SERVER EDITION PLUG-INS FOR MS WINDOWS

User Manual – Version 5

May 2008
Version 1.2

Table of contents

1 Plug-in Installer

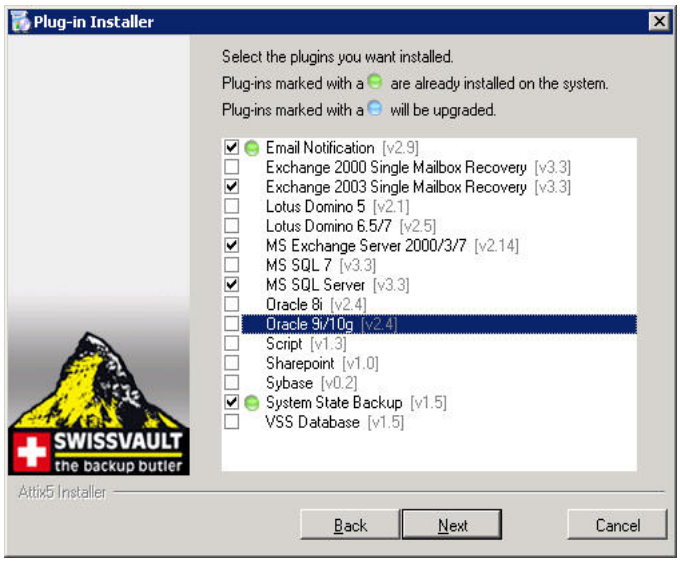
The Plug-in Installer allows you to upgrade existing Server Edition (SE) Backup Clients with added functionality by installing application specific plug-ins and other monitoring tools. You can also upgrade existing plug-ins with this installer. As from SWISSVAULT v5.0, plug-ins can also be auto-updated during the backup process, if enabled on the StorageCenter. The Plug-in Installer is only available for Windows systems.

The SWISSVAULT Server Edition Client must be installed on the computer before you can install any plug-ins. SE Plug-ins requires working space for the cache and disk space for creating a data dump and patches.

Note: Ensure that the drive where the Backup Client is installed has enough free hard drive space to store an extra copy of all the selected files. If not, move the toBackup, Cache and dump folder to another drive.

1.1 Installation and Configuration

The application does not have to be installed before updating the Backup Client. Simply run the Plug-in Installer executable and supply the necessary information. The installer will prompt you to close the SE Backup Client interface, if it is open, when running the Plug-in installer.



The Plug-in Installer displays a list of all the available plug-ins that you can install. Plug-ins marked with are already installed on the system. Any plug-ins marked with a blue icon will be upgraded to the latest plug-in version.

Version Information displays the Plug-in Installer version information

Select or deselect any of the plug-ins by clicking in the checkbox next to the plug-in name. After you have made all the necessary changes, click on **Next**. The next screen will display a summary of all the changes that you have requested. Click on **Apply requested changes** to continue with the upgrade or **Back** if you want to modify your selection.

The Plug-in Installer stops the SWISSVAULT SE service, installs, upgrades or uninstalls the selected plug-ins and starts the service again. Click on **Finish** to close the application. After installing the plug-ins, open the Backup Client and configure the installed plug-ins. For more information about the plug-ins, please refer to the next chapter.

Note: The Plug-in Installer does not remove the dump folder used by the plug-ins or any plug-in specific settings when you remove plug-ins. You have to remove it manually if needed.

2 Plug-ins

Adding to its features and functionality, SWISSVAULT Server Edition also provides a solution for numerous databases and applications. These solutions are provided as plug-ins to the SWISSVAULT Server Edition software.

Plug-ins currently available:

- MS Exchange 2000, 2003 and 2007
- MS SQL Server 2000 and 2005
- MS SQL 7
- MS SharePoint 2003
- VSS Database plug-in for supported databases and applications
- Sybase ASE12.5
- Lotus Domino 5
- Lotus Domino 6.5 and 7
- Oracle 8i, 9i and 10g
- Email Notification
- Script Plug-in
- System State Plug-in
- Single Mailbox Recovery for Exchange 2000 and 2003

2.1 MS Exchange 2000, 2003 and 2007

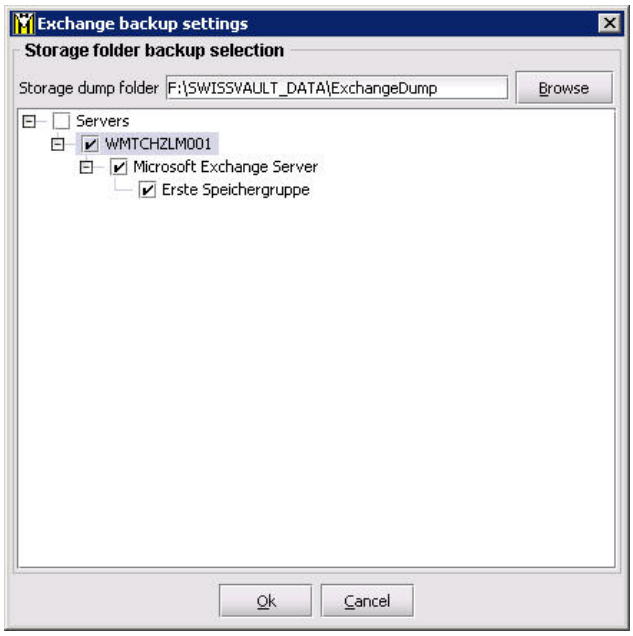
The MS Exchange 200x plug-in, combined with the Backup Client Server Edition, provides an automated backup solution for any Exchange 2000, 2003 and 2007 storage group that you would like to backup. It enables a fast and flexible way to protect vital Exchange data while the Exchange Server is in use.

2.2 Installation and Configuration

Note: SWISSVAULT SE with the MS Exchange Plug-in is normally installed on an existing Exchange Server since it automatically detects and configures the communications between the two applications. The Exchange Server services must be running in order for the Plug-in to access the files selected for backup. If you wish to install the Backup Client on a different machine then you must first install Exchange on that second machine as to provide the libraries required by the Exchange plug-in.

If you are installing the Single Mailbox Recovery (SMR) plug-in as well, please do so before installing the Exchange plug-in to ensure that the SMR mail profile is configured correctly.

SWISSVAULT Server Edition can be upgraded with the Exchange Plug-in by running the Plug-in Installer and selecting the **MS Exchange 2000/2003/2007** plug-in. After the upgrade, open the SWISSVAULT Backup Client to configure the plug-in. Select **Plug-ins** from the **Tools** menu and click on **Exchange 2000/2003 Backup settings**.



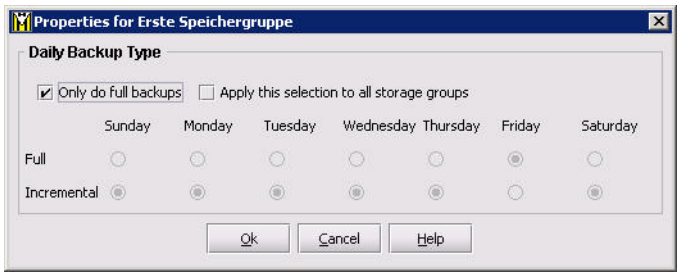
Select where you would like the Backup Client to create a **Storage dump folder**. This folder is used to dump a copy of the selected storage groups from the Exchange server. From here, the files will be encrypted and backed up. The default dump folder is C:\Program Files\SWISSVAULT SE\MSExchBackup***.***

Note: Make sure that your computer has enough free hard drive space to store a dump of all the selected storage groups.

The SWISSVAULT Backup Client requires working space for the cache (which is compressed), a temporary copy of each exchange storage group (the dump folder) and temporary disk space for creating patches to be sent to the StorageCenter.

The next step is to select the storage group(s) that you would like to backup. You have the option to select individual storage groups by expanding **Servers** and selecting the Storage Groups one by one. If you tick the **Servers** box, you will automatically backup all the storage groups within the Server.

You have the option to choose between Full or Incremental backups. Right-click on a Storage Group and select **Properties** to specify your preferences. The following window will be displayed:



From here you can modify the **Daily Backup Type** for the selected storage group. The Backup Client will, by default, do full backups during each backup.

To enable incremental backups (only the Exchange log files), remove the check next to **Only do full backups** and specify the days that you want to do incremental backups. ***Note: At least one full backup per week will still be enforced if you enable incremental backups.***

Enable the checkbox **Apply this selection to all storage groups** if you would like to use the same configuration for all selected storage groups. Click **OK** to save the changes, or **Cancel** to go back to the **Exchange backup settings** window.

Click **OK** to save the settings. Your Exchange Server Backup is now configured.

The Backup Process: To create your first backup, select **Backup Now** from the **File** menu. SWISSVAULT will create an exact copy of the selected storage groups in the dump folder. These files will be compressed and transferred to the StorageCenter. Subsequent backups will compare the selected storage groups with the selection from the previous backup, which is stored in a cache. SWISSVAULT will create a patch file for each storage group with all the changes made to the storage group since the last backup. Only the patch files and any new selections will be backed up.

2.2.1 Full Backups vs incremental backups

SWISSVAULT SE provides you with two options when backing up Exchange 2000 / 2003 / 2007; Full and Incremental Backups.

SWISSVAULT recommends making a Full Backup. The Full Backup process is straightforward. All databases are backed up, and the log files for the particular storage group are removed after the data has been incorporated in to the databases using a process called truncation. Using the efficient patching techniques available in SWISSVAULT SE, only a small percentage of the full backup is transferred to the StorageCenter on a daily basis.

During Incremental Backups, only the storage group changes since the most recent full backup is protected. These changes are stored in the Exchange log files and truncated into the storage group during the next full backup. Note that when restoring you need the most recent full backup as well as all the incremental backups between the last full and the required recovery point (RPO). SWISSVAULT SE will automatically restore all the required files during the restore process.

2.2.2 How to restore a MS Exchange Storage Group

It is very important to follow the following steps:

- Exchange must have the same service pack level as when the data was backed up.
- Set the database to be overwritten by a restore. Right-click on the different stores in Exchange, click on Database and enable the option "This database can be overwritten by a restore".
- Delete or move all the .log files in the MDBDATA folder in the Exchange installation directory. If these files are locked, stop the Exchange Information Store service and try again. Start the service and if there are any log files created (after starting the service) delete or move them as well.
- A restore can now be done as usual.

Open the Backup Client, select **Plug-ins** from the **Tools** menu and click on **Exchange 2000/2003 Restore wizard**.

The **Exchange Restore Wizard** enables you to restore any Exchange Storage group without having to restore the backup from the StorageCenter first, as the Exchange Wizard will automatically restore the files from the StorageCenter, should you choose to restore from a previous backup.

Restore Wizard Step 1
In the first step, select either **Restore from locally available backup** or **Restore from previous backups**. Click **Next** to continue.

Restore Wizard Step 2
If you select the first option, the Backup Client will use the last backup that is stored locally on the server. If you select the **Restore from previous backups** option, the Backup Client will connect to the StorageCenter and display a list of available Exchange backups.

