



Updating M1000e Servers and Using in Chassis Management Controller (CMC) VRTX Chassis

This Dell technical white paper provides information about updating M1000e servers to make them compatible for use in the CMC VRTX Chassis.

Dell Engineering
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Revisions

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Contents

Revisions	2
Executive Summary	4
1 Prerequisites	5
2 Downloading Firmware Versions from Dell Support Site	6
3 Updating Firmware Versions Using iDRAC GUI	9
3.1 After Updating iDRAC Firmware	12
3.2 Updating BIOS and CPLD Firmware	12
4 Inserting Updated Server Module in CMC VRTX Chassis	13
Additional Resources	13
About Authors	13



Executive Summary

This whitepaper provides information about updating a M1000e server to make it compatible for a CMC VRTX Chassis. The scope of this white paper is to describe the tasks relevant for M520, M620, and M820 servers by using an iDRAC graphical user interface (GUI). You must have an iDRAC Enterprise license to complete this task. Note that the behavior of a server after updating firmware versions of iDRAC, BIOS, and CPLD are different. This white paper discusses about such behaviors in the later sections.

As a customer of Dell PowerEdge servers, now, you have the option of using your M1000e servers in the new versatile VRTX Chassis. For more information about VRTX Chassis, go the official website of Dell.

Currently, only M520, M620, and M820 servers among the PowerEdge models can be updated and used on a CMC VRTX Chassis.

Appropriate sample screen shots are given, if only necessary, to make you understand the tasks clearly. An example of downloading and updating the 32-bit iDRAC firmware version 1.51.51 on M620 server is discussed in this white paper.

You must use only the latest available versions of 32-bit for updating either iDRAC, BIOS, or CPLD.

You can also use RACADM commands to update a firmware, whose discussion is beyond the scope of this white paper. For more information about using RACADM commands, see the RACADM Command Line Reference Guide for iDRAC and CMC available at dell.com/support/manuals.

Also, you can download a firmware by using different options such as entering your service tag or detecting your product by using the support site, but this white paper discusses the tasks to be followed for downloading by using the **Get drivers** feature. For more information about using these features on the support site, use the options provided on the support site or contact your Dell service provider.



1 Prerequisites

- iDRAC7 with Enterprise license
- To update a server to make usable in VRTX Chassis, you must complete the following tasks, which are discussed in detail in the following sections of this white paper:
 - Downloading latest firmware versions from the dell support site
 - Updating the firmware on servers
 - Installing appropriate hardware components



2 Downloading Firmware Versions from Dell Support Site

You must download all the following 32-bit firmwares and install on the M1000e servers:

- o BIOS version 1.7.6 or later for M520/M620, or version 2.0.24 for M820.
- o DELL iDRAC7 1.40.40 or later for M520/M620, or version 1.50.50 or later for M820.
- o CPLD 1.0.6 or later for M620. CPLD 1.0.5 or later for M520. CPLD 1.0.3 or later for M820.

You can update a firmware by using the following file types. However, in this white paper, the procedure to update only by using a .exe file is discussed. For more information about other file types, see the iDRAC User's Guide available at dell.com/support/manuals.

- o .exe (DUP—Dell Update Package)
- o .d7
- o .usc
- o .pm

To download:

1. Go to <http://www.dell.com/support/my-support/us/en/19?c=us&s=dhs&cs=19&l=en>
2. In the **Support** section, if you know the service tag of your server, type in the **Enter your Service Tag** box, and then click **Submit**. Else, in the **General Support** section, click **Servers, Storage, & Networking**.
3. From the list of products, click **PowerEdge**, and then click **M620**.
4. On the **Product Support** page, click **Get drivers**, and then click **View All Drivers**.

The screenshot displays the Dell Product Support interface for a PowerEdge M620 server. At the top, there's a search section titled "Enter your Service Tag or sign in to get product details." with a "Service Tag" input field, a "Submit" button, and a "Sign In" button. Below this, there are links for "Detect My Product" and "Create an account / Sign in to Premier". A navigation bar includes "Manuals" and "System configuration". On the left, a sidebar offers options: "Get started", "Research a topic", "Get drivers" (highlighted in blue), and "Upgrade". The main content area features a section titled "Keep drivers up to date for optimal performance." with a "View all drivers for your PowerEdge M620" link and a "View All Drivers" button highlighted with a red rectangular box.



