

Microsoft Windows Server 2012 R2 For Dell EMC PowerEdge Systems

Important Information Guide

Notes, cautions, and warnings

 **NOTE:** A NOTE indicates important information that helps you make better use of your product.

 **CAUTION:** A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

 **WARNING:** A WARNING indicates a potential for property damage, personal injury, or death.

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Important information about Microsoft Windows Server 2012 R2

This document provides important information about Microsoft Windows Server 2012 R2 for the Dell EMC PowerEdge systems.

Topics:

- [iDRAC, BIOS, system firmware, RAID controller driver versions](#)
- [Systems Management support for Microsoft Windows Server 2012 R2](#)
- [Multilingual operating system media for Windows Server 2012 R2](#)
- [Pre-Installed Virtual Machine](#)
- [Retrieving Integrated Dell Remote Access Controller \(iDRAC\) IP address](#)
- [Utility to switch system between a Graphical User Interface \(GUI\) and Server Core mode](#)
- [Update 1 roll-up for enhanced performance and reliability](#)
- [Operating system support matrix for the Dell EMC PowerEdge systems](#)

iDRAC, BIOS, system firmware, RAID controller driver versions

Table 1. Supported minimum 11G server BIOS and iDrac version for Windows Server 2012 R2

Servers	BIOS version	iDRAC version
T110	1.10.0	1.97
T110 II	2.6.1	1.97
R210	1.10.0	1.97
R210 II	2.6.1	1.97
R310	1.12.0	1.97
T310	1.12.0	1.97
R410	1.12.0	1.97
T410	1.12.0	1.97
R415	2.2.1	1.97
R515	2.2.1	1.97
R510	1.12.0	1.97
R610	6.4.0	1.97
T610	6.4.0	1.97
M610	6.4.0	3.60
M610x	6.4.0	3.60
R710	6.4.0	1.97
R715	3.2.1	1.97
T710	6.4.0	1.97
M710	6.4.0	3.60

Table 1. Supported minimum 11G server BIOS and iDrac version for Windows Server 2012 R2 (continued)

Servers	BIOS version	iDRAC version
M710 HD	8.0.0	3.60
R810	2.9.0	1.97
R815	3.2.1	1.97
R910	2.10.0	1.97
M910	2.10.0	3.60
M915	3.2.1	1.97
C6105	2.1.7	1.97
C6145	3.0.0	1.97

Table 2. Supported minimum 12G server BIOS and iDrac version for Windows Server 2012 R2

Servers	BIOS version	iDRAC version
T20	A03	1.50.50
R220	1.0.3	1.50.50
R320	2.0.21	1.50.50
T320	2.0.21	1.50.50
R420	2.0.21	1.50.50
T420	2.0.21	1.50.50
M420	2.0.22	1.50.50
R520	2.0.21	1.50.50
M520	2.0.22	1.50.50
R620	2.1.2	1.50.50
T620	2.1.2	1.50.50
M620	2.1.3	1.50.50
R720	2.1.1	1.50.50
R820	1.7.1	1.50.50
M820	1.7.3	1.50.50
R920	1.2.2	1.50.50
C8220	2.1.0	1.50.50
C6220	2.0.4	1.50.50

Systems Management support for Microsoft Windows Server 2012 R2

Dell OpenManage 7.4 and later supports Microsoft Windows Server 2012 R2. For more information about the installation of OpenManage, see the *OpenManage System Management Installation Guide* at Dell.com/openmanagemanuals.


Multilingual operating system media for Windows Server 2012 R2

With the Windows Server 2012 R2 release, the Dell EMC systems are shipped with a multilingual operating system interface that provides a list of supported languages. When you power on your system for the first time or reinstall the operating system using a pro Dell EMC vided media, you can select the language of your choice.

With the new multilingual operating system media, you have the flexibility to reinstall the operating system in the language of your choice.

To deploy the operating system using the multilingual DVD media:


1. Boot to the operating system media.
2. Select the language of your choice from the **Language Selection** screen and follow the instructions.

 **NOTE:** Simplified Chinese and Traditional Chinese images are provided in separate DVDs.

Pre-Installed Virtual Machine

If you select **enable hyper-v role** at **Dell.com**, you are provided with a pre-installed virtual machine. You can use the virtual machine files at **C:\Dell_OEM\VM** in your server along with the Hyper-V Manager to import virtual machines on this system, under Microsoft's normal licensing restrictions. For more information on the terms of licensing, see the *End User License Agreement* shipped with your product.

The VM at **C:\Dell_OEM\VM** allows you to select the appropriate language during the setup process. The virtual hard disk attached to this VM is of dynamically expanding type and can be converted to fixed type.

