



SharePoint 2007 to 2010 Upgrade Guide using Metalogix Solutions

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Table of Contents

- Upgrade Overview 1
 - Solution Components and Systems..... 1
 - General Terms, Concepts and Acronyms 1
- Shallow Copy Migration Method 2
 - Caveats and Known Issues 4
 - Additional Help and Guidance Resources 5
- Database Attach Method..... 5
 - Upgrade Steps..... 6
- In-Place Upgrade Method 9
 - Upgrade Steps..... 9
- Converting from EBS to RBS..... 12
 - Converting a Content Database Profile to RBS..... 12
 - Converting a Site Collection Profile to RBS 12
 - Converting a Web Application Profile to RBS..... 13
- Appendix..... 14
 - Additional Configuration Instructions 14
 - SharePoint Site Migration Manager (SSMM) 14

Upgrade Overview

StoragePoint fully supports the primary 2007 to 2010 upgrade methods – shallow copy migration, database attach, and in-place. However, the steps to perform during the upgrade vary depending on which method is chosen. The steps to take for each method are detailed in the following pages.

For more information on the SharePoint specific details of each upgrade method, please see the Microsoft website (<http://technet.microsoft.com/en-us/library/cc263447.aspx>).

Solution Components and Systems

Name	Description
SharePoint	Microsoft's enterprise collaboration and document management system. SharePoint will be both the source and the target of the migration efforts.
SharePoint Web Front End (WFE)	One or more web servers that host the SharePoint Web Application.
Metalogix SharePoint Site Migration Manager (SSMM)	The core migration application. All pre-migration configuration and the running of the actual migration itself will be performed from within this application.
Metalogix Extensions Web Service for SharePoint (MEWS)	A web service that gets installed onto the source and target SharePoint Web Front Ends and provides for a full-fidelity migration.
Storage	The storage system(s)\location(s) to which the BLOBs will be externalized.
StoragePoint (STP)	The EBS\RBS BLOB externalization engine.
StoragePoint Storage Adapter	The configurable adapter for connecting to the specific Storage component.

General Terms, Concepts and Acronyms

The items described below will appear throughout this document. It's important that these items are well understood.

Name	Definition
Shallow Copying	Copying references to data without moving the data itself.
Migration Job	The operational information for a migration including the instructions for performing the job, the configuration, and any history information for a previous run.
Migration Source	The environment from which the content that is to be migrated will originate.
Migration Target	The destination environment for the content that is to be migrated.
BLOB	Binary Large Object.
EBS\RBS	Collectively, the technologies used within SharePoint to externalize content.
Storage End-point	The information that describes the configuration for a particular location where content will be externalized to, including the type of system, the

	Storage Adapter used, the connection and path information and any required active end-point monitoring requirements.
Storage Profile	The information that describes the configuration for what in SharePoint should be externalized and how (using which Storage End-point)

Shallow Copy Migration Method

This section serves as a guide to performing a Shallow Copy migration of content from one SharePoint environment to another using a combination of Metalogix tools including SharePoint Site Migration Manager and StoragePoint. The main goal of this type of migration is to reduce the overall time it takes to perform a migration by mitigating the time it takes to migrate individual file BLOBs. The normal course for a migration would entail that, for each file BLOB, said BLOB must first be downloaded from the source system, passed across the network, and then uploaded into the target system. To mitigate this process, the content on both ends of the migration will be externalized using StoragePoint such that both ends are looking to the same externalized location for the file BLOBs. SharePoint Site Migration Manager can then migrate the information about the file BLOBs between the systems without needing to move the file BLOBs themselves. As with any upgrade procedure, it is advised that you read and understand all the steps as well as the [Caveats and Known issues](#) before beginning the process.

#	Step	Description
1	Ensure 2010 upgrade farm is established.	The 2010 farm should be provisioned and functioning (without any upgrade content). Any non-StoragePoint 3rd party solutions/features/web parts, etc. should be installed into the farm.
2	Document and disable source STP profile jobs.	For each StoragePoint storage profile, make note of any timer jobs configured to run on a set schedule, as well as any archiving configurations. Also note the frequency of Content Migrator and Capacity Monitor on General Settings, if they apply to your configuration. For all STP Profiles that will be migrated, disable all jobs for those profiles.
3	Install SSMM	SharePoint Site Migration Manager should be installed on both the source and target server. You will only need to configure the installation on the target server.
4	Backup/Restore StoragePoint database to new farm.	A backup of the StoragePoint database from the 2007 farm should be restored in the new 2010 farm. It is not recommended you share a copy of this database between the 2007 and 2010 farms.

