

Microsoft System Center 2012 R2

Upgrade Sequencing for System Center 2012 R2

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Applies To

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
January 15, 2014	Added content that explains how Configuration Manager integrates with Operations Manager and Orchestrator. See the section "Notes about Configuration Manager" in this guide.
February 11, 2014	Updated the Update Rollup table.
March 10, 2014	Minor correction in step 1 of the Post-Operations Manager upgrade guide. Changed System Center 2012 SP1 to R2.
March 20, 2014	Provided a link to information about Cumulative Updates for Configuration Manager.
April 24, 2014	Updated the Update Rollup table for UR2.

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Upgrade Sequencing for System Center 2012 R2

In an environment that includes two or more components of Microsoft System Center 2012, the order in which you upgrade those components from System Center 2012 Service Pack 1 (SP1) to System Center 2012 R2 is extremely important. With the release of System Center 2012 R2, you now have the option to add additional components beyond what was available with the release of System Center 2012 Service Pack 1 (SP1). The order in which you introduce additional components is also very important. The following is a list of components, including new components for the System Center 2012 R2 release that are affected by upgrade sequencing:

1. Service Management Automation
2. Orchestrator
3. Service Manager
4. Data Protection Manager (DPM)
5. Operations Manager
6. Configuration Manager
7. Virtual Machine Manager (VMM)
8. App Controller
9. Service Provider Foundation
10. Windows Azure Pack for Windows Server
11. Service Bus Clouds
12. Windows Azure Pack
13. Service Reporting

The list of components are presented in both order of upgrade priority and in the order of new component introduction; the first component to be added or upgraded is at the top of the list. If you have only one of these System Center components in your environment, then you can proceed directly to the upgrade guide for that component. Otherwise, follow the steps in this guide to make sure that you perform the upgrades and additions in the correct sequence. Refer to the individual component-level deployment guides when adding an additional component for System Center 2012 R2.

The following sections in this guide show you how to prepare for upgrading two or more System Center components. The sections in this guide are presented in order of upgrade precedence. Start with the section in this guide for the component you have at the highest position on the list. For example, if you have Operations Manager and VMM, start with the Operations Manager section first, as it is higher in the list, and then proceed to the VMM section.

Read the section in this guide for each component you have to help you prepare for an upgrade before referring to the specific component upgrade guide.

Except for the case of VMM and App Controller, you do not need to upgrade additional components at the same time. As long as you perform the upgrades and add additional components in the order listed, an upgraded or installed component will continue to function with the other components that have yet to be upgraded or installed.

Except for VMM and Service Management Automation which both require Windows Server 2012 or Windows Server 2012 R2, it is assumed that no other operating system upgrades have taken place before or during this upgrade. Upgrade the various System Center components before you upgrade the operating system. In addition, we assume that no upgrades to SQL Server have taken place. You can upgrade to SQL Server 2012 after you have upgraded your System Center components.

We recommend that you update all of the System Center 2012 SP1 components with the most current update rollups. The update rollups that were current as of the time this document was published are shown in the following table.



Note

For information about the cumulative updates for Configuration Manager, see TechNet article [Update System Center 2012 Configuration Manager](#).

Component	Current Update Rollup
Orchestrator	UR2
Service Manager	UR2
DPM	UR2
Operations Manager	UR2
VMM	UR2
App Controller	UR2

Notes about System Center Versions

In April 2012, Microsoft released the first version of the System Center product, System Center 2012, and is referred to as System Center 2012 in this guide. In January 2013, the next version of System Center product we released was System Center 2012 Service Pack 1 (SP1). This version is referred to as System Center 2012 SP1 in this guide. In October 2013 we released System Center 2012 R2, the version that you are reading about now.

Notes about Orchestrator

If Orchestrator is part of your environment, then Orchestrator will be the first component that you upgrade.

**Note**

If you are going to add the new component Service Management Automation to your environment, you must install that now before upgrading Orchestrator.

