

**Dell EqualLogic Storage Management Pack Suite
Version 5.0 For Microsoft System Center Operations
Manager And Microsoft System Center Essentials
Installation Guide**



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Overview

This guide describes how to install the Dell EqualLogic Storage Management Pack Suite version 5.0 for Microsoft System Center 2012 R2 Operations Manager, Microsoft System Center 2012 SP1 Operations Manager, Microsoft System Center 2012 Operations Manager, Microsoft System Center Operations Manager 2007 R2, and Microsoft System Center Essentials (SCE) 2010.

 **NOTE:** All references to OpsMgr in this guide are applicable to System Center 2012 R2 Operations Manager, System Center 2012 SP1 Operations Manager, System Center 2012 Operations Manager, System Center Operations Manager 2007 R2, and System Center Essentials 2010, unless otherwise specified.

Prerequisites

To install the Dell EqualLogic Storage Management Pack Suite version 5.0 on a management server, make sure that you have the following available:

- System Center 2012 R2 Operations Manager, System Center 2012 SP1 Operations Manager, System Center 2012 Operations Manager, System Center Operations Manager 2007 R2, or System Center Essentials 2010.
- Administrator access on the management server to install the suite and import the Dell EqualLogic Storage Management Pack.
- Microsoft .NET version 3.5 or later.
- OpsMgr command shell.
- Windows PowerShell 2.0.
- On systems running OpsMgr 2012 SP1, download and apply the Update Rollup 1 for OpsMgr 2012 SP1 provided in the Microsoft knowledge base article KB2790935. For more information see support.microsoft.com/kb/2785682.
- On systems running OpsMgr 2007 R2 with Internet Explorer 9.0, install the **Cumulative Update 5 for System Center Operations Manager 2007 R2**. For more information, see support.microsoft.com/kb/2495674.

Prerequisites For A Distributed Setup

To install the Dell EqualLogic Storage Management Pack Suite version 5.0 in a distributed setup:

- Running OpsMgr 2007 R2, run the installer on all the management servers used for monitoring Dell EqualLogic device.
- Running OpsMgr 2012 or later:
 - designate a resource pool for monitoring Dell EqualLogic devices
 - run the installer on all the management servers that are part of the resource pool
- Make sure that the Agent proxy option is enabled on all the management servers. For more information, see [Enabling Agent Proxy Option](#).

Contents Of The Dell EqualLogic Storage Management Pack Suite

The Dell EqualLogic Storage Management Pack Suite is packaged in the self extracting executable **Dell_EqualLogic_Storage_Management_Pack_Suite_v5.0_A00.exe** file that contains the following files:

- **Dell_EqualLogic_Storage_Management_Pack_Suite_x86_x64.exe** — The installer for installing Dell EqualLogic Storage Management Pack Suite.
- **DellMPv50_EqualLogicMP_Readme.txt** — The readme file for Dell EqualLogic Storage Management Pack Suite.
- **DellMPv50_EqualLogic_IG.PDF** — Guide for installing Dell EqualLogic Storage Management Pack Suite.

The self extracting executable file is available at dell.com/support.

Supported Operating Systems

Supported operating systems for:

- System Center 2012 R2 Operations Manager, System Center 2012 SP1 Operations Manager and System Center 2012 Operations Manager, see technet.microsoft.com/en-us/library/hh205990.aspx.
- System Center Operations Manager 2007 R2, see technet.microsoft.com/en-us/library/bb309428.aspx.
- System Center Essentials 2010, see technet.microsoft.com/en-us/library/bb422876.aspx.

Installing The Dell EqualLogic Storage Management Pack Suite

To install and enable the Dell EqualLogic Storage management pack:

1. Run the management pack installer to extract the management packs and register the **DellDeviceHelper.dll** file.
For more information, see [Running The Management Pack Installer](#).
2. Enable the supported Monitoring features using the **Dell Feature Management Dashboard**.
For more information, see [Importing Monitoring Features Using Dell Feature Management Dashboard](#).



NOTE: Keep the installer to repair (if required) the Dell EqualLogic Storage Management Pack Suite installation.

Running The Management Pack Installer

1. Go to dell.com/support/drivers.
2. Enter the service tag of your Dell EqualLogic device or browse and select your Dell EqualLogic device.
3. Select your operating system and click **Find Driver and Downloads**.
4. In the **Category** field, select **Systems Management**.
5. Download the self extractable **Dell_Equallogic_Storage_Management_Pack_Suite_v5.0_Axx.exe** (where *xx* is the Dell EqualLogic Storage Management Pack release number).
6. Run the self-extractable file and specify a path to extract its contents.
7. Launch the **Dell_EqualLogic_Storage_Management_Pack_Suite_x86_x64.exe** file from the extracted location.
The welcome screen for the Dell EqualLogic Storage Management Pack is displayed.
8. Click **Next**.
The license agreement is displayed.
9. To continue the installation, accept the license terms after reading them, and click **Next**.
10. Click **Change** (if required) to change the default installation folder and click **Next**.
The **Ready to Install the Program** screen is displayed.

