Better Edge Backup v5.2



User's Guide

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Better Edge Backup v5.2 User's Guide

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1 **Overview**

1.1 **Benefits**

- Easy Backup of
 - Microsoft Exchange Server 2000 / 2003 1.
 - Microsoft SQL Server 7.0 / 2000 2.
 - 3. Lotus Domino/Notes 5.0 or above
 - 4. Oracle 8i or above
 - MySQL 3.2.4 or above 5.
 - 6. Windows System State
 - Outlook and Outlook Express (i.e. *.pst, *.dbx and *.wab) 7.
 - 8. Important personal settings, e.g. Desktop, Favorite, My Documents and History etc
 - Other common files (e.g. *.doc, *.xls) 9
- Support backing up only changes within a file (using in-file delta technology)
- Support backing up of open files on Windows XP/2003 (Volume Shadow Copy)
- Support backing up of Windows NTFS access privileges, Linux access privileges and modes, Mac OS X metadata and resource forks
- Easy to use, deploy and maintain

1.2 Features

- (New in 5.2) Full support of Microsoft Exchange individual email, contacts, calendars, tasks etc.
- (New in 5.2) Choose whether to restore "file permissions" during restore.
- (New in 5.2) For "Local Copy" backup, ability to choose whether to perform a local copy backup only and skip the offsite backup.
- (New in 5.2) Lotus Notes/Domino agent for Linux.
- (New in 5.2) Auto Upgrade Agent to automatically upgrade the client software.
- User configurable incremental / differential in-file delta backup mode (i.e. backing up only changes within a file since the last incremental or full backup according to each user's preference).
- Allow in-file delta backup mode to be overridden by each user individually according to backup time (e.g. enforcing full (or incremental or differential) backup of all files every Sunday or the 1st day of every month).
- Volume Shadow Copy backup (i.e. backing up files even when they are exclusively open, e.g. Outlook.pst).
- In-File Delta backup (i.e. backing up only changes within files).
- Off-line backup mode and logout backup reminder.
- Customizable backup schedule allows backups to be scheduled at any time.
- Compress and encrypt data automatically before sending them to the server (server stores only encrypted data).
- Increment backup strategy ensures that only new or updated files are sent to the backup server.
- Support both full backup (database backup) and incremental backup (transaction log backup) for Microsoft SQL Server 7.0/2000, Microsoft Exchange Server 2000/2003, Lotus Domino/Notes 5.0 and Oracle 8i or above.
- Can integrate with external "Open File Manager" to provide open file backup support to all open files.
- Access backup data anytime, anywhere by using a web browser.
- Comprehensive backup report lists all files backed up. Backup report delivered automatically via email.
- Backup data are CRC validated before they are stored on server.
- Fully user customizable data retention policy allows users to have access to deleted files using the least possible storage space on the backup server.
- Can select source backup files easily by using a backup filter, e.g. selecting all *.doc and *.xls in your computer in a single operation.
- Run any custom OS commands before/after a backup job.
- Run on Windows, Mac OS X, Linux, NetWare, Unix and all other platforms supporting a Java2 Runtime Environment.
- Periodic backup files validation on backup server ensures backup files are 100% valid and fully restorable when needed.



1.3 Security

- 128-bit point-to-point SSL communication between server and client
- Support HTTP/HTTPS Proxy and Socks v4/v5 firewall
- Data are 128-bit encrypted when stored on the backup server
- Choice of different encryption algorithms, e.g. Twofish, Triple DES, Advanced Encryption Standard (AES)
- Choice of different encryption modes, e.g. Electronic Cook Book (ECB) and Cipher Block Chaining (CBC)
- An random initializing vector, salt and iteration count will be generated by the software automatically for each file when encrypting your data
- Each backup user can restrict online access to his files to his pre-defined list of IP addresses

1.4 System Requirements

- Operating System:
 - 1. Windows 95 / 98 / ME / NT / 2000 / XP / 2003
 - 2. Linux kernel 2.2 or above ** (e.g. RedHat Linux 6.x or above, though the use of Linux kernel 2.6.9-34 or above is recommended)
 - 3. Solaris 2.x or above
 - 4. Mac OS X 10.2 or above
 - 5. NetWare 5.1 or above
 - 6. All other operating systems that supports Java2 Runtime Environment 1.3.1 or above
 - Memory: 128MB (minimum), 256MB (recommended)
- Disk Space: 100MB
- Network Protocol: TCP/IP (http/https)

** Standard C++ libraries for backwards compatibility compiler (compat-libstdc++-x.x-y.y.y.y.i386.rpm) must be installed if you are not using a Linux 2.2 kernel. These libraries are required to run all Java applications.



2 Installing Better Edge Backup

Before you can start backing up data to the Offsite Backup Server, you need to install Better Edge Backup onto your computer.

2.1 Installing Better Edge Backup for Windows

- 1. Download the Online Backup Manager installer (obm-win.exe) from the website.
- 2. Double click the icon to run the installer.
- 3. Follow on screen instructions.
- 4. After installation, Better Edge Backup will start automatically.





2.2 Installing Better Edge Backup for Mac OS X

- 1. Download the Online Backup Manager installer (obm-mac.zip) from the website.
- 2. Expand the zip file.
- 3. Double click the pkg file icon to run the installer.
- 4. Follow on screen instructions.
- 5. After installation, the installer will need to restart your computer.
- 6. After restarting your computer, click the newly added Better Edge Backup icon on your desktop. You can manually drag the icon to your dock bar if you wish.

🖥 Online Backup Services Management Console - Microsoft Internet Explorer									
Select your Operating System									
	A K Sotaris								
Inst	Installation Guide - OBM - Mac OS X								
Syst	em Requiren	nent							
:	 Operating System : Mac OS X v10.x Memory : 128 Mbytes Disk Space : 20 Mbytes Network Protocol : TCP/IP (Http/Https) Additional Requirement: Apple Java2 Standard Edition 1.3.x or above must be installed already 								
Dow	nload								
	Online Backup Manager - <u>obm-mac.zip</u>								
Get	Started								
1.	Download the	setup file (obm-mac	.zip) above						
2.	2. Expand the archive and run the installation wizard [OBM] within the archive								
з.	3. Follow the instructions on the installation wizard to complete installation								
4.	4. Restart your Mac. Double click the desktop OBM icon to start.								
5.	(optional) Enter the backup server host name in the [Address] field and press the [Next] button.								
6.	6. If you don't have a backup account, select [Trial Registration] and press the [Next] button								



2.3 Installing Better Edge Backup for Linux

- 1. Download the Online Backup Manager tarball release (obm-linux.tar.gz) from the website.
- 2. Set the OBM_HOME environment variable

export OBM_HOME=/usr/local/obm

3. Expand the client software to \$OBM_HOME

mkdir \$OBM_HOME
tar -x -C \$OBM_HOME -zvf obm-linux.tar.gz

- 4. Install OBM
 - # ./\$OBM_HOME/bin/install.sh
- 5. Start Auto Upgrade Agent

/etc/init.d/auaobm start

6. Start backup scheduler

/etc/init.d/obm-scheduler start

7. Set the DISPLAY environment variable

export DISPLAY=IP_ADDRESS_OF_XTERMINAL[:0.0]

- 8. Run Better Edge Backup
 - # sh \$OBM_HOME/bin/BackupManager.sh &





2.4 Installing Better Edge Backup for Netware

- 1. Download the Online Backup Manager zip release (obm-netware.zip) from the website.
- 2. Expand the zip file to SYS:\OBM
- 3. Install Better Edge Backup

SYS:\> SYS:\OBM\aua\bin\install-aua.ncf

4. Start Auto Upgrade Agent

SYS:\> SYS:\OBM\aua\bin\startup.ncf

5. Start backup scheduler

SYS:\> SYS:\OBM\bin\Scheduler.ncf

6. Run Better Edge Backup

SYS:\> SYS:\OBM\bin\BackupManager.ncf

🗿 Online Backup Services Management Console - Microsoft Internet Explorer								
	Select your Operating System							
	N sotaris							
Inst	Installation Guide - OBM - NetWare							
Syst	tem Requiren	nent						
:	 Operating System : Novell NetWare 5.1 or above Memory : 128 Mbytes Disk Space : 100 Mbytes Network Protocol : TCF/IP (Http/Https) Additional Requirement: Novell JVM 1.3.x or above for NetWare must be installed already 							
Dow	nload							
	Online Backup Manager - obm-netware.zip							
Get	Started							
1.	Download the	e setup file (obm-netv	vare.zip) above					
2.	2. Expand the zip file to SYS:\OBM							
3.	3. Install OBM							
	SYS:\OBM\au	ıa\bin\install-aua.ncf						
4.	Start Auto Up	grade Agent						
	SYS:\OBM\aua\bin\startup.ncf							



2.5 Installing Better Edge Backup for Sun Solaris

- 1. Download the Online Backup Manager tarball release (obm-solaris.tar.gz) from the website.
- 2. Set the OBM_HOME environment variable

export OBM_HOME=/usr/local/obm; export OBM_HOME

3. Set the JAVA_HOME environment variable to the directory where J2SE Java Runtime Environment (JRE) 1.4.x has been installed

export JAVA_HOME=/usr/java/j2re1.4.x; export JAVA_HOME

4. Expand the client software to \$OBM_HOME

mkdir \$OBM_HOME
cd \$OBM_HOME

- # gunzip -c obm-solaris.tar.gz | tar -xf -
- 5. Install Better Edge Backup
 - # ./bin/install.sh
- 6. Start Auto Upgrade Agent
 - # /etc/init.d/auaobm start
- 7. Start backup scheduler
 - # /etc/init.d/obm-scheduler start
- 8. Set the DISPLAY environment variable

export DISPLAY=IP_ADDRESS_OF_XTERMINAL[:0.0]

- 9. Run Better Edge Backup
 - # sh \$OBM_HOME/bin/BackupManager.sh &



Online Backup Services Management Console - Microsoft Internet Explorer							
Select your Operating System							
N	4	\$	N	solaris			
Installation Guide - OBM - Solaris							
System Req	lirement						
Operating System : Sun Solaris 2.5 or above Memory : 128 Mbytes Disk Space : 100 Mbytes Network Protocol : TCP/IP (Http/Https)							
Download							
Online Backup Manager - <u>obm-solaris.tar.gz</u>							
Get Started	- X Window Mode						
1. Downloa	d the setup file (obm-sola	aris.tar.gz) above					
2. Set the be insta	DBM_HOME environment led)	variable (directory	to where Online Backu	p Manager is to			
export OBM_HOME=/usr/local/obm							
 Set the JAVA_HOME environment variable (directory where J2SE Java Runtime Environment (JRE) 1.4.x has been installed) 							
JAVA_HOME=/usr/java/j2re1.4.x; export JAVA_HOME							
4. Unpack	the install file to OBM_HO	ME					



3 Uninstalling Better Edge Backup

This section describes the steps required to uninstall Better Edge Backup from your computer.

3.1 Uninstalling Better Edge Backup for Windows

- 1. Open [Start] -> [Control Panel] -> [Add/Remove Programs]
- 2. Select [Better Edge Backup] from the list and press the [Remove] button

3.2 Uninstalling Better Edge Backup for Mac OS X

1. Remove all program files by running

cd \$OBM_HOME/bin
sudo ./uninstall.sh

2. Remove all backup setting by removing ~/.obm

rm -rf ~/.obm

3. Restart your computer

3.3 Uninstalling Better Edge Backup for Linux

- 1. Change user to "root" or equivalent
- 2. Remove all program files by running

cd \$OBM_HOME/bin
./uninstall.sh

3. Remove all backup setting by removing ~/.obm

rm -rf ~/.obm

3.4 Uninstalling Better Edge Backup for Netware

1. Stop the running backup scheduler by running

SYS:\> touch SYS:\OBM\ipc\Scheduler\stop

2. Stop the running auto upgrade agent by running

SYS:\> SYS:\OBM\aua\bin\shutdown.ncf

- 3. Remove all program files by removing the directory SYS:\OBM
- 4. Remove all backup settings by removing the directory SYS:\.OBM



3.5 Uninstalling Better Edge Backup for Solaris

- 1. Change user to "root" or equivalent
- 2. Set the OBM_HOME environment variable

export OBM_HOME=/usr/local/obm; export OBM_HOME

3. Set the JAVA_HOME environment variable to the directory where J2SE Java Runtime Environment (JRE) 1.4.x has been installed

export JAVA_HOME=/usr/java/j2re1.4.x; export JAVA_HOME

- 4. Remove all program files by running
 - # cd \$OBM_HOME/bin
 # ./uninstall.sh
 - # ./uninstan.sn
- 5. Remove all backup setting by removing ~/.obm

rm -rf ~/.obm



4 Using Better Edge Backup

This chapter will describe all the features available in Better Edge Backup and outline how you can use Better Edge Backup to meet various backup needs.

4.1 System Tray Launcher (Windows Only)

After you have successfully installed Better Edge Backup onto your computer, an Better Edge Backup icon will be added to the system tray area (next to your system clock) automatically.

Open			
Backup	•		
Backup and Logoff	+		
Backup and Restart	+		
Backup and Shutdown			
Help			
Stop Running Backup	•		
Exit			
9	문문	8	14:46

This icon is the entry point to Better Edge Backup. Right clicking the icon will show a menu that provides the following functions:

Menu Item	What it does
Open	Run Better Edge Backup.
Backup	Runs a specific backup set (or all backup sets) chosen from the sub- menu in silent background mode.
Backup and Logoff	Runs a specific backup set (or all backup sets) chosen from the sub- menu in silent background mode and then logoff from Windows when finished.
Backup and Restart	Runs a specific backup set (or all backup sets) chosen from the sub- menu in silent background mode and restart Windows when finished.
Backup and Shutdown	Runs a specific backup set (or all backup sets) chosen from the sub- menu in silent background mode and shutdown the computer when finished.
Help	Shows a help dialog
Stop running backup	Interrupts a running backup set (or all backup sets) chosen from the sub-menu.
Exit	Close this system tray launcher application.

4.2 Logon Dialog

Before you can use Better Edge Backup, you have to be authenticated by the Offsite Backup Server first. The logon dialog shown below will check if you have the right to access Better Edge Backup by submitting the username and password you provided to the backup server.



n Online Backup	Manager Logon	×			
📀 Login Name: demo					
🖡 Password:	***	-			
	Save password				
Language					
English	•				
-Backup Server-					
http	◯ https				
Address: www	.backup-provider.com				
Proxy Setting					
C Proxy	C Socks 💿 None				
Proxy Address:					
	Port:				
User Name:					
Password:					
		1			
OK	Cancel Options <<	Ц.			

For secure communication, you can choose to communicate with Offsite Backup Server in SSL (Secure Socket Layer) by selecting the [https] option.

The [Address] field shows the Offsite Backup Server to which Better Edge Backup will connect to authenticate your username and password. You can use either a resolvable host name (e.g. backup.your-domain.com) or an IP address (e.g. 192.168.1.1).

If the Offsite Backup Server is not accepting connection from the standard ports (Port 80 and 443 for http and https respectively), you can append a semi-colon ":" and the custom port number to the host name of the [Address] field (e.g. www.backup-provider.com:8080) to connect to the server using the custom port number (port 8080 in this case).

If you need to connect to the server through proxy, just enter your proxy setting in the [Proxy Setting] section. For [SOCKS] proxy, both v4 and v5 without user authentication are supported.

4.3 Language Selection

You can switch the language of the Better Edge Backup user interface by choosing the desired language available from the [Language] drop down list. The languages available includes English, Czech, Danish, Dutch, French, Spanish, Portuguese, Icelandic, Norwegian, Finnish, Italian, German, Swedish, Chinese (Traditional and Simplified), Japanese, Lithuanian and Slovenian.



💾 Online Backup Manager Logon 📃 🔲 🗙
📀 Login Name: demo
Password: ***
Save password
Language
English
English 🔼
Česky
Dansk
Deutsch
Español Suomi
Français
íslenska 🚽
Proxy Address:
Port:
User Name:
Password:
OK Cancel Options <<
Please logon to Online Backup Manager.

4.4 User Profile

After the backup server authenticates you successfully, the Better Edge Backup main window appears. You can then use Better Edge Backup to update your user profile.

User Profile
User Information Login Name: demo Password: ***** Display Name: Demonstration Account Change Account Information Quota: 50M Time Zone: GMT+08:00 (HKT) Contact demo@your-company.com Contact Name: Demonstration Account Email Address: demo@your-company.com Add Remove Properties

You can perform the following update to your user profile.

To change your [Password], press the [Change] button next to the password field. A Change Password dialog will appear. Enter your original password and new password into the text field of this dialog and press [OK].



Change Password	×
Old Password:	
New Password:	
Confirm New Password:	
	OK Cancel

To change your [Display Name], press the [Change] button next to the display name field. A Change Display Name dialog will appear. Enter the new display name and press [OK].

Change Display Name				
Display Name:	Demo Account			
		OK	Cancel	

To change your [Time Zone], just select your time zone from the drop down list next to the time zone entry.

To add a new contact email to this account, press the [Add] button in the [Contact] section. A [Add New Contact] dialog will appear. Enter a name and an email address in the text field provided and then press the [OK] button.

Add new Contact		×
Contact Name:		
Email Address:		
	OK	Cancel

To remove a contact email, select the email that is to be removed from the email list and press the [Remove] button. Press [OK] to confirm the removal.

To update a contact email, select the email that is to be updated from the email list and press the [Properties] button. A [Update Contact Property] dialog will appear. After you have made the changes that you want, press the [OK] button.

demo@your-comp	any.com Properties 🔀
Contact Name:	Demo Account
Email Address:	demo@your-company.com
	OK Cancel

4.5 Backup Logs

All backup activities are logged to backup activity log files. They are available for reviewing from Better Edge Backup.

How to review backup activities?

You can review all your backup Jobs by

- 1. Select the [Log] tab available at the bottom of Better Edge Backup
- 2. Select the Backup Job you want to review on the [Log Controller] panel



Save Setting				
🗃 Log Controller 🛛 😰	🛃 Log	g Table (2007-01-15-21-00-01.log)	Page: 1/1	•
∃- 🔞 FileBackupSet-1	Туре	Log	Time	Т
- 2007-01-15-21-00-01.log	1	Start [Windows XP (solomon), OBM 5.2.1.0]	[2007/01/15 21:00:01]	Ŀ
2007-01-15-18-28-34.log	1	Start running pre-commands	[2007/01/15 21:00:02]	
2007-01-15-17-30-40.log	٩	Finished running pre-commands	[2007/01/15 21:00:02]	-
└─ ॡ! 2007-01-15-17-20-43.log	Ý	Starting to create Shadow Copy Set	[2007/01/15 21:00:02]	
	٩	Shadow Copy Set created successfully	[2007/01/15 21:00:05]	
	1	Downloading server file list	[2007/01/15 21:00:06]	
	٩	Reading backup source from hard disk	[2007/01/15 21:00:07]	
	1	Reading backup source from hard disk Completed	[2007/01/15 21:00:08]	
	1	[Local Copy] Start running local backup	[2007/01/15 21:00:08]	
	1	[Local Copy] Reading local backup files from hard disk	[2007/01/15 21:00:08]	
	1	Downloading server file list Completed	[2007/01/15 21:00:08]	
	1	[Local Copy] Reading local backup files from hard disk Com	[2007/01/15 21:00:08]	
	٩	[Local Copy] Getting all files which have been added Comple	[2007/01/15 21:00:08]	
	1	[Local Copy] Getting all files which have been updated Comp	[2007/01/15 21:00:08]	
	٩	[Local Copy] Getting all files which have been deleted Compl	[2007/01/15 21:00:08]	
	1	[Local Copy] Getting all files which have been moved Comple	[2007/01/15 21:00:08]	
	٩	[Local Copy] Total New Files = 0	[2007/01/15 21:00:09]	
	١	[Local Copy] Total Updated Files = 0	[2007/01/15 21:00:09]	
	٩	[Local Copy] Total Update File Permission = 0	[2007/01/15 21:00:09]	
	١	[Local Copy] Total Deleted Files = 1	[2007/01/15 21:00:09]	
	٩	[Local Copy] Total Moved Files = 0	[2007/01/15 21:00:09]	
	١	[Local Copy] [Deleted File] Deleting "C:\LocalBackup\1168848	[2007/01/15 21:00:09]	
	á	Il asal Canil Finish running local bastain	10007/04/45 04:00:001	1
< <u> </u>	Show:	All 💽 Logs per page: 500 💌		



5 Setting Up Backup Sets

A backup set contains all backup settings of a backup operation. This section will describe all features available within a backup set and explain how you can use each of them to achieve various tasks.

Each backup account can have multiple backup sets. Each backup set is an individual and independent entity. For example, if you want one directory to be backed up during the day and another directory to be backed up during the night, you can create two backup sets, each with a different backup schedule and backup source, to serve this need.

To create a new backup set, simply click [Backup Set] -> [New] and choose a backup set type. For example, let's create a "File Backup Set" for the rest of this chapter.

🛄 Online Backup Manager			_ & ×
Backup Set Backup Restore To	iols View Help		
Save Setting Exit Backup Sc Backup Sc Backup Sc Backup Sit Command Backup Sit Backup Sit Back	ckup Set 1 State Backup Set 3ackup Set Ihange Backup Set Ihange Mail Level Backup Set L Server Backup Set Backup Set Database Backup Set	Change on Account Change	
Setting Encryption Retention Policy Extra Backup In-File Delta Local Copy	Account Information Quota: 106 Time Zone: GMT+08:00 (I Contact demo@your-company.con Contact Name: Demonst Email Address: demo@yo	m	
Sackup 🔇 Restore 💼 Log			
Backup Completed Successfully		Quota (Remaining (Total): 9.86G (10G Last	Backup: 2007-01-15 21:00

5.1 Backup Set Type

A backup set can be of one of the following types:

Backup Type	Description	
File	Backup set type to backup common files/directories	
Microsoft SQL Server	Backup set type to backup Microsoft SQL Server 7.0/2000	
Oracle Database Server	Backup set type to backup Oracle 8i/9i database	
Lotus Domino/Notes	Backup set type to backup Lotus Domino/Notes	
Microsoft Exchange Server	Backup set type to backup Microsoft Exchange Server 2000 / 2003	
MySQL	Backup set type to backup MySQL Server	
System State	Backup set type to backup Microsoft Window's System State	
Microsoft Exchange Mail (MAPI)	Backup set type to backup individual emails, contacts, calendars, tasks etceteras from Microsoft Exchange Server 2000 / 2003	

Backup set type is defined at backup set creation and cannot be modified. If you want to change the backup set type, you have to create another backup set in the new backup set type.



5.2 Backup Source

A "Backup Source" defines the files/directories that are to be included in a backup set. There are two types of backup source: Selected and Deselected. Selected backup source defines files/directories that are to be included in a backup set while deselected backup source defines files/directories that are to be excluded from a backup set. Online Backup Manager will generate appropriate backup source setting for you automatically when you make your backup source selection on Better Edge Backup.

Please note that for Windows operating systems, if the "Hide protected operating files (Recommended)" setting is enabled for the file explorer, system folders/files will not be shown in the backup source. By selecting the parent folders however, all subfolders (including system folders/files) will be included in the backup set. Thus if you want to exclude system folders (e.g. recycle bin) from the backup, please select the desired folders/files directly rather than selecting the parent folder. Alternatively, you can enter the corresponding system path to the [Exclude List] of the backup set using the web interface.

From the [Standard] node available at the top of the [Backup Source] tree, you can easily select the following common folders to be backed up:

- 1. "My Documents" folder
- 2. "Outlook" and "Outlook Express" mail store folder
- 3. "Favorites" folder
- 4. "Desktop" folder

From the [Options] node available below the [Standard] node, you can easily select other common folders to be backed up as well. They include the "Application Data" folder, the "Start Menu" folder, the "Templates" folder, the "All Users' Documents" folder, the "Temporary Internet Files" folder, the "Cookies" folder, the "Font" folder, the "History" folder, the "Applications Data" folder, the "Nethood" folder, the "Printhood" folder, the "Recent" folder and the "Send to" folder.

🏥 Online Backup Manager			_ O ×
Backup Set Backup Resto	ore Tools View Help		
📙 Save Setting 🕨 Start Bac	ckup 📕 Stop Backup		
😋 Backup Controller 🛛 🞽	👘 Backup Source (FileBackupSet-1)	1	6
Set Profile	⊕-√		
	Log Table (FileBackupSet-1)		3
	Туре	Log	Time
× >			
🔄 Backup 😡 Restore 👔	Log		
Waiting for other Backup Job f	Inish	Quota (Remaining / Total)	: 10G / 10G Last Backup: -



The checkbox next to the files/directories shown above can be in one of the following mode:

Mode	Description
K	All files/directories (recursively) under this directory will be backed up
V	All files/directories (recursively), except those explicitly excluded, under this directory will be backed up. If you add files/directories to this directory in the future, they will be backed up as well.
	Only the checked files/directories under this directory will be backed up. If you add files/directories to this directory in the future, they will NOT be backed up.
	Nothing under this directory will be backed up.

