

UW Computer Science and Engineering

Microsoft Windows Terminal Server

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Terminal Server

What is it and why should I care?

Terminal Server is built in to all Windows servers and Windows XP/Vista Professional desktop systems. It allows users to log in remotely from various types of workstations and “thin” clients. By logging in users create their own client sessions on the server.

Since the introduction of Windows XP, the concept of remote logins is becoming more familiar to Windows users. But there still may be some questions. If you can run all of your applications on your desktop machine, why would you need to log in to a terminal server? The answers mostly revolve around the theme that not all you need is on your desktop, e.g.:

- You are sitting at a UNIX workstation and need some capability only Windows provides.¹
- You are sitting at a Windows XP/Vista machine and need some capability that is not installed on your desktop PC but is available on one of the Windows terminal servers maintained by the department.

Improved performance can also be possible when using Terminal Server. Your desktop PC may be able to perform certain tasks, but it may also be old or slow. Or you may be working at home and accessing your files—which reside on one of the departmental file servers—over a slow (by local net standards) link. You will find it faster in such cases to log into the Terminal Server to edit your large spreadsheet rather than to edit it on your home PC, since the latter would entail downloading the file from your file server directory to your home system, then uploading the results back to the file server.

How does it work?

Terminal Server works by knowing how to respond to a client process that you run on your local UNIX or Windows host. This “terminal client” presents you with a window that simulates a local monitor. The Terminal Server manages all computing resources for you and provides you with your own environment. The server receives and processes all key strokes and mouse clicks sent by each client and directs display output (audio and video) to each client as appropriate. You have access to all of your authorized network resources and can run any applications made available to you on the server. All the applications supported by Windows 2003 Server can be run via the Terminal Server.

Available Terminal Servers

Currently in the CSE department we have licenses that allow users to log into two Windows 2003 hosts:

¹ You could also run Windows on your UNIX workstation using VMware. But since the title of this page is “Windows Terminal Server” that subject will not be taken up here.

`aqua.cs.washington.edu`
in the CSERESEARCH domain, or

`aria.cs.washington.edu`
in either CSERESEARCH or CSEPCLAB domains.

For the most part, `aqua` and `aria` have the same software installed as workstations in the instructional labs.

Also, all Windows XP Professional systems act as terminal servers and allow remote desktop logins, so you can also log in to your Allen Center desktop XP system from your home system.

Terminal Server Clients

The Microsoft RDP Client for Windows

The following discussion assumes you have an account in the CSERESEARCH domain and that you are familiar with how to use Windows file management tools and how to map remotely shared file systems.

Remote Desktop Connection Tool

Microsoft provides a “Remote Desktop Connection” tool that allows you to connect to a terminal server. It uses Microsoft’s RDP (Remote Desktop Protocol) to communicate with a Terminal Server. If this is not already installed on your Windows workstation, you can install it by running

```
\\ntdfs\cs\nt\dist-area\miscellaneous\tsclient\msrdpcli.exe
```

Or, you can download a copy of `msrdbcli.exe` from:

<http://www.microsoft.com/windowsxp/pro/downloads/rdclientdl.asp>

Once this is installed, a program called “Remote Desktop Connection” Client” will appear on your Start menu, under Programs -> Accessories -> Communications.

CTRL-ALT keys

When in the Terminal Server client window, the equivalent of CTRL-ALT-DEL for the MS client is CTRL-ALT-END.

The MS client also allows CTRL-ALT-BREAK to switch between viewing the session in a window and on the full screen.

Redirection of Local Drives

One of the most useful features of the Windows XP Remote Desktop client is the redirection of your local system's disk drives to the remote desktop session of a remote system. This and other features of the XP client are described in

<http://support.microsoft.com/default.aspx?scid=kb;EN-US;300698>.

You can enable this feature as follows: on the initial Remote Desktop Connection window (where you enter the remote system's host name) there is an "Options" tab. If you click the Options->Local Resources->Disk Drives box, the disk drives on your local (e.g. home) system will be accessible on the remote system (e.g. aqua.cs.washington.edu) when you log in, making transfer of files between home and office very easy.

The 'rdesktop' tool for Linux workstations

Rdesktop is installed on all CSE Linux systems.

```
rdesktop -f aqua
```

will open up a login window on aqua in full-screen mode. (Enter 'man rdesktop' to see all the options.)

Features Common to all the Terminal Server Clients

Once you have a Windows session set up, all the clients work similarly and present almost the same interface.

Log off vs. Disconnect

If you click the Shutdown... selection on the Start menu you will see two selections: log off and disconnect. When you log off all your applications are terminated; when you disconnect, your applications continue to run, and will be redisplayed when you log in again, even from a different workstation.

You should log off rather than disconnect so that you don't hang on to resources that others could be using.

Save Files in Your Home Directory

When you save your important files, you should consider saving them in a drive that is a) shared to all workstations, and b) backed up. Examples of such drives are your PC home directory, mapped to drive 'Z:' when you are logged into the Terminal server, or a Unix file server under `\\ntdfs\cs\unix` (see documentation on NTDFS for more info.)

It is a BAD IDEA to save files on the Terminal Server's local disk drives 'C' or 'D'; note that "My Documents" resides on the Terminal Server's local 'C' drive!

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