Networking Basics
for Small Businesses

A guide for businesses with up to 75 computers

Microsoft®

Networking Basics for Small Businesses

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Your small business has many ongoing needs: to better organize and protect business information, to communicate effectively and professionally with customers and suppliers, and to make the most of your existing computers and office equipment. Introducing the right technology into your business can help you accomplish these goals and save you time and money, keeping you focused on your business, not on technology. The foundation of an effective technology solution starts with a network.

What Does a Network Do?

A network is a group of interconnected computers that allows you to more easily share information and resources (such as printers) from one computer to another. This helps you increase employee productivity and reduce costs. For example, with a network, multiple employees can access the Internet or company e-mail at the same time, or share the same fax machine or other office equipment. A network can help you save time and money, protect your business data, and increase efficiencies in your business.

Small businesses that use networks find that the investment pays for itself quickly through increased productivity.

For example, according to a survey published by Forbes,* increased employee productivity and reduced operating costs help pay for software and hardware, and installation and support costs — on average, within five months.

*Forbes "Windows Small Business Server 2003 Out-of-the-Box ROI for Small Business" white paper. Published 2003.

Introduction to Networking

The two most common types of networks are peer-to-peer and client/server. Both networks serve the same purpose. They allow users to share information and resources.

Peer-to-Peer Networks

The most basic way to allow multiple users to share information or resources such as printers and fax machines is to connect multiple computers in a peer-to-peer network. A common method for setting up a peer-to-peer network is to connect computers running workgroup or client software such as the Microsoft® Windows® XP operating system to a hub or to use a wireless access point.

While this is a simple, low-cost solution, peer-to-peer networks are limited in what they can do. For example, peer-to-peer networks have no centralized security safeguards. Information and resources are shared from each computer, and if one computer shuts down, loses power, or loses data, no one can access the information on that computer. Peer-to-peer networks also tend to slow down when more than five computers are connected.
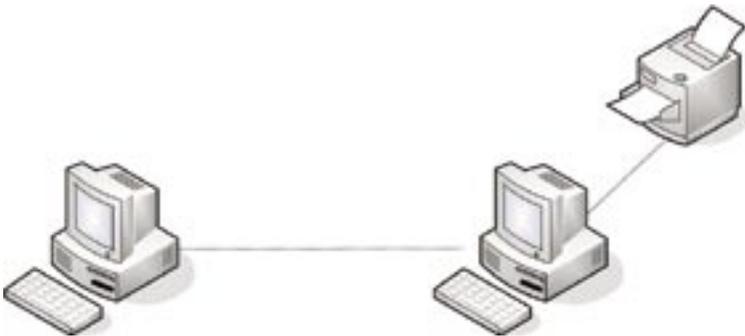
*Peer-to-peer networks are the most basic type of network.*

Client/Server Networks

In a client/server network, a single computer (the server hardware) is used to store and manage information and resources in a central location. That computer is loaded with server software that is designed to perform specific tasks and provide specific services such as file sharing, print processing, Internet connectivity and e-mail for each of the network's "client" computers. The clients in the client/server network can be individual computers, printers, or other remote devices (for example, Windows Mobile™–based Pocket PCs or Smartphones).

Client/server networks provide tools and services that can help your small business achieve dramatic time and cost savings, revolutionizing the way you do your work. For example, with a client/server network you can use fewer printers and distribute faxes electronically, which results in lower hardware costs and increased productivity. The server can back up information, which can save you time and prevent data loss. Also,

because the server acts as a single access point, your Internet connection can be monitored and controlled, which enhances your network security.

