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1. General

1.1. Can you explain how SAFE works?

The SAFE Online Backup Suite consists of 3 main modules:

1. The client software – SAFE Online Backup Manager (SAFE OBM)
2. The server software – SAFE Offsite Backup Server (SAFE OBS)
3. The replication server – SAFE Replication Server (SAFE RPS)

SAFE OBM is the client side program which uploads the selected files to the Backup server and looks after scheduled backup jobs. It also provides a user-interface for configurations of the desired backup sets. SAFE OBM supports a number of operating systems, e.g. Windows 2000, XP, 2003, Linux, Mac OS X, etc. And apart from files backups, SAFE OBM can backup a range of applications such as MS Exchange, MS SQL, Oracle, MySQL, Lotus Domino, etc.

SAFE OBS is the server side program which can serve and store backup data from multiple SAFE OBMs/backup accounts. It has a web-based Management Console for system administrators to manage the Backup Server, such as configuring system parameters, administering the backup accounts, viewing backup statistics and reports, etc. Users can also logon to this Management Console to manage their own backup account or restore their own backup data. SAFE OBS supports Windows, Linux and Mac OS platforms.

SAFE RPS is another piece of server software running on a separate machine which provides close to real-time backup for multiple SAFE OBSs. Thus even if one of the SAFE OBS fails, the SAFE RPS still has a copy of the backup data.

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2. SAFE Online Backup Manager (SAFE OBM)

2.1. How do I run SAFE OBM with Microsoft ISA 2004?

To connect SAFE OBM to SAFE OBS through Microsoft ISA Server, please do the following to enable [Web Proxy] service on the ISA Server:

1. Open [Start] -> [Programs] -> [Microsoft ISA Server] -> [ISA Server Management]
2. On the left panel, select [Microsoft Internet Security and Acceleration Server] -> [SERVER] -> [Configuration] -> [Networks]
3. On the top menu, select [Action] -> [New] -> [Network]. Enter a [Network Name] (e.g internal) and define the IP address range for your internal network (e.g. 192.168.1.0 - 192.168.1.255)
4. Double click the new network that should now be added to on the bottom panel
5. Select the [Web Proxy] tab
6. Check both [Enable Web Proxy clients] and [Enable HTTP] checkboxes and choose a [HTTP port] for the web proxy service
7. (Optional) Press the [Authentication] button, check the [Basic] checkbox and the [Require all users to authenticate] checkboxes if you want to enable and enforce proxy authentication
8. Press the [OK] button to make the changes and press the [Apply] button to apply the changes
9. Open [SAFE Online Backup Manager] from the system tray and press the [Options] button
10. In the [Proxy Setting] section, select the [Proxy] radio button
11. Enter the hostname/IP address of the ISA server in the [Proxy Address] text field and the TCP port for web proxy service on your ISA Server in the [Port] text field
12. Press the [OK] button to connect to the server

If you run into any problems connecting to the SAFE OBS from SAFE OBM using ISA Server, please do the following to check if your request is being blocked:

1. On the left panel of [ISA Server Management], select [Microsoft Internet Security and Acceleration Server] -> [SERVER] -> [Monitoring]
2. Then select the [Logging] tab that appears on the right panel
3. Click the [Edit Filter] link and create a filter with the following values
[Log Record Type] equals [Web Proxy Filter]
[Destination IP] equals [The IP address of SAFE Offsite Backup Server]
4. Press the [Start Query] button
5. Open [SAFE Online Backup Manager] again and try connecting to the SAFE OBS using the same procedure above.

Check if there are any errors generated in the log table.

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2.2. How do I install SAFE OBM on FreeBSD?

You can either run SAFE OBM on a Linux version of Sun Java JDK (performance might not be optimized) or on a FreeBSD native Java SDK.