The Storage Groups available in the backup that you selected, are displayed in the second step. Select whether you want to **Dismount the stores** before recovering the groups. ***Note: Deselect this option if you are restoring to a Recovery Storage Group.*** You must specify whether you want to **Restore all Storage Groups** or **Specify restore options for each Storage Group**. Click **Next** to continue.

Restore Wizard Step 3
In the third step, you must specify the Exchange Server and Storage Group to where you want to restore the data. The original Exchange Server and Storage Group information is displayed by default. Also specify the following by enabling/disabling the checkboxes:

- **Mount databases after restore** - If you deselect this option, you will have to manually mount the store after restoring it.
- **Wait for Exchange to complete restore** - the Backup Client will wait for confirmation from MS Exchange before it will notify you that the Restore was successful.
- **Only restore log files** – Use this option to only restore the log files.

Click **Next** to continue.

The last step displays a summary of what you have configured. You can change the temporary path that the Backup Client will use for the log and patch files by clicking on the **Browse** button. Click **Start restore** to start the restore process. You have to select a backup set that you would like to **Restore from**. Click on **Browse** and select the storage group that you want to restore. The client will list all the details from the backup – displaying the Backup date, to which server the backup should be restored to and the selected Storage group.

If Exchange cannot mount the store, run the Exchange eseutil application and try again.

2.3 MS SQL Server / MS SQL 7

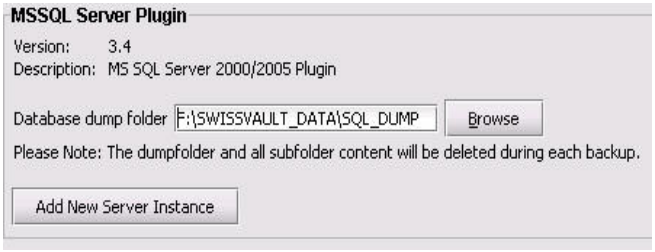
The MS SQL Server and MS SQL 7 plug-ins, combined with the Backup Client, provides an automated backup solution for any SQL database that you would like to protect, including MS SQL Server 2005 Express. The plug-in will ensure that your business-critical data is protected in case of corruption or loss. The SWISSVAULT SQL Server plug-in enables you to protect multiple SQL instances on one server.

Note that there are two plug-in versions available, MS SQL Server that supports any database from SQL 2000, and a plug-in for the older MS SQL 7. Usability is the same, so both plug-ins are described in this section.

2.3.1 Installation and Configuration

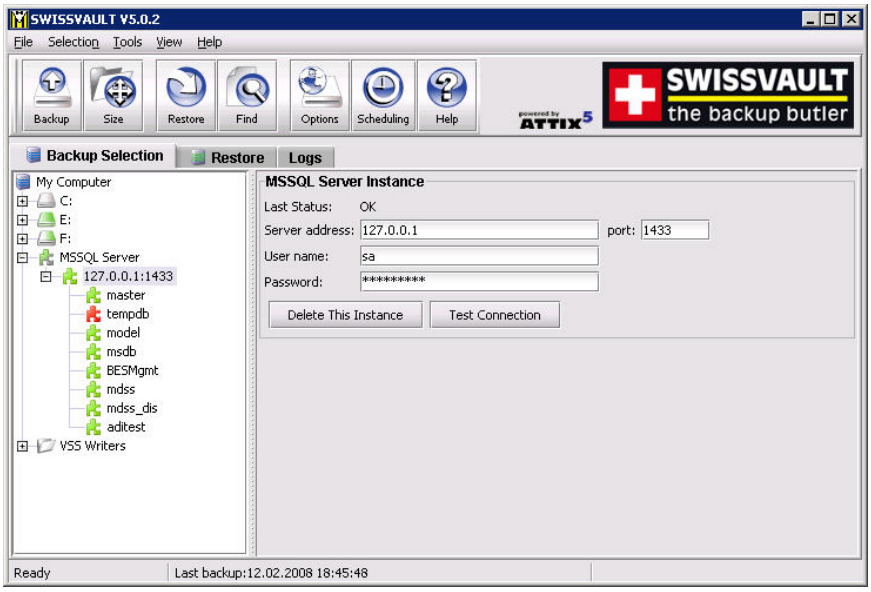
Note: SWISSVAULT SE with the MS SQL Server plug-in needs to be installed on the actual SQL Server and the SQL service must be running.

Run the Plug-in Installer and select the **MS SQL Server** (or MS SQL 7) plug-in to upgrade the Server Edition Backup Client with the MS SQL Server plug-in. After the upgrade, open the SWISSVAULT SE Client. You will notice a new entry in the Backup Selection tab, in the left-hand pane, called **MS SQL Server**. To add and configure a SQL instance click on this entry.



In the right-hand pane, specify the global database dump folder for the SQL instances in the **MS SQL Server plug-in** section. You can use the **Browse** button to browse to a specific folder.

Note: ensure that the server has enough free hard drive space to store a data dump of all the selected databases.



Click on the **Add New Server Instance** button to add the first SQL Server instance. A sub-node will be created in the MSSQL Server section in the left-hand pane, as displayed in the image below. Use the MSSQL Server Instance section pane to configure this SQL instance.

MSSQL Server Instance: Last status provides information about the last connection to the SQL Server. Enter the Server address, SQL username, password and port that the Backup Client must use to connect to the SQL Server (**note that you must manually enable TCP/IP ports in the SQL 2005 Management tools**). Click on **Test Connection**.

The list of the available SQL databases is populated in the left-hand pane as sub-notes of the selected instance, from where you can select the database that you want to backup. If you select the entire section, all databases will be included, as well as any new databases created.

Select the database(s) that you want to backup. **Backup and Restore operations are not allowed on the tempdb database (SQL-DMO ODBC SQLState: 42000)**.

To add another instance, click on the **MSSQL Server** entry in the left-hand pane, and then on the **Add new server** button in the right-hand MSSQL Server Plugin section. A new node will be added. Configure the SQL Server settings and select the necessary databases. **Note: ensure that you have sufficient rights if protecting a remote server.**

Verify that you have included all the required SQL databases in the left-hand pane before you initiate the first backup. To create your first backup, select **Backup Now** from the **File** menu. Backup Professional will create an exact copy of the selected databases in the dump folder. These files will be compressed and transferred to the StorageCenter. The next backup will compare the selected storage groups with the selection from the previous backup, which is stored in the cache. SWISSVAULT will create a patch file for each database. This file consists of all the changes made to the database since the last backup. Only the patch files and any new selections will be backed up.

2.3.2 How to restore a SQL Database from a backup device

The first step is to restore the database from the StorageCenter. Click on the **Restore** tab and select the dump folder from the specific backup date. From the **File** menu, click on **Restore**. Select a restore location and restore the database.

Open the **SQL Enterprise Manager**. From the Console root, expand Microsoft SQL Servers and browse to the Server where you would like to restore the database. Expand the databases section and select the database that you would like to restore. If the database does not exist anymore, you have to create and configure the database first. Right-click on the database, select **All Tasks** and click **Restore Database.**

In the **Restore as database** window, select the database you want to restore. Select **From device** and then click on **Select Devices**. From the **Restore from** option, select **disk** and then click on **Add**. Browse to the folder where you have restored the database and select the file. Click on **OK** accept the filename selected and **OK** again to accept the device. Using SQL functionality, you can select how you would like to restore the backup set. You can choose between a complete or differential database, the transaction log or file group. If you are restoring to a new database you have to enable SQL to overwrite the database.

Click on **OK** to start restoring the database. SQL Server Enterprise Manager will confirm that you have successfully restored the selected database.

2.4 MS SharePoint 2003

The MS SharePoint 2003 plug-in provides protection for all sites configured on the SharePoint server, down to individual document/item level.

2.4.1 Installation and Configuration

Note: SWISSVAULT SE and the MS SharePoint plug-in must be installed on the physical SharePoint server.

Run the Plug-in Installer and select the **SharePoint** plug-in to add the plug-in to the existing Server Edition backup client. After the upgrade, open the client.

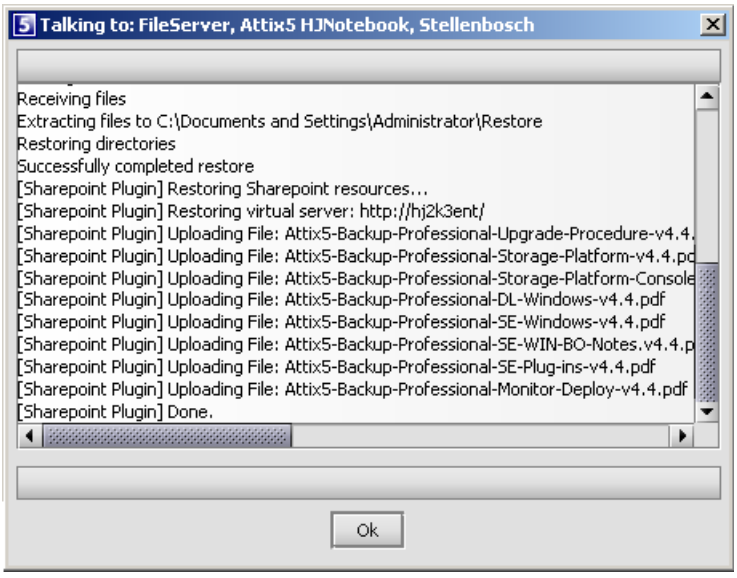
After the installation, a new node will be available in the left-hand pane, called **Sharepoint**. The plug-in will automatically communicate with the SharePoint portal using the native SharePoint APIs and then retrieve and display the list of available sites and all sub nodes in the tree. As displayed in the image above, individual files are displayed in the right-hand side.

Browse through the available trees and select the items that you want to backup as you would select files and folders in the default Backup Selection tab. Once you have made your selection you can click on the **Backup** toolbar button to initiate the first backup.

2.4.2 Restoring SharePoint data

Restoring SharePoint data is as simple as selecting the applicable SharePoint site and the required nodes in the left-hand pane and then any individual files, if needed. The plug-in does the rest.

Open the **Restore** tab, select the required databases and files in the **SharePoint** section and then click on the **Restore** button in the toolbar. Specify the restore location and click **Ok**.



The Backup Client will restore the files to the specified location and the SharePoint plug-in will thereafter pick up the files and restore it to the SharePoint server.

Confirmation will be supplied in the Restore dialog window and the log file, once the restore is completed.

2.5 MS VSS Database Plug-in

SWISSVAULT SE makes use of the MS Volume Shadow Copy Service (VSS) to backup open files like your Outlook PST file, which is just a fraction of what VSS can do. The MS VSS Database plug-in utilizes VSS on a much more advanced level by allowing you to protect any VSS enabled database and application available on your server with one single plug-in; without the need for a database dump.

