

Discard Accounting



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Discard Accounting
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About the Documentation

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Documentation and Release Notes

To obtain the most current version of all Juniper Networks® technical documentation, see the product documentation page on the Juniper Networks website at <http://www.juniper.net/techpubs/>.

If the information in the latest release notes differs from the information in the documentation, follow the product Release Notes.

Juniper Networks Books publishes books by Juniper Networks engineers and subject matter experts. These books go beyond the technical documentation to explore the nuances of network architecture, deployment, and administration. The current list can be viewed at <http://www.juniper.net/books>.

Supported Platforms

For the features described in this document, the following platforms are supported:

- M Series
- T Series

Using the Examples in This Manual

If you want to use the examples in this manual, you can use the **load merge** or the **load merge relative** command. These commands cause the software to merge the incoming configuration into the current candidate configuration. The example does not become active until you commit the candidate configuration.

If the example configuration contains the top level of the hierarchy (or multiple hierarchies), the example is a *full example*. In this case, use the **load merge** command.

If the example configuration does not start at the top level of the hierarchy, the example is a *snippet*. In this case, use the **load merge relative** command. These procedures are described in the following sections.

Merging a Full Example

To merge a full example, follow these steps:

1. From the HTML or PDF version of the manual, copy a configuration example into a text file, save the file with a name, and copy the file to a directory on your routing platform.

For example, copy the following configuration to a file and name the file **ex-script.conf**. Copy the **ex-script.conf** file to the **/var/tmp** directory on your routing platform.

```
system {
  scripts {
    commit {
      file ex-script.xml;
    }
  }
}
interfaces {
  fxp0 {
    disable;
    unit 0 {
      family inet {
        address 10.0.0.1/24;
      }
    }
  }
}
```

2. Merge the contents of the file into your routing platform configuration by issuing the **load merge** configuration mode command:

```
[edit]
user@host# load merge /var/tmp/ex-script.conf
load complete
```

Merging a Snippet

To merge a snippet, follow these steps:

1. From the HTML or PDF version of the manual, copy a configuration snippet into a text file, save the file with a name, and copy the file to a directory on your routing platform.

For example, copy the following snippet to a file and name the file **ex-script-snippet.conf**. Copy the **ex-script-snippet.conf** file to the **/var/tmp** directory on your routing platform.

```
commit {
  file ex-script-snippet.xml; }
```

2. Move to the hierarchy level that is relevant for this snippet by issuing the following configuration mode command:


```
[edit]
user@host# edit system scripts
[edit system scripts]
```

3. Merge the contents of the file into your routing platform configuration by issuing the **load merge relative** configuration mode command:

```
[edit system scripts]
user@host# load merge relative /var/tmp/ex-script-snippet.conf
load complete
```

For more information about the **load** command, see the CLI User Guide.

Documentation Conventions

Table 1 on page ix defines notice icons used in this guide.

Table 1: Notice Icons

Icon	Meaning	Description
	Informational note	Indicates important features or instructions.
	Caution	Indicates a situation that might result in loss of data or hardware damage.
	Warning	Alerts you to the risk of personal injury or death.
	Laser warning	Alerts you to the risk of personal injury from a laser.

Table 2 on page ix defines the text and syntax conventions used in this guide.

Table 2: Text and Syntax Conventions

Convention	Description	Examples
Bold text like this	Represents text that you type.	To enter configuration mode, type the configure command: user@host> configure
Fixed-width text like this	Represents output that appears on the terminal screen.	user@host> show chassis alarms No alarms currently active

Table 2: Text and Syntax Conventions (*continued*)