 **NOTE:** The virtual hard disk (VHD) attached to the VM is of dynamically expanding type which can grow up to a maximum of 127 GB. To increase the virtual disk space, create a new virtual hard disk and attach it to the same VM. To convert the virtual hard disk, provided by Dell EMC, from a dynamically expanding to a fixed disk, ensure that you have a minimum of 127 GB of space in your server before conversion.

To use the virtual machine:

1. Go to **Hyper-V Manager** in your operating system.
2. Select and right-click the server in the **Hyper-V Manager**.
3. Select **Import Virtual Machine**.
4. In the **Import Virtual Machine Wizard** provide the path of the VM and import it.

To activate the VM created using the sysprepped the VHDx file, use the virtual product key on the certificate of authenticity (COA) sticker affixed on the system. If your server is shipped with the datacenter edition of the operating system, you can also auto activate the VM by using Automatic Virtual Machine Activation (AVMA) keys from Microsoft. For more information on how to activate the AVMA keys refer to the article Automatic Virtual Machine Activation on **Technet.microsoft.com**.

You can perform security updates using standard methods before placing the system into production.

 **CAUTION:** It is recommended that you create a backup of the VM. Dell EMC does not provide a replacement file if there is loss or damage.

Retrieving Integrated Dell Remote Access Controller (iDRAC) IP address


A PowerShell module `DellTools.psm1` is located in the `C:\Dell_OEM\PSModule`. This folder is installed at the factory, to assist with common tasks.

This module includes commands that allow you to access the iDRAC IP address from the operating system.

To retrieve the iDRAC IP Address, type the following command, and press ENTER.

```
Get-iDRACIPAddress
```

This function retrieves the IPv4 values only.

 **NOTE:** This script must be tested with all your applications and supported the Server Core roles before using it in a production environment.

Utility to switch system between a Graphical User Interface (GUI) and Server Core mode

A PowerShell module **DellTools.psm1** is located in `C:\Dell_OEM\PSModule` folder, installed in the factory to assist you with common tasks. The module includes a function that allows you to configure your system in a **Server with a GUI** mode and then convert to **Server Core** mode and place the system in production. Also, it can be used to switch back to GUI for configuration and troubleshooting.

The detailed steps on using this add-in are provided in the readme file at **C:\Dell_OEM\PSModule** in your system.

For security reasons, PowerShell script execution policy is set to **restricted** by default and must be modified to allow scripts to run on the system. It is recommended to set the execution policy back to **restricted** after completing your scripts. For more information about how to change the execution policy, see the article **Set-ExecutionPolicy** at technet.microsoft.com or other related articles at support.microsoft.com.

- To use the provided module, at an elevated Windows PowerShell command prompt, type the following command and press <Enter>:

```
Import-Module -Name C:\Dell_OEM\PSModule\DellTools.psm1
```

- To view the list of available commands, type the following command and press <Enter>:

```
Get-Command -Module DellTools
```

- To convert from Server with a GUI mode to Server Core mode, type the following command and press <Enter>:

```
Set-GUI -Mode Core
```

Update 1 roll-up for enhanced performance and reliability

This update 1 package from Microsoft enhances performance and reliability and also resets the servicing base line of windows server 2012 R2 Operating system. This package contains windows server 2012 R2 Roll-up updates released from the GA to March 2014. For more information refer the following knowledge Base articles : KB 2919442 & KB2919355 at support.microsoft.com.

Operating system support matrix for the Dell EMC PowerEdge systems

Windows Server OS can only be installed on certain Dell EMC PowerEdge systems. For a list of the Dell EMC supported PowerEdge systems and OS combinations, see the *Operating System Support Matrix for Dell EMC PowerEdge Systems* at Dell.com/ossupport.

Supported Microsoft Windows videos for Dell EMC PowerEdge systems

Table 3. Supported Microsoft Windows videos for Dell EMC PowerEdge systems

Video title	Links
Downloading the driver for Windows from the Dell support site	www.youtube.com/watch?v=r55q4HuyskM
Installing Microsoft Windows 2012 R2 operating system in UEFI mode manually	https://www.youtube.com/playlist?list=PLe5xhhyFjDPfTCaDRFfIB_VsoLpL8x84G
Installing Windows 2012 R2 operating system by using Lifecycle Controller	https://www.youtube.com/playlist?list=PLe5xhhyFjDPfTCaDRFfIB_VsoLpL8x84G
OS Deployment - Unattended Installation using USB drive	https://www.youtube.com/playlist?list=PLe5xhhyFjDPfTCaDRFfIB_VsoLpL8x84G

Known Issues

Topics:

- [System hangs during the Windows installation](#)
- [Booting to iSCSI or FCoE fails](#)
- [Yellow bangs in device manager for Dell's 12th generation of PowerEdge servers](#)
- [Internet Explorer compatibility with iDRAC](#)
- [Broadcom BACS software fails to launch](#)
- [Drivers without inbox support](#)

System hangs during the Windows installation

Description: System hangs at a black screen during Windows Server 2012 R2 OS installation. The hang is seen at the "Loading files" stage when booting into the Windows Server 2012 R2 Fall Update (November refreshed) OS Installation image. This hang is seen only when performing the OS installation on an iSCSI LUN mapped to a Broadcom 57810 PCIe card. This issue is seen with DVD and ISO based installation of Windows Server 2012R2 Fall Update which is available for download from MSDN or a VL Image bought outside of Dell.