5.3 Mapped Network Drive

If you need to backup a mapped network drive on Windows (it will only work in Windows NT/2000/XP/2003), you must enter your Window's domain, username and password into the [Network Resources Authentication for Windows] section as shown below. It is required because scheduled backups will always run under the context of Window's "Local System" account (which does not have the privileges required to access network resources) by default. Better Edge Backup needs to collect your Windows username, password and domain name to authenticate itself to the windows domain controller to acquire the required access privileges to the network files to be backed up. If you don't supply a username and password, Better Edge Backup will have problems accessing network resources in its scheduled backup Jobs.

If you need to backup network mapped drive in scheduled backup, please do this:

Save Setting 🕨 Start Backup		
User Profile FileBackupSet1 Backup Schedule Backup Schedule Command Line Tool Command Line Tool Encryption Retention Policy Extra Backup	Backup Set- FileBackupSet-1 Backup Set Name: FileBackupSet-1 ID: 1168843359906 Type: FileBackup Network Resources Authentication for Windows Domain: User Name: Password: Properties	
Local Copy	☞ Run scheduled backup on this computer	
🖵 🔁 Local Copy	Run scheduled backup on this computer Log Table (FileBackupSet-1)	
Local Copy		Time

i. Select the backup set from the left panel and press the [Properties] button

ii. Enter your Windows domain, username and password into the dialog shown below and press [OK]



FileBackupSet-1 l	Properties 🔀	1
Name: FileBa	ickupSet-1	1
Type: File Ba	ickup	
Network Resou	urces Authentication for Windows	
Domain:	windows-domain	
User Name:	demo-user	
Password:	*****	
	OK Cancel	

iii. Press the [Save Setting] button on the toolbar

The steps above apply only to computers running in a Windows domain. If you don't have a windows domain with your network and you are using a workgroup or using a NetWare server, please use the "net use" command to authenticate the running backup process against the computer hosting the mapped drive. Otherwise, you will get "Access Denied" error from the backup report.

For example, if you want to backup \\SERVER\SHARE that is located on a NetWare server (or another computer in a windows workgroup) and you are getting "Network drive is not accessible" error message, please try adding the following command as a [Pre-backup command]

net use \\SERVER\SHARE [PASSWORD] /USER:[DOMAIN | MACHINE_NAME]\[USERNAME]

E.g.

Add new Pre-back	up Command Line Tool	×	
Name:	Pre-backup Command-1		
Command:	net use \\Netware\Data oassword /USER:peter		
Working Directory:		Browse	
	ОК	Cancel	

Enter one of the following commands directly into the Pre-Backup Command:

net use \\Netware\Data password /USER:peter
net use \\WorkgroupComputer1\Data password /USER:WorkgroupComputer1\peter

This will authenticate the current process with the NetWare server (or another computer in a windows workgroup) and backup will then run correctly.



5.4 Backup Schedule

A "Backup Schedule" defines the frequency and the time that backups should run automatically.

Backup Set Backup Manager Backup Set Backup Restore			X
Save Setting Start Backu	Imp Stop Backup Imp Backup Schedule (FileBackupSet-1) BackupSchedule-1 (Type: Daily) BackupSchedule-1 BackupSchedule-1 BackupSchedule-1 BackupSchedule-1 BackupSchedule-1 BackupSchedule-1 BackupSchedule-1 BackupSchedule-1 Backup Files Type © Daily Backup on the following day(s) every week: Bunday Thursday Friday Start	Remove	Properties
	Start Time (hh:mm): 21 21 00 2 Stop Stop on completion (Full Backup) Stop after and hour(s) OK Cancel		Time
Sackup 💽 Restore 🛅 L	og		

Backup completed with warning(s) Quota (Remaining / Total): 9.866 / 106 Last Backup: 2007-01-15 21:00

Backup schedule can be in one of the following types:

Туре	Description
Daily	Backup Jobs will run everyday
Weekly	Backup Jobs will run on the specified day(s) of every week
Monthly	Backup Jobs will run on the specified day or on a day with a given criteria (e.g. first weekend, last weekday) of every month
Custom	Backup job will run once on any particular date

For each schedule type above, backup will run at the scheduled time for a maximum of the duration specified (or until all data are backed up if [Stop on backup completion] option is chosen). If a backup job does not finish within the maximum duration specified, it will be interrupted.

Please note that you can have more than one schedule within a backup set. For example, you can have a daily backup schedule that runs at 13:00 at noon and another daily backup schedule that runs at 00:00 at midnight. The combination of these schedules effectively creates a backup schedule that runs daily at 00:00 and 13:00 everyday.

5.5 Backup Filter

A "Backup Filter" defines the file selection rules that allow user to easily include/exclude files into/from the backup set by applying user defined criteria(s) to the file names or directory names.

There are some basic rules regarding backup filters:

- i. Filters are checked in creation order. Once inclusion/exclusion has been identified, the remaining filters won't be checked.
- ii. Inclusion/Exclusion made by filter always takes precedence over backup source selections
- iii. If all filters do not apply to a particular file, this file is then checked for inclusion/exclusion backup source selections



Sackup Controller	🗭 💷 Backup Filter (FileBackupSet-1)
User Profile Backup Schedule Backup Schedule Backup Schedule Backup Schedule Command Line Tool Command Line Tool Command Line Tool Contract Contra	Add new Backup Filter XI Name: Filter-1 Top Directory: Browse Apply To If File Pattern Matching Directory Type: If Text C starts with If contains Pattern: Add Pattern: Add Properties Time
	- Filter Mode - finclude matched - exclude matched - exclude all others

Backup completed with warning(s)

Quota (Remaining / Total): 9.866 / 106 Last Backup: 2007-01-15 21:00

Кеу	Description			
Name	The name of a filter			
Top Directory		The top directory to which this filter is applied. Filtering rules will be applied to all files and/or directories under this directory.		
Apply To	Define whether to app	bly the filtering rule to files and/or directories		
Pattern Matching	It defines the filtering following types:	It defines the filtering rules of a filter. A filtering rule can be of one of the following types:		
	[Starts With]	Include/Exclude all files/directories with name starting with a certain pattern. <u>For example:</u> You can use B* to match all files with name starting with a `B' character		
	[Contains]	Include/Exclude all files/directories with name containing a certain pattern. <u>For example:</u> You can use *B* to match all files with name containing with a 'B' character		
	[Ends With]	Include/Exclude all files/directories with name ending with a certain pattern. <u>For example:</u> You can use *.doc to match all files with name ending with `.doc' (all Word documents)		
	[Regular Expression]	Include/Exclude all files/directories with name matching a regular expression.		
Filter Mode	backup set. Also, for	want to include or exclude matched files into/from the those unmatched files, you can choose to exclude (if include (if exclude filter type) them into/from the backup		

Example 1:

If you want to backup only Word, Excel and PowerPoint documents in your document directory (e.g. C:\My Documents), you should setup your backup filter as follows.

Top Directory= C:\My DocumentsApply To= File (true)Matching Type= End WithMatching Patterns= *.doc, *.xls, *.pptFilter Mode= Include



Exclude all others = True

Example 2:

If you want to backup all files, excluding all *.exe, *.dll and *.tmp, in C:\Applications, you should setup your backup filter as follows.

Top Directory	= C:\Applications
Apply To	= File (true)
Matching Type	= End With
Matching Patterns	= *.exe,*.dll, *.tmp
Filter Mode	= Exclude
Include all others	= True

Example 3:

If you have made your selection of files (all under C:\) from the backup source setting but you want exclude all images (e.g. *.jpg and *.gif) from your selection, you should setup your backup filter as follows.

Top Directory	= C:\
Apply To	= File (true)
Matching Type	= End With
Matching Patterns	= *.jpg, *.gif
Filter Mode	= Exclude
Include all others	= false

Please note that the [Include all others] setting is not enabled because you don't want to include all other files (NOT *.jpg, *.gif) under C:\ into the backup set.

Example 4: (advanced)

If you want to include everything, except the "log" directory, under C:\Applications into a backup set, you should setup your backup filter as follows.

Top Directory	= C:\Applications
Apply To	= Directory (true)
Matching Type	= Regular Expression
Matching Patterns	= ^log\$
Filter Mode	= Exclude
Include all others	= True

Example 5: (advanced)

If you want to include all directories named "log" from the backup set files with file name starting with "B" and ending with "*.doc" under C:\My Documents into the backup set, you can use a regular expression of "^B.*\.doc\$" to do your selection. The filter backup can then be setup as follows.

Top Directory	= C:\My Documents
Apply To	= File (true)
Matching Type	= Regular Expression
Matching Patterns	= ^B.*\.doc\$
Filter Mode	= Include
Exclude all others	= True

5.6 Pre/Post-Backup Command

The "Command Line Tool" feature has two major components, the [Pre-Backup] command and the [Post-Backup] command. You can use the [Pre-Backup] or [Post-Backup] commands to run any native OS (operating system) commands before or after running a backup job.



🛄 Online Backup Manager		_ 8 ×
Backup Set Backup Restore	Tools View Help	
≓ Save Setting ┝ Start Backup	Stop Backup	
😋 Backup Controller 🕴	Command Line Tool (FileBackupSet-1)	
Lear Profile Brofile Backup Source Backup Schedule Backup Filter Command Line Tool Setting Conread Line Tool Backup Filter Setting Extra Backup Local Copy	Pre-backup No existing Command Line Tool Command: Working Directory: Add Remove Properties Add new Pre-backup Command Line Tool Xi Name: Pre-backup Command-11 Command: Working Directory: Browse OK	
	Log Table (FileBackupSet-1)	3
	Type Log	Time
🌍 Backup 🚺 Restore 🔯 Lo	<u>a</u>	
Backup completed with warning(s)	Quota (Remaining / Total): 9.86G / 10G Last	Backup: 2007-01-15 21:00

Both [Pre-Backup] and [Post-Backup] commands comprise of the following parameters:

Key	Description
Name	Name of this Command
Command	The command to be run (e.g. C:\My Documents\Application.exe or C:\My Documents\BatchJob.bat)
Working Directory	The directory at which this command will run

The backup set type affects the time at which [Pre-Backup] and [Post-Backup] commands run. The following table outlines when [Pre-Backup] and [Post-Backup] commands will run in different types of backup set.

Backup Set Type	When Pre-Backup Commands run?	When Post-Commands run?
File	Before uploading backup files	After uploading all backup files
	temporary directory	After spooling backup files to temporary directory (i.e. before the first backup file is uploaded)

Note: You should never backup an application while it is running as this can result in inconsistent and unusable files getting backed up. Please use the "Volume Shadow Copy" feature if you're running Windows XP/2003 or make use of the Pre-Backup Command feature to shutdown your application before running a backup job and use the Post-Backup Command feature to restart your application after the backup job has completed.

For Example

You want to stop Microsoft Outlook using the Pre-Backup Command and restart it after backup using the Post-Backup Command, create the two following text files and assigned the files to Pre-Backup and Post-Backup Command.

1. Create a text file named "OutlookClose.vbs" using notepad with the following two lines:

Set objOLK = createObject("Outlook.Application")

objOLK.quit

2. Create a text file named "OutlookStart.bat" using notepad with the following line:

"C:\Program Files\Microsoft Office\OFFICE11\OUTLOOK.EXE"



5.7 Temporary directory

If you are running a file backup job with in-file delta enabled or a database type backup job, Better Edge Backup will generate temporary files and the directory that will be used to store all these files are defined by [Setting] -> [Temporary directory for storing backup files]. Please set this to a non-system disk partition that has enough free space to avoid problems.

You can set the [Temporary directory for storing backup files] to a mapped network drive. If you choose to do this, please use a UNC path (e.g. \\SERVER\SHARE) and don't forget to configure the [Backup Set] -> [Network Resources Authentication for Windows] setting.

To conserve the use of disk space, you can set the [Remove temporary files after backup] option to delete the temporary files automatically after a backup job has finished.

5.8 Transfer Block Size

Transfer block size defines the block size Better Edge Backup will use to transfer your backup blocks. Generally, backup jobs using a larger block size will have better performance, because of the smaller number of connections involved.

However, some firewalls or proxy servers may block out-going network traffic (HTTP/HTTPS POST method) with large block size for security reasons. If you are in a network with this type of restriction, please lower the transfer size value and try again.

To change the transfer block size of any backup set, please select the [Setting] node on the left panel to invoke the [Setting] panel on the right. You can then make changes to the [Transfer Block Size]. After you have made your changes, just press the [Save Setting] button on the toolbar.

💾 Online Backup Manager				_ 8 ×
Backup Set Backup Restore To	ols View	/ Help		
📙 Save Setting 🕨 Start Backup 📗	Stop Ba	ckup		
🛟 Backup Controller 🛛 🖄	🔁 Setti	ng (FileBackupSet-1)		
User Profile FileBackupSet-1 Backup Source Backup Filter Command Line Tool Setting Encryption Retention Policy Extra Backup Local Copy	Cilor Follov Volum Enabl	orary directory for storing backup files ocuments and Settingstjohn.smitht.obm/lipctBackupSet Pre Block Size Pytes Bytes alic Link (Linux) v symbolic link? Is © No te Shadow Copy (Windows 2003 & XP) te Volume Shadow Copy as © No	Browse	
	🛃 Log	Table (FileBackupSet-1)	7	Ħ
	Туре	Log		Time
Desites Destroy Minister				
🌍 Backup 📢 Restore 🛅 Log				

Backup Completed Successfully

Quota (Remaining / Total): 9.866 / 106 Last Backup: 2007-01-15 21:00

5.9 Follow Symbolic Link (Linux/Unix/Mac only)

Under Unix/Linux/Mac, users can create a symbolic link to link a file/directory from another directory. This setting defines whether you want Better Edge Backup to traverse any symbolic links encountered on your backup path.

To change the follow symbolic link of any backup set, please select the [Setting] node on the left panel to invoke the [Setting] panel on the right. You can then make changes to the [Follow Symbolic Link]. After you have made



your changes, just press the [Save Setting] button on the toolbar.

5.10 Microsoft's Volume Shadow Copy Service (VSS)

Microsoft Volume Shadow Copy Service (VSS) allows you to backup files that are exclusively opened. Without VSS, you will get the error message "The process cannot access the file because another process has locked a portion of the file" if you are trying to backup a file that is exclusively opened (e.g. Outlook PST file).

Please note that VSS is only available on Windows XP / 2003 and you must have administrative privileges to start the VSS service on a computer. Also VSS will only work if at least one of your partitions is formatted using NTFS.

If you are running Windows 2003, please install the Windows 2003 VSS hot fix available in http://support.microsoft.com/default.aspx?scid=kb;en-us;887827 before running VSS.

If you are running into problems with VSS running on Windows XP / 2003, Microsoft's recommendation is to try re-registering the Volume Shadow Copy Service again. Simply run the script [Better Edge Backup Home]\bin\RegisterVSS.bat to do so.

For more information, please take a look at the following page for a technical introduction to Volume Shadow Copy Services (VSS):

http://technet2.microsoft.com/windowsserver/en/library/2b0d2457-b7d8-42c3-b6c9-59c145b7765f1033.mspx

5.11 Encryption

Before your files are sent to the Offsite Backup Server, all your files are compressed and encrypted using your choice of encryption algorithm, mode and key. The following table explains all encryption parameters available within a backup set.

Note:

Encryption settings are set at backup set creation time and cannot be modified. You need to create a new backup set if you want to change your encryption settings for a backup set.

🚉 Online Backup Manager		
Backup Set Backup Restore To	ools View Help	
📙 Save Setting 🕨 Start Backup 📗	Stop Backup	
🚱 Backup Controller 🛛 😕	Encryption (FileBackupSet-1)	
Veer Profile FileBackupSet-1 Backup Schedule Setting Command Line Tool Setting Command Line Tool Setting Command Line Tool Setting Control Command Local Copy	Encryption Algorithm: AES Mode: ECB Encrypting Key:	
	1 Log Table (FileBackupSet-1)	4
	Type Log Time	
Sackup 🧕 Restore 🛅 Log	n en	
Backup Completed Successfully	Quota (Remaining / Total): 10G / 10G Last Backup: 2007-1	01-15 17:20

Parameter	Description
Encryption Algorithm	It defines the encrypting algorithm used to encrypt your backup files. There are



	three encryption algorithms available:
	[AES]Advanced Encryption Standard algorithm[DESede]Triple DES algorithm[Twofish]Twofish algorithm
	We recommend the use of AES as it has been chosen as the encryption standard for commercial use. Please refer to references on Cryptography for more information about encryption algorithms.
Encryption Mode	It defines the encrypting mode used to encrypt your backup files. There are two encryption modes available:
	[ECB]Electronic Cook Book Mode[CBC]Cipher Block Chaining Mode
	We recommend the use of CBC mode as it offers better security. Please refer to references on Cryptography for more information about encryption modes.
Encrypting Key	The key used to encrypt all files within a backup set. Please write it down on paper and keep it in a safe place. If the key is lost, you will not be able to recover your files from the encrypted backup files.

5.12 Retention Policy

During backup, if Better Edge Backup finds that you have deleted a file (or updated a file) on your computer, it will put the corresponding deleted (or updated) file already backed up on the backup server into a retention area. The retention policy setting defines how long files inside the retention area will be kept on the backup server before they are deleted automatically from the server.

Retention policy will only affect "retained" file (i.e. files that have already been deleted or updated on your computer and thus are moved to the retention area of the backup server). For those files that have not been updated on your computer, the backup of these files is kept in the data area on the backup server and won't be affected by the setting of retention policy. These backup files of unchanged files will stay on the backup server forever until the original files are removed (or updated) from your computer.

Standard Retention Policy

The [Standard] retention policy allows you to delete retained files automatically after a user defined number of days or after a user defined number of backup Jobs. To change the retention policy setting of any backup set, please select the [Retention Policy] node on the left panel. You can then make changes to your retention policy under the [Retention Policy] section. After you have made your changes, just press the [Save Setting] button on the toolbar.



- B FlieBackupsel-1	• Keep deleted file(s) for 7 💽 Days 💌		
Backup Schedule Backup Filter Setting Encryption Extra Backup Extra Backup Local Copy	Advanced Remove retention files for overlap policy. Add Log Table (FileBackupSet-1) Type Log	Remove	Properties

Advanced Retention Policy

🐏 Online Backup Manager			
Backup Set Backup Restore To	ols View Help		
📙 Save Setting 🕨 Start Backup 📕	Stop Backup		
😋 Backup Controller 🛛 😕	fretention Policy (FileBackupSet-1)		
User Profile	C Keep deleted file(s) for 7 C Advanced 7 C Advanced 7 Retention Policy-1 (Type: Daily) Retention Policy-2 (Type: Weekly) Retention Policy-3 (Type: Monthly) Retention Policy-4 (Type: Ouarterly) Retention Policy-5 (Type: Veekly) Retention Policy-5 (Type: Veekly) Retention Policy-6 (Type: Veekly) Retention Policy-6 (Type: Veekly) Retention Policy-5 (Type: Veekly) Retention Policy-6 (Type: Veekly) Retention Policy-5 (Type: Veekly) Retention Policy-6 (Type: Veekly) Retention Policy-6 (Type: Veekly) Retention Policy-6 (Type: Veekly) Retention Policy-7 (Type: Log Log	Add	Remove Properties
🚱 Backup 🙋 Restore 💼 Log			
Backup Completed Successfully	Quota ((Remaining / Total): 10G / 10G	Last Backup: 2007-01-15 17:20

The [Advanced] retention policy allows you to configure a more flexible retention policy. It allows you to keep a set of snapshots of all backup files based on the time of the backup Jobs. For example, you can configure the advanced retention policy to keep the following sets of backup files to mimic the retention policy of the old days when you were still doing tape rotations:

- All files available within the last 7 days
- All files available on the last 4 Saturdays within the last 28 days ٠
- All files available on the $\mathbf{1}^{st}$ day of each month within the last 3 months ٠



- All files available on the 1^{st} day of each quarter within the last 12 months
- All files available on the 1st day of each year within the last 7 years

To do so, you need to setup your advanced retention policy as follows:

- Type = Daily; Number of copy to keep = 7
- Type = Weekly; Frequency = Saturday; Number of copy to keep = 4
- Type = Monthly; Frequency = Day 1; Number of copy to keep = 3
- Type = Quarterly; Frequency = Day 1 of Jan, Apr, Jul, Oct; Number of copy to keep = 4
- Type = Yearly; Frequency = Date 01-01; Number of copy to keep = 7

Assuming today is 17-Jan-2006, if [Remove retention files for overlap policy] is NOT enabled, a total of 22 snapshots (provided you have run backups daily for more than 7 years) will be kept on the server accordingly, i.e.:

Daily	Weekly	Monthly	Quarterly	Yearly
16-Jan-2006	14-Jan-2006	01-Jan-2006	01-Jan-2006	01-Jan-2006
15-Jan-2006	07-Jan-2006	01-Dec-2005	01-Oct-2005	01-Jan-2005
14-Jan-2006	31-Dec-2005	01-Nov-2005	01-Jul-2005	01-Jan-2004
13-Jan-2006	24-Dec-2005		01-Apr-2005	01-Jan-2003
12-Jan-2006				01-Jan-2002
11-Jan-2006				01-Jan-2001
10-Jan-2006				01-Jan-2000

If [Remove retention files for overlap policy] is enabled, only the following snapshots are kept:

Daily	Weekly	Monthly	Quarterly	Yearly
16-Jan-2006	14-Jan-2006	01 Jan 2006	01 Jan 2006	01-Jan-2006
15-Jan-2006	07-Jan-2006	01 Dec 2005	01 Oct 2005	01-Jan-2005
14-Jan-2006	31-Dec-2005	01-Nov-2005	01-Jul-2005	01-Jan-2004
13-Jan-2006	24-Dec-2005		01-Apr-2005	01-Jan-2003
12-Jan-2006				01-Jan-2002
11 Jan 2006				01-Jan-2001
10-Jan-2006				01-Jan-2000

The weekly policy overrides the daily policy so the snapshots of 10-Jan-2006, 11-Jan-2006, 12-Jan-2006, 13-Jan-2006 and 14-Jan-2006 are removed. The monthly policy overrides the weekly policy so the snapshots of 24-Dec-2005 and 31-Dec-2005 are removed. The same applies to the monthly, quarterly and yearly policy giving a total of 11 snapshots.



5.13 Extra Backup (Off-line backup, Logout Reminder)

Off-line backup is basically designed for notebook users who are off-line most of the time and cannot rely on the backup schedule to backup regularly. The "Backup Interval" allows notebook users to specify the interval that they would like their data to backup. When the machine is online and this interval has elapsed, backup will run automatically. If "Backup Alert" is enabled, a popup message box will ask the user to confirm starting the backup.

The "Email Notification" setting is the number of days since the last backup that triggers the backup server to send email notification to the client to remind him to run an off-line backup.

When the "Logout Reminder" setting is enabled, a popup message box will ask the user to start a backup before logging out / shutting down Windows.

Save Setting ┝ Start Backup	вор Васкир	
🕽 Backup Controller 🛛 😥	Extra Backup (FileBackupSet-1)	
User Profile	Off-line Backup	
	🛃 Log Table (FileBackupSet-1)	
	Type Log	Time

5.14 In-File Delta

Please refer to the <u>in-file delta section</u> for more information on this topic.