11. Click **Install**.

The **Installing Dell EqualLogic Storage Management Pack** progress screen is displayed.



NOTE: The installer will take a few minutes to check for certificates. To ignore this check, open **Internet Options** and click the **Advanced** tab. Under **Settings**, clear the **Check for publisher's certificate revocation** and **Check for server certificate revocation** options.

12. Click **Finish** on the **Install Shield Wizard Completed** screen.

The Dell EqualLogic Storage Management Pack Suite is installed in the selected location and the installer registers the **DellDeviceHelper.dll** on the management server. The default location is **C:\Program Files\Dell Management Packs\EqualLogic Storage Mgmt Suite\5.0**.

To import the Management Packs (MP) and enable monitoring features, see [Enabling Monitoring Features Using Dell Feature Management Dashboard](#).



NOTE: The Dell Feature Monitoring MP is automatically imported if the installation has completed successfully. If the installer fails to import the Dell Feature Monitoring MP, manually import it. For more information, see [Importing the Dell Feature Monitoring MP](#).

Importing Monitoring Features Using Dell Feature Management Dashboard

The **Dell Feature Management Dashboard** allows you to discover and enable the monitoring features available in the Dell EqualLogic Storage Management Pack by importing or upgrading the required management packs.



NOTE: In a distributed setup, Dell Feature Monitoring MP identifies one management server from the list of management servers to host all feature management activities such as discoveries, alerts, and tasks.

The **Dell Feature Management Dashboard** runs on all the management servers in a distributed environment to discover a Feature Management Host Server. Depending on the timing of discovery on each of the management servers, the dashboard may get populated in duration varying from a few minutes to maximum of a day's cycle. To populate the dashboard within 40 minutes, decrease the frequency of the Discovery elements:

- **Dell Feature Management Host Discovery for EqualLogic Monitoring Feature** to a minimum of 15 minutes
- **Dell Registry Based EqualLogic Management Suite Discovery** to a minimum of 10 minutes

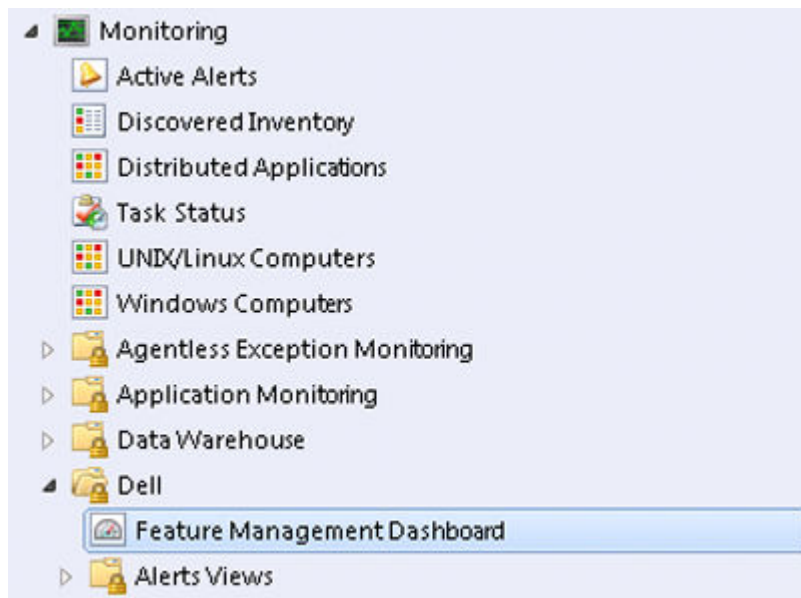


NOTE: It is recommended to revert the overrides made to the Discoveries once the Feature Management Dashboard is populated.

To import monitoring features:

1. Launch OpsMgr console.
2. From the **Navigation** pane, click **Monitoring**.

- Expand **Monitoring** → **Dell** → **Feature Management Dashboard**.



On the **Feature Management Dashboard** pane you can view the list of features installed, the version currently in use, the version you can upgrade to, the level of monitoring, total licenses, and licenses in use.

- Select the **EqualLogic Monitoring** feature from the **Feature Management State** pane.