You need to be aware that any System Center component integration packs (IP) that you installed on System Center 2012 SP1 will not function with System Center 2012 R2 components. When upgrading Orchestrator, you will do so leaving the System Center 2012 SP1 IPs in place so that current functionality continues until the other components are upgraded. When you upgrade subsequent components, for example Service Manager 2010 SP1, you will uninstall the System Center 2012 SP1 IP. After your component has been upgraded, go back to the Orchestrator computer and install the R2 version of the IP. This sequence is detailed both in this guide and in the Upgrade Guide for Orchestrator.

**Note**

When you install an upgrade of an integration pack, you must first uninstall any earlier version of the integration pack from all Runbook servers and Runbook Designers. You then register and deploy the upgrade of the integration pack. If you do not uninstall the previous version of the integration pack prior to registering and deploying the upgrade version, the upgrade version will fail.

Notes about Configuration Manager

Configuration Manager shares connectors with Operations Manager, has an integration pack with Orchestrator, and has a management pack with Operations Manager. Configuration Manager must be upgraded after Orchestrator, Operations Manager, and Service Manager to ensure continued operations with the connections it shares with other components. Configuration Manager agents for System Center 2012 do not support managing Windows Server 2012 operating systems so Configuration Manager will need to be upgraded before Virtual Machine Manager since Virtual Machine Manager has a mandatory requirement on Windows Server 2012. For example, if you were to upgrade Configuration Manager before Service Manager, the connectors for Service Manager would fail and you would lose that connector functionality until Service Manager is upgraded to System Center 2012 R2.

As another example, if you were to upgrade Virtual Machine Manager to System Center 2012 R2 before Configuration Manager you would not be able to manage the VMM management server as the Configuration Manager for System Center 2012 does not support Windows Server 2012.

Notes about Operations Manager

After you upgrade Operations Manager, you might have to install the Operations Manager console on some of the down-level components.

There are some new features that are available with Operations Manager that are only available when using Windows Server 2012. It is our recommendation that you first upgrade Operations Manager on the existing operating system before you upgrade to Windows Server 2012.

Notes about DPM

There are some new features that are available with Data Protection Manager (DPM) that are only available when using Windows Server 2012. It is our recommendation that you first upgrade DPM on the existing operating system before you upgrade to Windows Server 2012 or Windows Server 2012 R2.

Notes about Service Provider Foundation

The current release of Service Provider Foundation provides access to Virtual Machine Manager Web Service, which interacts with VMM. Do not install Service Provider Foundation until all of the other System Center components have been upgraded.

Upgrade Sequencing Topics

- [Orchestrator](#)
Describes the sequence for upgrading Orchestrator.
- [Service Manager](#)
Describes the sequence for upgrading Service Manager.
- [Data Protection Manager](#)
Describes the sequence for upgrading Data Protection Manager (DPM).
- [Operations Manager](#)
Describes the sequence for upgrading Operations Manager.
- [Configuration Manager](#)
Describes the sequence for upgrading Configuration Manager.
- [Virtual Machine Manager and App Controller](#)
Describes the sequence for upgrading Virtual Machine Manager (VMM) and App Controller.

Orchestrator

System Center 2012 R2 Orchestrator, while second in the list, it is the first component to be upgraded. If you are going to add the new component Service Management Automation to your environment, you must install that now before upgrading Orchestrator.

► Orchestrator Upgrade Sequence

1. Put all Orchestrator servers into an Operations Manager maintenance mode
2. Upgrade Orchestrator using the procedures outlined in the Upgrade Guide for Orchestrator.

► Post-Orchestrator Upgrade

1. Take the Orchestrator servers out of maintenance mode.

**Note**

Do not upgrade the Orchestrator management packs on Operations Manager until after Operations Manager has been upgraded. Existing System Center 2012 SP1 Orchestrator management packs should continue to work.

2. Make sure that the following connections with Operations Manager continue to function:
 - Integration pack
 - Operations Manager agent
 - Operations Manager console (for IP communication)
3. Make sure that the following connections with Service Manager continue to function:
 - Runbook connector
 - Integration pack
4. Make sure that the following connections with Configuration Manager continue to function:
 - Integration pack
 - Configuration Manager agent
5. Make sure that the IP connection with VMM continues to function.
6. Make sure that the IP connection with DPM continues to function.

