

user of a server computer that doubles as a workstation decides to turn off the computer, not realizing that someone else is accessing files on his hard drive.

- » **You don't necessarily have to use your biggest and fastest computer as your server computer.** I've seen networks where the slowest computer on the network is the server. This advice is especially true when the server is mostly used to share a printer or to store a small number of shared files. So if you need to buy a computer for your network, consider promoting one of your older computers to be the server and using the new computer as a client.

Assuming that your network will require one or more dedicated servers, you should next consider what types of servers the network will need. In some cases, a single server computer can fill one or more of these roles. Whenever possible, limit each server computer to a single server function.

File servers

File servers provide centralized disk storage that can be conveniently shared by client computers on the network. The most common task of a file server is to store shared files and programs. For example, members of a small workgroup can use disk space on a file server to store their Microsoft Office documents.

File servers must ensure that two users don't try to update the same file at the same time. The file servers do this by *locking* a file while a user updates the file so that other users can't access the file until the first user finishes. For document files (for example, word processing or spreadsheet files), the whole file is locked. For database files, the lock can be applied just to the portion of the file that contains the record or records being updated.

Print servers

Sharing printers is one of the main reasons that many small networks exist. Although it isn't necessary, a server computer can be dedicated for use as a *print server*, whose sole purpose is to collect information being sent to a shared printer by client computers and print it in an orderly fashion.

- » A single computer may double as both a file server and a print server, but performance is better if you use separate print and file server computers.