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Migrating from SharePoint 2007 to SharePoint 2013

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## **Migrating from SharePoint 2007 to SharePoint 2013**

SharePoint 2007 provides a great collaboration platform, but as the business matures, so should the platform. Now-a-days companies that invested heavily in SP 2007 are now developing a SharePoint strategy may be confused regarding migration to SharePoint 2010 and or 2013. Needless to say, an upgrade to a newer version is a great undertaking for IT. However, besides the IT involvement, there is also training and end-user adoption. Training and end-user adoption are budget intensive and during this period end users are not as productive as they used to be while working within the old, familiar version of the platform. Companies are looking for a way to migrate to SP 2013, the latest version, however, being 2 versions behind means going through 2 phases of migration as well as end user training and adoption. Even though, from a technical and Microsoft supported perspective, there is no option to jump from 2007 straight to SharePoint 2013 without using third party tools, there is an option to cut the cost and the effort of migrating to the latest 2013 version by almost half by first migrating to 2010 as an interim migration utilizing a trial license for 2010. You can accomplish this without purchasing full version of 2010 and skip the associated end user training and adoptions steps. Even though there is an established method of upgrading from 2007 to 2010, this approach is often not a viable option due to the difference in the hardware support for each version. If 2007 version was supported on 32 bit servers, 2010 is only supported on 64 bit environments. In this case, an upgrade is just not an option and attaching the database is the only supported way of moving to 2010. In moving from 2010 to 2013, a database upgrade is the only officially supported option. From a high level point of view, this is a “database attach” migration approach that will entail the same steps as any other migration from one version of SharePoint Platform to the next. They are:

- Assessing and updating your 2007 Environment
- Planning for an interim 2010 environment with the emphasis on SQL Server
- Planning for and setting up the 2013 Environment
- Initial database migration from 2007 to 2010 and testing on 2010
- Final database migration from 2010 to 2013

Going straight to SharePoint 2013 from 2007 is not necessarily the right approach for companies with a lot of customizations and widely used, third party components or companies with user base that is not familiar with office 2010 products. However, this is still a viable option that greatly benefits other companies. Here are some other important steps not covered within this posting, but definitely worth mentioning.

- Planning for End User training for SharePoint 2013
- Developing both a Migration Cut-Out and Communication Plan
- Planning for End-User support on final SharePoint 2013 platform

All three above mentioned items should be initiated before you begin the migration process.

### **Assessing and Updating 2007 Environment (Preparing for migration)**

This preliminary step of updating/patching the 2007 environment as well as cataloging and fixing any pre-upgrade issues, can also be one of the most resource intensive from the IT perspective. First and foremost, the 2007 environment needs to be updated to the latest Service Packs and CUs, the minimum is to have at least Service Pack 2 installed. Before applying the latest updates make sure that your environment is stable enough to go through this procedure. Also, make sure that during the application of Service Packs or the latest CUs, you are following the steps outlined in the procedures for applying

these updates. For the list of the latest updates please refer to this resource:

<http://technet.microsoft.com/en-us/sharepoint/bb735839.aspx>

Even if you are not running the upgrade, it is strongly recommended to run the pre-upgrade check tool, which will help to gather a report on any issues the environment might have in the upgrade process as far as custom elements or unsupported customizations are concerned. Another benefit of running the pre-upgrade check tool is to aid in the process of cataloging all installed components, customizations, servers and important configurations of the environment.

In order to run the pre-upgrade check tool, open up the command prompt, navigate to the (12 Hive)\bin directory and run the following command:

```
STSADM -o preupgradecheck
```

The output of the pre-upgrade check will result in an Html report that will open up in the browser. You can alternatively access this report in the (12 Hive)\LOGS directory. After addressing the issues that preclude the content databases from upgrade, you should repeat the above step and re-run the tool to make sure that all issues are resolved. You might have to repeat this process several times until your databases are ready for upgrade.

*Note: the pre-upgrade check will not modify your 2007 content database*

To catalog all customizations, you can use the Upgrade worksheet from Microsoft

<http://www.microsoft.com/en-us/download/details.aspx?id=28772>

As the last preparation step you should catalog all content databases with their respective web applications and the list of site collections residing in each content database, as you will have to identify the owners of those sites or people responsible for the site content and administration. This is an important step as this is a list of people that would be the first level of the migration testing.