5 Install StoragePoint for SharePoint 2010.

StoragePoint for SharePoint 2010 should be installed in the 2010 upgrade farm. When prompted for the database name and location, ensure that the database copy established in step #3 is specified. Ensure that the EBS Provider is activated before beginning the migration.
*It is imperative that all StoragePoint jobs be double-checked as disabled on the migration target prior to continuing.

6 Perform Shallow-Copy Migration using SSMM.

After configuring SSMM to allow for Shallow Copying, run a migration job with the Shallow-Copy option enabled. See *Appendix section SharePoint Site Migration Manager (SSMM)*.

7 Re-link Web Application scoped profiles. **(ONLY if using Web Application scoped profiles)**

When using the database attach upgrade method, the web application id's on the 2010 farm will not match the id's on the 2007 farm. To fix the profile links, follow these steps on the 2010 upgrade farm:

- a) Go to the Storage Profiles screen in StoragePoint.
- b) A popup should alert you that some of the profiles have become unlinked from their Web Application:



- c) Click OK on the popup to be taken to the Storage Profile Fixup screen.
- d) Click on the profile scope name under the Profile Scope column to manually fix the linkage. ***DO NOT*** click Fix Automatically as it will not work in this case.
- e) A warning will display warning about issues with manually fixing a profile scope - click the OK button.
- f) On the Select Web Application screen that pops up, select the Web Application on the 2010 farm that the profile should be associated with.

8 Re-establish any StoragePoint timer job definitions.	StoragePoint timer job schedules and settings will not be migrated to the 2010 farm automatically. These must be setup manually. Key timer jobs to check: <ul style="list-style-type: none">• <i>Orphan BLOB Cleanup Job</i>. This job is usually run on a weekly or daily schedule. It must be scheduled for each profile.• <i>Externalize/Recall/Bulk Migrate</i>. These jobs are not normally run on a schedule but if your environment had them running on a schedule, be sure to reestablish them.• <i>Archiving Jobs</i>. If any archiving jobs were setup in the 2007 farm, these must be reestablished on each profile.• <i>Content Migrator/Endpoint Capacity Monitor</i>. These jobs are scheduled by default during the installation for 5 minute run intervals. If you wish a more or less frequent schedule, you may modify it on the General Settings screen.
89 IISRESET and start/stop Timer Service	It is required that an IISRESET and stop/start of the SharePoint 2010 Timer service be done on each server in the farm after the upgrade is complete.
10 Test!	Thoroughly test each profile to ensure that it is storing and retrieving content appropriately. Contact StoragePoint support if you encounter any issues.
11 Take Source Content Offline	Once the migration checks out, take the source content offline for each migrated profile: <u>For web application-scoped profile(s):</u> Remove Web Application(s) from Central Administration on source. <u>For content database-scoped profile(s):</u> Remove Content Database(s) from Central Administration on source. <u>For site collection-scoped profile(s):</u> Remove Site Collection(s) from Central Administration on source.

Caveats and Known Issues

- Data corruption and other anomalies can occur if multiple systems share the same Storage Endpoint.
 - Care must be taken to make sure the source environment will not be deleting any endpoint data.