2.5.1 VSS explained

Please note that this explanation will only focus on functionality related to databases, even though VSS is not limited to databases only. VSS (Volume Shadow Copy Service) consists of a number of three basic components:

Writers (e.g. MSSQL)

It is the responsibility of each database vendor (MS SQL, Oracle, Exchange etc) to develop a VSS writer which will allow a requestor (see below) to backup the data without having to understand the exact inner workings of the database engine. The writer ensures data consistency and provides a safe way to backup the data even while the application or database is still running. It provides a common backup interface that is similar across all databases, regardless of the vendor. Using writers is a way to ensure that the database vendor controls the data access, not an outside party.

Requestors (e.g. SWISSVAULT SE)

A requestor initiates the VSS process. The requestor uses a generic set of instructions to initiate the VSS process and read data from the database. The instructions are the same regardless of the database being backed up.

Providers (e.g. Microsoft Windows)

The provider is the interface to the point-in-time imaging capabilities. An in depth discussion of providers is not needed for the purpose of this document. It is more important to understand the Writer and Requestor.

2.5.2 The SWISSVAULT VSS Database Plug-in

The VSS database plug-in is a Requestor that (in theory) can backup any database or service that has a VSS writer. These would include MS Exchange, MS SQL, System state, Registry and Active Directory to name a few. In short it works like this:

1. During the first backup, the VSS plug-in connects to the database, reads all the data and compresses it to the ToBackup folder from where it is transmitted to the Storage Platform - **no database dump is done**.
2. After the backup, the data has been sent to the StorageCenter is moved from the ToBackup folder to the cache.
3. For subsequent backups, the data in the cache is compared to the database data as it is being read by the VSS plug-in, to work out patches which is again stored in the ToBackup folder.
4. The patches are transmitted to the StorageCenter.
5. After transmission to the StorageCenter the cache is updated by applying the patches to the files in the cache.
6. Repeat from step 3.

So it can be seen that with the VSS plug-in, databases are treated as large files with no need to dump them separately. If delta blocking is used the disk space requirements are further reduced (at the expense of larger backups).

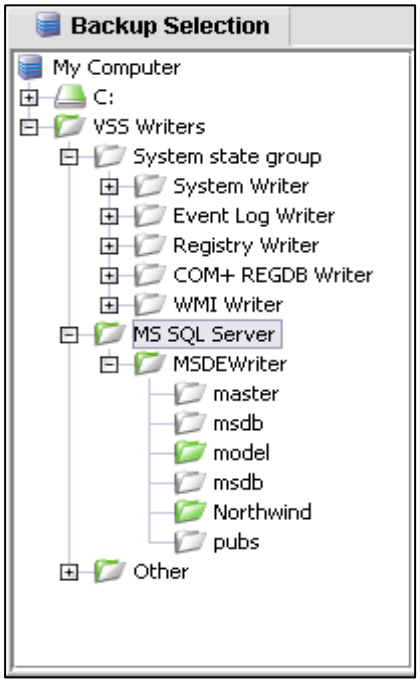
Advantages

- Makes use of a generic set of instructions. So as new Writers are developed for databases, SWISSVAULT SE should be able to back it up via the VSS Database plug-in.
- NO DUMP SPACE needed. The VSS Database plug-in reads the data directly from the database, without the need to make a database dump.
- The backup should be much quicker since data is not first dumped and then patched and compressed.

Disadvantages

- Not all the features that are provided in the existing SWISSVAULT SE plug-ins are available in the VSS plug-in (for example to use an Exchange recovery group).

2.5.3 Installation and configuration



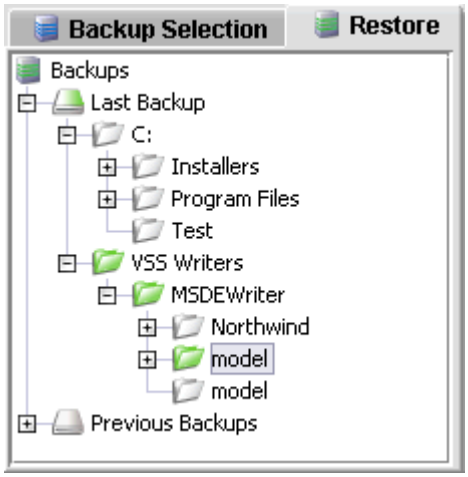
Note: The VSS Database plug-in can only support VSS enabled databases, applications and files on the local machine where it is installed.

Run the SWISSVAULT Plug-in Installer and select the **VSS Database** plug-in to upgrade the Server Edition backup client with the plug-in. After the upgrade, open the Backup Client.

You will note a new entry in the left-hand pane, called **VSS Writers**. The VSS Database plug-in will automatically display all the writers available on the server. If you do not see the **+** expand option next to the VSS Writers entry, right-click on it and select **Refresh**.

Browse through the available writers and select the items as you would select folders in the left-hand pane. Once you have made your selection you can click on the **Backup** toolbar button to initiate the first VSS Database plug-in backup, as described earlier in this document.

2.5.4 Restoring databases using the VSS Database Plug-in



Open the **Restore** tab, select the required databases and files in the VSS Writers section and then click on the **Restore** button in the toolbar. You will note that you cannot restore to the original location when selecting any items from the VSS Database section as VSS will do that once the data is restored. Select a temporary restore location and click **OK**.

The Backup Client will restore the files to the specified location and VSS will thereafter pick up the files and restore it to the applicable database. Confirmation will be supplied in the Restore dialog and the log file once the restore is completed.

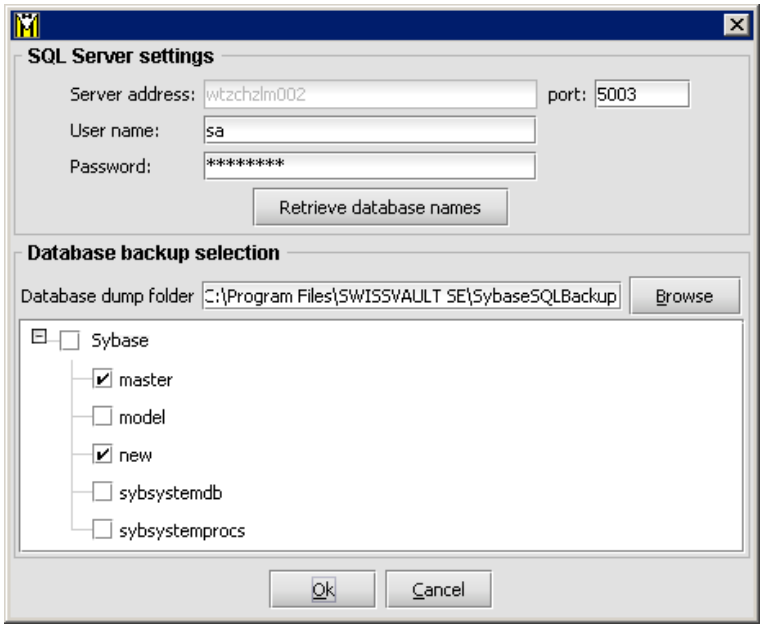
2.6 Sybase ASE 12.5

The Sybase plug-in, combined with the Backup Client, provides an automated backup solution for any Sybase ASE 12.5 database that you would like to backup. The plug-in provides protection down to the individual table or file group.

2.6.1 Installation and Configuration

Note: SWISSVAULT SE with the Sybase Plug-in needs to be installed on a server running Sybase and the Sybase services must be running.

To upgrade Server Edition with the **Sybase** plug-in, run the Plug-in Installer and select the Sybase plug-in. After the installation, open the SWISSVAULT Backup Client.



To configure the Sybase settings, open the **Tools** menu, select **Plug-ins** and click on **Sybase**.

SQL Server settings: Enter the username and password that the Backup Client will use to connect to the local Sybase Server. Make sure that you change the port to the correct port that Sybase is configured to use. Click on **Retrieve database names**. You will see a list of all the available Sybase databases.

Database backup selection: Select where you would like the Client to create the Database dump folder. This folder is used by the Client to dump a copy of the selected databases from where they will be backed up. The default folder is C:\Program Files\SWISSVAULT SE\SybaseSQLBackup.

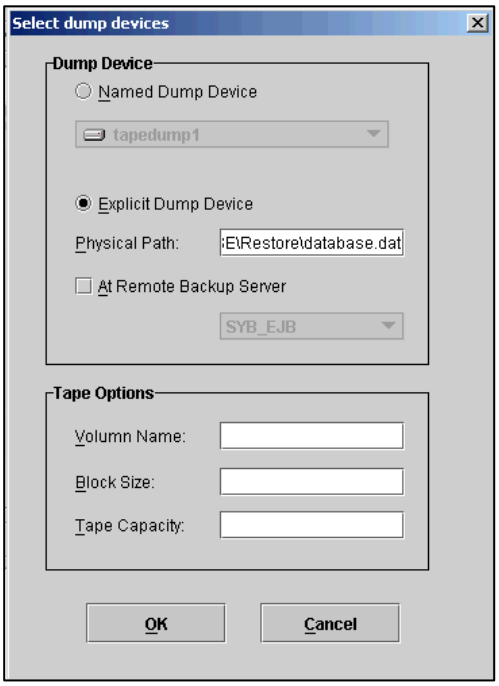
Note: Make sure that your computer has enough free hard drive space to store a data dump of all the selected databases.

After you have selected the databases, click on **OK** to close the window. Your Sybase Backup is now configured. To create your first backup, select **Backup Now** from the **File** menu. SWISSVAULT will create an exact copy of the selected databases in the dump folder. These files will be compressed and transferred to the StorageCenter. The next backup will compare the selected storage groups with the selection from the previous backup, which is stored in the cache. SWISSVAULT will create a patch file for each database. This file consists of all the changes made to the database since the last backup. Only the patch files and any new selections will be backed up.

2.6.2 How to restore a Sybase Database

The first step is to restore the database from the StorageCenter. Click on the **Restore** tab and select the dump folder from the specific backup date. From the **File** menu, click on **Restore**. Select a restore location and restore the database.

Open the **Sybase Central Java Edition** and connect to the **Adaptive Server Enterprise** by selecting **Connect** from the **Tools** menu. Expand the Sybase server tree in the left-hand pane until you can see the available databases in the right-hand pane. Right-clink on the database that you want to restore and select **Restore**. If the database does not exist, you have to create a new database first. Make sure that you allocate enough space in the database to restore the data into the new database. Select **Restore the entire database** and click on **Next**.



In the next window you have to select a dump device. Click on **Add** and change the Dump Device to **Explicit Dump Device** and type in the path (including the database name) to where you restored the database and click on **OK**. You will see that the dump device is included in the list. Click on **Next** and then **Finish,** to continue with the restore.

A window will be displayed with all the SQL commands. The next step is to bring the database online. Open **Utilities** in the left-hand pane in the **Sybase Central Java Edition** and open **JISQL** from the right-hand pane. Type in your username and password to connect and click on **OK**. Type the command **online database *database_name*** in the **Input window** and click on **Go**. The **Status window** will confirm that the database is online.

