



## PRODUCTS

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# Open File Manager 5.3

## Backing Up Open Files

**B**ecause most backup applications cannot handle open files, these files can become corrupted or are simply not archived—causing more than one network administrator to lose sleep or even his or her job. To protect your sanity and your job, you need to be certain that your company's backup strategy protects all network files—including open files. Open File Manager 5.3 from St. Bernard Software Inc. is one product that can help.

Open File Manager 5.3 works with your existing backup application to back up open files, even if those files are being accessed and updated during the backup session. As a result, your company does not need to invest in additional hardware or software to use Open File Manager 5.3. In addition, Open File Manager 5.3 works with backup applications that are running on the same server on which it is installed and applications that are running on remote servers.

Open File Manager 5.3 supports NetWare 4.x, Windows NT Workstation, and Windows NT Server. St. Bernard Software also plans to release a new version of Open File Manager that supports NetWare 5 later this year.

In addition, Open File Manager 5.3 supports all applications and most backup applications. (See Figure 1.) For example, Open File Manager 5.3 works with Novell's SBACKUP utility and Windows NT's native backup tool. As a result, Open File Manager 5.3 will continue to work if your company upgrades or changes its applications or backup strategy in the future.

Because Open File Manager 5.3 requires little system overhead, it will not impact network performance. After you configure Open File Manager 5.3 for your company's network and backup application, Open File Manager 5.3 works transparently in the background. Open File Manager 5.3 requires no additional upkeep, maintenance, or ongoing management—you simply set it up and forget about it.

### THE OPEN FILE CONUNDRUM

An open file is one that resides on the network and is being accessed by a workstation or a server during the backup process. Most backup applications cannot copy an open file. If a file is open, backup applications skip it in the hopes that the file will be closed before the backup process is completed. When the backup process is completed, backup applications attempt to archive the open file again. If the file is still open,



it is not archived. Obviously, if backup applications skip a file, that file is not on tape if you later need to restore network data.

A few backup applications will back up an open file. Unlike Open File Manager 5.3, however, these backup applications make the file inaccessible to users while the file is being archived. As a result, user productivity decreases.

Perhaps even more damaging than not archiving a file is archiving the wrong version of a file. If an open file must be synchronized with other files, problems can occur if a backup application first skips the file and then archives it at the end of the backup session. When the file is restored, it may not synchronize with the other files. For example, suppose that a database program accesses and updates several files simultaneously. If the backup application does not ensure that the data in these various files is consistent, the backup data may become corrupted.

### BACKUP BLISS

Most backup applications are scheduled to run when network and application usage is at its lowest—usually during the middle of the night. However, many companies are finding that expanding to accommodate a growing global presence means operating around the clock. Around-the-clock operations leave no convenient time for a traditional backup process that requires all applications to be shut down.

With Open File Manager 5.3, you can back up your company's network at any time without negatively impacting the network's performance. You don't need to find a time when all applications are shut down. Open File Manager 5.3 ensures a complete backup of all open files, including relational database files such as an Oracle database. (Of course, some database applications include backup agents. However, your company's database program must support the specific backup application that you use—otherwise you're out of luck.) Users can continue to access database, point-of-sale, or accounting applications without sacrificing the integrity of the backup.

## PRODUCTS

### Open File Manager 5.3

#### HOW IT WORKS

Open File Manager 5.3 includes a client component and a server component. The client component, Open File ManagerWin32, is a 32-bit Windows GUI application that runs on a Windows NT, 98, or 95 workstation. You use Open File ManagerWin32 to install, control, and monitor the system components of Open File Manager 5.3.

The server component of Open File Manager 5.3 includes a NetWare Loadable Module (NLM) to support NetWare and a Windows NT service and file system filter driver component to support Windows NT 3.51 and 4.0. The server component communicates with the client component to obtain configuration settings and to display status and log information. The server component also performs the open file management functions of monitoring file I/O operations, detecting backup program execution, and maintaining a Preview Data file when appropriate. (Preview Data is a dynamically allocated prewrite cache for each open file on the system.)

Open File Manager 5.3 automatically synchronizes the entire server at the start of the backup process. Open File Manager 5.3 then monitors the file system for read requests. When the backup process is initiated, Open File Manager 5.3 determines whether or not partial transactions are pending on the network. If no partial transactions are pending on the network, Open File Manager 5.3 begins maintaining a Preview Data file for each open file. If there are partial transactions pending, Open File Manager 5.3 waits to begin maintaining a Preview Data file.

A process called *File System Synchronization* handles the backup of open files. When a user or an application saves information, that information is saved directly to the requested file. At the same time, Open File Manager 5.3 saves a copy of the data that is being overwritten in a Preview Data file.

