Quick-start guide: BackupAssist V6 Beta 4

1. Introduction

This guide is intended for Beta Testers for BackupAssist V6 Beta 4 - the fourth in a series of tests for BackupAssist V6. It introduces some of the new features that will appear in BackupAssist V6, which include:

1. **Rsync "cloud ready" enhancements** (new in Beta 2; enhanced in Beta 3)

2. **Mailbox and Public Folder restore capability** (new in Beta 2; **enhanced in Beta 4**)

3. **Full Exchange 2010 support** (enhanced in Beta 2)

4. **Full, Incremental, Differential and Copy backups** using Zip (restore enhanced in Beta 3)

5. **VSS application backup and restore** using File Replication, Zip, Rsync and Imaging

6. **System State backup and restore** using File Replication, Zip and Imaging[1] (enhanced in Beta 3)

7. **File and folder restore from Image backups** using the BackupAssist Restore Console

8. **Integrated Exchange Mailbox backups** in File Replication, Zip, Rsync, and Imaging jobs.

9. **TrueCrypt-compatible encryption** (**new in Beta 4**)

10. **Enhanced SQL Server 2008 and 2008 R2 Support** (**new in Beta 4**)

11. **BackupAssist setting export and import** (**new in Beta 4**)

Note: as this is a beta product and may contain bugs or other faults, we do not recommend it for use on live systems or production environments.

2. New features in BackupAssist V6 Beta 4

TrueCrypt-compatible encryption

Beta 4 includes the option of backing up to a TrueCrypt-compatible "container" file on your backup destination using either File Replication or NTBackup. The TrueCrypt-compatible format offers several advantages:

- Industry standard encryption method
- Fast, real-time encryption
- The folder structure and file names are secured inside a container file, rather than just the content
- Free and open source access to your encrypted container provided that you have your password

When TrueCrypt-compatible encryption is enabled for a backup destination, BackupAssist will ask you for a password and for the percentage of space to use on the destination. When the first backup runs, BackupAssist creates an encrypted container file on the destination, and then performs the backup into that container. The container is essentially a virtual disk partition like a vhd, but encrypted with a password. Future backups will be stored in the existing container, and if you are using File Replication you will still benefit from features like Single Instance Store and exact file duplication.

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[1] Imaging jobs running on Windows Server 2008 R2 only (excludes jobs backing up to REV / rdx drives)

Data can be restored from your TrueCrypt-compatible container using the BackupAssist Restore Console, which will simply ask you for your TrueCrypt password when you try to restore from the encrypted container. Manual restores are also possible using the standard TrueCrypt toolset, which can be downloaded from the TrueCrypt website.

Enhanced SQL Server support

The BackupAssist SQL Add-on has been updated to provide support for all current 32bit and 64bit versions of Microsoft SQL Server. SQL database backup and restore - using the BackupAssist SQL Restore utility - are supported for SQL Server 2000, SQL Server 2005, SQL Server 2008 and SQL Server 2008R2, including all variations of 32bit and 64bit installs of SQL Server and Windows.

BackupAssist settings export and import

BackupAssist v6 Beta 4 includes the frequently asked for capability of BackupAssist settings migration between computers. BackupAssist settings can be saved to file by navigating to **File > Export settings** from the top menu. Settings can then be imported into any other BackupAssist v6 installation of the same or later version by navigating to **File > Import settings** and browsing to the location of the exported settings file.

In addition, when installing BackupAssist for the first time, you can choose to import settings from a previous installation using the new import option on the welcome page of the Initial Setup Wizard. The import will bring across your job settings, Backup User Identity settings, email server settings, and email and printer recipients lists. All existing settings will be overwritten, so you should only import settings on a new or defective install.

Mailbox restore enhancements

The BackupAssist Restore Console includes the following new features for mailbox restore:

- Migrate PSTs backed up from one Exchange server to any other server with automatic matching of source to destination mailboxes.

- Configure which mailbox will be used to restore each backed up mailbox – eg. restore Pete's mail to the new Pete.Smith mailbox.

- The ability to automatically fetch backed up pst files from the relevant backup sets, filtering by server, mailbox and date range.

You can now cover all the common mailbox restore scenarios using just the BackupAssist Restore Console.

Scenario 1: a user wants to retrieve a recently lost email

1) Load the most recent mailbox backup: for example a File Replication job with mailbox selections

2) Select the relevant Exchange Server and choose the user's mailbox from which you want to restore

3) Set the "from" and "to" dates to match the date when the missing email arrived

4) Click the "Restore to" button and then "Restore"

5) The missing email will be restored back into the user's mailbox on the Exchange Server.

Scenario 2: Migrate a mailbox to new Exchange server

1) Load up the most recent mailbox backup

2) Select the Exchange server to migrate from, and choose the mailboxes to migrate to the new server.

3) Verify that the date range available matches with what you require, and work with an earlier backup first if required (only necessary if you've archived pst files from the mailbox backup directory)

4) Click the "Restore to" button and select "Alternate server" from the "Restore to" dropdown menu.

5) Locate the target server, changing the authentication details if necessary

6) Verify that all mailboxes have been matched correctly, and use the Configure mailboxes button if necessary.

7) Click "Restore", and your mailboxes will be migrated to the new server

Scenario 3: User wants to browse old emails at their leisure

1) Load up the most recent mailbox backup

2) Select the Exchange server, the user's mailbox and the relevant date range

3) Choose the "Restore to" button and then select "PST export path" from the "Restore to" dropdown

4) Choose the folder where you want to copy the user's pst files

5) Click "Restore", and then open any of the restored pst files in Outlook to browse and retrieve mail items.