5.15 Local Copy

If you want to save an extra copy of backup data on your local hard disk (in addition to a copy of backup data stored on the backup server) to minimize file-restoring time and/or to provide an extra safety precaution, you can do the following:

- i. Open Better Edge Backup from the System Tray (see previous sections for details)
- ii. Setup your backup set (see previous sections for details)
- iii. Select [Local Copy] under your backup set from the left panel



Coline Backup Manager Backup Set Backup Restore T	ools View Help	
Save Setting > Start Backup		
Sackup Controller	Local Copy (FileBackupSet-1)	
User Profile User Profile Backup Set-1 Backup Source Backup Schedule Backup Filter Command Line Tool Setting Command Line Tool Extra Backup Charles Copy	Image: Copy to Local Hard Disk. Copy to C:LocalBackup\1168848359906\ Change Zip Zip copied file(s)? Image: Copy to Change File Permissions Retain permissions on files that are copied? C Yes Image Offsite Backup Skip backup to offsite backup server? C Yes No	
	Image: Contract of the sector of the sect	Time
🗞 Backup [🥘 Restore 📄 Log		
Welcome to Online Backup Manage	rl Quota (Remaining / Total): 9.860 / 100	Last Backup: 2007-01-15 21:00

iv. Check the [Copy to Local Hard Disk] checkbox

v. Enter a directory to where you want an extra copy of your backup files to be stored in the [Copy to] field provided (preferably a directory under another hard disk)

vi. (Optional) Select the [Yes] radio button if you want to store your backup files in compressed form to conserve free space usage

vii. An extra copy of backup will be saved in the [Copy to] directory when you run your backup job

Save Setting ┝ Start Backup 🖡	Stop B	ackup		
Backup Controller 🛛 😢	👩 Ba	ckup Set - FileBackupSet-1		
User Profile FileBackupSet-1 G Backup Source	1000000	kup Set me: FileBackupSet-1		
— 🙆 Backup Schedule	P Log	g Table (FileBackupSet-1)		
Backup Filter	Type	Log	Time	Ĩ
-E Command Line Tool		Finished running pre-commands	[2007/01/16 11:37:48]	
	٩	Reading backup source from hard disk	[2007/01/16 11:37:48]	
- Retention Policy	1	Reading backup source from hard disk Completed	[2007/01/16 11:37:49]	
Extra Backup		[Local Copy] Start running local backup	[2007/01/16 11:37:49]	
	9	[Local Copy] Reading local backup files from hard disk	[2007/01/16 11:37:49]	
-d Local Copy	1	[Local Copy] Reading local backup files from hard disk Compl	[2007/01/16 11:37:49]	
—	1	[Local Copy] Getting all files which have been added Completed	[2007/01/16 11:37:49]	
	1	[Local Copy] Getting all files which have been updated Compl	[2007/01/16 11:37:49]	
		[Local Copy] Getting all files which have been deleted Comple	[2007/01/16 11:37:49]	
	1	[Local Copy] Getting all files which have been moved Complet	[2007/01/16 11:37:49]	
	1	[Local Copy] Total New Files = 0	[2007/01/16 11:37:49]	
		[Local Copy] Total Updated Files = 0	[2007/01/16 11:37:49]	
	1	[Local Copy] Total Update File Permission = 0	[2007/01/16 11:37:49]	
	1	[Local Copy] Total Deleted Files = 1	[2007/01/16 11:37:49]	
	1	[Local Copy] Total Moved Files = 0	[2007/01/16 11:37:49]	
		[Local Copy] [Deleted File] Deleting "C:\LocalBackup\11688483	[2007/01/16 11:37:49]	
		[Local Copy] Finish running local backup	[2007/01/16 11:37:49]	
		Start running post-commands	[2007/01/16 11:37:50]	
	1	Finished running post-commands	[2007/01/16 11:37:50]	
		Backup Completed Successfully	[2007/01/16 11:37:51]	



If you want to make local copy to a directory located on a NetWare server (or another computer is a windows workgroup) and you are getting "Network drive is not accessible" error message, please try adding the following command as a [Pre-backup command]

net use \\SERVER\SHARE [PASSWORD] /USER:[DOMAIN | MACHINE_NAME]\[USERNAME]

E.g.

C:>> net use \\Netware\Data password /USER:peter C:>> net use \\WorkgroupComputer1\Data password /USER:WorkgroupComputer1\peter

This will authenticate the current process with the NetWare server (or another computer is a windows workgroup). Backup will then be allowed to run correctly.

How to restore "Local Copy" files

"Local Copy" files are stored in the [Copy to] directory (under [Local Copy] setting). To restore backup files, please do the followings:

i. Choose [Tools] -> [Unzip Local Copy]

Save Setting ┝ Start Backu		ip Local Copy		
👌 Backup Controller 📃 🔔	Dec 👔	nypt Files Wizard pSet-1		
User Profile - 🔞 FileBackupSet-1 - 🙀 Backup Source	and the second second	kup Set ne: FileBackupSet-1		
—🙆 Backup Schedule	P Lo	g Table (FileBackupSet-1)		
Backup Filter	Type	Log	Time	1
Command Line Tool	1	Finished running pre-commands	[2007/01/16 11:37:48]	-
- Classical Setting	0	Reading backup source from hard disk	[2007/01/16 11:37:48]	
Retention Policy	0	Reading backup source from hard disk Completed	[2007/01/16 11:37:49]	
Extra Backup		[Local Copy] Start running local backup	[2007/01/16 11:37:49]	
In-File Delta	٢	[Local Copy] Reading local backup files from hard disk	[2007/01/16 11:37:49]	
	0	[Local Copy] Reading local backup files from hard disk Compl	[2007/01/16 11:37:49]	
	1	[Local Copy] Getting all files which have been added Completed	[2007/01/16 11:37:49]	
		[Local Copy] Getting all files which have been updated Compl	[2007/01/16 11:37:49]	
	٢	[Local Copy] Getting all files which have been deleted Comple	[2007/01/16 11:37:49]	
		[Local Copy] Getting all files which have been moved Complet	[2007/01/16 11:37:49]	
	0	[Local Copy] Total New Files = 0	[2007/01/16 11:37:49]	
		[Local Copy] Total Updated Files = 0	[2007/01/16 11:37:49]	
	٢	[Local Copy] Total Update File Permission = 0	[2007/01/16 11:37:49]	
	0	[Local Copy] Total Deleted Files = 1	[2007/01/16 11:37:49]	
		[Local Copy] Total Moved Files = 0	[2007/01/16 11:37:49]	
		[Local Copy] [Deleted File] Deleting "C:\LocalBackup\11688483	[2007/01/16 11:37:49]	
	٢	[Local Copy] Finish running local backup	[2007/01/16 11:37:49]	
	٢	Start running post-commands	[2007/01/16 11:37:50]	
	1	Finished running post-commands	[2007/01/16 11:37:50]	
		Backup Completed Successfully	[2007/01/16 11:37:51]	

ii. Select the required [Backup Set] from the drop down list



🏥 Unzip Local Copy	X
Backup Set: FileBackupSet-1	-
Source Directory	
C:LocalBackup	Change
Destination Directory	
D/Restore	Change
[2005-06-28 22:25:22] Start [2005-06-28 22:25:22] Copying 'C:\LocalBackup\C_\CONFIG.SYS.zip' to D:\Restore\C [2005-06-28 22:25:22] Copying C:\LocalBackup\C_\drvnet.img.zip' to D:\Restore\C_\d [2005-06-28 22:25:22] Completed Successfully	-
Close Star	t Stop

- iii. Fill in the [Source Directory] (directory where "Local Copy" files are stored) and [Destination Directory] (directory to where you want "Local Copy" files to be restored)
- iv. Click [Start]

5.16 Using One Backup Account for Multiple Computers

Better Edge Backup allows you to backup multiple computers using a single backup account. To backup multiple computers, you need to create a different backup set to backup each individual computer and to configure the [Run scheduled backup on this computer] checkbox.

🏪 Online Backup Manager			×
Backup Set Backup Restore T	ools View Help		
📙 Save Setting 🕨 Start Backup 🛽	Stop Backup		
🛟 Backup Controller 🛛 🖄	🔯 Backup Set - Fili	eBackupSet-1	
User Profile FileBackupSet 1 Backup Source Backup Schedule Backup Filter Command Line Tool Setting Encryption Retention Policy Extra Backup Local Copy	Domain: User Name: Password:	I359906 sup inces Authentication for Windows Properties ed backup on this computer	
	Туре	Log	Time
🚱 Backup 📢 Restore 🛅 Log			
Backup Completed Successfully		Quota (Remaining / Total): 9.86G	/ 10G Last Backup: 2007-01-15 21:0

For version 5.2

Since the computer that created the backup set will have its computer name associated with the backup set. The


backup scheduler running on each computer will only run backup sets with the same computer name as itself. Thus, you just need to make sure that all your computer names using a single backup account are unique.

For version 5.1 or Earlier

You must configure Better Edge Backup on each computer that it only runs scheduled backup for the intended backup sets only. If this is not setup properly, scheduled backup job of the same backup set from different computers will both be started. This will result in lots of checksum errors and files being deleted on the backup server.

To allow multiple computers to be backed up under a single backup account, you are required to do the following **for each computer** that has installed Better Edge Backup under the same backup account:

- i. Logon to one of the computers that has Better Edge Backup installed under the same backup account.
- ii. Open Better Edge Backup and select a backup set that is not intended to run on this computer from the left panel.
- iii. Make sure that the [Run scheduled backup on this computer] checkbox on the right panel is not checked.
- iv. Repeat the previous step for the rest of the backup sets that are not intended to run on this computer.
- v. Repeat steps ii to iv for each computer that has Better Edge Backup installed under the same backup account.

IMPORTANT If you create a new backup set or want to backup another computer using the same backup account at a later date (this implies that you need to create an additional backup set under this backup account for the new computer), please make sure to repeat the procedure above (i.e. uncheck the [Run scheduled backup on this computer] checkbox for the added backup set) for each computer.



6 Backing Up Files

This chapter describes how files are backed up by Better Edge Backup to the backup server

6.1 How files are backed up

The diagram below describes how Better Edge Backup backs up your files.



Run backup at scheduled time automatically

Once you set your backup scheduled, a backup job will be started automatically to perform backup operation for you at your absence. You can have backup running at your scheduled time as often as you want (e.g. twice a day or hourly during office hour) without requiring doing any extra work.

Incremental Backup

Unchanged files are already backed up to server and need not to be backed up again. Better Edge Backup will pick the new or updated files from your backup set files and upload only these files to the server. It significantly reduces the time required to perform the backup operation since most users update less than 5% of their total data each day.

Compress and encrypt data automatically

Data are compressed and encrypted before they are uploaded to the server. Not only does it reduce the storage space to keep you backup files, it also ensures the privacy of your data.

File Retention Policy

The built-in file retention policy allows you to access multiple versions of the same file or even deleted files from your backup set. Backup files are put into a retention area before they are removed from the server. If you want to get back a deleted file (or you want to get back the previous versions of an updated files) within the retention period, these files will always be available in the retention area. This feature is particularly useful when you have accidentally deleted a file or incorrectly updated a file within the file retention period (file retention period is user



customizable).

6.2 Backup files directly to the backup server

You can backup your data to an Offsite Backup Server by following instructions below.

- vi. Open Better Edge Backup
- vii. Right click Better Edge Backup icon available in the system tray and choose [Open]
 - a. Create a backup set
 - b. From the Menu, Choose [Backup Set] -> [New] -> [File Backup Set]

Pile Ba		
Save Setting Status E Setting Status E Setting Setting	State Backup Set lackup Set hange Backup Set hange Mail Level Backup Set _ Server Backup Set Backup Set	Change Change
Activity Retention Policy Extra Backup Local Copy	Database Backup Set Account Information Guota: 10G Time Zone: GMT+08:00 (I Contact demo@your-company.con Contact Name: Demonst Email Address: demo@yc Add F	n I
Backup 📢 Restore 🛅 Log		

c. Enter a name for your backup set



Add new F	ile Backup Set		×
Backup	Set		
Please	type a name for this Backup S	et.	
Name:	FileBackupSet-1		
	1168919585156 File Backup		
Cance	91	< Previous	Next >

d. Select the files/directories you want to backup

Add new File Backup Set	×
_Backup Source	
Please select files or/and directories to be backed up.	
Standard My Documents (C:\Documents and Settings\solo Outlook (C:\Documents and Settings\solomon.yu Outlook Express Outlook Express Outlook Express Outlook Express Outlook Express Outlook Express Outlook (C:\Documents and Settings\solomon.yu Outlook (C:\Documents and Settings\solomon.yu	
Cancel < Previous Next >	

e. Set the backup schedule (Note: You can have more than one schedule in a backup set)



Add new File Backup Set	×
Backup Schedule	
Please schedule the backup time.	
BackupSchedule-1 (Type: Daily)	
Add Remove Properties	
Cancel < Previous Next	>

f. Set the encryption algorithm, encryption mode and encrypting key for this backup set (Hint: For the sake of simplicity, just select the [Default] radio button (your encrypting key is set to be the same as your backup account password)

Add new File Backup Set 🛛 🗶
Encryption Setting Please setup the encryption setting of the Backup Set. © Default (Use Login Password as Encrypting Key) © Custom
Do NOT use encryption. Algorithm: AES Mode: C CBC (Cipher Block Chaining) ECB (Electronic CookBook) Encrypting Key. Coofing Feagurities (cm
Confirm Encrypting Key: Cancel < Previous Next >

- viii. Run Backup
 - a. Select the backup set you want to run on the left panel and press the [Start Backup] button (▶) on the toolbar
 - b. Select [Off-site Backup Server] to start backing up your files to an Offsite Backup Server.





Note:

1. You can have more than one backup set in a backup account.

2. Please write the encrypting key down on paper and keep it in a safe place. If you lose your encrypting key, you will <u>not be able to restore</u> your backup files.

6.3 Backup files to removable hard disk (seed loading)

If you have a lot of data (e.g. 300GB) to backup to the backup server, it would take a considerable amount of time to perform the first full backup through the Internet. If you run into this problem, you can use the Seed Loading Utility to backup your backup set to local hard disk (instead of directly to the backup server) and then transport the backup data, using removable hard disk, to the offsite backup server. The administrator can then load all your backup files from your removable hard disk into your backup account. This could then save you days (even weeks) of performing your first full backup. Since subsequent backup will be incremental backup (only new or updated files will be uploaded to the server) you should have no problems uploading your backup data afterwards.

To perform seeding loading, please do the following:

- i. Open Better Edge Backup from the System Tray (see previous sections for details)
- ii. Setup your backup set (see previous sections for details)
- iii. Select the backup set you want to run on the left panel and press the [Start Backup] button (►) on the toolbar
- iv. Select [Local Hard Disk (Seed Load Utility)] to start backing up your files to local hard disk and press the [OK] button

Confirm B	ackup Star	t		×
FBackup	to			
O Offsi	te Backup (Berver		
Coca	I Hard Disl	k (Seed Load	Utility)	
Start the	· ·	(FileBackupS	· ·	
	ок	Cancel	Options >>	

v. Enter a directory where you want all backup files to be stored in the [Destination Directory] field and press the [Start] button.

Please make sure you have enough free space in the directory specified. If you are going to transport a removable hard disk to the offsite backup server, please enter a directory under your removable hard disk here.



🎦 Backup to Local Hard Disk (Seed Load Utility)		×
Backup Set: FileBackupSet-1		
Backup Type: File		
Destination Directory		
E:\Seed-Loading-Directory	Browse	1
[]	1	1
		_
Sta	art Stop	
	arob	

vi. You should get the message "Backup Completed Successfully" as shown below after all backup files are spooled to the directory you specified.

n Backup to Local Hard Disk (Seed Load Utility)	×
Backup Set: FileBackupSet-1	
Backup Type: File	
Destination Directory	
E-\Seed-Loading-Directory	rowse
Collecting all files in this backup set Completed	
Total Files = 5	
(1/5) Processed 'C:\AUTOEXEC.BAT'	
(2/5) Processed 'C:\boot.ini'	
(3/5) Processed 'C:\dell.img'	
(4/5) Processed 'C:\drvnet.img'	
(5/5) Processed 'C:\drvnet2.img'	
Start running post-commands	
Finished running post-commands	
Backup Completed Successfully	-
Processed: 3.1M (3206764 byte) Start	Stop

vii. Transport the data specified in the [Destination Directory] field to the offsite backup server



7 Restoring Files

This chapter describes different ways files can be restored from to the backup server

```
It is very important to write down your encrypting key on paper and keep it in a safe
place because there will be no way to restore your backup files if you lose your
encrypting key.
```

7.1 Restore backup files directly from backup server

You can use either Better Edge Backup or the web restorer to restore backup files from the backup server.

Using Better Edge Backup

You can restore your data from the backup server by following instructions below.

- i. Open Better Edge Backup from the System Tray (see previous sections for details)
- ii. Select the [Restore] tab at the bottom part of Better Edge Backup

Restore Controller	🔁 🎼 Restore Source (FileBackupSet-1)	ſ
FileBackupSet-1	Show files after Job 2007-01-16 (12:03:40) ▼ C Show all files	
	Backup Server 2007-01-16 (12:03:40) 2007-01-16 (12:03:22) 2007-01-16 (12:03:22) 2007-01-16 (12:01:21) 2007-01-16 (12:01:21) 2 Abc_logo JPG (Date Modified: Tue 3/14/2006 12:46 PM Size: 21k) 2 Abc_logo JPG (Date Modified: Tue 3/14/2006 12:45 PM Size: 21k) 2 Abc_logo JPG (Date Modified: Tue 3/14/2006 12:45 PM Size: 22k) 2 Abc_logo JPG (Date Modified: Tue 3/14/2006 12:42 PM Size: 22k) 2 BSD.gif (Date Modified: Tue 3/14/2006 12:22 PM Size: 21k) 2 BSD.gif (Date Modified: Tue 3/14/2006 12:22 PM Size: 3k) 2 BSD.gif (Date Modified: Tue 3/14/2006 12:22 PM Size: 3k) 2 Mpux.pmg (Date Modified: Tue 3/14/2006 12:22 PM Size: 3k) 2 Mpux.pmg (Date Modified: Tue 3/14/2006 12:32 PM Size: 3k) 2 Mpux.pmg (Date Modified: Tue 3/14/2006 12:32 PM Size: 3k) 2 Mpux.pmg (Date Modified: Sat 3/11/2006 11:52 AM Size: 3k) 2 Mpux.pmg (Date Modified: Sat 3/11/2006 11:52 AM Size: 13k) 2 Mac.bmp (Date Modified: Sat 3/11/2006 11:52 AM Size: 13k) 2 Mac.pmg (Date Modified: Sat 3/11/2006 11:52 AM Size: 14k) 2 Mac.pmg (Date Modified: Sat 3/11/2006 11:52 AM Size: 14k) 2 Mac.pmg	

- iii. Select the backup set from which you would like files to be restored from the left panel
- iv. Select the snapshot of your backup files that you would like to restore from the backup server by using [Show files after Job] drop down list
- v. Select the files that you would like to restore and press the [Restore Files] button on the toolbar



🛄 Restore Files		×
Backup Set: FileBackupSet-1	(FILE)	
Restore files to		
Original location		
0		Browse
	□ Re	store file permissions
Time	Log	
Estimated Total Restore Time		
Estimated Restore Time:		
Saving File To:		
Restoring Speed:		1
Close		Start Stop

- vi. Use the [Browse] button to select the directory to where you want files to be restored (or simply select [Original location] to restore files to their original path)
- vii. Files will be restored automatically as shown below (a file won't be downloaded from the backup server again if an identical file exists on local path already)





👫 Restore Files	×
Backup Set: FileBackupSet-1 Restore files to	(FILE)
Original location	
C:temp	Browse
	Restore file permissions
Time	Log
2007-01-16 12:06:27	Start
2007-01-16 12:06:27	Downloading restore file list
2007-01-16 12:06:27	Downloading 'c:\temp\images' (Total 0 bytes)
2007-01-16 12:06:27	"c:\temp\images" contains the same file permission. Skip restore file p
2007-01-16 12:06:27	Downloading 'c:\temp\images\windows.bmp' (Total 9k bytes)
2007-01-16 12:06:27	c:\temp\images\windows.bmp (9k bytes) downloaded
2007-01-16 12:06:27	"c:\temp\images\windows.bmp" contains the same file permission. Sk
2007-01-16 12:06:27	Downloading 'c:\temp\images\Unix.png' (Total 4k bytes)
2007-01-16 12:06:27	c:\temp\images\Unix.png (4k bytes) downloaded
	e: 0 sec (Total 479.33k bytes - 479.36k bytes restored)
Estimated Restore Time: Saving File To:	0 sec (Total 43.66k bytes - 43.66k bytes restored) c:\temp\images\bsd_logo.png
Restoring Speed:	479.4k bytes/second
	StartStop
End	

Using the web interface

You can restore your data from an Offsite Backup Server by following instructions below.

- i. Logon to the Offsite Backup Server web interface
- ii. From the top menu, click [File Explorer]



estore Install Software		FAQs	Help Select Langu
ofile Backup Set File Explorer Report Statistics			Loc
Distance in the second se			
Delete			
Backup Set	Size	Last Modified	Zipped [Ratio]
FileBackupSet-1			
Delete			
		s the [Delete] buttor	

- iii. Click the [Backup Set] link that contains the files that you want to restore
- iv. Select the snapshot of your backup files that you would like to restore from the backup server by using [Show files after Job] drop down list

tore <u>Install Software</u> file <u>Backup Set </u> File Explorer <u>Report Statistics</u>			<u>Help</u> <u>Select Lan</u>
		Ro	ws/Page: 50
Home > FileBackupSet-1 > F:\ > images			
◦ Show files after Job 2007-01-16 (12:22) ▼ ○ Show	w all files 🥤 Show J	obs View	
Delete Restore			
File / Directory	Size	Last Modified	Zipped [Ratio]
🔁 🛄	41.	D000/02/14 12:00	41. [20/]
📄 apple_logo.jpg	4k 149k	2006/03/14 12:00	4k [3%]
i i i i i i i i i i i i i i i i i i i	149K 2k	2006/02/09 17:19 2006/03/14 12:01	39k [73%] 2k [0%]
	2k 10k	2006/03/14 12:01	
	TOK	2006/03/14 12:00	10k [7%]
Delete Restore			
 te: 1. This shows all files / directories within a backup job 2. Files show in light gray color refers to files retained 3. To restore files/directories, check the checkbox next 4. To delate files/directories, check the checkbox next 5. [D] = Differential delta file 6. [I] = Incremental delta file 	d in the retention area. t to the files/directories		

v. If you want to see all the different versions of all files (shown as gray below), just choose the [Show all files] radio button on the [File Explorer] page.

Files, which are shown in gray below (e.g. AIX_logo.JPG) are being stored in the retention area on the backup server but you can still restore these files from the backup server.



