

Terminal Services Licensing

The Windows Server 2003 licensing model is basically the same as the Windows 2000 terminal services licensing model. The only difference is in terminology referring to the Remote Administration Mode (Remote Desktop for Administration in Windows Server 2003). Remote Administration Mode and Remote Desktop for Administration provide for two free client connections.

If you install Terminal Server in Windows Server 2003, you are converting the server to Application Server Mode. To use the terminal server in this mode, you need to install a licensing server. The following licenses are required to operate a terminal server:

- **Windows Server 2003 (or Enterprise Edition, or Datacenter Edition) License**—This is for the installation of Windows .NET on the box that will host the terminal services.
- **Windows Server 2003 Client Access License(s) (CAL)**—This enables the client machines to connect to the Windows 2000 server. This is the standard Windows CAL, and how many you need depends on whether the server was installed in Per-Server or Per-Seat mode. In Per-Server mode, you need a Windows Server CAL for every concurrent connection; in Per-Seat mode, you need a Windows Server CAL for every client that could potentially connect. Most organizations have multiple Windows servers, so they are usually installed in Per-Seat mode. That way, they can reuse the Server CAL for all the servers.

The previous two bullets are standard Window licensing requirements for any Windows Server OS.

Finally, you also need a Terminal Services CAL. Windows 2000 and Windows XP clients do not require this license. Although technically not a “built-in” license (the license isn’t managed by the Terminal Server licensing server), Windows 2000 and Windows XP clients do not count against purchased terminal server licenses.

One more thing—you, of course, need a license for any software you run on the terminal server. Depending on the vendor, you might also need a license for anyone who connects to the terminal server.

The bottom line is that if you have all Windows 2000, XP, and .NET clients, you need the standard licenses only for the server, client, and application.

For up-to-date information on Microsoft’s licensing requirements and the various licensing programs that are available, be sure to check out Microsoft’s Web site at www.microsoft.com/licensing.

Terminal Services Application Server Mode

Overview

One of the main purposes of Terminal Services Application Server Mode—now simply called Terminal Server in Windows Server 2003—is to easily provide applications to remote users. Installation of an application on a terminal server provides a number of benefits:

- Centralized management
- Ease of maintenance and updates (you just have to update the terminal server box, not thousands of clients)
- Lower hardware requirements on the client side (they just need to be capable of running the terminal services client)
- Better performance in low-bandwidth environments (only the screen shots and keyboard and mouse data get transmitted, not the applications themselves)

All versions of Windows 2003 Server, except Web Server, support the installation of the optional Terminal Server service. Installing the Terminal Server optional Windows component (select **Add or Remove Programs, Add/Remove Windows Components**) converts the server from Remote Desktop for Administration (the former Remote Administration Mode) to Terminal Server (the former Application Server Mode). Similarly, uninstalling the Terminal Server Windows component changes terminal services back to Remote Desktop for Administration from Terminal Server mode.

Note ■ Remote Desktop for Administration cannot be uninstalled; it can only be disabled.

Terminal Services Licensing Server

Operating a terminal server in Application Server Mode requires at least one terminal server licensing server to be installed. Terminal servers attempt to contact a licensing server periodically, and if a terminal server cannot contact a licensing server, it stops accepting client requests after 120 days. Installation of a licensing server is pretty much the same as installing the terminal server: You select **Add or Remove Programs, Add/Remove Windows Components, Terminal Server Licensing Windows Component**. When the Terminal Server Licensing Component is installed, you are given a choice of the licensing mode: Enterprise Licensing mode or Domain (or Workgroup) Licensing Mode. The mode determines the terminal servers for which the licensing server will manage licenses. In Domain (or Workgroup) mode, the licensing server manages licenses only for terminal servers in the same domain or workgroup as the licensing server. In Enterprise mode, on the other hand, the licensing server manages licenses for terminal servers in any domain in the forest, but they have to be Windows 2000 or Windows Server 2003 terminal servers. Windows 2000 and Windows Server 2003 terminal servers query Active Directory every hour to locate an Enterprise licensing server. If there is no Enterprise licensing server (or the terminal server is

NT 4.0), the terminal server attempts to contact a Domain licensing server every 15 minutes. After one is located, it reconnects every 2 hours.

After a licensing server has been installed, it needs to be activated before it can start tracking licenses. A licensing server is activated simply by opening the Terminal Server Licensing MMC console, right-clicking the server to be activated, and selecting **Activate Server** from the pop-up menu. When activating, you are given a choice of how to activate:

- **Automatic Connection (recommended)**—Handles the activation for you but requires an Internet connection on the licensing server.
- **Web Browser**—Also is handled over the Web, but you don't need a Web connection from the licensing server. You connect through the Internet via another machine and fill out the appropriate information.
- **Telephone**—This is a totally manual process if you don't have an Internet connection.

After the license server is installed, you can then install license key packs. *License key packs* are just that—packs of license keys. Installing license key packs basically tells the license server how many CALs you have purchased. License key packs are installed much the same way as activating the server. In Terminal Server Licensing, you right-click the licensing server and select **Install Licenses** from the pop-up menu. Once again, you are given a choice of how to obtain the licenses:

- **Internet**—If the licensing server is connected to the Internet, you can provide the appropriate information. The request will be submitted to the Microsoft clearinghouse, automatically processed, and installed.
- **Web Browser**—This is also handled over the Web, but you don't need a Web connection from the licensing server. You connect through the Internet via another machine and fill out the appropriate information.
- **Telephone**—This is a totally manual process if you don't have an Internet connection.

After the key packs are installed, you can use the Terminal Server Licensing console to determine how many licenses of each type are being used by your terminal servers and who is using them.

As you can see, installing a license server and configuring the number of licenses is fairly straightforward. You just have to purchase the licenses to ensure you are in compliance. The hardest part is knowing how many licenses to purchase. The Terminal Server Licensing console lists not only the number of licenses you have, but how many you are using. So, if you go over, you will know it. Then you just have to buy the licenses and install them.