5. On the **Drivers and Downloads** page, in the **Refine your results** section, from the **Operating System** drop-down menu, select **MS Windows 2008 x86**. The selection of this implies that you want to download a 32-bit iDRAC firmware version.

Refine your results: (140 files) [See More Filtering Options](#)

Operating System: MS Windows 2008 x86 | **Category:** All | **Release Date:** All | **Importance:** All

[Expand All Categories](#) | [Collapse All Categories](#)

- BIOS (1)
- Chassis System Management (1)
- Chipset (1)
- Diagnostics (6)
- Drivers for OS Deployment (1)
- Embedded Server Management (2)

6. Expand **Embedded Server Management**. Under **iDRAC 1.51.51**, click **Other Formats**.

Embedded Server Management (2)

File Title	Importance	Release Date	Version	Actions
iDRAC7 1.51.51 (Firmware) Other Formats Description iDRAC7 1.51.51	Recommended	12/26/2013	1.51.51, A00 Previous Versions	Download File Add to My Download List

7. From the list of firmware versions displayed, click **Download File** corresponding to the file whose **File Name** is **ESM_Firmware_JGG1X_WN32_1..51.51_A00.EXE**.

File Format: Update Package for Microsoft® Windows® [Download File](#)

File Name: **ESM_Firmware_JGG1X_WN32_1.51.51_A00.EXE** [Add to My Download List](#)



Description: Dell Update Packages in Microsoft Windows 32-bit format can be deployed on Microsoft 64-bit operating systems by implementing the WOW64 emulation applications. WOW64 is a standard feature on most Microsoft operating systems. For more information, [click here](#).



Download Type: HTTP

File Size: 67MB

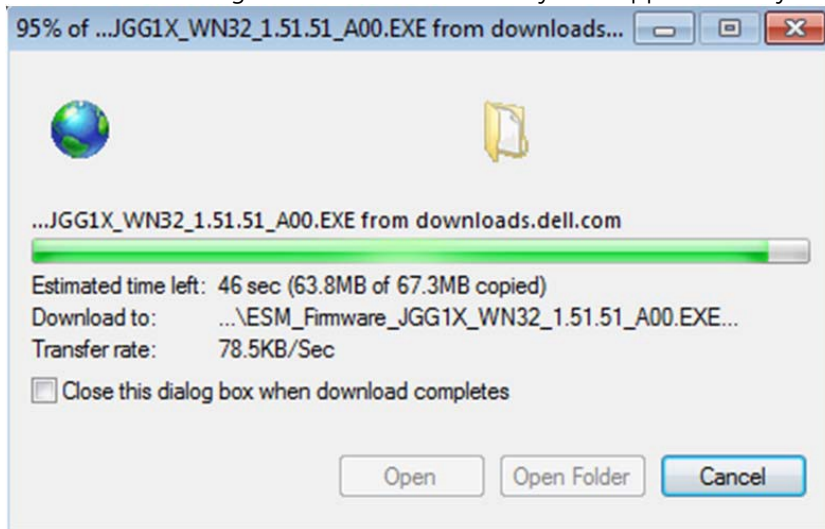


To know about the other hardware and software requirements of a server for installing iDRAC, make sure that you read through the Release Notes available on this page

File Format:	Rel-Notes-Text	 Download File
File Name:	iDRAC7_1.51.51_A_ReleaseNotes.txt	 Add to My Download List
Description:	This file format contains plain text which can be viewed with a standard text editor.	
Download Type:	HTTP	
File Size:	68KB	

File Format:	Update Package for Microsoft® Windows® 64-Bit.	 Download File
File Name:	ESM_Firmware_JGG1X_WN64_1.51.51_A00.EXE	 Add to My Download List
Description:	Dell Update Packages in native Microsoft Windows 64-bit format do not require that Microsoft WOW64 be installed on the Microsoft Windows Server. For more information, click here .	
Download Type:	HTTP	
File Size:	74MB	

8. Wait for the file to get downloaded. This may take approximately 5–10 minutes.



9. Similarly, download only the Windows 32-bit firmwares of BIOS and CPLD to a known file folder location.



3 Updating Firmware Versions Using iDRAC GUI

Before you update firmware using Dell Update Package (DUP), make sure to:

- o Install and enable the IPMI and managed system drivers.
- o Enable and start the Windows Management Instrumentation (WMI) service, if your server is running Windows operating system,

While updating an iDRAC7 firmware using the DUP utility in Linux, if the messages such as **usb 5-2: device descriptor read/64, error -71** is displayed on the page, ignore them.