3. Features from previous Beta releases

Beta 3

System State backup and restore on Windows 2003 and XP

Beta 3 has been enhanced to support System State restore on Windows 2003 and XP using File Replication and Zip jobs. Beta 2 allowed the System State to be backed up on any version of Windows from XP onwards, but System State restore was only supported on Vista and later operating systems. Beta 3 extends support for System State restore to XP and 2003.

Rsync enhancements

Encrypted Rsync backups, introduced in Beta 2, now also have the file names obfuscated on the server. This additional feature makes it harder for anyone else to determine the contents of your backup. All encrypted Rsync jobs will automatically have file name obfuscation applied. If you have created an encrypted Rsync job with Beta 2, a full backup will be performed the first time you run the job in Beta 3 so that the file names can be obfuscated. If your job is large or you have limited bandwidth, you may want to "re-seed" the backup.

Enhancements to restore from incremental and differential Zip backups

The BackupAssist Restore Console has been enhanced to make it easier to restore files and folders when you are using incremental or differential zip backups. Each incremental or differential backup is automatically linked to the previous incremental or full backup. This means that if the file you want to restore was backed up in a previous incremental or full backup, rather than the backup you currently have loaded, the Restore Console will automatically retrieve it from the correct backup.

Enhancements to imaging backup and restore

Imaging backups will now run faster due to improvements in the way the file catalogue is generated. (The file catalogue is used to provide restore of individual files and folders from imaging backups using the BackupAssist Restore Console.)

Fixes to v4/v5 to v6 migration process

We have fixed some bugs that would sometimes prevent settings and jobs from being migrated from version 4 or version 5 to version 6.

Beta 2

Rsync enhancements – "Cloud ready"

With the release of V6 Beta 2, BackupAssist now supports secure, efficient and internet-host-friendly rsync backups. Encryption and compression on the server, plus full NTFS streams support, mean that BackupAssist Rsync provides a complete solution for remote backup.

Adding to the super bandwidth-efficient algorithm that rsync provides, BackupAssist Rsync jobs can now be enhanced with industry standard encryption – and bonus compression – all on the server. This means that you have an additional level of security keeping your data safe "in the cloud", making external hosting a safe and secure option.

Your files are also automatically compressed on the server, which reduces the amount of diskspace used on your hosting company. BackupAssist Rsync jobs therefore utilise four distinct types of compression:

1) Effective transfer compression via only sending changed data
2) All data packets are compressed during transfer
3) The Single Instance Store (SIS) uses hard link technology to prevent storing the same files more than once across backups
4) The source data is encrypted and compressed in a rsync-friendly way before transmission, effectively minimising the space used by files on the server even further

Also new in Beta 2 is full support for NTFS streams, including NTFS security attributes. BackupAssist now manages the backup of NTFS stream data on any rsync server, whether on a NAS device, Windows server or Linux server – NTFS volumes not required! The NTFS data is stored separately from the core files, which means that the core files are available for use or viewing on the server – unless of course encryption and compression is applied. (This also makes your core data available for restore using standard rsync clients should this be necessary).

For restores, just start up the super-simple BackupAssist Restore Console, find your Rsync job and choose the date and file(s) you want to restore, or just search for the file you need – and it will take over from there, decrypting and restoring NTFS streams as necessary.

Don't forget that VSS applications can be backed up and restore using Rsync jobs as well!

And the best thing is that you can immediately take advantage of these great new features without changing your existing rsync server configuration – the changes are implemented completely within BackupAssist.

Just enable encryption when you create your Rsync job – as simple as ticking a box and entering your password. (Note that if you change your job from unencrypted to encrypted, BackupAssist will need to "re-seed" your backup with a full set of encrypted data sent to the server)

Mailbox and Public Folder restores – from PST back to Exchange

"Brick level" mailbox backup has always been a simple way to add highly available backups plus redundancy when combined with a streaming, imaging or other VSS backup of the Exchange database, but restores have been fiddly at best. V6 Beta 2 changes that by adding a streamlined restore capability for Mailbox jobs via the BackupAssist Restore Console.

As soon as your next mailbox job has completed, your entire set of historical .pst files are available for restore, directly to your Exchange server. Simply open the BackupAssist Restore Console, choose the job – which may be a dedicated Mailbox job or any other job that includes a Mailbox backup component – then decide which mailbox(es) and the date range of the mail items you want to restore, and restore! And just select Public Folders in the same way if that is what you need.

This restore is designed to make it super simple to:

- Recover your mail data in case of a disaster (recovering mailbox-by-mailbox may be preferred to full restore)
- Migrate your data from one server to another

Full Exchange 2010 support – Imaging, VSS and mailbox backup

In Beta 2 we have expanded our Exchange 2010 support to cover all modern methods of backup.

For full disaster recovery capability you can choose to perform a full backup using Imaging, File Replication, Zip or Rsync jobs on the server itself. Alternatively you can even choose to back up at a granular level using those jobs if desired, for example by choosing to only backup the First Storage Group (unless the job requires the full volume to be backed up).

Brick level backups are also possible, using our recently updated Mailbox add-on. Unicode PST backups may be performed with any modern 32bit version of Outlook – 2003, 2007 or 2010 (64bit versions not supported), and ANSI PST backups simply require the latest version of Exchange 2007 MAPI, which can be obtained using the new "Upgrade" feature in the BackupAssist Console. (Note that the version of MAPI that comes with the 2003 Management tools cannot be upgraded and does not support backup of Exchange 2010.)