Convention	Description	Examples
<i>Italic text like this</i>	<ul style="list-style-type: none"> Introduces or emphasizes important new terms. Identifies book names. Identifies RFC and Internet draft titles. 	<ul style="list-style-type: none"> A policy <i>term</i> is a named structure that defines match conditions and actions. <i>Junos OS System Basics Configuration Guide</i> RFC 1997, <i>BGP Communities Attribute</i>
<i>Italic text like this</i>	Represents variables (options for which you substitute a value) in commands or configuration statements.	Configure the machine's domain name: [edit] root@# set system domain-name <i>domain-name</i>
Text like this	Represents names of configuration statements, commands, files, and directories; configuration hierarchy levels; or labels on routing platform components.	<ul style="list-style-type: none"> To configure a stub area, include the stub statement at the [edit protocols ospf area area-id] hierarchy level. The console port is labeled CONSOLE.
< > (angle brackets)	Enclose optional keywords or variables.	stub <default-metric metric>;
(pipe symbol)	Indicates a choice between the mutually exclusive keywords or variables on either side of the symbol. The set of choices is often enclosed in parentheses for clarity.	broadcast multicast <i>(string1 string2 string3)</i>
# (pound sign)	Indicates a comment specified on the same line as the configuration statement to which it applies.	rsvp { # Required for dynamic MPLS only
[] (square brackets)	Enclose a variable for which you can substitute one or more values.	community name members [community-ids]
Indentation and braces ({ })	Identify a level in the configuration hierarchy.	[edit] routing-options { static { route default { nexthop <i>address</i> ; retain; } } }
;(semicolon)	Identifies a leaf statement at a configuration hierarchy level.	
J-Web GUI Conventions		
Bold text like this	Represents J-Web graphical user interface (GUI) items you click or select.	<ul style="list-style-type: none"> In the Logical Interfaces box, select All Interfaces. To cancel the configuration, click Cancel.
> (bold right angle bracket)	Separates levels in a hierarchy of J-Web selections.	In the configuration editor hierarchy, select Protocols>Ospf .

Documentation Feedback

We encourage you to provide feedback, comments, and suggestions so that we can improve the documentation. You can send your comments to techpubs-comments@juniper.net, or fill out the documentation feedback form at <https://www.juniper.net/cgi-bin/docbugreport/>. If you are using e-mail, be sure to include the following information with your comments:

- Document or topic name
- URL or page number
- Software release version (if applicable)

Requesting Technical Support

Technical product support is available through the Juniper Networks Technical Assistance Center (JTAC). If you are a customer with an active J-Care or JNASC support contract, or are covered under warranty, and need post-sales technical support, you can access our tools and resources online or open a case with JTAC.

- JTAC policies—For a complete understanding of our JTAC procedures and policies, review the *JTAC User Guide* located at <http://www.juniper.net/us/en/local/pdf/resource-guides/7100059-en.pdf>.
- Product warranties—For product warranty information, visit <http://www.juniper.net/support/warranty/>.
- JTAC hours of operation—The JTAC centers have resources available 24 hours a day, 7 days a week, 365 days a year.

Self-Help Online Tools and Resources

For quick and easy problem resolution, Juniper Networks has designed an online self-service portal called the Customer Support Center (CSC) that provides you with the following features:

- Find CSC offerings: <http://www.juniper.net/customers/support/>
- Search for known bugs: <http://www2.juniper.net/kb/>
- Find product documentation: <http://www.juniper.net/techpubs/>
- Find solutions and answer questions using our Knowledge Base: <http://kb.juniper.net/>
- Download the latest versions of software and review release notes: <http://www.juniper.net/customers/csc/software/>
- Search technical bulletins for relevant hardware and software notifications: <https://www.juniper.net/alerts/>

- Join and participate in the Juniper Networks Community Forum:
<http://www.juniper.net/company/communities/>
- Open a case online in the CSC Case Management tool: <http://www.juniper.net/cm/>

To verify service entitlement by product serial number, use our Serial Number Entitlement (SNE) Tool: <https://tools.juniper.net/SerialNumberEntitlementSearch/>

Opening a Case with JTAC

You can open a case with JTAC on the Web or by telephone.

- Use the Case Management tool in the CSC at <http://www.juniper.net/cm/> .
- Call 1-888-314-JTAC (1-888-314-5822 toll-free in the USA, Canada, and Mexico).

For international or direct-dial options in countries without toll-free numbers, see <http://www.juniper.net/support/requesting-support.html> .