- It is encouraged that externalized content be duplicated so that there will be no possible way for the source environment to taint the content once the target environment becomes aware of it.
- In order to perform a shallow copy migration, Database Writing (See *[SharePoint Site Migration Manager \(SSMM\)](#)*) must be enabled for the target Content Database which can have possible support implications.
- It is imperative that the endpoint is a shared location and is accessible by the person performing the migration.
- Shallow-Copy migrations are not supported between items (list, sites, etc) that exist in different Profile scopes within the same SharePoint instance.
- SSMM only supports Shallow Copy migrations via the Local-(Object Model) and/or Remote-(Metalogix Extensions Web Service) connection types.
 - The Remote-(Native Web Service) connection type cannot be used.
 - For the supported connection types, the Metalogix.SharePoint.Extensions.DB.dll assembly must be registered in the GAC of both the source and target migration servers.
 - The assembly can be found in the installation path of the SharePoint Site Migration Manager application.
 - For a server that does not have the SSMM application installed, you can copy the assembly from one that does into a new directory structure on the server that matches where the assembly was copied from
 - An IISReset must be performed on the both systems after adding the assembly to the GAC.
- The StoragePoint Profiles on the Source system must not be deleted/removed as doing so will cause the source system to initiate a recall of the BLOBs into the content database, thus removing them from the externalized location and breaking any links to them within the migrated target content.
 - The physical containers themselves within the source SharePoint system must be removed from SharePoint (via Central Administration or STSADM commands) to prevent the source SharePoint system from interfering with the operation of the target system.
 - When these containers (Web Applications, Content Databases, and/or Site Collections) are removed from SharePoint, the StoragePoint Profile will display an error which can be ignored.

Additional Help and Guidance Resources

- http://www.metalogix.com/helpSSMM/Help/002_HowTo/026_ShallowCopying.htm

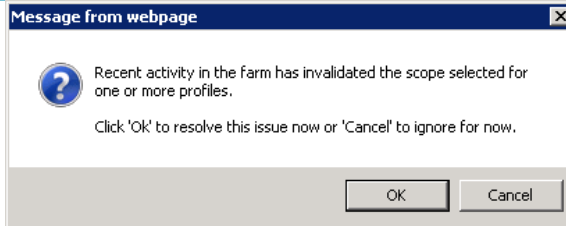
Database Attach Method

The Database Attach method of upgrading SharePoint involves creating a separate 2010 "upgrade" farm and then attaching the content databases from the 2007 farm into the 2010 farm.

Upgrade Steps

The following table outlines the steps involved in upgrading SharePoint 2007 with StoragePoint to SharePoint/StoragePoint 2010 using the database attach method:

#	Step	Description
1	Ensure 2010 upgrade farm is established.	The 2010 farm should be provisioned and functioning (without any upgrade content). Any non-StoragePoint 3rd party solutions/features/web parts, etc. should be installed into the farm.
2	Document and disable source STP profile jobs.	For each StoragePoint storage profile, make note of any timer jobs configured to run on a set schedule, as well as any archiving configurations. Also note the frequency of Content Migrator and Capacity Monitor on General Settings, if they apply to your configuration. For all STP Profiles that will be migrated, disable all jobs for those profiles.
3	Backup/Restore StoragePoint database to new farm.	A backup of the StoragePoint database from the 2007 farm should be restored in the new 2010 farm. It is not recommended you share a copy of this database between the 2007 and 2010 farms.
4	Install StoragePoint for SharePoint 2010.	StoragePoint for SharePoint 2010 should be installed in the 2010 upgrade farm. When prompted for the database name and location, ensure that the database copy established in step #3 is specified. Ensure that the EBS Provider is activated before beginning the migration. *It is imperative that all StoragePoint jobs be double-checked as disabled on the migration target prior to continuing.
5	Copy the blob store(s) for profiles that are being migrated. (OPTIONAL)	A copy of the blob stores for profiles being migrated needs to be made if the 2007 farm will remain functional after the upgrade . If the 2007 farm will retire the content databases that are being upgraded, then this step is not necessary.
5a	Update endpoint connection paths to point to blob store copy. (OPTIONAL)	The endpoints need to be edited to reflect the new blob store copy location established in step #6. This step may be skipped if step #5 was skipped.
6	Attach content database(s) from 2007 farm to 2010 farm.	The content database(s) from the 2007 farm should be attached into the 2010 farm. Please see the Microsoft documentation for more information.
7	Re-link Web Application scoped profiles. (ONLY if using Web Application scoped profiles)	When using the database attach upgrade method, the web application id's on the 2010 farm will not match the id's on the 2007 farm. To fix the profile links, follow these steps on the 2010 upgrade farm: <ul style="list-style-type: none"> g) Go to the Storage Profiles screen in StoragePoint. h) A popup should alert you that some of the profiles have become unlinked from their Web Application:



- i) Click OK on the popup to be taken to the Storage Profile Fixup screen.
- j) Click on the profile scope name under the Profile Scope column to manually fix the linkage. ***DO NOT*** click Fix Automatically as it will not work in this case.
- k) A warning will display warning about issues with manually fixing a profile scope - click the OK button.
- l) On the Select Web Application screen that pops up, select the Web Application on the 2010 farm that the profile should be associated with.