2.7 Lotus Domino 5

The Lotus Domino 5 plug-in integrates the critical data protection of Lotus Notes messaging and collaboration databases within the daily backup activities. Using the native Domino backup API, this plug-in provides protection down to the individual mailbox.

2.7.1 Installation and Configuration

Note: SWISSVAULT SE with the Lotus Domino Plug-in should be installed on a Lotus Domino Server as it automatically configures the communications between the two applications. The Domino services must be running in order for the Plug-in to access the files selected for backup.

To upgrade Server Edition with the Lotus Domino plug-in, run the Plug-in Installer and select the **Lotus Domino 5** plug-in. After the installation, open the SWISSVAULT SE Backup Client.

If you are familiar with the Backup Client interface, you will notice that there are two new tabs, **Domino Backup** and **Domino Restore**.

Open the **Domino Backup** tab and click on **Retrieve database names**. The Backup Client will connect to the Domino server and display a list of all the available databases.

The next step is to select where you would like the Backup Client to create a **Database dump folder**. The default dump folder is C:\Program Files\SWISSVAULT SE\Domino. A copy of the selected databases from the Domino server is created in this folder. From here, the files will be encrypted and backed up.

The Backup Client requires working space for the cache (which is compressed), a temporary copy of each database (the dump folder) and temporary disk space for creating patches to be sent to the StorageCenter. ***Note: Make sure that your computer has enough free hard drive space to store a data dump of all the selected databases.***

Select the database(s) that you would like to backup. You have the option to select individual files or mailboxes by expanding the **Domino Server** or any of its subfolders and selecting the entries one by one. If you tick the box next to **Domino Server**, you will automatically backup the entire Domino Server as well as any new files added to the server.

Click on **Save selection**. ***SWISSVAULT will not backup the selected databases if you do not save the selection.*** Your Domino Server Backup is now configured.

The Backup Process: To create your first backup, select **Backup Now** from the **File** menu. SWISSVAULT will create an exact copy of the selected databases in the dump folder. These files will be compressed and transferred to the StorageCenter. Subsequent backups will compare the selected databases with the selection from the previous backup, which is stored in a cache. SWISSVAULT will create a patch file for each database or mailbox with all the changes made since the last backup. Only the patch files and any new selections will be backed up.

2.7.2 How to restore a Domino Server

Open the Backup Client and click on the **Domino Restore** tab.

If you want to restore from previous backup, you have to retrieve the dump folder from the StorageCenter first. Click on the **Restore** tab, select the dump folder from the specific backup date and restore the file. Remember to restore it to the **original location**.

From the **Domino Restore** tab use the **Browse** button to select the Recovery folder that you restored from the StorageCenter and click on **Retrieve databases**. The default path is C:\Program Files\SWISSVAULT SE\Domino. The Backup Client will display all the files from the specific backup. You can browse through the available folders to select the specific mailboxes and files, or you can select the top node to restore all available files.

If you want to do a full media restore, enable the tick next to **Full Media Restore**. This option will select the entire backup set including the necessary configuration files (ini file, cert ID and server ID) to do a full media restore. Note that you have to click on **Retrieve databases** before you will be able to restore the data.

You have to stop the Domino Server before restoring any files. This is not necessary if you only restore mailboxes. Select the files that you want to restore and click on **Restore**. SWISSVAULT will restore the selected files to the Domino Server and the Backup Client will notify you when the restore has been completed. After the restore restart the Domino Server.

2.7.3 Lotus Domino 6 / 7

The Lotus Domino 6 / 7 plug-in integrates the critical data protection of Lotus Notes messaging and collaboration databases within the daily backup activities. Using the native Domino backup API, this plug-in provides protection down to the individual mailbox.

2.7.4 Installation and Configuration

Note: SWISSVAULT SE with the Lotus Domino Plug-in should be installed on a Lotus Domino Server as it automatically configures the communications between the two applications. The Domino services must be running in order for the Plug-in to access the files selected for backup.

To upgrade SWISSVAULT SE with the Lotus Domino plug-in, run the Plug-in Installer and select the **Lotus Domino 6.5/7** plug-in. After the installation, open the SWISSVAULT SE Backup Client.

If you are familiar with the Backup Client interface, you will notice that there are two new tabs, **Domino Backup** and **Domino Restore**. Open the **Domino Backup** tab. The Backup Client displays the Domino Server in the left-hand pane.

The **Domino Backup tab** enables you to select the components that you want to backup. To select the Domino Server or any of its subfolders, right-click on the folder name in the left-hand pane and **Include** the selection. Individual files can be selected in the right-hand pane. If you **Include** the **Domino Server**, you will automatically backup the entire Domino Server as well as any new files added to the server in future.

Select the location the **Database dump folder**. The default path is C:\Program Files\SWISSVAULT SE\Domino. Should you want to change this location, use the **Browse** button to select another folder. A copy of the selected components from the Domino server is created in this folder. From here, the files will be encrypted and backed up.

The Backup Client requires working space for the cache (which is compressed), a temporary copy of each database (the dump folder) and temporary disk space for creating patches to be sent to the StorageCenter. ***Note: Make sure that your computer has enough free hard drive space to store a data dump of all the selected databases.***

Note that you have to click on the **Save** button after you have made your selection. ***SWISSVAULT will not backup the selected components if you do not save the selection.*** Your Domino Server Backup selection is now configured.

The Backup Process: To create your first backup, select **Backup Now** from the **File** menu. SWISSVAULT will create an exact copy of the selected components in the dump folder. These files will be compressed and transferred to the StorageCenter. Subsequent backups will be compared with the selection from the previous backup. SWISSVAULT will create a patch file for each database or mailbox with all the changes made since the last backup. Only the patch files and any new selections will be backed up.

2.7.5 How to restore a Domino Server

Open the Backup Client and click on the **Domino Restore** tab.

You first have to retrieve the dump folder from the StorageCenter before you can restore the Domino Server. Click on the **Restore** tab, select the dump folder from the specific backup date and restore the folder to its **original location**.

From the **Domino Restore** tab use the **Browse** button to select the Recovery folder that you restored from the StorageCenter. The default path is C:\Program Files\SWISSVAULT SE\Domino. The Domino Restore tab displays all files available from the specific backup. Note that you have to browse and select the **Recovery folder** before you will be able to view the data. You can browse through the available folders to select the specific mailboxes and files, or you can select the top node to restore all available files.

A Full Media Restore is initiated by enabling the tick next to **Full Media Recovery**. This option selects the entire backup set, including the necessary configuration files (ini file, cert ID and server ID) to do a full media restore. The procedure when you have to do a Full Media Recovery:

1. Install the Domino Server
2. Run the Domino setup, but **DO NOT START THE SERVER**
3. Restore the recovery folder
4. Do a **Full Media Recovery**
5. Start the Domino Server

After you have selected the files that you want to restore and click on **Restore**. **Note that the selected databases or mailboxes should be closed during the restore process**. SWISSVAULT will restore the selected files to the Domino Server and the Backup Client will notify you when the restore has been completed. You are advised to initiate a full backup after recovering a large amount of data.

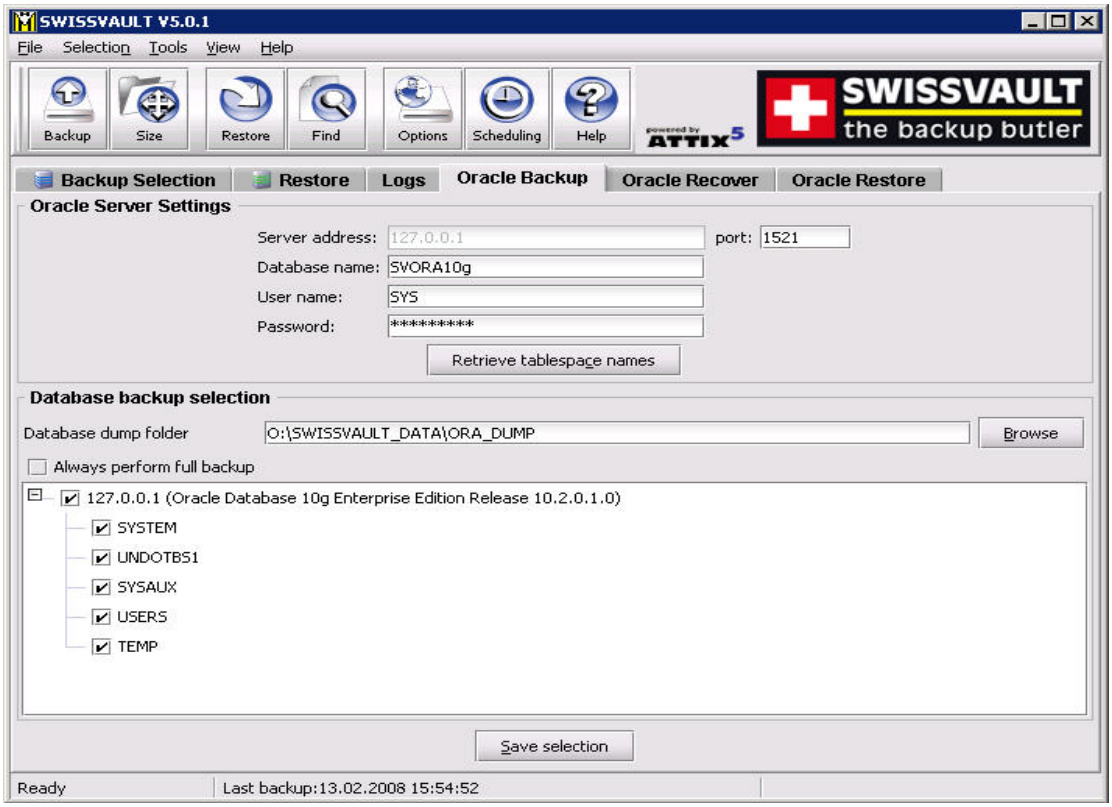
2.8 Oracle

The Oracle plug-in, combined with the SWISSVAULT SE Backup Client, provides an automated backup solution for your Oracle Database at tablespace level. The plug-in will ensure that your business-critical data is protected in case of corruption or loss.

2.8.1 Installation and Configuration

Note: SWISSVAULT SE with the Oracle plug-in needs to be installed on an Oracle Server and the Oracle services must be running.

To upgrade Server Edition with one of the Oracle plug-ins, run the Plug-in Installer and select either the **Oracle 8i** or **Oracle 9i/10g** plug-ins. After the installation open the SWISSVAULT Backup Client. Note that the **Oracle Recover** tab is only available in the Oracle 9i/10g plug-in.



It is very important to ensure that the database is in Archive Log mode. Open the Oracle Enterprise Manager Console, right-click on the database and select **View/Edit Details**. Click on the **Recovery** tab and enable **Archive Log mode** and **Automatic archival** if it is not enabled. The database will have to be restarted. Open the SWISSVAULT SE Backup Client and click on the **Oracle Backup** tab to configure the necessary settings.

Oracle Server settings: Enter the database name, user name and password that the Backup Client will use to connect to the Oracle database. Leave the port at its default setting of 1521. Click on **Retrieve tablespace names**. A list of all the available tablespaces will be displayed.