The computers in your business may show markedly improved performance in a client/server network because they don't have to perform functions for other computers, such as storing large amounts of data or running heavy software applications; the server takes on all this heavy lifting. With one centralized access point for information and resources, users are not dependent on information housed on each other's computers, as they are in a peer-to-peer network. In addition, servers can enhance the security of your business data by providing controlled access to files and data such as financial information, documents, and business presentations.
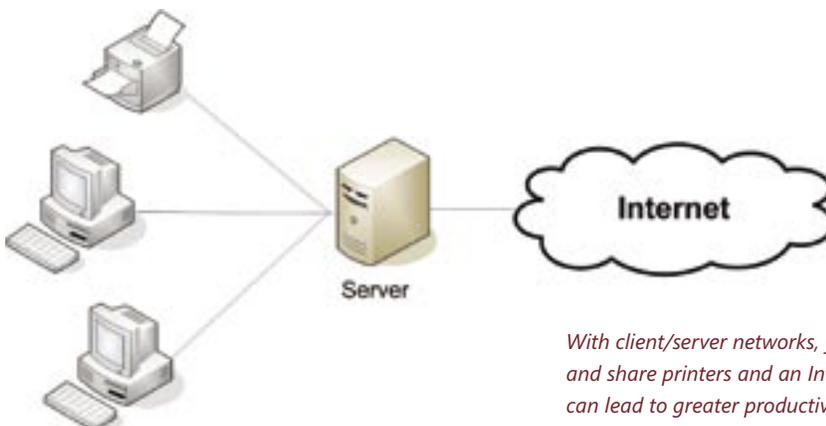
With client/server networks, you can centralize files and share printers and an Internet connection, which can lead to greater productivity and cost savings.
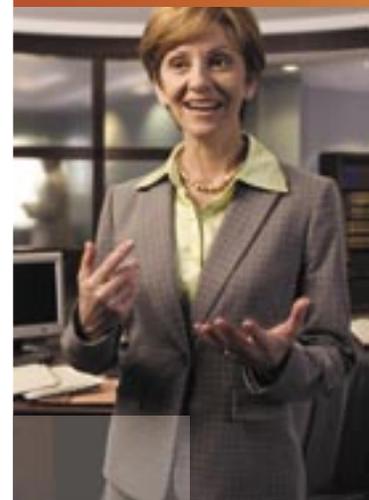
Some More Server Basics

Servers play a pivotal role in a network, providing significant time- and cost-saving benefits.

Server Operating Systems

Most server operating systems control security and allow you to decide the specific users, computers, or devices that can access server resources, as well as how they can use those resources. Server operating systems also allow other server-specific programs, or server applications, to run. For example, a server can run a line-of-business application—such as accounting software—that client computers can access.

Server Applications

Applications are the software instructions that execute a task or a specific set of tasks. Personal computer applications perform tasks for the user of the application. Server computer applications can perform volumes of tasks simultaneously for many users.

At one time, only large companies could afford servers because of the cost and complexity of buying, maintaining, and administering them. This is no longer the case. New technologies designed specifically for small businesses like yours provide solutions at lower costs with simplified server administration and maintenance. This means that any business can take advantage of the benefits of servers and client/server networking.

Microsoft expressly designed Windows Small Business Server 2003 for small businesses looking for an affordable and complete network solution. This Microsoft server software provides essential networking and Internet connection-sharing capabilities so that you can efficiently share resources and information from a central place and across your business. Windows Small Business Server 2003 also gives you more professional ways to connect with your customers from the office or a remote location, and the tools and infrastructure you need to keep your business up and running securely—at a cost your business can afford.

"We're receiving five times the return on our investment in the first year."

Mark Turner,
CCM Homes

What Servers Can Do for Your Business

Now that you have some background on the components of a client/server network, you need to know what a server can do for your business—and what benefits you gain from a client/server network.

Central Data Storage and Backup

Storing files on a server—rather than on individual computer hard disk drives—reduces the need for employees to back up files on individual computers. With a peer-to-peer network, if an employee's computer crashes and files are lost, it can take days to reconstruct the system and months to re-create the lost work. Maintaining control of document versions can also be a challenging, cumbersome task that can result in wasted time and a hit to your company's credibility if the wrong version of a document is released.

With a client/server network, servers can be configured for centralized data storage, which makes it much easier for coworkers to access documents and work together on projects. Windows Small Business Server 2003 includes Microsoft Windows SharePoint® Services technology to deliver a preconfigured internal Web site, or "intranet," where you and your employees can store, update, and share all your vital business information, such as customer contacts, financial records, and e-mail, in one central location.

Finally, servers make it possible to use many server-based business applications, such as accounting, business planning, and contact management software, which share a centralized database so that all employees can work from the same information. Microsoft SQL Server™ 2000, the professional database system that comes with Windows Small Business Server 2003 Premium Edition, easily supports your company's business applications.

Shared Printing, Fax, and Internet Connections

With server technology, you can reduce the number of printers and fax machines you need to efficiently run your business. Through the Microsoft Shared Fax Service in Windows Small Business Server 2003, the server can be configured to automatically route print jobs to your central printer, and incoming faxes can be digitized and delivered directly to each employee's computer. A single, shared Internet connection eliminates the
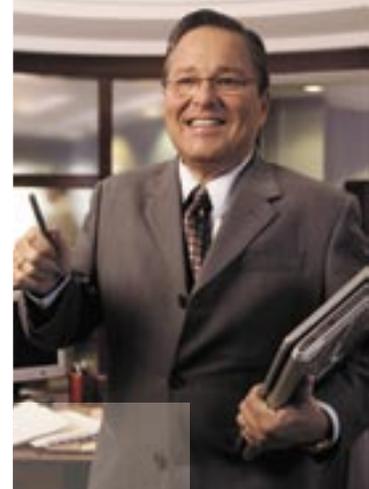
need for various cable modems or DSL connections and multiple configurations that require support. Managing a single account is much simpler, and server-monitoring features let you track and control employee Internet use.

