Microsoft System Center 2012 R2

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

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Applies To

System Center 2012 Service Pack 1 (SP1) – Operations Manager

System Center 2012 R2 Operations Manager

Feedback

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Revision History

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

Contents

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

This Upgrade Guide provides information about how to upgrade from System Center 2012 Service Pack 1 (SP1), Operations Manager to System Center 2012 R2 Operations Manager.

⚠ **Warning**

> If you are upgrading two or more System Center components, you must follow the procedures that are documented in Upgrade Sequencing for System Center 2012 R2.
>
> The order in which you perform component upgrades is important. Failure to follow the correct upgrade sequence might result in component failure for which no recovery options exist. The affected System Center components are:

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

⚠ **Warning**

> The only supported upgrade path to System Center 2012 R2 Operations Manager is from System Center 2012 Service Pack 1 (SP1), Operations Manager. If you are upgrading from System Center 2012 – Operations Manager, you must first upgrade to System Center 2012 Service Pack 1 (SP1), Operations Manager before upgrading to System Center 2012 R2 Operations Manager. See **Upgrading to System Center 2012 - Operations Manager** and Upgrading System Center 2012 – Operations Manager to System Center 2012 SP1 for complete upgrade information.

◆ **Important**

> It is assumed in this guide that you are performing an *upgrade* to System Center 2012 R2 Operations Manager. For information about installing Operations Manager on a computer where no previous version of Operations Manager exists, see Deploying System Center 2012 - Operations Manager.

Before you upgrade to System Center 2012 R2 Operations Manager, you must first determine whether all servers in your Operations Manager management group meet the minimum supported configurations. For more information, see System Requirements: System Center 2012 R2 Operations Manager

There are several options for upgrade:

1. If you run upgrade on a single-server management group, you only need to run upgrade one time since all features are installed on a single server. The Operations Manager Upgrade wizard performs system prerequisite checks and provides resolution steps for any issues. Installation will not continue until you resolve all issues.

2. If you are upgrading a distributed management group, you must upgrade certain features before others. For example, you upgrade the management servers first, followed by the gateways, operations consoles, and then agents. Next, you can upgrade any remaining features, such as the web console, reporting and Audit Collection Services (ACS). You must also perform a number of pre-upgrade and post-upgrade tasks.

3. If you want to maintain your Operations Manager 2007 R2 environment you can install System Center 2012 Service Pack 1 (SP1), Operations Manager in parallel and just upgrade your agents.

High Level View of System Center 2012 R2 Operations Manager Upgrade Steps – Upgrading a Distributed Management Group

The following steps outline the process for upgrading a distributed management group:

1. Accomplish Pre-Upgrade Tasks

2. Upgrade the initial management server and then additional management servers (each management server must be upgraded)

3. Upgrade ACS (because the ACS server must be on same machine as a management server, we recommend you perform this step along with the upgrade of the management server on which ACS resides.)

4. *Upgrade Gateway(s)

5. Upgrade Console

6. Push Install to Agent(s) / Upgrading Manually Installed Agents

7. Upgrade Web Console

8. Upgrade Reporting Server

9. Accomplish Post-Upgrade Tasks

* Steps 4 to 8 after Management Server Upgrade can occur in parallel.

High Level View of System Center 2012 R2 Operations Manager Upgrade Steps – Upgrading 2012 SP1 Agents to 2012 R2 and Running Two Environments

The following upgrade path supports customers in an Operations Manager scenario with parallel environments, sharing agents, so that the original System Center 2012 Service Pack 1 (SP1),

Operations Manager environment is left intact. After the upgrade, the agents have been upgraded to System Center 2012 R2 Operations Manager and are fully capable of working with native System Center 2012 R2 Operations Manager functionality. The R2 agents are also able to "talk" to the System Center 2012 Service Pack 1 (SP1), Operations Manager management server.

⬥ **Important**

In this parallel environment scenario, we support upgrade of System Center 2012 Service Pack 1 (SP1), Operations Manager agents with the latest cumulative update (Operations Manager 2007 R2 CU6).

1. Retain the original System Center 2012 Service Pack 1 (SP1), Operations Manager environment.

2. Set up an additional, new System Center 2012 R2 Operations Manager environment with management servers, gateway, Operations Manager Database, Operations Manager Data Warehouse, console, web console, and reporting server.

3. Upgrade the System Center 2012 Service Pack 1 (SP1), Operations Manager Agents to 2012 R2.

    a. Push-Install option

    b. Manual / Command Line option

    📝 **Note**

    If you are manually upgrading, step 2 is not needed.

Pre-Upgrade Tasks When Upgrading to System Center 2012 R2 Operations Manager

Perform the following pre-upgrade tasks in the order presented before you begin the upgrade process.

1. Review the Operations Manager Event Logs

2. Cleanup the Database (ETL Table)

3. Remove Agents from Pending Management

4. Disable the Notification Subscriptions

5. Stop the Services or Disable any Connectors

6. Verify that the Operational Database Has More Than 50 Percent Free Space

7. Back up the Operations Manager Databases

Review the Operations Manager Event Logs

Review the event logs for Operations Manager on the management servers to look for recurring warning or critical events. Address them and save a copy of the event logs before you perform your upgrade.