Database backup selection: Select where you would like the Backup Client to create the Database dump folder. This folder is used by the Backup Client to dump a copy of the selected datafiles from where they will be backed up. The default folder is C:\Program Files\SWISSVAULT SE\OracleBackup. ***Note: Make sure that your computer has enough free hard drive space to store a data dump of the selected datafiles.***

Select the tablespaces that you want to backup. Selecting the root (127.0.0.1) will backup all the tablespaces and any new tablespaces added. The Backup Client will perform a full backup of the selected files during each backup if you enable the checkbox next to **Always perform Full Backup.** If you do not enable full backups it will only backup the archive logs. Please note that the Backup Client will perform a full backup on Sundays and the first time that a backup is initiated. Click on **Save selection**. **SWISSVAULT will not backup the selected datafiles if you do not save the selection.**

Your Oracle Server Backup is now configured. To create your first backup, select **Backup Now** from the **File** menu. SWISSVAULT will create a hot backup of the selected datafiles in the dump folder. These files will be compressed and transferred to the StorageCenter. The next backup will compare the selected storage groups with the selection from the previous backup, which is stored in the cache. SWISSVAULT will create a patch file for each datafile. This file consists of all the changes made to the datafile since the last backup. Only the patch files and any new selections will be backed up.

2.8.2 How to Recover a Tablespace or Datafile (Oracle 9i/10g only)

You have the option to either recover or restore Oracle tablespaces or datafiles. If you recover the datafiles, SWISSVAULT SE will ensure that the tablespace or datafile is offline, restore the data to its original place, recover the data and place the datafiles online again. **This cannot be done with the System tablespace since it has to be online when you restore it.**

The first step is to retrieve the files that you want to restore from the StorageCenter. Click on the **Restore** tab and select the dump folder from the specific backup date. From the **File** menu, click on **Restore**. Select a restore location (**do not restore to the original location**) and ensure that you enable the checkbox to **Recreate directory structure**. Restore the files. After you have restored the dump folder open the **Oracle Recover** tab.

Oracle Server Settings: Supply the Oracle database name and your user name and password that you use to connect to the Oracle database.
Server Restore selection: Use the **Browse** button and select the folder where you restored the data from the **Restore** tab.

Click on **Retrieve Tablespaces**. A list of the available tablespaces and datafiles will be displayed. Select the datafiles that you wish to recover and click on **Recover**.

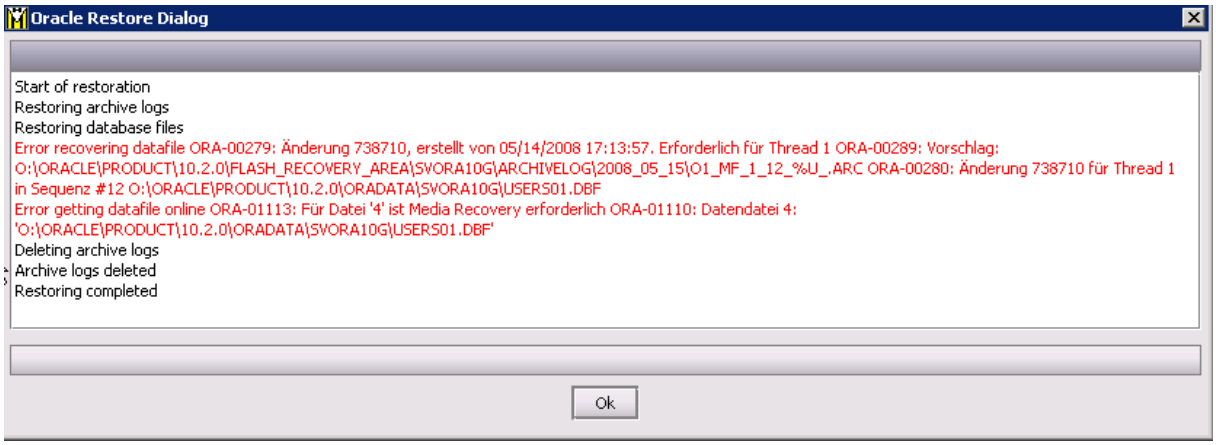
The files will be taken offline, the data will be restored to their original locations and the files will be recovered. SWISSVAULT will place them online after they have been recovered.

Advanced Note: If the restore dialog window displays any warnings or errors in red, it is probably requiring a log file that is not located in the default location. Please follow these steps to do a manual recovery using SQL Plus:

Manual Recovery using SQL Plus (as sysadmin)
Follow these steps if the **Recovery Tab** restore process failed.

- Open SQL Plus and log in as sysadmin
- Run the command **Alter database recover cancel;**
- And then **Recover datafile 'path to table space';**
- Follow the on screen prompts. You may be asked to supply the path to specific log files. These log files form part of the backup selection and would have been restored to the specified dump folder during the restore process. If you cannot find it, search for the missing log files in the backup history. You can either supply the path (remember to use inverted commas) or copy the files to the Oracle folder listed in the error message.
- Next you must set the database to online again with **Alter database datafile 'path to table space.dbf" online;**
- The last step is to open the database with **Alter database open;**
- The Oracle database will be opened and ready.

Manual Recovery Example
If you see the following error, or something similar as the log names will not be the same, you must follow the abovementioned steps to recover the database.



- Run the command **Alter database recover cancel;**
- And then **Recover datafile 'O:\oracle\product\10.2.0\oradata\svora10g\users01.dbf';**

```
SQL> recover datafile 'O:\oracle\product\10.2.0\oradata\svora10g\users01.dbf';
ORA-00279: change 738710 generated at 05/14/2008 17:13:57 needed for thread 1
ORA-00289: suggestion :
O:\ORACLE\PRODUCT\10.2.0\FLASH_RECOVERY_AREA\SVORA10G\ARCHIVELOG\2008_05_15\O1_MF_1_12_%U_.ARC
ORA-00280: change 738710 for thread 1 is in sequence #12

Specify log: {<RET>=suggested | filename | AUTO | CANCEL}
```

- If you hit RETURN, it will automatically try to use the suggested file, as specified in the example. If the file is not available in the folder, a message will be displayed:

```
ORA-00308: cannot open archived log
'O:\ORACLE\PRODUCT\10.2.0\FLASH_RECOVERY_AREA\SVORA10G\ARCHIVELOG\2008_05_14\O1_
MF_1_12_42P0FVQD_.ARC'
ORA-27041: unable to open file
OSD-04002: unable to open file
O/S-Error: (OS 2) The system cannot find the file specified.
```

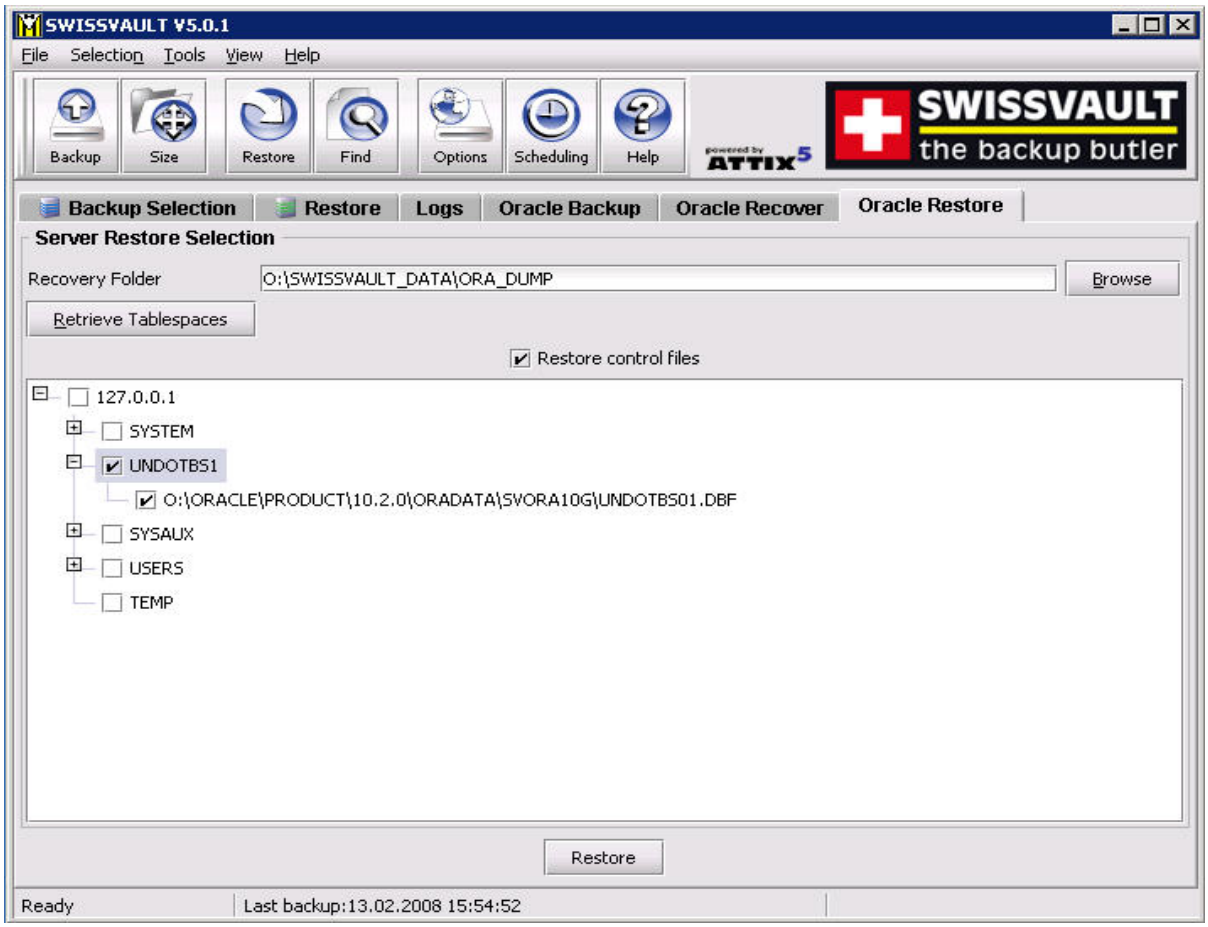
- If the file cannot be found you have two options. Either point SQL Plus to the Recovery folder with the ***filename*** command, or you can copy the file into the required Oracle folder, `O:\ORACLE\PRODUCT\10.2.0\FLASH_RECOVERY_AREA\SVORA10G\ARCHIVELOG\2008_05_14` in the example above.
- Files are copied back to the Oracle folder in this example. Once the file has been copied, press RETURN to continue.
- And then **Recover datafile 'O:\oracle\product\10.2.0\oradata\svora10g\users01.dbf';**
- Continue with the **Recover datafile 'O:\oracle\product\10.2.0\oradata\svora10g\users01.dbf';** command and supplying the log files until you see the following message:
  ```
  Log applied.
  Media recovery complete.
  ```

- Alter database datafile 'C:\oraclexe\oradata\XE\users.dbf' online;
  ```
  Database altered.
  ```

- alter database open;
  ```
  Database altered.
  ```

2.8.3 How to Restore a Tablespace or Datafile

The first step is to retrieve the files that you want to restore from the StorageCenter. Click on the **Restore** tab and select the dump folder from the specific backup date. From the **File** menu, click on **Restore**. Select a restore location (**do not restore to the original location**) and ensure that you enable the checkbox to **Recreate directory structure**. Restore the files



There are a few different scenarios when restoring an Oracle database, tablespace or datafile. After you have selected the recovery folder (the folder to where you restored the data) click on **Retrieve Tablespaces**. A list of the available tablespaces will be displayed. **Restore control files** must be enabled when you do a full restore. When you click on **Restore**, the Backup Client will remind you to make sure that the database is offline. If you are only restoring a few datafiles, make sure that they are offline before continuing. Use the SQL Plus commands in the next section to bring the database or datafile offline. Change the necessary settings and click on **Restore**. The Backup Client will restore the selected files to their original location but they will not be recovered. After the client has restored the files, you have to manually recover the files and start the database.