For the Linux version of Sun Java JDK option you need to:

1. Install Linux binary compatible port to the FreeBSD machine
2. Install the Linux version of Sun Java 1.4.2 or above JDK onto the FreeBSD machine
3. Create a symbolic link from \$OBM_HOME/jvm to \$JAVA_HOME (installed in previous step)
4. Run \$OBM_HOME/bin/RunBackupSet.sh [BACKUP_SET_NAME] to run your backup
5. Run \$OBM_HOME/bin/Scheduler.sh to start the backup scheduler

For the FreeBSD native Java SDK option you need to:

1. Install Linux binary compatible port to the FreeBSD machine
2. Install the Linux version of Sun Java 1.4.2 or above JDK onto the FreeBSD machine
3. Compile the FreeBSD native Java 1.4.2 SDK using the JDK compiler installed in the previous step
4. Install the FreeBSD native Java 1.4.2 SDK onto the FreeBSD machine
5. Create a symbolic link from \$OBM_HOME/jvm to \$JAVA_HOME (installed in previous step)
6. Run \$OBM_HOME/bin/RunBackupSet.sh [BACKUP_SET_NAME] to run your backup
7. Run \$OBM_HOME/bin/Scheduler.sh to start the backup scheduler

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2.3. How do I install SAFE OBM on SCO Unix?

Please do the followings to install SAFE OBM on SCO:

1. Install Java 1.4.x or above onto your SCO Unix box
2. Download obm-linux.tar.gz and expand it to \$OBM_HOME (e.g. /usr/local/obm)
3. Delete \$OBM_HOME/jvm and create a symbolic link from \$OBM_HOME/jvm to the SCO Unix Java VM
4. Run \$OBM_HOME/bin/BackupManager.sh to setup your backup set (or run \$OBM_HOME/bin/Configurator.sh if you are under command line mode. Then use the SAFE OBS Management Console to setup your backup sources and other settings)
5. Run \$OBM_HOME/bin/RunBackupSet.sh [BACKUP_SET_NAME] to run your backup
6. Run \$OBM_HOME/bin/Scheduler.sh to start the backup scheduler

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2.4. How do I install SAFE OBM on AIX?

Please do the followings to install SAFE OBM on AIX:

1. Install Java 1.3.x or above (Java 1.4.2 or above recommended) onto your AIX box
2. Download obm-linux.tar.gz and expand it to \$OBM_HOME (e.g. /usr/local/obm)
3. Delete \$OBM_HOME/jvm and create a symbolic link from \$OBM_HOME/jvm to the AIX Java VM
4. Run \$OBM_HOME/bin/BackupManager.sh to setup your backup set (or run \$OBM_HOME/bin/Configurator.sh if you are under command line mode. Then use the web interface to setup your backup sources and other settings)
5. Run \$OBM_HOME/bin/RunBackupSet.sh [BACKUP_SET_NAME] to run your backup
6. Run \$OBM_HOME/bin/Scheduler.sh to start the backup scheduler

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2.5. The Windows version of SAFE OBM installer hangs, what could be the problem?

There are a few things that might cause errors during or after executing the self-extractor. First of all, make sure that there is enough disk space on the target system. Next, make sure that you do not have any anti virus software or panywhere running as this is known to cause problems with InstallAnywhere installers. There are also problems with InstallAnywhere installers and Dell OpenManager. If OpenManager is installed on the target system, make sure to disable it prior to executing the install.

The last thing would be to try turning your hardware acceleration display setting to off. There are known issue with certain versions of Java running against certain video cards.

Also, if you are transferring this file from one machine to another, make sure that the file size is valid and you are transferring the file in binary mode.

Also, this might be a Java only problem.

Please try running any of the Swing demos that come with the Java runtime in 1.4.X and see if it hangs on Windows. Some knowledge base on the web suggested that DirectX needs to be updated to at least 8.1 to correct the problem. Most machines that have problems with this have DirectX 7.0 installed. (You can use the "dxdiag" command to find out the directX version)

Also try the following to fix video card issues:

The following will pass properties to the installer's VM:

In Advanced Designer, Project->Config->Additional Arguments, set that to "-Dsun.java2d.d3d=false -Dsun.java2d.noddraw=true" without the quotes.

You'll need to set the following lax property in your LaunchAnywhere for your application's JVM:

`lax.nl.java.option.additional=-Dsun.java2d.d3d=false -Dsun.java2d.noddraw=true`

Add the same line to the uninstaller lax file, using a modify file action in your installer in post-install.

Those 2 options are Sun recommended workarounds for certain video card issues.

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2.6. The Installer doesn't seem to work. How can I manually install SAFE OBM on Windows?