Resolution: This is an issue seen only with the Broadcom 57810 PCIe card, there are other form factors of the same hardware but they are not affected by this issue. You can use the following workaround to install the OS:

- Perform a PXE/Network based installation of *Windows Server 2012 R2 Fall Update*.
- Use the Dell shipped *Windows Server 2012 R2 OEM recovery* media install the OS.
- If you are using an **MSDN** or **VL** version of *Windows Server 2012 R2 Fall Update* perform the following steps:
 1. Extract the OS to temp directory.
 2. Download the evaluation version of *Windows Server 2012 R2* from the [Microsoft Evaluation](#) website and mount it.
 3. Copy the bootmgr file located at the root of the mounted *Windows Server 2012 R2* image into the temp directory where the MSDN copy of Windows Server 2012 R2 OS is extracted.
 4. On completion of replacing bootmgr file, recreate the ISO using the steps mentioned in this article [https://technet.microsoft.com/en-us/library/dd799243\(v=ws.10\).aspx](https://technet.microsoft.com/en-us/library/dd799243(v=ws.10).aspx).
 5. Using this modified image, install the OS.

Booting to iSCSI or FCoE fails

Description: When trying to install Windows Server 2012 R2 operating system on an iSCSI or FCOE LUN, you may see a failure either during the operating system installation or at first boot.

Resolution: This is a known issue. This issue has been fixed in operating systems pre-installed by Dell EMC and in the recovery media shipped with your system. For more information, see the knowledge base article KB2894179 at support.microsoft.com.

Yellow bangs in device manager for Dell's 12th generation of PowerEdge servers

- Description:** After installing Microsoft Windows Server 2012 R2 on Dell's 12th generation of PowerEdge servers, two yellow bangs appear in the **Device Manager** under **Hidden Devices: PCI SIMPLE COMMUNICATIONS CONTROLLER**. These devices do not impact server functionality.
- Resolution:** Download and install chipset drivers from **Dell.com/support** for the respective servers.

Internet Explorer compatibility with iDRAC

- Description:** On Windows Server 2012 R2 with Internet Explorer 11 browser, the iDRAC GUI page does not display correct information.
- Resolution:** For the iDRAC page to display correctly:
1. Enable the compatibility view mode: Open the Internet Explorer 11 browser and navigate to **Tools > Compatibility View Settings**.
 2. Add the iDRAC IP address to the settings.
 3. Save the changes.


Broadcom BACS software fails to launch

- Description:** Broadcom BACS software fails to launch after installation on Windows Server 2012 R2.
- Resolution:** Download and install the latest drivers from **dell.com/support**.

Drivers without inbox support

The following are a list of drivers without inbox support for Windows Server 2012:

- Software RAID PERC S110 on the Dell EMC Value Line of Servers
- QLogic 246x and 256x Fiber Channel series Dell EMC adapters
- QLogic 81xx CNA Adapters – NDIS and FCoE
- AMD and NVIDIA Add-On display driver for Dell's 11th generation and 12th generation of PowerEdge systems
- Shared PERC8 RAID Controller on the PowerEdge VRTX
- Matrox G200W and G200eR embedded video controllers
- Dell EMC PCIeSSD storage controller
- Intel Romley Chipset Management Node Driver

 **NOTE:** For more information on drivers without inbox support, see *Windows Server 2012 R2 RTM Inbox Driver Support on PowerEdge Servers* at En.community.dell.com/techcenter.

 **NOTE:** For the latest driver updates, go to Dell.com/support/drivers.

Getting help

Topics:

- [Contacting Dell EMC](#)
- [Documentation and video resources](#)
- [Downloading the drivers and firmware](#)
- [Documentation feedback](#)

Contacting Dell EMC

Dell EMC provides several online and telephone based support and service options. If you do not have an active internet connection, you can find contact information about your purchase invoice, packing slip, bill, or Dell EMC product catalog. Availability varies by country and product, and some services may not be available in your area.

To contact Dell EMC for sales, technical assistance, or customer service issues:

1. Go to [Dell.com/support](https://www.dell.com/support).
2. Select your country from the drop-down menu on the lower right corner of the page.
3. For customized support:
 - a. Enter your system Service Tag in the **Enter your Service Tag** field.
 - b. Click **Submit**.
The support page that lists the various support categories is displayed.
4. For general support:
 - a. Select your product category.
 - b. Select your product segment.
 - c. Select your product.
The support page that lists the various support categories is displayed.
5. For contact details of Dell EMC Global Technical Support:
 - a. Click [Global Technical Support](#).
 - b. The **Contact Technical Support** page is displayed with details to call, chat, or email the Dell EMC Global Technical Support team.