A server system can make sharing your business assets across your network quick and easy, and will ultimately help you save money.

Security

Servers can enhance security by letting you control the contact your employees and others have with the Internet. Firewall technology helps control Internet communication so that you can better protect your business from unauthorized users who try to access your company's computers through the Internet. Some server systems, such as Windows Small Business Server 2003 Premium Edition, have a built-in firewall. This Microsoft server software includes Microsoft Internet Security and Acceleration Server 2004, which provides a built-in firewall for enhanced security and offers tools for managing and monitoring employee Internet access.

In addition, you can install software on your server that provides security settings to let you establish different access levels for different employees, vendors, or clients who access your network. You must ensure that the server in your business provides adequate protection for your network.

E-Mail and Calendars

While it is possible to outsource your e-mail to an Internet service provider (ISP), there are significant advantages to hosting your own e-mail system. Having an in-house e-mail system brings an element of professionalism and sophistication to your company communications while improving efficiency and organization.

Hosting your own system allows you to:

- Create and remove addresses as needed. Personnel changes won't require a call to your ISP.

- Create multiple, custom e-mail addresses such as sales@contosohomes.com, which can be delivered to the appropriate person's e-mail inbox or distributed to a group of people.

Only a few servers for small business have an integrated, easy-to-use e-mail system that is reliable and will grow with your business. Microsoft Exchange Server 2003 technology, a streamlined e-mail system, is part of Windows Small Business Server 2003 and gives your business a professional e-mail presence as well as offering your employees a way to access their e-mail on the Web—through Microsoft Office Outlook® Web Access. With Windows Small Business Server 2003, you also get Outlook 2003 for managing and organizing e-mail messages, schedules, and contacts.

Internal Company Web Site

An intranet is a Web site that is accessible only to authorized users within a network. A company intranet typically contains shared business documents such as contracts, product and price lists, budgets, and marketing materials. Intranets can increase employee productivity by giving individuals the ability to store and easily access files, applications, or internal information. Intranets are a powerful way for employees to work together. Some server software, such as Windows Small Business Server 2003, comes with a built-in intranet.

Network Administration

Some server systems still require complex configuration to run smoothly; others can be simple and cost effective to administer. The use of an information technology (IT) consultant may be advisable for initial setup, but with the right server system, routine tasks such as adding a new employee's computer or recovering lost documents are easy for you to perform.

With Windows Small Business Server 2003, you don't have to invest in an IT consultant to set up your system. Designed with simplicity in mind, this Microsoft server software is easy to install, manage, and use. For additional cost savings, a server can be configured to continually monitor itself. Some

servers can even produce regular reports on the health of the network and system usage, with automatic e-mail alerts which save you a call to your consultant. Make sure your server system gives you the information you need to identify and solve problems quickly.

Growth

Server flexibility refers to how a system responds and performs as the number of users grows. Flexibility is one of the major strengths of the client/server network, because you can simply add another server when needed. Experiencing dramatic growth? Upgrading to a more robust system may be in order, and a good first server makes upgrades smooth and easy.

Windows Small Business Server 2003 can grow with your small business, keeping pace with your changing demands. Because your data is managed from a central location, adding new computers and applications is a straightforward task.

It's a good idea to consider your strategy for managing the growth of your business and your technology needs. Make sure you have a system that can grow with your business needs.

"It's hard to beat the value and powerful out-of-the-box functionality of SBS 2003."

PC Magazine

Choosing the Right Server Solution

If you are choosing a network for your small business or thinking of changing the type of network you already have, a client/server network can offer the security, collaboration, professionalism, and manageability that you are looking for. One choice to consider is Windows Small Business Server 2003, which you can use to keep your business running and your data secure, to increase your efficiencies and cost savings, and to streamline your customer communications—so you can run a successful business today and into the future.

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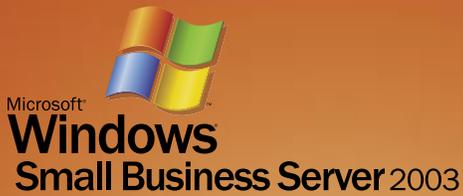
Learn More About
Windows Small Business Server 2003

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