Try manually installing SAFE OBM by zipping the program directory (e.g. C:\Program Files\SAFE) on another machine with SAFE OBM installed and do the followings on the target machine:

1. Create the directory C:\Program Files\SAFE
2. Unzip the SAFE OBM program directory archive to C:\Program Files\SAFE
3. Run C:\Program Files\SAFE\bin\install.bat
4. Run C:\Program Files\SAFE\bin\Install-Scheduler.bat

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2.7. Are there any command line tools for SAFE OBM?

Yes, there are a set of scripts in [SAFE Program Home]\bin and they are described below:

Windows:

- Decrypt.bat: decrypts the specified backup files
- install.bat: installs the SAFE OBM icon to the System Tray and registers the Online Backup Scheduler as a service
- Install-Scheduler.bat: registers the Online Backup Scheduler as a service
- RegisterVSS.bat: re-registers Microsoft's Volume Shadow Copy service DLLs
- Remove-Scheduler.bat: unregisters the Online Backup Scheduler service
- Restore.bat: restores the specified snapshot of the backup set to the specified location
- RunBackupSet.bat: runs the specified backup set
- RunOBM.bat: launches the Online Backup Manager user interface
- Run-Scheduler.bat: starts the Online Backup Scheduler service
- SeedLoad.bat: runs seed load for the specified backup set to the specified location
- Uninstall.bat: removes the SAFE OBM icon from the System Tray and unregisters the Online Backup Scheduler service

Linux:

- BackupManager.sh: launches the Online Backup Manager user interface
 - Configurator.sh: configures client parameters such as Backup Server address, username/password, encrypting key, etc.
 - Decrypt.sh: decrypts the specified backup files
 - Restore.sh: restores the specified snapshot of the backup set to the specified location
 - RunBackupSet.sh: runs the specified backup set
 - Scheduler.sh: starts the Online Backup Scheduler service
 - SeedLoad.sh: runs seed load for the specified backup set to the specified location
 - StopScheduler.sh: stops the Online Backup Scheduler service
- * You may have to set some variables in these scripts and more instructions are provided.

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2.8. How does SAFE OBM detect changes in files? Does it use the Archive bit? Some tape backup software resets the Archive bit. Would this affect SAFE OBM when backing up the same data?

SAFE OBM compares timestamps of files on the server with the corresponding copies on client machine. Archive bit is not used as it does not detect relocated files. Thus tape backup would not affect SAFE OBM.

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2.9. Does SAFE OBM copy the same set of files over and over again?

After the initial upload, subsequent backup jobs will only transfer the modified or new data to the Backup server. It depends on the nature of the data, but normally, less than 2% of all data is modified.

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2.10. Transfer Block Size is 128Kb by default. Is there a rationale behind?

Backup data is transferred in blocks (instead of file by file) to minimize connection negotiation roundtrips. It is not the TCP/IP block size. This setting is optimal for the backup operation.

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2.11. How can I backup a huge data set over the Internet?

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. 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 a removable hard disk, to your backup service provider. The administrator can then load all your backup files from your removable hard disk into your backup account. This could save you days (even weeks) of performing your first full backup. And since subsequent backups are incremental (only new or updated files will be uploaded to the server), the amount of data transfer should be relatively small.

Please refer to the User's Guide for details on the "Seed Loading Utility".

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2.12. What is the best way to restore a huge data set?

You can copy the data of the particular backup set on SAFE OBS to a removable media, e.g. external harddisk, and ship it to your client. Your client can then use the "Decrypt Files Tool" in SAFE OBM to restore the backup data on removable media to its original format.

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2.13. For In-File Delta backup, does it require a temporary working directory?

SAFE OBM requires a temporary storage for the delta file before it gets sent to the server. For example, if you have a 10GB file that has already been backed up to the server and you have updated 10MB of this file. Then you need to have at least 10MB of free space in the temporary directory for the delta file. Of course, you do not need 10GB of free disk space. Also, if you have 5 x 10GB files to be backed up this way, you still need only 10MB of free space (not 5 x 10MB) because each delta file will be automatically deleted right after it has been backed up.

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2.14. I understand that the files to be backed up are compressed and encrypted before uploading to the Backup Server. What is the average compression ratio?

Average compression ratio for text-based file is around 4:1. However, no further compression can be made on files that are already in compressed format (e.g. JPG, ZIP). In general, you can assume a 2:1 compression ratio when you are backing up a file set with variety types.