Beta 1

Full, Incremental, Differential and Copy backups using the Zip Engine

With this new feature, Zip jobs can now be configured to run Full, Incremental, Differential and Copy backups. Every time a Zip job runs BackupAssist will check the archive bit of each file selected and take the appropriate action according to the type of backup scheduled. This means you can now easily setup and use inbuilt rotation schemes like "Full plus incrementals", or create your own personalized schedules with the 'Customize schedule...' option.
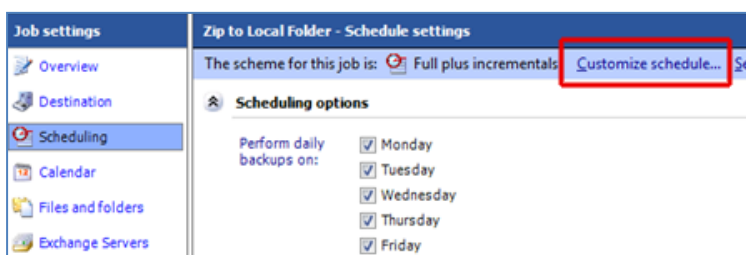

This new capability is available for all hardware destinations that the Zip Engine supports, including tape drive.

VSS Application backup and restore (SharePoint, Exchange, Hyper-V, and SQL)

BackupAssist V6 will include fully integrated support for VSS application backup and restore. Microsoft applications such as Exchange Server, SQL Server, SharePoint and Hyper-V will all be fully supported, as well as any other VSS-aware application that uses standard VSS restore methods.

With this new feature, local VSS-aware applications can be safely backed up and restored without you having to manually choose the correct files. All running VSS applications will be automatically detected and listed for selection. Simply choose the VSS application that you want to back up from the 'Files and Folders' tab and BackupAssist will back up the application in a consistent state. VSS application backup is supported in File Replication, Zip, Rsync and Imaging jobs.
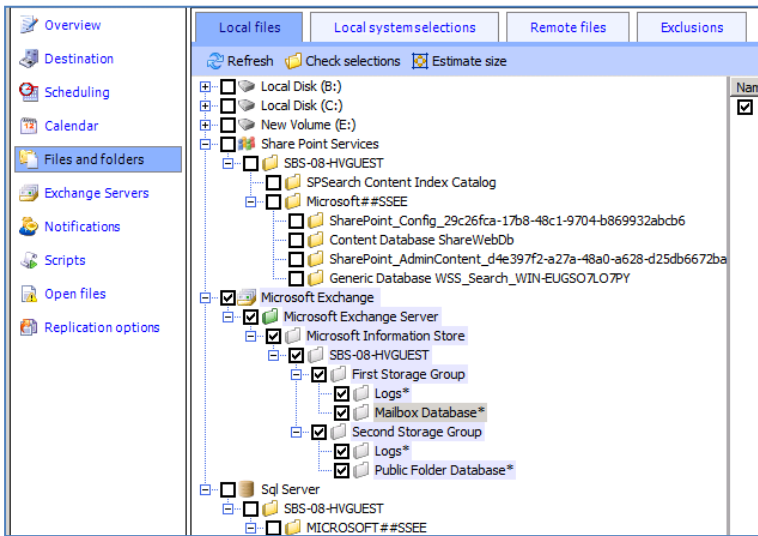
Application restore is just as easy. Using the BackupAssist Restore Console just browse the contents of a backup, select the application(s) you want to restore and click **Restore**.
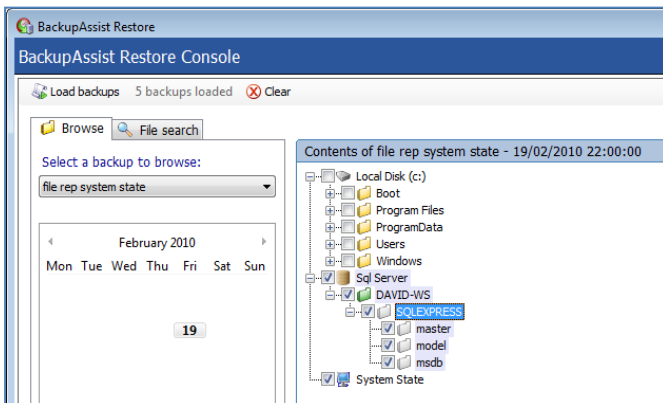

Restore files and folders from Image backups using the Restore Console

You will find that the BackupAssist Restore Console now includes support for restoring individual files and folders from Windows Image backups. You can easily find and retrieve individual files from an Image backup either by browsing the contents of the backup, or by using the 'free search' facility to find a specific file across all your backups.

System State backup and restore with File Replication and Zip

With V6 you can backup your machine's System State using either File Replication or Zip. Simply enable the option from the 'Files and Folders' step in the Create Job Wizard or when editing a File Replication or Zip job:
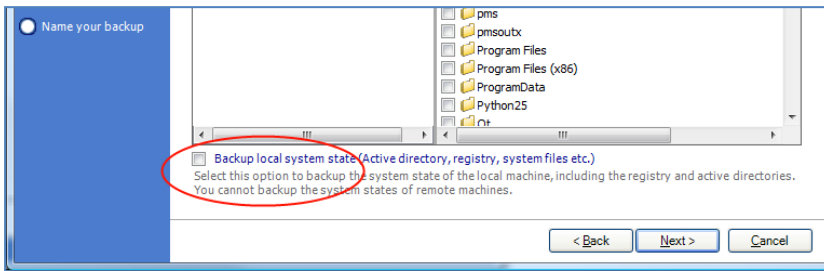
A System State backup includes important Windows system settings, such as the Registry, and is crucial for system recovery. In previous versions of BackupAssist System State backups could only be performed on Windows Server 2003 and earlier operating systems using NTBackup, or on Windows Vista and later operating system by performing a Full System Image backup. With BackupAssist V6 you can now schedule System State-only backups across all modern operating systems, and with a much smaller footprint than a Full Image backup.

System State restore is just as easy. Just launch the BackupAssist Restore Console, load your backup catalogues, browse and select your System State backup, and click **Restore**.