The examples in the next section provide some help to restore the data and to manually recover the files and start the database using SQL Plus.

2.8.4 Oracle Tablespace or Datafile recovery

Recovering a Closed Database

Media or hardware failure

- Determine which datafile or datafiles need to be recovered.
- Shutdown immediately
- Open the Backup Client and restore the dump directory from the StorageCenter. Open the **Oracle Restore** tab and select the files that you want to restore. Click on **Restore**.
- Open SQL Plus with the following command: **sqlplus /nolog**
- **Connect / as sysdba**
- Mount the database with the **startup mount;** command
- **Recover datafile 'c:\data\datafile1.dbf'**; or **recover tablespace 'tablespacename';** or **recover database;**
- **Alter database open;**

Recovering an Opened Database

Media or hardware failure (Not the System Tablespace)

- Determine the datafile or datafiles that need to be recovered.
- Open **sqlplus /nolog** and **connect /as sysdba**
- Take the datafile offline **alter database datafile 'filename' offline;**
- Open the Backup Client and restore the dump directory. Select the datafile that you want to restore.
- **Recover datafile 'c:\data\datafile1.dbf'**; or **recover tablespace 'tablespacename'**;
- **Alter database datafile 'filename' online;**

Recovering a Database

Media or hardware failure (System Tablespace)

- Unlike other tablespaces, the SYSTEM tablespace must be available in order to open the database. Therefore, if any members of the system tablespace are damaged, they must be restored now. Before doing this, make sure that the database is not open. It may be mounted. To make sure, run the following command on the mounted, closed database.
- C:\Oracle\Ora92\bin> **sqlplus / nolog**
- **connect / as sysdba**
- **select status from v$instance**; The following will be displayed:

STATUS

MOUNTED
1 row selected.

- If the database is not open, restore the damaged files from the most recent backup available restore dump directory and select the datafiles. Once all damaged files in the system tablespace are restored, run the following command on the mounted, closed database:
- **recover tablespace system**;
- **alter database open;**
- **quit**

Full Media Recovery

Recovery to the same location

- Open SQL Plus and stop the database with the ***SHUTDOWN ABORT;*** command.
- Open the Backup Client and Restore the entire dumpfolder from the StorageCenter. Open the **Oracle Restore** tab and restore all files **including** the control files.
- Mount the database in SQL Plus: ***STARTUP MOUNT***
- ***RECOVER DATABASE USING BACKUP CONTROLFILE;*** (see next point if there are some errors). Accept the default path that is suggested when restoring the log files. If the last log file cannot be located run the ***RECOVER DATABASE USING BACKUP CONTROLFILE;*** command again and supply the path to the redo folder that you restored as well as the filename of the redo log file within that folder; or copy the redo log file from the restored redo folder to the flash_recovery_area folder prompted in the message and run the ***RECOVER DATABASE USING BACKUP CONTROLFILE;*** again.
- If the redo logfiles cannot be located, use the following command to recover the database: ***RECOVER DATABASE USING BACKUP CONTROLFILE UNTIL CANCEL;***
- Open the database: ***ALTER DATABASE OPEN RESETLOGS;***
- The Oracle database will be opened and ready

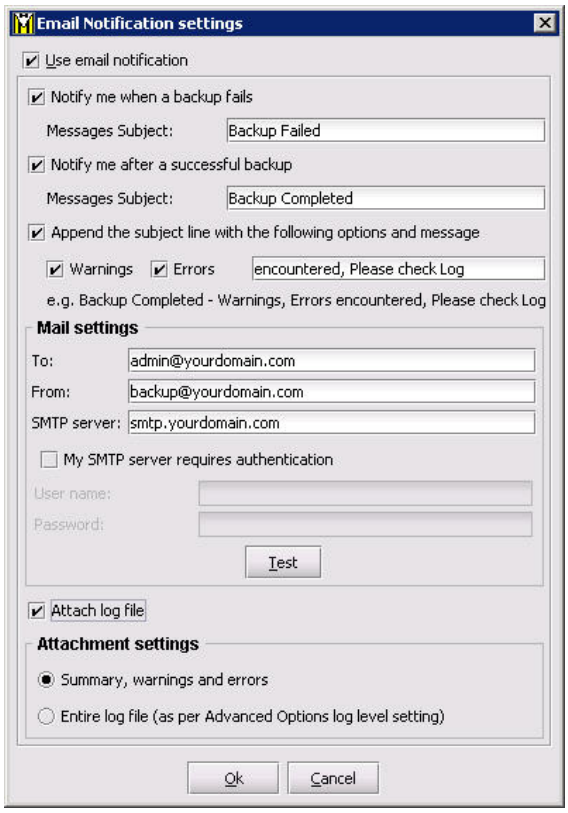
2.9 Email notification

The Email Notification plug-in enables you to receive email notification on backup activity. You can configure the plug-in to notify you on a specified email address when a backup has been successful, when it failed or both.

2.9.1 Installing the Email Notification Plug-in

This plug-in is included in the SWISSVAULT SE installer version. If it is not installed, run the Plug-in Installer and select the **Email Notification** plug-in to install or upgrade the Email Notification plug-in. After the installation, open the Backup Client interface.

2.9.2 Configuration and use



To configure the Email Notification plug-in, open the **Tools** menu, select **Plug-ins** and click on **Email Notification**. Enable the checkbox next to **Use Email notification** to enable the plug-in. Select whether you would like to receive notification for successful and/or failed backups. You can also modify the email subject. Note that the account name is automatically included in the subject, e.g. Backup Completed [User One].

If **Notify me after a successful backup** is enabled, you can choose whether Warnings and/or Errors must be highlighted in the email subject by enabling the checkbox next to **Append the subject line with the following options and message**. An example of the message is displayed below the text box.

Supply the **To** and **From** email addresses and the **SMTP server** address.

You can specify whether the backup log must be included in the email. Choose between the **Summary, warnings and errors** or the **Entire log file**, as specified in the **Advance Options** Log level setting.

Click on **Test** to verify that the settings are correct. A message will confirm if the email was sent successfully. Click on **OK** to remove the message and **OK** again to close the Notification settings window.

The Email Notification Plug-in is now activated and will start emailing reports during the next backup.

2.10 Script Plug-in

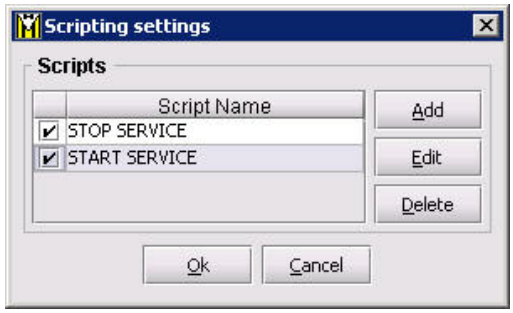
The Script plug-in enables you to execute scripts and batch files during the backup or restore processes. This allows you to prepare an application for backup and to create a data dump of a database. You can also stop and start applications or services before, during or after any backup.

2.10.1 Installing the Script Plug-in

To install the Script plug-in, run the Plug-in Installer and select the **Script** plug-in. After the installation, open the Backup Client interface.

2.10.2 Configuration and use

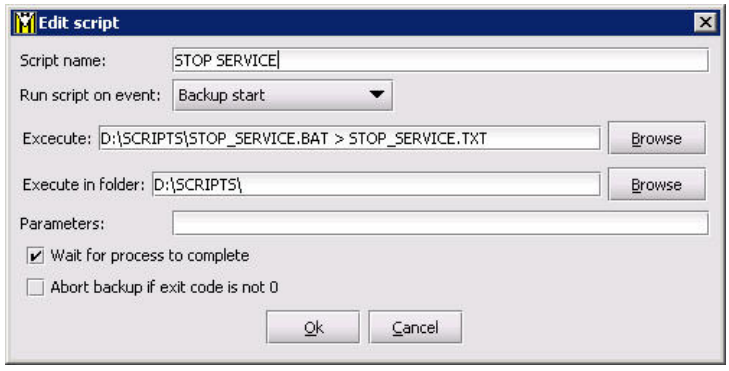
To add scripts, open the **Tools** menu, select **Plug-ins** and click on **Scripting**. The Scripting settings window allows you to **Add** new and **Edit** or **Delete** existing scripts.



Click on **Add** to create a new script. The image below displays an example. Start by supplying a Script name and specify when this script should run. You can choose between:

- Backup / Restore start
- Backup data created
- Connection open
- Backup / Restore Transfer start
- Backup / Restore Transfer end
- Connection closed
- Backup / Restore end

Browse to the application or batch file that should be executed. Supply a location where it should be executed as well as any other parameters needed.



Specify whether you want the Backup Client to wait for the process to be completed before continuing with backup process by enabling the checkbox next to **Wait for process to complete**.

Click on **Ok** to save the new script. You can enable/disable scripts by clicking in the checkbox next to the Script Name. After you have configured all your scripts, click **Ok** to close the Scripting settings window.

2.11 System State Backup Plug-in

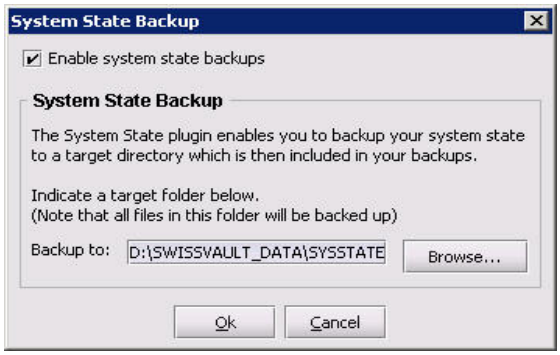
The SWISSVAULT System State Backup plug-in enables you to backup a collection of system-specific components that must be backed up as a unit. These components include (depending on the Operating System) the following components:

- Boot files, including system files, and all files protected by Windows File Protection (WFP)
- The registry
- COM+ Class Registration database
- Active Directory
- SYSVOL directory

Please follow the following steps to install and enable System State backup. **Please note that this plug-in is only available from MS Windows 2000 Server.**

2.11.1 Installation and Configuration

This plug-in is included in the SWISSVAULT SE Installer version 4.2. If it is not installed or to update the plug-in, run the SWISSVAULT Plug-in Installer and select the **System State Backup** plug-in. After the installation, open the Backup Client interface.



