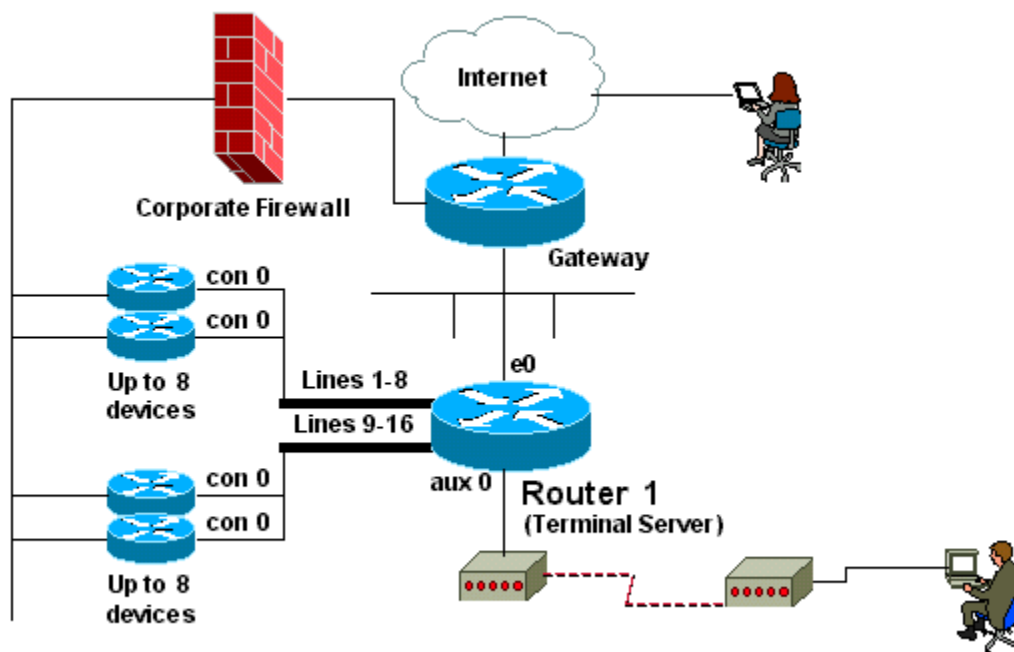


What is a Terminal Server Anyway?

A Comm. or **Terminal Server** (TS) is a device that allows you to access multiple devices from a single point.

In a Lab environment, a TS will allow you to use a single computer with a single Terminal Emulation window (Hyper Terminal, Tera Term, etc.) **to access ALL the devices in your Lab!**

That way **you won't have to keep switching Console cables** to access each individual device. As shown in the following diagram, when using a TS we have a **permanent connection from the Console port to the respective TS ports**. A special "Octal cable" is needed for this purpose.



The diagram shows a user, sitting at his/her computer, with a connection to the Terminal Server, **accessing and controlling multiple devices**. The connection to the TS could be either **Remote** (known as *out-of-band access*) or simply a **Local** connection through either the **Console Port** (most common case scenario) or through the **LAN** (Telnet session through the Ethernet port).

If your Lab has only a couple of devices, then switching Console cables back and forth may not be a big deal. But as the number of devices in your Lab grows, then this back and forth Console cable switching usually becomes a burden!

So adding a Terminal Server to your Lab is a very good idea! It will save you time and it will make your entire Lab experience much more enjoyable!

Our Terminal Servers (either 2509 or 2511) are shipped pre-configured, so they are completely Plug-and Play!

For a complete description of how Terminal Servers are configured, please visit the following link from the Cisco website:

http://www.cisco.com/en/US/tech/tk801/tk36/technologies_configuration_example09186a008014f8e7.shtml

This document is also included in the CD as a PDF file:

Terminal Server Configuration\Configuring a Terminal Server (2509 or 2511).PDF

The configuration is done using a mechanism known as **Reverse Telnet**. Reverse Telnet allows you to Telnet out from a device you are Telneting from, but on a different interface.

Cabling

The Cisco 2509 - 2512 series Routers use a **68-pin connector** and breakout cable known as **Octal Cable** (part CAB-OCTAL-ASYNC), which provides eight RJ-45 rolled cable async ports on each 68-pin connector. You must connect each RJ-45 rolled cable async port **to the console port of a device**.

The **2509** allows for a **maximum of 8 devices**, while the **2511** allows for a **maximum of 16 devices** to be remotely accessible.

Another way to implement a Terminal Server is by using the **NM-16A** or the **NM-32A** network module, which work on the Cisco 2600 and the 3600 series Routers.

Implementing a Terminal Server this way is usually a more reliable method of doing it, simply because these modules are newer than the 2509 - 2512 series Routers and if the Router goes bad, then you can simply replace the card!

Note: The async ports from the 68-pin connector are data terminal equipment (DTE) devices. DTE to DTE devices require a rolled (null modem) cable and DTE to data circuit-terminating equipment (DCE) devices require a straight-through cable. Since the CAB-OCTAL-ASYNC cable is itself rolled, you can connect each cable directly to the console ports of devices with RJ-45 interfaces.

However, if the console port of the device you are connecting to is a 25 pin interface (DCE) use the RJ-45 to 25 pin adapter marked "Modem" (to reverse the "roll") to complete the connection.