Integrated Exchange Mailbox backups

You can now embed Exchange Mailbox and Public Folder backups to PST[2] in all BackupAssist jobs via the 'Exchange Servers' tab. Mailbox and Public Folder backups are automatically executed as part of a backup run, and included in your main file selections, which are written to your backup destination in the specified format.

3. Using some of the new features

## Full, Incremental, Differential, and Copy backups with Zip

1. Launch BackupAssist and either edit an existing Zip job by selecting **Edit** from the top menu and choosing the relevant job, or create a new Zip job by going to **File > New backup job** and choosing **Zip** as the backup method.

2. Once you have created a new Zip job or chosen an existing job, select **Scheduling** from the left menu:
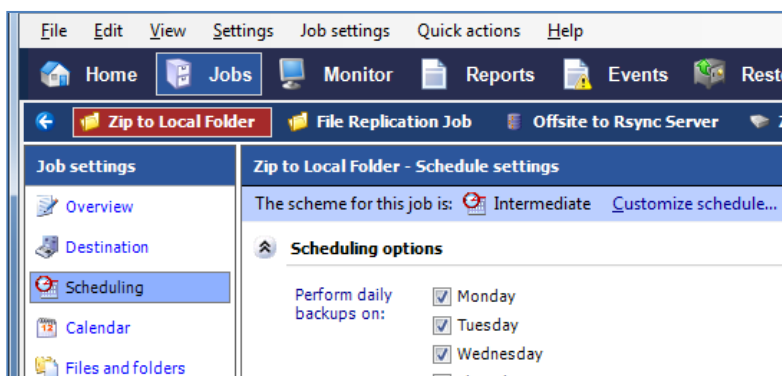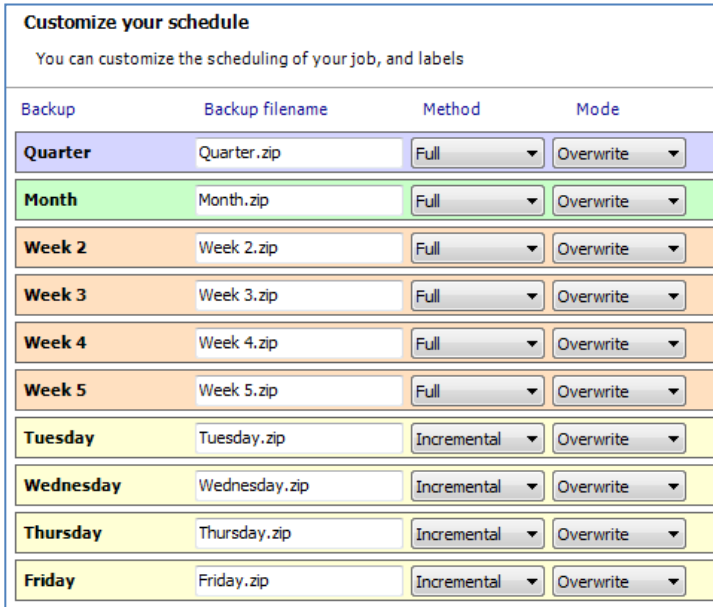

3. Click the **Customize schedule...** link near the top of the 'Scheduling settings' window.

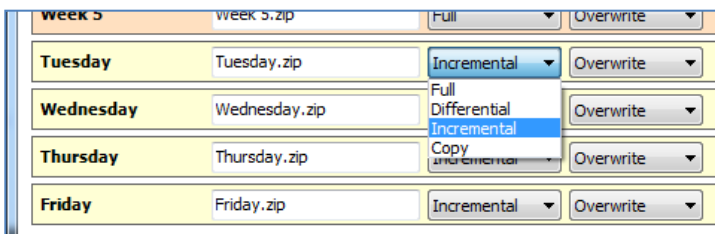[2] Requires the BackupAssist Exchange Mailbox Add-on
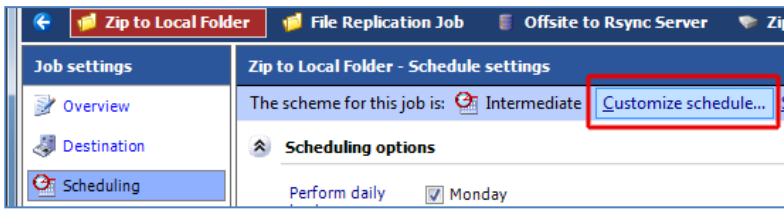
4. The 'Customize your schedule' window will appear:

5. To change the backup method for a single media item use the drop-down menu in the **Method** column.

- **Full**: all data selected is backed up and each file is marked as having been backed up (the archive bit is cleared). To restore all your data you only need the most recent Full backup.

- **Differential**: only data that has changed since the last full backup is copied to the backup device. Files are not marked as having been backed up (the archive bit is not cleared). You will require the last Full backup as well as the last Differential backup to restore all your data.

- **Incremental**: only data that has changed since the last backup (any type) is copied to the backup device. Files are marked as having been backed up (the archive bit is cleared). You will require the last Full backup as well as the all Incremental backups since the last full backup to perform a complete restore.

- **Copy**: the same as a full backup except that files are not marked as having been backed up (the archive bit is not cleared). Copy backups are useful if you have multiple jobs and need to back up certain files between Full and Incremental backup runs.