Show files after Job 2007-01-16 (12:22)	w all files 🤇 Show J	obs View	
Delete Restore			
File / Directory	Size	Last Modified	Zipped [Ratio]
AIX_logo.JPG	5k	2006/03/14 12:08	4k [17%]
📄 apple_logo.jpg	4k	2006/03/14 12:00	4k [3%]
🛯 🛐 mac.bmp	149k	2006/02/09 17:19	39k [73%]
📔 🛐 solaris_logo.gif	2k	2006/03/14 12:01	2k [0%]
🛯 💼 windows_logo.jpg	10k	2006/03/14 12:00	10k [7%]
elete Restore			
 This shows all files / directories within a backup job Files shown in light gray color refers to files retaine To restore files/directories, check the checkbox next To delete files/directories, check the checkbox next [D] = Differential delta file [I] = Incremental delta file 	d in the retention area. At to the files/directories		

- vi. Select the files that you would like to restore and press the [Restore] button on the toolbar
- vii. A dialog shown below would appear

🚰 Online Backup Services Management Console - Microsoft Internet Explorer	_ 8 ×
Restore Install Software	FAQs Help Select Language
Profile Backup Set File Explorer Report Statistics	<u>Loqout</u>
Please wait while applet is downloading	J
Please select the Java Virtual Machine you would like to use to restore your backup files and press the below.	e [Restore] button
Troubleshooting: i. Make sure you have clicked the 'Yes' button on the security warning dialog box. If you have clic please restart your browser and try again.	ked the 'No' button already,
< Back	
Applet Restorer started	Socal intranet

- a. Press the [Restore] button
- b. Enter the directory to which backup files should be restored to in the [Restore files to] textbox



🛓 Online Backup File I	Restoring Manager	۵×	
Restore files to: D:	:\temp\mages Brov	wse	
Decrypting Key: ***	***		
[2007-01-16 12:26:03	I) Start		
] Downloading restore file list		
[2007-01-16 12:26:03] Downloading "D:\temp\images\AIX_logo.JPG" (Total 4k bytes)		
[2007-01-16 12:26:03]	3] "D:\temp\images\AIX_logo.JPG" (4k bytes) downloaded		
[2007-01-16 12:26:03	B] Downloading "D:\temp\images\apple_logo.jpg" (Total 4k bytes)		
•	3] "D:\temp\images\apple_logo.jpg" (4k bytes) downloaded		
[2007-01-16 12:26:03] Downloading "D:\temp\images\mac.bmp" (Total 39k bytes)			
[2007-01-16 12:26:03] "D:\temp\images\mac.bmp" (39k bytes) downloaded			
[2007-01-16 12:26:03] Downloading "D:\temp\images\solaris_logo.gif" (Total 2k bytes)			
[2007-01-16 12:26:03] "D:\temp\images\solaris_logo.gif" (2k bytes) downloaded			
[2007-01-16 12:26:03] Downloading "D:\temp\images\windows_logo.jpg" (Total 10k bytes) [2007-01-16 12:26:03] "D:\temp\images\windows_logo.jpg" (10k bytes) downloaded			
2007-01-16 12:26:03			
Saving windows_logo.jpg from localhost			
	100%		
Estimated Total Resto	ore Time: 0 sec (Total 61.06k bytes - 61.07k bytes restored)		
Estimated Restore Tir	me: 0 sec (Total 10.08k bytes - 10.08k bytes restored)		
Saving File To:	ing File To: D:\temp\images\windows_logo.jpg		
Restoring Speed:	122.1k bytes/second		
Close	Start	Stop	

- c. Enter the encrypting key which will be used to decrypt your backup files upon restoring your backup files
- d. Press the [Start] button

7.2 Restore backup files from removable hard disk

If you want to restore lots of backup files from the backup server and you find it too slow to restore all your backup files from the backup server through the internet. You can ask your backup services provider to send you all your backup files in removable hard disk (or CD/DVD). However, all backup files stored on backup server are in encrypted format. You need to decrypt them back to their original format before you can use them. To decrypt your backup files from removable media, please do the followings:

- i. Open Better Edge Backup from the System Tray
- ii. Select the [Tools] -> [Decrypt Files Wizard] from the menu



🚉 Online Backup Manager			_ - - - ×
Backup Set Backup Restore T	ools View Help		
📕 Save Setting 🕨 Start Backu	😂 Unzip Local Copy		
🌍 Backup Controller	Decrypt Files Wizard pSet-	1	
User Profile	Backup Set Name: FileBackupSet-1 ID: 1168919894093 Type: FileBackup Network Resources Authent Domain: User Name: Password: IV Run scheduled backup or	Properties	
	Log Table (FileBackupSet-1)		
	Type	Log	Time
🛟 Backup 🚺 Restore 🛅 Log			
Backup Completed Successfully		Quota (Remaining / Total): 9.866 / 106	Last Backup: 2007-01-15 21:00

iii. Use the [Browse] button to locate the "files" directory (provided by your backup provider in removable hard disk or DVD) which contains the backup files that you want to decrypt

Lin Decrypt Files Wizard		×
Full path to the [files] folder		
Please enter the path to the [files] folder which contains the backup	files that you want	1
1		Browse
Cancel	< Previous	Next >

iv. If you have more than one backup set under the "files" directory, select the [Backup Set] which contains the backup files that you want to decrypt



📇 Decrypt Files Wizard	×
Backup Set	
Please select the backup set.	
I FileBackupSet-1	
1	
Cancel < Previous Next >	

v. Select the snapshot of your backup files that you would like to restore from the removable media by using [Show files after Job] drop down list

👫 Decrypt Files Wizard			×
Please select the files that	you want to decrypt		
Show files after Job	Current 💌	C Show all files	
E→ Backup Server B→ B→ F:3 B→ B→ Images B→ B→ B→ Images B→ B→ B→ Images B→ B→ B	Current 2007-01-16 (12:22:22) 2007-01-16 (12:22:07) 9_logo.jpg (Date Modified: Th bmp (Date Modified: Thu 2/9 is_logo.gif (Date Modified: Th	Tue 3/14/2006 12:00 PM Size: 5/ 9/2006 5:19 PM Size: 149k) Tue 3/14/2006 12:01 PM Size: 2 d: Tue 3/14/2006 12:00 PM Size	k)
Cancel		< Previous	Next >

vi. If you want to see all the different versions of all files (shown as gray below), just choose the [Show all files] radio button on the [Decrypt Files Wizard] dialog.

Files, which are shown in gray below (e.g. AIX_logo.JPG) are being stored in the retention area on the removable media (but you can still restore these files).



💾 Decrypt Files Wizard
Please select the files that you want to decrypt
O Show files after Job Current 🔄 🖸 Show all files
Backup Server F:1 AIX_logo.JPG (Date Modified: Tue 3/14/2006 12:08 PM Size: 6k) apple_logo.jpg (Date Modified: Tue 3/14/2006 12:00 PM Size: 5k) Solaris_logo.gif (Date Modified: Tue 3/14/2006 12:01 PM Size: 2k) solaris_logo.gif (Date Modified: Tue 3/14/2006 12:00 PM Size: 2k) windows_logo.jpg (Date Modified: Tue 3/14/2006 12:00 PM Size: 11k)
Cancel

vii. Enter the directory to which you want the backup files to be restored to in the [Decrypt files to] section and enter the [Decrypting Key] (the same as the encrypting key of this backup set)

Bn Decrypt Files		X
Backup Set: FileBackupSet-1 Decrypt files to Original location	(FILE)	Browse
		Restore file permissions
Decrypting Key:		
Time	Log	
Elapsed Time: Current File Time: Saving File To: Decrypting Speed: Close		Start Stop

viii. Press the [Start] button



💾 Decrypt Files	×
Backup Set: FileBackupSet-1	(FILE)
Decrypt files to	
C Original location	
	Browse
e:\temp	Browse
	Restore file permissions
Decrypting Key: ***	
Time	Log
2007-01-16 12:48:58	Start
2007-01-16 12:48:58	Initializing decrypt action
2007-01-16 12:48:58	Decrypting 'e:\temp\AIX_logo.JPG'
2007-01-16 12:48:58	Decrypted 'e:\temp\AIX_logo.JPG' (4k bytes)
2007-01-16 12:48:58	Decrypting 'e:\temp\windows_logo.jpg'
2007-01-16 12:48:58	Decrypted 'e:\temp\windows_logo.jpg' (10k bytes)
2007-01-16 12:48:58	Decrypting 'e:\temp\solaris_logo.pecrypting 'e:\temp\windows_logo.jpg'
0007-04-46-40-60	Descripted lettermine level aif (3k bites)
Elapsed Time: 61k bytes	decrypted. O sec elapsed.
Current File Time: 0 sec (Tota	al 4k bytes - 4k bytes decrypted)
	ple_logo.jpg
Decrypting Speed: 122k bytes	/second
Close	Start Stop
End	

7.3 IP addresses Restriction for Online Restore

Online file restore operation can be restricted by IP addresses. You can ask your backup service provider to restrict online file restoration for your backup sets by IP addresses to only allow people from authorized IP addresses to restore files from the backup server. To check if online file restore of any backup set is restricted this way, please take a look at the web interface of OBS, [Online Backup Services Management Console] -> [Backup Set] -> [Online Restore IP restriction] (shown below).

Users are not allowed to update the [Online Restore IP restriction] directly. Please ask your backup services provider to do the changes for you.



🚰 Online Backup Services Management Co	onsole - Microsoft Internet Explorer	
Restore Install Software		FAQs Help Select Language
Profile Backup Set File Explorer Re	port <u>Statistics</u>	<u>Loqout</u>
Command		·
Working Directory		
[Help] Post-backup command		
1.Name		[<u>Add</u>]
Command		
Working Directory		
[help] Online Restore IP restriction		
1. Only from 192.168.1.10	to 192.168.1.200	
	Update Reset	
Key:		
Name	Name of the backup set	
Backup Source	Files/Directories that are to be inc the backup set	luded into or excluded from
Backup Schedule	Schedules when backup should be	e performed automatically
Enable In-File Delta	Enable In-File Delta backup featur	re
Block Size	Block size used to detect changes	within backup files. 👻
E Done		Local intranet



8 In-File Delta Technology

The chapter describes what in-file delta technology is and how in-file delta can be used to backup large database files (e.g. a 10GB Outlook.pst file) without uploading the whole database file everyday.

8.1 Overview

In-file delta technology is an advanced data block matching algorithm which has the intelligence to pick up changes (delta) of file content between two files. Using this algorithm, daily backing up of large files (e.g. a 10GB Outlook.pst file) over low-speed internet connection is made possible because it requires only the changes of information (should be marginal) since the last backup to be sent over a low-speed internet connection to complete the backup of a large file (here we assume that the full backup of the file has been saved on the backup server already).

This is what will happen in the backup of a 10GB Outlook.pst file when it is backed up by Better Edge Backup with in-file delta technology.

- The whole files (10GB), along with its checksum file, are backed up to the backup server. This can be done directly through the internet or indirectly using the <u>seed loading utility</u> on a removable hard disk.
- ii. When backup runs again later (normally the next day), Better Edge Backup will download a checksum listing of all data blocks of the full backup file (or last incremental backup file) from the backup server and use it to pick up all changes that have been made to the current Outlook.pst file.
- iii. Changes detected are then saved in a delta file which is uploaded to the backup server. A new checksum file is generated and is also uploaded. (This delta file is assumed to be small because the content of PST files doesn't change a lot during daily usage)
- iv. Subsequent backups of this 10GB Outlook.pst file will go through step ii and step iii again. As explained, only a small delta file and checksum file will be uploaded to the backup server.
- v. With in-file delta technology, daily backing up of large file over low-speed internet connection is now possible

Incremental in-file delta type

Incremental Delta will facilitate ease of backup. The delta is generated by comparing with the latest uploaded full or delta file. The delta file generated is the smallest possible and uses the least bandwidth during backup. For restoration, the full file and all delta files up to the required point-in-time is required to restore the file to a specific point-in-time.

Example: If you are adding around 100MB changes to a 10G Outlook.pst everyday.

After the first full backup job, Better Edge Backup will continue to generate and upload delta files instead of uploading the full file until either one of the following two rules are true:

- a) Number of deltas generated since the last full backup is greater than the [Number of Delta] setting.
- b) The delta ratio (the ratio of the delta file size against the full file size) is greater than the [Delta Ratio] setting

Using incremental delta, the delta generated by comparing the current file with the latest uploaded full or delta file is around 100MB.

Since the delta file size is around 100MB daily, the delta ratio (around 1%) will not trigger a full file upload. Instead Better Edge Backup will continue to generate and upload delta files until day 102 (assuming the full file was uploaded on day 1) when the number of deltas generated exceeds the [Number of Delta] setting and triggers the upload of the full Outlook.pst file. You can disable the [Number of Delta] and [Delta Ratio] if you don't want to upload the full file.



All delta files are generated with respect to changes made since the last incremental or full backup. This means that the last full backup file and **ALL** incremental delta backup files are required to restore the latest snapshot of a backup file.

Differential in-file delta type

Differential Delta will facilitate ease of restore. The delta is generated by comparing with the latest uploaded full file. The delta file generated grows daily and uses more bandwidth during backup. For restoration, the full file and a single delta file is required to restore the file to a specific point-in-time.

Example: If you are adding around 100MB changes to a 10G Outlook.pst everyday.

After the first full backup job, Better Edge Backup will continue to generate and upload delta files instead of uploading the full file until either one of the following two rules are true:

- c) Number of deltas generated since the last full backup is greater than the [Number of Delta] setting.
- d) The delta ratio (the ratio of the delta file size against the full file size) is greater than the [Delta Ratio] setting

Using differential delta, the delta generated by comparing the current file with the latest uploaded full file is around 100MB for the 1^{st} delta, 200MB for the 2^{nd} delta, 300MB for the 3^{rd} delta and so on.

Since the delta file grows by 100MB daily, the delta ratio for day 52 (delta file size is approximately 51x100 = 5.1GB, assuming the full file was uploaded on day 1) being over 50% exceeds the [Delta Ratio] setting and triggers the upload of the full Outlook.pst file. You can disable the [Number of Delta] and [Delta Ratio] if you don't want to upload the full file.

All delta files are generated with respect to changes made since the last full backup file (i.e. differential backup). This means that only last full backup file and the last delta file are required to restore the latest snapshot of a backup file. This means that other intermediate delta files are only required if you want to restore other snapshots of a backup file.

Differential in-file delta backup has the benefits that a corrupted delta file would only make one particular version of a backup file non-recoverable and all other backups created by other delta files of the same file would still be intact.



Backup Controller 💋 😥	In-File Delta (FileBackupSet-1)	
User Profile Backup Source Backup Source Backup Schedule Backup Filter Command Line Tool Setting Encryption Retention Policy Extra Backup Local Copy	Image: Second state of the second s	
	Ing Table (FileBackupSet-1)	
	Type	Time

8.2 Block Size

The block size defines the size of data block being used to detect the changes between the last full or delta backup file and the file sitting on the local computer right now. In general, the smaller the block size, the more likely a matched data block can be found between the last backup file and the file on local computer. It, therefore, produces a smaller delta file but it would require more processing power to detect these changes. On the other hand, in-file delta backup running with larger block size will run faster but this will generally produce a larger delta file.

In most case, the default setting [Auto] will choose the optimal block size for each file (depending on the size of the file) for you.

8.3 Minimum File Size

The [Minimum File Size] setting defines the smallest file size a file must have before the use and application of infile delta backup technology.

If the size of a file that is being backed up is smaller than the [Minimum File Size] setting, in-file delta backup technology won't be applied to this file and the whole file, instead of just the delta file, will be uploaded to the backup server. It is not necessary to perform in-file delta backup on small files because backing up the whole file doesn't take too long anyway. Backing up the whole file instead reduces the time required to restore a backup file.

8.4 Uploading full file again

<u>No. of Delta</u>

The [No. of delta] setting defines the maximum number of delta files from the same full backup file to be generated and backed up to the backup server before a full backup (the whole file) of this file is uploaded to the backup server instead.

For example, if you have created 100 delta files from the full backup file already and the [No. of delta] setting is set to 100, the next backup will upload a full backup file (the whole file) instead of just the delta file. However, if the [No. of delta] rule is disabled, it will keep generating delta files and uploading these delta files to the backup server until the other delta rule forces a full backup (i.e. delta ratio exceeded). This setting is here to make sure that there will always be a full backup file after a certain number of delta files have been generated.



Delta Ratio

The [Delta Ratio] setting is defined to be the size of a delta file divided by the size of its full backup file (i.e. the percentage of changes detected between the last full backup file and the current file).

If the delta ratio calculated from the size of the generated delta file and the size of the full backup file is greater than the [Delta Ratio] setting, the whole file, instead of just the delta file, will be backed up to the backup server. It is done this way because the difference between backing up the whole file and the delta file is not significant and it is better to upload the whole file instead to reduce the time required to restore the file.

The default setting of [Delta Ratio] is 50%. This means that if a file changes by more than 50%, the whole file, instead of just the delta file, will be backed up and uploaded to the backup server.

8.5 Advanced In-file delta type

The [In-file delta] -> [Advanced] setting allows users to override default in-file delta type when on a certain number of days (e.g. all Sundays or the 1st day of each month). This is useful if you want all in-file delta backups to be incremental but you want to do a differential in-file delta backup on Saturdays as well as the full file backups on the 1st day of every month. If you want to do this, simply configure [In-file delta] -> [Advanced] -> [Advanced] In-file Delta Type Setting] to what is shown below.

Advanced In-Fi	e Delta Type Settin	9	×
_Weekly Variati	on (Override Default	Setting)	
🗖 Sunday	Full 💌	🗖 Thursday 🖡	ull 🔽
🗖 Monday	Full	🗖 Friday 🛛 F	ull 🔽
🗖 Tuesday	Full 💌	🔽 Saturday 🛛	Differential 🗾
🗖 Wednesd	ay Full 💌		
_ Yearly Variatio	n (Override Weekly \	/ariation or Defau	ult Setting)
🔽 January	Full	🔽 July	Full
🔽 February	Full 💌	🔽 August	Full
🔽 March	Full 💌	🔽 September	Full
🔽 April	Full 🔽	🔽 October	Full
🔽 May	Full 🔽	🔽 November	Full
🔽 June	Full 🗾	🔽 December	Full
Date			
💿 Day: 🛛	T		
C First	Sunday	-	
		C	K Cancel

With this setting, all backup Jobs on Saturdays will be differential in-file delta backups, backups for the 1st day of each month will run a full backup. This ensures that all backup files will be backed up in full at a regular interval. One benefit of this is that restore time will run faster because of less delta merging. Another benefit is that the risk of a corrupted incremental delta file resulting in data loss is much lower because a full backup is always available periodically.



9 Backup/Restore Oracle 8i/9i (Professional Version Only)

This chapter will describe in details how Better Edge Backup backup your Oracle 8i/9i and how you can restore an Oracle 8i/9i database using the backup files.

9.1 Requirements

- i. Better Edge Backup must be installed onto the computer that can connect to your Oracle 8i/9i server using TCP/IP protocol.
- ii. Data from Oracle 8i/9i database will be backed up to a temporary directory before they are sent to Offsite Backup Server. Please make sure you have sufficient space on your computer to store these data when you run the backup job.
- iii. Database must be in archived log mode

To switch to archived log mode and enable automatic log archiving, please do the following:

a. Set the parameters below in the PFILE to enable automatic archiving

log_archive_dest = [directory where archived logs will be stored] log_archive_format = ARCH%S.LOG log_archive_start = TRUE

b. Switch to archived log mode

SVRMGRL> connect internal; SVRMGRL> startup mount; SVRMGRL> alter database archivelog; SVRMGRL> alter database open;

- c. Enable Oracle JVM for Oracle 8i/9i, please do the following:
 - 1. Please make sure shared pool size is larger than 50MB and java pool size is larger than 20MB in the PFILE. For example:

java_pool_size = 20971520 shared_pool_size = 52428800

2. Run the scripts below

For Oracle 8i SVRMGRL> connect internal SVRMGRL> @?/javavm/install/initjvm.sql; SVRMGRL> @?/rdbms/admin/catalog.sql; SVRMGRL> @?/rdbms/admin/catproc.sql; SVRMGRL> @?/javavm/install/initdbj.sql;

For Oracle 9i SQL> connect sys/change_on_install as sysdba SQL> @?/javavm/install/initjvm.sql; SQL> @?/xdk/admin/initxml.sql; SQL> @?/xdk/admin/xmlja.sql;

SQL> @?/rdbms/admin/catjava.sql;

For Oracle 10g Oracle JVM is enabled by default. No additional steps required.

iv. JAVASYSPRIV role is granted to system account

You can grant this role to system account by executing:

SQL> grant JAVASYSPRIV to system;

9.2 Overview

Better Edge Backup will backup your Oracle database by taking the following steps.

- i. Connect to the Oracle database using SQL*NET over TCP/IP
- ii. Run all Pre-Commands of this backup set
- iii. If the backup type to run is [Database Backup type],
 - a. all data files in each of the tablespace(s) selected are copied to the temporary directory specified by this backup set
 - b. if there are temporary files in the database, the script to re-create the temporary files are generated to a file located in the temporary directory specified by this backup set
 - c. all non-default initialization parameters will be spooled to an initializing file located in the temporary directory specified by this backup set
 - d. all control files will be copied to the temporary directory specified by this backup set
 - e. all archived log files will be copied to the temporary directory specified by this backup set
- iv. If the backup type to run is [Archived Log Backup type],
 - a. all archived log files will be copied to the temporary directory specified by this backup set
- v. Run all Post-Commands of this backup set
- vi. Upload all files copied to the temporary directory to the Offsite Backup Server
- vii. Remove temporary files from the temporary directory if [Setting] -> [Temporary Directory for storing backup files] is enabled

Note:

If your Oracle database is running on Windows, please install Better Edge Backup onto the company running the Oracle database if Better Edge Backup is to backup this Oracle database. This would shorten the time required to backup the Oracle database.



9.3 How to backup an Oracle Database

Please follow the instructions below to backup your Oracle database to the Offsite Backup Server.

- i. Install Better Edge Backup onto your computer
- ii. Open Better Edge Backup

Right click Better Edge Backup icon available in the system tray and choose [Open]

Open		
Backup	•	
Backup and Logoff	•	
Backup and Restart	•	
Backup and Shutdown	•	
Help		
Stop Running Backup	×.	
Exit		
	R 🚑	14:46

iii. Create a backup set

a. From the Menu, Choose [Backup Set] -> [New] -> [Oracle Database Backup Set]

👫 Online Backup	Manager					
Backup Set B	ackup View					
New 🕨	File Backup Set		1			
Remove 🕨	Lotus Backup Set		et - MSSQLBackupS	iet-1		
Save	MS Exchange Bac	kup Set				
🛛 📈 🐻 Bac	BackupSet-1 kup Source kup Schedule hmand Line Tool ing	et Backup Set Login IE Passwo	SOLBackupSet-1 rosoft SOL Server 1 SOL Server :: sa rd: *****	Properties		
		—	e (meesaceachapee			Time
		Туре		Log		11116
Backup Log		-				
Welcome to On	line Backup Manager	1		Quota (Remaining / Total): 49.	9G / 50G La	st Backup: 2004-07-22 14:32



b. Enter a name for your backup set

Name:	OracleBackupSet-1	
Туре: (Dracle Database Server Backup	
Oracle	Database Server	
Login	ID: system	
Passw	/ord:	
Host		
Port:	1521	_
SID:		_

- c. Enter the system password, the Oracle Database Server Host Name, TNS Port and SID
- d. Select the tablespace(s) you want to backup

Add new Oracle Database Backup Set	×
Backup Source Please select tablespaces to be backed up.	
Oracle Database Server Oracle Database	
Temporary disk space used for storing spool files C:18ackup1OracleDB Change	
< <tr> <previous< td=""> Next> Cancel</previous<></tr>	

- e. Enter a temporary location to store the database file(s) before they are sent to an Offsite Backup Server
- f. Set the backup schedule for database backup and archived log backup

	tabase Backup Set
Backup Sche	lule
Please sche	ule the backup time.
Database (1	ablespaces, Control & Init File, Archived Logs) Backu
	s BackupSchedule (Type: Archived Logs; Weekly - Mc
•	>
	Add Remove Properties
Development	
< Previous	Next > Cancel



Database - complete BackupSchedule Properties
Name: Database - complete BackupSchedule
Backup
Database - complete
O Database - differential
C Transaction log
Туре
C Daily
Day
Backup on the following day(s) every week:
🗖 Sunday 📄 Monday 📄 Tuesday 📄 Wednesday
🗖 Thursday 🔽 Friday 🗖 Saturday
Start
Start Time (hh:mm): 21 💌 : 00 💌
Stop
Stop on completion (Full Backup)
OK Cancel

Note: You can have more than one schedule in a backup set, i.e. you can perform intra-day transaction log backup by adding more than one daily transaction log backup schedule to your backup set.

g. Set the encryption algorithm, encryption mode and encrypting key for this backup set

Add new Oracle Database Backup Set	×
Encryption Setting	
Please setup the encryption setting of the Backup Set.	
Do NOT use encryption.	
Algorithm: Twofish 💌	
Mode:	
CBC (Cipher Block Chaining)	
C ECB (Electronic CookBook)	
Encrypting Key:	
Confirm Encrypting Key:	
< Previous Next >	Cancel

Hint: For maximum security, please select AES (Advanced Encryption Standard) Algorithm, CBC (Cipher Block Chaining) mode and use an encrypting key with more than 8 characters.

- iv. Run Backup
 - a. Select the backup set you want to run on the left panel and press the [Start Backup] button (\blacktriangleright)
 - b. Select the backup type (e.g. Database Backup, Archived Log Backup) you would like to perform

Select Backup Type (OracleBackupSet-1)	×
Backup	
Database (Tablespaces, Control & Init File, Archived Logs)	
C Archived Logs	
OK Cancel	



c. Select [Off-site Backup Server] to start backing up your files to an Offsite Backup Server.



9.4 How to restore an Oracle Database

Please follow the instructions below to restore your Oracle 8i/9i databases from an Offsite Backup Server.

i. Download the backup files from the Offsite Backup Server

Please refer to the [Quick Start - Backup File] section for information on how to download backup files from Offsite Backup Server.