Cleanup the Database (ETL Table)

As part of upgrade to System Center 2012 R2 Operations Manager installation (setup) includes a script to cleanup ETL tables, grooming the database. However, in cases where there are a large number of rows (greater than 100,000) to cleanup, we recommend running the script before starting the upgrade to promote a faster upgrade and prevent possible timeout of setup. Performing this pre-upgrade task in all circumstances ensures a more efficient installation.

Run the following query to determine the number of rows that need to be deleted from ETL and cleanup the database:

▶ **To Cleanup ETL**

1. To determine the number of rows that need to be deleted, run the following query:

   ```
   DECLARE @SubscriptionWatermark bigint = 0;



   SELECT @SubscriptionWatermark =
   dbo.fn_GetEntityChangeLogGroomingWatermark();

   Select COUNT (*)
   FROM EntityTransactionLog ETL with(nolock)
   WHERE NOT EXISTS (SELECT 1 FROM EntityChangeLog ECL
   with(nolock) WHERE ECL.EntityTransactionLogId =
   ETL.EntityTransactionLogId)
   AND NOT EXISTS (SELECT 1 FROM RelatedEntityChangeLog RECL
   with(nolock) WHERE RECL.EntityTransactionLogId =
   ETL.EntityTransactionLogId)
   AND EntityTransactionLogId < @SubscriptionWatermark;
   ```

2. To clean up the ETL Table, run the following SQL script:

   ```
   DECLARE @RowCount int = 1;
   DECLARE @BatchSize int = 100000;
   DECLARE @SubscriptionWatermark bigint = 0;
   ```

```
DECLARE @LastErr int;


SELECT @SubscriptionWatermark =
dbo.fn_GetEntityChangeLogGroomingWatermark();
WHILE(@RowCount > 0)
BEGIN
DELETE TOP (@BatchSize) ETL
FROM EntityTransactionLog ETL
WHERE NOT EXISTS (SELECT 1 FROM EntityChangeLog ECL WHERE
ECL.EntityTransactionLogId = ETL.EntityTransactionLogId)
AND NOT EXISTS (SELECT 1 FROM RelatedEntityChangeLog RECL
WHERE RECL.EntityTransactionLogId =
ETL.EntityTransactionLogId)
AND ETL.EntityTransactionLogId < @SubscriptionWatermark;


SELECT @LastErr = @@ERROR, @RowCount = @@ROWCOUNT;



END
```

📝 **Note**

Cleanup of ETL can require several hours to complete.

Remove Agents from Pending Management

Before you upgrade a management server, remove any agents that are in Pending Management.

▶**To remove agents that are in Pending Management**

1. Log on to the Operations console by using an account that is a member of the Operations Manager Administrators role for the Operations Manager management group.
2. In the **Administration pane**, expand **Device Management**, and then click **Pending Management**.
3. Right-click each agent, and then click **Approve** or **Reject**.

Disable the Notification Subscriptions

You should disable notification subscription before you upgrade the management group to ensure that notifications are not sent during the upgrade process.

To disable subscriptions

1. Log on to the Operations console account that is a member of the Operations Manager Administrators role for the Operations Manager management group.
2. In the Operations console, select the **Administration** view.
3. In the navigation pane, expand **Administration**, expand the **Notifications** container, and then click **Subscriptions**.
4. Select each subscription, and then click **Disable** in the **Actions** pane.

📝 **Note**

Multiselect does not work when you are disabling subscriptions.

Stop the Services or Disable any Connectors

Refer to the non-Microsoft connector documentation for any installed Connectors to determine the services used for each Connector.

To stop a service for Connectors

1. On the **Start** menu, point to **Administrative Tools**, and then click **Services**.
2. In the **Name** column, right-click the Connector that you want to control, and then click **Stop**.

Verify that the Operational Database Has More Than 50 Percent Free Space

You must verify that the operational database has more than 50 percent of free space before you upgrade the management group because the upgrade might fail if there is not enough space. You should also ensure that the transactions logs are 50 percent of the total size of the operational database.

To check how much free space the Operational Database has

1. On the computer that hosts the operational database, open **SQL Server Management Studio**.
2. In the **Object Explorer**, expand **Databases**.
3. Right-click the operational database, point to **Reports**, **Standard Reports**, and then click **Disk Usage**.
4. View the **Disk Usage** report to determine the percentage of free space.

To increase the free space for the operational database and log files

1. On the computer that hosts the operational database, open **SQL Server Management**

Studio.

2. In the **Connect to Server** dialog box, in the **Server Type** list, select **Database Engine**.

3. In the **Server Name** list, select the server and instance for your operational database (for example, computer\INSTANCE1).

4. In the **Authentication** list, select **Windows Authentication**, and then click **Connect**.

5. In the **Object Explorer** pane, expand **Databases**, right-click the operational database, and then click **Properties**.

