

Chapter 26

Summary of Traffic Sampling Configuration Statements

The following sections explain each of the sampling statements. The statements are organized alphabetically.

cflowd

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|---------------------------------|--|
| Syntax | <pre>cflowd <i>host-name</i> { engine-id <i>id-number</i>; (local-dump no-local-dump); port <i>port-number</i>; version <i>format</i>; }</pre> |
| Hierarchy Level | [edit forwarding-options sampling output] |
| Description | Collect an aggregate of sampled flows and send the aggregate to a specified host system that runs the collection utility <code>cfcollect</code> . |
| Options | <i>host-name</i> —The IP address or identifier of the host system. The remaining options are explained separately. |
| Usage Guidelines | See “Configure Flow Aggregation” on page 307. |
| Required Privilege Level | interface—To view this statement in the configuration. interface-control—To add this statement to the configuration. |

disable

| | |
|---------------------------------|---|
| Syntax | <pre>disable ;</pre> |
| Hierarchy Level | [edit forwarding-options sampling] |
| Description | Disable traffic sampling. |
| Usage Guidelines | See “Disable Traffic Sampling” on page 301. |
| Required Privilege Level | interface—To view this statement in the configuration. interface-control—To add this statement to the configuration. |

engine-id

Syntax engine-id *id-number*;

Hierarchy Level [edit forwarding-options sampling output cflowd *host-name*]

Description Specify the identification number of the host system's Routing Engine.

Options *id-number*—Identification number of the host system's Routing Engine.
Range: Any integer value that fits in 8 bits

Usage Guidelines See "Configure Flow Aggregation" on page 307.

Required Privilege Level interface—To view this statement in the configuration.
 interface-control—To add this statement to the configuration.

family

Syntax family inet {
 rate *number*;
 run-length *number*;
 }

Hierarchy Level [edit forwarding-options sampling input]

Description Configure protocol family to be sampled. Only the IPv4 protocol is supported.

Options The options are explained separately.

Required Privilege Level interface—To view this statement in the configuration.
 interface-control—To add this statement to the configuration.

file

output

Syntax file {
 filename *filename*;
 files *number*;
 size *bytes*;
 (stamp | no-stamp);
 (world-readable | no-world-readable);
 }

Hierarchy Level [edit forwarding-options sampling output]

Description Configure information about the files that contain the results of the traffic sampled.

Options The options are explained separately.

Usage Guidelines See “Configure the Files to Contain Traffic Sampling Output” on page 305.

Required Privilege Level interface—To view this statement in the configuration.
 interface-control—To add this statement to the configuration.

traceoptions

Syntax file *filename* {
 files *number*;
 size *bytes*;
 (world-readable | no-world-readable);
 }

Hierarchy Level [edit forwarding-options sampling traceoptions]

Description Configure information about the files that contain trace logging information.

Options *filename*—The name of the file containing the trace information.
Default: /var/log/sampled

The remaining options are explained separately.

Usage Guidelines See “Configure the Files to Contain Traffic Sampling Output” on page 305.

Required Privilege Level interface—To view this statement in the configuration.
 interface-control—To add this statement to the configuration.

filename

| | |
|---------------------------------|---|
| Syntax | filename <i>filename</i> ; |
| Hierarchy Level | [edit forwarding-options sampling output file] |
| Description | Set the name of the output data file. |
| Options | <i>filename</i> —Name of the file in which to place the results of the traffic sampling. All files are placed in the directory /var/tmp. Default: Traffic sampling output is placed in the file sampled.pkts. |
| Usage Guidelines | See “Configure the Files to Contain Traffic Sampling Output” on page 305. |
| Required Privilege Level | interface—To view this statement in the configuration. interface-control—To add this statement to the configuration. |