8 Re-establish any StoragePoint timer job definitions.

StoragePoint timer job schedules and settings will not be migrated to the 2010 farm automatically. These must be setup manually. Key timer jobs to check:

- *Orphan BLOB Cleanup Job*. This job is usually run on a weekly or daily schedule. It must be scheduled for each profile.
- *Externalize/Recall/Bulk Migrate*. These jobs are not normally run on a schedule but if your environment had them running on a schedule, be sure to reestablish them.
- *Archiving Jobs*. If any archiving jobs were setup in the 2007 farm, these must be reestablished on each profile.
- *Content Migrator/Endpoint Capacity Monitor*. These jobs are scheduled by default during the installation for 5 minute run intervals. If you wish a more or less frequent schedule, you may modify it on the General Settings screen.

9 IISRESET and start/stop Timer Service

It is required that an IISRESET and stop/start of the SharePoint 2010 Timer service be done on each server in the farm after the upgrade is complete.

10 Test!

Thoroughly test each profile to ensure that it is storing and retrieving content appropriately. Contact StoragePoint support if you encounter any issues.

11 Take Source Content Offline

Once the migration checks out, take the source content offline for each migrated profile:

For web application-scoped profile(s):

Remove Web Application(s) from Central Administration on source.

For content database-scoped profile(s):

Remove Content Database(s) from Central Administration on source.

For site collection-scoped profile(s):

Remove Site Collection(s) from Central Administration on source.

In-Place Upgrade Method

The In-Place method of upgrading SharePoint involves upgrading an existing 2007 farm directly to SharePoint 2010.

Upgrade Steps

The following table outlines the steps involved in upgrading SharePoint 2007 with StoragePoint to SharePoint/StoragePoint 2010 using the in-place upgrade method:

#	Step	Description
1	Download and extract the StoragePoint 2010 in-place upgrade support tools.	<p>Download the in-place support tools from http://storagepoint.metalogix.com/downloads/StoragePoint2010InPlaceUpgradePrepTool.zip</p> <p>Extract into a folder on one of the web front end servers.</p>
2	Remove StoragePoint timer job definitions and diagnostic logging categories from the farm and disable EBS.	<p>Run the StoragePoint2010InPlaceUpgradePrepTool.exe obtained in step #1. Click the Remove StoragePoint Logging and Timer Jobs/Disable EBS button.</p> <p>For each StoragePoint storage profile, make note of any timer jobs configured to run on a set schedule, as well as any archiving configurations. Also note the frequency of Content Migrator and Capacity Monitor on General Settings, if they apply to your configuration.</p> <p>(StoragePoint timer job definitions and logging categories are not upgradable and will need to be setup again after the upgrade is complete. In addition the EBS provider will need to be reactivated. See steps #9 and #11.)</p>
3	Detach all content databases that contain externalized content from their respective web apps.	<p>Use the follow STSADM command on each content database with externalized content in it:</p> <pre>Stsadm.exe -o deletecontentdb -url <URL> -databasename <DatabaseName></pre> <p>*Do not* remove the CA/admin content database or other databases that do not have externalized content in them.</p> <p>Also note – this command only removes the content db from the web application definition. It is not removed from SQL Server.</p>
4	Remove StoragePoint 2007 solution from the farm.	<p>StoragePoint for 2007 solution must be removed from the farm. However, do not attempt to remove it using the StoragePoint installer. Follow these steps to remove:</p> <ol style="list-style-type: none"> Go to Solution Management in the Operations area of

