Microsoft System Center 2012 R2

Upgrading System Center 2012 – Service Manager SP1 to System Center 2012 R2

Microsoft Corporation

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Applies to

Service Manager in Microsoft System Center 2012 R2

Feedback

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Revision History

Release Date	Changes
October 17, 2013	Original release of this guide.
November 1, 2013	Minor updates to this guide.

Contents

Upgrading System Center 2012 - Service Manager SP1 to System Center 2012 R2

This guide will show you how to upgrade from Service Manager in Microsoft System Center 2012 Service Pack 1 (SP1) to Service Manager in System Center 2012 R2.

Warning

If you are planning to upgrade two or more System Center products, you must first consult the guide Upgrade Sequencing for System Center 2012 R2. The order in which you perform product upgrades is important. Failure to follow the correct upgrade sequence might result in product failure for which no recovery options exist. The affected System Center products are:

1. Orchestrator
2. Service Manager
3. Data Protection Manager (DPM)
4. Operations Manager
5. Configuration Manager
6. Virtual Machine Manager
7. App Controller

You can only upgrade to Service Manager in System Center 2012 R2 from Service Manager in System Center 2012 SP1 (version 7.5.2905.0).

Important

This guide assumes that you are performing an *upgrade* to Service Manager in System Center 2012 R2. For information about installing System Center 2012 – Service Manager on a computer where no previous version of Service Manager exists, see Deploying System Center 2012 – Service Manager.

Upgrade topics

- Upgrade Planning for System Center 2012 R2 - Service Manager

  Describes factors that you must consider before you start the Service Manager upgrade.
- Setting Up a Service Manager 2012 Lab Environment with Production Data

  Describes how to set up Service Manager in a lab environment by using production data.
- Upgrade to System Center 2012 R2 - Service Manager

  Describes the steps that you must take to upgrade System Center 2012 to System Center 2012 SP1.
- After Upgrading to System Center 2012 R2 - Service Manager

  Describes the steps that you must take after you have applied the Service Manager upgrade.

- Failed Upgrade in System Center 2012 R2 - Service Manager
  Describes the steps that you can take if an upgrade fails.

Downloadable documentation

You can download a copy of this technical documentation from the Microsoft Download Center. Always use the TechNet library for the most up-to-date information.

Upgrade Planning for System Center 2012 R2 - Service Manager

This guide outlines the procedures that are necessary to upgrade to Service Manager in System Center 2012 R2.

An in-place upgrade from Service Manager in System Center 2012 Service Pack 1 (SP1) to Service Manager in System Center 2012 R2 is supported. An in-place upgrade is an upgrade of all Service Manager parts on the same hardware. Other approaches, such as side-by-side upgrades or rolling upgrades, are not supported.

Upgrading to Service Manager in System Center 2012 R2 requires preparation. We recommend that you install Service Manager in a lab environment and then replicate your production databases into the lab. You can then perform an upgrade of the new installation in the lab. After you confirm that the upgrade in the lab environment is successful, you can perform the same upgrade to Service Manager SP1 in the production environment.

Evaluation and Select versions

The release of Service Manager in System Center 2012 SP1 was available in two versions: Evaluation and Select. Service Manager in System Center 2012 R2 is available in the same versions. The following upgrade paths are supported to Service Manager in System Center 2012 R2.

Current version	Upgraded version	Status
Service Manager in System Center 2012 SP1 Evaluation	Service Manager in System Center 2012 R2 Evaluation	Evaluation period remains unchanged (180 days)
Service Manager in System Center 2012 SP1 Select	Service Manager in System Center 2012 R2 Select	Licensed

Note

Upgrading from an Evaluation version of Service Manager in System Center 2012 SP1 to an Evaluation version of Service Manager in System Center 2012 R2 does not extend the 180-day evaluation period.

Installation location

The default folder for installing Service Manager, Service Manager SP1, and Service Manager in System Center 2012 R2 is \Program Files\Microsoft System Center\Service Manager 2012. However, when you perform the upgrade to Service Manager in System Center 2012 R2, the software is installed in the folder that Service Manager previously used. If System Center Service Manager 2010 was previously upgraded to Service Manager in System Center 2012 SP1, the folder might be \Program Files\Microsoft System Center\Service Manager 2010.

Language support

This release of Service Manager SP1 represents an ongoing progression of support for various languages. In System Center Service Manager 2010, you used the Latin1_General_100_CI_AS collation for the Turkish language. Service Manager, Service Manager SP1, and Service Manager in System Center 2012 R2 support the Turkish_100_CI_AS collation. However, if you upgraded previously from System Center Service Manager 2010 to System Center 2012 – Service Manager, the collation that was used for the Turkish language (Latin1_General_100_CI_AS) was carried forward to System Center 2012 – Service Manager and will be carried forward again when you upgrade to Service Manager in System Center 2012 R2.

Hardware requirements for Service Manager in System Center 2012 R2

Service Manager in System Center 2012 R2 will function on the same hardware that you used for System Center 2012 – Service Manager SP1.

Hardware requirements for Service Manager in System Center 2012 R2 are fully documented in Hardware Requirements for System Center 2012 - Service Manager.

Software requirements for Service Manager in System Center 2012 R2

To upgrade to Service Manager in System Center 2012 R2, you must first apply Cumulative Update 2 for System Center 2012 – Service Manager SP1.

Service Manager in System Center 2012 R2 has the same software requirements for the Service Manager console that System Center Service Manager 2010 SP1 has. In addition, the Service Manager console can now be installed on computers that are running the Windows Server® 2012 R2 operating system.

The Service Manager and data warehouse management servers, along with the Self-Service Portal, are supported with Windows Server 2012 R2.

Software requirements for Service Manager in System Center 2012 R2 are fully documented in Software Requirements for System Center 2012 – Service Manager.

Testing the upgrade

We recommend that you test the upgrade to Service Manager in System Center 2012 R2 in a lab environment.

Upgrade order and timing

The order of your upgrades is important. Perform the upgrades by using the following steps:

1. Back up your databases and your management packs. See the topics "Backing Up Service Manager Databases" and "Backing Up Unsealed Management Packs in Service Manager" in the Disaster Recovery Guide for System Center 2012 – Service Manager.
2. Upgrade the data warehouse management server. You must stop the data warehouse jobs, and you will not be able to start them again until after you have completed the upgrade.
3. After the upgrade to the data warehouse management server is complete, upgrade the initial Service Manager management server. If you created more than one Service Manager management server, the initial Service Manager management server is the first one that you created.
4. Upgrade the Service Manager consoles and any additional Service Manager management servers.
5. Restart the data warehouse jobs.
6. Deploy the new Self-Service Portal.

The timing of your upgrades is also important. After you upgrade your data warehouse management server, you must both upgrade the Service Manager management server and deploy the new Self-Service Portal. After you upgrade your initial Service Manager management server, you must be prepared to upgrade your Service Manager console or Service Manager consoles, additional Service Manager management servers, and the Self-Service Portal at the same time.

Operations Manager compatibility

This section describes the compatibility between System Center Operations Manager 2007 R2, System Center 2012 – Operations Manager, and Service Manager in System Center 2012 R2.

System Center Operations Manager 2007 R2

Operations Manager 2007 R2 agents must be removed from the Service Manager and data warehouse management servers before you attempt an upgrade. Service Manager in System Center 2012 R2 includes a System Center 2012 R2 Operations Manager agent, and it is

automatically installed when you upgrade. After Service Manager Setup finishes, you must manually configure the agent to communicate with the Operations Manager management server.

To validate that the Operations Manager agent was installed, open Control Panel and verify that the agent is present. To manually configure the Operations Manager agent, see Configuring Agents.

You can upgrade Service Manager servers in the presence of an Operations Manager 2007 R2 console.

System Center 2012 – Operations Manager and System Center 2012 R2 Operations Manager

System Center 2012 – Operations Manager agents were not supported with System Center 2012 – Service Manager. However, the agent that Service Manager automatically installs in System Center 2012 R2 is compatible with System Center 2012 – Operations Manager, System Center 2012 – Operations Manager SP1, and System Center 2012 R2 Operations Manager. After Service Manager Setup finishes, you must manually configure the agent to communicate with the Operations Manager management server.

To validate that the Operations Manager agent was installed, open Control Panel and verify that the agent is present. To manually configure the Operations Manager agent, see Configuring Agents.

You can upgrade Service Manager servers in the presence of a System Center 2012 – Operations Manager console.