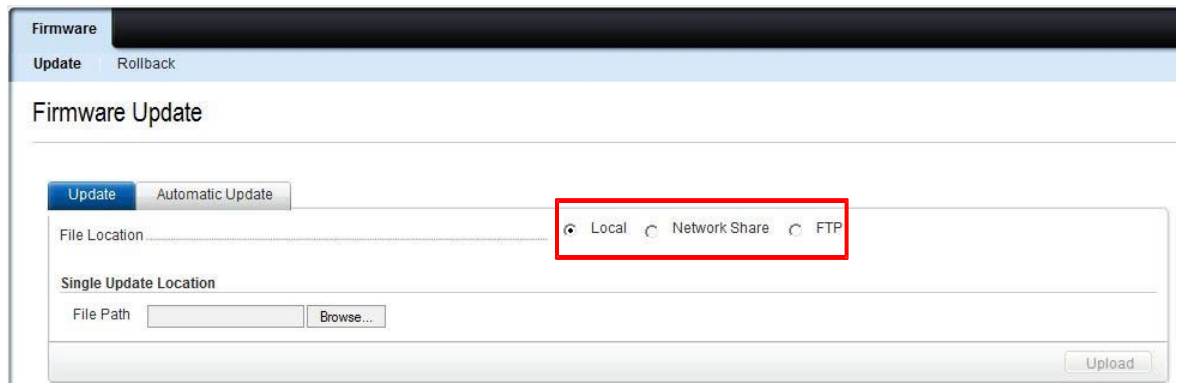
- o If the server has ESX hypervisor installed, then for the DUP file to run, make sure that the "usbarbitrator" service is stopped by running the command at the command line interface (CLI):
`service usbarbitrator stop`

To update a firmware:

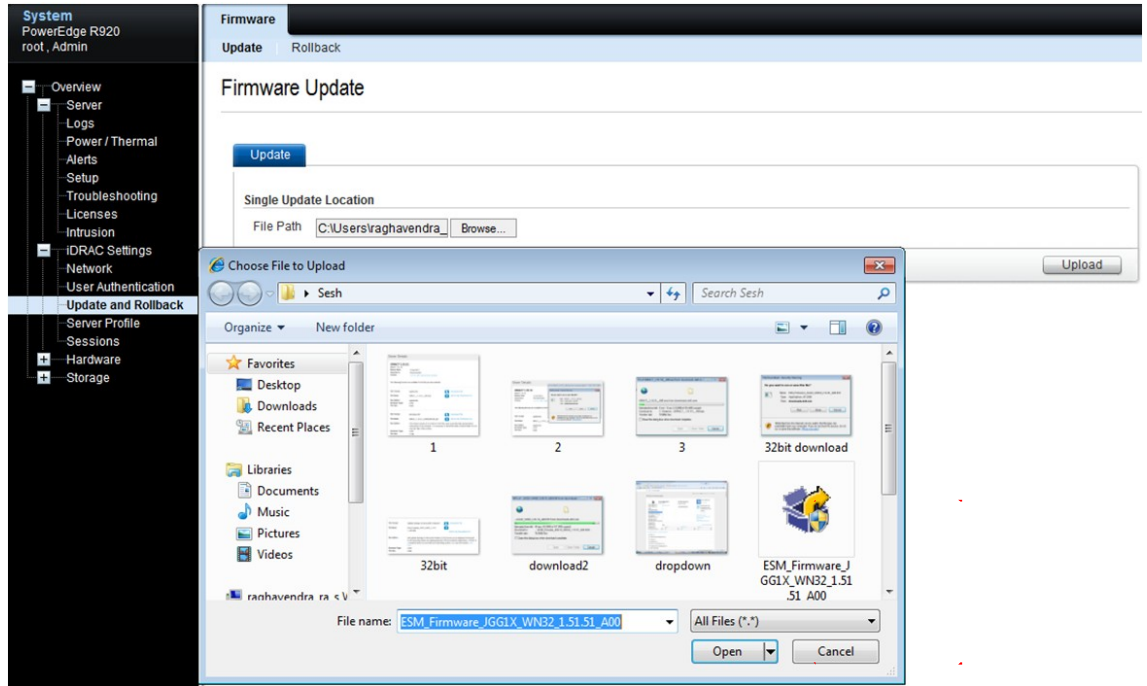
1. Insert the server in to the M1000e chassis. Make sure that iDRAC receives a client-accessible IP address by either using a DHCP server or in a static mode.
2. Log in to the iDRAC GUI using your username (`root`) and password (`calvin`).
3. In the left pane, expand **iDRAC Settings**, and then click **Update and Rollback**.