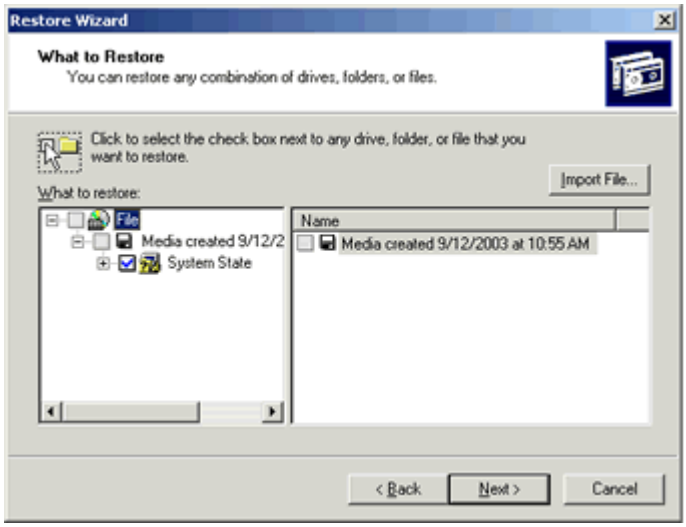
From the **Tools** menu, select **Plugins** and then **System State**.

Click in the checkbox next to **Enable System State** backups to enable the plug-in. A local target folder is required to create the System State backup. Please supply or **Browse** to the target folder and click **OK**. If the target folder does not exist, the Backup Client will prompt whether the folder must be created. This folder is automatically included in you backup selection list.

The System State Backup plug-in is initiated at the beginning of each backup. It uses the Windows Backup and Recovery tools to create the backup file. Server Edition continues with the rest of the backup procedure after the System State Backup has been saved in the specified target folder.

2.11.2 Restore process

Open the **Restore** tab in your SWISSVAULT SE Client. Select the backup date that you want to restore from in the left-hand pane and restore the sysstate.bkf file that is located in the target folder.



Open the Windows Backup and Recovery application (Start >> Programs >> Accessories >> System Tools >> **Backup**) and select the **Restore Wizard** from the **Tools** menu. Click on **Import File** and browse to the restored sysstate.bkf file. The default restore location is C:\Program Files\SWISSVAULT SE\Restore.

Click **OK** to import the file. In the Left-hand pane, expand Media Created and select System State. Click **Next** and **Finish** to compete the Restore Wizard.

2.12 Single Mailbox Recovery for Exchange 2000 / 2003

2.12.1 Introduction

The SMR plug-in is used to backup and restore single Exchange Server mailboxes. The SMR plug-in makes use of a robust Exchange tool called **ExMerge** to actually perform the backup and restore operations. However the plug-in presents a user interface to the ExMerge settings file (usually exmerge.ini) so that the user is able to configure ExMerge from the SWISSVAULT SE Backup Client. Once configured, ExMerge can be run in 'batch' mode that does not require user interaction.

SMR no longer requires MAPI or a MAPI profile to perform its functionality as the plug-in makes a native call via the COM component to query LDAP for the list of Exchange mailboxes.

2.12.2 Installing the SMR Plug-in

To install the SMR plug-in on an existing SE Backup Client, run the Plug-in Installer and select the **Exchange 2003 Single Mailbox Recovery** or **Exchange 2000 Single Mailbox Recovery** plug-in.

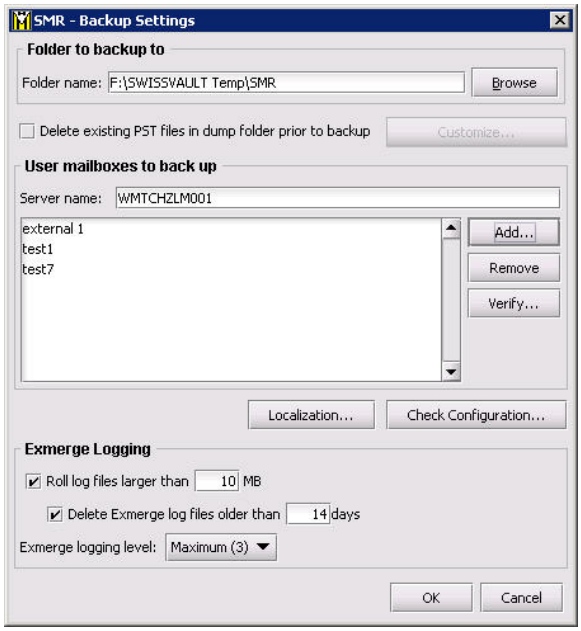
Additional files are created after running either SMR Backup, or SMR Restore, but these will be detailed later in this chapter. These files pertain to ExMerge settings with SMR Backup files having a 'smrb_' prefix, and SMR Restore files having a 'smrr_' prefix.

2.12.3 Additional server configuration

You have to change the **SWISSVAULT SE** Service Log On during start-up from the Local System account to an account with adequate permissions / administrative rights on the server to access the Exchange Information Store. Open the **Computer Management** console by right-clicking on the **My Computer** icon and selecting **Manage**. Expand the Services and Applications section and click on **Services.** Right-click on the **SWISSVAULT SE Service** and select **Properties**. Click on the **Log on** tab, select an Administrator account and supply the log on password.

Additionally, the user assigned to the SWISSVAULT service should have at least "Exchange View Only Administrator"- rights to the Exchange Server. This must be configured in the "Exchange System-Manager". Also, the user must have full access to the according storage group. Make sure by checking the security settings of the storage group, that the user and all groups to which the user belongs has full access (no deny on the "Receive as" and "Send as" rights).

2.12.4 SMR Backup – Configuring the backup settings



Select **Plugins** from the **Tools** menu and select **SMR Backup**. A dialog box will appear as follows:

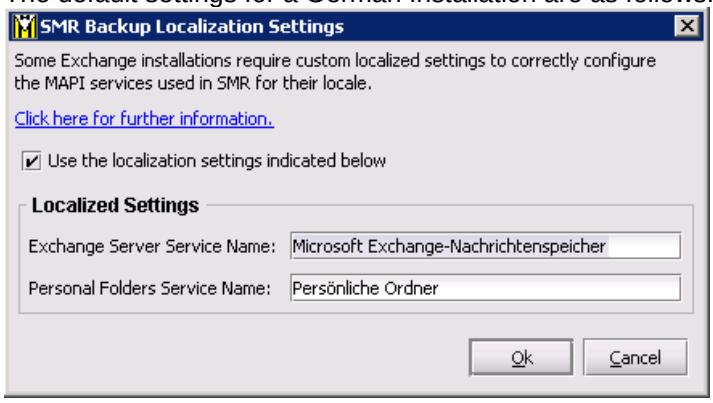
Enter the details as indicated in the dialog box. **Folder to backup to**: Specify where your mailbox PST's must be stored. SMR will specify <SE Root Dir> \pstbackups but this can be modified to any location visible on your server, including mapped drives.

Exmerge appends a PST file with the changes since the last backup. The file may therefore increase during each backup and Exmerge cannot reduce the size of the PST file. The **Delete existing PST files** option enables you to specify that existing PST files must be deleted during the backup process. A smaller file will be generated and compared with the copy in the Cache to create the patch. This option is especially useful after reducing mailbox limits/sizes in the Exchange server. Click on **Customize** to specify which days of the week you wish to delete the PST files in the dump folder. All days are selected by default.

User mailboxes to back up: Here you must provide the name of your Exchange server in the **Server Name** text field. The **Add…** and **Remove** buttons are used to select/remove the Exchange mailboxes. See the **Add Users…** note below.

The **Verify** button can be used to verify whether the selected mailboxes are in sync with Active Directory. The plug-in will list any missing mailboxes and provide you with the option to remove them from the list.

Use the **Localization** button at the bottom of the SMR Backup window in case you are experiencing problems connecting to the Exchange Server or using a NON-English version of the Exchange Server. The default settings for a German Installation are as follows:



The **Check Configuration** button determines whether the **SWISSVAULT SE service** has sufficient permissions to access Exchange and the SMR Configuration Results page will provide in depth information about the configuration, and possible permission issues.

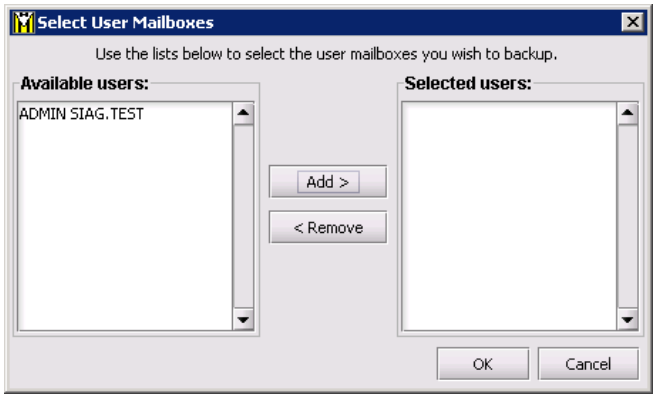
Please ensure that your service account or one of its associated groups is in the list of trustees with Send-As and Receive-As rights set to **Allow**.

If it is not, you will have to correct your account configuration. Failure to do so may compromise your SMR backups.

The one exception to this is if your **SWISSVAULT SE service** is setup as LocalSystem. In this case, the 'Check Configuration' feature will simply warn you that it is set to LocalSystem. The onus will be on you to ensure that LocalSystem is sufficient, or whether you need to setup a unique account for your **SWISSVAULT SE service**.

Exmerge logging option enables you to specify the level of information logged in the Exmerge logfile. You can enable log file rolling and a log file retention period to limit the space required by these logs. Note that the plug-in will process these options before each backup, so files may exceed their size, until the next backup.

Click on the **Add…** button to retrieve a list of available user mailboxes on the indicated server as shown below.



Select the users from the '*Available users*' list by selecting the users and clicking the '*Add* >' button to add them to the list of '*Selected users*'. Click **OK** to return to the previous dialog. The selected users will now be shown in the list of mailboxes that will be backed up.

Once you have completed your selection, click the **OK** button on the '*Backup Settings*' dialog box. This will store your settings in a ".ini" file ready for your next manual or automatic backup.