- ii. Put all data files back to their original locations
- iii. Control files, data files and archived logs are stored on Offsite Backup Server along with their full path information. You just need to put all these files back to their original locations when performing a database restore.
- iv. Put the PFILE back to its default location

Oracle 8i: \$ORACLE_HOME/dbs/init<SID>.ora Oracle 9i: \$ORACLE_HOME/admin/<SID>/pfile/init.ora

v. Restore Database

(if Oracle 8i) Use Server Manager to restore you database by doing the following:

- a. Run Oracle Server Manager (svrmgrl)
- b. Connect to the target database
- c. Startup mount
- d. Reapply all transactions from the archived log files
- e. Open database

	Oracle 8i Example:
\$ svrmgrl	
SVRMGRL> connect internal	
SVRMGR> startup mount;	
ORACLE instance started.	
Total System Global Area	95874448 bytes
Fixed Size	64912 bytes
Variable Size	52744192 bytes
Database Buffers	40960000 bytes
Redo Buffers	2105344 bytes
Database mounted.	
SVRMGRL> recover database usin	ng backup controlfile
ORA-00279: change 419671 gener	rated at 06/14/03 02:51:49 needed for thread 1
ORA-00289: suggestion : /data,	/ora815/vin/archive/ARCH000000225.LOG
ORA-00280: change 419671 for t	thread 1 is in sequence #225
ORA-00278: log file '/data/ora	a815/vin/archive/ARCH000000224.LOG' no longer needed for this
recovery	
Specify log: { <ret>=suggested</ret>	filename AUTO CANCEL}
AUTO	
Log applied.	
ORA-00279: change 547222 gener	rated at 06/18/03 19:58:26 needed for thread 1
ORA-00289: suggestion : /data,	/ora815/vin/archive/ARCH000000384.LOG





ORA-00280: change 547222 for thread 1 is in sequence #384
ORA-00278: log file '/data/ora815/vin/archive/ARCH0000000383.LOG' no longer needed for this
recovery
ORA-00308: cannot open archived log '/data/ora815/vin/archive/ARCH0000000384.LOG'
ORA-27037: unable to obtain file status
Linux Error: 2: No such file or directory
Additional information: 3
SVRMGR> recover database using backup controlfile until cancel
ORA-00279: change 547222 generated at 06/18/03 19:58:26 needed for thread 1
ORA-00289: suggestion : /data/ora815/vin/archive/ARCH0000000384.LOG
ORA-00280: change 547222 for thread 1 is in sequence #384
Specify log: { <ret>=suggested filename AUTO CANCEL}</ret>
CANCEL
Media recovery cancelled.
SVRMGR> alter database open resetlogs;
Statement processed.

(if Oracle 9i) Use Recovery Manager to restore you database by doing the following:

- a. Run Oracle Server Manager (rman)
- b. Connect to the target database
- c. Startup mount
- d. Reapply all transactions from the archived log files to the last sequence
- e. Open database

Oracle 9i Example:
C:\>rman nocatalog
Recovery Manager: Release 9.2.0.1.0 - Production
Copyright (c) 1995, 2002, Oracle Corporation. All rights reserved.
RMAN> connect target
connected to target database (not started)
RMAN> startup mount
connected to target database (not started) Oracle instance started database mounted
Total System Global Area 269556596 bytes
Fixed Size 453492 bytes Variable Size 243269632 bytes Database Buffers 25165824 bytes Redo Buffers 667648 bytes
RMAN> recover database until sequence=63 thread=1;
Starting recover at 24-JUN-03 allocated channel: ORA_DISK_1 channel ORA_DISK_1: sid=11 devtype=DISK
starting media recovery
archive log thread 1 sequence 56 is already on disk as file C:\ORACLE\ORADATA\VIN\ARCHIVE\1_56.DBF archive log filename=C:\ORACLE\ORADATA\VIN\ARCHIVE\1_56.DBF thread=1 sequence=56 archive log filename=C:\ORACLE\ORADATA\VIN\ARCHIVE\1_59.DBF thread=1 sequence=57 archive log filename=C:\ORACLE\ORADATA\VIN\ARCHIVE\1_59.DBF thread=1 sequence=58 archive log filename=C:\ORACLE\ORADATA\VIN\ARCHIVE\1_60.DBF thread=1 sequence=60 archive log filename=C:\ORACLE\ORADATA\VIN\ARCHIVE\1_61.DBF thread=1 sequence=60 archive log filename=C:\ORACLE\ORADATA\VIN\ARCHIVE\1_61.DBF thread=1 sequence=61 archive log filename=C:\ORACLE\ORADATA\VIN\ARCHIVE\1_62.DBF thread=1 sequence=62 media recovery complete Finished recover at 24-JUN-03 RMAN> alter database open resetlogs;
database opened



10 Backup/Restore Microsoft SQL Server 7.0 / 2000

(Professional Version Only)

This chapter will describe in details how to use Better Edge Backup to backup your Microsoft SQL Server 7.0 / 2000 server and how you can restore your Microsoft SQL Server 7.0 / 2000 server from the backup files.

10.1 Requirements

- i. Better Edge Backup must be installed onto the computer running Microsoft SQL Server.
- ii. Data from Microsoft SQL Server will be backed up to a temporary directory before they are sent to Offsite Backup Server. Please make sure you have sufficient space on your computer to store these data when you run the backup job.

10.2 Overview

Better Edge Backup will backup your Microsoft SQL Server database(s) by taking the following steps:

- i. Before running any backup activities, Better Edge Backup will run all Pre-Commands of the backup set.
- ii. For each database that is to be backed up, Better Edge Backup will issue a database / transaction log backup command to Microsoft SQL Server to backup each database to a Microsoft SQL Server database backup file (*.bak file) and save it in the temporary directory you specified.
- iii. After all *.bak files have been spooled to the temporary directories, Better Edge Backup will run all Post-Commands of the backup set.
- iv. Upload all files copied to the temporary directory to the Offsite Backup Server.
- v. Remove temporary files from the temporary directory if [Setting] -> [Temporary Directory for storing backup files] is enabled



10.3 How to backup Microsoft SQL Server database(s)

Please follow the instructions below to backup your Microsoft SQL Server databases using Better Edge Backup.

i. Open Better Edge Backup

Right click Better Edge Backup icon available in the system tray and choose [Open]

Open				
Backup	•			
Backup and Logoff	•			
Backup and Restart	+			
Backup and Shutdown	×			
Help				
Stop Running Backup	×			
Exit		_		
9	lt 🥹	Į.	14)	41

- ii. Create a backup set
 - a. From the Menu, Choose [Backup Set] -> [New] -> [MS SQL Server Backup Set]

🛄 Online Backup) Manager					_ 🗆 🗙
Backup Set	ackup View					
New 🕨	File Backup Set					
Remove 🕨	Lotus Backup Set		et - MSSQLBackupS	et.1		
Save	MS Exchange Back	up Set				
Exit	MS SQL Server Bac	kup Set				
- 🚮 Bac	Set-7 BackupSet-1 kup Source kup Schedule nmand Line Tool ing	ackup Set Login ID	SQLBackupSet-1 rosoft SQL Server SQL Server t: sa d: *****	lackup Properties		
		V Log Tabl	e (MSSQLBackupSel	-1) Log		C Time
Backup Log						
Welcome to On	line Backup Manager!			Quota (Remaining / Total)): 49.9G / 50G	Last Backup: 2004-07-22 14:32

b. Enter a name for your backup set

Add new MS SQL Server Backup Set	×
Backup Set	
Please type a name for this Backup Set.	
Name: MSSQLBackupSet-1	
Type: Microsoft SQL Server Backup	
Microsoft SQL Server	
Login ID: sa	
Password:	
· · · · · · · · · · · · · · · · · · ·	
< Previous Next >	0
< FIEWDUS NEXT >	Cancel



- c. Enter the Microsoft SQL Server administrator username and password
- d. Select the database(s) you want to backup

Add new MS SQL Server Backup Set	4
Backup Source	
Please select databases to be backed up.	
I Microsoft SQL Server	
i master	
model	
🗖 🔋 msdb	
U abc	
new model	
Temporary disk space used for storing spool files	
C:\Backup\MSSQLServer Change	
< Previous Next > Cancel	

- e. Enter a temporary location to store the backup files before they are sent to an Offsite Backup Server
- f. Set the backup schedule for full database backup and transaction log backup



(Note: You can have more than one schedule in a backup set, i.e. you can perform intra-day transaction log backup by adding more than one daily transaction log backup schedule to your backup set)

g. Set the encryption algorithm, encryption mode and encrypting key for this backup set

2	Add new Oracle Database Backup Set
	Encryption Setting
	Please setup the encryption setting of the Backup Set.
	Do NOT use encryption. Algorithm: Twofish
	Algoninin: Wonsh V
	CBC (Cipher Block Chaining)
	C ECB (Electronic CookBook)
	Encrypting Key:
	Confirm Encrypting Key:
	< Previous Next > Cancel

(Hint: For maximum security, please select AES (Advanced Encryption Standard) Algorithm, CBC (Cipher Block Chaining) mode and use an encrypting key with more than 8 characters.)



- iii. Run Backup
 - a. Select the backup set you want to run on the left panel and press the [Start Backup] button (▶)
 - b. Select the backup type (e.g. Complete, Differential, Transaction Log) you would like to perform

saci	kup
۲	Database - complete
C	Database - differential
0	Transaction log

c. Select [Off-site Backup Server] to start backing up your files to an Offsite Backup Server.

Confirm Backup Start	<u>></u>
Backup to © [0ff-site Backup Server] © Local Hard Disk (Seed Los	ad Utility)
Start the backup for [MSSQL Bac	kupSet] ?
ОК Са	ncel

10.4 How to restore Microsoft SQL Server database(s)

Please follow the instructions below to restore your Microsoft SQL Server databases from an Offsite Backup Server.

i. Download the backup files (.bak) from the Offsite Backup Server

Please refer to the [Quick Start - Backup File] section for information on how to download backup files from Offsite Backup Server.

ii. Open Microsoft SQL Enterprise Manager

You can open Microsoft SQL Enterprise Manager from [Start Menu] -> [Program] -> [Microsoft SQL Server] -> [Enterprise Manager]

iii. (Optional) Restore "master" database

You need to restore "master" database if you:

- a. are rebuilding all your databases from scratch
- b. have changing any server-wide or database configuration options
- c. have added logins or other login security-related operations.
- d. have created or removed logical backup devices.
- e. have configured the server for distributed queries and remote procedure calls, such as adding linked servers or remote logins.

You do not need to restore your master database if you just want to restore a user database. For more information on Microsoft SQL Server "master" database, please visit http://www.microsoft.com/sql/.

To restore "master" database, please do the following:

- a. Start Microsoft SQL Server in "Single User Mode"
 - 1. Right click your Microsoft SQL Server and select [Properties]



🚡 SQL Server Enterprise Manager - [Console	Root\Micro	soft SQL Serv	ers\SQL Serve	r Group\WIN	20000-EN (Wind	lows NT)\Da	ataba 💶 🗙
) 🚡 ⊆onsole Window Help							_ 8 ×
Action View Iools	× 🖻 🔮	B 😫]	* 🔊 👂	0 🖸 🗟			
Tree	Databases	8 Items					
Console Root							
SQL Server Group SQL Server Facilitation SQL Server Registration Supervised SQL Server Registration Supervised SQL Server Registration Delete SQL Server Registration Delete SQL Server Registration Delete SQL Server Registration Delete SQL Server Registration New All Tasks New Window from Here Delete Refresh Properties Help	properties	master	model	msdb	Northwind	pubs	tençdî
Opens property sheet for the current selection.	,						

2. Press the [Startup Parameters] button



3. Add a "-m" parameter to the [Startup Parameters]

📕 Startup Parameters - TESTING-2000	×
Parameter	Add
·m	Remove
Existing parameters	
-dC:\Program Files\Microsoft SQL Server -eC:\Program Files\Microsoft SQL Server -IC:\Program Files\Microsoft SQL Server\	
OK Cancel	<u>H</u> elp

4. Restart Microsoft SQL Server

From [Enterprise Manager], right click your Microsoft SQL Server and select [Stop] and then [Start].



Console Windov					_8
Action View Tool	s 🛛 🗢 🔿 🔂 🖬	× 🗗 🚺 😫] 🔆 🏷 👂 () 🗓 🗖	
Tree		WIN20000-EN (Win	dows NT) 5 Items		
Console Root			Started	Taskpad	
	Edit SQL Server Registra Delete SQL Server Regist		6		E
	Disconnect Stop Pause Start		set up your database solution	monitor your SQL Server	import or export data
	New All Tasks	*			
🗄 🧰 Seci 🕀 🧰 Sup	View New Window from Here	+			
	Delete Refresh				
	Properties		Micro	osoft"	
-	Help			$n \le$	
				Ŭ	
				J	
501 Server Entern	rise Manager - [Console	Root\Microsoft St	1 Servers\SOL Serv	/er Group]	1 × 1
Console Window					
Action View Tool		× 🖅 🕅 🔮	- ∦		
Tree		L Server Group 1 I	em		
Console Root	rvers	N20000-EN			_
⊖- <mark>} win20</mark> (Cr	New SQL Server Registrat Edit SQL Server Registrati Delete SQL Server Registr	ion properties			
	Connect				

, V	
Action View Tool	⊧] ← → 🖻 📧 🗙 🐨 🕼 😰] 米 ☆ 🕬 🗊 😨 🖏
Tree	SQL Server Group 1 Item
Console Root	
	Start
	New All Tasks
	Delete Refresh
•	Properties
	Help

- b. Restore "master" database
 - 1. From [Enterprise Manager] -> [Tools] -> [Restore Database]



- 2. Select [master] in the [Restore as database] drop down list
- 3. Select the [From device] radio button.



4. Press the [Select Devices] button.

estore dat General C	abase ptions		
Þ	<u>R</u> estore as database:	master	•
Restore:	C <u>D</u> atabase	C Filegroups or files	• From device
Paramet	ers		
De <u>v</u> ice	s:		Select Devices
Backu	o number: 1	View <u>C</u> ontents	
	store backup set		
œ	D <u>a</u> tabase - complete		
	Database - differential		
	Transaction log		
	File or filegroup		
C Re	ad backup set informati	ion and add to backup <u>h</u> istory	
		OK	Cancel Help

5. From the [Choose Restore Devices], press the [Add] button.

Backup set:				
васкир зес	Unknownj	(Unknown)		
Restore from:				
	Device name	<u>A</u> dd		
		Edit		
		Bemove		
	•	Remove Al		
Media verification op	tion			
Drly restore from	media with the following name:			
Media name:				

6. From the [Choose Restore Destination] panel, press the [...] button to choose your master backup (*.bak) from your backup files

Choose the file name or backup device to use for the restore operation. Backup devices can be created for files that you use frequently.				
File name Backup device:	F:\MSSQL7\BACKUP\			
	OK Cancel			

- 7. Press the [OK] button, to start restoring the "master" database.
- c. Restart Microsoft SQL Server in "Normal Mode"
 - 1. Remove "-m" parameter from the [Startup Parameters] as in previous step
 - 2. Restart your Microsoft SQL Server as in previous step
- iv. (Optional) Restore "model", "msdb" and "distribution" database

You need to restore "model" database if you have changed the database template of your SQL Server.

You need to restore "msdb" database if you have changed the scheduling information or you want


to restore the backup and restore history of your databases.

You need to restore "distribution" database if you are running the replication components of SQL Server.

You do not need to restore these databases if you just want to restore a user database. For more information on Microsoft SQL Server "model", "msdb" and "distribution" database, please visit http://www.microsoft.com/sql/.

You need to restore each of these databases one by one. To restore any of these databases, please do the following:

- a. From [Enterprise Manager] -> [Tools] -> [Restore Database]
- b. Select the database to be restored in the [Restore as database] drop down list
- c. Select the [From device] radio button.
- d. Press the [Select Devices] button
- e. Press the [...] button to choose your backup files (*.bak) for the database to be restored
- f. Press the [OK] button
- v. Restore user database(s)

For each of the database you would like to restore,

- a. From [Enterprise Manager] -> [Tools] -> [Restore Database]
- b. Select the database to be restored in the [Restore as database] drop down list
- c. Select the [Database] radio button.

store dat General ([
b	<u>R</u> estore as database:	abc			•
Restore:		C <u>F</u> i	legroups or files	C From device	
Parame Sho <u>w</u>	ters backups of database:	abc			•
First <u>b</u>	ackup to restore:	13/11/200	1 18:52:43 -		•
E Pg	int in time restore:				
Restor	e Type Backup sei	t date Size	Restore from	Backup set name	
	13/11/2001	1 ОКЬ	C:\MSSQL		
		Erop	erties		•
			OK	Cancel	Help

- d. From the [Show backups of database] drop down list, select the database to be restored
- e. From the [First backup to restore] drop down list, select the snapshot of the database you would like to restore to.

You can restore your database to the snapshot of your database at any point of the time between the time you did your full backup and the time you did your last subsequent backup.

f. Change the [Restore From] entry

If you backup files (*.bak) are not in the default directory, you need to update the full path to your backup files by pressing the [Properties] button.

- g. Press the [OK] button
- vi. All database(s) restored successfully

11 Backup/Restore Lotus Domino / Notes (Professional Version Only)

This chapter will describe in details how to use Better Edge Backup to backup your Lotus Domino server / Notes client 5 / 6 / 6.5 and how you can restore your Lotus Domino server / Notes client 5 / 6 / 6.5 from the backup files.

11.1 Requirements

- i. Better Edge Backup must be installed onto the computer running Lotus Domino server / Notes client.
- ii. The computer running Lotus Domino server / Notes client must be on Windows platform.
- iii. Data from Lotus Domino server / Notes client will be backed up to a temporary directory before they are sent to Offsite Backup Server. Please make sure you have sufficient space on your computer to store these data when you run the backup job.
- iv. Lotus Domino server must runs with archive transaction logging enabled

To set up transaction logging in archive style, please do the following:

- a. Ensure that all databases to be logged reside in the Domino data directory, either at the root or in subdirectories.
- b. From the Domino Administrator, click the Configuration tab.
- a. In the "Use Directory on" field, choose the server's Domino Directory.
- b. Click Server Configuration, and then click Current Server Document.
- c. Click the Transactional Logging tab.
- d. Complete these fields, and then save the document.

Field	Enter		
Transactional Logging	Choose Enabled. The default is Disabled.		
Log path	Path name location of the transaction log. The default path name is \LOGDIR in the Domino data directory, although it is strongly recommended to store the log on a separate, mirrored device, such as a RAID (Redundant Array of Independent Disks) level 0 or 1 device with a dedicated controller. The separate device should have at least 1GB of disk space for the transaction log. If you are using the device solely for storing the transaction log, set the "Use all available space on log device" field to Yes.		
Maximum log space	The maximum size, in MB, for the transaction log. Default is 192MB. Maximum is 4096MB (4GB). Domino formats at least 3 and up to 64 log files, depending on the maximum log space you allocate.		
Use all available space on log device	 Choose one: Yes to use all available space on the device for the transaction log. This is recommended if you use a separate device dedicated to storing the log. If you choose Yes, you don't need to enter a value in the "Maximum log space" field. No to use the default or specified value in the "Maximum log space" field. 		
Automatic fixup of	Choose one:		





Domino cannot use the transaction log to recover it, Domino runs the Fixup task, assign a new DBIID, and notifies the administrator th a new database backup is required. Disabled. Domino does not run the Fixup task automatically and notifies the administrator to run the Fixup task with the -J parameter on corrupt logged databases. Runtime / Restart performance This field controls how often Domino records a recovery checkpoint in the transaction log, which affects server performance. To record a recovery checkpoint, Domino evaluate each active logged database to determine how ma transactions would be necessary to recover each database after a system failure. When Domino completes this evaluation, it: Creates a recovery checkpoint record in the transaction log, listing each open database an the starting point transaction needed for recovery Forces database changes to be saved to disk they have not been saved already Choose one: Standard (default and recommended). Checkpoints occur regularly. Favor runtime. Domino records fewer checkpoints, which requires fewer system resources and improves server run time performance. Favor restart recovery time. Domino records more checkpoints, which improves restart recovery time because fewer transactions are required for recovery.		
 performance recovery checkpoint in the transaction log, which affects server performance. To record a recovery checkpoint, Domino evaluate each active logged database to determine how matransactions would be necessary to recover each database after a system failure. When Domino completes this evaluation, it: Creates a recovery checkpoint record in the transaction log, listing each open database an the starting point transaction needed for recovery Forces database changes to be saved to disk they have not been saved already Choose one: Standard (default and recommended). Checkpoints occur regularly. Favor runtime. Domino records fewer checkpoints, which requires fewer system resources and improves server run time performance. Favor restart recovery time. Domino records more checkpoints, which improves restart recovery time because fewer transactions are required for recovery. 	corrupt databases	 recover it, Domino runs the Fixup task, assigns a new DBIID, and notifies the administrator that a new database backup is required. Disabled. Domino does not run the Fixup task automatically and notifies the administrator to run the Fixup task with the -J parameter on
Logging style Choose Archive The default is Circular		 recovery checkpoint in the transaction log, which affects server performance. To record a recovery checkpoint, Domino evaluates each active logged database to determine how many transactions would be necessary to recover each database after a system failure. When Domino completes this evaluation, it: Creates a recovery checkpoint record in the transaction log, listing each open database and the starting point transaction needed for recovery Forces database changes to be saved to disk if they have not been saved already Choose one: Standard (default and recommended). Checkpoints occur regularly. Favor runtime. Domino records fewer checkpoints, which requires fewer system resources and improves server run time performance. Favor restart recovery time. Domino records more checkpoints, which improves restart recovery time because fewer transactions are
Ebgging style enouse Archive. The delade is encoded.	Logging style	Choose Archive. The default is Circular.

Notes:

You can only run transaction log backup if you have transaction logging enabled and you are using archive mode. This command does not apply if you have transaction logging enabled not in archive mode or if transaction logging is not enabled at all. If you try to issue it, you will receive an error message.

11.2 Overview

Better Edge Backup will backup your Lotus Domino server / Notes client by taking the following steps:

- i. Run all Pre-Commands of this backup set
- ii. If the backup type to run is [Database Backup type],
 - a. all file(s) / database(s) selected are copied to the temporary directory specified by this backup set
 - b. the notes.ini file, if selected, will be copied to the temporary directory
 - c. only filled log extents will be copied to the temporary directory, and the Domino server is notified of their availability for reuse (for Domino server only)
- iii. (for Domino server only) If the backup type to run is [Transaction Log Backup type],
 - a. only filled log extents will be copied to the temporary directory, and the Domino server is notified of their availability for reuse
- iv. Run all Post-Commands of this backup set



- v. Upload all files copied to the temporary directory to the Offsite Backup Server
- vi. Remove temporary files from the temporary directory if [Setting] -> [Temporary Directory for storing backup files] is enabled

11.3 How to backup Lotus Domino / Notes database(s) / file(s)

Please follow the instructions below to backup your Lotus Domino server / Notes client databases / files using Better Edge Backup.

i. Open Better Edge Backup

Right click Better Edge Backup icon available in the system tray and choose [Open]

Open				
Backup	+			
Backup and Logoff	+			
Backup and Restart	+			
Backup and Shutdown	×			
Help				
Stop Running Backup	×			
Exit		_		
	lt a	8	14:4	e

- ii. Create a backup set
 - a. From the Menu, Choose [Backup Set] -> [New] -> [Lotus Backup Set]

Backup Set Backup N	View		
New File B	Backup Set		
Save MS EX Exit MS SC The Courser The MMSSQL	rce Passw	et-MSSOLBackupSet-1 SQLBackupSet-1 rosoft SOL Server Backup SQL Server D: sa ord: *****	
	🛐 Log Tal	jle (MSSQLBackupSef-1)	
	Log Tal	ole (MSSOLBackupSet-1) Log	C

b. Enter a name for your backup set





- c. Select the Backup Set Type (Lotus Domino Server Backup / Lotus Notes Client Backup)
- d. Select the database(s) / file(s) you want to backup

Add new Lotus Backup Set	x
Backup Source	
Please select files or/and directories to be backed up.	
Contraction Lotus Domino	-
🚊 🔽 🔁 Data	
🗉 🐨 🔽 🗀 domino	
🗄 🖂 🗁 help	
BM_TECHNICAL_SUPPORT	
⊞- IV C III logdir3	
ti - ♥ 🗋 mail	
H I modems	-
rotes.ini C:\Lotus\Domino\notes.ini Change	
Temporary directory for storing backup files	
C1Backup1Lotus1Domino Change	
< Previous Next > Canc	el

- e. Enter a temporary location to store the backup files before they are sent to an Offsite Backup Server
- f. Set the backup schedule for Database Backup

dd new Lotus Backup Set
Backup Schedule
Please schedule the backup time.
Database Backup Schedule (Type: Database; Weekly - Friday)
Transaction Log Backup Schedule (Type: Transaction log, Weekly
Add Remove Properties
< Previous Next > Cancel

- g. Set the backup schedule for Transaction Log Backup (for Domino server only) (Note: You can have more than one schedule in a backup set, i.e. you can perform intra-day transaction log backup by adding more than one daily transaction log backup schedule to your backup set)
- h. Set the encryption algorithm, encryption mode and encrypting key for this backup set



Add new Lotus Backup Set
Encryption Setting Please setup the encryption setting of the Backup Set.
Do NOT use encryption. Algorithm: Twofish Mode: CBC (Cipher Block Chaining)
C ECB (Electronic CookBook)
Encrypting Key: Confirm Encrypting Key:
< Previous Next > Cancel

(Hint: For maximum security, please select AES (Advanced Encryption Standard) Algorithm, CBC (Cipher Block Chaining) mode and use an encrypting key with more than 8 characters.)

