Asynchronous Line Monitoring

Feature History

Release	Modification
12.2(4)T	This feature was introduced.
12.2(11)T	This feature was integrated into Cisco IOS Release 12.2(11)T and support was added for the Cisco AS5300, Cisco AS5400 and Cisco AS5800 platforms.

This document describes the Asynchronous Line Monitoring feature in Cisco IOS Release 12.2(11)T. It includes the following sections:

Feature Overview

Before introduction of the Asynchronous Line Monitoring feature, Cisco IOS software did not provide a method for displaying asynchronous character mode traffic flowing out of an asynchronous line. Therefore, when a user tried to troubleshoot difficult asynchronous traffic problems, the user needed to use EIA/TIA-232 datascopes in order to examine the data stream. This method is very detailed and cumbersome. The Asynchronous Line Monitoring feature allows the monitoring of inbound and outbound asynchronous character mode traffic on another terminal line.

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Benefits

This feature increases the efficiency of troubleshooting asynchronous character mode traffic problems.

Restrictions

The Asynchronous Line Monitoring feature can be used only to monitor character mode asynchronous traffic in Cisco IOS Release 12.2(11)T. This feature does not allow the user to monitor asynchronous packet traffic. The user cannot monitor traffic on console or virtual terminal ports. Furthermore, the user cannot monitor traffic on his or her own port.

Related Documents

- *Cisco IOS Dial Technologies Configuration Guide*
- *Cisco IOS Dial Technologies Command Reference*

Supported Platforms

- Cisco 2500 series
- Cisco 2600 series
- Cisco 3620 router
- Cisco 3640 router
- Cisco 3660 router
- Cisco 3725 router
- Cisco 3745 router
- Cisco 7200 series
- Cisco AS5300
- Cisco AS5400
- Cisco AS5800
- Cisco IGX 8400 URM

Determining Platform Support Through Cisco Feature Navigator

Cisco IOS software is packaged in feature sets that are supported on specific platforms. To get updated information regarding platform support for this feature, access Cisco Feature Navigator. Cisco Feature Navigator dynamically updates the list of supported platforms as new platform support is added for the feature.

Cisco Feature Navigator is a web-based tool that enables you to quickly determine which Cisco IOS software images support a specific set of features and which features are supported in a specific Cisco IOS image. You can search by feature or release. Under the release section, you can compare releases side by side to display both the features unique to each software release and the features in common.

To access Cisco Feature Navigator, you must have an account on Cisco.com. If you have forgotten or lost your account information, send a blank e-mail to cco-locksmith@cisco.com. An automatic check will verify that your e-mail address is registered with Cisco.com. If the check is successful, account details with a new random password will be e-mailed to you. Qualified users can establish an account on Cisco.com at this URL:

http://www.cisco.com

Cisco Feature Navigator is updated regularly when major Cisco IOS software releases and technology releases occur. For the most current information, go to the Cisco Feature Navigator home page at the following URL:

http://www.cisco.com/go/fn

Availability of Cisco IOS Software Images

Platform support for particular Cisco IOS software releases is dependent on the availability of the software images for those platforms. Software images for some platforms may be deferred, delayed, or changed without prior notice. For updated information about platform support and availability of software images for each Cisco IOS software release, refer to the online release notes or, if supported, Cisco Feature Navigator.

Supported Standards, MIBs, and RFCs

Standards

None

MIBs

None

To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL:

http://tools.cisco.com/ITDIT/MIBS/servlet/index

If Cisco MIB Locator does not support the MIB information that you need, you can also obtain a list of supported MIBs and download MIBs from the Cisco MIBs page at the following URL:

http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml

To access Cisco MIB Locator, you must have an account on Cisco.com. If you have forgotten or lost your account information, send a blank e-mail to cco-locksmith@cisco.com. An automatic check will verify that your e-mail address is registered with Cisco.com. If the check is successful, account details with a new random password will be e-mailed to you. Qualified users can establish an account on Cisco.com at this URL:

http://www.cisco.com

RFCs

None

Prerequisites

In order for the Asynchronous Line Monitoring feature to function, an EXEC process (which interprets the user commands) must be running on the asynchronous port that is being monitored for inbound or outbound asynchronous traffic. This feature will not work if, instead of an EXEC process, a TTY DAEMON process (which handles an incoming network connection) is running on the asynchronous port that is being monitored.

