

Synergistic Office Solutions, Inc.

Topic: Using SOS Applications with Windows Terminal Services
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Windows Terminal Services (TS), which is included with Windows 2000 and 2003 Server, is an excellent solution for those who would like to run SOS applications from one or more remote locations. Its performance is exceptional, even over modest connections such as ISDN (64 - 128 kbits per second) or even dial-up, and maintenance is a breeze, because all SOS software updates are done locally on the Terminal Server computer; there is no need to install anything on the remote workstations. Depending on your version of Windows Server and when your license was acquired, purchase of client access licenses for those using Windows 2000 Pro or XP Pro may not be required. In other cases, the remotes will have to purchase additional terminal access licenses from Microsoft in order to connect. Your network consultant should be able to determine what will be required in your case. Communication is done through the internet, or more securely, through a VPN connection to the home network.

For smaller installations or those that cannot justify a copy of Windows 2000 or 2003 Server to handle remote connections, ThinSoft in Emeryville, California (www.thinsoftinc.com, info@thinsoftinc.com, phone: 510-450-0865, fax: 510-450-0173) has a similar solution that runs on a Windows XP Pro system and has received very positive reviews by the industry press.

Overview

Before inexpensive, reliable, local area networks were available, those who wanted to share an application or data did so by means of a terminal (keyboard and monitor) connected directly or by phone line to a *multi-user computer*. Initially these were all large main frame systems, but for a time so-called minicomputers were used for this purpose in many businesses. They, in turn, were supplanted by smaller, but equally powerful personal computer level systems. Regardless how large or small, in each case users connected with a central *host* system in a similar fashion and ran their programs on the host system rather than on their own consoles, which served merely to relay keystrokes from the terminal to the host, and display data received from the host.

The rise of graphical interfaces, like Windows, proved too much for older host-based systems and they were replaced with local and wide area networks in most organizations. Technology has improved, however, and now it is possible to have both a graphical and responsive interface as well as enjoy the significant benefits of a centralized host system: performance, much easier maintenance and support, and, in many cases, significant equipment cost savings.

Terminal Services enables a Windows 2000 or 2003 Server computer to serve as a central host platform for users who may connect to it across a network (local, or long distance through an internet connection). When the connection is made, the user logs in, using an account that has been set up on the server and that has privileges to conduct a TS session. Once logged in, the server allocates a portion of its resources to the remote user and creates a *virtual Windows 2000 or 2003 computer* for him or her, right down to personal desktop settings, "my documents" folders and all the other trappings that we are used to seeing on our own private systems. Each user is completely isolated from every other, and they are all isolated from somebody

who might be sitting at the TS computer's own console. Each person experiences the system as his or her own.

Applications launched in a TS session are run on the TS computer, not on the local computer serving as the user's terminal. As a result, the remote user can connect from a very modest workstation, but the programs she or he runs in the TS window will operate at the speed of the TS system, not the remote PC. The TS server is generally relatively powerful, so in many cases the user will prefer the TS session to local computing.

The number of simultaneous users that can be supported on a TS server is proportional to the amount of processing power and system memory available on that computer, as well as the types of applications and activities conducted by the connected users.

Advantages of Terminal Services over a Traditional WAN Connection

In a traditional WAN situation, you would install the SOS workstation component on each remote workstation, then establish an internet or VPN connection and access the database by specifying the TCP/IP address (and often the database's IP port number, 2638). The SOS software runs on the remote computer (which must be powerful enough to run the software comfortably), but messages back and forth with the database on the server. When large amounts of data need to be transferred, as with many reports, many data packets must move across the relatively slow WAN connection. In our experience, the performance is unacceptable at sub-T1 speeds, especially if using a VPN, which has the additional overhead of encryption and decryption of every packet transmitted. Even if the performance issues can be resolved, you are left with the need to update the software on every remote workstation whenever you receive an update from SOS.

With TS, on the other hand, performance will be very good to excellent on all but the slowest connections. Even a dial-up internet connection can produce acceptable results. The other key advantage is that no matter how many remote users are connecting to your TS server, and no matter where in the world they are located, when SOS issues an update, all you have to do is to install it on the TS server and all your remote users are instantly up to date. On Windows 2000 Pro and XP Pro remote systems, there is no software at all to install (but you still may want to update such systems with the most current "Remote Desktop Client" software from Microsoft). On other Windows systems (including XP Home) you must install the appropriate the Terminal Services/Remote Desktop Client, but no SOS software. Bottom line: installation and updates could not be easier.

Installation Issues

Probably the most important thing about installing Windows Terminal Server for use with OMWin or CMWin is that the database server software should be installed and run on a different machine. Terminal Server runs on one computer and the database runs on another. In this configuration, the Terminal Server computer is set up as an SOS *workstation*, not as an SOS *server*. Running both terminal and database servers on the same computer will always compromise performance of the database, in some cases to an unacceptably slow level, depending on the server's resources. Obviously the performance hit will be proportional to the number and type of terminal sessions, the number and speed of the processor(s) in the server, and the amount of RAM in the server.

If you insist on running both the database and terminal services on the same computer (which should be extremely fast and have massive amounts of RAM installed), you must modify the System DSN in ODBC Data Sources (in Administrative Tools). On the *Database* tab of the configuration, add the server name SOSDATA and check the TCP/IP option on the *Network* tab. By default, the server name may be blank and the only protocol checked will be Shared Memory. If you neglect to make this change, when your TS

users try to run the program, all they will get is the ODBC configuration window and several error messages.

Printer information for SOS programs is saved based on the physical computer name used to connect to the database. It is therefore important for all new connections to go to **File > Printer Setup** to configure their desired printers in each SOS program that they use and from each physical computer that they use.

Additional Resources

There are now quite a few SOS customers using Windows terminal services and many are happy to share their experiences and usage tips on the SOS user groups. Go to <http://groups.yahoo.com/group/sosoft> and search the message archives for “terminal” and “TS”. Also try the new user group site: <http://groups-beta.google.com/group/sosoft>.

Another resource you should consult if problems arise is the Microsoft Knowledgebase (<http://support.microsoft.com/kb>) and the Windows 2003 Terminal Services page (<http://www.microsoft.com/windowsserver2003/technologies/terminalservices/default.msp>). There is also an excellent white paper loaded with performance tuning and trouble-shooting tips (http://portal.loginconsultants.nl/forum/attachments/Terminal_Server_Performance_Tuning.pdf).