From the 2007 Central Administration site, go to Application Management and click on the Web Application List. Under each web application you will find a list of their respective databases. Catalog all web applications and their databases as well as the list of all site collections for each database. To list all site collections for each database you can use the following command:

From the command Prompt window, navigate to (12 Hive)\bin folder

```
Run STSADM -o enumallwebs > sitelist.xml
```

```
Administrator: C:\Windows\system32\cmd.exe
C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\12\BIN>stsadm -o enumallwebs

<Databases>
  <Database SiteCount="2" Name="MSS_Content_2007" DataSource="dtechdevsql01.dev.internal.discovertechnologies.com">
    <Site Id="69f443b7-6097-4e35-945e-0c78b08b519d" OwnerLogin="DEU\administrator" InSiteMap="True">
      <Webs Count="1">
        <Web Id="8b483282-1b76-4aea-af8c-7c535b47d178" Url="/sites/search" LanguageId="1033" TemplateName="$RCHCEN#0" TemplateId="50" />
      </Webs>
    </Site>
    <Site Id="c7499f8a-d005-469d-abd6-12c542fdd1f3" OwnerLogin="DEU\administrator" InSiteMap="True">
      <Webs Count="1">
        <Web Id="0d5b41d5-09b9-4947-8897-97a9247fa4bf" Url="/" LanguageId="1033" TemplateName="$STS#2" TemplateId="1" />
      </Webs>
    </Site>
  </Database>
  <Database SiteCount="1" Name="MSS_Content_2007_1" DataSource="dtechdevsql01.dev.internal.discovertechnologies.com">
    <Site Id="a7ff76a0-3d53-4f46-ae78-d359dfe6369a" OwnerLogin="DEU\administrator" InSiteMap="True">
      <Webs Count="1">
        <Web Id="0d5b41d5-09b9-4947-8897-97a9247fa4bf" Url="/" LanguageId="1033" TemplateName="$STS#2" TemplateId="1" />
      </Webs>
    </Site>
  </Database>
</Databases>
```

From this report you can catalog all necessary information using this template as a sample [[link to the Content Databases Catalog](#)].

At this point your SharePoint 2007 environment is ready to have it's databases migrated to SharePoint 2010

## Plan and set up the interim 2010 environment

In the scenario of database migration from SharePoint 2007 to SharePoint 2013, the SharePoint 2010 environment is an interim environment, serving only to upgrade your 2007 content databases to the 2010 content database schema, thus preparing your content databases for 2013 upgrade. Due to this process, there is no need to plan for service applications, high availability, backup and recovery or user load and scalability. In fact, you can use a single Virtual server to install the SharePoint 2010 farm. The only planning that will have to be done is on the SQL server side. SQL server has to be sized appropriately to handle the databases that are restored from the 2007 SQL content database backup allowing some room for expansion in database size as well as database log size during the DB schema upgrade process and many transactions that will place while the upgrade process run., That requires you to make sure that the DB log files have room to expand to accommodate the changes that will be occurring. The above mentioned "[Content Databases Catalog](#)" sample catalog can help you approximate the size of DB expansion that you should allow on the new SQL 2010 Server. Once your 2010 Interim Farm is set up, make sure it is updated with the latest Service Packs and CUs. The list of latest updates [may be found at: http://technet.microsoft.com/en-us/sharepoint/bb735839.aspx](http://technet.microsoft.com/en-us/sharepoint/bb735839.aspx)

## Planning and setting up the end state 2013 Environment

Even though you have completed all steps described above, this is an important preparation step and probably one the most IT intensive. You need to plan and set up your end state 2013 Environment before you start the migration of databases from 2007 to 2010. Your SharePoint portal should be available for end users in read only mode in 2007 version, from the point that you set up your databases to read only mode, until you fully migrate to 2013.

## Database migration from 2007 to 2010 and testing on 2010

Before migrating databases, set the databases that you are planning to migrate to read only mode which will ensure that users cannot add, modify or delete any content, so users do not update any information and they do not lose their changes while the databases are being moved to 2010 and subsequently 2013. The DBs can be set read only from the SQL Management studio by selecting the content database name, clicking the right mouse button, and then select "Properties" and under "Options" menu, set the "state" option to "read-only". At this point you are ready to back up the content database.

To restore databases to a new SQL Server you will need the following permissions: the user must have CREATE DATABASE permissions to be able to execute RESTORE. If the database exists, RESTORE permissions default to members of the **sysadmin** and **dbcreator** SQL server roles and the owner (**dbo**) of the database.

*Important Note: Always create backup copies of all your content databases before upgrading them. This will ensure that you always have unmodified copies of your content DBs to fall back to.*

Once the backup is created, restore backups to the new SQL server using the following steps:

1. Copy the BAK file to new server.
2. Create an empty DB in Management Studio with the same name as the previously backed up 2007 content DB
3. Restore from backup, you may need to change an option in the "options" tab of the restore dialog to get it to work. (Overwrite db).

