

Do You Really Need a Network Server?

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September 22, 2006

Over the years I have provided computer consulting services for many businesses. While some of these small businesses have been simple one-man operations, many of them were larger. The thing that I always found surprising is that the majority of these companies never bothered implementing a client/server-based network. Instead they just continued adding on workstations to their old peer-to-peer network.

Peer-to-peer networks don't provide you with much in the way of security, and resource sharing can be problematic. You can have problems accessing workstations, lose data due to viruses or spyware or experience intermittent Internet problems. PCs networked in a peer-to-peer fashion are adequate when you only have a few people on the network, but once you have more than five or six people, you really need to consider investing in a network server.

Convincing a small-business owner to make this type of investment can be a hard sell. Unlike large corporations, small businesses don't have the benefit of an IT department and/or the deep pockets necessary to maintain a complex IT infrastructure. However, network servers don't have to be overly expensive or complex for you to benefit from them. And while adding a network is not a trivial or inexpensive undertaking, the benefits you gain far outweigh any shortcomings.

What Exactly is a Server?

Many people are under the misconception that a server is no different from a typical desktop PC. This couldn't be further from the truth. While almost any PC that meets the minimum hardware requirements can run the server operating system, that doesn't make it a true server. A desktop system is optimized to run a user-friendly operating system, desktop applications and to facilitate other desktop oriented tasks. Even if the desktop had similar processor speeds, memory and storage capacity, it still isn't a replacement for a real server. The technologies behind them are engineered for different purposes

A server is designed to manage, store, send and process data 24 hours a day, seven days a week, 356 days a year. Thus, servers need to be far more reliable than their desktop counterparts. To accomplish this, servers offer features not typically found in a desktop PC. Some servers are, do or include:

- Dual processors (either equipped with or capable of supporting)
- Redundant hard drives or power supplies
- Hot-swappable components
- Scalable to meet current and future needs
- Process data faster and more efficiently

So now that you know what makes up a server, what can a server do for you? There are multiple reasons to have a fileserver. Some of the more important ones are the following:

- File and network security
- Increased reliability
- Centralized data storage and shared resources
- Virus management
- Centralized backup LI >

Let's take a closer look at each of these.

File and Network Security — The most important role of a file server is the network security it provides. By creating individual user and group accounts, rights can be assigned to the data stored on the network preventing unauthorized people from accessing materials they shouldn't view. For example, the people on the sales floor don't need access to employee's personal records. That information is reserved for HR or the company owners.

The server lets you manage file access on one system rather than on each workstation individually; which saves time and effort. Plus if one person's workstation fails, that employee can go to another workstation to continue working on the same files.

Also, everyone can store their documents within their own personal folder on the server. That provides a two-fold benefit. First, each individual is the only person who can see the data stored in that individual's personal folder. Second, since all of your employee data is stored on the network, it gets backed up nightly with the rest of the network data, thus ensuring that nothing will be lost due to a crashed workstation.

Increased Reliability — Servers are designed to run at all times, even in the event of a hardware failure. That's why many servers are equipped with redundant power supplies. Normally, if a power supply dies, the server automatically shuts down, which means lost data and unproductive employees. With a secondary power supply running in tandem, the lost of one of the power supplies doesn't effect normal system operations.

The same goes for a server's storage system. Unlike an average desktop PC that uses a single hard drive, a server will typically use multiple hard drives working in a [RAID](#) configuration to prevent data loss or an interruption in workflow due to the failure of a solitary hard disk. There are many different levels of RAID to choose from, and it can be done via either a hardware RAID controller or thru software. The most popular configurations of RAID are RAID-1 and RAID-5.

With the redundant hard drive or power supply engaged, you're still left with the problem of replacing the failed hardware. On a desktop, when any hardware fails you need to shut the system down in order to repair it. This isn't an acceptable condition for a server since whenever the server goes down your employees are unable to function. That's why many servers are also equipped with hot-swappable hard drives and power supplies. Like with the redundant systems, these hot-swappable components let you replace faulty hardware without interrupting the entire office.

Centralized Data Storage and Shared Resources — With a network server, all of the people on the network can make use of various network resources right from their desks, which increases efficiency. Some of these resources include the following:

- Centralized data storage (RAID array)
- Network attached storage (NAS) devices
- CD/DVD towers
- Printers and fax servers LI >

Virus Management — One of the greatest threats to your network is the possibility of infection from viruses, spyware and spam. So having good, updated, anti-virus software installed on your systems is a necessity. In an office of 10 people or less, systems can be maintained individually. Anything more than that, though, can become a real burden. In those circumstances, an anti-virus package that combines workstation and server virus protection into a single solution makes more sense.

Numerous vendors make anti-virus suites designed specifically around the needs of a small business. A package like this lets you manage every aspect of the anti-virus software from a centralized location; thereby reducing administration and maintenance cost.

From a single PC, the administrator can deploy the latest anti-virus software to each workstation on the network, run network wide virus scans, patch software and update virus definition files. The software is designed to use minimal system resources and run in the background of a client PC, constantly watching for signs of trouble. Many tasks, such as virus sweeps and definitions updates can be automated, giving you security and piece of mind.

Centralized Backup — Storing all of your company and employee data in one location lets you perform backups reliably and quickly. You'll never need to worry about what data is stored on which workstation as you do in a peer-to-peer network. Today you can use almost any media type for backup purposes. In addition to the traditional tape drive, CDs, DVDs, removal storage and even NAS devices are acceptable. Depending on your budget and your data retention needs, any of these options would work well. Make sure you have a scheduled weekly backup (at the very least), although a daily backup would be better.

Bring it all Together

A true server operating system makes all of this possible, and you're going to need to invest in a good one to get the most out of your new hardware. When it comes to choosing an operating system for your server, there really aren't a lot of options — Windows or Linux. A Linux-based OS does a fine job. It's reliable and has modest hardware requirements. No matter which you choose, you'll need a qualified technician to install and configure them properly.

In my opinion, you be better off using a Windows-based operating system like Windows 2003 Server or Microsoft Small Business Server 2003. SBS 2003 is actually a combination Windows 2003 Server and a collection of other Microsoft server products such as Microsoft Exchange and Microsoft SQL Server. Either product makes an ideal choice for a small business.

The majority of the server setup and configuration is automated, requiring only minimal input from the installer. Therefore it can be configured by a person of nominal IT experience, so installation cost shouldn't get to out of hand. Once it has been set up, managing day-to-day functions such as creating user accounts, managing printers, configuring groups, and installing new hardware is pretty straightforward. Anyone familiar with previous versions of Windows will find themselves right at home in Windows 2003 Server.

If you're not running a server in your small business and you have more than five employees, look into the benefits you can gain by doing so. The information provided here only touches the surface of what a proper network can do for you. Options like VPN access, e-mail services, Web hosting and database management will also be available to you once you go down the server road.

<http://www.smallbusinesscomputing.com/testdrive/article.php/3633646>

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