- iii. Run Backup
 - a. Select the backup set you want to run on the left panel and press the [Start Backup] button (\blacktriangleright)
 - b. Select the backup type (e.g. Database, Transaction Log) you would like to perform (for Domino server only)

Select Backup Tyj	pe (LotusBackupSet-1)	×
Backup		
 Database C Transact 	e (notes.ini, Databases, Files, Transaction I ion Logs	_ogs)
	-	
	OK Cancel	

c. Select [Off-site Backup Server] to start backing up your files to an Offsite Backup Server.



11.4 How to restore Lotus Domino / Notes database(s) / file(s)

Please follow the instructions below to restore Lotus Domino server / Notes client database(s) / file(s) from an Offsite Backup Server.

- i. Install Lotus Domino server / Notes client back to its original folder (if required)
- ii. Install Better Edge Backup

Please refer to the [Installation] section for information on how to install Better Edge Backup onto your computer.

- iii. Copy LotusMediaRecovery.exe from the bin directory (default to C:\Program Files\Better Edge Backup\bin) to Lotus Domino installation directory (default to C:\Lotus\Domino)
- iv. Shutdown Lotus Domino Server
- v. If you want to perform a full domino restore (restore all databases and files):



- a. Download the backup files to be restored from the Offsite Backup Server and save them back to its original location. It includes notes.ini, all backup files from the lotus domino data directory and all archived transaction logs
- b. Run LotusMediaRecovery.exe from the Lotus Domino installation directory (e.g. C:\Lotus\Domino\LotusMediaRecovery.exe) and press 'Y' to continue.

For example: C:\Lotus\Domino\> LotusMediaRecovery.exe

This will run media recovery for all databases (*.nsf and mail.box) found under the Lotus data directory (e.g. C:\Lotus\Domino\Data). You should see something similar to the screen below.

Media Recovery Example:
C:\Lotus\Domino>LotusMediaRecovery Media Recovery Utility for Lotus Domino 5.0 or above
 Please make sure that you have done the following: 1. Reinstall Lotus Domino on this computer in the same directory 2. Restore Notes.ini to the Lotus Domino installation directory (e.g. C:\Lotus\Domino) 3. Restore Domino Data directory back to the directory defined in Notes.ini (e.g. C:\Lotus\Domino\Data) 4. Restore all archived transaction logs to the directory defined in Notes.ini (e.g. C:\Lotus\Domino\Data\logdir)
Continue ? (Y) or (N) y Running media recovery Please wait, creating new transaction logs in directory: C:\logdir\ 02/12/2003 14:39:19 Recovery Manager: Restart Recovery complete. (0/0 databases needed full/partial recovery) Media Recovery Replay (122 MB): 10% 20% 30% 40% 50% 60% 70% 80% 90% 100% 02/12/2003 14:39:22 Recovery Manager: Media Recovery complete for C:\Lotus\Domino\Data\admin4.nsf, last update applied .
Backup file C:\Lotus\Domino\Data\admin4.nsf recovered.
Media Recovery Replay (122 MB): 10% 20% 30% 40% 50% 60% 70% 80% 90% 100% 02/12/2003 14:40:57 Recovery Manager: Media Recovery complete for C:\Lotus\Domino\Data\statrep.nsf, last update applied .
Backup file C:\Lotus\Domino\Data\statrep.nsf recovered.
C:\Lotus\Domino>

- c. All content of all database(s) are now rolled forward to the last committed transaction found in the last archived transaction log.
- d. Restart Lotus Domino server
- vi. If you just want to restore a single database:
 - a. Download the database file to be restored from the Offsite Backup Server and save them back to its original location.
 - b. (optional) If you need to perform media recovery on this database, please download all archived transaction logs and save them back to its original location
 - c. Run LotusMediaRecovery.exe from the Lotus Domino installation directory with an argument of the full path of database to be restored.

For example, if you want to restore C:\Lotus\Domino\data\admin4.nsf, please run:

C:\Lotus\Domino\> LotusMediaRecovery.exe C:\Lotus\Domino\data\admin4.nsf

You should see something similar to the screen below.

Media Recovery Example:

C:\Lotus\Domino>LotusMediaRecovery C:\Lotus\Domino\data\admin4.nsf Media Recovery Utility for Lotus Domino 5.0 or above Running media recovery ...



Restart Analysis (0 MB): 100%
02/12/2003 14:42:15 Recovery Manager: Restart Recovery complete. (0/0
databases needed full/partial recovery)
Media Recovery Replay (122 MB): 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
02/12/2003 14:42:17 Recovery Manager: Media Recovery complete for
C:\Lotus\Domino\data\admin4.nsf, last update applied 01/12/2003 00:02:42.
Backup file C:\Lotus\Domino\data\admin4.nsf recovered.
C:\Lotus\Domino>

d. All content of the database are now rolled forward to the last committed transaction found in the last archived transaction log.

vii. Restart Lotus Domino Server

12 Backup/Restore Microsoft Exchange Server (Professional

Version Only)

This chapter will describe in details how to use Better Edge Backup to backup your Microsoft Exchange Server 2000 / 2003 and how you can restore your Microsoft Exchange Server 2000 / 2003 from the backup files.

12.1 Requirements

viii. Microsoft Exchange Server 2000 with Services Pack 3 and post-SP3 update rollup installed. Please refer to <u>http://www.microsoft.com/exchange/</u> for more information. or

Microsoft Exchange Server 2003.

- ix. Better Edge Backup must be installed onto the computer running Microsoft Exchange Server 2000 / 2003.
- x. Data from Microsoft Exchange Server will be backed up to a temporary directory before they are sent to Offsite Backup Server. Please make sure you have sufficient space on your computer to store these data when you run the backup job.

12.2 Overview

A Microsoft Exchange Server 2000/2003 stores its data in Windows Active Directory as well as in its databases. To fully backup a Microsoft Exchange Server 2000/2003, you need to backup the following components:

i. Windows System State

The Windows System State contains the information about your Windows system, including Windows Active Directory. A Microsoft Exchange Server 2000 / 2003 stores some of its configuration, e.g. email accounts and mailbox properties, inside Windows Active Directory. It is important that Windows Active Directory is backup properly when backing up a Microsoft Exchange Server.

Active Directory is stored inside a Windows Server running as Windows domain controller. If your Exchange Server is a domain controller, you can simply backup the Windows System State of your Exchange Server. If your Exchange Server is running as a member server, you will need to install another copy of Better Edge Backup onto the domain controller to backup the Windows System State of inside the domain controller.

For more information on Active Directory, please refer to http://www.microsoft.com/windows2000/technologies/directory/ad/default.asp

ii. Microsoft Information Store

Exchange Server stores all emails and documents inside its databases, which are grouped together as storage groups inside Microsoft Information Store. It is important that Microsoft Information Store is fully backup when backing your Exchange Server.

iii. Microsoft Site Replication Service

Microsoft Site Replication Service is installed automatically when exchange server site replication feature is enabled. Microsoft Site Replication stores its runtime and configuration information inside its own database. If you are running your Exchange Server with Site Replication Service enabled, please make sure that you backup the site replication database as well.

iv. Microsoft Key Management Service (Exchange 2000 only)

Similarly, if you have setup your Exchange Server with Key Management Services enabled, please make sure that you backup the key management database as well.

Better Edge Backup will backup your Microsoft Exchange Server by taking the following steps:

v. Run all Pre-Commands of this backup set



- vi. If the backup type to run is [Database Backup type],
 - a. Windows System State will be backed up to a temporary directory specified in its backup set
 - b. All exchange database(s) selected are backed up to a temporary directory specified in its backup set
- vii. If the backup type to run is [Transaction Log Backup type],
 - a. New transaction log extents generated since last backup will be copied to the temporary directory
- viii. Remove transaction log extents backed up from the Exchange Server
- ix. Run all Post-Commands of this backup set
- x. Upload all backup files from the temporary directory to an Offsite Backup Server
- xi. Remove temporary files from the temporary directory if [Setting] -> [Temporary Directory for storing backup files] is enabled



12.3 How to backup Microsoft Exchange Server

Please follow the instructions below to backup your Microsoft Exchange Server 2000 / 2003 using Better Edge Backup:

i. Open Better Edge Backup

Right click Better Edge Backup icon available in the system tray and choose [Open]

Open		
Backup	•	
Backup and Logoff	•	
Backup and Restart	•	
Backup and Shutdown	+	
Help		
Stop Running Backup	×.	
Exit		
9	स्टब्ध्	9 14:4

- ii. Create a backup set
 - a. From the Menu, Choose [Backup Set] -> [New] -> [MS Exchange Backup Set]

🏪 Online Backup	Manager			
Backup Set Ba	ackup View			
New 🕨	File Backup Set			
Remove 🕨	Lotus Backup Set	et - MSSQLBackupS	iet-1	
Save	MS Exchange Backup Set			
- 🚮 Back	ackupSet-1 Li kup Source P: kup Schedule Imand Line Tool	SQLBackupSet-1 rosoft SQL Server I	Backup Properties	
	💽 Lo	g Table (MSSQLBackupSe	F1)	0
	Туре		Log	Time
Backup Log				
Welcome to Onli	ine Backup Managerl		Quota (Remaining / Total): 49.9G / 50G	ast Backup: 2004-07-22 14:32

b. Enter a name for your backup set

dd new MS Exchange Backup Set	1
Backup Set	
Please type a name for this Backup Set.	
Name: MSExchangeBackupSet-1	
Type: Microsoft Exchange Server Backup	



c. Select the database(s) to be backup

Backup Source Please select Database to be backed up. WY Computer WY Computer W	d new MS Exchange Backup Set	
Wy Computer System State Wicrosoft Exchange Server Wicrosoft Information Store Win2000SVR Win200SVR Win2000SVR Win200SVR Win20SVR	Backup Source	
System State Microsoft Exchange Server Microsoft Information Store First Storage Group Microsoft Information Store Microsoft I	Please select Database to be backed up.	
Wirrosoft Exchange Server Wirrosoft Information Store Wirrosoft Information Wirrosoft Information Wirroso		
WIN2000SVR Winzcoost information Store Winzcoost information Store Winzcoost information Store WinzcoosVR WinzcoosV		
Microsoft Information Store Microsoft Information Microsoft Information Microsoft Information Microsoft I	🗄 💕 Microsoft Exchange Server	
Image: Storage Group	🗄 – 🚍 WIN2000SVR	
Imailbox Store (WIN2000SVR) Imailbox Store (WIN200SVR) Imailbox Store (WIN20SVR) Imailbox Store (WIN	🖃 🥅 💕 Microsoft Information Store	
Imailbox Store (WIN2000SVR) Imailbox Store (WIN200SVR) Imailbox Store (WIN20SVR) Imailbox Store (WIN	😑 🥅 💋 First Storage Group	
Temporary directory for storing backup files C \Backup\MSExchange Change		
Temporary directory for storing backup files C:BackupWSExchange Change		
Temporary directory for storing backup files C:BackupMSExchange		_
Temporary directory for storing backup files C3BackupWSExchange Change		
Temporary directory for storing backup files C1BackupWSExchange Change	act	
Temporary directory for storing backup files C:BackupMSExchange Change		
C1Backup1MSExchange Change	Temporary directory for storing backup files	
		1
	Change	
		-
< Previous Next > Cancel	< Previous Next > Cano	el

If this Exchange Server is also a domain controller of this Active Directory, select the [System State] checkbox as well. Otherwise, please install Better Edge Backup to the domain controller of this Active Directory and select the [System State] checkbox on that computer

- d. Enter a temporary directory for storing the backup files before they are sent to an Offsite Backup Server
- e. Set the backup schedule for Database Backup



f. Set the backup schedule for Transaction Log Backup

(Note: You can have more than one schedule in a backup set, i.e. you can perform intra-day transaction log backup by adding more than one daily transaction log backup schedule to your backup set)

g. Set the encryption algorithm, encryption mode and encrypting key for this backup set

Add new Lotus Backup Set
Encryption Setting Please setup the encryption setting of the Backup Set.
Do NOT use encryption. Algorithm: Twofish Mode:
CBC (Cipher Block Chaining) C ECB (Electronic CookBook)
Encrypting Key: Confirm Encrypting Key:
< Previous Next > Cancel

(Hint: For maximum security, please select AES (Advanced Encryption Standard) Algorithm, CBC (Cipher Block Chaining) mode and use an encrypting key with more than 8 characters.)

- iii. Run Backup
 - Select the backup set you want to run on the left panel and press the [Start Backup] button a. (►)
 - b. Select the backup type (e.g. Database, Log Files) you would like to perform

Select Backup T	ype (MSExchangeBackupSet-1)	x
Backup © Databa C Log File		
	OK Cancel	

Select [Off-site Backup Server] to start backing up your files to an Offsite Backup Server and c. press the [OK] button

Confirm Backup Start	X
Backup to	
Off-site Backup Server	
C Local Hard Disk (Seed Load Utility)	
Start the backup for [MSExchangeBackupSet-	1] ?
OK Cancel	

d. You should get something similar to the screen shot below.

🧿 Backup Controller 🛛 🕺 🕅	🕑 Ba	ckup Set - MSExchangeBackupSet-1		
User Profile User Profile Backup Source Backup Source Backup Schedule Command Line Tool Setting Encryption	0.00000	kup Set ne: MSExchangeBackupSet-1 e: Microsoft Exchange Server Backup Properties		
	U Lo	g Table (MSExchangeBackupSet-1)		
	Type	Log	Time	٦
	1	Start	[2004/01/31 13:53:47]	٦
		Start running pre-commands	[2004/01/31 13:53:47]	
	0	Finished running pre-commands	[2004/01/31 13:53:47]	
	()	Using Temporary Directory - 'F:\Backup\MSExchange\1071124	[2004/01/31 13:53:47]	
	Ū.	Start Microsoft Exchange backup	[2004/01/31 13:53:47]	
	١	[Start] Exchange Server - "WIN2000SVR"	[2004/01/31 13:53:47]	
	(i)	[Start] Service - "Microsoft Information Store"	[2004/01/31 13:53:47]	
	•	[Start] Storage Group - "First Storage Group"	[2004/01/31 13:53:47]	
	٢	[Start] Database - "Mailbox Store (WIN2000SVR)"	[2004/01/31 13:53:47]	
	1	Backing up 'E:\Program Files\Exchsrvnmdbdata\priv1.edb'	[2004/01/31 13:53:47]	
	1	Backing up 'E:\Program Files\Exchsrvr\mdbdata\priv1.stm'	[2004/01/31 13:53:49]	
	1	[End] Database	[2004/01/31 13:53:51]	
	1	[Start] Database - "Public Folder Store (WIN2000SVR)"	[2004/01/31 13:53:51]	
	00000	Backing up 'E:\Program Files\Exchsrvr\mdbdata\pub1.edb'	[2004/01/31 13:53:51]	
	0	Backing up 'E:\Program Files\Exchsrvr\mdbdata\pub1.stm'	[2004/01/31 13:54:19]	
	()	[End] Database	[2004/01/31 13:54:22]	
	(į	[Start] Backing up log files	[2004/01/31 13:54:22]	
	(1)	Backing up 'E:\Program Files\Exchsrvr\mdbdata\E00000B	[2004/01/31 13:54:23]	

12.4 How to restore Microsoft Exchange Server

Please follow the instructions below to restore Microsoft Exchange Server 2000 / 2003 from an Offsite Backup Server.



i. Prepare the system for your Exchange Server (if required)

Install the original version of Windows and Exchange Server (with the same level of service pack installed as in the original system) back to your computer

ii. Restore Windows Active Directory (if required)

If you have re-installed Windows, please download the Windows System State backup file, named [SystemState.bkf], from Offsite Backup Server and then use [NTBackup.exe] to restore your Windows System State to its backup time from the backup file by following the instructions below:

- a. Run [NTBackup.exe] from [Start] -> [Run]
- b. Press the [Restore Wizard] button and then press the [Next] button
- c. Press the [Import] button and use the [Browse] button to select the backup file [SystemState.bkf] downloaded
- d. Select the checkbox next to the description that matches your backup file
- e. Press the [Next] button and then the [Finish] button
- iii. Install Better Edge Backup (if required)

Please refer to the [Installation] section for information on how to install Better Edge Backup onto your computer.

- iv. Startup the [Microsoft Information Store] services from Windows Services
- v. Restore exchange database(s) from backup:
 - a. Download the database backup files to be restored from the Offsite Backup Server (or find the cached copy available in the temporary directory defined in your backup set) and save them to your hard disk (please make sure the directory structure is the same as it appears on the browser)
 - b. If the database to be restored exists on your computer already, please dismount it from the services using [Start] -> [Program] -> [Microsoft Exchange] -> [System Manager]
 - c. Use [ExchangeRestore.exe] from the [bin] directory under the installation directory of Better Edge Backup (e.g. C:\Program Files\Better Edge Backup\bin\ExchangeRestore.exe) to restore the exchange database(s).

Simply run [ExchangeRestore.exe] to print the usage

ExchangeRestore.exe Usage:
C:\Program Files\Better Edge Backup\bin> ExchangeRestore.exe
Microsoft Exchange Server 2000/2003 Backup Recovery Utility
Usage: ExchangeRestore DIR=path SERVER=server TEMP=tempDir [SERVICE=service [STORAGE=st orage [DATABASE=database]]]
DIR Directory containing all backup files SERVER Name of Exchange Server to be restored TEMP Temporary directory to be used during restore Please specific a path with plenty of free space
SERVICE Name of Exchange Service to be restored. It must be either "Microsoft Information Store", "Microsoft Key Management Service" or "Microsoft Site Replication Service"
STORAGE Name of storage group to be restored DATABASE Name of database to be restored
Examples: 1. To restore an exchange server: ExchangeRestore DIR="C:\Backup" SERVER="ExchangeServer" TEMP="C:\Temp"
 To restore the information store: ExchangeRestore DIR="C:\Backup" SERVER="ExchangeServer" TEMP="C:\Temp" SERVICE="Microsoft Information Store"
3. To restore an exchange storage group:





d. (Example 1) To restore all databases from backup available in [F:\Backup] to an exchange server named [WIN2000SVR] using the temporary directory [F:\Temp], you can use this command:

E:\Program Files\Better Edge Backup\bin> ExchangeRestore DIR="F:\Backup" TEMP="F:\Temp" SERVER="WIN2000SVR"

Exchange Server Recovery Example:
Program Files\Better Edge Backup\bin> ExchangeRestore DIR="F:\Backup" P="F:\Temp" SERVER="WIN2000SVR"
rosoft Exchange Server 2000/2003 Backup Recovery Utility
<pre>tart] Exchange Server - 'WIN2000SVR' Start] Service - 'Microsoft Information Store' [Start] Storage Group - 'First Storage Group' [Start] Database - 'Mailbox Store (WIN2000SVR)' Restoring file 'E:\Program Files\Exchsrvr\mdbdata\privl.edb' Restoring file 'E:\Program Files\Exchsrvr\mdbdata\privl.edb' [End] Database - 'Mailbox Store (WIN2000SVR)' [Start] Database - 'Public Folder Store (WIN2000SVR)' Restoring file 'E:\Program Files\Exchsrvr\mdbdata\publ.edb' [End] Patabase - 'Public Folder Store (WIN2000SVR)' [Start] Restoring transaction log - 'First Storage Group\E00000B3.log' [End] Restoring transaction log [End] Puplying transaction log [End] Applying transaction log [End] Applying transaction log [End] Applying transaction log [End] Puplying tran</pre>
[End] Storage Group - 'First Storage Group'
<pre>[Start] Storage Group - 'SG2' [Start] Database - 'acct' Restoring file 'E:\Program Files\Exchsrvr\SG2\acct.edb' Restoring file 'E:\Program Files\Exchsrvr\SG2\acct.stm' [End] Database - 'acct' [Start] Restoring transaction log - 'SG2' Restoring Log File 'F:\Temp\restore.tmp\SG2\E0100072.log' Restoring Log File 'F:\Temp\restore.tmp\SG2\E0100073.log' [End] Restoring transaction log [End] Applying transaction log [End] Applying transaction log [End] Storage Group - 'SG2'</pre>
d] Exchange Server - 'WIN2000SVR'
Program Files\Better Edge Backup\bin>

e. (Example 2) To restore the database named [mail] in storage group [SG5] from backup available in [F:\Backup] to an exchange server named [WIN2000SVR] using the temporary directory [F:\Temp], you can use this command:

E:\Program Files\Better Edge Backup\bin> ExchangeRestore DIR="F:\Backup" TEMP="F:\Temp" SERVER="WIN2000SVR" SERVICE="Microsoft Information Store" STORAGE="SG5" DATABASE="mail1"

Exchange Server Recovery Example:	
E:\Program Files\Better Edge Backup\bin> ExchangeRestore DIR="F:\Backup" TEMP=F:\Temp" SERVER="WIN2000SVR" SERVICE="Microsoft Information Store" STORAGE="SG5" DATABASE="mail"	
Microsoft Exchange Server 2000/2003 Backup Recovery Utility	
[Start] Storage Group - 'SG5' [Start] Database - 'mail' Restoring file 'E:\Program Files\Exchsrvr\SG5\mail.edb' Restoring file 'E:\Program Files\Exchsrvr\SG5\mail.stm'	



- [End] Database 'mail'
 [Start] Restoring transaction log 'SG5'
 Restoring Log File 'F:\Temp\restore.tmp\SG5\E0300012.log' ...
 [End] Restoring transaction log 'SG5'
 [Start] Applying transaction log ...
 [End] Applying transaction log
 [End] Storage Group 'SG5'
 E:\Program Files\Better Edge Backup\bin>
- E:\Program Files\Better Edge Backup\bin>

 f.
 Repeat the same procedure for each database to be restored to the Exchange Server.
- g. You can use [Start] -> [Program] -> [Administrative Tools] -> [Event Viewer] to check if there are any errors generated from the exchange databases restoring activities.
- vi. Completed



13 Backup/Restore Windows System State

This chapter will describe in details how to use Better Edge Backup to backup Windows System State and how you can restore your Windows System State from backup.

13.1 Requirements

- i. Microsoft Windows XP Professional / 2003
- ii. Better Edge Backup must be installed onto the computer containing the system state you want to backup
- iii. Windows system state will be backed up to a temporary file before it is sent to OBS. Please make sure you have sufficient space on your computer to store the temporary file when you run the backup job.

13.2 Overview

Better Edge Backup will backup your Microsoft Exchange Server by taking the following steps:

- i. Run all Pre-Commands of this backup set
- ii. Windows System State will be backed up to a temporary directory specified in its backup set
- iii. Run all Post-Commands of this backup set
- iv. Upload the Windows System State backup files from the temporary directory to an Offsite Backup Server
- v. Remove the Windows System State temporary backup files from the temporary directory if [Setting] -> [Temporary Directory for storing backup files] is enabled



13.3 How to backup Windows System State

Please follow the instructions below to backup Windows System State using Better Edge Backup:

i. Open Better Edge Backup

Right click Better Edge Backup icon available in the system tray and choose [Open]

Open		
Backup	•	
Backup and Logoff	•	
Backup and Restart	+	
Backup and Shutdown	+	
Help		
Stop Running Backup	×.	
Exit		
	त्रस्	14:46

- ii. Create a backup set
 - a. From the Menu, Choose [Backup Set] -> [New] -> [System State Backup Set]

🖳 Online Backup Manage			- 0 ×
Backup Set Backup Re	estore Tools View Help		
📑 New 🕨 🚺	🔯 File Backup Set		
🛃 Remove 🔹 🕨 🔤	👸 System State Backup Set	1	
📕 Save Setting	👩 Lotus Backup Set		
🧾 Exit	🐼 MS Exchange Backup Set		
	MS Exchange Mail Level Backup Set		
	MS SQL Server Backup Set		
	🧑 MySQL Backup Set 葿 Oracle Database Backup Set	tication for Windows	
	User Name:		
	Password:		
	der		
		Properties	
	Run scheduled backup	p on this computer	
	1		
	🛃 Log Table (FileBackupSe	t-1)	
	Туре	Log Time	
🌍 Backup 😡 Restore	Eog		
Welcome to Online Backup	p Manager!	Quota (Remaining / Total): 9.866 / 106 Last Backup: 2007-01-	16 12:22

b. Enter a name for your backup set



Add new	System State Backup Set		×
Backup	Set		
Please	type a name for this Backup S	et.	
Name:	SystemStateBackupSet-1		
	1169009343437 System State Backup		
Cance	el 👘	< Previous	Next >

c. Use the [Change] button to configure the [Temporary directory for storing backup files] setting and check the [Remove temporary files after backup] if you want temporary files to be removed automatically after backup

Add new System State Backup Set
Backup Source
🕞 😼 My Computer
🗆 🔚 层 System State
Temporary directory for storing backup files
C:\Backup\SystemState Change
Remove temporary files after backup
Cancel < Previous Next >

- d. Enter a temporary directory for storing the backup files before they are sent to an Offsite Backup Server
- e. Set the backup schedule for this backup set



Add new System State Backup Set
Backup Schedule
Please schedule the backup time.
BackupSchedule-1 (Type: Weekly - Friday)
Add Remove Properties
Cancel < Previous Next >

f. Set the encryption algorithm, encryption mode and encrypting key for this backup set

Add new System State Backup Set	×
Encryption Setting	
Please setup the encryption setting of the Backup Set.	
O Default (Use Login Password as Encrypting Key)	
© Custom	
Do NOT use encryption.	
Algorithm: AES	
Mode:	
CBC (Cipher Block Chaining)	
C ECB (Electronic CookBook)	
Encrypting Key:	
Confirm Encrypting Key:	
Cancel < Previous Next >	1
	-

(Hint: For maximum security, please select AES (Advanced Encryption Standard) Algorithm, CBC (Cipher Block Chaining) mode and use an encrypting key with more than 8 characters.)