2.12.5 Backup settings

The settings you selected are stored in two files in the <SWISSVAULT SE Root Dir>. These files are:

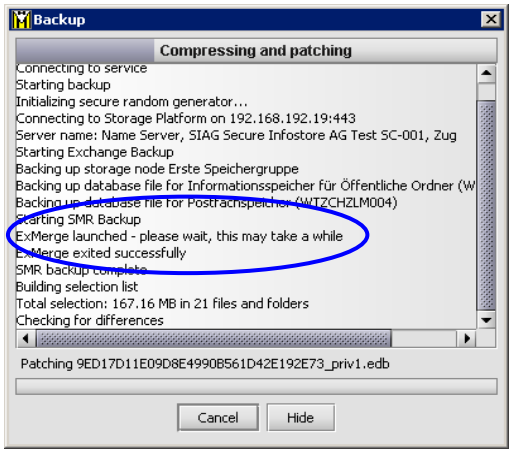
- smrb_exmerge.ini – this is the main settings file that ExMerge will use for the backups
- smrb_mailboxes.txt – this indicates the mailboxes you selected from the list of available user mailboxes

Once you have completed your first backup, you will find an additional log file in the directory where you indicated your mailbox PST files to be stored:

- smrb_exmerge.log – this file provides detailed information about the backups performed and can be examined if any errors are suspected to have occurred

2.12.6 Output during a backup

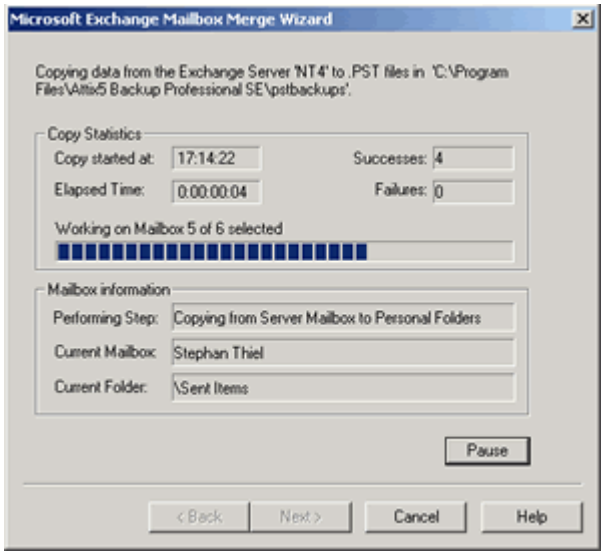
When you initiate a manual backup, you will see the following output as evidence that the SMR Plug-in is doing its job.



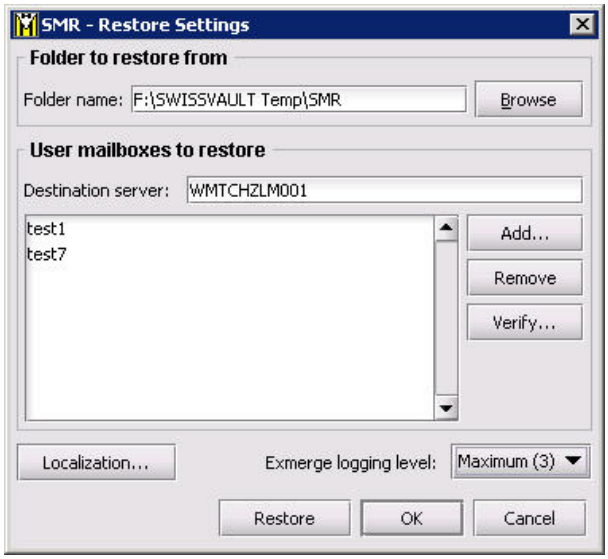
During the backup, when the line: **"Launching ExMerge"** appears in the output, you will also notice an additional dialog box, from ExMerge, will be launched for the duration of the SMR backup. This dialog box provides details about the ExMerge backup in progress.

Once the ExMerge backup has completed, this dialog box will be closed automatically.

Note: this dialog box does not appear for automatic backups.



2.12.7 SMR Restore – Running a restore



Unlike the SMR Backup functionality, which effectively configures the backup settings to be used at a later stage (either when an automatic backup runs, or the user manually requests a backup), the SMR Restore functionality should only be used when an actual restore operation is required.

Select **Plugins** from the **Tools** menu and select **SMR Restore**.

Folder to restore from: This indicates the folder where the PST files can be found that match the user mailboxes you selected for restore.

User mailboxes to restore: This is where you indicate both the server to which the PST files should be restored, and the mailboxes that should be restored. Only previously backed up mailboxes available in the specified folder will be in the list of available mailboxes. You can use the **Verify** button to determine whether the mailboxes you are about to restore, actually exist in Active Directory, as this is a requirement of a successful restore.

As per the SMR Backup instructions specified above, indicate a destination server in the **Destination server** text field and click the **Add…** button.

Select the users from the **Available users** list by selecting the users and clicking the **Add >** button to add them to the list of **Selected users**. Click **OK** to return to the previous dialog. The selected users will now be shown in the list of mailboxes that will be restored (as is shown the previous image).

Once you have completed your selection, click the **Restore** button on the **Restore Settings** dialog box to begin the restore operation. This will store your settings in a .ini file and launch ExMerge to perform the restore operation.

2.12.8 Restore settings

The settings that are saved prior to the restore being launched are stored in two files in the <SWISSVAULT SE Root Dir>. These files are:

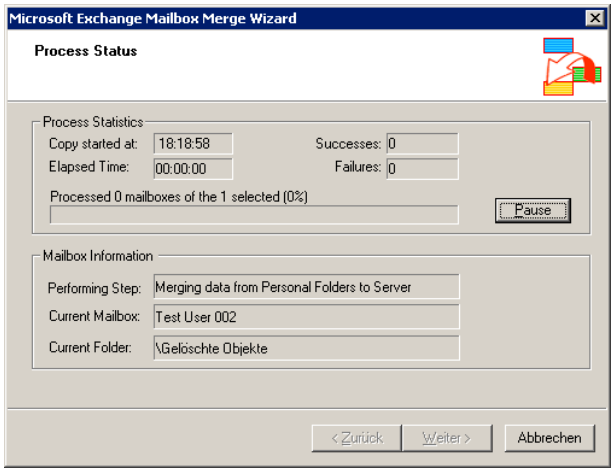
- smrr_exmerge.ini – this is the main settings file that ExMerge will use for the restore
- smrr_mailboxes.txt – this indicates the mailboxes you selected, to be restored, from the list of available user mailboxes

Once you have completed the restore, you will find an additional log file in the <SWISSVAULT SE Root Directory> as follows:

- smrr_exmerge.log – this file provides detailed information about the backups performed and can be examined if any errors are suspected to have occurred.

2.12.9 Output during a restore

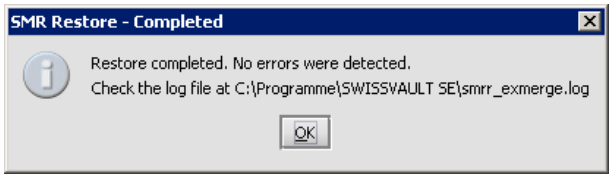
After you click 'Restore' and your restore settings are saved, ExMerge will launch to perform the restore. You will see the following output during the process of the restore operation (see right-hand image).



This details the activity during the restore, including how many mailboxes will be processed, and where ExMerge is in the restore progress.

Upon completion, the SMR Restore plug-in will then determine whether any errors were detected and report this to the user.

If no errors were detected then the following dialog will be shown:



If errors were detected, the indicated log file will detail the errors for further troubleshooting or problem solving.

2.12.10 Exmerge

ExMerge is a utility provided free by Microsoft™. Its initial intention was to alleviate the burden of moving mailboxes between servers, and migrating mailboxes from, say, Exchange 2000 to Exchange 2003. It primarily uses MAPI to accomplish all of this functionality and is a very useful and configurable tool.

You will find an "**Exmerge.doc**" Word document provided with the SMR plug-in. This document provides some insight into the functionality ExMerge provides. In addition to information about the various settings available for configuration with ExMerge, you should read this document to understand what the various releases are, past and current bugs, limitations of ExMerge etc. While we do not recommend that you manually change any of the settings in the various configuration files, it is useful to know the full power of ExMerge's capabilities.

Some important configuration settings to take note of are as follows.

MergeAction

;This setting controls which merge procedure to use:
;
; Possible values:
; 0 - Extract (Merge data to Personal Folders)
; 1 - Import (Merge data from Personal Folders)
; 2 - Extract&Import (Export from one server and Import into another server)
;
; Default value: 0

SMR Backup: 0
SMR Restore: 1

SourceServerName

; Name of the source Exchange server, from which data will be extracted.
; This setting must be specified if the MergeAction specified is Extract or Extract&Import

SMR Backup only: set to whatever user specifies in 'Server name' text field

DestServerName

; Name of the destination Exchange server, to which data will be written.
; This setting must be specified if the MergeAction specified is Import or Extract&Import

SMR Restore only: set to whatever user specifies in 'Server name' text field

LoggingLevel

; Set the level of logging:
;
; Possible values:
; 0 - None
; 1 - Minimum
; 2 - Medium
; 3 - Maximum
;
; Default value is 0

SMR Backup and Restore: 2

LogFileName

; Name of the log file to be used
; Default value: C:\ExMerge.log

SMR Backup: <PST Data Dir>\smrb_exmerge.log
SMR Restore: <SE Root Dir>\smrr_exmerge.log

DataDirectoryName

; Name of the directory to which .PST files will be written or where .PST files will be expected.
; If the directory does not exist, it will be created.
;
; Default value: C:\EXMERGEDATA

SMR Backup: set to value of 'Folder to backup to' text field
SMR Restore: set to value of 'Folder to restore from' text field

FileContainingListOfMailboxes

; Name of a text file containing the Exchange Distinguished Names (DN) of mailboxes to be
; worked on.
; Each line of the file should have the following format:
; <SourceDN> [, <TargetDN>]
; The TargetDN is optional. If it is specified, depending on what the selected merge action
; is, it will be used to get the name of the PST file to be generated, or the name of the
; mailbox into which data
; will be merged. By default, a comma is used as the delimiter between the source and
; target DNs. You can specify another delimiter, using the DelimiterUsedInMailboxFile setting.
;
; Blank lines are ignored.
; Lines beginning with a ##~ are ignored as comments
; If this setting is not specified, all mailboxes, except those for services (DS, IMS etc) on the
; specified server will be processed.
;
; Default value: Blank

SMR Backup: <SE Root Dir>\smrb_mailboxes.txt
SMR Restore: <SE Root Dir>\smrr_mailboxes.txt

DataImportMethod

; This setting controls how the data will be copied from the source store to the target store.
;
; Possible values:
; 0 - Copy all messages from the source store to the target store
; 1 - Merge messages into the target store. Copy only those messages that do not exist in the target
; store.
; 2 - Replace existing messages in the target store. (If a message in the source store
; exists in the target store, delete that message in the target store and then copy the
; message from the target store.
; 3 - Archive existing messages from the source store into the target store. If this option
; is selected, the program will copy data from the source store to the target store and
; then delete the data from the source store.
;
; This option is only valid if the MergeAction is Extract.
;
; Default value: 1

SMR Backup and Restore: 1

3 SWISSVAULT Support

Please do not hesitate to contact us in case of any questions.

Note: You ideally reach us by email support@swissvault.ch, where we will reply instantly.

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