Information About TCP Keepalive Timer

Restrictions for TCP Keepalive Timer

The TCP Keepalive timer parameters can be configured only on vty and TTY applications.

Information About TCP Keepalive Timer

TCP Keepalive Timer

The TCP Keepalive Timer feature provides a mechanism to identify dead connections.

When a TCP connection on a routing device is idle for too long, the device sends a TCP keepalive packet to the peer with only the Acknowledgment (ACK) flag turned on. If a response packet (a TCP ACK packet) is not received after the device sends a specific number of probes, the connection is considered dead and the device initiating the probes frees resources used by the TCP connection.

The following parameters are used to configure TCP keepalive:

- TCP Keepalive idle time: The value of this parameter indicates the time for which a TCP connection can be idle before the connection initiates keepalive probes.

- TCP Keepalive retries: The value of this parameter is the number of unacknowledged probes that a device can send before declaring the connection as dead and tearing it down.

- TCP Keepalive interval: The time between subsequent probe retries.

How to Configure TCP Keepalive Timer

Configuring Keepalive Parameters

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enables global configuration mode.
Step 3	**ip tcp keepalive interval** *seconds* **Example:** `Device(config)# ip tcp keepalive interval 23`	Configures the keepalive interval.
Step 4	**ip tcp keepalive retries** *number-of-retries* **Example:** `Device(config)# ip tcp keepalive retries 5`	Configures the number of unacknowledged probes that can be sent before declaring the connection as dead.
Step 5	**end** **Example:** `Device(config)# end`	Exits global configuration mode and returns to privileged EXEC mode.
Step 6	**show running-config** **Example:** `Device# show running-config`	(Optional) Displays the running configuration.

Configuration Examples for TCP Keepalive Timer

Example: Configuring Keepalive Parameters

The following example shows how to configure TCP keepalive parameters.

```
Device> enable
Device# configure terminal
Device(config)# ip tcp keepalive interval 2
```

```
Device(config)# ip tcp keepalive retries 5
Device(config)# end
```

The following is a sample output of the **show running-config** command:

```
Device# show running-config

ip tcp keepalive retries 5
ip tcp keepalive interval 2
```

Additional References for TCP Keepalive Timer

Standards and RFCs

Standard/RFC	Title
RFC 793	Transmission Control Protocol
RFC 1191	Path MTU discovery
RFC 1323	TCP Extensions for High Performance
RFC 2018	TCP Selective Acknowledgment Options
RFC 2581	TCP Congestion Control
RFC 3168	The Addition of Explicit Congestion Notification (ECN) to IP
RFC 3782	The NewReno Modification to TCP's Fast Recovery Algorithm
RFC 4022	Management Information Base for the Transmission Control Protocol (TCP)

Technical Assistance

Description	Link
The Cisco Support and Documentation website provides online resources to download documentation, software, and tools. Use these resources to install and configure the software and to troubleshoot and resolve technical issues with Cisco products and technologies. Access to most tools on the Cisco Support and Documentation website requires a Cisco.com user ID and password.	http://www.cisco.com/cisco/web/support/index.html

Feature Information for TCP Keepalive Timer

The following table provides release information about the feature or features described in this module. This table lists only the software release that introduced support for a given feature in a given software release train. Unless noted otherwise, subsequent releases of that software release train also support that feature.

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

Table 1: Feature Information for TCP Keepalive Timer

Feature Name	Releases	Feature Information
TCP Keepalive Timer	Cisco IOS XE Fuji 16.8.1a	The TCP Keepalive Timer feature introduces the capability to identify dead connections between multiple routing devices. The following command was introduced or modified by this feature: **ip tcp keepalive**.