Configuration Tasks

See the following section for required configuration tasks for the Asynchronous Line Monitoring feature:

- Ensuring That an EXEC Process Is Running on the Asynchronous Port to Be Monitored (required)

Ensuring That an EXEC Process Is Running on the Asynchronous Port to Be Monitored

To ensure that an EXEC process is running on the asynchronous port to be monitored, use the following command in user EXEC mode:

Command	Purpose
`Router> show processes [cpu]`	Displays information about the active processes.

Monitoring and Maintaining Character Mode Asynchronous Traffic

To monitor inbound or outbound asynchronous character mode traffic on the port to be monitored, use the following command in privileged EXEC mode:

Command	Purpose
`Router# monitor traffic line [aux	tty] line-number [in	out]`	Monitors inbound and outbound asynchronous character mode traffic on another terminal line. • **aux**—(Optional) Specifies the auxiliary EIA/TIA-232 DTE port. • **tty**—(Optional) Specifies the standard asynchronous line. • *line-number*—Specifies the absolute or relative number of the line to be monitored. • **in**—(Optional) Specifies inbound traffic. • **out**—(Optional) Specifies outbound traffic.

Before entering the **monitor traffic line** command, ensure that an EXEC process is running on the asynchronous port that will be monitored. To check that an EXEC process is running on the line, enter the **show processes** command. To monitor the asynchronous character mode traffic in the inbound direction on tty line 1, enter the **monitor traffic line** command in privileged EXEC mode:

```
Router# monitor traffic line tty 1 in

  Monitoring inbound traffic on line 1. Type ^^x to end.
```

To stop monitoring the traffic, enter the escape sequence (Ctrl-Shift-6, then x [Ctrl^x] by default). The router will return to the privileged EXEC prompt.

Verifying Traffic Line Monitoring

When you enter the **monitor traffic line** command, the characters traversing the asynchronous port are displayed on your screen, as shown in the following output:

```
Router# monitor traffic line tty 1 in

  Monitoring inbound traffic on line 1. Type ^^x to end.
  dfldkfilkkjif
```

Troubleshooting Tips

If no character output appears after you have entered the **monitor traffic line** command, one of the following scenarios is occurring:

- No characters are traversing the asynchronous port.
- An EXEC process is not active on the asynchronous port that is being monitored.
- The platform does not support the **monitor traffic line** command, which is available with Cisco IOS Release 12.2(4)T and later releases.

Configuration Examples

The following example allows the user to monitor asynchronous character mode traffic in the inbound direction:

```
Router# monitor traffic line tty 1 in

  Monitoring inbound traffic on line 1. Type ^^x to end.
  fgkhgighgghljhkj
```

To stop monitoring traffic, you must enter the escape sequence (Ctrl-Shift-6, then x [Ctrl^x] by default). The router will be returned to the privileged EXEC prompt.

The following example allows the user to monitor asynchronous character mode traffic in the outbound direction. When you do not specify inbound or outbound traffic by entering the keywords **in** or **out**, the default will be outbound traffic:

```
Router# monitor traffic line tty 10

  Monitoring outbound traffic on line 10. Type ^^x to end.
  fgkkhglhghhljki
```

Figure 1 shows a common scenario for asynchronous character mode traffic that involves a remote user on Workstation 1 dialing in to an asynchronous port on Router A (a Cisco router or access server). The user commands are interpreted by an EXEC process (such as EXEC process 1). To monitor the inbound or outbound asynchronous traffic on this port, you must log in to Router A via another terminal line—for example, a vty when logging from Workstation 2—and enter the **monitor traffic line** command. This command is interpreted by a second EXEC process (such as EXEC process 2).

Figure 1   *Dialing In to a Router over a Public Switched Telephone Network Connection*
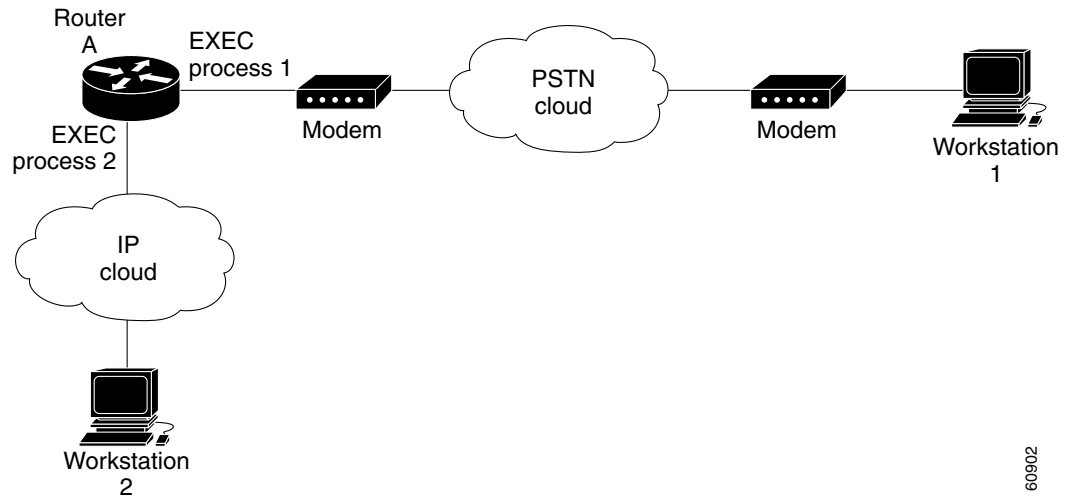