Feature Management Dashboard

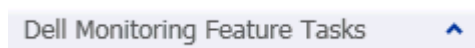
Feature Management State (1)

Feature Name	Description	Monitoring Level	In Use Version	Available Version	Total Node Lic...	License In Use	Current License...
EqualLogic Monitoring	Monitor Dell EqualLogic Storage Array devic...	Not Installed	Not Installed	5.0.0	Not Applicable	Not Applicable	Not Applicable

- Under the **Tasks** pane, expand **Dell Monitoring Feature Tasks**.



NOTE: In System Center Operations Manager 2007 R2 or System Center Essentials 2010, the **Tasks** pane is referred to as **Actions** pane.



- Click on **Import EqualLogic Scalable Feature** or **Import EqualLogic Detailed Feature** task to import or upgrade a feature.

For more information, see [Feature Monitoring Tasks](#).

- On the run task screen, make sure that the **Use the predefined Run As Account** option is selected.
- Click **Run**.

9. After the task has successfully completed, click **Close**.



 **NOTE:** Wait for a task to complete before launching another task using the **Feature Management Dashboard**.

Feature Management Tasks

The following table lists the tasks available on the **Feature Management Dashboard**.

-  **NOTE:** In the OpsMgr event log, ignore the error events about the already existing management packs being re-imported in to OpsMgr. These errors occur when Feature Management Dashboard imports the dependent MPs that were already present in OpsMgr.
-  **NOTE:** Wait for a task to complete (view the state update change in the dashboard) before launching another task using the **Feature Management Dashboard**.

Table 1. Feature Management Tasks For Dell EqualLogic Storage Management Suite.

Tasks	Description
Configure License Server	Dell EqualLogic Storage Management Pack Suite version 5.0 does not require licenses to run.
Import EqualLogic Scalable Feature	If the Dell EqualLogic Monitoring feature is not present, the Scalable edition of Dell EqualLogic Storage Monitoring Feature is imported. For more information, see the “Details Of Components Modelled By The Dell EqualLogic Storage Management Pack Suite” section of the <i>Dell EqualLogic Storage Management Pack Suite Version 5.0 For Microsoft System Center Operations Manager And System Center Essentials User’s Guide</i> at dell.com/support/manuals .
Import EqualLogic Detailed Feature	If the Dell EqualLogic Monitoring feature is not present, then the Detailed edition of Dell EqualLogic Storage Monitoring Feature is imported. For more information, see the “Details Of Components Modelled By The Dell EqualLogic Storage Management Pack Suite” section of the <i>Dell EqualLogic Storage Management Pack Suite</i>

Tasks	Description
	<i>Version 5.0 For Microsoft System Center Operations Manager And System Center Essentials User's Guide at dell.com/support/manuals.</i>
Set to EqualLogic Scalable Feature	If the Detailed edition of Dell EqualLogic Storage Monitoring Feature is running on the system, the Feature Management Dashboard switches from EqualLogic Detailed Feature to EqualLogic Scalable Feature.
Set to EqualLogic Detailed Feature	If the Scalable edition of Dell EqualLogic Storage Monitoring Feature is running on the system, the Feature Management Dashboard switches from EqualLogic Scalable Feature to EqualLogic Detailed Feature.
Refresh Dashboard	Updates the Feature Management Dashboard if it was not automatically updated.
Remove EqualLogic Feature	Removes the Dell EqualLogic Storage Monitoring feature.

Using The Repair Option Of The Installer

The Repair option in the installer repairs installation errors. You can use this option to re-install the management pack, missing files, and correct the registry entries. To repair the installation of the Dell EqualLogic Storage Management Pack Suite:

1. Run the **Dell_EqualLogic_Management_Pack_Suite_x86_x64.exe** file from the extracted location to launch the installer.
The welcome screen is displayed.
2. Click **Next**.
3. Select **Repair** and click **Next**.
The **Ready to Repair the Program** screen is displayed.
 **NOTE:** The **Modify** option of the installer is disabled for Dell EqualLogic Storage Management Pack Suite.
4. Click **Install**.
A progress screen displays the progress of the installation. After the installation is complete, the **InstallShield Wizard Completed** window is displayed.
5. Click **Finish**.

