

FAQ



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1. General

1.1. Can you briefly explain the idea of how the Online Backup Software works?

The Online Backup Suite consists of 3 main modules:

- 1. The client software Swiss Safe Storage Online Backup Manager (**SSS OBM**) and Personal Backup Client (**SSS User**)
- 2. The server software Swiss Safe Storage Offsite Backup Server (SSS OBS)
- 3. The replication server Replication Server (RPS)

SSS - OBM is a client application with a user-interface for easy backup configuration. It allows users to upload selected files to the Backup server and runs scheduled backup jobs. It also allows users to create different backup sets for different backup purpose. Besides file backup, SSS - OBM can backup a list of applications such as MS Exchange, MS SQL, Oracle, MySQL, Lotus Domino, and much more. SSS - OBM supports Windows 2000, XP, 2003, Linux, Mac OS X, etc.

SSS - **User** is a client application with essential file backup functionalities and an intuitive user-interface targeting for simple end-users. It allows users to upload selected files to the Backup server and runs scheduled backup jobs.

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

SSS - RPS is another server application running on a separate machine, it provides close to real-time backup for multiple OBSs. So even if one of the SSS - OBS failed, the SSS - RPS still has a copy of the backup data.

The relationships of the Online Backup Suite are depicted in the diagram below.



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Application Supported: Microsoft SQL Server, Microsoft Exchange Server, Oracle Database, MySQL Database, and Lotus Domino / Notes



Swiss Safe Storage Online Backup Manager (SSS - OBM) / Personal Backup (SSS - User)

2.1. What is the recommended bandwidth?

It really depends on what kind of data to be backed up, e.g. for personal file backups, the daily data transfer should be limited, while MS Exchange backup could be significant. You may want to use the following white paper as a reference:

http://www.swisssafestorage.ch/en/doc/white-paper-backup-speed.pdf.

2.2. How do I run SSS - OBM with Microsoft ISA 2004?

To connect SSS - OBM to SSS - 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]
- On the left panel, select [Microsoft Internet Security and Acceleration Server] -> [SERVER] -> [Configuration] -> [Networks]
- 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 [Swiss Safe Storage Online Backup Manager] from the system tray and press the [Options] button
- 10. In the [Proxy Seting] 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 SSS - OBS from SSS - 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 panel3. 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 Swiss Safe Storage Offsite Backup Server]
- 3. Press the [Start Query] button
- Open [Swiss Safe Storage Online Backup Manager] again and try connecting to the SSS - OBS using the same procedure above.

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

2.3. How do I install SSS - OBM on FreeBSD?

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



Please do the following for the Linux version of Sun Java JDK option:

- 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
- 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

Please do the following for the FreeBSD native Java SDK option:

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

2.4. How do I install SSS - OBM on SCO Unix?

Please do the followings to install SSS - 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
- 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 SSS - 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

2.5. How do I install SSS - OBM on AIX?

Please do the followings to install SSS - 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
- 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

2.6. The Windows version of SSS - OBM installer hangs, what could be the problem?

There are few things that could create errors during or after executing the installer.

- 1. Make sure there is enough disk space on the machine.
- 2. Make sure you do not have any anti virus software or PCanywhere running, as this may create problems with InstallAnywhere installers.
- There are also problems with InstallAnywhere installers and Dell OpenManager. If OpenManager has installed on the target system, be sure to disable it before installing SSS - OBM.



- 4. Hardware could cause errors as well, try set your [hardware acceleration display setting] to off. There are problems with certain versions of Java running along with certain video cards.
- 5. This may only be a Java problem.

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

Java Testing

Please try running any of the Swing demos that came with the Java runtime in 1.4.X and see if it hangs on Windows. In order to fix this problem, some knowledge base on the Internet suggested updating DirectX to at least DirectX 8.1. Most machines got this problem had DirectX 7.0 installed. (You can use the "dxdiag" command to find out the directX version)

SUN recommended two workarounds for certain video card issues

- The following will pass properties to the installer's Virtual Machine: In Advanced Designer – Project -> Config -> Additional Arguments set that to "-Dsun.java2d.d3d=false -Dsun.java2d.noddraw=true" without the quotes.
- 2. 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.