- iii. Run Backup
 - a. Select the backup set you want to run on the left panel and press the [Start Backup] button (\blacktriangleright)
 - b. Select [Off-site Backup Server] to start backing up your files to an Offsite Backup Server and press the [OK] button





c. You should get something similar to the screen shot below.



13.4 How to restore Windows System State

Please follow the instructions below to restore Windows System State from an Offsite Backup Server.

i. Install Better Edge Backup (if required)

Please refer to the [Installation] section for information on how to install Better Edge Backup onto your computer.

- ii. Restore the Windows System State Backup File (i.e. SystemState.bkf) from the backup server
- iii. Use [NTBackup.exe] to restore your Windows System State to its backup time from the backup file by following the instructions below:
 - a. Run [NTBackup.exe] from [Start] -> [Run]
 - b. Press the [Restore Wizard] button and then press the [Next] button
 - c. Press the [Import] button and use the [Browse] button to select the backup file [SystemState.bkf] downloaded
 - d. Select the checkbox next to the description that matches your backup file
 - e. Press the [Next] button and then the [Finish] button
- iv. Completed

14 Backup/Restore Individual Brick Level Backup for Microsoft

Exchange Server (Professional Version Only)

14.1 Requirements

 Microsoft Exchange Server 2000 with Services Pack 3 and post-SP3 update rollup installed. Please refer to <u>http://www.microsoft.com/exchange/</u> for more information. or

Microsoft Exchange Server 2003.

ii. Better Edge Backup must be installed onto the computer running Microsoft Exchange Server 2000 / 2003.

14.2 Overview

Brick Level Backup for Microsoft Exchange Server is not designed to fully protect an Exchange server, but to facilitate easy backup and fast restore of individual emails, contacts, calendars, tasks etc. The brick level restore cannot fully recover the Information Store after a disaster. If used, a brick level backup must be utilized in conjunction with full Information Store Backup, in order to fully protect the exchange server.

14.3 Granting Privileges

Brick Level Backup requires "Full Mailbox Access" permission for the user running Better Edge Backup. Normally, Better Edge Backup can acquire the permission on it's own but if you encounter 'Access Denied' errors you need to manually grant access privileges to the user running Better Edge Backup using one of the following instructions below:

For one specific mailbox

Use the following procedure to grant access to an Exchange 2000 or an Exchange 2003 mailbox:

- 1 Start Active Directory Users and Computers.
- 2 On the View menu, ensure that the Advanced Features check box is selected.
- 3 Right-click the user whose mailbox you want to give permissions to and choose Properties.
- 4 On the Exchange Advanced tab, click Mailbox Rights.
- 5 Notice that the Domain Admins and Enterprise Admins have both been given Deny access to Full Mailbox access.
- 6 Click Add, click the user or group who you want to have access to this mailbox, and then click OK.
- 7 Be sure that the user or group is selected in the Name box.
- 8 In the Permissions list, click Allow next to Full Mailbox Access, and then click OK.
- 9 Click Ok all the way out.
- 10 Restart the Microsoft Exchange Information Store.

For mailboxes located within a specific mailbox store

Use the following procedure to grant access to an Exchange 2000 or an Exchange 2003 mailbox found on a specific mailbox store:

- 1 Start Exchange System Manager.
- 2 Drill down to your server object within the appropriate Administrative Group. Expand the server object and find the required mailbox store within the appropriate Storage Group. Right-click it and choose Properties.
- 3 In the Properties window go to the Security tab.
- 4 Click Add, click the user or group who you want to have access to the mailboxes, and then click OK.
- 5 Be sure that the user or group is selected in the Name box.
- 6 In the Permissions list, click Allow next to Full Control, and then click OK.
- 7 Click 'Apply' and 'OK'
- 8 Restart the Microsoft Exchange Information Store.

For mailboxes located within a specific server

- 1 Start Exchange System Manager.
- 2 Drill down to your server object within the appropriate Administrative Group. Right-click it and choose Properties.
- 3 In the Properties window go to the Security tab.
- 4 Click Add, click the user or group who you want to have access to the mailboxes, and then click OK.
- 5 Be sure that the user or group is selected in the Name box.
- 6 In the Permissions list, click Allow next to Full Control, and then click OK.
- 7 Click Ok all the way out.
- 8 Restart the Microsoft Exchange Information Store.



14.4 How to backup Individual Brick Level Backup

Please follow the instructions below to backup all individual items within your Microsoft Exchange Server 2000 / 2003 using Better Edge Backup:

i. Open Better Edge Backup

Right click Better Edge Backup icon available in the system tray and choose [Open]

Open			
Backup	⊁		
Backup and Logoff	•		
Backup and Restart	+		
Backup and Shutdown			
Help			
Stop Running Backup	F		
Exit		_	
•	문문	ģ.	14:4

- ii. Create a backup set
 - a. From the Menu, Choose [Backup Set] -> [New] -> [MS Exchange Mail Level Backup Set]

La Online Backup Manager		_ 8 ×
Backup Set Backup Restore Tools View Help		
🥂 🎦 New 🔹 🚺 File Backup Set		
📑 Remove 🔹 🐻 System State Backup Set	leBackupSet-1	1
📙 Save Setting 👩 Lotus Backup Set	ebackapoer i	
📔 Exit 😿 MS Exchange Backup Set		
MS Exchange Mail Level Backup Set	kupSet-1 9894093	
MS SQL Server Backup Set	kup	
MySQL Backup Set	urces Authentication for Windows	
📄 Oracle Database Backup Set		
User Name: Password:		
Password.		
	Properties	
E Run sched	uled backup on this computer	
2 Log Table (Fil	eBackunSat.1)	4
Type	Log	Time
Tibe	Lõg	
Backup 🔮 Restore 💼 Log		
Welcome to Online Backup Managerl	Quota (Remaining / Total): 9.86G / 10G	Last Backup: 2007-01-19 16:59

b. Enter a name for your backup set





c. Select the email account(s) to backup

Add new MS Exchange Backup Set		×
Backup Source		
Please select Database to be backed	tup.	
Name	From / To	
BOL-WIN2000 ⊕-□ ₽ Malibox Store ⊕-□ ₽ Public Folder Store		
Cancel	< Previous	Next >

Add new MS Exchange Backup Set		×
Backup Source Please select Database to be backed	•	
Name ⇒ SOL-WIN2000 → → Mailbox Store → → ♥ ADMINISTRATOR → → ♥ ♥ JANE DOE → → ♥ ♥ JANE DOE → → ♥ ♥ JOHN.SMITH → → ♥ ♥ JOHN.SMITH → → ♥ ♥ Public Folder Store	From / To	
Cancel	< Previous	Next >





You can drill down to select individual items.

d. Set the backup schedule

Add new MS Exchange Backup Set	×
Backup Schedule	
Please schedule the backup time.	
BackupSchedule-1 (Type: Daily)	
Add Remove Properties	
Cancel	
BackupSchedule-1 Name: BackupSchedule-1 Backup MS Exchange Mailbox	
Type © Daily © Weekly © Monthly © Custom	
Day Backup everyday	
Start Start Time (hh:mm): 21 - :00 -	
Stop Stop on completion (Full Backup) Stop after Anour(s)	
OK	

Set the encryption algorithm, encryption mode and encrypting key for this backup set e.



Add new MS Exchange Backup Set	×
Encryption Setting	
Please setup the encryption setting of the Backup Set.	
C Default (Use Login Password as Encrypting Key)	
© Custom	
Do NOT use encryption.	
Algorithm: AES	
Mode:	
CBC (Cipher Block Chaining)	
C ECB (Electronic CookBook)	
Encrypting Key:	
Confirm Encrypting Key:	
Cancel < Previous Net	
Cancer Ne:	×1 ~

(Hint: For maximum security, please select AES (Advanced Encryption Standard) Algorithm, CBC (Cipher Block Chaining) mode and use an encrypting key with more than 8 characters.)

- iii. Run Backup
 - a. Select the backup set you want to run on the left panel and press the [Start Backup] button (\blacktriangleright)
 - b. Select [Offsite Backup Server] to start backing up your files to an Offsite Backup Server and press the [OK] button

Confirm Backup Start	×
Backup to Offsite Backup Server & Local Hard Disk (Local Copy)	
C Local Hard Disk (Seed Load Utility) Start the backup for (MSExMailLevelBackupSet-1)? OK Cancel	

c. You should get something similar to the screen shot below.



ackup Set Backup Restore To			
Save Setting 🕨 Start Backup 📗	Stop Backup		
🕻 Backup Controller 🛛 🔀	📴 Backup Set - MSExMailLevelBackupSet-1		
User Profile Backup Set Backup Set			
— 🚰 Setting	🛃 Log Table (MSExMailLevelBackupSet-1)		
—🚰 Encryption	Type	Time	
-fig Retention Policy	① Start [Windows 2000 (sol-win2000), OBM 5.2.1.0]	[2007/01/19 17:09:55]	
	5 Start running pre-commands	[2007/01/19 17:09:55]	
- 📥 Local Copy	Finished running pre-commands	[2007/01/19 17:09:55]	
	Reading backup source from hard disk	[2007/01/19 17:09:55]	
	Downloading server file list	[2007/01/19 17:09:55]	
	Downloading server file list Completed	[2007/01/19 17:09:55]	
	Reading backup source from hard disk Completed	[2007/01/19 17:09:56]	
	Getting all files which have been added	[2007/01/19 17:09:56]	
	Getting all files which have been added Completed	[2007/01/19 17:09:56]	
	Getting all files which have been deleted	[2007/01/19 17:09:57]	
	Getting all files which have been deleted Completed	[2007/01/19 17:09:57]	
	Number Of E-mail Account Remain="9"	[2007/01/19 17:09:57]	
	💿 Exist E-mail Account	[2007/01/19 17:09:57]	
	I JANE.DOE	[2007/01/19 17:09:57]	
	Total New E-mail Account = 1	[2007/01/19 17:09:57]	
	JANE.DOE	[2007/01/19 17:09:57]	
	Total Deleted E-mail Account = 0	[2007/01/19 17:09:57]	
	Total New Mail = 6	[2007/01/19 17:09:57]	
	Total Deleted Mail = 0	[2007/01/19 17:09:57]	
	[1/19] [New Directory] Uploading "SOL-WIN2000"	[2007/01/19 17:09:58]	
	[2/19] [New Directory] Uploading "SOL-WIN2000/Mailbox Store"	[2007/01/19 17:09:58]	
	[3/19] [New Directory] Uploading "SOL-WIN2000Mailbox StoreUANE.DOE"	[2007/01/19 17:09:58]	
	[4/19] [New Directory] Uploading "SOL-WIN2000/Mailbox Store\JANE.DOE\Calendar"	[2007/01/19 17:09:58]	
	(5/19) [New Mail] Uploading 100% of "SOL-WIN2000/Mailbox Store/JANE.DOE/Calendar/test appointment"	[2007/01/19 17:09:59]	
	[6/19] [New Mail] Uploading 100% of "SOL-WIN2000/Mailbox Store/JANE.DOE/Calendar/test appointment	[2007/01/19 17:09:59]	
	[7/19] [New Mail] Uploading 100% of "SOL-WIN2000/Mailbox Store/JANE.DOE/Calendar/aaa"	[2007/01/19 17:10:00]	
	[8/19] [New Directory] Uploading "SOL-WIN2000/Mailbox Store/JANE.DOE/Contacts"	[2007/01/19 17:10:00]	
	IQUINING MARK Mail Liniogding 400% of "SOL-WIN2000Mailhov Store) IANE DOELContertelteet"	12007/01/10 17:10:001	_

14.5 How to restore Individual Brick Level Backup

Please follow the instructions below to restore individual emails, contacts, calendars, tasks etc. from an Offsite Backup Server back into your exchange server. Please note that individual brick level can only be restored using the Better Edge Backup client.

i. Open Better Edge Backup

Right click Better Edge Backup icon available in the system tray and choose [Open]

Open		
Backup	•	
Backup and Logoff	•	
Backup and Restart	•	
Backup and Shutdown	+	
Help		
Stop Running Backup	×.	
Exit		
•	t 🚑	14:4

ii. Choose the [Restore] tab and select the items you want to restore



lackup Set Backup Restore Too		
Save Setting 🕨 Restore Files		
Restore Controller Image: Controller Image: Controller Image: Controller Image: Controller	Restore Source (MSExMailLevelBackupSet-1)	Ĺ
	C Show all files ■ Backup Server ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■	
	Gunject aas (received: Tue 8/1/2006 12:00 FM Size: 5k) Gunject (Sate Modified: Fri 1/19/2007 5:08 PM Size: 5k) Gunject (Berns Gunject testing email (Received: Tue 8/1/2006 2:40 PM Size: 10k) Gunject testing email (Received: Tue 8/1/2006 2:40 PM Size: 10k) Gunject testing email (Received: Tue 8/1/2006 2:40 PM Size: 10k) Gunject testing email (Received: Tue 8/1/2006 2:40 PM Size: 10k) Gunject testing email (Received: Tue 8/1/2006 2:40 PM Size: 10k) Gunject testing email (Received: Tue 8/1/2006 2:40 PM Size: 10k) Gunject testing email (Received: Tue 8/1/2006 2:40 PM Size: 10k) Gunject testing email (Received: Tue 8/1/2006 2:40 PM Size: 10k) Gunject testing email (Received: Tue 8/1/2006 2:40 PM Size: 10k) Gunject testing email (Received: Tue 8/1/2006 2:40 PM Size: 10k) Gunject testing email (Received: Tue 8/1/2006 2:40 PM Size: 10k) Gunject testing email (Received: Tue 8/1/2006 2:40 PM Size: 10k) Gunject testing email (Received: Tue 8/1/2006 2:40 PM Size: 10k) Gunject testing email (Received: Tue 8/1/2006 2:40 PM Size: 10k) Gunject testing email (Received: Tue 8/1/2006 2:40 PM Size: 10k) Gunject testing email (Received: Tue 8/1/2006 2:40 PM Size: 10k) Gunject testing email (Received: Tue 8/1/2006 2:40 PM Size: 10k) Gunject testing email (Received: Tue 8/1/2006 2:40 PM Size: 10k) Gunject testing email (Received: Tue 8/1/2006 2:40 PM Size: 10k) Gunject testing email (Received: Tue 8/1/2006 2:40 PM Size: 10k) Gunject testing email (Received: Tue 8/1/2006 2:40 PM Size: 10k) Gunject testing email (Received: Tue 8/1/2006 2:40 PM Size: 10k) Gunject testing email (Received: Tue 8/1/2006 2:40 PM Size: 10k) Gunject testing email (Received: Tue 8/1/2006 2:40 PM Size: 10k) Gunject testing email (Received: Tue 8/1/2006 2:40 PM Size: 10k) Gunject testing email (Received: Tue 8/1/2006 2:40 PM Size: 10k) Gunject testing email (Received: Tue 8/1/2006 2:40 PM Size: 10k) Gunject testing email (Received: Tue 8/1	

iii. Press the [Restore Files] button

🎦 Restore Files		×
Backup Set: MSExMailLevelBa	ckupSet-1 (Microsoft Exchange Mail (MAPI))	
Time	Log	
Estimated Total Restore Time	n en	
Estimated Restore Time:		
Saving File To: Restoring Speed:		
Close		Start Stop

iv. Press [Start]



Time	Log
2007-01-19 17:16:50	Start
2007-01-19 17:16:50	Downloading restore file list
2007-01-19 17:16:50	Same mail "SOL-WIN2000\Mailbox Store\JANE.DOE\Calendar\test appoi
2007-01-19 17:16:50	Same mail "SOL-WIN2000\Mailbox Store\JANE.DOE\Calendar\test appoi
2007-01-19 17:16:50	Same mail "SOL-WIN2000\Mailbox Store\JANE.DOE\Calendar\aaa" exist.
2007-01-19 17:16:50	Same mail "SOL-WIN2000\Mailbox Store\JANE.DOE\Contacts\test" exist.
2007-01-19 17:16:50	Same mail "SOL-WIN2000\Mailbox Store\JANE.DOE\Inbox\testing email"
2007-01-19 17:16:50	End
imated Total Restore Tin imated Restore Time:	ne: 0 sec (Total - 39.31 k bytes - 0 bytes restored) 0 sec (Total 0 bytes - 0 bytes restored)

v. Restore complete. Please logon to exchange to get the restored items.



15 Backup/Restore MySQL Server

This chapter will describe in details how to use Better Edge Backup to backup your MySQL server and how you can restore your MySQL server from the database backup files.

15.1 Requirements

- i. Better Edge Backup must be installed onto the computer running MySQL server.
- ii. Data from MySQL server will be backed up to a temporary directory before they are sent to Offsite Backup Server. Please make sure you have sufficient space on your computer to store these data when you run the backup job.
- iii. There must be a MySQL account can be used to connect from localhost.

Add two new MySQL accounts for Backup Manager

```
mysql> GRANT ALL PRIVILEGES ON *.* TO 'root'@'localhost'
    -> IDENTIFIED BY 'some_pass';
mysql> GRANT ALL PRIVILEGES ON *.* TO 'root'@'localhost.localdomain'
    -> IDENTIFIED BY 'some_pass';
mysql> FLUSH PRIVILEGES;
```

They are superuser accounts with full privileges to do anything with a password of some_pass.

15.2 Overview

Better Edge Backup will backup your MySQL server by taking the following steps:

- i. Run all Pre-Commands of this backup set
- ii. All database(s) (either local or external) selected are backed up to a temporary directory specified in its backup set
- iii. Run all Post-Commands of this backup set
- iv. Upload all backup files from the temporary directory to an Offsite Backup Server
- v. Remove temporary files from the temporary directory if [Setting] -> [Temporary Directory for storing backup files] is enabled



15.3 How to backup MySQL server on Windows

Please follow the instructions below to backup your MySQL server using Better Edge Backup:

i. Open Better Edge Backup

Right click Better Edge Backup icon available in the system tray and choose [Open]

Open			
Backup	•		
Backup and Logoff	•		
Backup and Restart	•		
Backup and Shutdown			
Help			
Stop Running Backup	×		
Exit			
	Ra	ġ.	14:4

- ii. From the Menu, Choose [Backup Set] -> [New] -> [MySQL Backup Set] Create a backup set
 - a. From the Menu, Choose [Backup Set] -> [New] -> [MySQL Backup Set]

🛄 Online Backup Manager					<u>_ </u>
Backup Set Backup View	•				
New File Back					
Save MS Excha Exit MS SQL S MSSQL Ba	nge Backup Set ierver Backup Set itabase Backup Set Login II Passwi	et-MSSOLBackup8 SOLBackup8et-1 rosoft SOL Server 6 SOL Server): sa ord: *****			
	Log Tab	le (MSSQLBackupSel	-1)		0
	Туре		Log		Time
Backup Log					
Welcome to Online Backup N	lanager!		Quota (Remaining / Total): 4	9.9G / 50G La	ast Backup: 2004-07-22 14:32

b. Enter a name for your backup set

Add new MySQL Backup Set	×
Backup Set	
Please type a name for this Backup Set.	
Name: MySQLBackupSet-1	
Type: MySQL Backup	
MySQL	
User Name: root	
Password: *****	
Hostilocalhost	
Port: 3306	
Path to mysqldump	
C:/mysql/bin Change	
< Previous Cancel	



- c. Enter the root password, the MySQL server TCP/IP port number and the path to MySQL backup utility (mysqldump)
- d. Select the database(s) to be backup

Add new MySQL Backup Set	×
Backup Source	
Please select databases to be backed up.	
E-IF ∰ MrSQL - IF ∰ menagerie - IF ∰ test	
Temporary directory for storing backup files	
C1Backup1MySQL Change	
< Previous Cance	

- e. Enter a temporary directory for storing the backup files before they are sent to an Offsite Backup Server, e.g. C:\Backup\MySQL
- f. Set the backup schedule for Database Backup

Add new MySQL Backup Set	×
Backup Schedule	
Please schedule the backup time.	
BackupSchedule (Type: Weekly - Friday)	
Add Remove Proper	ties
< Previous Next > Ca	incel

g. Set the encryption algorithm, encryption mode and encrypting key for this backup set

Add new MySQL Backup Set	×
Encryption Setting Please setup the encryption setting of the Backup Set.	
Do NOT use encryption. Algorithm: AES Mode: CBC (Cipher Block Chaining)	
C ECB (Electronic CookBook)	
Confirm Encrypting Key:	
< Previous Next >	Cancel

(Hint: For maximum security, please select AES (Advanced Encryption Standard) Algorithm, CBC (Cipher Block Chaining) mode and use an encrypting key with more than 8 characters.)



iii. Run Backup

- a. Select the backup set you want to run on the left panel and press the [Start Backup] button (\blacktriangleright)
- b. Select [Off-site Backup Server] to start backing up your files to an Offsite Backup Server and press the [OK] button

Confirm Backup Start	×
Backup to	
Off-site Backup Server	
C Local Hard Disk (Seed Load Utility)	
Start the backup for [MySQLBackupSet-1] ?	
OK	

c. You should get something similar to the screen shot below.

🚉 Online Backup Manager				
Backup Set Backup View				
🤣 Backup Controller 🛛 者	🛅 Backup Set - MySQLBackupS	et-1		
Guser Profile Gover P	Backup Set Name: MrSQLBackupSet-1 Type: MrSQL MrSQL User Name: root Password: Host localhost Port: 3306 Path to mysqldump C:tmysqlbin Ly Log Table (MrSQLBackupSet			1
	Type	Log	Time	Т
	 Start Start running pre-commai Finished running pre-com 	nds mands ry - 'C:\Backup\MySQL\1088760442718' sse 'mysql' to 'mysql.sql'	[2004/07/22 16:47:01] [2004/07/22 16:47:01] [2004/07/22 16:47:01] [2004/07/22 16:47:01] [2004/07/22 16:47:01] [2004/07/22 16:47:01] [2004/07/22 16:47:01]	
Backup Log				-
Finished running post-commands		Quota (Remaining / Total): 49.9G / 50G	Last Backup: 2004-07-22	14:3



15.4 How to backup MySQL server on Linux (command line mode)

If you want to setup Better Edge Backup to backup MySQL server running on Linux using command line mode, please do the followings:

- i. Create a backup account on OBS
- ii. Logon to the web interface of OBS using the backup account created in the previous step (doesn't matter if it is not from the Linux server running the MySQL server to be backed up)
- iii. Create a new backup set by pressing the [Backup Set] -> [Add] button
- iv. Select the [Backup Set] -> [Type] -> [MySQL Database Server] radio button and press the [Update] button (which can be found at the bottom of the page)
- v. Setup all [Backup Set] -> [Database Backup Setting]

Settings	Descriptions
MySQL Username (e.g root)	A MySQL user account that has backup access to the databases to be backed up (e.g. root). Please refer to the [<u>Requirements</u>] section for details
MySQL Password	Password of the MySQL user account being used
Host	IP address / Hostname of the MySQL Server
MySQL Connection TCP/IP Port	TCP/IP port used to access the MySQL Server (default: 3306)
Path to MySQL backup utility (mysqldump)	Full path to where mysqldump can be found (e.g. /usr/bin/mysqldump)
Temporary Spooling Directory	A temporary directory to be used to store all MySQL database dump files before they are uploaded to the backup server
Enable Delete Temp. File	Whether to delete the temporary MySQL database dump files after they are uploaded to the backup server

- vi. Setup the [Backup Set] -> [Backup Source] setting
 - Add an "MySQL" entry to the [Backup Source] if you want to backup all databases under this MySQL Server
 - Add two entries, "MySQL/database1" and "MySQL/database2", to the [Backup Source] if you want to backup both "database1" and "database2" under this MySQL Server

(Please use "\" instead of "/" if the MySQL server to be backed up is running on Windows instead of Linux)

- vii. Setup the [Backup Set] -> [Backup Schedule] by pressing the [Add] link next the the "Backup Schedule" sub-title
- viii. Install Better Edge Backup onto the Linux server running MySQL server (Please refer to the [2.1 Installation of Better Edge Backup] section for details. The command line mode installation instructions are available on the web interface)
- ix. Completed

If you have started up the Better Edge Backup backup scheduler in the previous step, selected databases will be backed up automatically at scheduled time



15.5 How to restore MySQL server

Please follow the instructions below to restore MySQL server from an Offsite Backup Server.

i. Download the database backup files to be restored from the Offsite Backup Server

Please refer to the [<u>5.3 Restoring file</u>] section for information on how to download backup files from Offsite Backup Server.