PART 1

Configuration

- [Configuration Task on page 3](#)
- [Configuration Statements on page 5](#)

CHAPTER 1

Configuration Task

- [Configuring Discard Accounting on page 3](#)

Configuring Discard Accounting

Discard accounting is similar to traffic sampling, but varies from it in two ways:

- In discard accounting, the packet is intercepted by the monitoring PIC and is not forwarded to its destination.
- Traffic sampling allows you to limit the number of packets sampled by configuring the **max-packets-per-second**, **rate**, and **run-length** statements. Discard accounting does not provide these options, and a high packet count can potentially overwhelm the monitoring PIC.

To configure discard accounting, include the **accounting** statement at the **[edit forwarding-options]** hierarchy level:

```
accounting name {
  output {
    aggregate-export-interval seconds;
    cflowd hostname {
      aggregation {
        autonomous-system;
        destination-prefix;
        protocol-port;
        source-destination-prefix {
          caida-compliant;
        }
        source-prefix;
      }
      autonomous-system-type (origin | peer);
      port port-number;
      version format;
    }
    flow-active-timeout seconds;
    flow-inactive-timeout seconds;
    interface interface-name {
      engine-id number;
      engine-type number;
      source-address address;
    }
  }
}
```

```
}  
}
```

A discard instance is a named entity that specifies collector information under the **accounting *name*** statement. Discard instances are referenced in firewall filter **term** statements by including the **then discard accounting *name*** statement.

Most of the other statements are also found at the **[edit forwarding-options sampling]** hierarchy level. For information on cflowd, see Enabling Flow Aggregation. The **flow-active-timeout** and **flow-inactive-timeout** statements are described in Configuring Flow Monitoring.

To direct sampled traffic to a flow-monitoring interface, include the **interface** statement. The **engine-id** and **engine-type** statements specify the accounting interface used on the traffic, and the **source-address** statement specifies the traffic source.

You cannot use rate-limiting with discard accounting; however, you can specify the duration of the interval for exporting aggregated accounting information by including the **aggregate-export-interval** statement in the configuration. This enables you to put a boundary on the amount of traffic exported to a flow-monitoring interface.

CHAPTER 2

Configuration Statements

accounting

Syntax `accounting name {
 output {
 aggregate-export-interval seconds;
 cflowd hostname {
 aggregation {
 autonomous-system;
 destination-prefix;
 protocol-port;
 source-destination-prefix {
 caida-compliant;
 }
 source-prefix;
 }
 autonomous-system-type (origin | peer);
 port port-number;
 version format;
 }
 flow-active-timeout seconds;
 flow-inactive-timeout seconds;
 interface interface-name {
 engine-id (Forwarding Options) number;
 engine-type number;
 source-address (Forwarding Options) address;
 }
 }
 }
 }`

Hierarchy Level [edit forwarding-options]

Release Information Statement introduced before Junos OS Release 7.4.

Description Specify the discard accounting instance name and options.

 The statements are explained separately.

Usage Guidelines See [“Configuring Discard Accounting” on page 3](#).

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

aggregate-export-interval

Syntax	<code>aggregate-export-interval <i>seconds</i>;</code>
Hierarchy Level	[edit forwarding-options accounting <i>name</i> output], [edit forwarding-options sampling instance <i>instance-name</i> family (inet inet6 mpls) output], [edit forwarding-options sampling family (inet inet6 mpls) output]
Release Information	Statement introduced before Junos OS Release 7.4.
Description	Specify the duration, in seconds, of the interval for exporting aggregate accounting information.
Options	<i>seconds</i> —Duration.
Usage Guidelines	See “ Configuring Discard Accounting ” on page 3.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