Database impacts

In Service Manager in System Center 2012 R2, you have the option to install Operations Manager and Configuration Manager data marts. Selecting this option will require additional space on the hard disk drive for the two databases, in addition to associated file groups and log files.

Backing up Service Manager before upgrading

Before you start any upgrade, we recommend that you back up your Service Manager and data warehouse databases and the encryption key. If you have already backed up your databases and encryption key, you can continue to run the upgrade. Otherwise, review the backup procedures in the Disaster Recovery Guide for System Center 2012 – Service Manager before you continue the upgrade.

Registering with the Service Manager data warehouse

If you have installed a data warehouse management server in your environment, as part of the upgrade process, you must be able to view the status of the data warehouse jobs. You cannot perform this task until you register with the Service Manager data warehouse. If the **Data Warehouse** button is not visible in the Service Manager console, complete the procedure in "Registering with the Service Manager Data Warehouse to Enable Reporting" in the Deployment Guide for System Center 2012 – Service Manager.

Encryption keys

When you have finished running Setup to either install or upgrade to Service Manager in System Center 2012 R2, you are prompted to open the Encryption Key Backup or Restore Wizard. If you have previously backed up the encryption keys, no additional action is required. If you never backed up the encryption keys, use the Encryption Key Backup or Restore Wizard to back up the encryption keys on the Service Manager management servers.

Authoring Tool workflows

When you use the System Center 2012 R2 version of the Authoring Tool in Service Manager to create a workflow, custom scripts that the workflow calls will fail if they use Windows PowerShell cmdlets. This failure is due to a problem in the MonitoringHost.exe.config XML file in Service Manager.

To work around this problem, update the MonitoringHost.exe.config file by using the following steps:

1. Browse to %ProgramFiles%\Microsoft System Center 2012\Service Manager\ or the location where you installed Service Manager.
2. In the MonitoringHost.exe.config file, add the section in italic type from the following example in the corresponding section of your file. You must insert the section before `<publisherPolicy apply="yes" />`.
3. Save your changes to the file.
4. Restart the System Center Management service on the Service Manager management server.

```
<?xml version="1.0"?>

<configuration>

  <configSections>

    <section name="uri" type="System.Configuration.UriSection, System, Version=2.0.0.0,
Culture=neutral, PublicKeyToken=b77a5c561934e089" />

  </configSections>

  <uri>
```

```
    <iriParsing enabled="true" />
  </uri>
  <runtime>
    <assemblyBinding xmlns="urn:schemas-microsoft-com:asm.v1">
      <dependentAssembly>
        <assemblyIdentity name="Microsoft.Mom.Modules.DataTypes"
publicKeyToken="31bf3856ad364e35" />
        <publisherPolicy apply="no" />
        <bindingRedirect oldVersion="6.0.4900.0" newVersion="7.0.5000.0" />
      </dependentAssembly>
      <dependentAssembly>
        <assemblyIdentity
name="Microsoft.EnterpriseManagement.HealthService.Modules.WorkflowFoundation"
publicKeyToken="31bf3856ad364e35" />
        <publisherPolicy apply="no" />
        <bindingRedirect oldVersion="6.0.4900.0" newVersion="7.0.5000.0" />
      </dependentAssembly>
  <dependentAssembly>
         <assemblyIdentity name="Microsoft.EnterpriseManagement.Modules.PowerShell"
publicKeyToken="31bf3856ad364e35" />
        <bindingRedirect oldVersion="6.0.4900.0" newVersion="7.0.5000.0" />
     </dependentAssembly>
      <publisherPolicy apply="yes" />
      <probing privatePath="" />
    </assemblyBinding>
    <gcConcurrent enabled="true" />
  </runtime>
</configuration>
```

Upgrading the R2 Self-Service Portal

When you upgrade from System Center 2012 – Service Manager Service Pack 1 (SP1) to System Center 2012 R2 Service Manager, you perform an in-place upgrade of the Self-Service Portal.

Service Manager Connectors

Any connectors that you created by using System Center 2012 – Service Manager Service Pack 1 (SP1) will continue to function after you upgrade to Service Manager in System Center 2012 R2. For more information, see “Using Connectors to Import Data into System Center 2012 - Service Manager” in Administering System Center 2012 - Service Manager.

Remote SQL Server Reporting Services

When you installed System Center 2012 – Service Manager Service Pack 1 (SP1), you may have specified a different computer to host Microsoft SQL Server Reporting Services than the computer that hosted the data warehouse management server. If, in your environment, Reporting Services is remote from the data warehouse management server, you must use the following procedures to prepare the computer that hosts Reporting Services for the upgrade:

- Copy Microsoft.EnterpriseManagement.Reporting.Code.dll from the Service Manager installation media to the computer that is hosting Reporting Services.
- Add an Extension tag to the existing Data segment in the rsreportserver configuration file on the same computer.

If you used the default instance of SQL Server, use Windows Explorer to drag Microsoft.EnterpriseManagement.Reporting.Code.dll (which is located in the Prerequisites folder on your Service Manager installation media) to the \Program Files\Microsoft SQL Server\MSRS10.MSSQLSERVER\Reporting Services\ReportServer\Bin folder on the computer that is hosting Reporting Services. If you did not use the default instance, the path of the required folder is \Program Files\Microsoft SQL Server\MSRS10.*INSTANCE_NAME*\Reporting Services\ReportServer\Bin. The following procedure uses the default instance name.

To copy the Microsoft.EnterpriseManagement.Reporting.Code.dll file

1. On the computer that will host the remote instance of Reporting Services, open an instance of Windows Explorer.
2. Locate the \Program Files\Microsoft SQL Server\MSRS10_50.MSSQLSERVER\Reporting Services\ReportServer\Bin folder.
3. Open a second instance of Windows Explorer, locate the drive that contains the Service Manager installation media, and then open the Prerequisites folder.
4. In the Prerequisites folder, click **Microsoft.EnterpriseManagement.Reporting.Code.dll** and drag it to the folder that you located in step 2.

To add an Extension tag to the Data segment in the rsreportserver.config file

1. On the computer that is hosting Reporting Services, locate the rsreportserver.config file in the \Program Files\Microsoft SQL Server\MSRS10_50.MSSQLSERVER\Reporting Services\ReportServer folder.

2. In an XML editor of your choice (such as Notepad), open the rsreportserver.config file.
3. Scroll through the rsreportserver.config file and locate the **<Data>** code segment. This file contains only one **<Data>** code segment.
4. Add the following **Extension** tag to the **<Data>** code segment where all the other **Extension** tags are.

```
<Extension Name="SCDWMultiMartDataProcessor"
Type="Microsoft.EnterpriseManagement.Reporting.MultiMartConne
ction, Microsoft.EnterpriseManagement.Reporting.Code" />
```

5. Save the changes, and then close the XML editor.

Setting Up a Service Manager 2012 Lab Environment with Production Data

This section explains how to create a lab environment and populate it with production data so that you can perform and test an upgrade before you perform the upgrade in the production environment. The linked procedures in this section describe how to configure System Center 2012 – Service Manager Service Pack 1 (SP1) in a lab environment with production data. You then perform an in-place upgrade to Service Manager in System Center 2012 R2. It is important to follow the steps in this section in sequence.

1. How to Install an Additional Management Server in the Production Service Manager Management Group
2. On the secondary management server, install any cumulative updates that you installed on the primary management server.
3. How to Copy the Workflow Assembly Files
4. How to Disable Service Manager Connectors in the Production Environment
5. How to Disable Email Notifications in the Production Environment
6. Disable all workflows in the production environment that you do not want to be running in the lab environment.
7. How to Stop Service Manager Services on the Secondary Management Server
8. How to Back Up the Production Service Manager Database
9. How to Enable Service Manager Connectors in the Production Environment
10. How to Enable Email Notifications in the Production Environment
11. Enable all workflows in the production environment that you disabled in step 6.
12. How to Restore the Service Manager Database in the Lab Environment
13. How to Prepare the Service Manager Database in the Lab Environment
14. If possible, block communications to SQL from the secondary management server to the production Service Manager database server.

