

## Exchange 2003 Backup and Restore with NTBACKUP

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### Abstract

In this article I will show you how to Backup and Restore your Exchange Server databases with the help of the Built in NTBACKUP from Windows 2003. I will show you the simplest form of Exchange Backup and Restore. For complete Exchange Server Backup and Recovery follow the links at the end of this article.

### Basics

Windows 2003 has a Built-In Backup program called NTBACKUP which you can use to backup your Windows environment and when you had installed Exchange 2003 on this system, NTBACKUP is enhanced to allow backups of your Exchange Server databases.

### NTBACKUP features

- ? Local and remote backup of data
- ? Exchange Backup ready
- ? Scheduled Backups
- ? Volume Shadow Copy support
- ? Integration with Removable Storage from Windows 2003

### How to enhance NTBACKUP with the capability to Backup Exchange 2003 without installing Exchange Server?

You must install the Exchange System Manager on the Backup Server to Backup Exchange Server. It is possible to backup the Exchange Server without Exchange System Manager with the following trick:

Copy ESEBCLI2.DLL from the Exchange 2003 CD into the EXCHSRVR\BIN folder

Add the following registry key:

```
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\BackupRestore\DLLPath  
s – REG_EXPAND_SZ - esebcli2 - c:\exchsrvr\bin\esebcli2.dll.
```

After modifying the registry you can use NTBACKUP to backup the remote Exchange Server by clicking – **Tools** – **Remote Store**.

### Online- or Offline Backup?

It is possible to Backup Exchange Online or Offline. The recommended method is to Backup the Exchange Server Online. An online backup can backup the Exchange Server databases without the interruption of Exchange services.

An offline backup is a simple copy of the Exchange database files. The Exchange Information store must be stopped before NTBACKUP can be used to Backup your Information store.

## Volume Shadow Copy

Beginning with Exchange 2003 it is possible to do Exchange 2003 Volume Shadows Copy backups with 3<sup>rd</sup> party Backup applications, but not with the builtin Windows Server 2003 NTBACKUP utility.

The Volume Shadow Copy service coordinates its communication between *Requestors* (backup applications), *Writers* (applications like Exchange Server 2003), and *Providers* (software or hardware components that create the shadow copies). To use the Volume Shadow Copy service to backup Exchange Server 2003, the backup program must include an Exchange Server 2003 aware Volume Shadow Copy service requestor. Because the NTBACKUP program has no such requestor, organizations must use third-party backup applications or implement Exchange 2003 SP1 in its organization.

## Backup choices

- ? Minimum selection is the storage group (SG) to truncate log files
- ? VSC can create a Snapshot from multiple SG at the same time

## Restore choices

- ? You can choose the entire storage group or a single database or multiple databases from a single SG
- ? Exchange 2003 RTM supports full backups and copy backups
- ? All databases must be mounted to purge logfiles

## Backup

To start the Backup process click Start – Run – NTBACKUP.

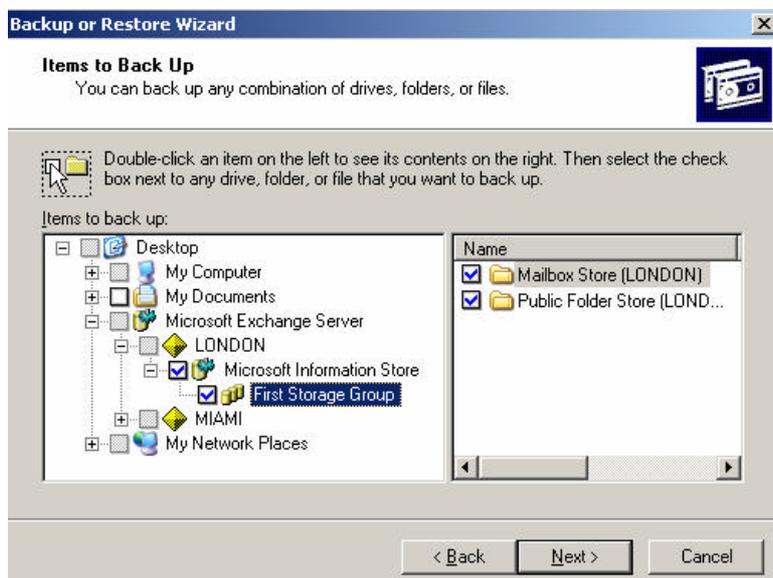


Figure 1: Start the Backup process

During an online backup, the .edb, .stm, and .log files that comprise the Exchange store are being backed up and checked for corruption. The Exchange database store is checked for corruption at file system level. File system level damage may be caused by unreliable hardware, firmware, or disks. This check is done by verifying the checksums on each 4 KB block or page in the database. If there is a checksum failure, backup will terminate (Exchange will not allow you to back up an Exchange store with a wrong checksum in it). This is typical for the 1018 error.