files

| | |
|---------------------------------|--|
| Syntax | files <i>number</i> ; |
| Hierarchy Level | [edit forwarding-options sampling output file], [edit forwarding-options sampling traceoptions file] |
| Description | Set the total number of files to be saved with sample or log data. |
| Options | <i>number</i> —Maximum number of traffic sampling or log files. When a file named <i>sampling-file</i> reaches its maximum size, it is renamed <i>sampling-file.0</i> , then <i>sampling-file.1</i> , and so on, until the maximum number of traffic sampling files is reached. Then, the oldest sampling file is overwritten. Range: 1 through 100 files Default: 5 files for sampling output; 10 files for log information |
| Usage Guidelines | See “Configure the Files to Contain Traffic Sampling Output” on page 305. |
| Required Privilege Level | interface—To view this statement in the configuration. interface-control—To add this statement to the configuration. |

input

Syntax input {
 family inet {
 rate *number*;
 run-length *number*;
 }
 }

Hierarchy Level [edit forwarding-options sampling]

Description Selects the IPv4 protocol family, and sets additional options controlling the traffic samples.

Options The options are explained separately.

Usage Guidelines See “Configure Input” on page 271.

Required Privilege Level interface—To view this statement in the configuration.
 interface-control—To add this statement to the configuration.

local-dump

Syntax (local-dump | no-local-dump);

Hierarchy Level [edit forwarding-options sampling output cflowd *hostname*]

Description Enable collection of cflowd records in a log file.

Options no-local-dump—Do not dump cflowd records to log file before exporting.

local-dump—Dump cflowd records to log file before exporting.

Usage Guidelines See “Debugging cflowd Flow Aggregation” on page 307.

Required Privilege Level interface—To view this statement in the configuration.
 interface-control—To add this statement to the configuration.

no-local-dump

See local-dump on page 313

no-stamp

See stamp on page 316

no-world-readable

See world-readable on page 318

output

Syntax

```
output {
  cflowd host-name {
    engine-id id-number;
    port port-number;
    version format;
  }
  file {
    filename;
    files number;
    size bytes;
    (stamp | no-stamp);
    (world-readable | no-world-readable);
  }
}
```

Hierarchy Level [edit forwarding-options sampling]

Description Configure information about the files that contain the results of the traffic sampled.

Options The options are explained separately.

Usage Guidelines See “Configure the Files to Contain Traffic Sampling Output” on page 305.

Required Privilege Level interface—To view this statement in the configuration.
interface-control—To add this statement to the configuration.

port

Syntax port *port-number*;

Hierarchy Level [edit forwarding-options sampling output cflowd *host-name*]

Description Specify the UDP port number on the host system.

Options *port-number*—Any valid UDP port number on the host system.

Usage Guidelines See “Configure Flow Aggregation” on page 307.

Required Privilege Level interface—To view this statement in the configuration.
interface-control—To add this statement to the configuration.

rate

| | |
|---------------------------------|---|
| Syntax | rate <i>number</i> ; |
| Hierarchy Level | [edit forwarding-options sampling input] |
| Description | Set the ratio of the number of packets to mark as candidates to be sampled. For example, if you specify a rate of 10, every tenth packet (1 packet out of 10) is marked as a candidate to be sampled. |
| Options | <i>number</i> —Denominator of the ratio. Range: 1 through 65535 |
| Usage Guidelines | See “Configure Parameters for Sampling Traffic” on page 301. |
| Required Privilege Level | interface—To view this statement in the configuration. interface-control—To add this statement to the configuration. |

run-length

| | |
|---------------------------------|---|
| Syntax | run-length <i>number</i> ; |
| Hierarchy Level | [edit forwarding-options sampling input family inet] |
| Description | Set the number of samples following the initial trigger event, thus allowing you to sample adjacent packets to those already being sampled. |
| Options | <i>number</i> —Number of samples. Range: 0 through 20 Default: 5 |
| Usage Guidelines | See “Configure Parameters for Sampling Traffic” on page 301. |
| Required Privilege Level | interface—To view this statement in the configuration. interface-control—To add this statement to the configuration. |

