

Backup programs do more than just copy data from your hard drive to tape. Backup programs use special compression techniques to squeeze your data so that you can cram more data onto fewer tapes. Compression factors of 2:1 are common, so you can usually squeeze 100GB of data onto a tape that would hold only 50GB of data without compression. (Tape drive manufacturers tend to state the capacity of their drives by using compressed data, assuming a 2:1 compression ratio. Thus, a 200GB tape has an uncompressed capacity of 100GB.)



WARNING

Whether you achieve a compression factor of 2:1 depends on the nature of the data you're backing up:

- » **Documents:** If your network is used primarily for Microsoft Office applications and is filled with Word and Excel documents, you'll probably get better than 2:1 compression.
- » **Graphics:** If your network data consists primarily of graphic image files, you probably won't get much compression. Most graphic image file formats are already compressed, so they can't be compressed much more by the backup software's compression methods.

Backup programs also help you keep track of which data has been backed up and which hasn't. They also offer options, such as incremental or differential backups that can streamline the backup process, as I describe in the next section.



REMEMBER

If your network has more than one server, invest in good backup software. One popular choice is Barracuda Backup, made by BarracudaWare (www.barracuda.com). Besides being able to handle multiple servers, one of the main advantages of backup software is that it can properly back up Microsoft Exchange server data.

Examining File-Based Backups

One popular option for backing up your data is to use a backup program that copies individual files from your servers to the backup media of your choice. This type of software often works by installing a program called an *agent* on each of your server computers. Then, you use a single centralized program to schedule and manage the individual server backups, which are performed by the agents installed on each server.



TIP

Backup programs allow you to select any combination of drives and folders to back up. As a result, you can customize the file selection for a backup operation to suit your needs. For example, you can set up one backup schedule that backs up all of a server's shared folders and drives, but then leaves out folders that rarely change,