



Using the Top N Utility

This chapter describes how to use the Top N utility on the Cisco 7600 series routers.



Note

For complete syntax and usage information for the commands used in this chapter, refer to the Cisco 7600 Series Routers Command References at this URL:

http://www.cisco.com/en/US/products/hw/routers/ps368/prod_command_reference_list.html

This chapter consists of these sections:

- [Understanding the Top N Utility, page 61-1](#)
- [Using the Top N Utility, page 61-2](#)

Understanding the Top N Utility

These sections describe the Top N utility:

- [Top N Utility Overview, page 61-1](#)
- [Understanding Top N Utility Operation, page 61-2](#)

Top N Utility Overview

The Top N utility allows you to collect and analyze data for each physical port on a router. When the Top N utility starts, it obtains statistics from the appropriate hardware counters and then goes into sleep mode for a user-specified interval. When the interval ends, the utility obtains the current statistics from the same hardware counters, compares the current statistics from the earlier statistics, and stores the difference. The statistics for each port are sorted by one of the statistic types that are listed in [Table 61-1](#).

Table 61-1 *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 |

Table 61-1 Valid Top N Statistic Types

| Statistic Type | Definition |
|----------------|--------------------------------|
| overflow | Number of buffer overflows |
| packets | Number of input/output packets |
| utilization | Utilization |

**Note**

When calculating the port utilization, the Top N utility 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 Utility 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 Utility notifies 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. The Top N Utility displays only those reports that are completed. For reports that are not completed, the Top N Utility displays a short description of the Top N process information.

To terminate a Top N process, enter the **clear top counters interface report** command. Pressing **Ctrl-C** does not terminate Top N 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 the Top N Utility

These sections describe how to use the Top N Utility:

- [Enabling Top N Utility Report Creation, page 61-2](#)
- [Displaying the Top N Utility Reports, page 61-3](#)
- [Clearing Top N Utility Reports, page 61-4](#)

Enabling Top N Utility Report Creation

To enable Top N Utility report creation, perform this task:

| Command | Purpose |
|--|--|
| Router# collect top [number_of_ports] counters interface {interface_type ¹ all layer-2 layer-3 } [sort-by statistic_type ²] [interval seconds] | Enables Top N Utility report creation. |

1. interface_type = ethernet, fastethernet, gigabitethernet, tengigabitethernet, port-channel
2. statistic_type = broadcast, bytes, errors, multicast, overflow, packets, utilization

When enabling Top N Utility report 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 Utility report 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 the Top N Utility Reports

To display the Top N Utility reports, perform this task:

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

Top N Utility 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 Utility 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 Utility 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   Util Bytes   Packets   Broadcast   Multicast   In-   Buf-
      width   (Tx + Rx) (Tx + Rx) (Tx + Rx) (Tx + Rx) err  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 Utility Reports

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

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

```