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2.15. Can I change my encrypting key?

Once set for a Backup Set, the encrypting key cannot be changed. This is necessary for the integrity of the Backup Set, making sure that backup data is only encrypted by one key. Otherwise, you will have problems remember two encrypting keys when you want to restore your files in the future.

You need to recreate your Backup Set if you really want to change your encrypting key.

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2.16. I have selected the "Use Login Password as Encrypting Key" option when creating the backup set. However I cannot restore the backup data with my current password. Is there a way to get around this?

By selecting the "User Login Password as Encrypting Key" option when creating a backup set, SAFE OBM will set your login password as the encrypting key for the backup set. Once set, even if you change your login password subsequently, the encrypting key will remain as is. In other words, if you have changed your password, you need to use the original password to decrypt and restore the backup set.

Currently, if the encrypting key is forgotten or lost, the backup set can never be restored. It is not possible to restore without the key.

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2.17. What kind of encryption employed by SAFE OBM?

There are two encryptions being performed by SAFE OBM:

1. Encryption of backup data - This is being done by 128-bit symmetric key encryption (AES, TripleDES, TwoFish). 256 bit is not available because it requires too much CPU and it is not really required (128-bit is what is being used by most banks currently)

2. Encryption of backup traffic - This is being done by 1024 bit RSA public key encryption. The strength of the encryption depends on the key size you use when you generate your CSR before submitting to your CA. 1024 bit is what is being used by most CAs.

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2.18. I am doing a "local copy" to an external hard drive with a 250GB FAT32 volume, and it fails in the middle of process without a reason, any idea?

Please check whether there is any folder containing more than 32000 files and there is no file bigger than 4GB within your backup set. It is a FAT32 limitation, you may try to convert the FAT32 volume to NTFS.

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2.19. Scheduled backup jobs are not running on my Windows machine, any idea?

Please try the followings:

1. Check if [Control Panel] -> [Administrative Tools] -> [Services] -> [Online Backup Scheduler] is available and started
2. Check if C:\Program Files\SAFE\home.txt contains the home directory for your backup account (e.g C:\Documents and Settings\Administrator\.obm)
3. Check if C:\Program Files\SAFE\jvm\bin\SchedulerOBM.exe exists
4. Check if C:\Program Files\SAFE\log\Scheduler\info.log contains the startup loading entry, e.g.

```
[2005/12/12 12:42:44] OS Name=Windows XP
[2005/12/12 12:42:44] OS Version=5.1
[2005/12/12 12:42:44] Scheduler Version=5.0.1.3e
[2005/12/12 12:42:44] Java Vendor=Sun Microsystems Inc. Version=1.4.2_10
[2005/12/12 12:42:44] [info] Starting Scheduler, User: 'backup-account',
Home: 'C:\Documents and Settings\Administrator\.obm'
```

5. Check if C:\Documents and Settings\Administrator\.obm\log\Scheduler\debug.log contains the debugging information for your scheduler

If there is anything wrong identified from the above steps, please download a new installer (obm-win.exe) from our website or the customization portal and try again.

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2.20. I am having problems with my scheduled backup, it is fine when I manually trigger it off in SAFE OBM though, any idea?

Are you backing up files from a network drive? Please check if you have included the valid Network Resources Authentication info for the particular backup set, this is required for scheduled backups that access any network resources.

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2.21. I cannot get proxy authentication to work with SAFE OBM, any suggestion?

If you are using port 80, please check whether your proxy server accepts "HTTP CONNECT" calls on port 80 and you may want to try other ports like 443 to see if your proxy server accepts that.

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2.22. Can I backup an entire Operating System?

Currently, it is not possible to do hard disk image backup with SAFE OBM. However, you can still backup/restore the operating system by doing the followings:

To backup all files including the operating system, please do this:

1. Add all files to your backup source
2. Add a SystemState backup type to your backup account (Windows only)

To restore all files including the operating system, please do this:

1. Re-install the operating system and applications
2. Restore the SystemState backup to your machine (Windows only)
3. Restore all files to your machine

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2.23. When setting up a MSSQLBackupSet, I cannot list the available SQL servers, what can I do?