15. How to Start Service Manager Services on the Secondary Management Server
16. Verify that the lab environment works. Try to start the console on the secondary management server and determine whether you can connect to the console. Confirm that data warehouse and reporting do not appear.
17. How to Promote a Secondary Management Server in a Lab Environment
18. How to Enable the Connectors in the Lab Environment

    Note
    Do not enable or delete the System Center Operations Manager alert connector in the lab environment. This will cause the alert connector in the production environment to fail.
19. If you want to test the email notification and incoming email functionality, use a separate Simple Mail Transfer Protocol (SMTP) instance to send email messages to eliminate flooding the inboxes of users with test email. To test the incoming email feature, you can point to a test share and drop the eml files into this share when you are ready to test.
20. How to Install a New Data Warehouse Server in the Lab Environment
21. How to Register the Data Warehouse Server in the Lab Environment
22. Back up this lab environment. For example, back up the database and encryption keys and the virtual machine snapshots. This gives you the ability to recover if the upgrade fails.
23. Attempt the in-place upgrade of Service Manager in System Center 2012 R2.
24. Test everything. Document any discrepancies and fixes. Send feedback through the Microsoft Connect website.

How to Install an Additional Management Server in the Production Service Manager Management Group

The following procedure describes how to install an additional management server. You must deploy the initial Service Manager management server and Service Manager database before you can deploy an additional management server.

Tip
To install an additional Service Manager management server, you must be a member of the Service Manager Administrators user role.

When you install a secondary management server, Service Manager resets data retention settings. Before you install a secondary management server, note the data retention settings. After you install the additional management server, adjust the data retention settings to their original values.

To install an additional management server

1. By using an account that has administrator rights and that is also a member of the Service Manager Management group administrators, log on to the computer that will host the additional Service Manager management server.
2. In the System Center 2012 R2 Service Manager installation media, double-click **Setup.exe**.
3. On the **Microsoft System Center 2012 R2 Service Manager** page, click **Install a Service Manager Management server**.
4. On the **Product registration** page, type information in the boxes. In the **Product key** boxes, type the product key that you received with Service Manager, or alternatively, select **Install as an evaluation edition (180 day trial)?**. Read the Microsoft Software License Terms, and, if applicable, click **I have read, understood, and agree with the terms of the license agreement**, and then click **Next**.
5. On the **Installation location** page, verify that sufficient free disk space is available, and then click **Next**. If necessary, click **Browse** to change the location where the additional Service Manager management server will be installed.
6. On the **System check results** page, make sure that the prerequisite check passed or at least passed with warnings, and then click **Next**.

   If the prerequisite check determines that the Microsoft Report Viewer Redistributable has not been installed, click **Install Microsoft Report Viewer Redistributable**. After the Microsoft Report Viewer Redistributable 2008 (KB971119) Setup wizard finishes, click **Check prerequisites again**.
7. On the **Configure the Service Manager Database** page, in the **Database server** box, type the name of the computer that hosts the Service Manager database that you used for your initial Service Manager management server (for example, **Computer 2**), and then press the Tab key. When the name of the instance appears in the **SQL Server instance** box, click **Use an existing database**.
8. Click the **Database** list, select the database name for the Service Manager database (the default name is ServiceManager), and then click **Next**.
9. On the **Configure the Service Manager Management group** page, verify that the boxes for management group name and management group administrators have been populated. Click **Next**.
10. On the **Configure the Account for Service Manager Services** page, click **Domain account**, specify the user name (for example, SM_Acct), password, and domain for the account, and then click **Test Credentials**. After you receive a **The credentials were accepted** message, click **Next**.

    Note

    The user name and password that you provide here must be the same ones that you used for the Service Manager account on the data warehouse management server.
11. On the **Help improve System Center** page, indicate your preference for participation for both the Customer Experience Improvement Program and Error Reporting. Optionally, click **Tell me more about the program**, and then click **Next**.

12. On the **Use Microsoft Update to help keep your computer secure and up-to-date** page, indicate your preference for using Microsoft Update to check for Service Manager updates, and then click **Next**.
13. On the **Installation summary** page, click **Install**.
14. On the **Setup completed successfully** page, we recommend that you leave **Open the Encryption Backup or Restore Wizard** selected, and then click **Close**.

How to Copy the Workflow Assembly Files

Use the following procedure to copy the workflow assembly files from the Service Manager installation folder on the primary management server to the secondary management server that you created in the previous procedure.

To copy the workflow assembly files

1. On the computer that is running the Service Manager Primary Server role, browse to the Service Manager installation folder (for example, C:\Program Files\Microsoft System Center 2012\Service Manager) and copy the workflow files (*workflow*.dll).
2. On the computer that is running the Service Manager secondary server, browse to the Service Manager installation folder (for example, C:\Program Files\Microsoft System Center 2012\Service Manager) and paste the copied workflow files into this folder. You should overwrite any existing files.

   Note
   You must place the workflow assembly files in the Service Manager installation folder. This is an important step if you want to test the custom workflows that depend on workflow assembly files. Failure to copy these files would lead to failed custom workflows in the lab environment.

How to Disable Service Manager Connectors in the Production Environment

Use the following procedure to disable the Service Manager connectors in the production environment.

To disable a connector

1. In the Service Manager console, click **Administration**.
2. In the **Administration** pane, expand **Administration**, and then click **Connectors**.

3. In the **Connectors** pane, select the connector that you want to disable.
4. In the **Tasks** pane, under the connector name, click **Disable**.
5. In the **Disable Connector** dialog box, click **OK**.

How to Disable Email Notifications in the Production Environment

Use the following procedure to disable outgoing and incoming email notifications in the production environment.

To disable outgoing email notifications

1. In the Service Manager console, click **Administration**.
2. In the **Administration** pane, expand **Notifications**, and then click **Channels**.
3. In the **Channels** pane, click **E-Mail Notification Channel**.
4. In the **Tasks** pane, under **E-Mail Notification Channel**, click **Properties** to open the **Configure E-Mail Notification Channel** dialog box.
5. Clear the **Enable e-mail notifications** check box.

To disable incoming email notifications

1. In the Service Manager console, click **Administration**.
2. In the **Administration** pane, expand **Administration**, and then click **Settings**.
3. In the **Settings** pane, double-click **Incident Settings**.
4. In the **Incident Settings** dialog box, click **Incoming E-mail**.
5. Clear the **Turn on incoming e-mails processing** check box, and then click **OK**.

How to Stop Service Manager Services on the Secondary Management Server

Use the following procedure to stop the Service Manager services.

To stop the Service Manager services

1. In the **Run** dialog box, in the **Open** box, type **services.msc**, and then click **OK**.
2. In the **Services** window, in the **Services (Local)** pane, locate the following services and for each one, click **Stop**:

   a. System Center Data Access Service
   b. System Center Management
   c. System Center Management Configuration
3. Open Windows Explorer.
4. Locate the folder \Program Files\Microsoft System Center 2012\Service Manager.
5. Delete the Health Service State folder and all of its contents.

How to Back Up the Production Service Manager Database

Use the following procedure to back up the production Service Manager database in Microsoft SQL Server 2008 R2. Steps might differ for Microsoft SQL Server 2012.

To back up the Service Manager database

1. After you connect to the appropriate instance of the Microsoft SQL Server Database Engine, in Object Explorer, click the server name to expand the server tree.
2. Expand **Databases**, and depending on the database, either select a user database or expand **System Databases** and select a system database.
3. Right-click the database, point to **Tasks**, and then click **Back Up**. The **Back Up Database** dialog box appears.
4. In the **Database** list, verify the database name. You can optionally select a different database from the list.
5. You can perform a database backup for any recovery model (FULL, BULK_LOGGED, or SIMPLE).
6. In the **Backup type** list, select **Full**.

   Note
   After you create a full database backup, you can create a differential database backup. For more information, see Create a Differential Database Backup (SQL Server).
7. Optionally, you can select **Copy Only Backup** to create a copy-only backup. A copy-only backup is a SQL Server backup that is independent of the sequence of conventional SQL Server backups. For more information, see Copy-Only Backups (SQL Server).

   Note
   When the **Differential** option is selected, you cannot create a copy-only backup.
8. For **Backup component**, click **Database**.
9. Either accept the default name that is suggested in the **Name** box for the backup set, or enter a different name for the backup set.

10. Optionally, in the **Description** box, enter a description of the backup set.
11. Specify when the backup set will expire and when it can be overwritten without explicitly skipping verification of the expiration data.

