

Using Windows XP Remote Desktop and Pocket PC

Remote exploration of dangerous buildings by robot, remote exploration of space, and remote surgery are quickly moving from science fiction to reality. And an incredibly useful technology is available to users of Windows XP Professional and Windows 2000 Server. It's called [Remote Desktop](#) in Windows XP, and is based on the Terminal Services technology that first appeared in the Windows NT Server operating system. This technology gives you the ability to log on to a remote computer from an intranet or over the Internet and operate or administer the computer remotely. (Note: Charlie Russell gives a good tutorial on how to make the [Remote Desktop Connection Client](#) in Windows XP and Terminal Services in older versions of Windows interoperate with each other.

Connecting Remotely from a Pocket PC

Because I'm responsible for maintaining several servers in distributed locations, Remote Desktop is a technology I use every day. My life would be much more complicated if it did not exist. Although my preferred experience is Remote Desktop between two Windows XP Professional-based computers in full-screen mode, I'll settle for a less rich experience over a rush trip to the remote computer. In an emergency, I've used my Pocket PC with Terminal Services Client to perform remote administration of a computer running Windows 2000 Server.

[802.11b hotspots](#) are appearing in many convenient places such as airports, conference centers, and Starbucks coffee shops, so connecting to remote computers has never been easier. Because Pocket PCs are so popular, it's increasingly likely you'll have one of these devices with you instead of a laptop. In Pocket PC 2002, Terminal Services Client software is included.

Note: If you upgraded a Compaq iPAQ device to Pocket PC 2002 using an upgrade CD, it will not have Terminal Services installed. However, you can download the client from the Microsoft [Pocket PC Downloads site](#).

Making the Remote Connection

First, make sure your remote computer has Remote Desktop or Terminal Services installed and enabled. Second, if the remote computer is behind a firewall, make sure port 3389 is open for TCP traffic. If this is a corporate network, discuss your needs with the IT department. There may be network address translation (NAT) issues along with the port issue.

Finally, make sure you're connected to the Internet from your Pocket PC device. Although I have successfully made Terminal Services connections with connectivity provided by ActiveSync 3.5, such as the USB connection in the cradle, and even an infrared connection through my laptop, this is not likely to be the connection type you will have in a real life-scenario. It's more likely to be 802.11b or 10/100 Ethernet through a PC Card, or Compact Flash card, or perhaps a modem.

Using the Terminal Services Client

After you have a connection, you're ready to open the Terminal Services Client. From your Pocket PC, tap **Start**, **Programs**, and then **Terminal Services**. You'll see the dialog box illustrated in the figure below.

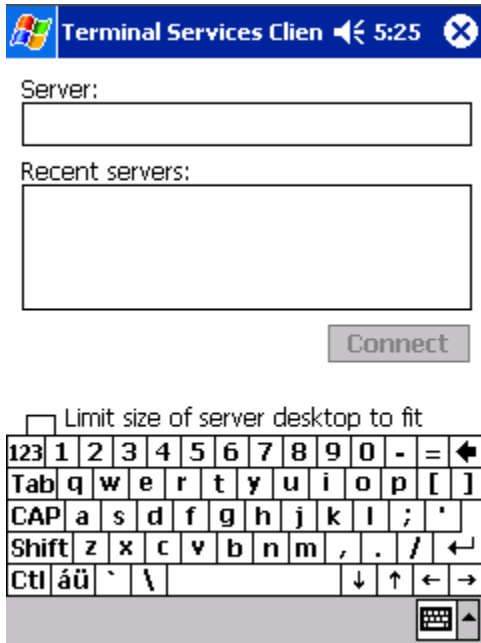


Figure 1: Terminal Services Client

Using the onscreen keyboard, enter either an IP address or a fully-qualified domain name for the remote computer to connect to. The Limit size of server desktop to fit check box is cleared initially. This option is intended for use only with applications on the remote computer that were specifically sized to fit within the Pocket PC Terminal Services screen area. Selecting this check box inappropriately can lead to a confusing display and a frustrating experience.

After you've entered the computer address, tap **Enter** to connect. If the remote computer is reachable, you'll soon begin to see its desktop and a logon prompt. If you get a connection error, verify that the remote computer has Remote Desktop or Terminal Services enabled, and that port 3389 is open in the firewall. You should also confirm that you can reach the remote computer with another Windows XP computer, from the same side of the firewall as your Pocket PC.

Exploring the Remote Desktop

The first thing you'll notice is what a small view of the remote computer's desktop you see. You'll probably even need to move the logon dialog box just to get to the buttons you need to log on. You'll find yourself using the scrollbars quite a bit to see what you need to see. But, also notice the five small boxes in the lower left corner of the screen. These are shortcuts to position the current view in a particular area of the desktop—each of the four corners plus the center. Many dialog boxes center themselves in the middle of the desktop, so the center shortcut is a handy one, as is the bottom-left shortcut if your taskbar is on the bottom.

