

---

# Understanding Windows 2000 Disk Quotas

---

*Windows 2000 disk quotas allow administrators to assign and control hard drive space, charging users only for the files they own.*

**By Dave Cook  
IT Journalist**

One major shortcoming of classic Windows NT is its inability to manage the amount of disk space allotted to individual users. Numerous third-party tools are available, of course, but they don't come cheap, and neither have they silenced administrators from calling for an integrated disk quota utility which can be managed on an enterprise-wide basis. In Windows 2000, Microsoft has attempted to address that situation in the shape of its own quota management service.

However, Windows 2000 quotas are only available from volumes that have been formatted with the NTFS file system. If the volume is not Windows 2000 NTFS formatted, or if the user is not a member of the Administrators group on the local computer, the Quota tab will not be displayed on the volume's Properties page. Assuming both of these conditions apply, it is a fairly straightforward task for administrators to enable the feature and enforce different quota limits for different users. With quotas enabled, administrators can set warning levels and hard thresholds, as well as write log events whenever users reach these points.

Although quotas are typically used to control the disk space used on the network, quotas can also be used on a local computer. For example, if a local computer is shared by three users the administrator of the local computer can allocate a fixed amount of disk space to each user. As users near their limits they will receive a warning from the operating system, but should they go over their limits the operating system will prevent them from using any further disk space. Note that the built-in Administrator group is exempt from quotas by default.

## Quota Gotchas

One major drawback to Windows 2000 quotas is that, while administrators can enforce limits on a per-user and per-volume basis, they cannot issue quotas for individual network shares or folders. So if the quota is set to, say, 100 MB and the volume has three shares, users will be restricted to storing only 100 MB across the three shares and not 100 MB per share.

Be aware also that quota statistics are not affected by file compression. Thus, if a user is limited to 50 MB of disk space, then that user can store only 50 MB worth of files, even if the files are compressed and actually only occupy 30 MB of disk space. Equally, if a user has a 50 MB disk quota that contains 45 MB of data, the amount of free space cannot be increased simply by compressing the data.

Ownership of files is another contentious issue, since file ownership is altered whenever a file is moved. While a user who is not the file owner can safely move files to another location, those files should not be copied, otherwise that user will become the new owner of the files. Administrators particularly need to watch out for this little gotcha, since they can easily become the new owner of a file if, for example, they were to restore the file from backup tape to a location other than the original directory.

Because quotas are maintained by the file system, and not the Registry, quotas will follow the disk if it is moved. If, however, the disk is moved to a computer running classic Windows NT (or if the computer is a dual-boot machine), then quotas will not work. In addition, administrators looking to impose domain-wide quotas on users need to be aware that while quotas may be imported or exported between computers, the feature will work only between machines in the same domain.

### Useful Sites

Home of Quota Advisor, a third-party quota management solution.  
[www.wquinn.com](http://www.wquinn.com)

Home of Quota Server, alternative quota management solution.  
[www.northern.se](http://www.northern.se)

Home of PowerExpert ST, another disk quota utility.  
[www.powerquest.com](http://www.powerquest.com)

### Assigning Quotas

To enable disk quotas on a Windows 2000 NTFS formatted file system, double-click the My Computer icon, or open Explorer, and right-click the required volume. Select Properties, and then on the Quota tab, click the Enable Quota Management check box (Figure 1). Note that administrators enabling quotas on a mounted volume should use the Disk Management console to select a volume.

Select Deny Disk Space To Users Exceeding Quota Limit to begin enforcing storage limitations straight away. However, when setting up quotas for the first time, it is generally a good idea to leave this option unselected for a short period. This allows administrators to gather reports on users who exceed the recommended quota, so that arrangements can be made to move or delete their files before the quota is enforced.

To select the default quota limit, select the Limit Disk Space To radio button, and enter the required quota and quota thresholds by typing numeric values in the two text fields. Next, select both logging options: Log Event When A User Exceeds Their Quota Limit; and Log Event When A User Exceeds Their Warning Level. Enabling these options will record any quota offenders in the Application Log. Click Apply, and the system will respond with a warning that the volume is about to be scanned to update disk usage statistics, a process that might take several minutes. Finally, click OK to enable quotas on the NTFS volume.

The system will now begin scanning the master file table, setting quota bits on file records and gathering the various ownership statistics. When the scan is complete, the status indicator in the Properties dialog box will change colour from red to green. With the disk quota system active, click the Quota Entries button. This opens the Quota Entries window.



Figure 1 - Volume Properties window on a server before ena-

### Existing Users

When you enable disk quotas for a volume, volume usage is automatically tracked for new users from that point on. One drawback is that existing volume users have no disk quotas applied to them. Thus, administrators must apply disk quotas to existing volume users by adding new quota entries in the Quota Entries window. Be aware that if this window is opened immediately after enabling quotas, the only name on the list will be the Administrator group. New users do not appear until they have accessed the volume.

To add existing volume users to the system, from the Quota menu select Quota, New Quota Entry. This opens the Select User window. Select the user or users to be added to the quota system, click Add to place the user on the list and then click OK to save the entries. The Add New Quota window opens (Figure 2). Here, administrators can either choose the default settings or enter new values for the specific user. Click OK to save the changes and return to the Quota Entries window. The user name now appears, showing his or her current status.



Figure 2 - Choosing quota values for a specified user.

Of course, users who have already accessed the volume may require higher or lower quota levels to that of the default setting. To address this situation, administrators can right-click the user or users from the Quota Entries list, click Properties from the pop up menu, and enter the required values in the two text boxes provided. Note that multiple users may be chosen from the Quota Entries list by selecting them with the Control key, pressed in the normal Windows fashion.

When deleting users from a quota list (Figure 3), administrators have the option of transferring the ownership of the user's files to themselves or to move the files to another place. Once the user has had his or her file ownership withdrawn, administrators can then delete the user entry from the quota list.

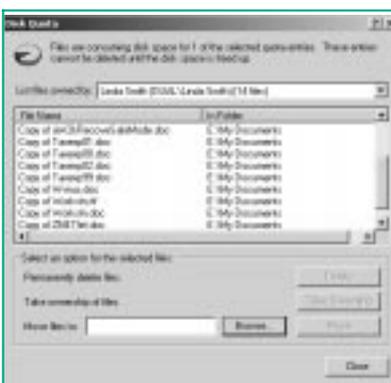


Figure 3 - List of files owned by a user on a managed quota volume.

PCNA

Copyright ITP, 2001

## New Reviews from [Tech Support Alert](#)

### [Anti-Trojan Software Reviews](#)

A detailed review of six of the best anti trojan software programs. Two products were impressive with a clear gap between these and other contenders in their ability to detect and remove dangerous modern trojans.

### [Inkjet Printer Cartridge Suppliers](#)

Everyone gets inundated by hundreds of ads for inkjet printer cartridges, all claiming to be the cheapest or best. But which vendor do you believe? Our editors decided to put them to the test by anonymously buying printer cartridges and testing them in our office inkjet printers. Many suppliers disappointed but we came up with several web sites that offer good quality cheap inkjet cartridges with impressive customer service.

### [Windows Backup Software](#)

In this review we looked at 18 different backup software products for home or SOHO use. In the end we could only recommend six though only two were good enough to get our "Editor's Choice" award

### [The 46 Best Freeware Programs](#)

There are many free utilities that perform as well or better than expensive commercial products. Our Editor Ian Richards picks out his selection of the very best freeware programs and he comes up with some real gems.