Upgrading From Dell EqualLogic Storage Management Pack Suite Version 4.1 Using Dell Feature Management Dashboard

It is recommended to use the Dell Feature Management Dashboard to upgrade the monitoring features. To upgrade the monitoring features using the Dell Feature Management Dashboard:

1. Run the installer for Dell EqualLogic Storage Management Pack Suite version 5.0.
For more information, see [Running The Management Pack Installer](#).
2. Launch OpsMgr console.
3. From the navigation pane, click **Monitoring**.
4. Expand **Monitoring** → **Dell** → **Feature Management Dashboard**.
The **Feature Management Dashboard** displays the list of management packs present in OpsMgr.
5. Select **EqualLogic Monitoring** from the **Feature Management State** pane.
6. Under **Tasks**, expand **Dell Monitoring Feature Tasks**.
 **NOTE:** In OpsMgr 2007 R2 or System Center Essentials 2010, the **Tasks** pane is referred to as **Actions** pane.
7. Select **Set to EqualLogic Scalable Feature** or **Set to EqualLogic Detailed Feature** to upgrade the monitoring feature.
For more information, see [Feature Management Tasks](#).
8. On the run task screen, select **Use the predefined Run As Account** option.
 **CAUTION:** If there are any dependencies or associations that you must override, which will result in data loss, the task will fail with the appropriate message. To proceed with the task, click **Override** and set the **AutoResolve Warnings/Errors override** to **True**. For more information, see [Override Task Parameters](#).
9. Click **Run**.
While upgrading, any overrides (customizations to discovery, monitors, rules, and so on) from previous versions of Dell EqualLogic Storage Management Pack Suite are migrated to Dell EqualLogic Storage Management Pack Suite version 5.0.
10. After the task is complete, click **Close**.

Upgrading To System Center 2012/SP1 Operations Manager

If you have already imported the Dell EqualLogic Storage Management Pack Suite version 5.0 on your system running OpsMgr 2007 R2, and then upgraded to OpsMgr 2012 or OpsMgr 2012 SP1, the EqualLogic monitoring feature will be automatically upgraded in the next Feature Monitoring Pack discovery cycle.

For details on how to upgrade from OpsMgr 2007 R2 to OpsMgr 2012, see technet.microsoft.com/en-us/library/hh476934.aspx.

 **NOTE:** To make sure that the feature management workflows are functioning at an optimal level, restart the management server after upgrading to OpsMgr 2012 or OpsMgr 2012 SP1.

Uninstalling The Dell EqualLogic Storage Management Pack Suite

To uninstall the Dell EqualLogic Storage Management Pack:

1. Remove the Dell EqualLogic monitoring feature from OpsMgr using the **Dell Feature Management Dashboard**. For more information, see [Removing Monitoring Features Using Dell Feature Management Dashboard](#).
2. Uninstall the Dell EqualLogic Storage Management Pack Suite. For more information, see [Uninstalling The Dell EqualLogic Storage Management Pack Suite](#).

Removing Monitoring Features Using Dell Feature Management Dashboard

It is recommended to use the **Dell Feature Management Dashboard** to remove the management packs. Before removing any of the Monitoring features, close or resolve all open alerts. While removing a monitoring feature, the **Dell Feature Management Dashboard** exports all overrides references to the Windows Temp folder.

To remove your management pack using the **Dell Feature Management Dashboard**:

1. Launch OpsMgr console.
2. From the navigation pane, click **Monitoring**.
3. Expand **Monitoring** → **Dell** → **Feature Management Dashboard**.
The **Feature Management Dashboard** displays the list of management packs present in OpsMgr.
4. Select the **EqualLogic Monitoring** from the **Feature Management State** pane.
5. Under the **Tasks** pane, expand **Dell Monitoring Feature Tasks**.



NOTE: In System Center Operations Manager 2007 R2 or System Center Essentials 2010, the **Tasks** pane is referred to as **Actions** pane.

6. Click **Remove EqualLogic Feature**.
7. On the run task screen, select the **Use the predefined Run As Account** option.



CAUTION: If there are any dependencies or associations that have to be overridden, which result in data loss, the task will fail with the appropriate message. To proceed with the task, click **Override** and set the **AutoResolve Warnings/Errors** override to **True**. For more information, see [Override Task Parameters](#).

8. Click **Run**.
9. Click **Close** after the task is complete.



NOTE: Removing any of the features may affect the scope of some user roles.

Uninstalling The Dell EqualLogic Storage Management Pack



NOTE: In a distributed setup (including distributed resource pool in OpsMgr 2012 or OpsMgr 2012 SP1), if your Management Suite includes both Dell Server Management Pack Suite version 5.0.1 and Dell EqualLogic Storage Management Pack Suite version 5.0, after uninstalling Dell EqualLogic Storage Management Pack Suite, the dashboard entries may not update accordingly. The updated dashboard entries will appear only in the next discovery cycle of the Feature Management Dashboard.