In case of iDRAC versions earlier than 1.20.20, click **iDRAC Firmware Update**.

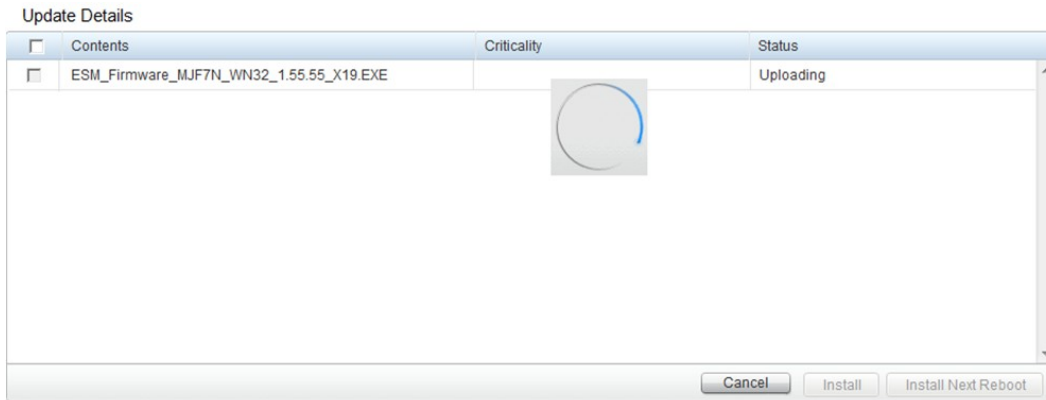
4. On the **Firmware Update** page, click **Local or Network Share**, or **FTP** to indicate the folder where the file is stored. Here, we have taken an example of storing it on a local folder.



- Click the **Browse** button to browse through to the DUP file, select the file, and then click **Open**.



The firmware upload operation is started and the status is displayed.

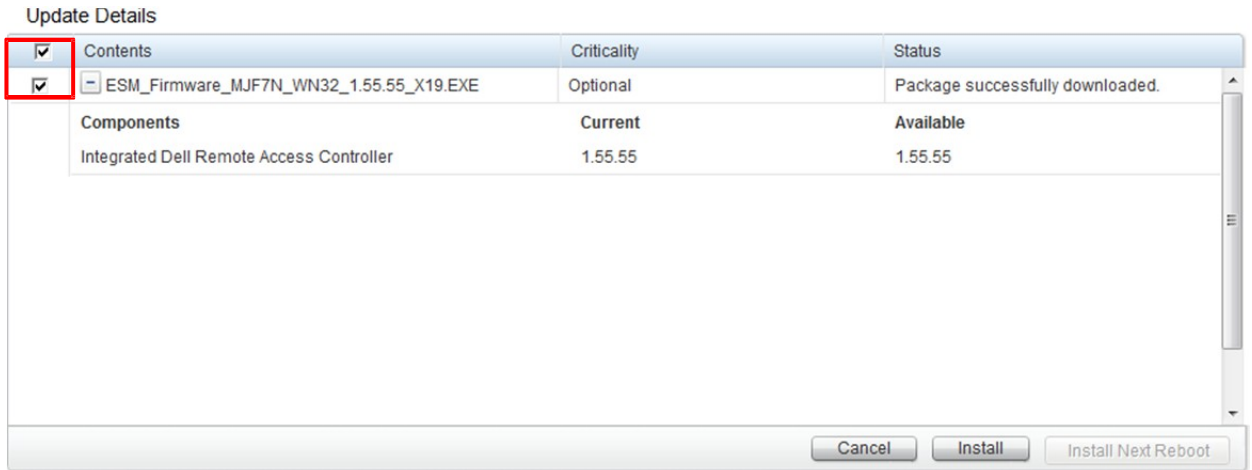


After the file is downloaded, the **Status** column displays **Package successfully downloaded**.