Service Manager

System Center 2012 R2 Service Manager is the second component to be upgraded. If you are going to add the new component Service Management Automation to your environment, install it first. If Orchestrator is in your environment, upgrade it before upgrading Service Manager.

► Service Manager Upgrade Sequence

1. Put all Service Manager servers into an Operations Manager maintenance mode
2. On the computer hosting the Orchestrator Deployment Manager, uninstall the IP for System Center 2012 SP1 Service Manager.
3. On the computer hosting the Service Manager management server, upgrade the SQL Server 2008 R2 AMO to SQL Server 2012 AMO.

**Note**

SQL Server 2012 AMO is compatible with SQL Server 2008 R2 Analysis Services.

4. Upgrade Service Manager using the procedures outlined in the Upgrade Guide for Service Manager.

▶ **Post–Service Manager Upgrade**

1. On the computer hosting the Orchestrator Deployment Manager, install the System Center 2012 R2 version of the Service Manager IP.
2. Take the Service Manager servers out of maintenance mode.
3. Make sure that the following connections with Operations Manager continue to function:
 - Connectors (2)
 - Management pack
 - Agentless monitoring
4. Make sure that the following connections with Configuration Manager continue to function:
 - Connectors (2)
 - Configuration Manager agent
5. Make sure that the following connections with Orchestrator continue to function:
 - Integration pack
 - Runbook connector

Data Protection Manager

System Center 2012 R2 Data Protection Manager is the third component to be upgraded. If applicable, install Service Management Automation, upgrade Orchestrator and upgrade Service Manager before you upgrade System Center 2012 R2 Data Protection Manager.

▶ **Data Protection Manager Upgrade Sequence**

1. Put all Data Protection Manager servers into an Operations Manager maintenance mode
2. On the computer hosting the Orchestrator Deployment Manager, uninstall the IP for System Center 2012 – Data Protection Manager.
3. Upgrade Data Protection Manager using the procedures outlined in the Upgrade Guide for DPM.

▶ **Post–Data Protection Manager Upgrade**

1. On the computer hosting the Orchestrator Deployment Manager, install the SP1 version of the Data Protection Manager IP.
2. Take the DPM servers out of maintenance mode.
3. Make sure that the following connections with Operations Manager continue to function:
 - DPM central console client-side component connector
 - Management pack

- Agent(s)
- 4. Make sure that the Configuration Manager agent continues to function with Configuration Manager.
- 5. Make sure that the DPM IP continues to function with Orchestrator.
- 6. Make sure that DPM can continue to backup all items previously targeted prior to the upgrade.

Operations Manager

System Center 2012 R2 Operations Manager is the fourth component to be upgraded. If applicable, install Service Management Automation, upgrade Orchestrator, upgrade Service Manager, and then upgrade System Center 2012 R2 Data Protection Manager before you upgrade System Center 2012 R2 Operations Manager.

► Operations Manager Upgrade Sequence

1. If present, the VMM-to-Operations Manager connection should be removed, either from the VMM console or by using the Remove-SCOpsMgrConnection cmdlet.

 **Note**

VMM will not be monitored during the upgrade.

2. Remove the System Center 2012 SP1 version of the Operations Manager console from all Virtual Machine Manager and Orchestrator servers.
3. On the computer hosting the Orchestrator Deployment Manager, uninstall the IP for System Center 2012 SP1 version of Operations Manager.
4. Upgrade the following Operations Manager parts in the order listed using the procedures outlined in the Upgrade Guide for Operations Manager. The Operations Manager Database and Data Warehouse will be upgraded when the first management server is upgraded.
 - At least one Operations Manager management server.
 - Any remaining Operations Manager management servers.
 - Any Operations Manager gateways
 - Any Operations Manager consoles.
 - Any Operations Manager agents.