6. In the **Database Properties** dialog box, under **Select a page**, click **Files**.

7. In the results pane, increase the **Initial Size** value for the **MOM_DATA** database by 50 percent.

   📝 **Note**

   This step is not required if free space already exceeds 50 percent.

8. Set the **Initial Size** value for the **MOM_LOG** to be 50 percent of the total size of the database. For example, if the operational database size is 100 GB, the log file size should be 50 GB. Then click **OK**.

Back up the Operations Manager Databases

Obtain verified recent backups of the operational database and of the data warehouse database before you upgrade the secondary management server. You should also create backups of databases for optional features, such as the Reporting and the Audit Collection Services database before you upgrade them. For more information, see [How to: Back up a Database](#) and **How to Schedule Backups of Operations Manager Databases**.

How to Upgrade a Single-Server Management Group to System Center 2012 R2 Operations Manager

When you upgrade a single-server management group to System Center 2012 R2 Operations Manager, all features that are installed on the server are upgraded. Before you begin the upgrade process, make sure that your server meets the minimum supported configurations. For more information, see [System Requirements: System Center 2012 R2 Operations Manager](#).

▶**To upgrade a single-server management group**

1. Log on to the server with an account that is a member of the Operations Manager Administrators role for your Operations Manager management group and a local administrator on the computer.

2. On the Operations Manager media, run **Setup.exe**, and then click **Install**.

The **Getting Started** page displays information about what will be upgraded. Click **Next** to proceed with the upgrade.

3. On the **Getting Started, Please read the license terms page**, read the Microsoft Software License Terms, click **I have read, understood, and agree with the license terms**, and then click **Next**.

4. On the **Select installation location** page, accept the default value of **C:\Program Files\Microsoft System Center 2012 R2\Operations Manager**, or type in a new location or browse to one. Then click **Next**.

5. On the **Prerequisites** page, review and address any warnings or errors that the Prerequisites checker returns, and then click **Verify prerequisites again** to recheck the system.

   Note

   Microsoft SQL Server Full Text Search must be enabled.

6. If the Prerequisites checker does not return any other errors or warnings that have to be addressed, click **Next**.

7. On the **Configuration, Configure Operations Manager accounts** page, enter the credentials for a domain account or use Local System, and then click **Next**.

   Important

   If you receive a message about using the wrong version of SQL Server, or experience a problem with the SQL Server Windows Management Instrumentation (WMI) provider, you can resolve this. Open a Command Prompt window by using the **Run as administrator** option. Then run the following command, where <path> is the location of Microsoft SQL Server: `mofcomp.exe "<path>\Microsoft SQL Server\100\Shared\sqlmgmproviderxpsp2up.mof"`.

8. When the **Ready to Upgrade** page appears, review the upgrade summary, and then click **Upgrade**.

▶ **To upgrade a single-server management group by using the Command Prompt window**

1. Log on to the server with an account that is a member of the Operations Manager Administrators role for your Operations Manager management group and a local administrator on the computer.

2. Open a Command Prompt window by using the **Run as Administrator** option.

3. Change the path to where the Operations Manager Setup.exe file is located.

   Important

   Use the `/WebConsoleUseSSL` parameter only if your website has Secure Sockets Layer (SSL) activated. For a default web installation, specify **Default Web Site** for the `/WebSiteName` parameter.

   Important

The following commands assume that you specified the Local System for the Data Access service (`/UseLocalSystemDASAccount`). To specify a domain\user name for these accounts, you must provide the following parameters instead:`/DASAccountUser: <domain\username> /DASAccountPassword: <password>`

4. Run the following command.

```
Setup.exe /silent /upgrade
/AcceptEndUserLicenseAgreement:1
/UseLocalSystemDASAccount
/DatareaderUser: <domain\username>
/DatareaderPassword: <password>
/DataWriterUser: <domain\username>
/DataWriterPassword: <password>
/ManagementServer: <ManagementServerName>
/WebsiteName: "<WebSiteName>" [/WebConsoleUseSSL]
/WebConsoleAuthorizationMode: [Mixed|Network]
```

💡 **Tip**

If you want to upgrade a specific component, you can add `/components: <component name1> [<, component name2>][ <, component name3>]`

After you have upgraded your single-server management group, you can upgrade the agents.

How to Upgrade a Management Server to System Center 2012 - Operations Manager - Upgrading a Distributed Management Group

When you upgrade a distributed management group to System Center 2012 R2 Operations Manager, you start by upgrading each of the management servers in your management group. There are a number of pre-upgrade tasks that you must perform first. For more information, see Pre-Upgrade Tasks When Upgrading to System Center 2012 R2 Operations Manager.

⚠️ **Important**

Between the time that you upgrade the management servers and upgrade the agents, you might experience Application Platform Monitoring (APM)-related event log entries on the agent-managed servers. These event log entries might occur on agent-managed servers that are not APM-enabled. These event log entries will be resolved when you

complete the upgrade of the agents. You might have to restart the health service after the agent is upgraded in order to clear the events.

📝 **Note**

Because the ACS server must be on same machine as a management server, we recommend you perform the steps described in [How to Upgrade an ACS Collector to System Center 2012 R2 Operations Manager](#) along with the upgrade of the management server on which ACS resides.

