Asynchronous Call Queueing by Role

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The Asynchronous Call Queueing by Role feature allows priority users making Telnet connection requests to busy asynchronous rotary groups to be placed at the head of the queue when asynchronous rotary line queueing is enabled. When a priority user makes a Telnet connection request, that user goes to the head of the queue, and a second requester will be placed behind the first. This feature allows a priority user to access the first available line.

The Asynchronous Call Queuing by role feature allows priority users to bypass the queue and access the first available line to complete necessary administrative tasks more quickly.

Note Priority users must have the privilege level of administrator (PRIV_ROOT) to take advantage of the Asynchronous Call Queueing by Role feature.

Finding Feature Information

For the latest feature information and caveats, see the release notes for your platform and software release. To find information about the features documented in this module, and to see a list of the releases in which each feature is supported, see the "Feature Information for Asynchronous Call Queueing by Role" section on page 8.

Use Cisco Feature Navigator to find information about platform support and Cisco IOS and Catalyst OS software image support. To access Cisco Feature Navigator, go to http://www.cisco.com/go/cfn. An account on Cisco.com is not required.

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Prerequisites for Asynchronous Call Queueing by Role

The router must have operational and successfully configured asynchronous interfaces, and asynchronous rotary groups must be enabled.

Restrictions for Asynchronous Call Queueing by Role

To configure the Asynchronous Call Queueing by Role feature, you must also configure asynchronous rotary line queueing. Make sure you comply with the following requirements when configuring asynchronous rotary line queueing:

- You must configure more virtual terminal lines than will ever be used by waiting asynchronous rotary connection attempts. Even when the queue is at its maximum, there must be at least one virtual terminal line available so that system operators or network administrators can use Telnet to access the router to show, debug, or configure system performance.
- When adding lines to a rotary group, all lines must be either queued or not queued. A mixture of queued and nonqueued lines in the same rotary group is not supported and can result in unexpected behavior.
- All lines within a queued rotary group need to use the same authentication method. Using different authentication methods within the same rotary group can result in unexpected behavior.

Additional information about configuring asynchronous lines and rotary groups can be found in the *Configuring Asynchronous Lines and Interfaces*.

Information About Asynchronous Call Queueing by Role

To configure asynchronous rotary linequeueing and the Asynchronous Call Queueing by Role feature, you must understand the following concepts:

Authentication of Connections

Connections are authenticated using the method specified for the line configurations for the asynchronous rotary group. If a connection is queued, authentication is done prior toqueueing, and no authentication is done when the connection is later established.

How to Configure Asynchronous Call Queueing by Role

This section contains the following procedures:

Configuring Asynchronous Call Queueing by Role

This task configures asynchronous rotary line queueing and the Asynchronous Call queueing by Role feature.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **line** [**aux** | **console** | **tty** | **vty**] *line-number* [*ending-line-number*]
4. **rotary** *group* [**queued** [**by-role**]]

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable** **Example:** `Router> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.
Step 3	**line** [**aux** | **console** | **tty** | **vty**] *line-number* [*ending-line-number*] **Example:** `Router(config)# line 1 2`	Identifies a specific line or group of lines for configuration and enters line configuration mode.
Step 4	**rotary** *group* [**queued** [**by-role**]] **Example:** `Router(config-line)# rotary 1 queued by-role`	Enables asynchronous rotary line queueing on the designated line or group of lines. • The optional **by-role** keyword enables asynchronous call queueing by role.

Troubleshooting Tips

In the event that asynchronous rotary line queueing is not operating correctly, use the following **debug** commands in privileged EXEC mode to determine the source of the problem:

- **debug async async-queue**
- **debug ip tcp transactions**

- **debug modem**

Refer to the *Cisco IOS Debug Command Reference* publication for information about the **debug modem**, **debug ip tcp transactions**, and the **debug async async-queue** commands.

Monitoring and Maintaining Asynchronous Rotary Line Queues

This task displays queued lines and removes lines from the queue:

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **show line async-queue** *rotary-group*
4. **clear line async-queue** *rotary-group*

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable** **Example:** `Router> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.
Step 3	**show line async-queue** *rotary-group* **Example:** `Router# show line async-queue 1`	Displays which lines are queued.
Step 4	**clear line async-queue** *rotary-group* **Example:** `Router# clear line async-queue 1`	Clears all rotary queues or the specified rotary queue. • If the *rotary-group* argument is not specified, all rotary queues are removed.