aggregation

Syntax	<pre>aggregation { autonomous-system; destination-prefix; protocol-port; source-destination-prefix { caida-compliant; } source-prefix; }</pre>
Hierarchy Level	[edit forwarding-options accounting output cflowd hostname], [edit forwarding-options sampling instance <i>instance-name</i> family (inet inet6 mpls) output flow-server <i>hostname</i>], [edit forwarding-options sampling family (inet inet6 mpls) output flow-server <i>hostname</i>]
Release Information	Statement introduced before Junos OS Release 7.4.
Description	For cflowd version 8 only, specify the type of data to be aggregated; cflowd records and sends only those flows that match the specified criteria.
Options	<p>autonomous-system—Aggregate by autonomous system (AS) number.</p> <p>caida-compliant—Record source and destination mask-length values in compliance with the Version 2.1b1 release of CAIDA's cflowd application. If this statement is not configured, the Junos OS records source and destination mask length values in compliance with the <i>cflowd Configuration Guide</i>, dated August 30, 1999.</p> <p>destination-prefix—Aggregate by destination prefix.</p> <p>protocol-port—Aggregate by protocol and port number.</p> <p>source-destination-prefix—Aggregate by source and destination prefix.</p> <p>source-prefix—Aggregate by source prefix.</p>
Usage Guidelines	See Enabling Flow Aggregation.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

autonomous-system-type

Syntax	<code>autonomous-system-type (origin peer);</code>
Hierarchy Level	[edit forwarding-options sampling instance <i>instance-name</i> family (inet inet6 mpls) output flow-server <i>hostname</i>], [edit forwarding-options sampling family (inet inet6 mpls) output flow-server <i>hostname</i>]
Release Information	Statement introduced before Junos OS Release 7.4.
Description	Specify the type of AS numbers that cflowd exports.
Default	<code>origin</code>
Options	origin —Export origin AS numbers of the packet source address in the Source Autonomous System cflowd field. peer —Export peer AS numbers through which the packet passed in the Source Autonomous System cflowd field.
Usage Guidelines	See Enabling Flow Aggregation.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.


cflowd (Discard Accounting)

Syntax	<pre>cflowd <i>hostname</i> { aggregation { autonomous-system; destination-prefix; protocol-port; source-destination-prefix { caida-compliant; } source-prefix; } autonomous-system-type (origin peer); label-position { template <i>template-name</i>; } (local-dump no-local-dump); port <i>port-number</i>; source-address (Forwarding Options) <i>address</i>; version <i>format</i>; }</pre>
Hierarchy Level	[edit forwarding-options accounting name output],
Release Information	Statement introduced before Junos OS Release 7.4.
Description	<p>Collect an aggregate of sampled flows and send the aggregate to a specified host system that runs the collection utility cfdcollect.</p> <p>You can configure up to one version 5 and one version 8 flow format at the [edit forwarding-options accounting name output] hierarchy level.</p>
Options	<p>hostname—The IP address or identifier of the host system (the workstation running the cflowd utility).</p> <p>The remaining statements are explained separately.</p>
Usage Guidelines	See Enabling Flow Aggregation.
Required Privilege Level	<p>interface—To view this statement in the configuration.</p> <p>interface-control—To add this statement to the configuration.</p>



engine-id (Forwarding Options)

Syntax	engine-id <i>number</i> ;
Hierarchy Level	[edit forwarding-options accounting name output interface interface-name], [edit forwarding-options monitoring <i>name</i> output interface interface-name], [edit forwarding-options sampling instance <i>instance-name</i> family (inet inet6 mpls) output interface interface-name], [edit forwarding-options sampling family (inet inet6 mpls) output interface interface-name]
Release Information	Statement introduced before Junos OS Release 7.4.
Description	Specify the engine ID number for flow monitoring and accounting services.
Options	<i>number</i> —Identity of accounting interface.
Usage Guidelines	See Configuring Traffic Sampling, Configuring Flow Monitoring, or “ Configuring Discard Accounting ” on page 3 .
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.