After the databases are restored, you are ready to attach them to the 2010 Farm. In the interim SharePoint 2010 Farm, create a Web application corresponding to the 2007 web application that the content database belongs to, remove the default 2010 content DB from the newly created web application and attach the restored 2007 content database through the PowerShell command

Note: Even though there are 2 ways to attach the 2007 content DB to 2010 environment, STSADM and PowerShell Command, you still should use the PowerShell command:

```
Mount-SPContentDatabase -Name [DatabaseName] -WebApplication [URL] -Database Server [ServerName]
```

As the database is being upgraded and attached you will see the progress percentage running in the PowerShell window.

```
PS C:\Users\administrator.DEU> mount-spcontentdatabase -name wss_content_2007 -d
atabaseserver dtechdevsql01.dev.internal.discovertechnologies.com -webapplicatio
n http://dtechdevsp1000:8082
100.00%

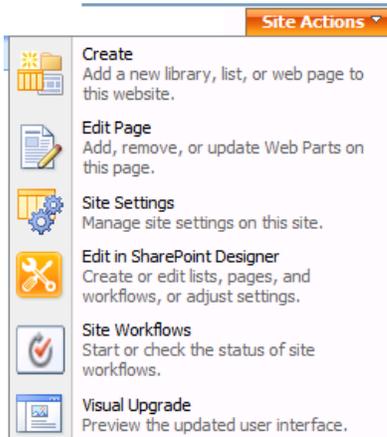
Id                : e1c88858-82bb-4709-8173-37715e33cb87
Name              : wss_content_2007
WebApplication    : SPWebApplication Name=SharePoint -8082
Server           : dtechdevsql01.dev.internal.discovertechnologies.com
CurrentSiteCount : 2

PS C:\Users\administrator.DEU> _
```

Once the database upgrade and attach process is finished you can browse to the URL of the web application that you attached the database to.

All managed paths that have existing sites will be recreated for sites in this content database. Make sure that you add AAM for this Web Application, otherwise you may have issues accessing Site Collections that exist on managed paths other than the default top level Web app site collection.

You can preview the site in 2010 interface, by selecting the “Visual Upgrade” option in the Site Actions menu.



After you preview the upgraded User Interface (UI), you can optionally finalize the upgrade to the UI from the Site Settings menu.

“Visual Upgrade” allows a Site Administrator to “Preview” sites in SharePoint 2010. This is a nice feature that allows you to fix what would appear broken in 2010, but the fact is that you need to upgrade to the 2010 UI before you migrate it to the final 2013 environment. The “Visual Upgrade” feature allows to have a chance to fix 2007 customization for 2010. When you preview your sites in 2010, involve the site owners to review and fix all issues while you can still switch to the 2007 version that supports 2007 components. Once site owners test and fix issues in 2007 you can finalize the UI upgrade. This is important before migrating databases to 2013 version of SharePoint because SharePoint 2013 does not have support for SharePoint 2007 components and when content databases are upgraded to 2013, all sites will be automatically upgraded to the 2010 look and feel without leaving an option of fixing issues

in the SharePoint 2007 UI.

Portal > Site Settings > Title, Description, and Icon

## Site Settings > Title, Description, and Icon

---

### Title and Description

Type a title and description for your Web site. The title is displayed on each page in the site. The description is displayed on the home page.

Title:

Description:

---

### Logo URL and Description

Associate a logo with this site by entering the URL to an image file (recommended size: 60 x 60 pixels). Add an optional description for the image. Note: If the file location has a local relative address, for example, /\_layouts/images/logo.gif, you must copy the graphics file to that location on each front-end Web server.

URL:

[Click here to test](#)

Enter a description (used as alternative text for the picture):

---

### Visual Upgrade

Choose the user interface of your SharePoint sites. If you choose to update, your sites will use the new interface, which includes the ribbon. Choose Preview the updated user interface to evaluate new features. You will be able to commit the update or to return to the user interface of the earlier version of SharePoint. If you notice that some pages from the earlier version of SharePoint display incorrectly after Visual Upgrade, you can [reset the pages](#) or all pages on this site.

Use the previous user interface

Preview the updated user interface

**Update the user interface**

Details:

Your site will use the updated user interface. If necessary, an administrator can restore the user interface to that of the earlier version of SharePoint.

It is important to finish the visual upgrade before you move the content databases to 2013. The fewer processes that take place during the upgrade to 2013, the less issues during the upgrade to resolve. You can also update the UI of all sub-sites in a Site Collection, once you ensure that sites have migrated property.