Choose a place to save the Backup files.

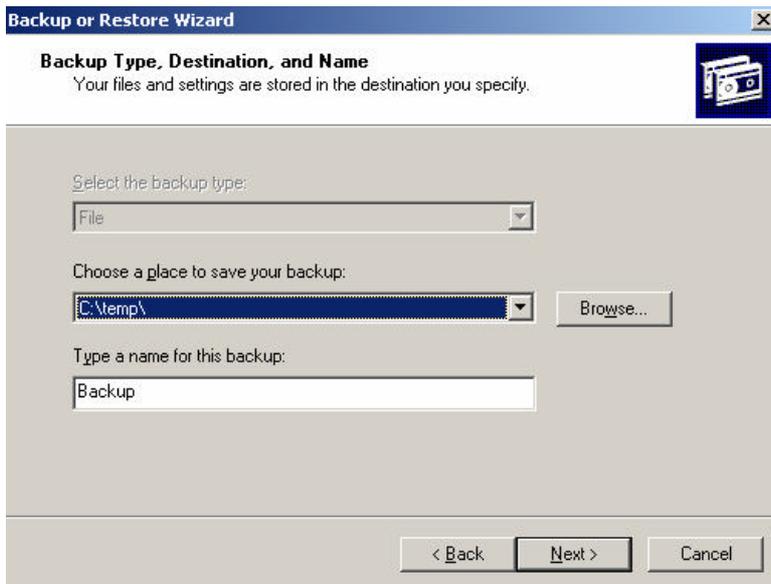


Figure 2: Choose a Backup device

It is possible to disable Volume Shadow Copy

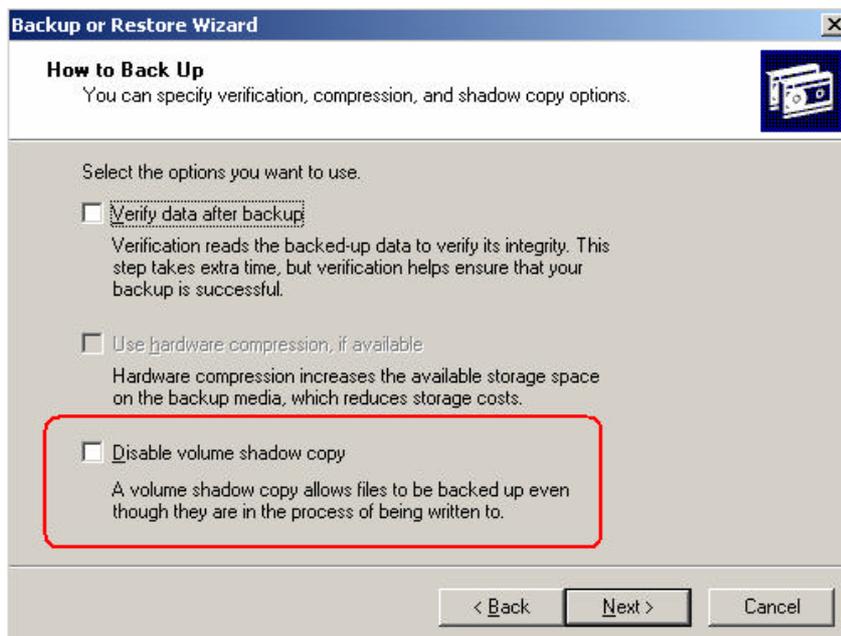


Figure 3: NTBACKUP options

## The started Backup process

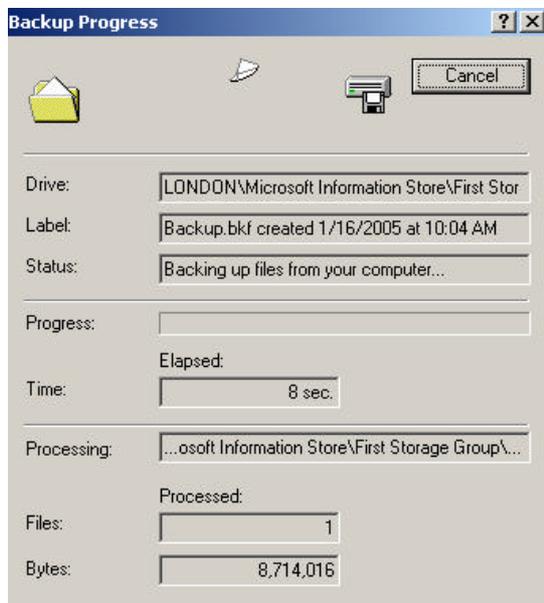


Figure 4: The running NTBACKUP process

You can see the status of your Exchange Backups when you start the event viewer and select the application log.

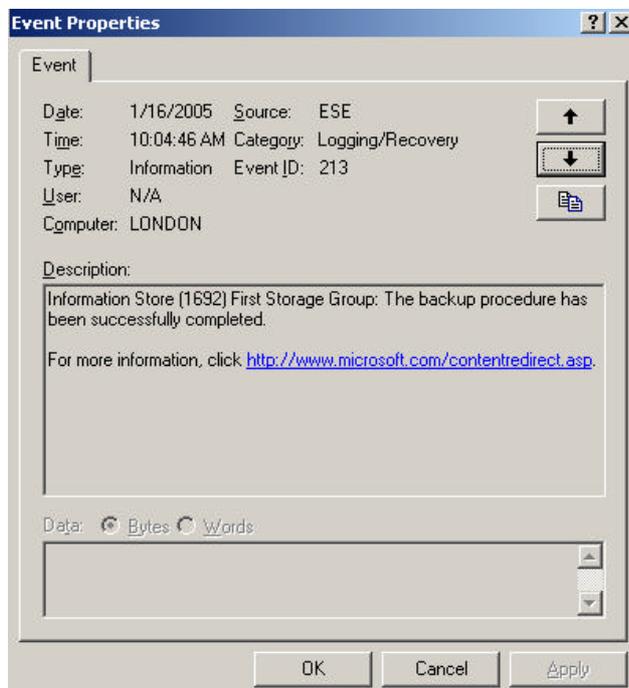


Figure 5: NTBACKUP status in the event log

## Transaction Log files and NTBACKUP

| Backup Type  | What to Backup  | Exchange Logs   |
|--------------|---|---|
| Normal       | Backs up selected files and marks each file as backed up  | Backup Logfiles and <b>delete</b> Transaction Logfiles  |
| Copy         | Backs up selected files, but does not marked any as backed up   | Backup Logfiles but <b>doesn't delete</b> Transaction Logfiles  |
| Incremental  | Backs up selected files only if they where created or modified since the previous backup                                      | Backup only Logfiles but cannot be used with enabled circular logging   |
| Differential | Backs up selected files only if they where created or modified since the previous backup, but does not mark them as backed up | Backup only Logfiles but cannot be used with enabled circular logging. Logfiles will <b>not be deleted</b> after Backup |

The type of Backup depends on the configuration of circular logging. You can specify circular logging settings at the Exchange Storage Group level.