		<p>Central Admin.</p> <p>b) Click on the bluethread.storagepoint.feature.wsp solution file.</p> <p>c) Click Retract and continue to retract the solution.</p> <p>d) When the retraction is complete, click the solution again and click the Remove button to remove it from the solution store.</p>
5	Run the SharePoint 2010 upgrade on the farm.	Run SharePoint 2010 upgrade. Proceed all the way through to the end.
6	Apply Sharepoint 2010 SP 1	<p>Sharepoint 2010 SP1 can be applied separately after installing Sharepoint 2010 RTM.</p> <p>Or you can slipstream Sharepoint 2010 SP1 into the 2010 install image in step 5 http://blogs.msdn.com/b/ronalg/archive/2011/07/11/slipstream-sharepoint-2010-sp1-and-language-packs-w-sp1-into-rtm.aspx).</p>
7	Install StoragePoint for SharePoint 2010	StoragePoint for SharePoint 2010 needs to be installed on the farm. When prompted for the database name and server, ensure that the settings point to the pre-existing StoragePoint database.
8	IISRESET and start/stop Timer Service	It is required that an IISRESET and stop/start of the SharePoint 2010 Timer service be done on each server in the farm after the upgrade is complete.
9	Re-enable the EBS Provider.	Go to the EBS Provider Status link in Central Admin (on the Application Management screen). Click the Activate button to reactive the EBS provider.
10	IISRESET and start/stop Timer service	IISRESET and stop/start of SharePoint 2010 Timer Service is required so farm sees EBS provider activation.
11	Reattach each content database detached in step #3.	<p>Use the following PowerShell command to reattach each content database to its respective web application:</p> <pre>Mount-SPContentDatabase -Name <DatabaseName> -DatabaseServer <DatabaseServer> -WebApplication <Web App URL></pre> <p>The content database will be upgraded to 2010 at this point.</p>
12	Re-establish any StoragePoint timer job definitions.	<p>StoragePoint timer job schedules and settings are not upgradeable and must be reestablished under 2010. Key timer jobs to check:</p> <ul style="list-style-type: none"> • <i>Orphan BLOB Cleanup Job</i>. This job is usually run on a weekly or daily schedule. It must be scheduled for each profile. • <i>Externalize/Recall/Bulk Migrate</i>. These jobs are not normally run on a schedule but if your environment had them running on a schedule, be sure to reestablish them.

- *Archiving Jobs*. If any archiving jobs were setup in the 2007 farm, these must be reestablished on each profile.
- *Content Migrator/Endpoint Capacity Monitor*. These jobs are scheduled by default during the installation for 5 minute run intervals. If you wish a more or less frequent schedule, you may modify it on the General Settings screen.

13 Test!

Thoroughly test each profile to ensure that it is storing and retrieving content appropriately. Contact StoragePoint support if you encounter any issues.

Converting from EBS to RBS

The ability to convert from EBS technology to RBS technology is built into StoragePoint. This provides a degree of “future proofing” – use EBS now and convert to RBS in the future.

The process for converting a profile from EBS to RBS varies slightly depending on the profile type with the content database profile type being the most straightforward to convert while the site collection and web application profile types require slightly more work.

Please keep in mind the following when considering whether to convert a profile to RBS:

- RBS requires the **Enterprise Edition** of SQL Server 2008 or 2008 R2. It will not work with SQL Server Standard Edition.
- EBS is fully supported on SharePoint 2010. Microsoft has announced its intention to discontinue EBS in a future release of SharePoint but no firm plans to do this have been announced. Within StoragePoint there is no functionality difference when using EBS as opposed to RBS.
- If upgrading from MOSS/WSS 2007 to SharePoint 2010, it is recommended that you continue to use EBS on both source and target until the upgrade to 2010 has been completed. After the upgrade to 2010 has been completed, check all functionality and make sure the 2010 farm is operating properly. Then, the conversion to using RBS can be performed.
- RBS supports **only** content database scope profiles. Site collection and web application scope options are not available when using RBS.

Converting a Content Database Profile to RBS

To upgrade an EBS-based content database profile to RBS, follow these steps within Central Administration:

- 1) On the Storage Profiles page, click on the profile to edit it.
- 2) On the Edit Storage Profile page, click the **Upgrade Profile to RBS** checkbox.
- 3) Click the **Save** button on the profile.
- 4) On the Storage Profiles page, click on the **Jobs** link for the profile.
- 5) Schedule or immediately run an Externalization job for the profile.
This will convert existing blob references to RBS.

