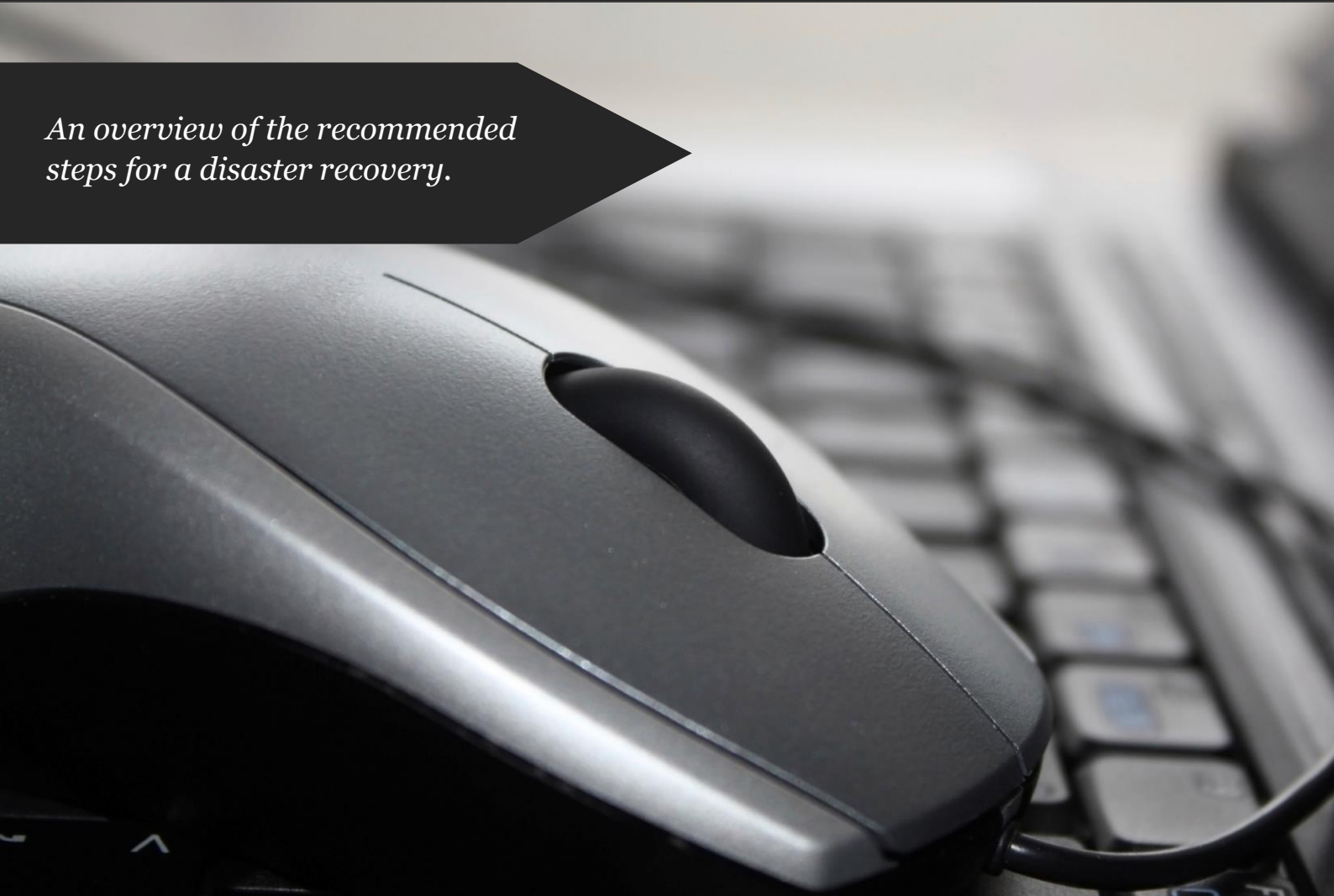


Attix5 Pro Disaster Recovery

Recommended steps

An overview of the recommended steps for a disaster recovery.



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Background

The following guide covers the recommended steps for restoring in a DR scenario, where the machine being backed up has been lost and is no longer available. The ability to recover fully from a disaster requires that the correct files be selected for backup prior to the disaster. This selection is detailed below.

The restore sequence advised is not the only functional sequence, but it is the sequence recommended by Attix5.

