

SecureITnet v5.2 User's Guide

Technical FAQ

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1 General.

1.1 What kind of encryption used by SecureITnet?

There are two encryptions being performed by SecureITnet:

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.

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1.2 Are there any command line tools for SecureITnet?

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

Windows

- Decrypt.bat: decrypts the specified backup files
- install.bat: installs the SecureITnet 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
- RunSecureITnet.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 SecureITnet icon from the System Tray and un-registers 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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1.3 How does SecureITnet detect changes in files? Does it use the Archive bit? Some tape backup software resets the Archive bit. Would this affect SecureITnet when backing up the same data?

SecureITnet 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 SecureITnet.

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1.4 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.

You can refer to the following screenshot:

http://download.ahsay.com/support/screenshots/Network_Resources_Authentication.JPG

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1.5 Does SecureITnet work with dial-up connections?

It makes no difference to SecureITnet 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".

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1.6 I cannot get proxy authentication to work with SecureITnet, 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.

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1.7 Can I backup an entire Operating System?

Currently, it is not possible to do hard disk image backup with SecureITnet. 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)
- 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

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1.8 Does SecureITnet 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.

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1.9 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.

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1.10 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 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".

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

You can copy the data of the particular backup set on 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 SecureITnet to restore the backup data from the removable media to its original format.

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

SecureITnet 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 x 10GB files in the same situation. You will only need 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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1.13 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.

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1.14 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.

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1.15 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, SecureITnet 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 SecureITnet, please refer to <http://download.ahsay.com/support/screenshots/EncryptingKey.jpg>

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1.16 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 NTFS.

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

Advantages

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

Disadvantages

- 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.

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1.18 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.

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1.19 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.

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1.20 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, SecureITnet 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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1.21 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 SecureITnet 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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1.22 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)

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1.23 Does SecureITnet have to stop the application when doing online backups?

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

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1.24 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.

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1.25 Why is my SecureITnet running backup once every hour?

You might have "**Off-line backup**" enabled for every hour. Please do the following to disable that:

1. Logon to SecureITnet
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

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1.26 How do I disable "logout backup reminder"?

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

1. Logon to SecureITnet
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

1.27 What do I have to do in order to backup open files?

You need to be on SecureITnet 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 - <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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1.28 The SecureITnet 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 [SecureITnet 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

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2 Microsoft Windows.

2.1 How do I run SecureITnet with Microsoft ISA 2004?

To connect SecureITnet to 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 [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 OBS from SecureITnet 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. 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 Offsite Backup Server]
3. Press the [Start Query] button
4. Open [Online Backup Manager] again and try connecting to the OBS using the same procedure above.

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

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2.2 The Windows version of SecureITnet 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.
3. 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 SecureITnet.
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

1. 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.

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2.3 The Installer doesn't seem to work. How can I manually install SecureITnet on Windows?

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

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

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2.4 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\SecureITnet\home.txt contains the home directory for your backup account (e.g. C:\Documents and Settings\Administrator\.obm)
3. Check if C:\Program Files\SecureITnet\jvm\bin\SchedulerSecureITnet.exe exists
4. Check if C:\Program Files\SecureITnet\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 or the customization portal and try again.

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2.5 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.

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2.6 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.

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2.7 How do I backup NTFS permissions?

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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2.8 How do I restore NTFS permissions?

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 SecureITnet
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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2.9 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

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2.10 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.

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Please refer to:

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

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2.11 In Windows, when SecureITnet 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 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\SecureITnet\bin\RegisterVSS.bat or

<http://download.ahsay.com/support/RegisterVSS.bat>.

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2.12 How do I remove SecureITnet completely from my Windows machine?