engine-type

Syntax	engine-type <i>number</i> ;
Hierarchy Level	[edit forwarding-options accounting <i>name</i> output interface <i>interface-name</i>], [edit forwarding-options monitoring <i>name</i> output interface <i>interface-name</i>], [edit forwarding-options sampling instance <i>instance-name</i> family (inet inet6 mpls) output interface <i>interface-name</i>], [edit forwarding-options sampling family (inet inet6 mpls) output interface <i>interface-name</i>]
Release Information	Statement introduced before Junos OS Release 7.4.
Description	Specify the engine type number for flow monitoring and accounting services. The engine type attribute refers to the type of the flow switching engine, such as the route processor or a line module. The configured engine type is inserted in output cflowd packets. The Source ID , a 32-bit value to ensure uniqueness for all flows exported from a particular device, is the equivalent of the engine type and the engine ID fields.
	<div><p>NOTE: You must configure a source address in the output interface statements. The interface-level statement of engine-type is added automatically but you may override this value with manually configured statements to track different flows with a single cflowd collector.</p></div>
Options	<i>number</i> —Platform-specific accounting interface type.
Usage Guidelines	See Configuring Traffic Sampling, Configuring Flow Monitoring, or “ Configuring Discard Accounting ” on page 3.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

flow-active-timeout

Syntax	flow-active-timeout <i>seconds</i> ;
Hierarchy Level	[edit forwarding-options accounting <i>name</i> output], [edit forwarding-options monitoring <i>name</i> output], [edit forwarding-options sampling instance <i>instance-name</i> family (inet inet6 mpls) output], [edit forwarding-options sampling family (inet inet6 mpls) output], [edit services flow-monitoring version9]
Release Information	Statement introduced before Junos OS Release 7.4.
Description	Interval after which an active flow is exported.
<div>  <p>NOTE: The router must include an Adaptive Services, Multiservices, or Monitoring Services PIC for this statement to take effect.</p> </div>	
Options	<p>seconds—Duration of the timeout period.</p> <p>Range: 60 through 1800 seconds (for forwarding-options configurations); 10 through 600 seconds (for services configurations)</p> <p>Default: 1800 seconds (for forwarding-options configurations); 60 seconds (for services configurations)</p>
<div>  <p>NOTE: In active flow monitoring, the cflowd records are exported after a time period that is a multiple of 60 seconds and greater than or equal to the configured active timeout value. For example, if the active timeout value is 90 seconds, the cflowd records are exported at 120-second intervals. If the active timeout value is 150 seconds, the cflowd records are exported at 180-second intervals, and so forth.</p> </div>	
Usage Guidelines	See Configuring Time Periods when Flow Monitoring is Active and Inactive or Configuring the Version 9 Template Properties.
Required Privilege Level	<p>interface—To view this statement in the configuration.</p> <p>interface-control—To add this statement to the configuration.</p>

flow-inactive-timeout

Syntax	flow-inactive-timeout <i>seconds</i> ;
Hierarchy Level	[edit forwarding-options accounting <i>name</i> output], [edit forwarding-options monitoring <i>name</i> output], [edit forwarding-options sampling instance <i>instance-name</i> family (inet inet6 mpls) output], [edit forwarding-options sampling family (inet inet6 mpls) output], [edit services flow-monitoring version9]
Release Information	Statement introduced before Junos OS Release 7.4.
Description	Interval of inactivity that marks a flow inactive.
<div><p>NOTE: The router must include an Adaptive Services, Multiservices, or Monitoring Services PIC for this statement to take effect.</p></div>	
Options	seconds —Duration of the timeout period. Range: 60 through 1800 seconds (for forwarding-options configurations); 10 through 600 seconds (for services configurations) Default: 1800 seconds (for forwarding-options configurations); 60 seconds (for services configurations)
Usage Guidelines	See Configuring Time Periods when Flow Monitoring is Active and Inactive or Configuring the Version 9 Template Properties.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

interface (Accounting or Sampling)