To uninstall Dell EqualLogic Storage Management Pack Suite:

1. Click **Start** → **Control Panel** → **Uninstall a program**.
 **NOTE:** On systems running Windows Server 2012, launch the **Start** screen and click **Control Panel** → **Uninstall a program**.
2. Right-click **Dell EqualLogic Storage Management Pack Suite v5.0** and click **Uninstall**.
3. Follow the instructions on the screen to complete the uninstallation process.

Or double-click the installer, select **Remove**, and follow the instructions on the screen.

Disabling Certificate Validation

To disable the certificate verification:

1. Edit the file **DellEQLHelper.dll.config** under the Library folder where **Dell EqualLogic Storage Management Pack Suite v5.0** is installed.
2. Set the value of **generatePublisherEvidence** to **false**.

Troubleshooting

The following chapter provides information for troubleshooting installation related errors.

Issues And Resolutions

Table 2. Issues And Resolutions

Issue	Resolutions
Unable to repair the Dell EqualLogic Storage Management Pack Suite installation from the Uninstall or change a program/Add or Remove programs window.	Use the repair option of the installer, for more information see Using The Repair Option Of The Installer .
After upgrading to OpsMgr 2012 or OpsMgr 2012 SP1, the following tasks may fail:	
EqualLogic upgrade is failing.	The EqualLogic overrides fail to transfer after upgrading from OpsMgr 2007 R2 to OpsMgr 2012/SP1. To resolve this issue, run the EqualLogic upgrade task from the Feature Management Dashboard to transfer the EqualLogic overrides.
If the EqualLogic installation suite includes Server 5.0.1 monitoring features, the Chassis and Dell Remote Access Controllers (DRAC) upgrade tasks may fail.	The Chassis and DRAC overrides fail to transfer after upgrading from OpsMgr 2007 R2 to OpsMgr 2012/SP1. To resolve this issue, first run the Chassis upgrade task from the Feature Management Dashboard to transfer the Chassis overrides, then run the DRAC upgrade task from the Feature Management Dashboard to transfer the DRAC overrides.

Known Limitations

Table 3. Known Limitations

Limitation	Applicable to
On systems running OpsMgr 2012 SP1, the Feature Management Dashboard Tasks to remove a Monitoring Feature, like the EqualLogic Monitoring feature, fails if there are any overrides made to the Management Pack. Delete the Management Packs from the OpsMgr's Administrators tab. For more information, see the OpsMgr's online documentation at technet.microsoft.com .	Dell EqualLogic Storage Management Pack Suite OpsMgr 2012 SP1

Importing The Dell Feature Monitoring Management Pack

If the installer fails to import the Feature Monitoring Management Pack (MP):

1. Launch the OpsMgr console.
2. From the navigation pane, click **Administration**.
3. Expand **Administration**.
4. Right-click **Management Packs**, and select **Import Management Packs**.
5. On the **Select Management Packs** screen, click **Add** → **Add from disk**.
6. Type the location details or navigate to the location where you have installed the **Dell EqualLogic Storage Management Pack Suite**.
If you installed the management pack in the default directory, then navigate to **C:\Program Files\Dell Management Packs\EqualLogic Storage Mgmt Suite\5.0.** to access the Dell Feature Monitoring Library MP.
7. Select the **Dell.OperationsLibrary.Common.mp** and **Dell.Connections.HardwareLibrary.mp** (located inside the **Library** folder) and click **Open**.
8. On the **Select Management Packs** screen, click **Add** → **Add from disk**.
9. Select the **Dell.FeatureManagement.Pack.mp** and click **Open**.
The **Import Management Packs** screen appears with the MPs displayed in the **Import List**.
10. Click **Install**.

Override Task Parameters

 **CAUTION:** Overriding task parameters will result in management pack or operational data loss.

1. Launch OpsMgr console.
2. From the navigation pane, click **Monitoring**.
3. Expand **Monitoring** → **Dell** → **Feature Management Dashboard**.
The **Feature Management Dashboard** pane displays the list of monitoring features present in OpsMgr and the management pack version you can to which you can upgrade.
4. Select the monitoring feature and then click on the task you want to override.
5. On the run task screen, click **Override**.
The **Override Task Parameters** screen is displayed.
6. In the **New Value** column, set the value of **AutoResolve Warnings/Errors** to **True**.
7. Click **Override**.
8. Click **Run** to run the task.

Enabling Agent Proxy Option

To enable Agent proxy:

1. Launch the OpsMgr console.
2. From the navigation pane, click **Administration**.
3. Expand **Administration** → **Device Management** and click **Management Servers**.
4. Right-click on your management server, click **Properties**.
The **Management Server Properties** screen is displayed.

5. Click the **Security** tab
6. Under **Server Proxy** make sure that the **Allow this server to act as a proxy and discover managed objects on other computers** is selected.