You'll also find yourself toggling the keyboard on and off you need to enter text. Also, single taps and double taps work just like single and double clicks on the remote computer, and holding the stylus down works like the right-click.

After you're logged on, you can do almost anything you could do if you were sitting in front of the remote computer. But you will not find the Terminal Services feature set to be as robust as Remote Desktop is between two Windows XP Professional-based computers. This is because of differing levels of support for the Remote Desktop Protocol (RDP) the two platforms provide. Remote Desktop in Windows XP, for example, supports clipboard sharing, which is only available with RDP version 5.1 or later.

Although it's more practical to use Remote Desktop from a PC or laptop whenever possible, I find that using the Pocket PC to perform emergency server administration makes the device all the more valuable. The figures below show Task Manager and Performance Monitor running on the remote server.

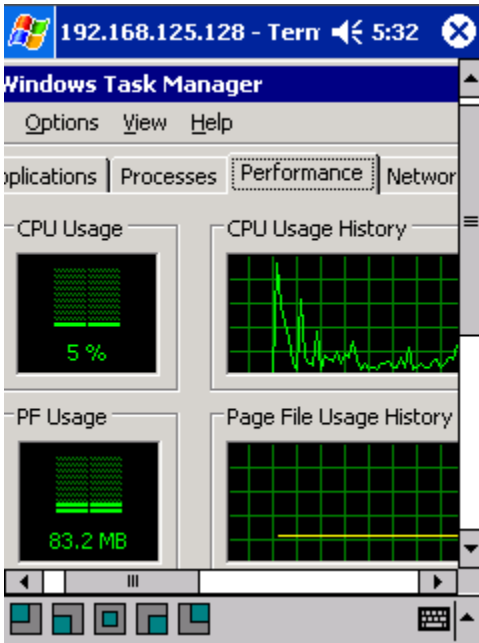


Figure 2: Task Manager

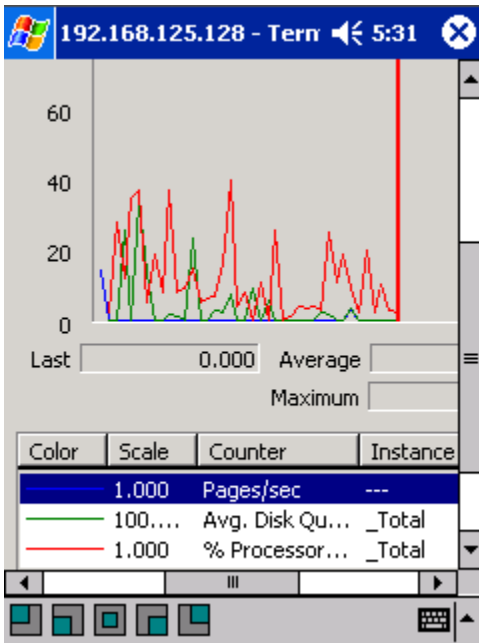


Figure 3: Performance Monitor

Any application that is installed on the remote computer can be run from within Terminal Services. The application runs on the remote computer, only the display changes are sent

to your Pocket PC device. The only limitations in what you can do are based on the practicality of working with certain applications through such a small window.

Using Remote Connections with Broadband

If you want to connect to your home PC that's running Windows XP Professional, and you have an always on broadband connection, you may face an additional obstacle. For example, your service provider may only give out dynamic IP addresses that change at their discretion. This means that while you are away from home your IP address may change and you could not find your computer. This problem can be solved with a solution such as [Open Domain Server](#), which provides dynamic nameserver resolution for many public domains.

However, many service providers also block inbound traffic that was not initiated from your home computer. They do this partly in an attempt to prevent users from running server-like applications, such as a Web server that normally runs on port 80, and presumably to protect users from outside hacking attempts such as Trojan horses. If your service provider is blocking access like this, they may not have port 3389 open, in which case you'll have to resolve this issue with them.

In my next column, I'll cover working with video and the Pocket PC.

Galan Bridgman is a developer, architect, and enthusiast for digital media technologies. He co-developed QuickTime for Windows for Apple Computer. At Starlight Networks he developed innovative client and backend technologies using ActiveMovie® and NetShow® Server, the precursors to Windows Media Technology. He is a full-time consultant, and is currently developing a next-generation, fully-automated radio station using Microsoft Windows Media 9 Series technologies. After hours he enjoys showing others how to make the most of Microsoft's latest Windows Media applications. Check [Galan's Web site](#) for more information about him.