6. Once you have customized your schedule click **OK** and then click **Apply changes**.

7. Select **Calendar** from the left menu to verify that your schedule is configured correctly:
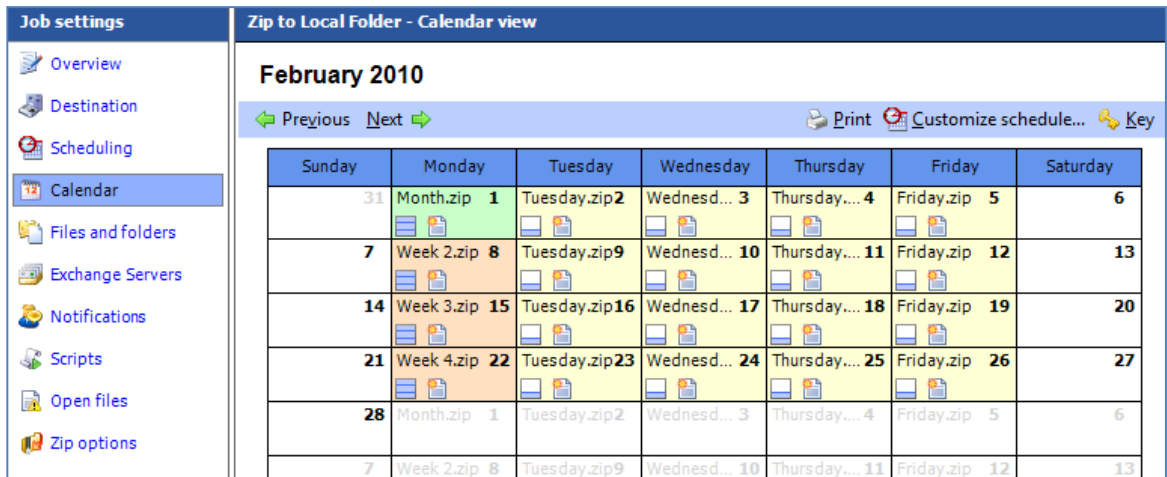
Different icons will appear on the calendar next to each backup day to indicate the backup method scheduled. Click the **Key** link to determine what each icon means.

VSS application backup and restore

Backing up VSS applications

1. Launch BackupAssist and either edit an existing File Replication, Zip, or Windows Imaging job by selecting **Edit** from the top menu and choosing the appropriate job, or create a new File Replication, Zip or Windows Imaging job by going to **File > New backup job**.

2. If you are creating a new job then during the Files and Folders step of the Job Creation Wizard, select the VSS applications that you want to backup:

   Note: locally installed VSS applications will be automatically detected and listed for backup selection. In some cases only applications that are currently **running** will be detected. If an application is not listed in the Files and Folders tab, try re-starting it and then click the **Refresh** button in BackupAssist.

Imaging jobs (Server 2008 and REV / rdx drive jobs on Server 2008 R2)

For Imaging jobs running on Windows Server 2008 or jobs backing up to a REV or rdx drive on Windows Server 2008 R2, VSS applications are backed up as part of a full volume snapshot. Volumes containing a VSS application that you want to backup must be selected in the **Volumes** tab. If you choose a VSS application to backup the volumes that must be selected will be listed in red. Click the **Select required volumes** button if a required volume is not in your selections.
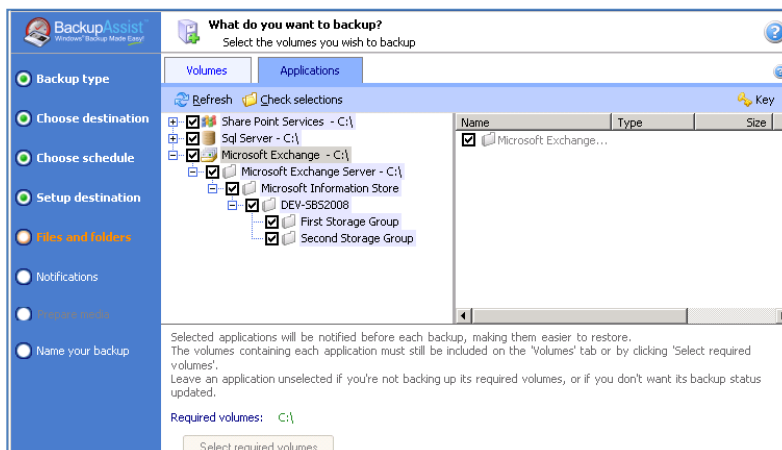
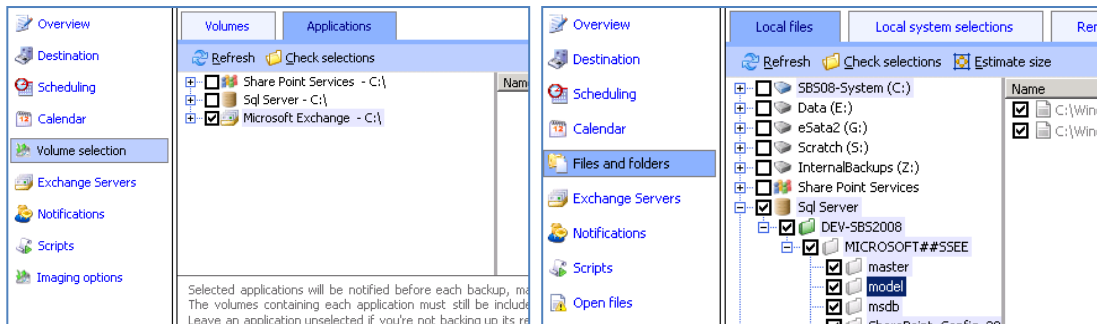**File Replication, Zip and Imaging[3] jobs**

You can select either entire VSS applications to backup or drill down and choose individual components:
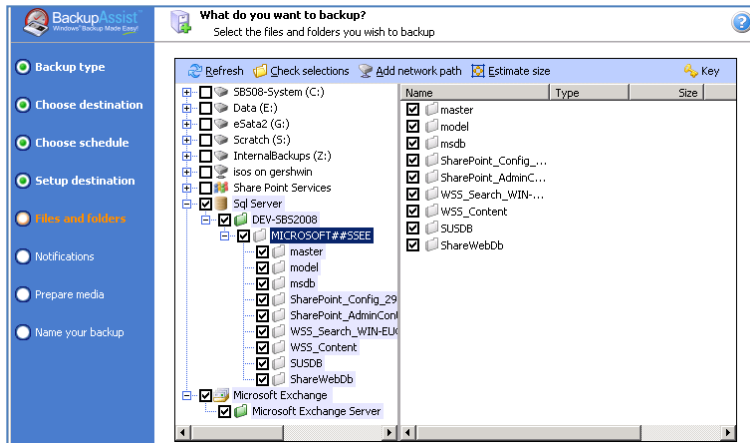