Syntax	<pre>interface <i>interface-name</i> { <i>engine-id</i> <i>number</i>; <i>engine-type</i> <i>number</i>; <i>source-address</i> <i>address</i>; }</pre>
Hierarchy Level	[edit forwarding-options <i>accounting</i> <i>name</i> <i>output</i>], [edit forwarding-options sampling family (inet inet6 mpls) output], [edit forwarding-options sampling instance <i>instance-name</i> family (inet inet6 mpls) output]
Release Information	Statement introduced before Junos OS Release 7.4.
Description	Specify the output interface for monitored traffic.
Options	<p><i>interface-name</i>—Name of the interface.</p> <p>The remaining statements are explained separately.</p>
Usage Guidelines	See “ Configuring Discard Accounting ” on page 3 or Configuring Traffic Sampling .
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

output (Accounting)

Syntax `output {
 aggregate-export-interval seconds;
 cflowd hostname {
 aggregation {
 autonomous-system;
 destination-prefix;
 protocol-port;
 source-destination-prefix {
 caida-compliant;
 }
 source-prefix;
 }
 autonomous-system-type (origin | peer);
 (local-dump | no-local-dump);
 port port-number;
 source-address address;
 version format;
 }
 flow-active-timeout seconds;
 flow-inactive-timeout seconds;
 interface interface-name {
 engine-id number;
 engine-type number;
 source-address address;
 }
 }`

Hierarchy Level [edit forwarding-options **accounting** *name*]

Release Information Statement introduced before Junos OS Release 7.4.

Description Configure cflowd, output interfaces, and flow properties.

The statements are explained separately.

Usage Guidelines See “[Configuring Discard Accounting](#)” on page 3.

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

port

Syntax	<code>port <i>port-number</i>;</code>
Hierarchy Level	[edit forwarding-options accounting <i>name</i> output cflowd <i>hostname</i>], [edit forwarding-options monitoring <i>name</i> family inet output cflowd <i>hostname</i>], [edit forwarding-options sampling instance <i>instance-name</i> family (inet inet6 mpls) output flow-server <i>hostname</i>], [edit forwarding-options sampling family (inet inet6 mpls) output flow-server <i>hostname</i>]
Release Information	Statement introduced before Junos OS Release 7.4.
Description	Specify the User Datagram Protocol (UDP) port number on the cflowd host system.
Options	<i>port-number</i> —Any valid UDP port number on the host system.
Usage Guidelines	See Enabling Flow Aggregation.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

version

Syntax	<code>version <i>format</i>;</code>
Hierarchy Level	[edit forwarding-options accounting <i>name</i> output flow-server <i>hostname</i>], [edit forwarding-options sampling instance <i>instance-name</i> family (inet inet6 mpls) output flow-server <i>hostname</i>], [edit forwarding-options sampling family (inet inet6 mpls) output flow-server <i>hostname</i>]
Release Information	Statement introduced before Junos OS Release 7.4.
Description	Specify the version format of the aggregated flows exported to a cflowd server.
Options	<i>format</i> —Format of the flows. Values: 5 or 8 Default: 5
Usage Guidelines	See Enabling Flow Aggregation.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.
Related Documentation	<ul style="list-style-type: none"> export-format

source-address (Forwarding Options)

Syntax	source-address <i>address</i> ;
Hierarchy Level	[edit forwarding-options accounting <i>name</i> output interface <i>interface-name</i>], [edit forwarding-options monitoring <i>name</i> family family <i>inet</i> output interface <i>interface-name</i>], [edit forwarding-options sampling <i>instance</i> <i>instance-name</i> family (<i>inet</i> <i>inet6</i> <i>mpls</i>) output interface <i>interface-name</i>], [edit forwarding-options sampling family (<i>inet</i> <i>inet6</i> <i>mpls</i>) output interface <i>interface-name</i>], [edit forwarding-options sampling <i>instance</i> <i>instance-name</i> family <i>inet</i> output <i>inline-jflow</i>]
Release Information	Statement introduced before Junos OS Release 7.4.
Description	Specify the source address for monitored packets.
Options	<i>address</i> —Interface source address.
Usage Guidelines	See “ Configuring Discard Accounting ” on page 3, Configuring Flow Monitoring, or Configuring Traffic Sampling.
Required Privilege Level	interface —To view this statement in the configuration. interface-control —To add this statement to the configuration.

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