► Post-Operations Manager Upgrade

1. On the computer hosting the Orchestrator Deployment Manager, install the IP for the System Center 2012 R2 version of Operations Manager.
2. Install the System Center 2012 R2 version of the Operations Manager console on Orchestrator and VMM.

3. Re-establish connectivity between System Center 2012 SP1 version of VMM and System Center 2012 R2 Operations Manager.
4. Register the Operations Manager integration packs on System Center 2012 R2 Orchestrator.
5. Make sure that the Configuration Manager agent continues to function.
6. Make sure that the following connections with Virtual Machine Manager continue to function:
 - Management pack
 - Integration using the Operations Manager console (for IP communication)
7. Make sure that the following connections with Service Manager continue to function:
 - Connectors (2)
 - Management pack
 - Agentless monitoring
8. Make sure that the following connections with DPM continue to function:
 - Management pack
 - Central Console Server components
9. Make sure that the following connections with Orchestrator continue to function:
 - Management pack
 - Integration Pack (Operations Manager console (SDK) connection required for IP)
10. Make sure that the management pack continues to function with App Controller.

Configuration Manager

System Center 2012 R2 Configuration Manager is the fifth component to be upgraded. If applicable, install Service Management Automation, upgrade Orchestrator, upgrade Service Manager, upgrade Data Protection Manager, and then upgrade Operations Manager before you upgrade Configuration Manager.

► Configuration Manager Upgrade Sequence

1. Put all Configuration Manager servers into an Operations Manager maintenance mode.
2. On the computer hosting the Orchestrator Deployment Manager, uninstall the IP for Configuration Manager.
3. Upgrade Configuration Manager using the procedures outlined in the Upgrade Guide for Configuration Manager.

► Post-Configuration Manager Upgrade

1. Take the Configuration Manager servers out of maintenance mode.

2. Register the System Center 2012 – Configuration Manager R2 integration packs on System Center 2012 - Orchestrator R2.
3. Make sure that the following connections with Configuration Manager continue to function:
 - Configuration Manager management agents
 - System Center 2012 Endpoint Protection agents on the component servers
4. Make sure that the two Service Manager connectors continue to function.
5. Make sure that the IP continues to function with Orchestrator.
6. Make sure that the Operations Manager management pack continues to function:

Virtual Machine Manager and App Controller

Virtual Machine Manager (VMM) and App Controller are the final two components to be upgraded. Because of the hard coded dependencies between the versions of VMM and App Controller, these two components must be upgraded at the same time.

If applicable, install Service Management Automation, upgrade Orchestrator, upgrade Service Manager, upgrade Data Protection Manager, upgrade Operations Manager, and then upgrade Configuration Manager before you upgrade VMM and App Controller.

► VMM and App Controller Upgrade Sequence

1. On the Operations Manager computer, place all monitored VMM and App Controller components into maintenance mode.
2. On the computer hosting the Orchestrator Deployment Manager, uninstall the IP for Virtual Machine Manager.
3. Upgrade VMM using the procedures outlined in the Upgrade Guide for VMM.
4. Upgrade App Controller using the procedures outlined in the Upgrade Guide for App Controller.

► Post-VMM and App Controller Upgrades

1. On the Orchestrator computer, install the VMM System Center 2012 R2 integration pack.
2. On the Operations Manager computer, in the Operations Manager console, import the VMM System Center 2012 R2 and App Controller System Center 2012 R2 management packs.
3. On the VMM computer, make sure that the following connection points continue to function:
 - a. Make sure that the following connections with Operations Manager continue to function:
 - Management pack

- Operations Manager console
- b. Make sure that the agents continue to function with Configuration Manager.
 - c. Make sure that the connector continues to function with Service Manager
 - d. Make sure that the IP continues to function with Orchestrator
4. On the App Controller computer, make sure that the following connection points continue to function:
- a. Make sure that the agents continue to function with Configuration Manager.
 - b. Make sure that the VMM Administrators Console continues to function with VMM.
 - c. Make sure that the Windows Azure SDK continues to function with Windows Azure.
 - d. Make sure that the agents continue to function with Operations Manager.