2.7. The Installer doesn't seem to work. How can I manually install SSS - OBM on Windows?

To manually install SSS - OBM on Windows, you'll need to copy and zipping the program directory (e.g. C:\Program Files\SSS - OBM) from another machine with SSS - OBM installed. Then do the followings on the machine you wish to manually install:

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

2.8. The Installer doesn't seem to work. How can I manually install SSS - OBM on Mac?

Try manually installing SSS - OBM on your Mac with the following instructions:

- 1. Download http://terasafe.swisssafestorage.ch/obs/download/obm-mac.zip
- 2. Expand obm-mac.zip into /Applications/SSS OBM
- 3. Run "chmod -R 755 /Applications/SSS OBM" using Terminal
- 4. Double-click the "Swiss Safe Storage Online Backup Manager" icon in / Applications/SSS - OBM folder

2.9. Error occurred when Installing SSS - OBM on Novell.

Some users would have problems when trying to install SSS - OBM on Novell Netware Client version. (The machine had met all the system requirements: Netware v5.1 and Netware Java v1.3.1). User could receive the following error message during installation.

Exception in thread "main" Java.lang.noclass def found error.obm Java: class obm exited with status 1

Check the following

 $\label{eq:Please check if the OBM_HOME environment variable set in SYS:\SS - OBM\bin \BackupManager.ncf is correct?$

envset OBM_HOME=SYS:\SSS - OBM



envset OBM_CLASSPATH=\$OBM_HOME\bin;\$OBM_HOME\bin\obm.jar; \$OBM_HOME\bin\obm-lib.jar

envset LIB_PATH=\$OBM_HOME\bin

java -mx384m -Djava.library.path=\$LIB_PATH -cp \$OBM_CLASSPATH obm SYS:\SSS - OBM

Please change the SYS:\SSS - OBM environment variable to your installation directory.

2.10. Are there any command line tools for SSS - OBM?

Yes, there are scripts in [SSS - OBM Program Home]\bin and they are described below:

<u>Windows</u>

- Decrypt.bat: decrypts the specified backup files
- install.bat: installs the SSS 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: un-registers 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 Swiss Safe Storage 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 SSS OBM icon from the System Tray and un-registers the Online Backup Scheduler service

<u>Linux</u>

- BackupManager.sh: launches the Swiss Safe Storage 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.

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

SSS - 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. Therefore tape backup would not affect SSS - OBM.

2.12. Does SSS - OBM copy the same set of files regularly?

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.



2.13. Transfer Block Size is 128Kb by default. Is there a reason for this?

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.

2.14. How can I backup a buge 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 over the Internet. You can try the following method:

- 1. Use the **Seed Loading Utility** to backup your backup set to a local hard disk (instead of directly transfer to the backup server)
- 2. Send the backup data, using a removable hard disk, to your backup service provider.
- 3. 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.

In addition, 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".

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

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

2.16. Does In-File Delta backup require a temporary working directory?

SSS - 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.

*Note: Certainly you do not need 10GB of free disk space.

Also, if you want to backup 5×10 GB files in the same situation. You will only need 10MB of free space (not 5×10 MB), because each delta file will be automatically deleted right after it has been backed up.

2.17. What is the average compression ratio?

All backup files are compressed and encrypted before uploading to the **Backup Server**, the 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.

2.18. Can I change my encrypting key?

The encrypting key cannot be changed once you setup your Backup Set. 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.

2.19. If the "Use Login Password as Encrypting Key" option was selected when creating the backup set. Why I cannot restore the backup data with my most current login password?

By selecting the "User Login Password as Encrypting Key" option when creating a backup set, SSS - OBM will set your login password as the encrypting key for the backup set. Once set, even if you change your login password afterward, the encrypting key will remain as your original password. In other words, if you have changed your login password, you still 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.

You can find out the encrypting key from the corresponding SSS - OBM application, if available (go to crypt and tick/untick 'Mask key').

2.20. What kind of encryption used by SSS - OBM?

There are two encryptions being performed by SSS - 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 currently being used by most banks)
- 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.

2.21. When select the backup option "local hard drive" to backup to external hard drive, it fails in the middle of the process, why?

Please check if the external hard drive is in FAT32 volume format. And also 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 ZFS.

2.22. Scheduled backup jobs are not running on my Windows machine, why?

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\SSS OBM\home.txt contains the home directory for your backup account (e.g. C:\Documents and Settings\Administrator\.obm)
- 3. Check if C:\Program Files\SSS OBM\jvm\bin\SchedulerOBM.exe exists
- 4. Check if C:\Program Files\SSS OBM\log\Scheduler\info.log contains the startup loading entry, e.g.
 - i. [2005/12/12 12:42:44] OS Name=Windows XP
 - ii. [2005/12/12 12:42:44] OS Version=5.1
 - iii. [2005/12/12 12:42:44] Scheduler Version=5.0.1.3e
 - iv. [2005/12/12 12:42:44] Java Vendor=Sun Microsystems Inc. Version=1.4.2_10
 - v. [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 your system settings is not the same as the above steps, please download a new installer (obm-win.exe) from our website.