Converting a Site Collection Profile to RBS

Upgrading an EBS-based site collection profile to RBS requires a possible remapping of profile endpoints. RBS does not support site collection profiles so a content database RBS profile must be created that overlaps the site collection (i.e. on the content database of the site collection). This will affect other site collections in the same content database that may be covered by different EBS profiles. Existing content

in the site collection profile(s) will remain at the same location but new content or edits to existing content will be directed to the endpoint(s) of the RBS content database profile.

To upgrade an EBS site collection profile to RBS, follow these steps within Central Administration:

- 1) On the Storage Profiles page, click the **Create New Profile** link. Create a profile with content database scope and make sure the **Use Remote Blob Storage** box is checked.
 - a. Add an endpoint to the profile where all site collections under the content database will write their blobs. (See the StoragePoint Installation and Administration guide for more information on creating profiles and endpoints.)
- 2) On the Storage Profiles page, click the **Jobs** link next to the RBS profile created in step #1.
- 3) On the Timer Jobs page, schedule or immediately run an Externalization job to convert EBS blob references in the content database to RBS.
- 4) Do **not** delete the EBS profiles. Contact StoragePoint support for help in hiding these profiles. (Note that these EBS profiles will now, effectively, be orphaned so leaving them within the interface will not have any effect on the new RBS externalization.)

Converting a Web Application Profile to RBS

Converting an EBS web application profile to RBS involves creating one or more RBS content database profiles for all of the content databases in the web application. The endpoint mapping for this case is more straightforward than for the site collection case since all content databases in the web application will already be writing to the same endpoints.

To upgrade an EBS web application profile to RBS, follow these steps within Central Administration:

- 1) On the Storage Profiles page, click the **Create New Profile** link. Create a profile with content database scope and make sure the **Use Remote Blob Storage** box is checked.
 - a. Add an endpoint to the profile where all site collections under the content database will write their blobs. (See the StoragePoint Installation and Administration guide for more information on creating profiles and endpoints.)
- 2) **REPEAT step #1** for each content database in the web application. Each RBS content database profile can use the same endpoint and options as the original EBS web application profile.
- 3) **For each RBS profile created:** On the Storage Profiles page, click the **Jobs** link next to the RBS profile created in steps #1 and #2. Schedule or immediately run an Externalization job to convert EBS blob references in the content database to RBS.
- 4) Do **not** delete the EBS web application profile. Contact StoragePoint support for help in hiding this profile. (Note that these EBS profiles will now, effectively, be orphaned so leaving them within the interface will not have any effect on the new RBS externalization.)

Appendix

Additional Configuration Instructions

SharePoint Site Migration Manager (SSMM)

Configuring SharePoint Site Migration Manager to support shallow copy migration of externalized content requires that a change be made to the application's base configuration as well as the enablement of the option itself within the setup for the migration job.

Adjusting the Application's Base Configuration

1. Close any open instances of the SharePoint Site Migration Manager application.
2. Open Windows Explorer and navigate to %AppData%\Metalogix Software Corp\SharePoint Site Migration Manager 2010.
3. Locate the **EnvironmentSettings.xml** file and open it for editing in notepad (or any other xml-safe editor).

- a. Locate the **XmlableEntry** entry for **AllowDBWriting** as below:

```
<XmlableEntry>
  <Key Type="System.String, mscorlib, Version=2.0.0.0,
    Culture=neutral,
    PublicKeyToken=b77a5c561934e089">AllowDBWriting</Key>
  <Value Type="System.String, mscorlib, Version=2.0.0.0,
    Culture=neutral,
    PublicKeyToken=b77a5c561934e089">False</Value>
</XmlableEntry>
```

- b. Change the **False** text of the Value node to **True**.

- c. The result of your changes should appear as below:

```
<XmlableEntry>
  <Key Type="System.String, mscorlib, Version=2.0.0.0,
    Culture=neutral,
    PublicKeyToken=b77a5c561934e089">AllowDBWriting</Key>
  <Value Type="System.String, mscorlib, Version=2.0.0.0,
    Culture=neutral, PublicKeyToken=b77a5c561934e089">True</Value>
</XmlableEntry>
```

- d. Save your changes and close the editor.

Shallow Copy Option Enablement

1. Open the SharePoint Site Migration Manager application.
2. Open an existing (or create a new) migration job and within the configuration:
 - a. Within the left side, click the **List Content Options** item.
 - b. Locate and mark the option to **Shallow Copy Externalized Data**.