Documentation and video resources

Table 4. Additional documentation and video resources for your server

Task	Description	Location
Setting up your server	For information about installing the server into a rack, see the Rack documentation included with your rack solution or the <i>Getting Started</i> document that is shipped with your server.	https://www.dell.com/poweredgemanuals
	For information about turning on the server and the technical specifications of your server, see the <i>Getting Started</i> document that is shipped with your server.	https://www.dell.com/poweredgemanuals

Table 4. Additional documentation and video resources for your server (continued)

Task	Description	Location
Configuring your server	For information about the iDRAC features, configuring and logging in to iDRAC, and managing your server remotely, see the <i>Integrated Dell Remote Access Controller User's Guide</i> .	https://www.dell.com/idracmanuals
	For information about installing the operating system, see the operating system documentation.	https://www.dell.com/operatingsystemmanuals
	For information about understanding Remote Access Controller Admin (RACADM) subcommands and supported RACADM interfaces, see the <i>RACADM Command Line Reference Guide for iDRAC</i> .	https://www.dell.com/idracmanuals
	For information about updating drivers and firmware, see the "Download drivers and firmware" section in this document.	www.dell.com/support/drivers
Managing your server	For information about server management software offered by Dell, see the <i>Dell EMC OpenManage Systems Management Overview Guide</i> .	https://www.dell.com/openmanagemanuals
	For information about setting up, using, and troubleshooting OpenManage, see the <i>Dell EMC OpenManage Server Administrator User's Guide</i> .	https://www.dell.com/openmanagemanuals
	For information about installing, using, and troubleshooting Dell EMC OpenManage Essentials, see the <i>Dell EMC OpenManage Essentials User's Guide</i> .	https://www.dell.com/openmanagemanuals
	For information about installing and using Dell EMC System E-Support Tool (DSET), see the <i>Dell EMC System E-Support Tool (DSET) User's Guide</i> .	https://www.dell.com/supportassist
	For information about installing and using Active System Manager (ASM), see the <i>Active System Manager User's Guide</i> .	www.dell.com/support/article/en-us/sln310611/dell-active-system-manager
	For understanding the features of Dell EMC Lifecycle Controller (LCC), see the <i>Dell EMC Lifecycle Controller User's Guide</i> .	https://www.dell.com/idracmanuals
	For information about partner programs enterprise systems management, see the <i>OpenManage Connections Enterprise Systems Management</i> documents	https://www.dell.com/OMConnectionsEnterpriseSystemsManagement

Table 4. Additional documentation and video resources for your server (continued)


Task	Description	Location
	For information about connections and client systems management, see the <i>OpenManage Connections Client Systems Management</i> documentation.	https://www.dell.com/omconnectionsclient
	For information about viewing inventory, performing configuration, and monitoring tasks, remotely turning on or off servers, and enabling alerts for events on servers and components using the Dell EMC Chassis Management Controller (CMC), see the CMC User's Guide.	https://www.dell.com/cmcmanuals
Working with the Dell EMC PowerEdge RAID controllers	For information about understanding the features of the Dell EMC PowerEdge RAID controllers (PERC) and deploying the PERC cards, see the Storage controller documentation.	www.dell.com/storagecontrollermanuals
Understanding event and error messages	For information about checking the event and error messages generated by the system firmware and agents that monitor server components, see the <i>Dell EMC Event and Error Messages Reference Guide</i> .	https://www.dell.com/openmanagemanuals
Installing MS Windows Server OS in UEFI Mode using Lifecycle Controller		www.youtube.com/watch?v=3uCuQKNIQpY
Manually installing MS Windows Server OS in UEFI Mode		www.youtube.com/watch?v=T7UpmwS5Ba4

Downloading the drivers and firmware

Dell EMC recommends that you download and install the latest BIOS, drivers, and systems management firmware on your system.

Ensure that you clear the web browser cache before downloading the drivers and firmware.

1. Go to **Dell.com/support/drivers**.
2. Under the **Drivers & Downloads** section, type the Service Tag of your system in the **Service Tag or Express Service Code** box, and then click **Submit**.

 **NOTE:** If you do not have the Service Tag, select **Detect My Product** to allow the system to automatically detect your Service Tag, or under General support, navigate to your product.
3. Click **Drivers & Downloads**.
The drivers that are applicable to your selection are displayed.
4. Download the drivers to a USB drive, CD, or DVD.

Documentation feedback

You can rate the documentation or write your feedback on any of our Dell EMC documentation pages and click **Send Feedback** to send your feedback.