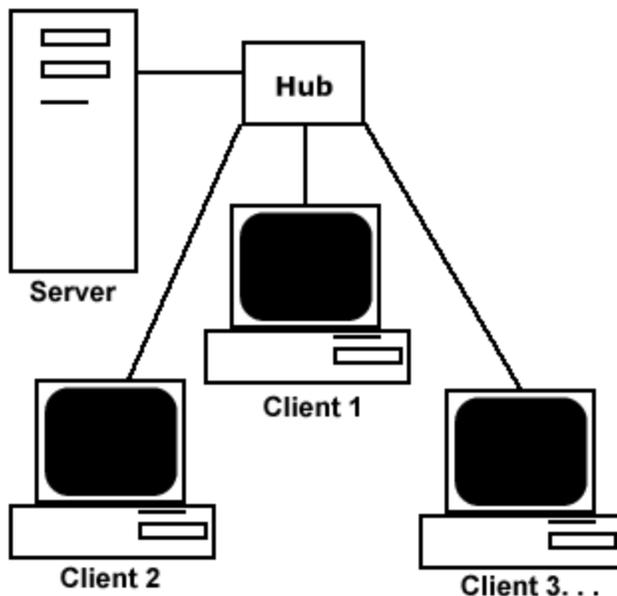


CLIENT-SERVER NETWORKS

While a peer-to-peer network is often a good choice for small networks, in an environment with more than 10 to 15 computers, a peer-to-peer network can become more trouble than it is worth: Your computers start to slow down, you can never find the file you are looking for, and security is non-existent.

If this is happening in your library, it is probably time to switch to a client-server network by bringing in a dedicated server to handle the load. The server is called "dedicated" because it is optimized to serve requests from the "client" computers quickly. The diagram below shows a simple client-server network:



What is a server?

A server is simply a computer that is running software enabling it to serve specific requests from other computers, called "clients." For example, you can set up a file server that becomes a central storage place for your network, a print server that takes in print jobs and ships them off to a printer, and a multitude of other servers and server functions.

A server provides many benefits including:

- **Optimization:** Server hardware is designed to serve requests from clients quickly.
- **Centralization:** Files are in one location for easy administration.
- **Security:** Multiple levels of permissions can prevent users from damaging the files.
- **Redundancy and back-up:** Data can be stored in redundant ways, making it easy to restore in case of problems.

A server, like any computer, consists of two parts -- the hardware and the software.

Server hardware basics

Any desktop computer can act as a server, but typically you want something much more robust. Standard server hardware includes:

- Hot-swappable drives (drives that can be replaced while the computer is running) to speed up adding or replacing hard disks.
- The ability to support multiple processors.
- Support for larger amounts of RAM.
- Faster input and output.
- Fast network cards.
- Redundant components, such as hard drives and power supplies, to cut down the chance of computer failure.

Server software basics

Server software comes in two categories -- operating systems and applications.

Network operating systems

There are many different operating systems for servers just like there are many different operating systems for desktop computers.

Windows Server (NT, 2000, and 2003), Linux, and Novell Netware are the three main network operating system competitors, but they are most assuredly not the only ones (there will always be the occasional OS/2 WARP fanatic screaming from a soapbox).

A Network Operating System (NOS) will have many features built in. All will include file serving, print serving, backup, and some way to secure those resources. Some NOSs will include a Web server or mail server, while others require you to buy these items separately.

Research all the options before making a decision on the NOS for your server. Figure out precisely what you want by browsing through Web sites and sales pamphlets. Then try to find a computer guru who knows your library's network and ask this person about what would work best. If you can, try to make sure that this is not the same person who would be doing the work or selling you the product, otherwise there may be a conflict of interest. This is a big decision, and it will dramatically affect all of your future computer transactions and operations.

Server applications

Server applications can be designed for nearly every purpose imaginable, from fax servers to remote access servers. Every application will have specific server requirements, and typically will be designed to run on either Windows NT/2000, Linux, or Netware. Many servers run multiple applications (like e-mail and faxing) to serve a variety of needs..

Last thoughts

The client-server model of networking is the way to go for larger networks or libraries. Once you have a client-server network set up, it should provide you with more flexibility than a peer-to-peer network as your needs change.

For example, as network traffic increases, you can add another server to handle the additional load. You can also consider spreading out tasks among various servers, ensuring that tasks are performed in the most efficient manner possible. Most importantly, a client-server network is much easier to secure and back up, and greatly improves the reliability and confidentiality of your data.

Source : http://www.webjunction.org/documents/webjunction/Client_045_Server_Networks.html