3. If you are editing an existing job navigate to **Volume selection** from the left menu for a Windows Imaging job and **Files and folders** from the left menu for a Zip or File Replication job:

> **Note:** if you have selected VSS applications for backup in the Files and Folders tab we recommend disabling the **Enable VSS writers** option in the Open files tab.
>
> If the **VSS writers** option is enabled it will cause VSS to contact all applications before and after a backup, which can be slow and may cause the VSS application to register that a backup has been completed when it has not.
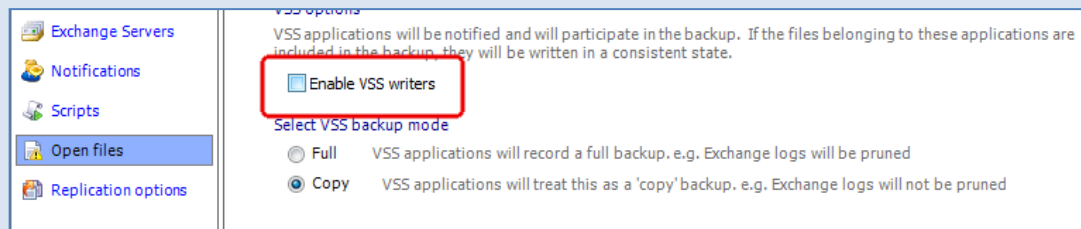
Restoring VSS applications

1. Click **Restore** in the top navigation bar and then choose **BackupAssist Restore Console**.

2. The Restore Console will launch and you will be prompted with the 'Load backups' screen.

3. Click **Load all known backups** to load all backup catalogues located in the BackupAssist settings folder. Alternatively use the **Browse** option to locate the backup set from which you want to restore.

4. Choose the job that corresponds to the backup from which you want to restore a VSS application.

5. Use the calendar to select the date of the backup from which you want to restore.

6. Use the middle pane to expand the loaded backup set and select the application(s) you want to restore.

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[3] Imaging jobs running on Windows Server 2008 R2 only (excludes jobs backing up to REV / rdx drives)
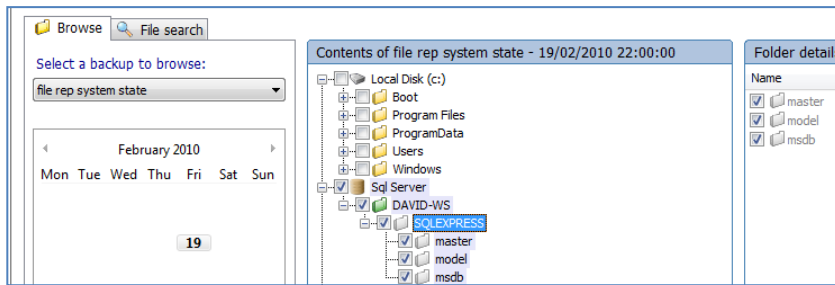
7. Click the **Restore to** button located on the bottom right of the window and follow the remaining prompts to your restore your VSS application(s).

> **How the VSS application restore works**
>
> VSS is designed to support live application restore. This means that you do not need to stop a live application before recovering a previous version of it from a backup.
>
> If any Windows services need to be stopped and restarted during an application restore this will happen automatically. If, for example, you are recovering an SQL Server and the SQL database being restored is in use, SQL Server will automatically deny access to the database until the restore is complete. Databases that are not part of the restore will not be affected unless the master database is being restored. If the master database is being restored, the entire SQL service will be stopped at the commencement of the restore and restarted after the restore has completed.
>
> Similarly, during restore of an Exchange database, the Exchange Server will prevent client access to that database. So while we recommend that you notify all users to stop using any applications before commencing a VSS application restore, the restore process will not be affected if the applications are in use.
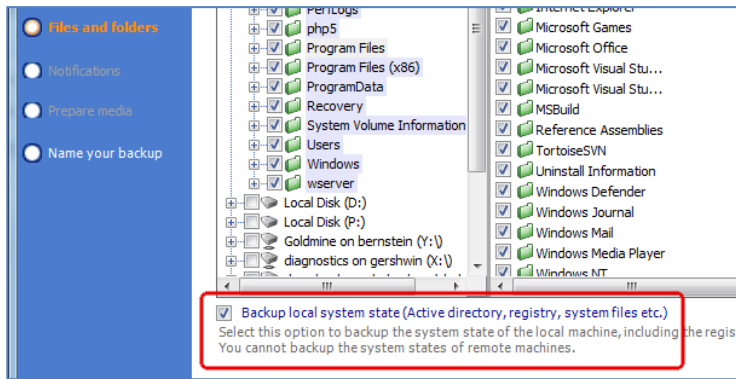
System State backup and restore

A System State backup includes a backup of any installed device drivers and related files, as well as most of the Windows directory. System State backups for Vista and Server 2008 are usually between 7GB and 15 GB when using compression via the Zip Engine. For XP and Server 2003, System State backups are generally much smaller: approximately 200MB to 300 MB.