🔷 **Important**

When upgrading multiple management servers in a distributed management group, you must wait to start upgrade of additional management servers until after setup on the first management server completes. Failing to do so can cause a SQL update script that runs early in the set up process to run on multiple management servers and result in database issues. This SQL update script only needs to run on the initial management server being upgraded.

📝 **Note**

When upgrading multiple management servers in a distributed management group, sequence the upgrades in a manner that best suits your business needs. Upgrade all management servers in the distributed management group as soon as possible after the initial management server is upgraded to verify that your upgraded environment is healthy.

▶ **To upgrade a management server**

1. Log on to the Operations Manager management server with an account that is a member of the Operations Manager Administrators role for your Operations Manager management group and a local administrator on the computer.

2. From the Operations Manager media, run **Setup.exe**, and then click **Install**. The **Getting Started** page displays information about which features will be upgraded.

3. On the **Getting Started, System Center 2012 R2 Operations Manager Upgrade** page, click **Next** to proceed with the upgrade.

4. On the **Getting Started, Please read the license terms** page, read the Microsoft Software License Terms, click **I have read, understood, and agree with the terms of the license agreement**, and then click **Next**.

5. On the **Getting Started, Select installation location** page, accept the default value of **C:\Program Files\Microsoft System Center 2012 R2\Operations Manager**, or type in a new location, or browse to one. Then click **Next**.

6. On the **Prerequisites** page, review and address any warnings or errors that the Prerequisites checker returns, and then click **Verify prerequisites again** to recheck the system.

7. If the Prerequisites checker does not return any warnings or errors, the **Prerequisites, Proceed with Setup** page appears. Click **Next**.

8. On the **Configuration, Configure Operations Manager accounts** page, enter the credentials for a domain account, and then click **Next**

9. Review the **Configuration, Ready To Upgrade** page, and then click **Upgrade**. The upgrade proceeds and displays the upgrade progress.

10. When the upgrade is finished, the **Upgrade complete** page appears. Click **Close**.

> 📝 **Note**
>
> Upgrading a management server is just one phase of the distributed upgrade process. Upgrade is not completed until you have upgraded all of the other features in your management group. The next step is to upgrade any gateways. See How to Upgrade a Gateway Server to System Center 2012 R2 Operations Manager for more information.

▶**To upgrade a management server by using the Command Prompt window**

1. Log on to the management server with an account that is a member of the Operations Manager Administrators role for your Operations Manager management group and a local administrator on the computer.

2. Open a Command Prompt window by using the **Run as Administrator** option.

3. Change the path to where the Operations Manager setup.exe file is located, and run the following command.

> 🔵 **Important**
>
> The following commands assume that you specified the Local System account for the Data Access service (`/UseLocalSystemDASAccount`). To specify a domain\user name for these accounts, you must provide the following parameters instead.`/DASAccountUser: <domain\username> /DASAccountPassword: <password>`

```
setup.exe /silent /upgrade
/AcceptEndUserLicenseAgreement:1
/UseLocalSystemDASAccount
/DataReaderUser:<domain\user>
/DataReaderPassword:<password>
```

After you have upgraded all of the management servers in your management group, you should upgrade any gateways, and then upgrade any stand-alone operations consoles.

How to Upgrade an ACS Collector to System Center 2012 R2 Operations Manager

Perform this procedure to upgrade the Audit Collection Services (ACS) Collector to System Center 2012 R2 Operations Manager locally on the ACS Collector. During this procedure, the ACS database is also upgraded without any additional steps.

⚠ **Warning**
> A computer that hosts an ACS Collector must also be an Operations Manager management server or gateway server.

Before you begin the upgrade process, make sure that your server meets the minimum supported configurations. For more information, see System Requirements: System Center 2012 R2 Operations Manager

▶**To upgrade an ACS Collector**

1. Log on to the computer that hosts the ACS Collector with an Operations Manager Administrators role account for your Operations Manager management group.
2. On the Operations Manager media, run **Setup.exe**.
3. In the **Install** section, click **Audit Collection Services**. The Audit Collection Services Setup wizard starts.
4. On the **Welcome to the Audit Collection Services Collector Setup Wizard** page, click **Next**.
5. On the **Database Installation Options** page, select **Use an existing database**, and then click **Next**.
6. On the **Data Source** page, type the name that you used as the Open Database Connectivity data source name for your ACS database in the **Data source name** box. By default, this name is **OpsMgrAC**. Click **Next**.
7. On the **Database** page, if the database is on a separate server than the ACS Collector, click **Remote Database Server**, and then type the computer name of the database server that will host the database for this installation of ACS. Otherwise, click **Database server running locally**, and then click **Next**.
8. On the **Database Authentication** page, select one authentication method. If the ACS Collector and the ACS database are members of the same domain, you can select **Windows authentication**; otherwise, select **SQL authentication**, and then click **Next**.