    Note
    For more information about backup expiration dates, see BACKUP (Transact-SQL).
12. Choose the type of backup destination by clicking **Disk** or **Tape**. To select the paths of up to 64 disk or tape drives that contain a single media set, click **Add**. The selected paths appear in the **Backup to** list.
13. To view or select the advanced options, in the **Select a page** pane, click **Options**.
14. Select an Overwrite Media option by clicking either **Back up to the existing media set** or **Back up to a new media set, and erase all existing backup sets**.
15. In the **Reliability** section, select either **Verify backup when finished** or **Perform checksum before writing to media**, and then optionally select **Continue on checksum error**. For more information, see Possible Media Errors During Backup and Restore (SQL Server).

How to Enable Service Manager Connectors in the Production Environment

Use the following procedure to enable the Service Manager connectors in the production environment.

To enable a connector

1. In the Service Manager console, click **Administration**.
2. In the **Administration** pane, expand **Administration**, and then click **Connectors**.
3. In the **Connectors** pane, select the connector that you want to enable.
4. In the **Tasks** pane, under the connector name, click **Enable**.

How to Enable Email Notifications in the Production Environment

Use the following procedure to enable outgoing and incoming email notifications in the production environment.

To enable outgoing email notifications

1. In the Service Manager console, click **Administration**.
2. In the **Administration** pane, expand **Notifications**, and then click **Channels**.
3. In the **Channels** pane, click **E-Mail Notification Channel**.
4. In the **Tasks** pane, under **E-Mail Notification Channel**, click **Properties** to open the **Configure E-Mail Notification Channel** dialog box.
5. Select the **Enable e-mail notifications** check box.

To enable incoming email notifications

1. In the Service Manager console, click **Administration**.
2. In the **Administration** pane, expand **Administration**, and then click **Settings**.
3. In the **Settings** pane, double-click **Incident Settings**.
4. In the **Incident Settings** dialog box, click **Incoming E-mail**.
5. Select the **Turn on incoming e-mails processing** check box, and then click **OK**.

How to Restore the Service Manager Database in the Lab Environment

Use the following procedure to restore the production Service Manager database by using Microsoft SQL Server 2008 R2. Steps might differ for Microsoft SQL Server 2012.

To restore the Service Manager database

1. After you connect to the appropriate instance of the SQL Server Database Engine, in Object Explorer, click the server name to expand the server tree.
2. Expand **Databases**, and depending on the database, either select a user database or expand **System Databases** and select a system database.
3. Right-click the database, point to **Tasks**, and then click **Restore**. The **Back Up Database** dialog box appears.
4. Click **Database**, which opens the **Restore Database** dialog box.
5. On the **General** page, the name of the restoring database appears in the **To database** list. To create a new database, enter its name in the list.
6. In the **To a point in time** box, either retain the default (**Most recent possible**) or select a specific date and time by clicking the **Browse** button to open the **Point in Time Restore** dialog box. For more information, see How to: Restore to a Point in Time (SQL Server Management Studio).
7. To specify the source and location of the backup sets to restore, click either **From**

database or **From device**.

8. In the **Select the backup sets to restore** grid, select the backups to restore. For more information, see Restore Database (General Page).
9. To view or select the advanced options, in the **Select a page** pane, click **Options**.
10. In the **Restore options** pane, in the following list of options, select the one that is most appropriate for your situation:
    - **Overwrite the existing database**
    - **Preserve the replication settings**
    - **Prompt before restoring each backup**
    - **Restrict access to the restored database**

    For more information, see Restore Database (Options Page).
11. Optionally, you can restore the database to a new location by specifying a new restore destination for each file in **Restore the database files as**. For more information, see Restore Database (Options Page).
12. In the **Recovery state** pane, in the following list of options, select the one that is most appropriate for your environment:
    - **Leave the database ready to use by rolling back the uncommitted transactions. Additional transaction logs cannot be restored. (RESTORE WITH RECOVERY)**

      Note
      Select this option only if you are restoring all of the necessary backups at this time.
    - **Leave the database non-operational, and do not roll back the uncommitted transactions. Additional transaction logs can be restored. (RESTORE WITH NORECOVERY)**
    - **Leave the database in read-only mode. Undo uncommitted transactions, but save the undo actions in a standby file so that recovery effects can be reverted. (RESTORE WITH STANDBY)**

    For more information, see Restore Database (Options Page).

How to Prepare the Service Manager Database in the Lab Environment

Use the following procedure to prepare the Service Manager database in the lab environment. Perform this procedure on the computer that is hosting the Service Manager database that the secondary management server (the management server in your lab environment) is using.

To configure the database

1. On the computer that is hosting the Service Manager database for the secondary management server, click **Start**, click **All Programs**, click **Microsoft SQL Server 2008 R2**, and then click **SQL Server Management Studio**.
2. In the **Connect to Server** dialog box, perform the following steps:
   a. In the **Server Type** list, select **Database Engine**.
   b. In the **Server Name** list, select the server name for your Service Manager or data warehouse databases.
   c. In the **Authentication** list, select **Windows Authentication**, and then click **Connect**.
3. In the **Object Explorer** pane, expand **Databases**, and then click **ServiceManager**.
4. On the toolbar, click **New Query**.
5. In the center pane, type the following commands, and then click **Execute**.

```
sp_configure 'clr enabled', 1
go
reconfigure
go
```

6. In the center pane, remove the commands that you typed in the previous step, type the following commands, and then click **Execute**.

```
ALTER DATABASE ServiceManager SET SINGLE_USER WITH ROLLBACK
IMMEDIATE
```

7. In the center pane, remove the commands that you typed in the previous step, type the following commands, and then click **Execute**.

```
ALTER DATABASE ServiceManager SET ENABLE_BROKER
```

8. In the center pane, remove the commands that you typed in the previous step, type the following commands, and then click **Execute**.

```
ALTER DATABASE ServiceManager SET MULTI_USER
```

To configure the service account

1. In the **Object Explorer** pane, expand **Security**, and then expand **Logins**.
2. Right-click **Logins**, and then click **New Login**.
3. Perform the following procedures in the Login – New wizard:
   a. Click **Search**.
   b. Type the user name (in the format *domain\username*) for the service account for the Service Manager database in the lab environment, click **Check Names**, and then click **OK**.

   Note
   If the Data Access Account is running as LocalSystem, use the format *domain\computername*$ in SQL Logins, where *computername* is the name of the management server.

c. In the **Select a page** pane, click **User Mapping**.

d. In the **Users mapped to this login** area, in the **Map** column, click the row that represents the name of the Service Manager database. (ServiceManager is the default database name.)

e. In the **Database role membership for: ServiceManager** area, make sure that the following entries are selected:

- **configsvc_users**
- **db_accessadmin**
- **db_datareader**
- **db_datawriter**
- **db_ddladmin**
- **db_securityadmin**
- **dbmodule_users**
- **public**
- **sdk_users**
- **sql_dependency_subscriber**

f. Click **OK**.

To configure Service Manager tables

1. In the **Object Explorer** pane, expand **Databases**, expand **ServiceManager**, and then expand **Tables**.
2. Right-click **dbo.MT_Microsoft$SystemCenter$ManagementGroup**, and then click **Edit Top 200 Rows**.
3. In the center pane, locate the column **SQLServerName_ 48B308F9_CF0E_0F74_83E1_0AEB1B58E2FA**.
4. In the first row and second row of this column, type the computer name of the computer that is hosting the Service Manager database in the lab environment. In the case of named instances, type *computername******instance name*.
5. Right-click **dbo. MT_Microsoft$SystemCenter$ResourceAccessLayer$SqlResourceStore**, and then click **Edit Top 200 Rows**.
6. In the center pane, locate the column **Server_48B308F9_CF0E_0F74_83E1_0AEB1B58E2FA**.
7. In the first row of this column, type the computer name of the computer that is hosting Microsoft SQL Server for the Service Manager database in the lab environment. In the case of named instances, type *computer name******instance name*.
8. Right-click **LFX.DataSource**, and then click **Edit Top 200 Rows**.
9. In the center pane, locate the column **DataSourceAddress**.
10. In the first row of this column, locate the entry that starts with **Data Source = <server name>; Initial Catalog = ServiceManager; Persist Security Info=False**. Type the name of the computer that is hosting SQL Server in the lab environment in place of

<server name>.