You can try running "osql -L" in a command prompt, you should see

```
-----  
Servers:  
  (local)  
  SQLSERVER1\INSTANCE1  
  SQLSERVER2\INSTANCE2  
-----
```

If you have a firewall installed, please disable it. UDP Broadcast must be allowed.

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2.24. Why are my Microsoft SQL Server databases missing from the backup source list?

If you have firewall installed on your network, please make sure UDP port 1434 is allowed on the SQL Server.

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2.25. How do I set the recovery model of a MS SQL database to FULL?

You can change the recovery model by running the following commands against each of the database that you want to run transaction log backup.

```
C:\> osql -E -S SQLSERVER1\INSTANCE1 -Q "ALTER DATABASE xxx SET RECOVERY FULL"
```

Where

SQLSERVER1\INSTANCE1 = the SQL Server and the corresponding instance
xxx = the name of the database

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2.26. It seems that the connections to Windows network map drive are not stable, any suggestion?

You may want to try altering a few Windows Parameters.

SMB Size

=====

When running applications that copy or move a large amount data to a remote server, the speed of such action is determined by network speed and by the SMB (a protocol related to Windows map drive) size.

NT/2000 negotiates the SMB size and will generally set this to 4K blocks for applications that are moving or copying data to a remote server. By increasing this block size, you will allow the server to complete its file copies faster. This will increase the performance of the application making the copy/move calls.

HKEY_LOCAL_MACHINE\System\Current Control
Set\Services\LanmanServer\Parameters

"SizReqBuf" = REG_DWORD
Set Value To: 16000 = HEXDEC

Ref: <http://support.microsoft.com/default.aspx?scid=kb;en-us;320829>

Map Drive Auto Disconnect Settings

=====
Ref: <http://support.microsoft.com/kb/138365/EN-US/>
AND

Ref: <http://support.microsoft.com/default.aspx?scid=kb;en-us;297684>

HKEY_LOCAL_MACHINE\System\Current Control
Set\Services\LanmanServer\Parameters

Autodisconnect to: ffffffff

If you are still having problems, you may want setup a BAT file as follows and
scheduled this to run every 10 minutes, where:

- mapdrv = your NAS device network name
- 192.168.1.15 = mapdrv

The BAT file:

ping mapdrv
ping 192.168.1.15
net config server /autodisconnect: -1
net use /persistent:yes
net use "\\mapdrv\DATA STORAGE1"
net use "\\192.168.1.15\DATA
net use d: \\192.168.1.15\DATA STORAGE1
net use e: "\\mapdrv\DATA STORAGE1"
dir d:\
dir e:\

In addition, create a host file on the server hosting the program, have the following
entry in it:

mapdrv = 192.168.1.15

And if you are on a 2003 server, refer to the following:

Ref: <http://support.microsoft.com/default.aspx?scid=kb;en-us;890553>

For Windows 2000, you may want to install the following Hotfix:

Windows2000-KB903237-x86-ENU

Ref: <http://support.microsoft.com/default.aspx?scid=kb;en-us;903237>

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2.27. I am having problem in backing up my files on a remote NetWare server, what can I do?