   📝 **Note**
   > If you select **SQL authentication** and click **Next**, the **Database Credentials** page appears. Enter the name of the user account that has access to the SQL Server in the **SQL login name** box and the password for that account in the **SQL password** password box, and then click **Next**.
9. The **Summary** page displays a list of actions that the installation program will perform to upgrade ACS. Review the list, and then click **Next** to begin the installation.

> **Note**
>
> If a **SQL Server Login** dialog box appears and the database authentication is set to **Windows Authentication**, select the correct database, and then verify that the **Use Trusted Connection** check box is selected. Otherwise, clear it, enter the SQL Server login name and password, and then click **OK**.

10. When the upgrade is finished, click **Finish**.

How to Upgrade a Gateway Server to System Center 2012 R2 Operations Manager

After you upgrade the management servers in your management group, you upgrade any gateway servers. The procedure to upgrade a gateway server to System Center 2012 R2 Operations Manager is performed locally on the gateway server. You can then verify whether the upgrade is successful. Before you begin the upgrade process, make sure that your gateway server meets the minimum supported configurations. For more information, see System Requirements: System Center 2012 R2 Operations Manager

▶**To upgrade a gateway server**

1. Log on to a computer that hosts the gateway server with an Operations Manager Administrators role account for your Operations Manager management group.
2. On the Operations Manager media, run **Setup.exe**.
3. In the **Optional Installations** area, click **Gateway management server**.
4. On the **Welcome to the System Center 2012 R2 Operations Manager Gateway Upgrade Wizard** page, click **Next**.
5. On the **The wizard is ready to begin gateway upgrade** page, click **Upgrade**.
6. On the **Completing the System Center 2012 - Operations Manager Gateway Setup wizard** page, click **Finish**.

▶**To upgrade a gateway server by using the Command Prompt window**

1. Log on to a computer that is hosting the gateway server with an Operations Manager Administrators role account for your Operations Manager management group.
2. Open a Command Prompt window by using the **Run as Administrator** option.
3. Change the directory to the System Center 2012 R2 Operations Manager installation media and change directory again to gateway\AMD64, where the MOMGateway.msi file is located.
4. Run the following command where D:\ is the location for the upgrade log file.

```
msiexec /i MOMgateway.msi /qn /l*v D:\logs\GatewayUpgrade.
```

```
log

AcceptEndUserLicenseAgreement=1
```

▶ **To verify the gateway server upgrade**

1. In the Operations console, in the navigation pane, click the **Administration** button.
2. Under **Device Management**, click **Management Servers**.
3. In the **Management Servers** pane, verify that the value listed in the **Version** column is System Center 2012 R2 Operations Manager 10139 (10xxx), where x is any positive integer.

After you have upgraded all of the gateways in your management group, you can upgrade the stand-alone operations consoles. See How to Upgrade an Operations Console to System Center 2012 R2 Operations Manager for more information.

How to Upgrade an Operations Console to System Center 2012 R2 Operations Manager

This procedure upgrades a stand-alone Operations console to System Center 2012 R2 Operations Manager. Perform this procedure locally on the computer that has a stand-alone Operations console installed. You do not have to perform this procedure to upgrade Operations consoles that are installed locally on a management server.

Before you begin the upgrade process, make sure that your server meets the minimum supported configurations. For more information, see System Requirements: System Center 2012 R2 Operations Manager

▶ **To upgrade a stand-alone Operations console**

1. Log on to the computer that hosts the Operations console with an Operations Manager Administrators role account for your Operations Manager management group.
2. On the Operations Manager source media, run **Setup.exe**, and then click **Install**.
3. On the **Getting Started**, **System Center 2012 R2 Operations Manager Upgrade** page, click **Next**.
4. On the **Getting Started**, **Select installation location** page, accept the default value of **C:\Program Files\Microsoft System Center 2012 R2\Operations Manager**, or type in a new location or browse to one. Then click **Next**.
5. On the **Prerequisites** page, review and address any warnings or errors that are returned by the Prerequisites checker, and then click **Verify Prerequisites Again** to recheck the system.
6. If the Prerequisites checker does not return any warnings or errors, the **Prerequisites**, **Proceed with Setup** page appears. Click **Next**.

7. On the **Configuration**, **Ready To Upgrade** page, click **Upgrade**.

8. When the upgrade is finished, the **Upgrade complete** page appears. Click **Close**.

▶**To upgrade a stand-alone Operations console by using the Command Prompt window**

1. Log on to the computer that hosts the Operations console with an Operations Manager Administrators role account for your Operations Manager management group.

2. Open a Command Prompt window by using the **Run as Administrator** option.

3. Change to the path to the Operations Manager source media, and run the following command.

```
Setup.exe /silent / upgrade /AcceptEndUserLicenseAgreement:1
```

▶**To verify the Operations console upgrade**

1. On the Windows desktop, click **Start**, and then click **Run**.

2. Type **regedit**, and then click **OK**. The Registry Editor starts.

   🔴 **Caution**

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

3. Browse to the **HKey_Local_Machine\Software\Microsoft\Microsoft Operations Manager\3.0\Setup** key. If the value of the **UIVersion** entry is **10226 (10xxx)**, where **x** is any positive integer, the Operations console was upgraded successfully.

