

Remote Access - By Jeff Lenning, President

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Overview

Like most professionals, your personal life and your professional life are blurred. When you are at home you probably think about work and often try to get a few things done. However, working from home is inconvenient because of the crude methods used to transfer computer files from the office computer to your home computer. You have probably considered using a laptop to carry files back and forth, floppy diskettes, or email. The above methods prevent you from working efficiently while at home, and they require you to predict which files you may need. It is time to explore new and better methods. This article discusses the currently available and affordable Remote Access alternatives.

The purpose of Remote Access is to deliver all of the files on your office network to the remote location in our case, home. There are various methods, each with varying degrees of cost, security and performance. The alternatives discussed in this article are:

- pcAnywhere
- VNC
- GoToMyPC.com
- Traditional VPN (virtual private networking)
- Terminal Server
- Windows XP Professional

This article discusses each, commenting on security, performance, cost and ease of use. We refer to the "host" computer as the office computer, and the remote (or client) computer as the home computer. One prerequisite is that the office computer/network has an "always-on" internet connection, like DSL. Remote Access works best when your office ISP (Internet Service Provider) has provided a "static ip address" rather than a "dynamic ip address". In all cases presented below, the best performance is achieved when the home computer has a fast internet connection like DSL or cable modem.

pcAnywhere

Background

Symantec's pcAnywhere is a very well-known remote access application. It essentially allows you to control your work computer from your home. Mechanically, when you are at home, you actually login to your work computer and see the office computer's screen. Your office computer actually performs all of the work, and simply sends screen shots to your home computer. Your home computer sends keyboard and mouse commands back to the office computer.

Security

pcAnywhere does have encryption to keep your information secure between the two computers as it travels over the internet. This application can be deployed over the internet or through a VPN (discussed below). If you decide to deploy it over the internet, then you must open some ports on your firewall. Opening ports creates a security risk to your office network, thus it is safest to deliver pcAnywhere through a VPN.

Ease Of Use

We found that installation was relatively easy, but we did experience minor issues during some installs. The installation contains two parts: installation of the "host" software on the office computer and the installation of the "client" software on the home computer. After the program was properly installed, use of the program was straightforward.

Performance

The performance is reasonable, and acceptable for occasional work. The performance is not acceptable if you plan on doing significant work from the remote location.

Cost

The retail software cost is \$179 through Symantec's web site. For further information, visit www.symantec.com

VNC

Background

VNC is a free program that functions similarly to pcAnywhere. It was developed by a group at AT&T. If you want to experiment with remote access software before investing any capital, this is the way to go.

■ Security

VNC does not have built-in encryption, and is therefore not recommended for use over the internet. It can be safely used over a LAN (local area network) or VPN.

■ Ease Of Use

We found that the program is easy to use and install.

■ Performance

In our unofficial tests, we generally noticed that the performance is the slowest of all options presented in the article.

■ Cost

Free! Available for download at www.uk.research.att.com/vnc/

GoToMyPC.com

■ Background

GoToMyPC.com is a relatively new player in this market. GoToMyPC.com is comparable to pcAnywhere in the sense that you remotely control your office computer. The big difference is that all you need on the remote (home) computer is a web browser. After installing the "host" software on your office computer, you can go to any computer with internet access and go to the gotomypc.com web site. After logging in, the web site will show you a list of computers that you can control. There is no need to reconfigure your router or firewall.

■ Security

All data is encrypted while it traverses the internet, keeping it safe from prying eyes. However, the host computer sends information about itself to the gotomypc.com web servers. Thus, anyone obtaining your username and password could gain access to the host computer, and thus your entire network.

■ Ease Of Use

Every installation we performed went perfectly. This is an easy to use and install software package, and very flexible. It is, in the author's opinion, the easiest of all alternatives presented in this article to install.

■ Performance

The performance is comparable to pcAnywhere. It is adequate for occasional work, but better performance can be attained by upgrading to a Terminal Server (discussed below).

■ Cost

The pricing is about \$20 per month per host computer.