Many files in the Windows directory have multiple hard links. If you are using the File Replication Engine only a single copy of each multiply linked file will be stored on your backup destination. This data does not need to be backed up on subsequent backup runs, which reduces backup times and saves storage space on your destination. The Zip Engine does not currently support hard linking, and so will store these files multiple times on your backup destination. To back up the System State use File Replication, Zip or Imaging[4]:

1. Launch BackupAssist and either edit an existing File Replication, Zip or Imaging job by selecting **Edit** from the top menu and choosing an appropriate job, or create a new File Replication, Zip or Imaging job by going to **File > New backup job**.

2. If you are creating a new job then check the **Backup local system state** option during the Files and Folders step of the Job Creation Wizard:

[4] Imaging jobs running on Windows Server 2008 R2 only (excludes jobs backing up to REV / rdx drives)

3. If you are editing an existing job select **Files and folders** from the left menu, click the **Local system selections** tab, and then enable the **Backup local system state** option.
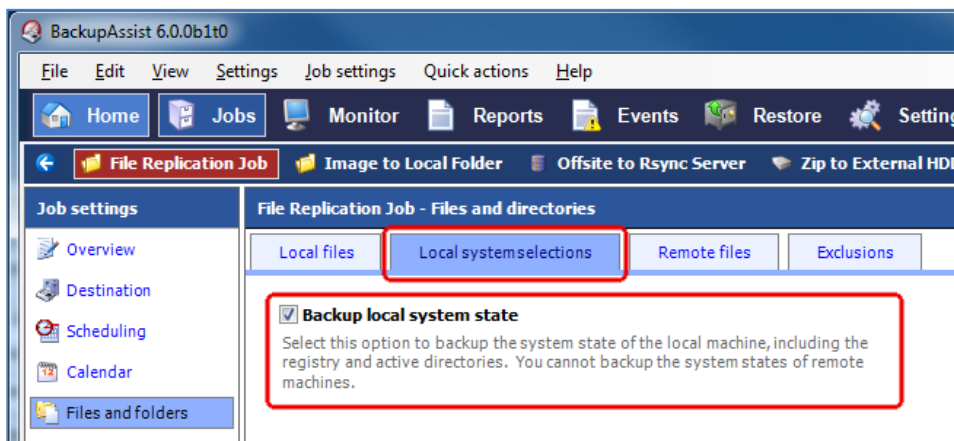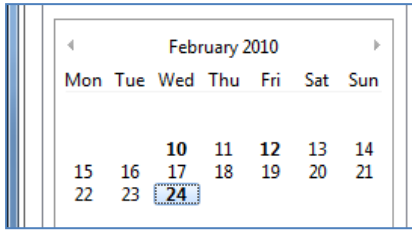

Restoring the System State

Note: you cannot restore the System State from an Image backup using the BackupAssist Restore Console. You can, however, use the built-in Windows tool, **wbadmin**. Visit wbadmin.info for instructions.

1. Click **Restore** in the top navigation bar and then choose **BackupAssist Restore Console**.

2. The Restore Console will launch and you will be prompted with the 'Load backups' screen.

3. Click **Load all known backups** to load all backup catalogues located in the BackupAssist settings folder. Alternatively use the **Browse** option to locate the backup set from which you want to restore.

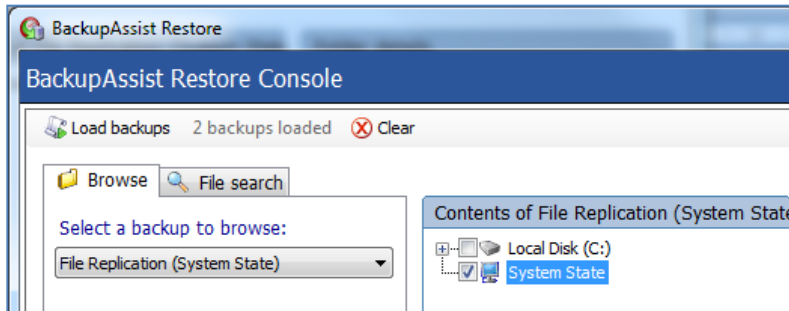4. Choose the job that corresponds to the backup from which you want to restore the System State:
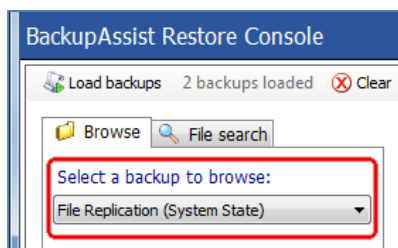
5. Use the calendar to select the date of the backup from which you wish to restore.

Note: dates on which backups are available are marked in **bold** on the calendar.

6. Use the middle pane to expand the loaded backup set and select the System State to restore.


Note: files located on the Windows system drive (C: drive in the example above) may also be available for restore, even though only the System State was selected for backup. These files are those required for a System State backup. If you choose to restore individual files from this list and not the actual System State, the System State will not be restored, and the files themselves may not restore correctly if Windows is currently using them. If you choose to restore these files together with the System State, the System State option will override selections where there is an overlap.

 If you want to perform a full restore and are unsure which files are not included in the System State we recommend selecting *both* the System State and all other files and folders listed.

7. Once you have made your selections click **Restore to** located on the bottom right of the window.

8. The restore confirmation screen will then load:
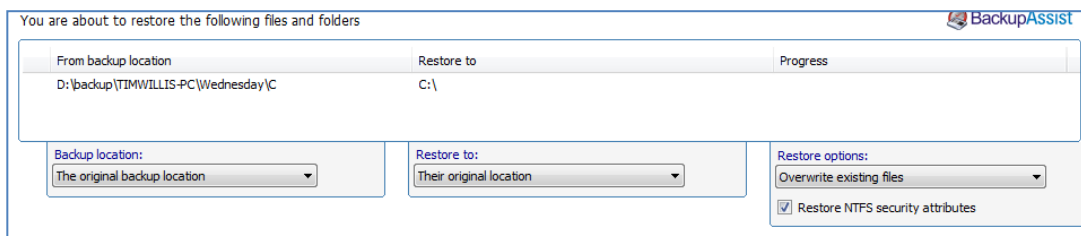
You can choose to restore the System State either to its original location or to an alternate location of your choosing. If you select an alternate location click **[...]** and browse to an alternate restore path.