If you want to backup \\SERVER\SHARE that is located on a NetWare server 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]
```

This will authenticate the current process with the NetWare server and therefore allow your backup to run correctly.

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2.28. What are the upsides and downsides of backing up multiple computers using a single backup account?

Upsides:

- You require less backup accounts
- You can use one pair of username and password to configure the backup setting of all backup settings

Downsides:

- You must use different backup sets for different computers
- Whenever a new backup set is created under the backup account, you need to go back to all computers using the same backup account to uncheck the "Run scheduled backup on this computer" option for the new backup set (as backup setting is saved on server and new backup set is default to run on all computers, i.e. with the option checked)
- Improper configuration could easily cause problems, which are difficult to debug.

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2.29. How can I find out which version of the client software a user is using?

You can check which version a client is running by checking the access log. The default location of the access log file is:

- Windows: "C:\Program Files\SAFE Offsite Backup Server\logs\access_log*.txt"
- Linux: "/usr/local/obs/logs/access_log*.txt"
- Mac OS X: "/Applications/SAFE OBS/localhost/logs/access_log*.txt"

The '/obs/obcX.X/file/????File.obc?u=USER_NAME&..ver=Y.Y' entries contain this information, where:

- USER_NAME = Login Name of a backup account
- X.X = major version of the client software
- Y.Y = minor version of the client software

And since SAFE OBS v5.0.1.5, the version of SAFE OBM being used is available from the SAFE OBS Management Console under the [Manager User] -> [Report] -> [Detailed Report] page of the corresponding user.

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2.30. Does the SAFE OBM upgrade the installation of Java on a client machine, or does it install a separate copy for its own use?

SAFE OBM uses its own copy of Java and leaves the system Java VM intact.

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2.31. It seems that MySQL backup is done with SQL Dump, which generates a single file which is then uploaded. These backup files tend to be huge. Is it possible to do incremental or differential backups with MySQL?

As of now, it is not possible to do incremental dump with mysqldump. But our In-File Delta feature shall ensure that, instead of the entire backup file, only the changed data blocks within the dump file are uploaded to the Backup Server.

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2.32. How does the “Remove retention files for overlap policy” under Advanced Retention Policy work?

In general, daily snapshots followed by a weekly snapshot or a monthly snapshot, etc. will be removed; weekly snapshots followed by a monthly snapshot or a quarterly snapshot, etc. will be removed; and so on.

This is illustrated by the following example.

Assume today is 17Jan06, and the Advanced Retention Policy is as follows:

- Daily: retain for 7 days
- Weekly: retain for 4 weeks (the job will be performed on Saturday)
- Monthly: retain for 3 months (the job will be performed on 1st of each month)

If “Remove overlap policy” is NOT enabled:

Then a total of 14 snapshots (7+4+3) will be kept on the server accordingly, i.e.:
(daily) 10Jan06, 11Jan06, 12Jan06, 13Jan06, 14Jan06, 15Jan06, 16Jan06
(weekly) 24Dec05, 31Dec05, 7Jan06, 14Jan06
(monthly) 1Nov05, 1Dec05, 1Jan06

If “Remove overlap policy” is enabled:

Then only the following snapshots are kept: 1Nov05, 1Dec05, 1Jan06, 14Jan06, 15Jan06, 16Jan06.

Specifically, the weekly policy overrides the daily policy so 10Jan06, 11Jan06, 12Jan06 and 13Jan06 will be removed. The monthly policy overrides the weekly policy, and 24Dec05, 31Dec05 and 7Jan06 will be removed as well.

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2.33. What is incremental backup and how does In-File Delta work?

In an incremental backup, only modified files will be uploaded to the Backup Server.

On the other hand, In-File Delta is applicable to the physical files to be uploaded to the Backup Server, does not matter whether it is a MS SQL database file, MS Exchange transaction log file or any normal file in a FileBackupSet. Specifically, only the changed blocks in comparison the original file on the Backup Server (delta file) will be uploaded.

For each modified file, SAFE OBM would determine whether the entire file or only delta file should be uploaded. If the entire file is to be uploaded, the old version of the file will be moved to the Retention area. Else if only the delta file is to be uploaded, the previous delta files will be moved to the Retention area and the Data area should contain the original full backup file, checksum file and the latest delta file of this file.

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2.34. Under the In-File Delta settings, how does the “Auto” block size work?

If the block size is set to “Auto”, the effective block size (since SAFE OBM v5.0.1.7) will be chosen from the following table based on the file size of the updated file:

File Size	Delta Block Size
-----	-----
0 - 500M	4k
500M - 2G	8k
2G - 8G	16k
8G - 15G	32k
> 15G	64k

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2.35. What happens when we do In-File Delta backup on a directory?

When you do backup, SAFE Online Backup software will do this:

1. Check if any files are added, updated or deleted (the calculation of these files are based on files having the same filename).
2. New files will be uploaded to the server in whole.
3. Deleted files will be removed from Data area and placed into the Retention area on the Backup server.
4. Updated files will be processed by the In-File delta option (i.e. only changed data blocks within the files will be uploaded to the Backup Server)

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2.36. Does SAFE OBM have to stop the application when doing online backups?

SAFE OBM can backup application data while the application is still running.