When the backup application encounters a part of a file that has been changed during the backup of that file, Open File Manager 5.3 submits the original (prewrite) data from the Preview Data file to the backup application. As a result, the file on the tape is identical to the file that was on the network when the backup process began. Meanwhile, users of the data have normal access to network files.

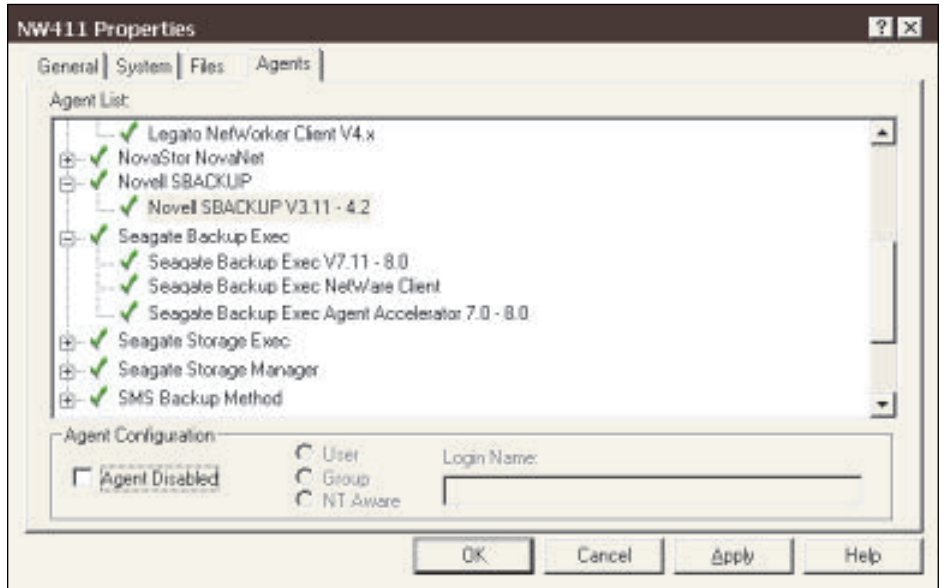


Figure 1. By default, Open File Manager 5.3 enables all supported backup applications.

The Preview Data file uses little system disk space. It usually uses less than 10 MB and rarely more than 30 MB. Open File Manager 5.3 also enables you to manage exactly how much system disk space Open File Manager 5.3 requires. You can control how long Preview Data files reside in system disk space. If system disk space is scarce, Open File Manager 5.3 can discard a Preview Data file as soon as a file is backed up. If disk space is plentiful, Open File Manager 5.3 can hold Preview Data until the backup verify pass is completed, giving you additional confidence in the backup.

#### NEW TO THIS VERSION

With previous versions of Open File Manager, you must group related files and directories together. For example, if you have an Oracle database, you must specify which files and directories are related so that they can be backed up with their relationships intact.

Updating this list of related files and directories can be a headache. Fortunately, Open File Manager 5.3 assumes that all files are related and synchronizes the entire server at one point. You do not need to group files and directories.

#### INSTALLING OPEN FILE MANAGER 5.3

Open File Manager 5.3 is easy to install on your Windows NT, 98, or 95 management workstation. After you install Open File Manager 5.3 on your workstation, you can browse your company's network to select the servers on

which to install the server components. Figure 2 shows Open File Manager 5.3 running on a Windows 98 management workstation. (See p. 42.) The server component is running on the NetWare

GroupLink  
1/6 Page  
AD

2 3/8" x 4 7/8"  
( 2.375" x 4.875")