2.23. I am having problems with my scheduled backup, why?

If you are backing up files from a network drive, please check if you have included the valid "Network Resources Authentication" information for the backup set. This is required for scheduled backups that access any network resources.

2.24. I cannot get proxy authentication to work with SSS - OBM, why?

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



2.25. Can I backup an entire Operating System?

Currently, it is not possible to do hard disk image backup with SSS - 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
- Restore the SystemState backup to your machine (Windows only)

 To restore the System State data on a domain controller, you must first start your computer in a special startup option called "Directory Services Restore Mode". To access "Directory Services Restore Mode", press F8 during startup and select it from the list of startup options.
- 3. Restore all files to your machine

2.26. When setting up a Microsoft SQL Backup Set, I cannot list the available SQL servers, what can I do?

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

Servers: (local) SQLSERVER1\INSTANCE1 SQLSERVER2\INSTANCE2

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

2.27. Why are the 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.

2.28. How to set the recovery model of a MS SQL database to FULL?

You can change the recovery model by running the following commands, run it along with 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

2.29. Windows network map drive connections are not stable, why?

You may want to try editing a few Windows Parameters.

SMB Size

When running applications that copy or move a large amount of data to a remote server, the speed of such action is determined by network speed and by the SMB (a protocal 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\Paramerters

"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

Reference: <u>http://support.microsoft.com/kb/138365/EN-US/</u> http://support.microsoft.com/default.aspx?scid=kb;en-us;297684

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

Autodisconnect to: fffffff

Creating BAT file for better performance

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

BAT file settings:

```
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:\
```

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

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

For Windows 2000, you may want to install the following Hotfix: Windows2000-KB903237-x86-ENU Reference: <u>http://support.microsoft.com/default.aspx?scid=kb;en-us;903237</u>

2.30. There is an error when backing up 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.

2.31. What are the advantages and disadvantages of backing up multiple computers using a single backup account?

<u>Advantages</u>

- You require less backup accounts
- You can use one username and password to configure the backup setting for all Backup Sets

<u>Disadvantages</u>



- 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 (Since 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.

2.32. How to find out which version of the client software the 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\Swiss Safe Storage Offsite Backup Server\logs \access_log*.txt"
- Linux: "/usr/local/obs/logs/access_log*.txt"
- Mac OS X: "/Applications/SSS OBS/localhost/logs/access_log*.txt"

The '/obs/obc**X.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 starting from SSS - OBS v5.0.1.5, the version of SSS - OBM can be check from the SSS - OBS Management Console under the [Manager User] -> [Report] -> [Detailed Report] page of the corresponding user.

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

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

2.34. Is it possible to do incremental or differential backups with MySQL?

MySQL backup is done with SQL Dump file, and it generates a single file which is then uploaded. These backup files usually very large size and it takes time to backup to the server. At this moment, 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.

2.35. 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 retention files for 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 retention files for 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.

2.36. 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 to the original file on the Backup Server (delta file) will be uploaded.

For each modified file, SSS - 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.

2.37. How does the "Auto" block size work under In-file Delta settings?

If the block size is set to **"Auto**", the effective block size (Started from SSS - 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		

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

When you do backup, the Online Backup software will do the followings:

- 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)

2.39. Does SSS - OBM have to stop the application when doing online backups?

SSS - 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 SSS - OBM v5.0, we are able to backup other types of applications while they are online.

2.40. 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 backup is running.



2.41. Why is my SSS - OBM running backup once every bour?

You might have $``Off-line \ backup''$ enabled for every hour. Please do the following to disable that:

- 1. Logon to SSS OBM
- 2. Select the backup set that you want to disable the *Off-line backup* from the left panel
- 3. Select the [Extra Backup] node under the backup set node on the left panel
- 4. Uncheck the [Enable off-line backup] checkbox under the "Off-line Backup" section
- 5. If you want to do this to all backup sets, please repeat the previous step for each backup set

Press the [Save Setting] button from the toolbar

2.42. How do I disable "logout backup reminder"?

To disable the "System Logout Backup Reminder", please do the followings:

- 1. Logon to SSS 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

Press the [Save Setting] button from the toolbar

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

Please take a look at SYS:\SSS - 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:\SSS OBM\home.txt to another directory
- 3. Copy the .obm directory from existing location to new location
- 4. Startup the scheduler again
- 5. Also, open "SYS:\SSS OBM\bin\BackupManager.ncf" and append the updated .obm path to the end of the whole command line.