11. Right-click **dbo. MT_Microsoft$SystemCenter$ResourceAccessLayer$SdkResourceStore**, and then click **Edit Top 200 Rows**.
12. In the center pane, locate the column **Server_48B308F9_CF0E_0F74_83E1_0AEB1B58E2FA**.
13. In all of the rows in this column, type the name of the computer that is hosting the Service Manager management server in the lab environment.
14. Right-click **[dbo].[MT_Microsoft$SystemCenter$ResourceAccessLayer$CmdbResourceStore]**, and then click **Edit Top 200 Rows**.
15. In all rows, update the column **Server_48B308F9_CF0E_0F74_83E1_0AEB1B58E2FA**, and then type the name of the computer that is running SQL Server and hosting the Service Manager database in the lab environment.
16. On the toolbar, click **New Query**.
17. In the center pane, type the following command, and then click **Execute**.

```
Delete from
dbo.MT_Microsoft$SystemCenter$ResourceAccessLayer$DwSdkResour
ceStore
```

18. Close Microsoft SQL Server Management Studio.

How to Start Service Manager Services on the Secondary Management Server

Use the following procedure to start the Service Manager services.

To start Service Manager services

1. On the Windows desktop, click **Start**, and then click **Run**.
2. In the **Run** dialog box, in the **Open** box, type **services.msc**, and then click **OK**.
3. In the **Services** window, in the **Services (Local)** pane, locate the following services and for each one, click **Start**:
   - System Center Data Access Service
   - System Center Management
   - System Center Management Configuration

How to Promote a Secondary Management Server in a Lab Environment

Use the following procedure to promote the secondary management server.

To promote the secondary management server

1. On the secondary management server, perform the following steps:
   a. Close the Service Manager console.
   b. On the Windows desktop, click **Start**, and then click **Run**.
   c. In the **Run** dialog box, in the **Open** box, type **services.msc**, and then click **OK**.
   d. In the **Services** window, in the **Services (Local)** pane, locate the following services and for each one, click **Stop**:
      - System Center Data Access Service
      - System Center Management
      - System Center Management Configuration
   e. Leave the **Services** window open.
   f. Open Windows Explorer.
   g. Locate the \Program Files\Microsoft System Center 2012\Service Manager folder.
   h. Delete the Health Service State folder and all of its contents.
2. On the ServiceManager database that is on the Test SQL Server instance, perform the following steps:
   a. On the Windows desktop, click **Start**, point to **Programs**, point to **Microsoft SQL Server 2008**, and then click **SQL Server Management Studio**.
   b. In the **Connect to Database Engine** dialog box, perform the following steps:
      i. In the **Server name** box, type the name of the server that hosts the ServiceManager database.
      ii. In the **Authentication** box, select **Windows Authentication**.
      iii. Click **Connect**.
   c. In the **Object Explorer** pane, expand **Databases**, and then click **ServiceManager**.
   d. On the toolbar, click **New Query**.
   e. In the **SQLQuery1.sql** pane (center pane), type the following, where *FQDN of your server* is the fully qualified domain name of the management server that you are promoting:

      EXEC p_PromoteActiveWorkflowServer '*FQDN of your server* **'**
   f. On the toolbar, click **Execute**.
   g. At the bottom of the **SQLQuery1.sql** pane (center pane), observe that **Query executed successfully** is displayed.
   h. Exit Microsoft SQL Server Management Studio.

3. On the secondary management server, perform the following steps:
   a. On the Windows desktop, click **Start**, and then click **Run**.
   b. In the **Run** dialog box, in the **Open** box, type **services.msc**, and then click **OK**.
   c. In the **Services** window, in the **Services (Local)** pane, locate the following services and for each one, click **Start**:
      - System Center Data Access Service
      - System Center Management
      - System Center Management Configuration

Your secondary management server is now the primary management server for the management group.

How to Enable the Connectors in the Lab Environment

Use the following procedure to enable the Service Manager connectors in the lab environment. In this procedure, you will not be enabling the System Center Operations Manager connector.

Warning
Do not enable or delete the Operations Manager alert connector in the lab environment. Doing so will cause the alert connector in the production environment to fail.

To enable a connector

1. In the Service Manager console, click **Administration**.
2. In the **Administration** pane, expand **Administration**, and then click **Connectors**.
3. In the **Connectors** pane, select the connector that you want to enable.
4. In the **Tasks** pane, under the connector name, click **Enable**.

How to Install a New Data Warehouse Server in the Lab Environment

Use the following procedure to install a new data warehouse management server in the lab environment.

To install a data warehouse management server and data warehouse databases

1. Log on to the computer by using an account that has administrative rights.
2. On the Service Manager installation media, double-click the **Setup.exe** file.
3. On the **Microsoft System Center Service Manager 2012 R2** page, click **Install a Service Manager data warehouse management server**.
4. On the **Product registration** page, type information in the boxes. In the **Product key** boxes, type the product key that you received with Service Manager, or alternatively, select **Install as an evaluation edition (180 day trial)?**. Read the Microsoft Software License Terms, and, if applicable, click **I have read, understood, and agree with the terms of the license agreement**, and then click **Next**.
5. On the **Installation location** page, verify that sufficient free disk space is available, and then click **Next**. If necessary, click **Browse** to change the location in which the Service Manager data warehouse management server will be installed.
6. On the **System check results** page, make sure that prerequisites passed or at least passed with warnings, and then click **Next**.
7. On the **Configure data warehouse databases** page, Service Manager checks your computer to determine whether the computer can host the data warehouse databases. For this configuration, confirm that the database server is the computer on which you are installing the data warehouse management server, and then click **Next**.

   Warning
   A warning message appears if you are using the default collation (SQL_Latin1_General_CP1_CI_AS). Support for multiple languages in Service Manager is not possible when you are using the default collation. If later you decide to support multiple languages by using a different collation, you must reinstall Microsoft SQL Server. For more information, see “Microsoft SQL Server 2008 with SP1” in Planning for System Center 2012 - Service Manager.
8. On the **Configure the data warehouse management group** page, perform the following steps:
   a. In the **Management group name** box, type a unique name for the group.

      Warning
      Names of management groups must be unique. Do not use the same management group name when you deploy a Service Manager management server and a Service Manager data warehouse management server. Furthermore, do not use the management group name that is used for System Center Operations Manager.

   b. Click **Browse**, enter the user account or group to which you want to give Service Manager administrative rights, and then click **Next**.
9. Service Manager will use the existing computer if SQL Server Reporting Services is present. On the **Configure the reporting server for the data warehouse** page, accept the defaults, and then click **Next**.
10. On the **Configure the account for Service Manager services** page, click **Domain account**, specify the user name, password, and domain for the account, and then click

Test Credentials. After you receive a **The credentials were accepted** message, click **Next**.

11. On the **Configure the reporting account** page, specify the user name, password, and domain for the account, and then click **Test Credentials**. After you receive a **The credentials were accepted** message, click **Next**.
12. On the **Help improve System Center** page, indicate your preference for participation in the Customer Experience Improvement Program and in Error Reporting. Optionally, click **Tell me more about the program**, and then click **Next**.
13. On the **Use Microsoft Update to help keep your computer secure and up-to-date** page, indicate your preference for using Microsoft Update to check for Service Manager updates, and then click **Next**.
14. On the **Installation summary** page, click **Install**.

To validate the installation of a data warehouse management server

1. On the computer that is hosting the data warehouse management server (the server on which you ran Setup), run services.msc, and verify that the following services have been installed:
   - System Center Data Access Service
   - System Center Management
   - System Center Management configuration
2. On the computer that is hosting the data warehouse databases, click **Start**, point to **Programs**, point to **Microsoft SQL Server 2008**, and then click **SQL Server Management Studio**.
3. In the **Connect to Server** dialog box, select the following:
   a. In the **Server Type** list, select **Database Engine**.
   b. In the **Server Name** list, select the server and instance for your Service Manager data warehouse database. For example, select **Computer 4**.
   c. In the **Authentication** list, select **Windows Authentication**, and then click **Connect**.
4. In the **Object Explorer** pane, expand **Databases**.
5. Verify that the DWDataMart, DWRepository, and DWStagingAndConfig databases are listed.

How to Register the Data Warehouse Server in the Lab Environment

Use the following procedure to register the newly installed data warehouse server with the lab Service Manager environment.

To register a data warehouse

1. Log on to the computer that hosts the Service Manager console. Use an account that is a member of the Service Manager and data warehouse management administrators group.
2. In the Service Manager console, click **Administration**.
3. In the **Administration** pane, expand **Administration**.
4. In the **Administration** view, in the **Register with Service Manager's Data Warehouse** area, click **Register with Service Manager Data Warehouse**.
5. In the Data Warehouse Registration wizard, on the **Before You Begin** page, click **Next**.
6. On the **Data Warehouse** page, in the **Server name** box, type the fully qualified domain name of the computer that is hosting the data warehouse management server, and then click **Test Connection**. If the test is successful, click **Next**.
7. On the **Credentials** page, you can accept the default entry in the **Run as account** list, and then click **Next**, or you can enter credentials from a user or group of your own choosing.