In order to recover, you will need:

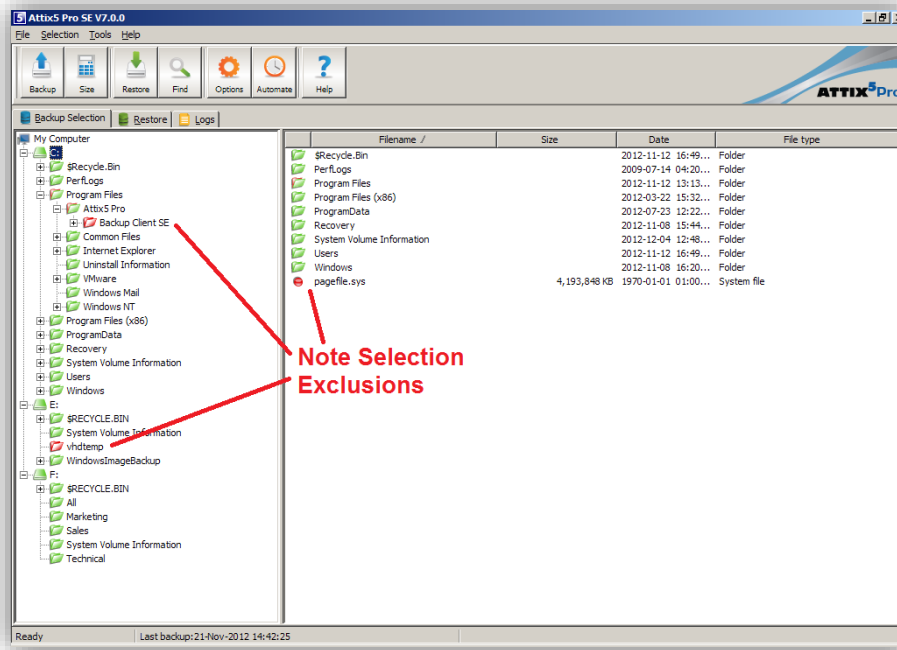
- Suitable hardware to build a replacement machine, or appropriate Virtual Machine image, if restoring to a virtual machine.
- Operating system installation media or environment (e.g. Remote Installation Services installed on the network).
- Any device driver software required by the replacement machine.
- Details of the Backup Account, Backup Group, password and encryption key.
- The Attix5 Pro Backup Client installer.
- Details of the Storage Platform if these are not included in the Backup Client installer.
- Access to the Storage Platform over the Internet or network, depending on where the Storage Platform is located.

Backup selection

File backup selection for all servers

1. For all server types, select all the files on your machine for backup using Attix5, including the Windows directory.
2. Configure System State backup with the System State plug-in.
3. Certain folders should be excluded from the backup as they will cause error and warning messages to be displayed, and will not assist with recovery. These are:
 - Attix5 Pro installation directory
 - Pagefile.sys
 - VHDTemp directory, if backing up System State on Windows 2008

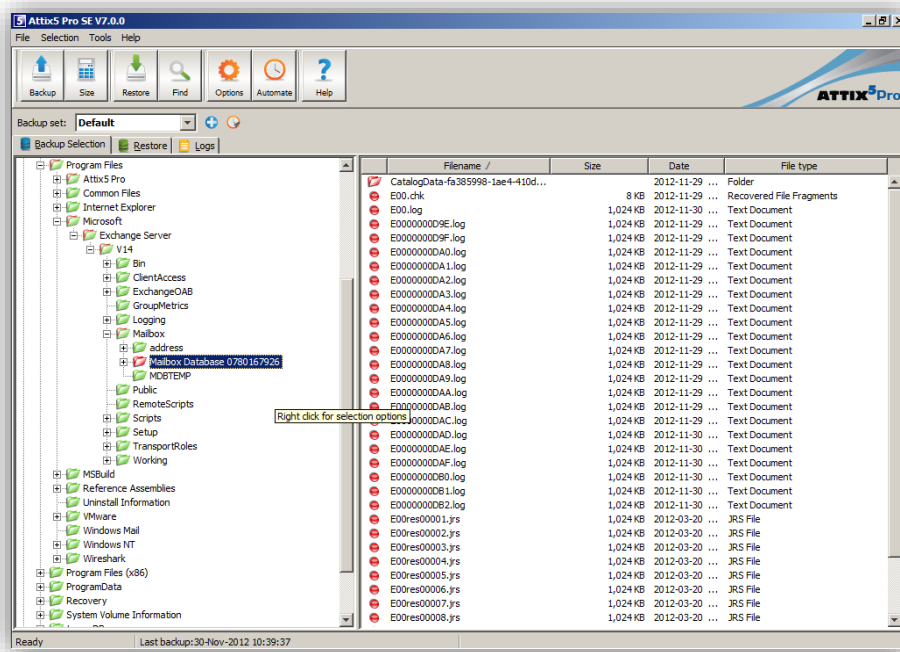
Exclusion example:



Exchange server file selection

1. Select the Exchange server databases for backup using either the Exchange plug-in or the VSS plug-in.
2. Exclude the Exchange Mailbox directories from the backup selection tree section of the backup. The databases are backed up separately by the appropriate plug-in.