<u>Example</u>

java -mx384m -Djava.library.path=\$LIB_PATH -cp \$OBM_CLASSPATH obm SYS: \SSS - OBM C:\[new location]\.obm

2.44. The MS SQL or MS Exchange database backup job stores 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?

If you have 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.

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

You need to be on SSS - 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 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 - <u>http://www.stbernard.com/</u>) 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.

2.46. How does Volume Shadow Copy work?

Please refer to:

http://technet2.microsoft.com/WindowsServer/en/Library/2b0d2457-b7d8-42c3b6c9-59c145b7765f1033.mspx

2.47. In Windows, when SSS - OBM is creating Shadow Copy Set, it gets the "[ERROR] E_UNEXPECTED" error, what can I do?

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

2.48. How 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 prebackup command)
- 3. Use SSS 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.

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

 $\label{eq:c:Program Files} windows \ Resource \ Kits\Tools\subinacl" /noverbose / outputlog=C:\TFS-Permission.txt /subdirectories \ C:*.* /display$

to your pre-backup command.

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

2.50. 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 SSS 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

2.51. How do I backup file permission 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

2.52. How do I restore file permission 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 SSS OBM
- 2. Apply all Access Control Lists backup to all your backup files by running

cd /; setfacl --restore=ACL.txt

2.53. How do I remove SSS - OBM completely from my Windows machine?

If you want to completely remove SSS - OBM from Windows, after uninstalling the software from [Control Panel] -> [Add or Remove Programs], please do the followings:

- Ensure that the SSS 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 important information of the user and backup sets, such as the encryption keys, are stored here)

2.54. Does SSS - OBM work with dial-up connections?

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

If you want 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".

2.55. The SSS - 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 [SSS - OBM Home], and if it contains the error "Unable to complete restart processing, err = Recovery Manager: Error from Logging Subsystem", please do the followings:

- 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

2.56. 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.



3. Common Error Messages

3.1. "Quota Exceeded"

This means that the backup account has run out of its allocated quota. Please contact your administrator (or backup services provider) to increase your backup quota.

3.2. "Access is denied"

This means that the file is not accessible by SSS - OBM. Please check if the system account that runs SSS - OBM has read access permission to the mentioned file.

3.3. "Checksum incorrect" / "Uploaded file size incorrect"

This error occurs when the backup file uploaded to the server is corrupted. Corrupted backup files would not be stored on the backup server but will be uploaded to the backup server again in the next backup job.

If more than one backup job of the same backup set is being run on more than one computer at the same time, you might get this error. Please check if you have installed the client software (SSS - OBM) with the same backup account on more than one computer.

Also, please check the file C:\Program Files\SSS - OBM\home.txt and see if you have more than one ".obm" record (e.g. C:\Documents and Settings\Administrator\.obm) in this file that refers to the same backup account on the server. If you can find such entries, simply remove the redundant lines from this file and restart the computer.

Sometimes, this problem could be caused by network instability. If this only happens occasionally, you can safely ignore this error.

3.4. "File 'obm-delta.tmp' does not exist on server" / "File 'obm-cbksum.tmp' does not exist on server"

For SSS - OBM v5.0.1.4 or before, please:

- 1. Upgrade your SSS OBM to a newer version.
- 2. Delete the obm-delta.tmp or/and obm-chksum.tmp files from your "temporary backup directory", (e.g. C:\Backup\MSExchange\1137065709669).

For later versions of SSS - OBM, you can simply do step 2 to remove the problematic files which were left behind during the backup operations of previous versions.

3.5. "C:\xxx\yyy\zzz.txt bas been removed already"

There is latency between the backup agent with the list of files to be backed up and the time these files are actually backed up. If any of these files are removed between this latency, an informative message, "C:\xxx\yyy\zzz.txt has been removed already", will be logged in the backup log report. Under most condition, you don't need to worry about this since files created and then removed in this situation are usually temporary files. It is used by some other applications and it is not necessary to backup these files.

If you are using Infile-Delta, please make sure "Temporary directory for storing backup files" setting of your SSS - OBM is pointing a writable directory with plenty of disk space.