   Important
   The account that you specify will be assigned administrative credentials on the Service Manager management server and granted Read permission on the Service Manager database. You can specify different credentials from other Service Manager management groups when you are registering with the data warehouse.
8. On the **Summary** page, click **Create**.
9. On the **Completion** page, when **The data warehouse registration succeeded** appears, click **Close**.
10. A dialog box states that the report deployment process has not finished. In the **System Center Service Manager** dialog box, click **OK**.
11. In a few minutes, after you close the Data Warehouse Registration wizard, the **Data Warehouse** button appears in the Service Manager console. In the Service Manager console, click the arrow at the lower-right corner of the Service Manager console buttons, and then click **Show More Buttons**.

You can use a Windows PowerShell command to complete this task. For information about how to use Windows PowerShell to register Service Manager management groups with the data warehouse, see Add-SCDWMgmtGroup (http://go.microsoft.com/fwlink/?LinkId=203096).

To validate the data warehouse registration process

1. On the computer that is hosting the data warehouse management server, start Windows PowerShell by using administrative credentials.
2. At the Windows PowerShell command prompt, type the following commands, and then press Enter.

```
Set-ExecutionPolicy RemoteSigned
```

```
Import-Module
.\Microsoft.EnterpriseManagement.Warehouse.Cmdlets.psd1
```

3. Type the following command, and then press Enter.

```
Get-SCDWMgmtGroup
```

4. If registration was successful, a table that contains two rows of data appears. One row displays data for the data warehouse management group, and the other row displays data for the Service Manager management group. If registration fails, only the data for the data warehouse management group appears.

Determine when the deployment is complete

The process of deploying management packs can take up to two hours to finish. You can use the following procedure in Service Manager to determine when the deployment is complete.

To determine when management pack deployment is complete

1. Start the Service Manager console.
2. In the Service Manager console, click **Data Warehouse**.
3. In the **Data Warehouse** pane, expand **Data Warehouse**, and then click **Data Warehouse Jobs**.
4. In the **Data Warehouse Jobs** pane, click **MPSyncJob**.
5. In the **Tasks** pane, under **Synchronization**, click **Details**.
6. In the **MP Sync Job** dialog box, scroll to the right and examine the **Status** column.

   Note
   In the **MP Sync Job** dialog box, click **Status** to alphabetically sort the **Status** column.

7. Scroll through the **Status** column. The management pack deployment is complete when **Associated** or **Imported** is listed in the **Status** column for all of the management packs. Make sure that no status of **Pending Association** or **Failed** appears in the column. In the **Data Warehouse Jobs** pane, the status of the **MPSyncJob** has changed from **Running** to **Not Started**.
8. To refresh the **MP Sync Job** dialog box:
   a. Click **OK** to close the dialog box.
   b. In the **Tasks** pane, in the **Data Warehouse Jobs** area, click **Refresh**.
   c. In the **Data Warehouse Jobs** pane, click **MPSyncJob**.
   d. In the **Tasks** pane, under **Synchronization**, click **Details**.
9. After the management packs have been deployed (as you determined in step 7), make sure that the following data warehouse jobs appear in the **Data Warehouse Jobs** pane:

- Extract_*Service Manager management group name*
- Extract_*data warehouse management group name*
- Load.Common
- Transform.Common
- MPSyncJob

10. If these data warehouse jobs do not appear, perform the following steps:
    a. In the **Data Warehouse Jobs** pane, click **MPSyncJob**.
    b. In the **Tasks** pane, under **Synchronization**, click **Resume**.
    c. Assess whether management pack deployment has finished by returning to step 7 in this procedure.

Upgrade to System Center 2012 R2 - Service Manager

You cannot start an upgrade to Service Manager in System Center 2012 R2 if any data warehouse jobs or workflows are running. You can use the procedures in this section to stop the schedules for data warehouse jobs and wait for them to finish before you upgrade the data warehouse management server. Before you upgrade the Service Manager management server, stop the Self-Service Portal, if it is installed, and then wait 10 minutes to let any running workflows finish before you start the upgrade.

Complete the procedures in the following table to upgrade to Service Manager in System Center 2012 R2.

Task	Description
How to Prepare Service Manager 2012 SP1 for Upgrade to R2	Describes how to stop data warehouse jobs and how to stop the Self-Service Portal.
How to Upgrade to System Center 2012 R2 - Service Manager	Describes how to upgrade the data warehouse management server, the Service Manager management server, and the Self-Service Portal.

How to Prepare Service Manager 2012 SP1 for Upgrade to R2

This topic describes how to prepare your System Center 2012 – Service Manager Service Pack 1 (SP1) environment for an upgrade to System Center 2012 R2 Service Manager. To do this, perform the following procedures:

1. List the data warehouse jobs that are running.
2. Disable the schedules for data warehouse jobs.
3. Confirm that the data warehouse jobs have stopped running.

When the data warehouse jobs have stopped running, start the upgrade of the data warehouse management server. After you update the data warehouse management server, wait 10 minutes, and then start the upgrade of the Service Manager management server.

To list the data warehouse jobs by using Windows PowerShell cmdlets

1. On the computer that hosts the data warehouse management server, click **Start**, click **All Programs**, click **Microsoft System Center 2012**, and then click **Service Manager Shell**.
2. Type the following commands, and then press Enter after each command.

```
Set-ExecutionPolicy -force RemoteSigned
cd 'C:\Program Files\Microsoft System Center 2012\Service Manager'
Import-Module .\Microsoft.EnterpriseManagement.Warehouse.Cmdlets.psd1

Get-SCDWJob
```

3. A list of the data warehouse jobs appears. Use this list to disable data warehouse job schedules by using Windows PowerShell cmdlets.

To disable data warehouse job schedules by using Windows PowerShell cmdlets

- Type the following commands, and then press Enter after each command.

```
Disable-SCDWJobSchedule -JobName Extract_<data warehouse management group name>
Disable-SCDWJobSchedule -JobName Extract_<Service Manager management group name>
Disable-SCDWJobSchedule -JobName Transform.Common
Disable-SCDWJobSchedule -JobName Load.Common
Disable-SCDWJobSchedule -JobName DWMaintenance
Disable-SCDWJobSchedule -JobName MPSyncJob
```

```
Start-SCDWJob -JobName MPSyncJob
```

The last command to start the **MPSyncJob** will enable the extraction, transformation, and loading (ETL) jobs to run to completion. After that, because all the schedules have been disabled, the jobs will stop. To close the Windows PowerShell window, type `exit`.

To confirm that the data warehouse jobs have stopped running

1. In the Service Manager console, click **Data Warehouse**.
2. In the **Data Warehouse** pane, expand **Data Warehouse**, and then click **Data Warehouse Jobs**.
3. In the **Data Warehouse Jobs** pane, observe the **Status** column for each data warehouse job. When the status for each job is listed as **Not Started**, proceed to the next procedure to stop the Self-Service Portal. If no Self-Service Portal exists in your environment, you can start the upgrade process as described in How to Upgrade to System Center 2012 R2 - Service Manager.

How to Upgrade to System Center 2012 R2 - Service Manager

You can use the following procedures to upgrade your System Center 2012 Service Pack 1 (SP1) - Service Manager environment to Service Manager in System Center 2012 R2. These procedures include steps for upgrading the data warehouse management server, the Service Manager management server, and the Service Manager console. If you use the chargeback feature, ensure that use the “To prepare for chargeback” procedure to prepare your Service Manager management server.

Data warehouse management server

Use the following procedure to upgrade the data warehouse management server.

Important
Make sure that you have stopped the data warehouse jobs before you continue. For more information, see How to Prepare Service Manager 2012 SP1 for Upgrade to R2.

To upgrade the data warehouse management server

1. Log on to the computer that will host the data warehouse management server by using an account that is a member of the Administrators group. This account must also be a local administrator.
2. On the Service Manager installation media, double-click the **Setup.exe** file to start the Service Manager Setup Wizard.