Figure 2 shows another scenario for asynchronous character mode traffic in which a remote user on Workstation 1 uses reverse Telnets to access an asynchronous port of Router A, causing a TTY DAEMON process (such as TTY DAEMON 1) to run on the asynchronous port of Router A. The user then dials in to an asynchronous port on Router B. The user commands are interpreted by an EXEC process (such as EXEC process 1) on Router B. To monitor the inbound or outbound asynchronous traffic on this port on Router A, you must log in to Router A through another terminal line—for example, another terminal line when logging from Workstation 2—and enter the **monitor traffic line** command. The command is interpreted by a second EXEC process (such as EXEC process 2).

Figure 2   *Reverse Telnet to a Router Followed by Dial over a PSTN Connection*
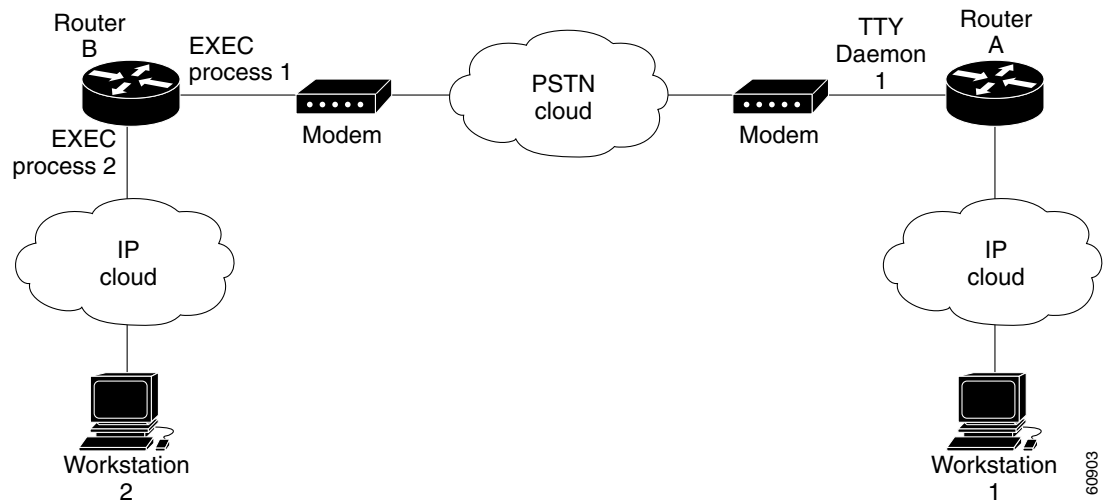
The **monitor traffic line** command cannot be used to monitor the asynchronous traffic on the asynchronous port of router A in Figure 2 that is running the TTY DAEMON process, TTY DAEMON 1.

When the **monitor traffic line** command is running and the asynchronous characters are being displayed to the user on the second terminal line (Workstation 2), the Asynchronous Line Monitoring feature allows this user to enter more commands on the second terminal line. The output of the additional

commands will be displayed not only to the user on Workstation 2, but also to the user on Workstation 1 on the terminal line that is being monitored. To prevent this display of command output on Workstation 1, the user on Workstation 2 must be careful not to enter more commands while the **monitor traffic line** command is still running.

Command Reference

The following commands are introduced or modified in the feature or features documented in this module. For information about these commands, see the *Cisco IOS Terminal Services Command Reference* at http://www.cisco.com/en/US/docs/ios/termserv/command/reference/tsv_book.html. For information about all Cisco IOS commands, go to the Command Lookup Tool at http://tools.cisco.com/Support/CLILookup or to the *Cisco IOS Master Commands List.*

- **monitor traffic line**