Particularly, we have special agents for MS Exchange Server, MS SQL Server, Oracle, Lotus Notes and MySQL, which allows these applications to be backed up while they are online. With the Volume Shadow Copy feature started from SAFE OBM v5.0, we are able to backup other types of applications while they are online.

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2.37. What are Off-line backup, Logout backup reminder and Local backup features?

Off-line backup is basically designed for notebook users who are off-line most of the time and cannot rely on backup schedule to backup regularly. The backup interval allows notebook users to specify the interval that they would like their data to backup. If this interval has elapsed, backup will run automatically once this machine is online.

Logout backup reminder asks user if they would like to backup if they logout of the computer or shutdown their computer.

Local backup allows an extra copy of backup file to be kept on local hard disk when running backup.

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2.38. Why is my SAFE OBM running backup once every hour?

You might have "Off-line backup" enabled for every hour. Please disable the [Backup Set] -> [Extra Backup] -> [Off-line Backup] setting. This should fix this problem.

* Off-line backup is basically designed for notebook users who are off-line most of the time and cannot rely on backup schedule to backup regularly. The backup interval allows notebook users to specify the interval that they would like their data to backup. If this interval has elapsed, backup will run automatically once this machine is online. Logout backup reminder asks user if they would like to backup if they logout of the computer or shutdown their computer.

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2.39. I keep getting a prompt reminding me to do backup when I logout Windows, can I disable that?

That is the "System Logout Backup Reminder". Please do the followings to disable that:

1. Logon to SAFE OBM
2. Select the backup set that you want to disable the logout reminder from the left panel
3. Select the [Extra Backup] node under the backup set node on the left panel
4. Uncheck the [Enable System Logout Backup Reminder] checkbox under the "System Logout Backup Reminder (Windows)" section
5. If you want to do this to all backup sets, please repeat the previous step for each backup set
6. Press the [Save Setting] button from the toolbar

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2.40. How do I change the .obm path for Novell?

Take a look at SYS:\SAFE OBM\home.txt. It contains the path to the .obm directory. You can do the followings to make the changes:

1. Stop the scheduler
2. Change the entry in SYS:\SAFE OBM\home.txt to another directory
3. Copy the .obm directory from old location to new location
4. Startup the scheduler again
5. Also, open [SYS:\SAFE OBM\bin\BackupManager.ncf] and append the updated .obm path to the end of the whole command line, e.g.
java -mx384m -Djava.library.path=\$LIB_PATH -cp \$OBM_CLASSPATH obm
SYS:\SAFE OBM C:\[new location]\.obm

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2.41. The MS SQL or MS Exchange database backup job is storing 2 copies of the spooled database file in the "temporary directory" (tagged with different datetimes). This has taken up extra disk space, is this necessary?

Have you interrupted any of the backup jobs? The file tagged with the datetime of the corresponding backup job will be renamed to its original filename just before it is uploaded. This is necessary as we need to ensure that the snapshot of different dates would not overwrite each other.

If a backup job is still running, just let it runs to completion. If backup has been stopped already, just remove all files tagged with the corresponding datetime in the "temporary directory" and try to perform a **full database** backup again.

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2.42. What do I have to do in order to backup open files?

You need to be on SAFE OBM v5.0 or above, as well as support from the underlying OS. Windows XP and 2003, by default, come with Volume Shadow Copy, which allows backup of open file. For older platforms, e.g. Windows 9x/ME/NT/2000 or NetWare, we would recommend adding a third party open file manager option (e.g. St. Bernard Open File Manager - <http://www.stbernard.com/>) which might cost around US\$100 for each workstation and US\$300 for each server if open file backup is required.

* Open file option is not required on Linux/Unix/Mac OS X because no files are held exclusively open by applications.

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2.43. How does Volume Shadow Copy works?

Please refer to <http://technet2.microsoft.com/WindowsServer/en/Library/2b0d2457-b7d8-42c3-b6c9-59c145b7765f1033.msp>

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2.44. In Windows, when SAFE OBM is creating Shadow Copy Set, it hits the "[ERROR] E_UNEXPECTED" error, what can I do?

This is a Microsoft Volume Shadow Copy issue. Microsoft's recommendation is to try re-registering the Volume Shadow Copy Service. If you are on Win XP Pro, you can simply run the batch file available in C:\Program Files\SAFE\bin\RegisterVSS.bat

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2.45. Is there a way to backup Oracle 7.3.4 on NetWare?

To backup Oracle 7.3.4 on NetWare 5.1, it is not possible to use the Oracle agent, you need to do the followings:

1. Backup all Oracle 7.3.4 datafiles, control files, and pfile.
2. Use "exp" (export utility) to dump Oracle database to a dump file (make this a pre-backup command)
3. Use OBM to backup this file

When you need to restore the database, just restore all datafiles, control files, pfile to its original location and use "imp" (import utility) to put the data back into Oracle database.

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2.46. How do I backup NTFS permission?

For version 5.1 or later, NTFS permission is also backed up during the backup operation. For other versions, please do the followings:

1. Download and install

<http://www.microsoft.com/downloads/details.aspx?FamilyID=E8BA3E56-D8FE-4A91-93CF-ED6985E3927B&displaylang=en>

2. Add a pre-backup command to dump the NTFS permissions of all files you want to backup into a dump file. For example, if you want to have all files under C:\ drive to a C:\NTFS-Permission.txt, please add:

```
"C:\Program Files\Windows Resource Kits\Tools\subinacl" /noverbose  
/outputlog=C:\NTFS-Permission.txt /subdirectories C:\*.* /display  
to your pre-backup command.
```

3. Add "C:\NTFS-Permission.txt" to the [Backup Source] of this backup set

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2.47. How do I restore NTFS permission?

For version 5.1 or later, the backed up NTFS permission will be restored automatically. For other versions, assuming the NTFS Permission is being stored in "C:\NTFS-Permission.txt", please do the followings:

1. Restore "C:\NTFS-Permission.txt" from the backup server using SAFE OBM
2. Apply all NTFS permissions backup to all your backup files by running:
"C:\Program Files\Windows Resource Kits\Tools\subinacl" /playfile C:\NTFS-Permission.txt

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2.48. How do I backup file permissions in Linux?

For version 5.1 or later, Linux file permission is also backed up during the backup operation. For other versions, please do the followings:

1. Add a pre-backup command to dump the Access Control Lists of all files you want to backup into a dump file. For example, if you want to have all files under /home to a /ACL.txt, please add:

```
cd /; getfacl -R home > ACL.txt
```

to your pre-backup command.

2. Add "/ACL.txt" to the [Backup Source] of this backup set

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2.49. How do I restore file permissions in Linux?

For version 5.1 or later, the backed up Linux file permission will be restored automatically. For other versions, assuming the Access Control Lists is being stored in "/ACL.txt", please do the followings:

1. Restore "/ACL.txt" from the backup server using SAFE OBM
2. Apply all Access Control Lists backup to all your backup files by running

```
cd /; setfacl --restore=ACL.txt
```

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2.50. How do I remove OBM completely from my Windows machine?

If you want to completely remove OBM from Windows, you need to:

- ensure that the OBM installation directory is deleted (sometimes not removed when Windows somehow holds some of the files)
- remove the C:\Documents and Settings\administrator\.obm\ folder (intentionally left undeleted, as crucial information of the user and backup sets, such as the encryption keys, is stored here)

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2.51. Does SAFE OBM work with dial-up connections?

It makes no difference to SAFE OBM if the connection is always on or dial-up.

If you want to Windows to connect to the ISP automatically when a backup starts, you can go to [Control Panel] -> [Internet Options] -> [Connections] and select "Always dial my default connection".

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2.52. My SAFE OBM crashes when opening [Backup Source] of a Lotus Domino/Notes backup set, what can I do?

Check to see if you can find a hs_err_pid?????.log file under the [SAFE OBM Home], and if it contains the error "Unable to complete restart processing, err = Recovery Manager: Error from Logging Subsystem". If yes, please do this:

1. Go to [Configuration], select [All Server Documents] and choose your corresponding server.
2. [Disable] Transactional logging at Basics
3. Go to [Control Panel] -> [Administrative Tools] -> [Services] and restart [Lotus Domain Server] Service
4. Go to [Configuration] -> select [All Server Documents] and enable Transaction logging
5. Make sure your logging style is "Archived"
6. Go to [Services] and restart Lotus Domain Server Service again

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2.53. How do I restore a machine from my SystemState backup?

To recovery a machine from scratch, you have to do the followings:

1. Re-install the operating system
2. Re-install all applications installed

(You can do both of these easily by backing up the system yearly using Norton Ghost)

3. Restore the SystemState backup onto the recovered machine (this will update the recovered system with the latest configuration and settings)
4. Restore all data files onto the recovered system.

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