After you have upgraded all of the stand-alone operations consoles in your management group, you can upgrade the agents. See How to Upgrade an Agent to System Center 2012 R2 Operations Manager for more information.

How to Upgrade an Agent to System Center 2012 R2 Operations Manager

Use the following procedures to upgrade to System Center 2012 R2 Operations Manager agents. You should first verify that the agents meet minimum supported configurations. For more information, see System Requirements: System Center 2012 R2 Operations Manager

📝 **Note**

If before upgrade an agent was installed using the push install method, after upgrade the server the agent will be put into a pending update state and can be upgraded through the Console. Otherwise the agent should be upgraded manually.

When you upgrade an agent, the Operations Manager installer service runs and is not removed until after the completion of the upgrade. If the agent upgrade fails, you might have to re-install

the agent because the installer service was not properly removed. If you attempt to upgrade the agent again and it fails, you should re-install the agent after you have completed upgrading all features of Operations Manager.

📝 **Note**

> If you have Audit Collection Services (ACS) enabled for an agent prior to this upgrade, it is disabled as part of the agent upgrade process. ACS must be re-enabled after upgrade completes.

If you are upgrading agents that are deployed to a computer that has other System Center 2012 R2 Operations Manager features installed, you must do the following:

- If the agent is installed on a computer that has System Center 2012 R2 Operations Manager Operations console or web console installed, you must first uninstall the consoles before you upgrade the agents. You can do this by uninstalling System Center 2012 R2 Operations Managerin Programs and Features. You can reinstall these consoles after upgrade is completed.

📝 **Note**

> If UAC is enabled, you must run the agent upgrade from an elevated command prompt.

📝 **Note**

> Information about upgraded agents might not appear in the Operations console for up to 60 minutes after performing the upgrade.

Upgrading Push-Installed Agents

Push-installed agents are agents that were installed by using the **Computer and Device Management Wizard**. Use the following procedures to upgrade these agents.

▶**To upgrade push-installed Windows agents by using the Operations console**

1. Log on to the computer hosting the Operations Manager Operations console. Use an account that is a member of the Operations Manager Administrators role for the Operations Manager management group.
2. In the Operations console, click **Administration**.

   📝 **Note**

   > When you run the Operations console on a computer that is not a management server, the **Connect To Server** dialog box appears. In the **Server name** box, type the name of the management server to which you want to connect.

3. In the **Administration** workspace, in the navigation pane under **Device Management**, click **Pending Management**.
4. In the **Pending Management** pane, under **Type: Agent Requires Update**, right-click each agent-managed computer listed, and then click **Approve**.

   ⚠️ **Warning**

You should not approve more than 200 agents at one time.

5. In the **Update Agents** dialog box, enter the administrator account credentials or use a selected Management Server Action Account, and then click **Update**. The upgrade status is displayed in the **Agent Management Task Status** dialog box.

6. When the upgrade is completed, click **Close**.

Upgrading Manually Installed Agents

Manually-installed agents are agents that were installed manually, either by using the Command Prompt window, or by using the MOMAgent.msi Setup Wizard. Use the following procedure to upgrade these agents.

▶ **To upgrade a manually installed Windows agent by using the Setup Wizard**

1. Log on to the computer that hosts the agent with an Operations Manager Administrators role account for your Operations Manager management group.

2. Run **Setup.exe** from the Operations Manager installation media.

3. On the first page of the Setup Wizard, click **Local agent**. When the **Welcome to the Microsoft Monitoring Agent Upgrade Wizard** page opens, click **Next**.

4. In the **Microsoft Monitoring Agent Setup** dialog box, click **Upgrade**. The status page displays the progress of the upgrade.

5. When the **Completing the Microsoft Monitoring Agent Setup Wizard** page appears, click **Finish**.

▶ **To upgrade a manually installed Windows agent by using the Command Prompt window**

1. Log on to the computer that hosts the agent with an Operations Manager Administrators role account for your Operations Manager management group.

2. Open a Command Prompt window by using the **Run as Administrator** option.

3. Run the following command, where D:\ is the location for the upgrade log file.

```
msiexec /i MOMAgent.msi /qn /l*v D:\logs\AgentUpgrade.log
 AcceptEndUserLicenseAgreement=1
```

Verifying Windows Agent Upgrade

▶ **To verify the Windows agent upgrade**

1. In the Operations console, in the navigation pane, click the **Administration** button.

2. Under **Device Management**, click **Agent Managed**.

3. In the Agent Managed pane, verify that the value listed in the Version column is 10184 (10xxx), where x is any positive integer.

Note

It can take up to one hour for the console to show the updated version of the agent.

Upgrading UNIX and Linux Agents

To upgrade UNIX and Linux agents

- In the Operations console, in the **Administration** pane, run the **UNIX/Linux Upgrade Wizard**.