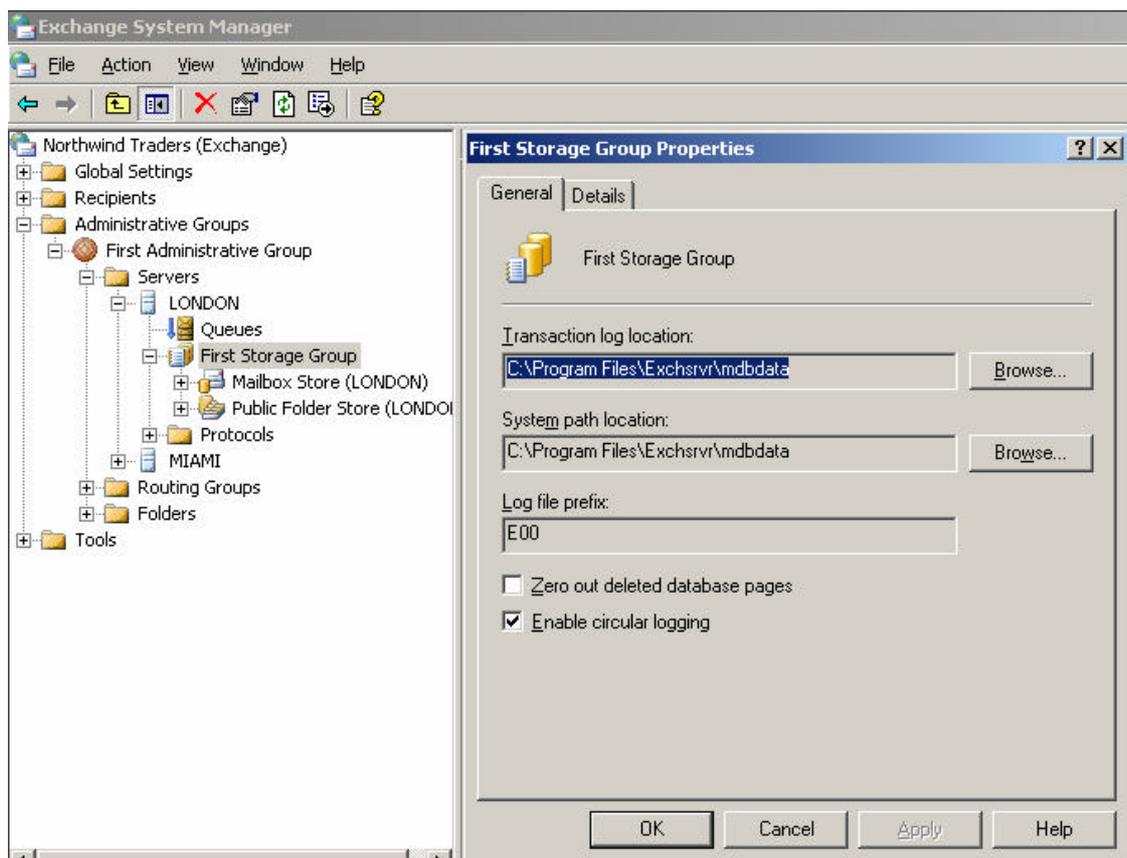


Figure 6: Circular Logging settings

## Restore

After a successful Backup it is possible to do an Exchange Server restore in case of emergency.

You must ensure that the Exchange database store to restore is not mounted. You can dismount a Exchange Database Store in the Exchange System Manager by rightclicking the database.

Start the NTBACKUP program and select **Restore and Manage Media**.

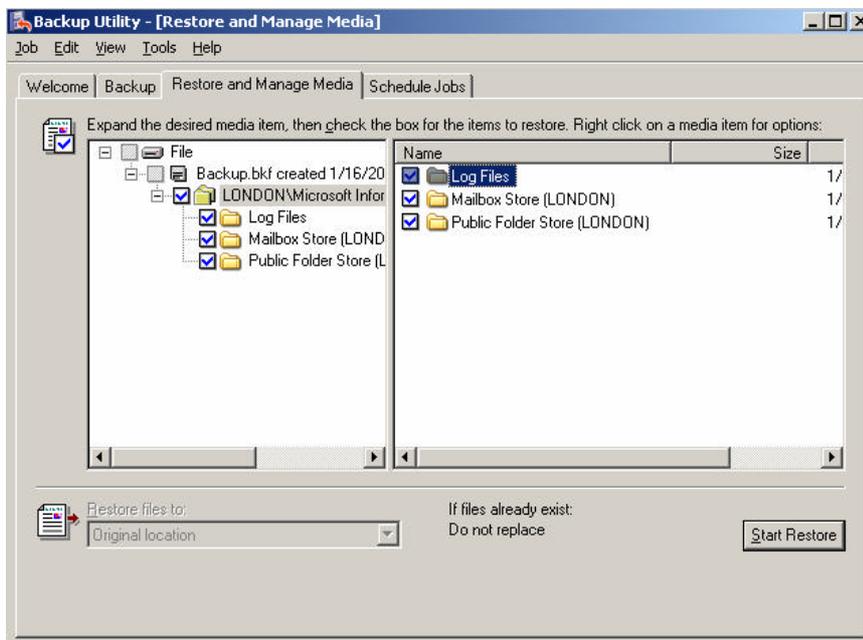


Figure 7: NTBACKUP restore process

In the following screen you must select the Server to restore the data, a temporary location for log and patch files (this directory must be empty). Click **Last Restore Set** when this is the last restore device (this is also possible with ESEUTIL)

Click **Mount Database after Restore** if you want to automatically start the restored database.

