

TCP and UDP Small Servers

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Introduction

Prerequisites

Requirements

Components Used

Conventions

TCP and UDP Small Servers

TCP Small Servers

UDP Small Servers

TCP and UDP Commands

NetPro Discussion Forums – Featured Conversations

Related Information

Introduction

This document explains what Transport Control Protocol (TCP) and User Datagram Protocol (UDP) small servers are, how to enable or disable them on a router, and describes the various available services associated with them.

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

The information in this document is based on Cisco IOS® Software Version 12.2(10b).

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

For more information on document conventions, refer to the Cisco Technical Tips Conventions.

TCP and UDP Small Servers

TCP and UDP small servers are servers (daemons, in Unix parlance) that run in the router which are useful for diagnostics.

TCP Small Servers

The TCP small servers are:

- **Echo:** Echoes back whatever you type through the **telnet x.x.x.x echo** command.

- **Chargen:** Generates a stream of ASCII data. Use the **telnet x.x.x.x chargen** command.
- **Discard:** Throws away whatever you type. Use the **telnet x.x.x.x discard** command.
- **Daytime:** Returns system date and time, if it is correct. It is correct if you run Network Time Protocol (NTP), or have set the date and time manually from the exec level. Use the **telnet x.x.x.x daytime** command.

Replace x.x.x.x with the IP address of your router. Most routers inside Cisco run the small servers.

UDP Small Servers

The UDP small servers are:

- **Echo:** Echoes the payload of the datagram you send.
- **Discard:** Silently pitches the datagram you send.
- **Chargen:** Pitches the datagram you send, and responds with a 72-character string of ASCII characters terminated with a CR+LF.

Notes:

- Almost all Unix boxes support the small servers listed above.
- The router also offers finger service and async line bootp service, which you can independently turn off with the configuration global commands **no service finger** and **no ip bootp server**, respectively.

TCP and UDP Commands

The commands to enable for the TCP and UDP small servers are **service tcp-small-servers** and **service udp-small-servers**.

The TCP and UDP small servers are enabled by default on Cisco IOS Software Version 11.2 and earlier. They may be disabled using the commands **no service tcp-small-servers** and **no service udp-small-servers**. They are disabled by default on Cisco IOS Software Versions 11.3 and later.

It is recommended that you do not enable these services unless it is absolutely necessary. These services could be exploited indirectly to gain information about the target system or directly as is the case with the fraggle attack which uses UDP echo.

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Related Information

- [Defining Strategies to Protect Against UDP Diagnostic Port Denial-of-Service Attacks](#)
- [Technical Support – Cisco Systems](#)