3.6. "The process cannot access the file because another process has locked a portion of the file"

You get this message when backing up "C:\xxx\yyy\zzz.txt" because another application has held a read-exclusive lock on "C:\xxx\yyy\zzz.txt". The backup agent, therefore, is unable to open the file to read its content. Please try the followings to resolve this problem:

- Enable the Volume Shadow Copy option for the corresponding backup set if you are on Windows 2003 or XP.
- If you are on an older version for Windows, you may need to obtain a generic "Open File Manager" in order to backup the locked files.



- If the locked file is not important (e.g. C:\pagefile.sys), simply exclude the locked file from your backup source. By doing so, this message will not appear again.
- If the locked file is a database file held open by one of our supported applications (e.g. Microsoft SQL Server, Microsoft Exchange Server, Oracle, Lotus Domino/ Notes, MySQL), simply use the corresponding add-on module provided to backup the database. This way, you can backup the database you want (using the application specific APIs) without accessing the database file directly.
- If the locked file is a file held open by some other third party applications, you can use the [Pre/Post Command Line Tool] to shutdown/restart the application that is locking the file before/after a backup job to make sure that no locks will be placed on files that you need to backup.

3.7. "The process cannot access the file because it is being used by another process"

This means that the file is currently locked by another process (or program). Please shutdown the program locking this file before running the online backup program again. You can also refer to "What do I have to do in order to backup open files" for more information (for file backup set only).

3.8. "Premature end of input"

It means that the client software has problem downloading the list of files to be backed up from the backup server. It then retries getting the list again. This is nothing to worry about. SSS - OBM would log this as information rather than warning to avoid raising false alarm.

3.9. "Incorrect Function"

Please check if you have any antivirus or personal firewall software installed. Kindly disable it from scanning the related data and traffic to see if the problem persists.

3.10. "HTTP/1.1 502 Proxy Error"

The specified Secure Sockets Layer (SSL) port is not allowed. ISA Server is not configured to allow SSL requests from this port. Most Web browsers use port 443 for SSL requests. Refer to http://support.microsoft.com/kb/283284

3.11. "[Microsoft][ODBC SQL Server Driver][SQL Server]The statement BACKUP LOG is not allowed while the recovery model is SIMPLE"

You need to change the Recovery model to FULL. If you are using Microsoft SQL Server 7.0/2000, please refer to the following screenshots:

Autg close
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Auto greate statistics
🖾 Auto update gististics
Use guoted identifiers
Server/BACKUP LOG is not allowed while the
satic database using SQL Enterprise



leneral Data Files T	manaction Log Files	groups Options Permissions
Access		
F Restrict access		
6 Members of g	b_owner, docreator, o	or spisadmin
C Single year	Error : The statement	EBACKUP LOG is not allowed while the recovery
Eead-only		
Recovery	Solution: Select the Enterprise	Full) option from the drop down list below using SQL. Manager
Model	Full	
Settings	Bulk-Logged	
ANSI NULL defa	Simple	
F Recursive trigge	rs	T Auto shripk
Auto update stat	istics	Auto greate statistics
Tom page detection		Use guoted identifiers
Allow cross-data	base ownership chain	ing
Compatibility		
Level	Database compati	ibility level 80 💌
	350	

If you are using MSDE, please issue the following commands:

osql -E -S [Server Name] -Q "ALTER DATABASE [Database Name] SET RECOVERY FULL"

These will enable transaction logging option for your MSDE databases and allow incremental/differential backup to be run with no problems.

3.12. "CExBackup::backupService:HrESEBackupSetup: Error Number 0xc800020e:An incremental backup cannot be performed when circular logging is enabled"

You need to disable circular logging in MS Exchange. Please uncheck the [Enable circular logging] option as shown below and restart the "Microsoft Exchange Information Store" service after you are done.

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949		X
	First Storage Group Properties	E 23
WTN2000 Name Protocols PTrint Storage Group	General Datali. General Datali. Pert Strange Genup I sensation log location Advances of the sense Syntem control of the sense Control deteted database pages Control deteted database pages Control deteted database pages Control deteted free option. Encomental backup can be use of data parce) is matched backup can be use of data parce) is matched. Control of the parce) Control o	Browne Brogree The performed encred for reduce
	Here + Color K Color Wethercoop Protocols Phint Storage Group	



3.13. "CExBackup::backupStorageGroup:HrESEBackupTruncateLogs: Error Number 0xc7ff1004: (null) "

This is an error returned by the Microsoft API and is a Microsoft issue. Please try to restart the "Microsoft Exchange Information Store" service. If the problem persists, you may want to schedule the service to restart on a daily basis.