3. On the **Microsoft System Center 2012 R2** page, click **Upgrade Service Manager data warehouse management server**.
4. On the **Prepare for upgrade** page, select the two items that indicate that you have read the appropriate sections in the System Center 2012 – Service Manager Upgrade Guide, and then click **Next**.
5. On the **Product registration** page, type the appropriate information in the boxes. Read the Microsoft Software License Terms, and, if applicable, click **I have read, understood, and agree with the terms of the license agreement**, and then click **Next**.
6. On the **System check results** page, ensure that the prerequisite check passed or at least passed with warnings, and then click **Next**.
7. On the **Configure Analysis Service for OLAP cubes** page, in the **Database server** box, type the computer name of the server that will host the Microsoft SQL Server Analysis Services database, and then press the Tab key. When **Default** appears in the **SQL Server instance** box, click **Next**.

   Important
   If you are installing Analysis Services on a computer other than the computer that hosts the data warehouse management server and a firewall exists in your environment, you must make sure that the proper firewall ports are opened. For more information, see Port Assignments for System Center 2012 - Service Manager.
8. On the **Configure Analysis Services credential** page, specify the user name, password, and domain for the account, and then click **Test Credentials**. After you receive a message that says that the credentials were accepted, click **Next**.
9. On the **Help improve System Center** page, indicate your preference for participation in the Customer Experience Improvement Program and in Error Reporting. Optionally, click **Tell me more about the program**, and then click **Next**.
10. On the **Use Microsoft Update to help keep your computer secure and up-to-date** page, indicate your preference for using Microsoft Update to check for Service Manager updates, and then click **Next**.
11. On the **Configuration Summary** page, if the information that appears is accurate, click **Install**.
12. On the **The upgrade was completed successfully** page, if you have already backed up the encryption key, clear the **Open the Encryption Backup or Restore Wizard** check box, and then click **Close**.

Service Manager management server

Use the following procedures to upgrade the Service Manager management server and prepare it for chargeback.

To upgrade the Service Manager management server

1. Log on to the computer that will host the Service Manager management server by using

an account that is a member of the Administrators group.

2. On the Service Manager installation media, double-click the **Setup.exe** file to start the Service Manager Setup Wizard.
3. On the **Microsoft System Center 2012 R2** page, click **Upgrade Service Manager management server**.
4. On the **Prepare for upgrade** page, select the two items that indicate that you have read the appropriate sections in the System Center 2012 – Service Manager Upgrade Guide, and then click **Next**.
5. On the **Product registration** page, type the appropriate information in the boxes. Read the Microsoft Software License Terms, and, if applicable, click **I have read, understood, and agree with the terms of the license agreement**, and then click **Next**.
6. On the **System check results** page, ensure that the prerequisite check passed or at least passed with warnings, and then click **Next**.
7. On the **Configuration Summary** page, if the information that appears is accurate, click **Install**.
8. On the **The upgrade was completed successfully** page, if you have already backed up the encryption key, clear the **Open the Encryption Backup or Restore Wizard** check box, and then click **Close**.

To prepare for chargeback

1. On the server running System Center 2012 R2 Virtual Machine Manager, copy the following management packs from their installed location, by default *InstallationDrive*:\Program Files\Microsoft System Center 2012 R2\Virtual Machine Manager\ManagementPacks to a folder on the server running the Service Manager management server.
   - Microsoft.SystemCenter.VirtualMachineManager.PRO.Library (3.2.7510.0)
   - Microsoft.SystemCenter.VirtualMachineManager.PRO.V2.Library (3.2.7510.0)
   - Microsoft.SystemCenter.VirtualMachineManager.Pro.2008.Library (3.2.7510.0)
   - Microsoft.SystemCenter.VirtualMachineManager.Library (3.2.7510.0)
   - Microsoft.SystemCenter.VirtualMachineManager.2012.Discovery (3.2.7510.0)
2. Start the Service Manager console and navigate to **Administration**, **Management Packs**.
3. **Import** the management packs that you copied to the Service Manager management server.

Service Manager Console

Use the following procedure to upgrade the Service Manager console.

To upgrade the Service Manager Console

1. Log on to the computer that will host the Service Manager console by using an account

that is a member of the Administrators group.

2. On the Service Manager installation media, double-click the **Setup.exe** file to start the Service Manager Setup Wizard.
3. On the **Microsoft System Center 2012 R2** page, click **Upgrade Service Manager console**.
4. On the **Prepare for upgrade** page, select the two items that indicate that you have read the appropriate sections in the System Center 2012 – Service Manager Upgrade Guide, and then click **Next**.
5. On the **Product registration** page, read the Microsoft Software License Terms, and, if applicable, click **I have read, understood, and agree with the terms of the license agreement**, and then click **Next**.
6. On the **System check results** page, ensure that the prerequisite check passed or at least passed with warnings, and then click **Next**.
7. On the **Configuration Summary** page, if the information that appears is accurate, click **Install**.
8. On **The upgrade was completed successfully** page, click **Close**.

After Upgrading to System Center 2012 R2 - Service Manager

This topic describes the actions you need to take after you upgrade to System Center 2012 R2 Service Manager, including the following sections:

1. How to restart the System Center Data Access Service service if it fails to start after upgrading
2. How to start the Service Manager workflows and restart the data warehouse jobs
3. How to stop and then start Microsoft SQL Server Reporting Services after an upgrade
4. How to prepare for chargeback reports after upgrading

Restart the Data Access Service service and Service Manager workflows on the data warehouse management server

If necessary, use the following procedures to restart the service and workflows.

To restart the Data Access Service service

1. On the computer that hosts the data warehouse management server, on the Windows desktop, click **Start**, and then click **Run**.

2. In the **Run** dialog box, in **Open**, type **services.msc**, and then click **OK**.
3. In the **Services** window, in the **Services (Local)** pane, right-click **System Center Data Access Service**, and then click **Start**.

To start Service Manager workflows

1. On the computer that hosts the Service Manager management server, on the Windows desktop, click **Start**, and then click **Run**.
2. In the **Run** dialog box, in **Open**, type **services.msc**, and then click **OK**.
3. In the **Services** window, in the **Services (Local)** pane, right-click **System Center Management**, and then click **Start**.

Restart data warehouse jobs

After you upgrade the data warehouse management server, you might need to restart the data warehouse (extraction, transformation, and loading [ETL]) jobs. You can use the following procedure to restart the data warehouse jobs. In this procedure, you enable data warehouse job schedules by using Windows PowerShell® cmdlets.

To restart data warehouse jobs

1. On the computer that hosts the data warehouse management server, click **Start**, point to **Programs**, point to **Accessories**, click **Windows PowerShell**, right-click **Windows PowerShell**, and then click **Run as administrator**.
2. Type the following commands, and then press Enter after each command.

   Note
   The following command examples assume that Service Manager was installed in its default location on the C: drive. If necessary, change directories to the location where you installed Service Manager.

```
cd 'C:\Program Files\Microsoft System Center 2012\Service Manager'
import-module $PWD/Microsoft.EnterpriseManagement.Warehouse.Cmdlets.psd1
Get-SCDWJob
Enable-SCDWJobSchedule -JobName Extract_<data warehouse management group name>
Enable-SCDWJobSchedule -JobName Extract_<Service Manager management group name>
Enable-SCDWJobSchedule -JobName Transform.Common
Enable-SCDWJobSchedule -JobName Load.Common
Enable-SCDWJobSchedule -JobName DWMaintenance
```

```
Enable-SCDWJobSchedule -JobName MPSyncJob
Start-SCDWJob -JobName MPSyncJob
```

The last command, **Start-SCDWJob – JobName MPSyncJob**, enables the ETL jobs to run.

Stop and then start SQL Server Reporting Services

After you perform an upgrade to Service Manager in System Center 2012 R2, use the following procedure to stop and then start SQL Server Reporting Services.

To stop and then start SQL Server Reporting Services

1. On the computer that hosts SQL Server Reporting Services, on the Windows desktop, click **Start**, and then click **Run**.
2. In the **Run** dialog box, type **services.msc**, and then click **OK**.
3. In the **Services** window, in the **Services (Local)** pane, right-click **SQL Server Reporting Services**, and then click **Stop**.
4. In the **Services** window, in the **Services (Local)** pane, right-click **SQL Server Reporting Services**, and then click **Start**.

Prepare for chargeback reports

When you try to use chargeback after you have upgraded to Service Manager, your Operations Manager CI connector might stop synchronizing new Virtual Machine Manager objects, such as VMM clouds, if the VMM Server was upgraded to System Center 2012 R2 Virtual Machine Manager. This occurs because Service Manager does not have the correct version of the VMM management packs.