sampling

| | |
|---------------------------------|---|
| Syntax | sampling {...} |
| Hierarchy Level | [edit forwarding-options] |
| Description | Configure traffic sampling. |
| Options | The options are explained separately. |
| Usage Guidelines | See “Configure the Files to Contain Traffic Sampling Output” on page 305 |
| Required Privilege Level | interface—To view this statement in the configuration. interface-control—To add this statement to the configuration. |

size

| | |
|---------------------------------|--|
| Syntax | size <i>bytes</i> ; |
| Hierarchy Level | [edit forwarding-options sampling output file], [edit forwarding-options sampling traceoptions file] |
| Description | Maximum size of each file containing sample or log data. The file size is limited by the number of files to be created and the available hard disk space. |
| Options | <i>bytes</i> —Maximum size of each traffic sampling file, in kilobytes (KB), megabytes (MB), or gigabytes (GB). When a traffic sampling file named <i>sampling-file</i> reaches this size, it is renamed <i>sampling-file.0</i> . When the <i>sampling-file</i> again reaches its maximum size, <i>sampling-file.0</i> is renamed <i>sampling-file.1</i> and <i>sampling-file</i> is renamed <i>trace-file.0</i> . This renaming scheme continues until the maximum number of traffic sampling files is reached. Then, the oldest traffic sampling file is overwritten. Syntax: <i>xk</i> to specify KB, <i>xm</i> to specify MB, or <i>xg</i> to specify GB Range: 10 KB through the maximum file size supported on your router Default: 1 MB for sampling data; 128 KB for log information |
| Usage Guidelines | See “Configure the Files to Contain Traffic Sampling Output” on page 305. |
| Required Privilege Level | interface—To view this statement in the configuration. interface-control—To add this statement to the configuration. |

stamp

| | |
|---------------------------------|---|
| Syntax | (stamp no-stamp); |
| Hierarchy Level | [edit forwarding-options sampling output file] |
| Description | Enable inclusion of a timestamp with each line of packet sampling information. |
| Options | <i>no-stamp</i> —Do not include timestamps. This is the default. <i>stamp</i> —Include a timestamp with each line of packet sampling information. Default: No timestamp is included. |
| Usage Guidelines | See “Configure the Files to Contain Traffic Sampling Output” on page 305. |
| Required Privilege Level | interface—To view this statement in the configuration. interface-control—To add this statement to the configuration. |

traceoptions

Syntax traceoptions {
 file *filename* {
 files *number*;
 size *bytes*;
 (world-readable | no-world-readable);
 }
 }

Hierarchy Level [edit forwarding-options sampling]

Description Configure information about the files that contain the logging data for traffic sampled.

Options The options are explained separately.

Usage Guidelines See “Configure the Files to Contain Traffic Sampling Output” on page 305.

Required Privilege Level interface—To view this statement in the configuration.
 interface-control—To add this statement to the configuration.

version

Syntax version *format*;

Hierarchy Level [edit forwarding-options sampling output cflowd *host-name*]

Description Specify the format of the exported cflowd aggregates.

Options *format*—Format of the exported cflowd aggregates.
Values: 5 or 8
Default: 5

Usage Guidelines See “Configure Flow Aggregation” on page 307.

Required Privilege Level interface—To view this statement in the configuration.
 interface-control—To add this statement to the configuration.

world-readable

Syntax (world-readable | no-world-readable);

Hierarchy Level [edit forwarding-options sampling output file],
[edit forwarding-options sampling traceoptions file]

Description Enable unrestricted file access.

Options no-world-readable—Restrict file access to owner. This is the default.

world-readable—Enable unrestricted file access.

Default: no-world-readable.

Usage Guidelines See “Configure the Files to Contain Traffic Sampling Output” on page 305.

Required Privilege Level interface—To view this statement in the configuration.
interface-control—To add this statement to the configuration.