9. Once you have selected where to restore your System State to click **OK** to perform the restore.

Note: a reboot is required to complete a System State restore. During a System State restore the necessary files are copied to a temporary directory and then moved to their correct location after a reboot of the machine. Before the restore starts, the BackupAssist Restore Console will take a VSS snapshot of the volumes to be restored. This allows the user to manually roll back to a pre-restore state, if necessary, using Windows' previous versions feature.

# File and folder restore from Image backups

BackupAssist provides its own inbuilt restore utility called the 'BackupAssist Restore Console', which can be used to restore from backups created using one of the following Engines: File Replication, Rsync, Zip, and now in this beta for inclusion in Version 6, Windows Imaging. The Restore Console loads backup catalogues stored on either the local machine or the backup destination to provide a list of files that can be selected for restore.

Note: a catalogue is only created for the last backup of the day if multiple Image backups are scheduled daily. Catalogues and restores are also currently only supported on Server operating systems.

1. Click **Restore** in the top navigation bar and choose the **BackupAssist Restore Console**.

2. The Restore Console will launch and you will be prompted with the following 'Load backups' screen:
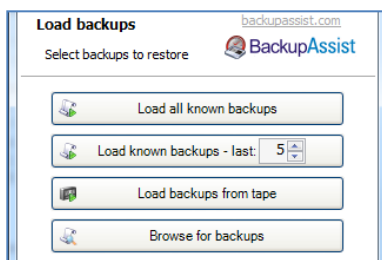
1. Click **Load all known backups** to load all backup catalogues located in the BackupAssist settings folder. Each catalogue associated with each BackupAssist backup run on the machine will be loaded. Depending on the number of backups that have been run, this may take some time to complete. Alternatively use the **Browse** option to locate the backup set from which you want to restore.

3. Once your backup catalogues have loaded you can choose to either **Browse** your Image backups and select data to restore, or **Search** through your Image backups for specific files to restore.
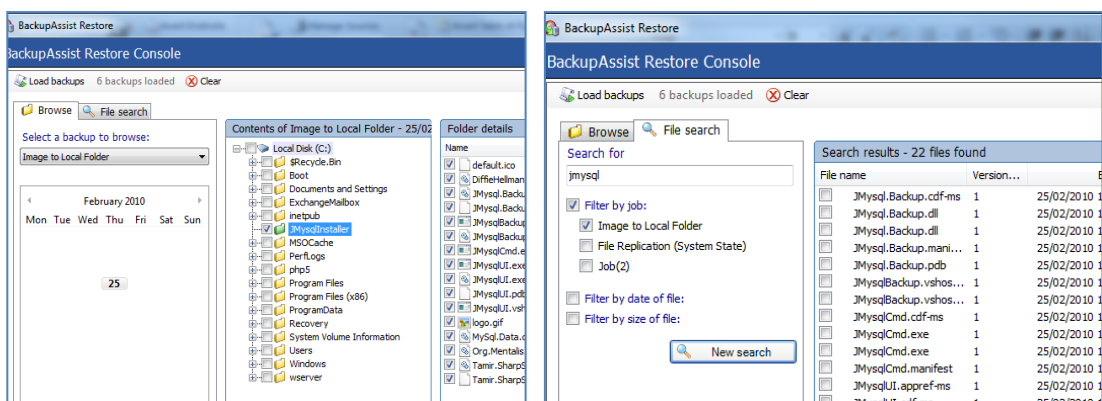
4. Once you have made your selections click **Restore to** located on the bottom right of the window and follow the prompts to restore your data.

# Embedding Mailbox / Public Folder backups in a backup job[5]

1. Launch BackupAssist and either edit an existing backup job by selecting **Edit** from the top menu and choosing the appropriate job, or create a new job by going to **File > New backup job**.

2. While editing a job select **Exchange Servers** from the left menu.

3. Expand the **Exchange Server selection** section.

4. Click the **Add Exchange Server** button to backup Mailboxes and Public Folders.

   > **Note:** you can add as many Exchange Servers for Mailbox and Public Folder backup as required, and each can be configured separately.

5. BackupAssist will now attempt to detect Exchange Servers running on your domain.

6. Click **Add** to add the selected Exchange Servers to your backup selections and make them available for Mailbox and Public Folder backup.

   > If your Exchange Server is located on a different domain, enter the computer name of an Exchange Server or a domain controller in the **Search for Exchange Servers on other domains field**.

7. Check the **Backup individual mailboxes** and **Backup public folders** options.
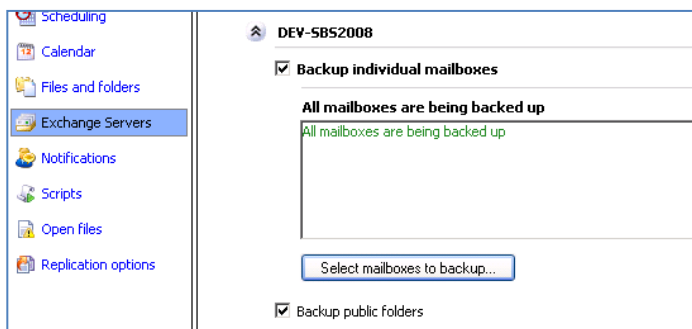
8. By default BackupAssist will backup all mailboxes on the Exchange Server. To specify which mailboxes to backup click the **Select mailboxes to backup** button.

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[5] Requires backupAssist Exchange Mailbox Add-on