Regarding the upgrading of “My Sites”; you need to upgrade the My Sites Host first, once this site is upgraded, you can upgrade the rest of My Sites.



## Site Collection Administration ▸ Visual Upgrade

Use this page to control the user interface of sites under this site collection

Home

Treasury

Documents

Lists

Calendar

Discussions

Team Discussion

Sites

Treasury

People and Groups



Recycle Bin



All Site Content

**Hide Visual Upgrade Options**

You may run this command more than once to hide options of newly created or reconfigured sites. If necessary, farm administrators can restore the configuration settings.

Hid

Hide options f  
all sites in this**Apply the New User Interface to All Sites**

You may run this command more than once to update the user interface for newly created or reconfigured sites. If necessary, farm administrators can restore the user interface of the earlier version of SharePoint.

U

Use the latest  
site collection.

## Database migration from 2010 to 2013

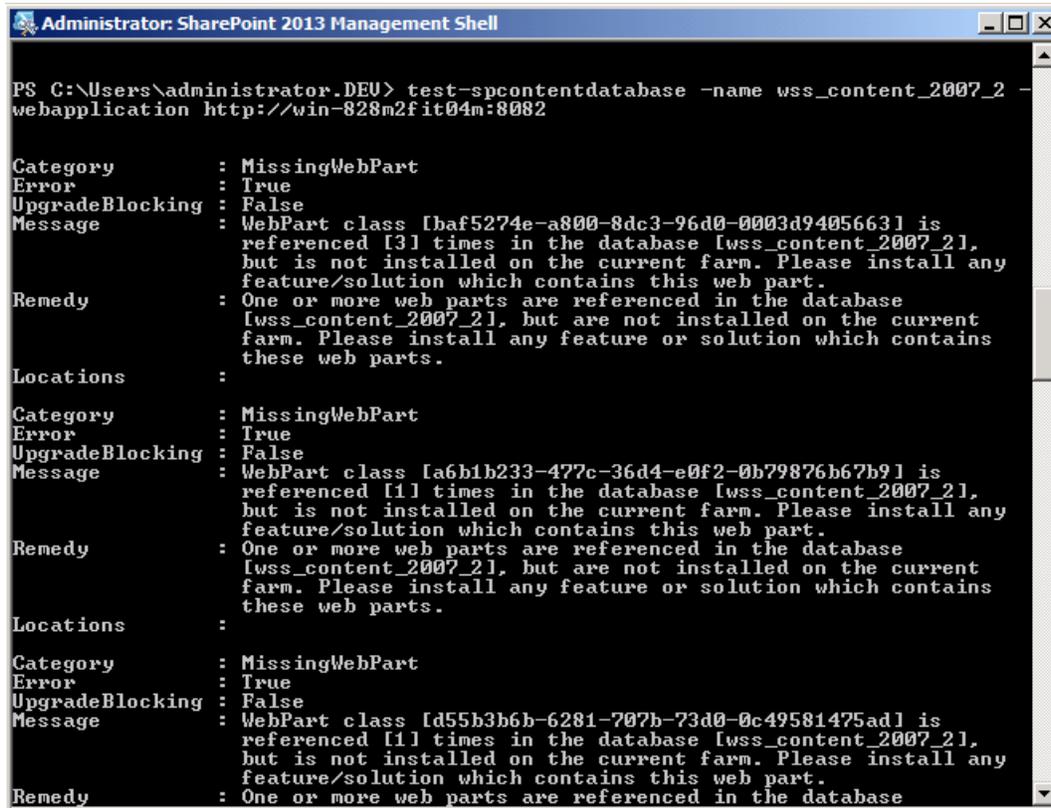
After the migration of the databases from 2007 to the 2010 farm, the last step is to migrate it to the 2013 environment. This final migration will require the same steps as previous migration. In fact, “database attach” is the only supported way of upgrading from SharePoint 2010 to the 2013.

Before taking the first step to move the 2010 content databases to the 2013 environment, back up the databases that you previously upgraded. You can use the same “Content Databases Catalog” spreadsheet that you filled out prior to moving databases to SharePoint 2010. Once the databases are backed up, move them to the SQL server that will be used to house your content databases:

1. Copy the database back up file to the SQL server
2. Create databases with the same names that 2010 content databases used
3. Restore the content databases in the SQL Management Studio
4. Create the corresponding Web Applications in SharePoint 2013 Central Administration site, use the same port numbers that you used in 2010.