- ii. Restore the database named [db_name] from the database backup file [db_name.sql]:
 - a. Connect to the MySQL server

(Windows) C:\> mysql (Linux) [root@server ~]# mysql

b. Create the database to be restored

mysql> CREATE DATABASE IF NOT EXISTS db_name

c.Restore the database backup file back into the MySQL server

mysql> use db_name ;
mysql> source db_name.sql ;

If db_name.sql is not located in the current directory, please specify the full path to the db_name.sql file in the command above.

- iii. Repeat the same procedure for each database to be restored to the MySQL Server.
- iv. Completed


16 Email Reporting

Offsite Backup Server makes use of the email system to keep you informed with the status of your backup activities. Please make sure your contact information within the backup system is correct to receive the reports described in this chapter.

16.1 New User Report

When a new backup account is added to the backup server, a new user report will be delivered to the contact email(s) of the new account. The New User Report contains the following information:

Sample Report		
Welcome to Online Backup Services		
	Generate	d at: Sat Jun 21 09:32:36 HKT 2003
Getting started:	User Setting	
	Login Name	: NewAccount
1. Login to our homepage	Password	:pwd
 Follow the "<u>User's Guide</u>" to start using our backup services 	Alias Language Contact	: New Testing Account Name : English : user@your-company.com
Further Information: If further assistance is necessary, please refer to the <u>FAQs</u> section.	Backup Quota Backup Server	: 50M : backup.your-company.com

Кеу	Description
Login Name	Login name
Password	Password
Alias	Alias
Language	Preferred Language for your backup report
Contact	Email Address that will be used to contact you
Backup Quota	Backup quota
Backup Server	Backup server



16.2 Forgot Password Report

If you have forgotten your password, you can use the [Forgot Password] feature available on the web interface to have your password delivered to you through email. (Please refer to "Retrieve Forgotten Password" section in the next chapter for more information on how to retrieve your forgot password report.) The Forgot Password Report contains the following information:

Sample Re	eport	
Request for forgotten password		
	Generati	ed at: Sat Jun 21 09:47:14 HKT 2003
FAQs:	User Setting	
1. Why are you receiving this report? When a user visits the <u>forgot password page</u> and requests for the lost password of this backup account, all registered contacts of this particular account will receive a password reminder email. If none of the contact person has visited the page above and you are receiving this email in error, please contact us.	Login Name Password Alias Language Contact	: NewAccount : pwd : New Testing Account Name : English : user@your-company.com
2. What should you do after reading this email ? Your current password is shown under the user setting. You are suggested to change your password to a more easily remembered password and delete this email to avoid any third party gaining your password.		

Key	Description
Login Name	Login name
Password	Password
Alias	Alias
Language	Preferred Language for your backup report
Contact	Email Address that will be used to contact you



16.3 Backup Job Report

For each backup job you have run, a backup job report will be sent to you by email. This report contains a summary for the backup job that was run and a full listing of all files being backed up by the backup job. The backup summary report contains the following information:

Sample Backup Summary Report			
Online Backup Job Report			
	Generated a	t: Sat Jun 21 10:00:05 HKT 2003	
Backup Job Summary	User Setting		
Backup Time : 21-Jun-2003 09:57 - 21-Jun-2003 09:57	Login Name	NewAccount	
Status :Backup finished successfully	Alias	New Testing Account Name	
New Files* :1 [9k]	Language	English	
Updated Files* :1 [9k]	Contact	user@your-company.com	
Deleted Files* :1 [4k] Moved Files* :1 [3k]			
Moved Files* :1 [3k] * Unit = No. of Files [Total Size]	Doolam Cotting		
Offit – No. of Pries [Total Size]	Backup Setting Backup Source	: C:\My Document\	
0 full listing of all books of files is quallable in the attached file	Баскор Зобле	C:wy Document	
A full listing of all backup files is available in the attached file.			
	Backup Statistics		
	Backup Data Size*	:7[314k]	
	Retention Area Size*	2 [13k]	
	Backup Quota	: 50M	
FAQs:	Remaining Quota	: 49.7M	
 Why are you receiving this report? You are receiving this report because you are registered as one of the contacts of this Online Backup account and this particular account has performed a backup job recently. 		* Unit = No. of Files [Total Size]	
2. What if you have exceeded your quota? If your recycle bin size is not empty, you can empty your recycle bin to free up more space. Please contact us for more information on how to increase your storage quota.			
If further assistance is necessary, please refer to the <u>FAQs</u> section.			

Key	Description
Backup Time	The time when the backup job ran
Backup Status	The overall status of the backup job. Normally, you should see "Backup finished successfully" in this field. If you happen to get something else, please consult the attached full report for more information.
New Files	Total number and size of backup files added to your backup set
Updated Files	Total number and size of backup files updated in your backup set
Deleted Files	Total number and size of backup files deleted from your backup set
Moved Files	Total number and size of backup files relocated in your backup set
Login Name	Login name
Alias	Alias
Language	Preferred Language for your backup report
Contact	Email Address that will be used to contact you
Backup Source	All files/directories that will be backed up
Backup Data Size	The total backup data stored in the data area
Retention Area Size	The total backup data stored in the retention area. Old copies of updated or deleted backup files are retained in the retention area for the number of days as specified by the retention policy of the backup set before they are removed from the system.
Backup Quota	Backup Quota
Remaining Quota	Remaining Quota



The full backup report, which contains a full listing of all files backed up by the backup job, is attached to the backup job report email as a zip file. You need to unzip it before you can read the full report.

Sample Report					
Fu	II Bac	kup Report		enerated at: Sat Jun 21	10:00:05 HKT 2003
Back Back Back	cup Job Sum up Set : up Job : up Status : up Time :	BackupSet-0 2003-06-21 (09:58)		Backup Job Statis New files* Updated files* Deleted files* Moved files* * Unit = Number of f	1 [9k bytes] 1 [9k bytes] 1 [4k bytes] 1 [3k bytes]
			Backup Logs		
No.	Туре	Timestamp	Backup Logs		
1	Info	2003-06-21 09:57	Start running pre	-commands	
2	Info	2003-06-21 09:57	Finished running	pre-commands	
3	Info	2003-06-21 09:57	Start running pos		
4	Info	2003-06-21 09:57	Finished running	post-commands	
			New Files		*compressed
No.	Files		Size	*	Last Modified
1	C:\Test\li	b\New DANIEL.DOC		9k	2003-06-21 09:57
			Updated Files		*compressed
No.	Files		Size*		Last Modified
1		lib\DANIEL.DOC	9k		2003-06-21 09:57
			Deleted Files		*compressed
No.	Files		Size*		Last Modified
1		ib\DANIEL_A.BAK	4		1996-11-29 18:45
			Moved Files		*compressed
No.	Files			Size*	Last Modified
		IG1.BAK -> C:\Test\lib\KIN		3k	2003-06-05 12:35

Кеу	Description
Backup Set	The name of the backup set
Backup Job	The name of the backup job (which is the start time of the backup job)
Backup Status	The overall status of the backup job. Normally, you should see "Backup finished successfully" in this field. If you happen to get something else, please consult the attached full report for more information.
Backup Time	The time when the backup job ran
Backup Log	All messages logged when running this backup job
New Files	Total number and size of backup files added to your backup set
Updated Files	Total number and size of backup files updated in your backup set
Deleted Files	Total number and size of backup files deleted from your backup set
Moved Files	Total number and size of backup files relocated in your backup set
New File List	Full list of all backup files added to your backup set
Updated File List	Full list of all backup files updated in your backup set
Deleted File List	Full list of all backup files deleted from your backup set
Moved File List	Full list of all backup files relocated in your backup set



16.4 Setting Change Report

After you have updated your user profile or backup setting, a setting change report will be sent to you. This report allows you to track record of the changes that have been made to your backup account.

	Sample Re	port	
Backup Settii	ng Changes Report		
		Generate	d at: Sat Jun 21 11:00:00 HKT 2003
Why are you rec	eiving this report ?	User Setting	
		Login Name	NewAccount
You are receiving thi	s report since your personal or backup	Alias	New Testing Account Name
setting has been up	dated. Please confirm the information	Language	:English
	s correct. Please make sure your setting is	Contact	user@your-company.com
	eone on your contact list. If none of them	Backup Quota	: 50M
	; change your password, correct your s happens again. If this happens again,		
-	r further investigation.		
please contact us to	riuriner investigation.		
If further assistance	is necessary, please refer to the FAQs		
section			
Section.			
Backup Set - Backu	nSat A	_	
Source(s)	C:\My Document\		
Schedule(s)	None		
Filter	None		
Retention Policy	: Keep deleted files for 7 days		
Transfer Size	256k bytes		
Pre-Command(s)	None		
Post-Command(s)	None		

Key	Description
Login Name	Login name
Alias	Alias
Language	Preferred Language for your backup reports
Contact	Email Address that will be used to contact you
Backup Quota	Backup Quota
Backup Source(s)	All backup sources of the backup set
Backup Schedule(s)	All backup schedules of the backup set
Filter(s)	All backup filters of the backup set
Retention Policy	The retention policy of the backup set
Transfer Size	The transfer block size of the backup set
Pre-Command(s)	All Pre-Command(s) of the backup set
Post-Command(s)	All Post-Command(s) of the backup set



16.5 Inactive User Reminder

You will receive an inactive user reminder in email if your account has been left inactive for the period of 7 days (or the period specified by the system administrator). This is to remain you that you have not been running backup for more 7 days. If you are a free trial user, your account will be removed from the system automatically if the system can track no records of your backup activities in the next 30 days after receiving this report.

Sample Report			
Inactive User Reminder			
	Generat	ed at: Sat Jun 21 11:53:38 HKT 2003	
Why are you receiving this report ?	User Setting		
	Login Name	NewAccount	
You are receiving this report because this backup account has	Alias	New Testing Account Name	
been inactive for 30 days. If this account stays inactive for	Language	:English	
another 30 days, this account will be removed from our	Contact	:user@your-company.com	
system automatically without further notice. The following is			
the backup activity of this account:			
Last Login Time : 2003-06-21 10:18 AM			
Last Backup Time : 2003-06-21 09:57 AM			
·			
If further assistance is necessary, please refer to the <u>FAQs</u> section.			

Кеу	Description	
Login Name	Login name	
Alias	Alias	
Language	Preferred Language for your backup reports	
Contact	Email Address that will be used to contact you	
Backup Quota	Backup Quota	
Last Login Time	The last time you logon to the backup system	
Last Backup Time	The last time you ran a backup job	



17 Web Features

Other than the features of Better Edge Backup described in the previous chapter, the web interface of Offsite Backup Server provides you access to some additional features that are not available in Better Edge Backup. This chapter describes each of these features in details.

17.1 Install Better Edge Backup

Before you can use Better Edge Backup, you have to download the Better Edge Backup installer from the web interface of Offsite Backup Server and install Better Edge Backup onto your computer. Please refer to the <u>installation section</u> (Chapter 2) for information on how to install Better Edge Backup onto your computer.

17.2 Update User Profile

You can update your user profile by using the [Profile] panel available on the web interface. To change your profile, just make any changes to your profit on the panel shown below and press the [Update] button.

Online Backup Serv	vices Manageme	nt Console - Microsoft Internet E>	ælorer 🛛	
Restore Install S	oftware		FA	<u> Os Help Select Languag</u>
Profile <u>Backup</u>	<u>Set File Exp</u>	lorer <u>Report</u> <u>Statistics</u>		<u>Loqou</u>
User Summary	,			
	ta Area*	Retention Area*	Total Upload*	Total Restore*
	51k[3]	1.4M[1]	2.2M[4]	5.2M [5]
* Unit : Compres:	sed Size Li ot	al No. of Filesj		
User Profile [demo]			
Alias	Demone	tration Account		
Language				
Language	English	<u> </u>		
Timezone	: GMT+08	:00 (HKT) 🗾		
Contact	: 1. Name	Demo Account	[Remov	vel 👘
		demo@vour-company.com		_,
	2. Name		[
		, 	[<u>Add</u>]	
	Email			
Add-on Module		Exchange Server (Enable) atabase Server (Enable) , N		
		mino (Enable) , Lotus Notes		
		Update R	eset	
			esei	ř
				-
à				

Кеу	Description		
Quota	Backup Quota		
Data Area	Total number and size backup files stored in the data area		
Retention Area	Total number and size of backup files stored in the retention area		
Total Upload	Total number and size of backup files uploaded to the backup server		
Total Restore	Total number and size of backup files restored from the backup server		
Login Name	Login name		
Display Name	Alias of your backup account		
Language	Preferred Language for your backup report		
Time Zone	Your Time zone		
Contact	Email Address that will be used to contact you		



17.3 Request Forgotten Password

If you have forgotten your password, you can retrieve it by simply entering your login name or your registered email address on the [Password Request] form and press the [Request] button. Your password will be sent to your registered email address automatically.

🚈 Online Backup Services Management Conso	e - Microsoft Internet Explorer	- 🗆 🗵
Install Software	FAQs Help Sele	ct Language
Logon Forgot Password ?		
Benefits:	Password Request	
- Easy to use - Fully Automated - Daily backup - Save you time and	or Login Name: demo	
Money At a glance: - Backup your data automatically every day - Access your data anywhere, anytime - Retain all backup files, even those that have been deleted - Backup your data to our secure data center - Fire? Earthquake? Typhoon? Your data is always safe	 How to retrieve your forgotten password? i. Enter either your "Login Name" or "Email" in the form above ii. Press the [Request] button iii. You should receive your password immediately via email 	
ê		11.

17.4 Restore/Delete/Undelete Backup Files

Using the [File Explorer], you can browse through the backup data (both current and previous versions) on OBS. You can select any current backup files to Restore or Delete. You can also select any deleted backup files (in gray) to Undelete.



store Install Software		FAQs	Help Select Lan
file Backup Set File Explorer Report Statistics			ł
		Ro	ws/Page: 50
Home > FileBackupSet-1 > 2007-01-16 (12:22) > F:\ > images			
Show files after Job 2007-01-16 (12:22) 💌 C Show all fil	les 🤄 Show 🕻	lobs View	
Delete Restore Undelete			
File / Directory	Size	Last Modified	Zipped [Ratio]
E AIX_logo.JPG	5k	2006/03/14 12:08	4k [17%]
Delete Restore Undelete te: 1. This shows all files / directories within a backup job of a ba 2. Files shown in light gray color refers to files retained in the 3. To restore files/directories, check the checkbox next to the 4. To delete files/directories, check the checkbox next to the	retention area. files/directories	and press the [Restore	e] button. button.
te: 1. This shows all files / directories within a backup job of a ba 2. Files shown in light gray color refers to files retained in the 3. To restore files/directories, check the checkbox next to the	retention area. files/directories	and press the [Restor and press the [Delete]	e] button. button.
te: 1. This shows all files / directories within a backup job of a ba 2. Files shown in light gray color refers to files retained in the 3. To restore files/directories, check the checkbox next to the 4. To delete files/directories, check the checkbox next to the 5. [D] = Differential delta file	retention area. files/directories	and press the [Restor and press the [Delete]	e]button. button.
te: 1. This shows all files / directories within a backup job of a ba 2. Files shown in light gray color refers to files retained in the 3. To restore files/directories, check the checkbox next to the 4. To delete files/directories, check the checkbox next to the 5. [D] = Differential delta file	retention area. files/directories	and press the [Restor	e] button. button.
te: 1. This shows all files / directories within a backup job of a ba 2. Files shown in light gray color refers to files retained in the 3. To restore files/directories, check the checkbox next to the 4. To delete files/directories, check the checkbox next to the 5. [D] = Differential delta file	retention area. files/directories	and press the [Restor and press the [Delete]	e] button. button.
te: 1. This shows all files / directories within a backup job of a ba 2. Files shown in light gray color refers to files retained in the 3. To restore files/directories, check the checkbox next to the 4. To delete files/directories, check the checkbox next to the 5. [D] = Differential delta file	retention area. files/directories	and press the [Restor and press the [Delete]	e] button. button.

17.5 Review Backup Jobs

In addition to reviewing your backup activities from the email report and from Better Edge Backup, you can also review any of your backup Jobs by using the [Report] panel available on the web interface. To review a backup job, just select the required backup job from the [Backup Set] and [Backup Job] drop down list.

	finished successfully 28 22:16 - 2005/06/28 22:1	Job: 2005-06-28 (22:17) Detailed Repo <u>rt</u>	More Information? A Detailed Report is available.
Moved Files*	0 [0 bytes] 0 [0 bytes] 1 [1.4M bytes]	User Account St Data Area Retention Area Total Upload Backup Quota Remaining Quota	861k bytes 1.4M bytes 2.2M bytes 500M bytes

Кеу	Description
	The overall status of the backup job. Normally, you should see "Backup finished successfully" in this field. If you happen to get something else, please click the [Detailed Report] images on the page.
Backup Time	The time when the backup job ran



Total number and size of backup files added to your backup set
Total number and size of backup files updated in your backup set
Total number and size of backup files deleted from your backup set
Total number and size of backup files relocated in your backup set
The total backup data stored in the data area
The total backup data stored in the retention area. Old copies of updated or deleted backup files are retained in the retention area for the number of days as specified by the retention policy of the backup set before they are removed from the system.
Total number and size of backup files uploaded to the backup server
Backup Quota
Remaining Quota



You can open the [Full Backup Report] to review all information logged by a backup job by clicking the [Detailed Report] image on the [Report] panel.

Ful	l Bac	kup Report	ll Backup Repo		ın 21 10:00:05 HKT 200
Backu Backu Backu		mary BackupSet-0 2003-06-21 (09:58) Backup finished success 2003-06-21 09:57 - 2003-0		Backup Job Si New files* Updated files* Deleted files* Moved files* * Unit = Number	tatistics 1 [9k bytes] 1 [9k bytes] 1 [4k bytes] 1 [3k bytes] r of files [Total file size]
			Backup Logs		
No.	Туре	Timestamp	Backup Loo	15	
1	Info	2003-06-21 09:57		pre-commands	
2	Info	2003-06-21 09:57	Finished runn	ning pre-commands	
3	Info	2003-06-21 09:57	Start running	post-commands	
4	Info	2003-06-21 09:57	Finished runn	ning post-commands	
			New Files		*compressed
N.	Files			Size*	Last Modified
No. 1		ib\New DANIEL.DOC		9k	2003-06-21 09:57
T	Civiesta	ID NEW DANIEL.DOC		эк	2003-06-21 09:57
			Updated Files		*compressed
No.	Files		Siz	e*	Last Modified
1	C:\Test\	lib\daniel.doc		9k	2003-06-21 09:57
			Deleted Files		*compressed
No.	Files			ze*	Last Modified
1		lib\daniel A.BAK	51	4k	1996-11-29 18:45
-	CARESU	ID (CHAILE MIDHK		AL	1990-11-29 10:43
			Moved Files		*compressed
No.	Files			Size*	Last Modified
1		NG1.BAK -> C:\Test\lib\KIN(Зk	2003-06-05 12:35

Parameter	Description		
Backup Set	The name of the backup set		
Backup Job	The name of the backup job (which is the start time of the backup job)		
Backup Status	The overall status of the backup job.		
Backup Time	The time when the backup job ran		
Backup Log	All messages logged when running this backup job		
New Files	Total number and size of backup files added to your backup set		
Updated Files	Total number and size of backup files updated in your backup set		
Deleted Files	Total number and size of backup files deleted from your backup set		
Moved Files	Total number and size of backup files relocated in your backup set		
New File List	Full list of all backup files added to your backup set		
Updated File List	Full list of all backup files updated in your backup set		
Deleted File List	Full list of all backup files deleted from your backup set		
Moved File List	Full list of all backup files relocated in your backup set		

17.6 Review Storage Statistics

You can review the amount of data you have stored on the backup server and uploaded to the backup server on each day by opening the [Statistics] panel available on the web interface. To review your storage statistics for a different month, just select the month you are after by selecting from the [Month] drop down list.



ofile Backup Set File Explorer Report Statistics				Loc
torage Usag	je Summary		Month (YYY	<mark>ү-мм):</mark> 2005-06 🛛 💌
Date	Data Area*	Retention Area*	Uploaded Size*	Total Storage*
2005-06-01	9.7M [36]	816.5M [3076]	0[0]	826.2M [3112]
2005-06-02	9.7M [30]	768.5M [3081]	0[0]	778.2M [3111]
2005-06-03	9.7M [30]	768.5M [3081]	0[0]	778.2M [3111]
2005-06-04	11.9M [35]	768.5M [3084]	2.2M[8]	780.4M [3119]
2005-06-05	209.7M [1394]	1,006.8M [4616]	436.2M [2891]	1.19G [6010]
2005-06-06	209.7M [1394]	868.3M [4518]	0[0]	1.05G [5912]
2005-06-07	209.7M [1394]	868.3M [4518]	0[0]	1.05G [5912]
2005-06-08	209.7M [1394]	868.3M [4518]	0[0]	1.05G [5912]
2005-06-09	98.6M [1536]	1,000.2M [5289]	68.9M [914]	1.07G [6825]
2005-06-10	98.6M [1536]	875.2M [5288]	0[0]	973.9M [6824]
2005-06-11	98.6M [1536]	875.2M [5288]	0[0]	973.9M [6824]
2005-06-12	98.6M [1536]	875.2M [5288]	0[0]	973.9M [6824]
2005-06-13	98.6M [1536]	875.2M [5288]	0[0]	973.9M [6824]
2005-06-14	56.4M [843]	917.7M [6041]	186k [60]	974M [6884]
2005-06-15	56.4M [843]	917.7M [6041]	0[0]	974M [6884]
2005-06-16	56.4M [843]	917.7M [6041]	0[0]	974M [6884]
2005-06-17	66.7M [1140]	918.2M [6066]	10.9M [322]	984.9M [7206]
2005-06-18	66.7M [1140]	918.2M [6066]	0[0]	984.9M [7206]
2005-06-19	66.7M [1140]	918.2M [6066]	0[0]	984.9M [7206]
2005-06-20	66.7M [1140]	918.2M [6066]	0[0]	984.9M [7206]
2005-06-21	66.5M [1075]	918.4M [6131]	0[0]	984.9M [7206]
2005-06-22	66.5M [1075]	918.4M [6131]	0[0]	984.9M [7206]

Кеу	Description
Date	The date the following statistics are collected
Data Area	Total number and size of backup files stored in the data area on a particular date
Retention Area	Total number and size of backup files stored in the retention area on a particular date
Uploaded Size	Total number and size of backup files uploaded to the backup server on a particular date
Total Storage	Total number and size of backup files stored under your backup account on a particular date

18 Further Information

18.1 FAQs

Please see if your question has already been answered in our FAQs available on our website.

18.2 Contact Us

You can backup your data to an Offsite Backup Server by following instructions below.

- i. Open Better Edge Backup from the system tray
- ii. Choose [View] -> [About] from the top menu

🕒 Online Backup Manager		
Backup Set Backup Restore Tools V	iew	
Save Setting Start Backup Start Backup Start Start Backup Start Backup Start Backup Filter Command Line Tool Start Encryption In-File Detta Local Copy Comma SoulBackupSet-1	User Profile Beckup Restore Log About De: File Backup Set-1	perties
1 I I I I I I I I I I I I I I I I I I I	og Table (FileBackupSet-1)	0
Туре	Log	Time
	Start	[2005/06/28 16:59:07]
•	Start running pre-commands	[2005/06/28 16:59:07]
i	Finished running pre-commands	[2005/06/28 16:59:07]
(i)	Downloading server file list	12005/06/28 16:59:071
😵 Backup 🔇 Restore 🔟 Log		
Backup Completed Successfully	Quota (Remaining / Total): 500M / 500M	Last Backup: 2005-06-28 14:5

iii. Contact your backup service provider using the information shown in the [About] dialog box.