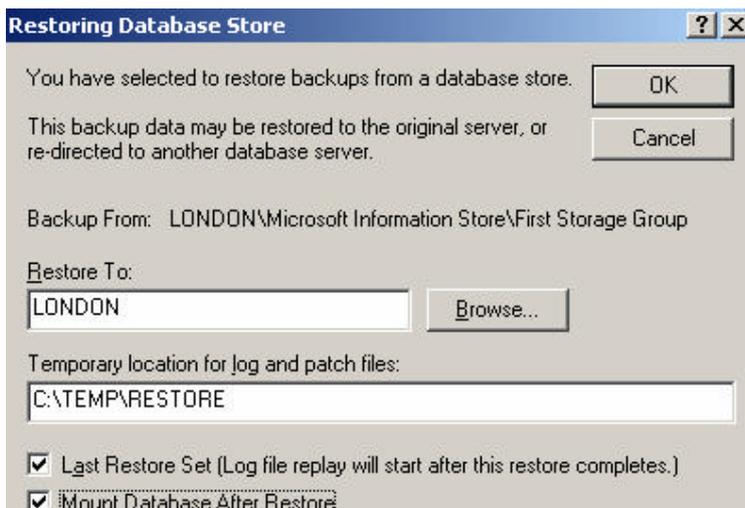


Figure 8: restore options

Depending on the size of the database, the restore process can be very time consuming.

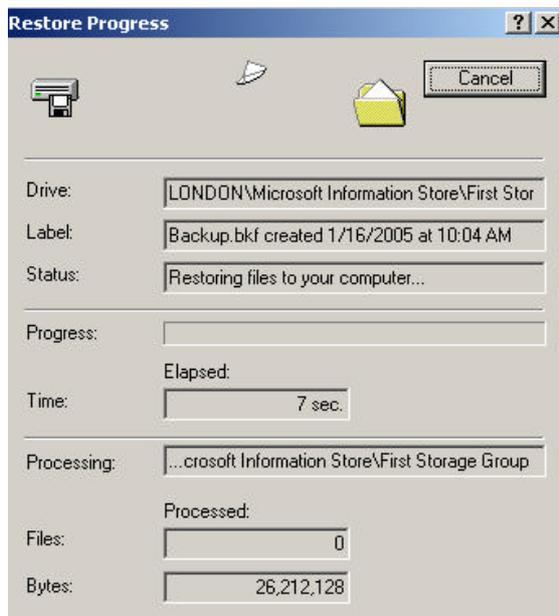


Figure 9: Restore Progress

You can read the Logfile after an successful or unsuccessful Exchange restore.