Additionally, installing chargeback report files to the System Center 2012 R2 Operations Manager management server might fail after you upgrade System Center 2012 R2 Service Manager because the Dependencies folder does not contain the required management pack files.

Use the following procedures to prepare for chargeback reports.

To prepare Service Manager for chargeback reports

1. On the server running System Center 2012 R2 Virtual Machine Manager, copy the following management packs from their installed location, by default *InstallationDrive*:\Program Files\Microsoft System Center 2012 R2\Virtual Machine Manager\ManagementPacks, to a folder on the server running the Service Manager management server.
   - Microsoft.SystemCenter.VirtualMachineManager.PRO.Library
   - Microsoft.SystemCenter.VirtualMachineManager.PRO.V2.Library

- Microsoft.SystemCenter.VirtualMachineManager.Pro.2008.Library
- Microsoft.SystemCenter.VirtualMachineManager.Library
- Microsoft.SystemCenter.VirtualMachineManager.2012.Discovery

2. Start the Service Manager console and navigate to **Administration**, **Management Packs**.
3. **Import** the management packs that you copied to the Service Manager management server.

To prepare Operations Manager for chargeback reports

1. On the server running System Center 2012 R2 Virtual Machine Manager, copy the following management packs from their installed location, by default *InstallationDrive*:\Program Files\Microsoft System Center 2012 R2\Virtual Machine Manager\ManagementPacks, to a folder on the Operations Manager management server.
   - Microsoft.SystemCenter.VirtualMachineManager.PRO.Library
   - Microsoft.SystemCenter.VirtualMachineManager.PRO.V2.Library
   - Microsoft.SystemCenter.VirtualMachineManager.Pro.2008.Library
   - Microsoft.SystemCenter.VirtualMachineManager.Library
   - Microsoft.SystemCenter.VirtualMachineManager.2012.Discovery
2. Start the Operations Manager console and navigate to **Administration**, **Management Packs**.
3. Import the management packs that you copied to the Service Manager management server and then in the **Online Catalog Connection** dialog box, click **Yes** to search the catalog for dependencies that might not be available locally.

Failed Upgrade in System Center 2012 R2 - Service Manager

An upgrade to Service Manager in System Center 2012 R2 might not finish successfully. The steps that you take to recover from a failed upgrade depend on the phase of the upgrade in which the failure occurs:

- Failure occurs during the prerequisite check.
- Failure occurs during predicted checks.
- Failure occurs in an unpredictable manner before permanent changes are made to a management server.
- Failure occurs in an unpredictable manner after permanent changes are made to a management server.
- Failure occurs in an unpredictable manner after permanent changes are made to a database.

The upgrade might also fail because startup of the System Center Management Configuration service times out.

Failure occurs during the prerequisite check

Before the installation of Service Manager in System Center 2012 R2 begins, the system conducts a prerequisite check for certain requirements. If the system finds a condition in which Service Manager in System Center 2012 R2 will continue to function, you receive a warning. Warnings are identified with an exclamation point (!) in a yellow triangle. Conditions that the system has identified as a warning will not prevent you from installing Service Manager.

If the system finds a condition that is an absolute requirement, a failure indication appears. Failure indications are identified with an X in a red circle.

If either a warning or a failure indication appears, you can either cancel the installation and make the necessary changes, or make the appropriate changes and then click **Check prerequisites again** and continue with the installation. You must correct all failure conditions before the installation or upgrade can proceed.

Failure occurs during predicted checks

After you correct any failures that the system identified during the prerequisite check, you can click **Next** on the **Prerequisites** page of the wizard to start the upgrade or installation of Service Manager. The system checks for the following conditions during the installation or upgrade process:

- The data warehouse database that you specified exists.
- The computer running Microsoft SQL Server that you specified is not running Microsoft SQL Server 2008 Service Pack 1 (SP1), SQL Server 2008 Service Pack 2 (SP2), or SQL Server 2008 R2.
- The hard disk drive that you specified for a database has at least 1 gigabyte (GB) of free space.
- The System Center Data Access Service service can log on with the set of credentials that you supplied.
- The System Center Management Configuration service can log on with the set of credentials that you supplied.
- There is enough free disk space to install the upgraded files.
- Setup can access the file location for the Service Manager installation.

If failures occur during these types of checks, you can make the appropriate changes. For example, you can specify a hard disk location that has sufficient space, and then on the **Warning** page, click **Retry** to continue the installation.

Failure occurs in an unpredictable manner before permanent changes are made to a management server

If an error occurs before permanent changes are made to the Service Manager management server or data warehouse management server—for example, before changes are made to the Structured Query Language (SQL) database or before management packs are imported—the error message that appears includes a **Retry** button. In this situation, you can correct the issue and then retry the installation or upgrade.

Failure occurs in an unpredictable manner after permanent changes are made to a management server

If an error occurs after permanent changes are made to the Service Manager management server or data warehouse management server—for example, after changes are made to the SQL database or after management packs are imported—the error message that appears does not include a **Retry** button. In this situation, you must reinstall the original version of the affected management server.

In any case, you need the backup of the encryption key. For the Service Manager management server, the encryption key is available only if you made a backup before you started the upgrade. For more information, see How to Back Up the Encryption Key in Service Manager.

Failure occurs in an unpredictable manner after permanent changes are made to a database

If an error occurs after permanent changes have been made to a database—for example, after management packs are imported or any other time that data is written into the database—the error message that appears does not include a **Retry** button.

At this point, your only option is to click **Close** and begin a disaster recovery process to restore the database. This recovery is possible only if you backed up the database before you started the upgrade process. For more information, see Backing Up Service Manager Databases.

Upgrade fails because Management Configuration service startup times out

On some computers, Service Manager Setup fails and rolls back if it cannot start the System Center Management Configuration service in a timely fashion. If this problem occurs, you might see the following entries in the installation log.

```
CAStartServices: Attempting to start service. OMCFG

CAStartServices: StartService failed. Error Code: 0x8007041D.

ConfigureSDKConfigService: CAStartServices failed. Error Code: 0x8007041D. OMCFG
```

Error 0x8007041D indicates that the service did not respond to the start or control request in a timely fashion. In addition, the following event may be logged in the System Event log.

```
Log Name:      System
Source:        Service Control Manager
Event ID:      7009
Task Category: None
Level:         Error
Keywords:      Classic
User:          N/A
Description:
A timeout was reached (30000 milliseconds) while waiting for the System Center Management
Configuration service to connect.
```

This problem occurs because a Microsoft .NET Framework 2.0 managed assembly that has an Authenticode signature takes longer than usual to load. The signature is always verified when the .NET Framework 2.0 managed assembly that has an Authenticode signature is loaded. In addition, the .NET Framework 2.0 managed assembly may take longer than usual to load because of various other settings. For example, the .NET Framework 2.0 managed assembly may take longer than usual to load because of the network configuration.

For additional information about the cause of this problem, see FIX: A .NET Framework 2.0 managed application that has an Authenticode signature takes longer than usual to start.

For information about possible workaround procedures, see How to Work Around Configuration Service Startup Issues.

How to Work Around Configuration Service Startup Issues

If an upgrade to Service Manager in System Center 2012 R2 fails because startup of the System Center Management Configuration service times out, you can try to resolve the issue by using one of the following workaround procedures:

- Disable signature verification on the computer that is running Setup.
- Increase the service time-out setting on the computer that is running Setup.

To disable signature verification

1. On the computer that is running Setup, open the Microsoft.Mom.ConfigServiceHost.exe.config file, which is located in the Program Files\Microsoft System Center 2012\Service Manager folder.
2. In the `<runtime></runtime>` section, add `<generatePublisherEvidence enabled="false"/>`.
3. Save the changes to the file.
4. Attempt the upgrade again.

To increase the service time-out setting

1. On the computer that is running Setup, create the following registry value to increase the service time-out period.

   ```
   HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control
   ServicesPipeTimeout
   DWORD
   200000
   ```

   Caution
   Incorrectly editing the registry may severely damage your system. Before you make changes to the registry, you should back up any valued data on the computer.

   Note
   You may have to increase this value further if the service still fails to start. The value in this example is in milliseconds. For additional details about the registry key, see A service does not start, and events 7000 and 7011 are logged in Windows Server 2003, Windows Server 2008, and Windows Server 2008 R2.
2. Restart the computer.
3. Attempt the upgrade again.