    Any existing Run As profiles and Run As accounts continue to have valid configurations. For information about changes to Run As profiles and accounts for UNIX and Linux monitoring in Operations Manager, see Accessing UNIX and Linux Computers in Operations Manager

To manually upgrade UNIX and Linux agents

1. Log on to Linux/Unix machines and copy the target agent to machines.
2. Run the commands below on different Systems to upgrade the agents:
    - Suse/Redhat/CentOS/Oracle Linux: `rpm -U <package>`
    - Ubuntu/Debian: `-i <package file>`
    - HP-UX: `swinstall -s <full path to depot> <package name>`
    - Aix: `/usr/sbin/install -X -F -d <package file> scx.rte/`
    - Solaris:
        - Remove the installed package with: `pkgrm MSFTscx`
        - Install the new package version with: `pkgadd`

To verify the UNIX or Linux agent upgrade

1. In the Operations console, in the navigation pane, click **Administration**.
2. Under **Device Management**, click **UNIX/Linux Computers**.
3. Verify that the value listed in the Agent **Version** column is 1.54.0-xxx, where x is any positive integer.

    Note

    It can take up to one hour for the console to show the updated version of the agent.

How to Upgrade a Web Console to System Center 2012 R2 Operations Manager

If you have a stand-alone System Center 2012 Service Pack 1 (SP1), Operations Manager web console server, you can upgrade it to System Center 2012 R2 Operations Manager.

Before you begin the upgrade process, make sure that your server meets the minimum supported configurations. For more information, see System Requirements: System Center 2012 R2 Operations Manager

📝 **Note**

> When you upgrade the web console, any customizations that were made to the web.config file after the web console was installed will be reset.

If you made changes after you set up your web console to either enable or disable Secure Sockets Layer (SSL), the SSL settings will be reset during upgrade. To resolve the issue, you must make changes to the registry key before you upgrade the web console, as follows:

▶ **To set the registry to enable or disable SSL on the web console**

1. Logon on to the web console with an account that has local administrator rights, and on the desktop, click **Start**, and then click **Run**.
2. Type **regedit**, and then click **OK**. The Registry Editor starts.

   🛑 **Caution**

   > Incorrectly editing the registry can severely damage your system. Before you make changes to the registry, you should back up any valued data that is on the computer.

3. Navigate to the **HKey_Local_Machine\Software\Microsoft\System Center Operations Manager\12\Setup\WebConsole** key.
4. To enable SSL, set the following:

   HTTP_GET_ENABLED=0

   BINDING_CONFIGURATION=DefaultHttpsBinding
5. To disable SSL, set the following:

   HTTP_GET_ENABLED=1

   BINDING_CONFIGURATION=DefaultHttpBinding

▶ **To upgrade the web console server**

1. Log on to the computer that hosts the web console server with an Operations Manager Administrators role account for your Operations Manager management group.
2. On the Operations Manager source media, run **Setup.exe**, and then click **Install**.
3. On the **Getting Started**, **System Center 2012 R2 Operations Manager Upgrade** page, review the features that will be upgraded, and then click **Next**.

4. On the **Select installation location** page, accept the default value of **C:\Program Files\Microsoft System Center 2012 R2\Operations Manager**, or type in a new location or browse to one. Then click **Next**.

5. On the **Prerequisites** page, review and address any warnings or errors that the Prerequisites checker returns, and then click **Verify Prerequisites Again** to recheck the system.

6. If the Prerequisites checker does not return any warnings or errors, the **Prerequisites**, **Proceed with Setup** page appears. Click **Next**.

7. When the **Ready to Upgrade** page appears, review the upgrade summary, and then click **Upgrade**.

▶**To upgrade the web console server by using the Command Prompt window**

1. Log on to the computer that hosts the web console server with an Operations Manager Administrators role account for your Operations Manager management group.

2. Open a Command Prompt window by using the **Run as Administrator** option.

3. Change the path to where the Operations Manager Setup.exe file is located, and run the following command.

   ◈ **Important**
   Use the `/WebConsoleUseSSL` parameter only if your website has Secure Sockets Layer (SSL) activated. For a default web installation, specify **Default Web Site** for the `/WebSiteName` parameter.

```
setup.exe /silent /AcceptEndUserLicenseAgreement:1 /upgrade
/WebsiteName: "<WebSiteName>" [/WebConsoleUseSSL]
/WebConsoleAuthorizationMode: [Mixed|Network]
```

How to Upgrade Reporting to System Center 2012 - Operations Manager

Use this procedure to upgrade a stand-alone Reporting server to System Center 2012 R2 Operations Manager. You should not run upgrade on the Reporting server until after you have upgraded the management servers, gateways, operation consoles, and agents.

Before you begin the upgrade process, make sure that your server meets the minimum supported configurations. For more information, see System Requirements: System Center 2012 R2 Operations Manager

▶**To upgrade the Reporting server**

1. Log on to the computer that hosts the Reporting server with an account that is a member of the Operations Manager Administrators role for your Operations Manager management group.
2. On the Operations Manager source media, run **Setup.exe**, and then click **Install**.
3. On the **Getting Started**, **System Center 2012 R2 Operations Manager Upgrade** page, review the features that will be upgraded. In this case, it is Operations Manager Reporting. Click **Next**.
4. On the **Select installation location** page, accept the default value of **C:\Program Files\ Microsoft System Center 2012 R2\Operations Manager**, or type in a new location or browse to one. Then click **Next**.
5. On the **Prerequisites** page, review and address any warnings or errors that the Prerequisites checker returns, and then click **Verify Prerequisites Again** to recheck the system.
6. If the Prerequisites checker does not return any warnings or errors, the **Prerequisites**, **Proceed with Setup** page appears. Click **Next**.
7. On the **Ready to Upgrade** page, review the options, and then click **Upgrade**.
8. When upgrade is finished, the **Upgrade complete** page appears. Click **Close**.