Configuration Examples for Asynchronous Call Queueing by Role

This section provides the following configuration examples:

Configuring Asynchronous Call Queueing by Role: Example

The following example enables asynchronous rotary line queueing and by-role queueing on lines 1 and 2 on rotary group 1:

```
line 1 2
  rotary 1 queued by-role
```

Verifying Asynchronous Call Queueing by Role: Example

The following example shows the output of the **show line async-queue** command when by-role queueing is enabled on lines tty35 and tty38:

```
Router# show line async-queue

Showing async-queue for ALL rotary groups

Queue for Rotary Group 1:
Pos Waiting TTY Dest Port Source Host Waiting Time
1 tty66 3001 10.2.72.13 00:01:32
2 tty67 3001 10.2.72.13 00:01:23

Lines which have Queueing  enabled [tty (group)]:
tty33 (2) tty34 (2)

Lines which have Queueing  by role enabled [tty (group)]:
tty35 (1) tty38 (1)
```

Additional References

The following sections provide additional references related to the Asynchronous Call Queueing by Role feature.

Related Documents

Related Topic	Document Title
Configuring asynchronous lines and rotary groups	*Configuring Asynchronous Lines and Interfaces* feature guide
DIAL commands: complete command syntax, command mode, command history, defaults, usage guidelines, and examples	*Cisco IOS Dial Technologies Command Reference*
Cisco IOS commands	*Cisco IOS Master Command List, All Releases*
debug commands	*Cisco IOS Debug Command Reference*

Standards

Standards	Title
None	—

MIBs

MIBs	MIBs Link
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://www.cisco.com/go/mibs

RFCs

RFCs	Title
None	—

Technical Assistance

Description	Link
The Cisco Support website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies. To receive security and technical information about your products, you can subscribe to various services, such as the Product Alert Tool (accessed from Field Notices), the Cisco Technical Services Newsletter, and Really Simple Syndication (RSS) Feeds. Access to most tools on the Cisco Support website requires a Cisco.com user ID and password.	http://www.cisco.com/public/support/tac/home.shtml

Feature Information for Asynchronous Call Queueing by Role

Table 1 lists the features in this module and provides links to specific configuration information.

Not all commands may be available in your Cisco IOS software release. For release information about a specific command, see the command reference documentation.

Use Cisco Feature Navigator to find information about platform support and software image support. Cisco Feature Navigator enables you to determine which Cisco IOS and Catalyst OS software images support a specific software release, feature set, or platform. To access Cisco Feature Navigator, go to http://www.cisco.com/go/cfn. An account on Cisco.com is not required.

Note Table 1 lists only the Cisco IOS software release that introduced support for a given feature in a given Cisco IOS software release train. Unless noted otherwise, subsequent releases of that Cisco IOS software release train also support that feature.

Table 1 Feature Information for Asynchronous Call Queueing by Role

Feature Name	Releases	Feature Information
Asynchronous Call Queueing by Role	12.1(1)T 12.2(15)T 12.2(28)T 12.1(3)T	This feature allows Telnet connection requests to busy asynchronous rotary groups to be queued so that users automatically obtain the next available line, rather than needing to try repeatedly to open a Telnet connection. The Cisco IOS software sends a periodic message to the user to update progress in the connection queue.

Glossary

asynchronous transmission—Term describing digital signals that are sent without precise clocking. Such signals generally have different frequencies and phase relationships. Asynchronous transmissions usually encapsulate individual characters in control bits (called start and stop bits) that designate the beginning and end of each character.

rotary groups—Several contiguous lines that allow a connection to be made to the next free line in the group. Also called a hunt group.

TCP—Transmission Control Protocol. Connection-oriented transport layer protocol that provides reliable full-duplex data transmission. TCP is part of the TCP/IP protocol stack.

Telnet—Standard terminal emulation protocol in the TCP/IP protocol stack. Telnet is used for remote terminal connection, enabling users to log in to remote systems and use resources as if they were connected to a local system. Telnet is defined in RFC 854.

Transmission Connection Protocol—See TCP.

TTY—terminal line.

VTY—virtual terminal line.