3.14. "CExBackup::backupStorageGroupLog:HrESEBackupGetLogAndPatcbFile s: Error Number 0xc8000232: Some log or patch files are missing"

If you have just disabled the MS Exchange circular logging option, please try running a full backup again, this should fix the problem.

3.15. "CExBackup::backupFile:WriteFile:Error Number 0x6:The handle is invalid"

This is the MS Exchange having problem in writing to the Temporary spooling directory. Please ensure that the system account running the MS Exchange has full access right to that directory. If it is a network drive, please use an UNC path (e.g. <u>\\server\share</u>), and the "Network Resources Authentication for Windows" is properly set for the corresponding backup set.

3.16. "Path 'C:\Temp\MSSQLServer\1137040769567' does not exist"

If you get this error while you are doing MS SQL or MS Exchange backup, please try to use an UNC path (e.g. //server/share) in "Temporary directory for storing backup files" under [Backup Source Settings]. Please make sure that your SSS - OBM is on the same machine as your MS SQL or MS Exchange. Please also ensure that you have included the appropriate "**Network Resources Authentication for Windows**" information in the backup set.

For MS SQL Server, you may want to check whether if it can spool the database file correctly by running the following command:

(Windows Authentication mode) osql -E -Q "DECLARE @dbname char(64) SET @dbname = 'xxx' BACKUP DATABASE @dbname TO DISK = '//server/share/abc.txt' WITH SKIP"

OR

(SQL Server Authentication mode) osql -U USERNAME -P PASSWORD -Q "DECLARE @dbname char(64) SET @dbname = 'xxx' BACKUP DATABASE @dbname TO DISK = '//server/share/abc.txt' WITH SKIP"

Note:

USERNAME/PASSWORD = the database username/password xxx = the database that you would like to backup //server/share/abc.txt = the location for the database spooling file

3.17. "Expect log sequence 'xxx' but found 'SERVERNAME\Microsoft Information Store\First Storage Group\E000xxx.log'"

This occurs when the log sequence of MS Exchange was altered by other backup software, e.g. NTBackup. Thus when the Backup Manager next performs a MS Exchange backup, the Exchange log sequence would not match the one that it is expecting. With the broken sequence, the Exchange server cannot be restored to its latest state.

To resolve this problem, you need to deactivate all other backup software that is operating on MS Exchange, and then you need to perform a Full MS Exchange database backup manually via the Backup Manager.

Alternatively, instead of backing up transaction logs during the weekdays, you can consider doing Full Exchange Database backup on a daily basis with the In-File Delta option enabled. This should avoid interference from other backup software while keeping the amount of upload data to minimal.



"The last backup jobs of *.stm (2006-10-30-13-40-21) and *.edb (2006-11-04-03-05-00) don't match for database 'ServerX\Microsoft Information Store\First Storage Group\Mailbox Store (ServerX)'" For MS Exchange backup, *.stm and *.edb are backed up in pairs, if this error occurs, it implies that during a previous backup, there was a problem with either the *.stm or *.edb file. If this happens, please perform a Full MS Exchange backup manually via the Backup Manger to resolve this problem.

"No *.stm found for database 'ServerX\Microsoft Information Store\First Storage Group\Mailbox Store (ServerX)'"

This suggests that the .stm file on server may have been corrupted or found missing. To resolve this error, please perform a Full MS Exchange backup manually via SSS - OBM. Exception in thread "main" java.lang.UnsatisfiedLinkError: /usr/local/ obm/jvm/lib/i386/libawt.so: libXp.so.6: cannot open shared object file: No such file or directory...

This is caused by a missing library in Fedora Core 6. To resolve this, just open a terminal window. From here type in the command 'yum install libXp' (please note that the command is case sensitive), this will ask you if it is ok to download the package. Just type 'Y' and the libXp library will be installed. Once installed, just run the command

"sh \$OBM_HOME/bin/RunBackupManager.sh"

You should find that the SSS - OBM will open up and you should be able to create the backup set via the GUI interface.

When running the 'yun install' command, you may see the following error:

Loading "installonlyn" plugin

Existing lock /var/run/yum.pid: another copy is running. Aborting.

This is because the background YUM updater service is running. To stop it, run:

/etc/init.d/yum-updatesd stop

Once the process has been stop, you should be able to run the command 'yum install libXp' without any problems.