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

- Ensure that the SecureITnet 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)

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2.13 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 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

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

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

Autodisconnect to: ffffffff

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: <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

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

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2.14 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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3 FreeBSD, SCO UNIX, AIX, MAC OS and Novell

3.1 How do I install SecureITnet on FreeBSD?

You can either run SecureITnet 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
3. Create a symbolic link from `$SecureITnet_HOME/jvm` to `$JAVA_HOME` (installed in previous step)
4. Run `$SecureITnet_HOME/bin/RunBackupSet.sh [BACKUP_SET_NAME]` to run your backup
5. Run `$SecureITnet_HOME/bin/Scheduler.sh` to start the backup scheduler

Please do the following for the FreeBSD native Java SDK 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
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 `$SecureITnet_HOME/jvm` to `$JAVA_HOME` (installed in previous step)
6. Run `$SecureITnet_HOME/bin/RunBackupSet.sh [BACKUP_SET_NAME]` to run your backup
7. Run `$SecureITnet_HOME/bin/Scheduler.sh` to start the backup scheduler

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3.2 How do I install SecureITnet on SCO Unix?

Please do the followings to install SecureITnet 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 `$SecureITnet_HOME` (e.g. `/usr/local/obm`)
3. Delete `$SecureITnet_HOME/jvm` and create a symbolic link from `$SecureITnet_HOME/jvm` to the SCO Unix Java VM
4. Run `$SecureITnet_HOME/bin/BackupManager.sh` to setup your backup set (or run `$SecureITnet_HOME/bin/Configurator.sh` if you are under command line mode. Then use the OBS Management Console to setup your backup sources and other settings)
5. Run `$SecureITnet_HOME/bin/RunBackupSet.sh [BACKUP_SET_NAME]` to run your backup
6. Run `$SecureITnet_HOME/bin/Scheduler.sh` to start the backup scheduler

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3.3 How do I install SecureITnet on AIX?

Please do the followings to install SecureITnet 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 `$SecureITnet_HOME` (e.g. `/usr/local/obm`)
3. Delete `$SecureITnet_HOME/jvm` and create a symbolic link from `$SecureITnet_HOME/jvm` to the AIX Java VM

4. Run `$SecureITnet_HOME/bin/BackupManager.sh` to setup your backup set (or run `$SecureITnet_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 `$SecureITnet_HOME/bin/RunBackupSet.sh [BACKUP_SET_NAME]` to run your backup
6. Run `$SecureITnet_HOME/bin/Scheduler.sh` to start the backup scheduler

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3.4 The Installer doesn't seem to work. How can I manually install SecureITnet on Mac?

Try manually installing SecureITnet on your Mac with the following instructions:

1. Download <http://download.ahsay.com/support/obm50-mac.zip>
2. Expand `obm50-mac.zip` into `/Applications/SecureITnet`
3. Run `"chmod -R 755 /Applications/SecureITnet"` using Terminal
4. Double-click the "Online Backup Manager" icon in `/Applications/SecureITnet` folder

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3.5 Error occurred when Installing SecureITnet on Novell.

Some users would have problems when trying to install SecureITnet 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

Please check if the `SecureITnet_HOME` environment variable set in `SYS:\SecureITnet\bin\BackupManager.ncf` is correct?

```
envset SecureITnet_HOME=SYS:\SecureITnet
```

```
envset SecureITnet_CLASSPATH=$SecureITnet_HOME\bin;$SecureITnet_HOME\bin\obm.jar;
$SecureITnet_HOME\bin\obm-lib.jar
```

```
envset LIB_PATH=$SecureITnet_HOME\bin
```

```
java -mx384m -Djava.library.path=$LIB_PATH -cp $SecureITnet_CLASSPATH obm SYS:\SecureITnet
```

Please change the `SYS:\SecureITnet` environment variable to your installation directory.

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3.6 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.

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

Please take a look at SYS:\SecureITnet\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:\SecureITnet\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:\SecureITnet\bin\BackupManager.ncf" and append the updated .obm path to the end of the whole command line.

Example

```
java -mx384m -Djava.library.path=$LIB_PATH -cp $SecureITnet_CLASSPATH obm  
SYS:\SecureITnet C:\[new location]\.obm
```

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3.8 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 pre-backup command)
3. Use SecureITnet 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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3.9 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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3.10 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 SecureITnet
2. Apply all Access Control Lists backup to all your backup files by running

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

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