

# Configuring NetFlow

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This chapter describes how to configure NetFlow. For a complete description of NetFlow commands used in this chapter, refer to the “Cisco IOS Switching Commands” chapter in the *Cisco IOS Switching Services Command Reference*. For documentation of other commands that appear in this chapter, you can use the command reference master index or search online. This chapter contains these sections:

- Configure NetFlow
- NetFlow Configuration Example

## Configure NetFlow

With NetFlow, you can export data (traffic statistics) to a remote workstation for further processing. NetFlow does not involve any connection-setup protocol either between routers or to any other networking device or end station and does not require any change externally—either to the traffic or packets themselves or to any other networking device. Thus, NetFlow is completely transparent to the existing network, including end stations and application software and network devices like LAN switches. Also, because NetFlow is performed independently on each internetworking device, it does not need to be operational on each router in the network. Network planners can selectively invoke NetFlow (and NetFlow data export) on a router or interface basis to gain traffic performance, control, or accounting benefits in specific network locations.

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**Note** NetFlow does consume additional memory and CPU resources, therefore, it is important to understand the resources required on your router before enabling NetFlow.

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To configure NetFlow, first configure the router for IP routing as described in the IP configuration chapters in the *Network Protocols Configuration Guide, Part 1*. After you configure IP routing, use the following commands beginning in global configuration mode:

Step	Command	Purpose
1	<b>interface</b> <i>type slot/port-adapter/port</i> (Cisco 7500 series routers) <b>interface</b> <i>type slot/port</i> (Cisco 7200 series routers)	Specify the interface, and enter interface configuration mode.
2	<b>ip route-cache flow</b>	Enable NetFlow.

NetFlow information can also be exported to network management applications. To configure the router to export NetFlow statistics maintained in the NetFlow cache to a workstation when a flow expires, use one of the following commands in global configuration mode:

Command	Purpose
<b>ip flow-export</b> <i>ip-address udp-port</i> [version 1]	Configure the router to export NetFlow cache entries to a workstation if you are using receiving software that requires version 1. Version 1 is the default.
<b>ip flow-export</b> <i>ip-address udp-port version 5</i> [origin-as   peer-as]	Configure the router to export NetFlow cache entries to a workstation if you are using receiving software that accepts version 5. Optionally specify origin or peer autonomous system (AS). The default is to export neither AS which provides improved performance.

## Manage NetFlow Statistics

You can display and clear NetFlow statistics. NetFlow statistics consist of IP packet size distribution, IP flow cache information, and flow information such as the protocol, total flow, flows per second, and so forth. The resulting information can be used to find out information about your router traffic. To manage NetFlow statistics, use either of the following commands in privileged EXEC mode:

Command	Purpose
<b>show ip cache flow</b>	Display the NetFlow statistics.
<b>clear ip flow stats</b>	Clear the NetFlow statistics.

## Configure IP Distributed Switching and NetFlow on VIP Interfaces

On Cisco 7500 series routers with a Route Switch Processor (RSP) and with Versatile Interface Processor (VIP) controllers, the VIP hardware can be configured to switch packets received by the VIP with no per-packet intervention on the part of the RSP. This process is called *distributed switching*. Distributed switching decreases the demand on the RSP.

The VIP hardware can also be configured for NetFlow, a new high-performance feature that caches information about the flow. NetFlow data can also be exported to network management applications.

Refer to the Cisco Product Catalog for information about VIP port adapters used for distributed switching.

To configure distributed switching on the VIP, first configure the router for IP routing as described in this chapter and the various routing protocol chapters, depending on the protocols you use.

After you configure IP routing, use the following commands beginning in global configuration mode:

Step	Command	Purpose
1	<b>interface</b> <i>type slot/port-adapter/port</i>	Specify the interface, and enter interface configuration mode.
2	<b>ip route-cache distributed</b>	Enable VIP distributed switching of IP packets on the interface.
3	<b>ip route-cache flow</b>	Enable NetFlow.

When the RSP or VIP is using NetFlow, it uses a flow cache instead of a destination network cache to switch IP packets. The flow cache uses source and destination network address, protocol, and source and destination port numbers to distinguish entries.

To export NetFlow cache entries to a workstation when a flow expires, use the following command in global configuration mode:

Command	Purpose
<code>ip flow-export ip-address udp-port</code>	Configure the router to export NetFlow cache entries to a workstation.

## NetFlow Configuration Example

The following example shows how to modify the configuration of serial interface 3/0/0 to enable NetFlow and to export the flow statistics for further processing to UDP port 0 on a workstation with the IP address of 1.1.15.1. In this example, existing NetFlow statistics are cleared to ensure accurate information when the **show ip cache flow** command is executed to view a summary of the NetFlow statistics.

```
configure terminal
interface serial 3/0/0
 ip route-cache flow
 exit
 ip flow-export 1.1.15.1 0 version 5 peer-as
 exit
 clear ip flow stats
```

