner
```

```

-----
1 08:18:25 UTC Tue Nov 23 2004 76 20 util done console
2 08:19:54 UTC Tue Nov 23 2004 76 20 util done console
3 08:21:34 UTC Tue Nov 23 2004 76 20 util done console
4 08:26:50 UTC Tue Nov 23 2004 90 20 util done console

```

**Note**

Reports for which statistics are still being obtained are shown with a status of pending.

This example shows how to display a specific Top-N report:

```

Router# show top counters interface report 1
Started By      : console
Start Time     : 08:18:25 UTC Tue Nov 23 2004
End Time       : 08:19:42 UTC Tue Nov 23 2004
Port Type      : All
Sort By        : util
Interval       : 76 seconds

```

Port	Band width	Util	Bytes (Tx + Rx)	Packets (Tx + Rx)	Broadcast (Tx + Rx)	Multicast (Tx + Rx)	In-err	Buf-ovflw
Fa2/5	100	50	726047564	11344488	11344487	1	0	0
Fa2/48	100	35	508018905	7937789	0	43	0	0
Fa2/46	100	25	362860697	5669693	0	43	0	0
Fa2/47	100	22	323852889	4762539	4762495	43	0	0

## Clearing Top-N Reports

To clear Top-N reports, perform one of these tasks:

Command	Purpose
Router# <b>clear top counters interface report</b>	Clears all the Top-N reports that have a status of done.
Router# <b>clear top counters interface report</b> <i>[report_num]</i>	Clears Top-N report number <i>report_num</i> regardless of status.

This example shows how to remove all reports that have a status of done:

```

Router# clear top counters interface report
04:00:06: %TOPN_COUNTERS-5-DELETED: TopN report 1 deleted by the console
04:00:06: %TOPN_COUNTERS-5-DELETED: TopN report 2 deleted by the console
04:00:06: %TOPN_COUNTERS-5-DELETED: TopN report 3 deleted by the console
04:00:06: %TOPN_COUNTERS-5-DELETED: TopN report 4 deleted by the console

```

This example shows how to remove a report number 4:

```

Router# clear top counters interface report 4
04:52:12: %TOPN_COUNTERS-5-KILLED: TopN report 4 killed by the console

```

**Tip**

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[http://www.cisco.com/en/US/products/hw/switches/ps708/tsd\\_products\\_support\\_series\\_home.html](http://www.cisco.com/en/US/products/hw/switches/ps708/tsd_products_support_series_home.html)

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