▶**To upgrade the Reporting server by using the command prompt**

1. Log on to the computer that hosts the Reporting server with an account that is a member of the Operations Manager Administrators role for your Operations Manager management group.
2. Open a Command Prompt window by using the **Run as Administrator** option.
3. Change the path to where the Operations Manager Setup.exe file is located, and run the following command:

   📝 **Note**

   If the Reporting server reports to an unsupported or inaccessible root management server, you must also pass the following parameter:

   `/ManagementServer: <ManagementServerName>.`

   setup.exe /silent /AcceptEndUserLicenseAgreement:1 /upgrade
   /ManagementServer: <ManagementServerName>

Post-Upgrade Tasks When Upgrading to System Center 2012 R2 Operations Manager

After you have completed the upgrade process to System Center 2012 R2 Operations Manager, you must perform a number of post-upgrade tasks.

Post-Upgrade Tasks

Perform the following tasks when you have completed the upgrade process.

1. Re-enable the Notification Subscriptions.
2. Restart or Re-enable the Connector Services (if needed)
3. Re-enable Audit Collection Services (ACS) on agents that were upgraded
4. Verify That the Upgrade Was Successful

Re-enable the Notification Subscriptions

After the upgrade has finished, use the following procedure to re-enable subscriptions.

▶ **To re-enable the subscriptions**

1. Open the Operations console by using an account that is a member of the Operations Manager Administrators role for the Operations Manager management group.
2. In the Operations console, in the navigation pane, click the **Administration** button.

   📝 **Note**

   When you run the Operations console on a computer that is not a management server, the **Connect To Server** dialog box appears. In the **Server name** text box, type the name of the Operations Manager management server to which you want to connect.

3. In the **Administration** pane, under **Notifications**, click **Subscriptions**.
4. In the **Actions** pane, click **Enable** for each subscription listed.

Restart or Re-enable the Connector Services

Refer to the third-party documentation for any installed connectors to determine if the connectors are supported for System Center 2012 R2 Operations Manager. If you stopped a connector for any reason during upgrade, restart the service.

▶ **To restart a connector service**

1. On the taskbar, click **Start**, click **Administrative Tools**, and then click **Services**.
2. In the **Name** column, right-click the connector that you want to restart, and then click

Start.

Re-Enable Audit Collection Services

If you had Audit Collection Services (ACS) enabled for an agent prior to upgrade, it was disabled as part of the agent upgrade process. Re-enable ACS as appropriate.

Verify That the Upgrade Was Successful

Perform the following tasks to verify that the upgrade was successful.

- Check the health state of the management servers and agents in the Health Service Watcher state view. In the **Administration** workspace of the Operations console, ensure that the management servers and agents are healthy. In the **Monitoring** workspace, check if there are any alerts related to the management group health.
- Review the event logs of all the management servers for new errors.
- Sort alerts by the last-modified column to review the new alerts.
- Check the CPU utilization and disk I/O on your database servers to ensure that they are functioning normally.
- If the Reporting feature is installed, click **Reporting**, and then run a generic performance report to ensure that Reporting is functioning correctly.
- Re-deploy any agents that you uninstalled during the upgrade process.

How to Upgrade OM2012 SP1 Agents to OM2012 R2 Parallel Environments

This upgrade path contains an Operations Manager scenario with parallel environments, sharing agents, so that the original System Center 2012 Service Pack 1 (SP1), Operations Manager environment is left intact. After the upgrade, the agents have been upgraded to System Center 2012 R2 Operations Manager and are fully capable of working with native System Center 2012 R2 Operations Manager functionality. The System Center 2012 R2 Operations Manager agents are also able to "talk" to the System Center 2012 Service Pack 1 (SP1), Operations Manager management server.

Upgrading OM2012 SP1 Agents to OM2012 R2 using Parallel Environments

If you want to maintain your System Center 2012 Service Pack 1 (SP1), Operations Manager environment you can install System Center 2012 R2 Operations Manager in parallel and just upgrade your agents using the following process.

1. Retain the original System Center 2012 Service Pack 1 (SP1), Operations Manager environment.

2. Set up an additional, new System Center 2012 R2 Operations Manager environment with management servers, gateway, Operations Manager Database, Operations Manager Data Warehouse, console, web console, and reporting server. See **Deploying System Center 2012 - Operations Manager** for more information.

3. Upgrade the System Center 2012 Service Pack 1 (SP1), Operations Manager Agents to 2012 R2 using Push-Install or Command Line options as appropriate. See How to Upgrade an Agent to System Center 2012 R2 Operations Manager for more information.