Before you actually attach the new databases and upgrade them, you should run the test command on those databases. Open up the SharePoint 2013 Management Shell and run the following command:

Test-spcontentdatabase -name [content database name] -webapplication [URL for 2013 Web Application]



```
Administrator: SharePoint 2013 Management Shell
PS C:\Users\administrator.DEU> test-spcontentdatabase -name wss_content_2007_2 -
webapplication http://win-828m2fit04m:8082

Category      : MissingWebPart
Error         : True
UpgradeBlocking : False
Message      : WebPart class [baf5274e-a800-8dc3-96d0-0003d9405663] is
referenced [3] times in the database [wss_content_2007_2],
but is not installed on the current farm. Please install any
feature/solution which contains this web part.
Remedy       : One or more web parts are referenced in the database
[wss_content_2007_2], but are not installed on the current
farm. Please install any feature or solution which contains
these web parts.
Locations    :

Category      : MissingWebPart
Error         : True
UpgradeBlocking : False
Message      : WebPart class [a6b1b233-477c-36d4-e0f2-0b79876b67b9] is
referenced [1] times in the database [wss_content_2007_2],
but is not installed on the current farm. Please install any
feature/solution which contains this web part.
Remedy       : One or more web parts are referenced in the database
[wss_content_2007_2], but are not installed on the current
farm. Please install any feature or solution which contains
these web parts.
Locations    :

Category      : MissingWebPart
Error         : True
UpgradeBlocking : False
Message      : WebPart class [d55b3b6b-6281-707b-73d0-0c49581475ad] is
referenced [1] times in the database [wss_content_2007_2],
but is not installed on the current farm. Please install any
feature/solution which contains this web part.
Remedy       : One or more web parts are referenced in the database
```

This report will provide you information on any configuration changes that need to be done in SharePoint 2013 before you upgrade the databases. Once all issues are resolved, open SharePoint 2013 Management Shell, and run the following command to finally attach and upgrade the database to SharePoint 2013:

Mount-spcontentdatabase -name [content database name] -WebApplication [url corresponding to the 2013 Web Application]



```
PS C:\Users\administrator.DEU> Mount-SPContentDatabase -name wss_content_2007_2
-WebApplication http://win-828m2fit04m:8082
27.74% : SPContentDatabase Name=wss_content_2007_2
```

*Note: For My Sites content databases, attach the content database that contains the My Site host before attaching databases that contain the My Sites. To upgrade my sites, you should upgrade the My Sites Host Site Collection first.*

Repeat this process for all databases, when the process is complete, you can view the databases in the Central Administration under the “Content Databases” link.

Database Name	Database Status	Database Read-Only	Current Number of Site Collections	Site Collection Level Warning	Maximum I
wss_content_2007_2	Started	No	1	2000	5000
wss_content_2007_3	Started	No	4	2000	5000
WSS_Content_2013_1	Started	No	0	2000	5000
wss_content_8082	Started	No	0	2000	5000

When your content databases are successfully attached, the upgrade is almost done, but as in case with the upgrade from 2007 to 2010 where there was the last step of the “Visual Upgrade”, there is still a similar option that is called “Deferred site collection upgrade”. “Visual Upgrade” in 2010 allowed Site Administrators to “Preview” the site in SharePoint 2010 and then finalize the UI upgrade to 2010. This option of running site was available because SharePoint 2010 was installed with SharePoint 2007 supporting component. When SharePoint 2013 is installed it installs the files for SharePoint 2010 as well.

This allows sites migrated from 2010 environment to continue to run in 2010 mode, all new sites that are created in 2013 will be running in 2013 mode. When SharePoint 2010 sites are running on SharePoint 2013 you will need to start upgrading, but this time it is only available on a site collection level. Site Collection Administrators have a choice of using a “Site Collection health check” to determine any potential issues and address it before upgrading and upgrade when the Site Collection is ready for the UI upgrade. Once the site collection is ready, administrator can request an upgrade evaluation site which is a separate copy of their Site Collection in 2013 mode. This 2013 version of the site collection is available for 30 days, by default, until timer job deletes it. The default value of 30 day can be changed though.

Now you can point your old 2007 portal URL to this new migrated 2013 farm.

At this point you have successfully migrated from SharePoint 2007 to SharePoint 2013. You can decommission your old 2007 and interim 2010 environments. By default, when you created the web

applications in the new SharePoint 2013 environment, a default content database was created for each web application. You can remove those databases and delete them from the SQL Server.

The success of the migration will be largely determined by the End-User adoption rate. A well-developed migration plan and end-user training and support will be the key factors to the migration success. Features that are introduced to end-users within SharePoint 2013 are drastically different than what is available in 2007 version of the product.