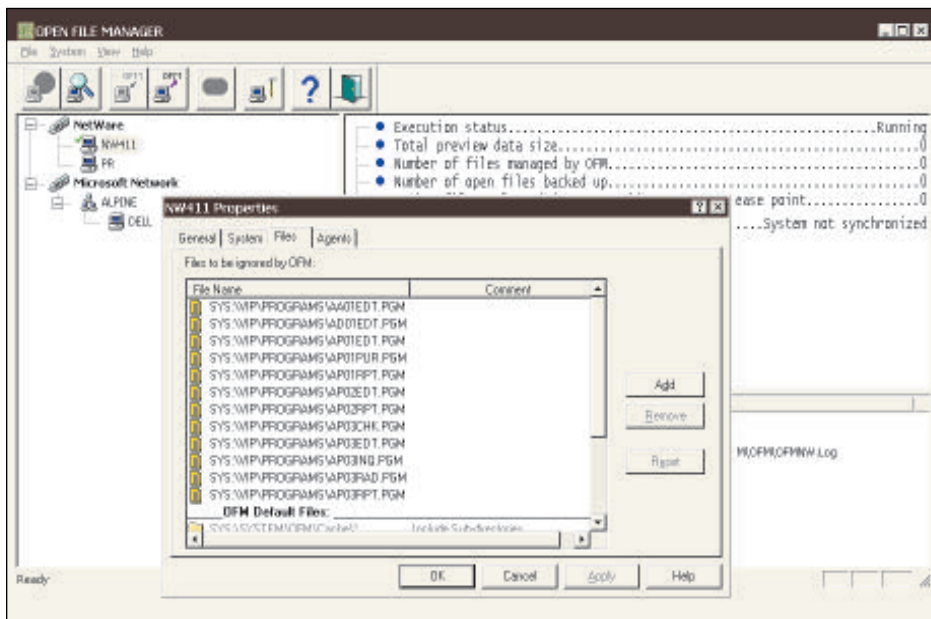


Figure 2. You can use Open File Manager 5.3 to view backup statistics and to ignore specific files during the backup process.

server. With Open File Manager 5.3, you can view information about the status of the backup. You can also view the Open File Manager 5.3 configurable options, such as files selected to be ignored by Open File Manager 5.3.

You can install Open File Manager 5.3 simultaneously on up to ten servers, including remote servers, from your management workstation. To install the server components, you simply highlight the servers on which you want to install Open File Manager 5.3 and click the Install to Server button. If you are installing Open File Manager 5.3 on a NetWare server, you then are prompted to load the Open File Manager 5.3 NLM (OFM.NLM). If you are installing Open File Manager 5.3 on a Windows NT server, you need to start the server component service by accessing the Services applet in the Control Panels.

#### Words of Warning

During our test installation of Open File Manager 5.3, we first tried installing Open File Manager 5.3 on a newly upgraded NetWare 5 server and then on a NetWare 3.12 server. However, we were dismayed to discover that Open File Manager 5.3 supports neither NetWare 5 nor NetWare 3.12. (St. Bernard Software expects to release a version of Open File Manager that supports NetWare 5 later this year.) Because Open File Manager 5.3 does not include extensive printed docu-

mentation, you may easily overlook details such as these. Closer inspection of the online PDF file revealed that Open File Manager 5.3 only supports NetWare 4.x. with LIBUPF.EXE (or greater) patches applied. (You can get the most recent patches available for NetWare at <http://www.novell.com/download>.)

Open File Manager 5.3 supports nearly all backup software applications. However, as fate would have it, the backup application installed on our test server (Stac's Replica) is one of the few backup applications that Open File Manager 5.3 does not support. As a result, we tested Open File Manager 5.3 with Novell's SBACKUP utility. With Open File Manager 5.3 loaded and running on our server, we didn't have to do anything to begin backing up open files.

If you need to restore data from a tape backup, you should follow the guidelines provided by the backup application. In addition, St. Bernard Software recommends that you disable Open File Manager 5.3 during the restore process.

For our test we chose to back up a police department database application that is used around the clock. The installation and configuration of Open File Manager 5.3 was flawless. Although the backup was scheduled during the time of least access, reports were still able to be filed at the time of the backup. The true test came when we attempted to restore the backed-up data. We restored

the data to a new server, allowing us to ensure that the restore was complete. The restore was a success. All of the restored data remained intact and there were no corrupt or missing files, even though there were open files at the time of the backup.

#### COMPETING PRODUCTS

Many backup companies (such as NovaStor Corp. and Legato Systems) that claim they can handle open files actually use Open File Manager technology. Only Computer Associates and Seagate Software offer open-file backup technology that is different than Open File Manager as part of their backup application. However, there are some disadvantages to the backup agents that both Computer Associates and Seagate Software offer. For example, the backup agents do not support backup applications from vendors other than the one that supplies the agent. In addition, both backup agents require you to group files, the licenses are nontransferable between NetWare and Windows NT, and installation must be completed one server at a time.

The biggest competitor to Open File Manager 5.3 is application-specific agents. For example, if your company uses Oracle, it makes sense to purchase the Oracle-specific application agent for open files. However, an application-specific solution offers limited backup software support and doesn't work with other applications. Open File Manager 5.3 allows you to effectively backup up all of the applications that your company is running.

#### AVAILABILITY

Open File Manager 5.3 is licensed by server, and each server license can be used for either NetWare or Windows NT servers. In fact, you can switch between NetWare or Windows NT as long as your total server count adheres to the license agreement.

You can download a trial version of Open File Manager 5.3 from <http://www.stbernard.com/download.html>. For more information about Open File Manager 5.3, visit St. Bernard Software's web site (<http://www.stbernard.com>). You can also call 1-619-676-2277 or 1-800-782-3762.

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