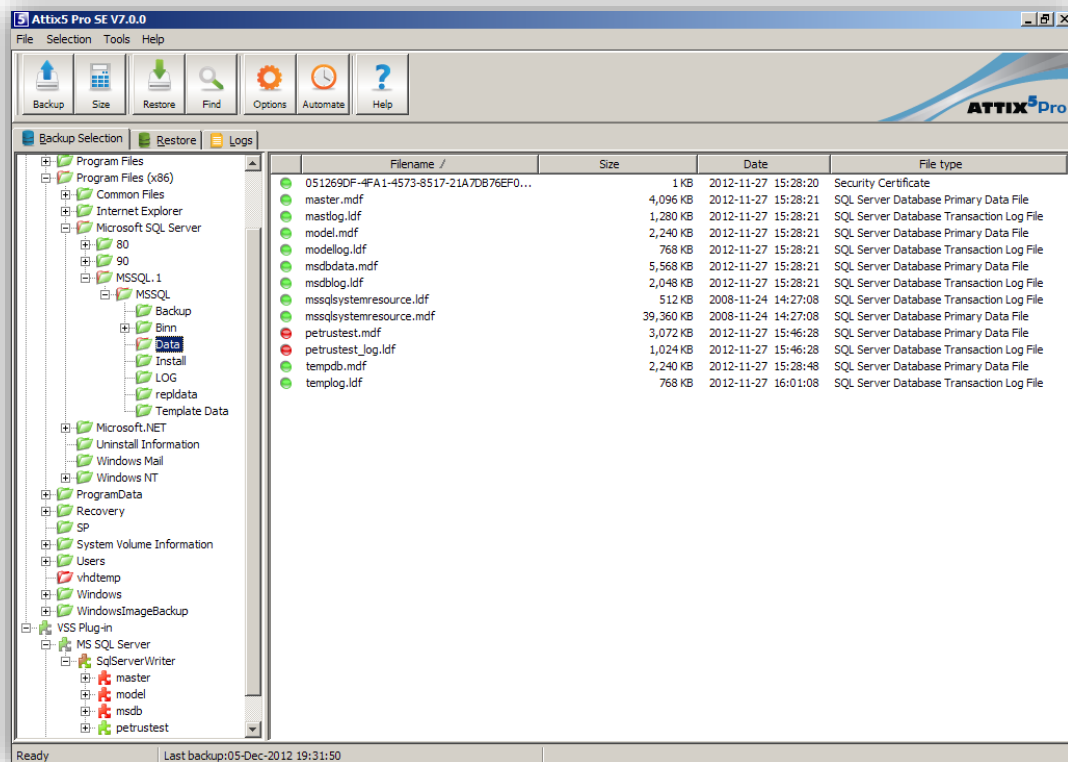
Exclusion example:



SQL server file selection

1. Select your SQL content databases for backup using either the SQL plug-in or the VSS plug-in. Do not select the SQL operational databases
2. In the backup selection tree, exclude your SQL server content databases, but do not exclude the SQL operational databases (master, model, tempdb, mssqlsystemresource).

Example SQL server selection:

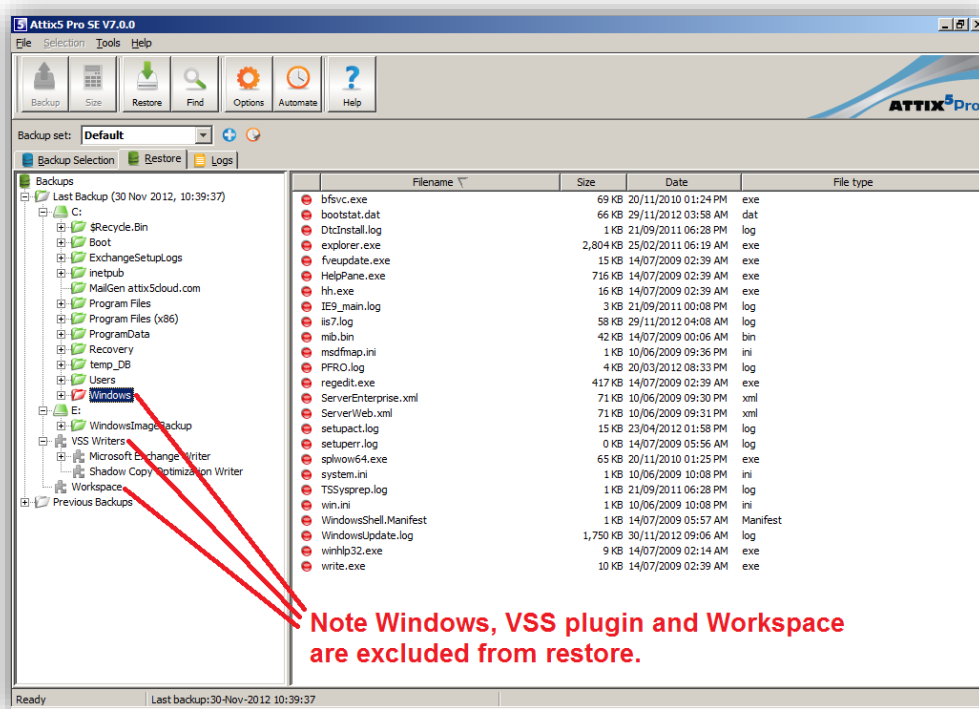


Recovery

Common Recovery Steps

1. You first need to build a suitable machine on which to restore your data. Ensure your operating system matches that of the original machine, or you will not be able to restore the System State.
2. Ensure that similar hardware is used and that equivalent or larger disk sizes are used for each volume letter.
3. After building the new machine, log in using an Administrator account. Download and install the appropriate version of the Attix5 Pro Backup Client. 32-bit Backup Clients should only be installed on 32-bit operating systems or errors may be encountered with plug-ins later. Likewise, 64-bit Backup Clients will only function on 64-bit operating systems.
4. After the Backup Client is installed, you need to reconnect to the Backup Account. You will need your Backup Account name, password and encryption key. This procedure is detailed in the Backup Client user manual.
5. After reconnecting to your Backup Account, navigate to the Restore tab and select all the backed up files aside from any plug-in data or the workspace for restore. Also exclude the Windows directory from the restore selection. Restore the files to the new machine.

Restore exclusion example:



Note: Some files may be skipped during the restore, but these can be reviewed later. Typically, files will be skipped if they are in use by a process.


File server recovery steps

1. With all files present on disk, you should first restore the System State. The method for this varies between Windows versions, and is documented separately.
2. The System State restore will require you to restart. After the restart is complete, you should review and restore any files that were skipped during the initial restore.

It is normal for the NTUSER.DAT files within the Administrator, Local System and Network Service user profile folders to be skipped during restore as they were in use. These files can be restored if desired by logging in as a different administrative user, and then running another restore using the Attix5 Pro Backup Client.

Active Directory Domain Controller recovery steps


The process for AD Domain Controller recovery is very similar to the file server. First restore the System State. As with the file server, this is documented separately.

 **Note:** *This procedure differs for domain controllers, and will require you to log in to Active Directory Recovery Mode in order to restore.*

After restoring and rebooting, you can review any files skipped by the initial restore.

Exchange server recovery steps

1. Restore the System State as described above, and restart the machine.
2. When complete, open the Attix5 Pro Backup Client.
3. If Exchange was backed up using the VSS plug-in, select the Exchange data for restore and start the restore process, ensuring the Backup Client is allowed to automatically dismount any existing stores.
4. The restore will place the database files back into their original locations, and automatically mount the stores.
5. If Exchange was backed up using the Exchange plug-in, the Exchange restore wizard can be used to perform the restore. Ensure that the wizard is allowed to dismount the stores. When complete, the stores will be automatically mounted.

 **Note:** *If the Exchange databases were not in crash consistent state, it might be necessary to run Exchange maintenance in order to mount them.*

6. After the Exchange restore is complete, you should review any skipped files as described above.

SQL server recovery steps

1. Restore the System State as described above, and restart the machine.
2. The SQL server's operational databases will be present, and the database instance will start automatically after the machine restarts, and will be available to restore your content databases to.
3. If SQL was backed up using the VSS plug-in, open the Attix5 Pro Backup Client, select the SQL content databases for restore and start the restore process. The databases will be automatically restored to the SQL Server.
4. If SQL was backed up using the MS SQL Server plug-in, restore the .bak files to disk if they haven't already been restored with the file restore. You should now use SQL Management Studio or SQL Command line to restore these to the SQL Server.
5. After the SQL restore is complete, you should review any skipped files as described above.



***Note:** The Windows directory is included in the backup selection, but excluded from the recovery to allow for the backup of any customisations or administrator tweaks that may have been performed and should be restorable – for example the hosts file may have been customised.*

It is not directly restored, as restoring over the top of the running Windows directory will render the machine unusable. The backup of the entire directory does, however, allow for customisations to be restored selectively after the main restore.