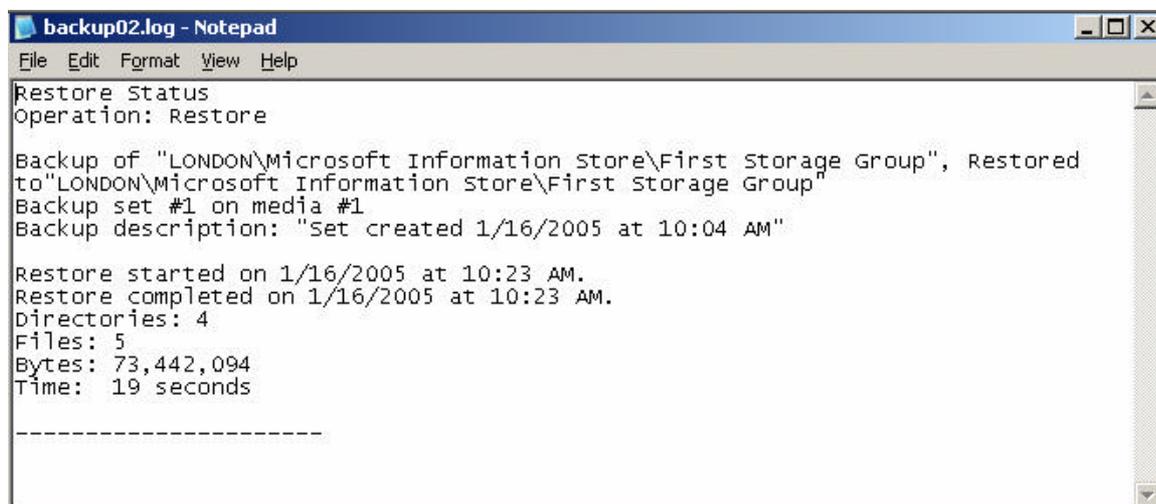


Figure 10: NTBACKUP Logfile

The following screenshots shows the Exchange Server MDBDATA directory. As you can see, there are now more Exchange Server Transaction Logfiles except the actual logfile.

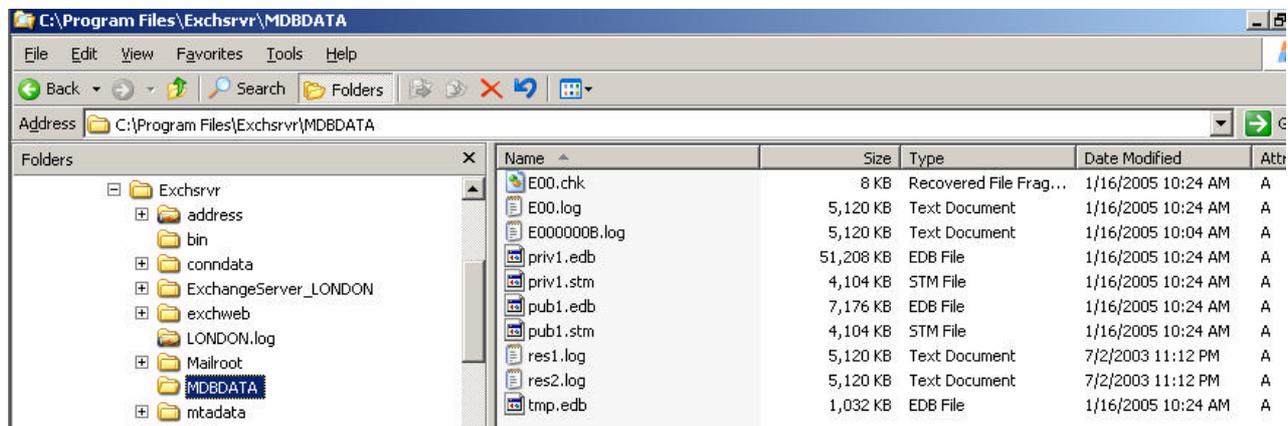


Figure 11: NTBACKUP Logfile

## Conclusion

The Builtin Windows 2003 NTBACKUP program is suitable for small and medium sized Exchange organizations which don't want to buy an expensive Third Party Backup program.

## Related Links

Exchange Server 2003 data backup and Volume Shadow Copy services

<http://support.microsoft.com/default.aspx?scid=kb;en-us;822896>

Messaging Backup and Restore at Microsoft from IT Showcase

<http://www.microsoft.com/downloads/details.aspx?FamilyId=1BCF89B5-4E61-40BC-87B5-1E33542ADFD0&displaylang=en>

Backup Process Used with Clustered Exchange 2003 Servers at Microsoft from IT Showcase

<http://www.microsoft.com/downloads/details.aspx?FamilyId=63FA9270-563F-4627-A0A0-8A07E02CF9BF&displaylang=en>

Running Isinteg -patch Is Not Needed in Exchange

<http://support.microsoft.com/default.aspx?scid=kb;en-us;240202>

Exchange Server 2003 data backup and Volume Shadow Copy services

<http://support.microsoft.com/default.aspx?scid=kb;en-us;822896>

Database Does Not Mount After You Restore an Offline Backup

<http://support.microsoft.com/default.aspx?scid=kb;en-us;251403>

TechNet Support WebCast: Volume Shadow Copy for Exchange Server 2003

<http://support.microsoft.com/default.aspx?scid=kb;en-us;842066>

Cannot Perform Backup When Exchange System Manager Is Not Installed

<http://support.microsoft.com/default.aspx?scid=kb;en-us;251904>