Traditional VPN

■ Background

Your remote access strategy may or may not include a VPN (Virtual Private Network). A VPN simulates a "private" network connection by using the "public" infrastructure of the internet. They have become very popular due to the low implementation cost and high security. Before the advent of VPNs, connecting two geographical locations required expensive dedicated lines. Now, we can use the low cost public internet coupled with encryption to simulate a private line. Having a VPN is like having a very long network cable. Sitting at home you are essentially plugged into the office network and may therefore access network resources, including shared folders and printers. See the diagram below for a graphical depiction of a VPN.

■ Security

There are varying degrees of security that can be implemented. Typically, properly installed VPN configurations afford a much higher level of security than any of the other alternatives discussed above.

■ Ease Of Use

Once installed, VPNs are very easy to use since your home computer is essentially plugged into your office network. You can map network drives, use shared folders, files and printers. However, the installation of a VPN is probably the most complex of all alternatives presented here. It is probably worth obtaining a network consultant to properly install a VPN.

■ Performance

The raw performance through a VPN is typically very slow. Typical office networks run at speeds of 10Mbps to 100Mbps. VPNs run at less than 1Mbps. Therefore, the best overall strategy to deliver secure and fast remote access is to set up a VPN to connect the home and office securely, and to deliver the data through the VPN using pcAnywhere, VNC or better yet, Terminal Services.

■ Cost

Costs of implementing a VPN can vary depending on options and consultant fees. The hardware costs start about \$1,000 for the host location and \$500 for each of the remote locations.

Terminal Server

■ Background

Terminal Services is Microsoft's solution to remote access, and in our unofficial tests, its performance greatly exceeded pcAnywhere, VNC and GoToMyPC.com. A Terminal Server can handle many simultaneous client connections.

Mechanically, this program requires a computer in the office running "Terminal Server", which is built-in with Windows 2000 Server operating system. After turning "on" the terminal services option and activating the license, the client computer (home computer) requires a small program installation. All applications that you require to be delivered to the home computer must be installed on the terminal server. The terminal server delivers a Windows desktop to the remote computer, and allows the remote computer to run any of the applications that exist on the terminal server

■ Security

Data can be encrypted between the computers, keeping your data safe as it traverses the internet. If you deploy Terminal Services over the internet, ports on your firewall must be opened, thus creating a security risk. The recommended method for using Terminal Services is to deliver it through a secure VPN tunnel.

■ Ease Of Use

Once installed, this program is extremely easy to use. The installation itself is fairly straightforward, and requires that you activate licensing with Microsoft.

■ Performance

The performance is significantly better than any of the other alternatives presented in this article.

■ Cost

The cost depends on the client computers. A built in host license comes with the Windows 2000 Server operating system. However, the client computers may require client access licenses. Any client computers that are Windows 2000 or greater do not require additional licensing. Any Windows 98 or earlier clients require additional client access licenses.

Windows XP Professional

■ Background

Windows XP Professional comes with a built in "mini" Terminal Server. It allows one user to connect remotely. This is the perfect single user solution if you simply want to deliver your personal office computer desktop to your home computer. This version even comes standard with a web client option

■ Security

Data can be encrypted.

■ Ease Of Use

Installation is as simple as checking the box that says "allow users to connect remotely to this computer." Once installed, the client application is very easy and intuitive to use.

■ Performance

The performance is comparable to the full-blown Terminal Server – fast.

■ Cost

It is included with Windows XP Professional.

Conclusion

Remote Access can make you more productive and efficient. Please note however, that anytime you open a remote connection to your office, a security risk exists. Given time and determination, a hacker could gain unauthorized access to your network. The solution that provides the highest security, most flexibility and greatest performance is delivering terminal services (either via a Terminal Server or Windows XP Professional) through a VPN. If printing the contents of the host computer on your local printer is important, you should investigate each program's printing capability.

Keep in mind that when setting up any of the above items, it is important to understand the security implications. Improperly configured remote access programs may allow hackers into your network. If you are uncomfortable installing remote access, it is wise to seek a network consultant. We deploy remote access solutions to many of our clients. For further information, feel free to visit our web site at

www.clickconsulting.com, or contact us via email at info@clickconsulting.com.