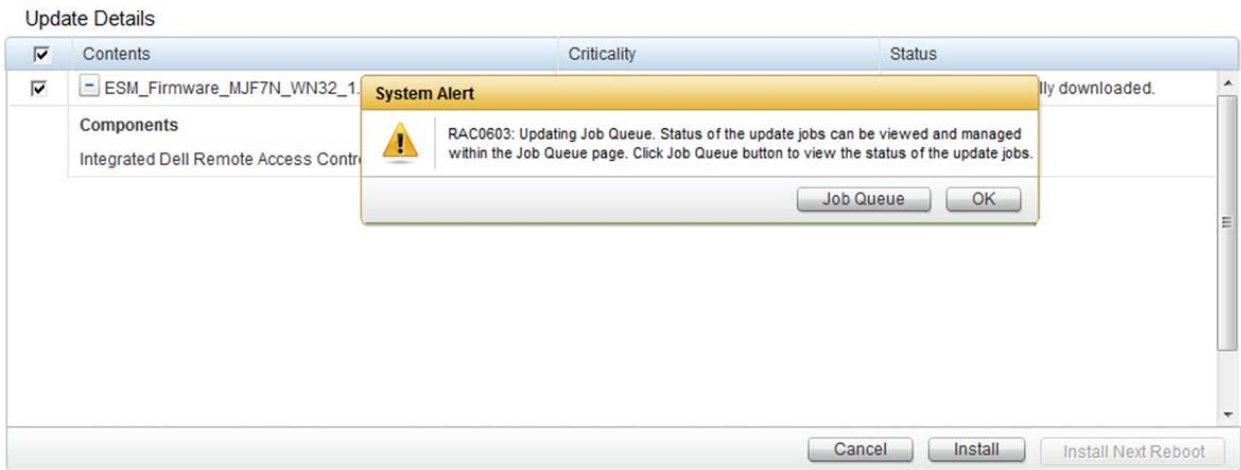


- In the **Update Details** section, select the option corresponding to the firmware version you want to install, and then click **Install**.

Before you update the firmware, make sure that the Lifecycle Controller of this iDRAC is started.



A message is displayed as given in the screen shot here to indicate that the installation process is started and status of installation can be viewed by clicking **Job Queue**. Alternately, click **Server > Job Queue**.



The **Status** column shows **Completed**.

<input type="checkbox"/>	<input type="checkbox"/>	JID_830119977442	Firmware Update: iDRAC	Completed
		Start Time:	Not Applicable	
		Expiration Time:	Not Applicable	
		Message:	RED001: Job completed successfully.	
<input type="checkbox"/>	<input type="checkbox"/>	JID_758711317745	Firmware Update: iDRAC	Completed



3.1 After Updating iDRAC Firmware

After the iDRAC firmware is updated, it takes around two (2) minutes for the changes to become effective. During this period, iDRAC will not be available for use.

For more information about whether or not a server restart is required for the firmware to be effective, see *the Lifecycle Controller User's Guide* available at dell.com/support/manuals.

7. To verify whether or not the firmware is updated correctly, in the left pane, click **Server**. On the **System Summary** page, in the Server Information section, make sure that the updated version is displayed in the **Firmware Version** row.

For more information about the description of fields that appear on an iDRAC page, click the question mark symbol (?) in the upper-right corner of a page. For detailed information about the tasks that you can perform on a page, see the *iDRAC User's Guide* available at dell.com/support/manuals.

3.2 Updating BIOS and CPLD Firmware

As described in the **Updating Firmware Using iDRAC GUI** section earlier in this white paper, upload and update the BIOS and CPLD firmware DUPs that you have downloaded.

Updating BIOS and CPLD Firmware

- After updating the firmware of BIOS and CPLD, a server is automatically restarted to affect the update in Lifecycle Controller, and then 'power cycle' after the update is effective.
- Also, in case of a CPLD update, after an update, the server is virtually reseated, which results in iDRAC being not available for use for approximately two (2) minutes, because iDRAC is being restarted and the server is automatically turned off. After iDRAC restarts, the server is automatically restarted.



4 Inserting Updated Server Module in CMC VRTX Chassis

1. After you update iDRAC firmware, BIOS, and CPLD, make sure that the versions are correctly appearing on the iDRAC GUI.
2. Turn off the server, and then remove the server from the M1000e chassis.
3. Open the top cover, and then remove the installed mezzanine cards in Fabric B and Fabric C, if any.
4. Install Dell PCIe Mezzanine adapters in both Fabric B and C mezzanine slots of M520/M620, and in all four Fabric B1, C1, B2, and C2 mezzanine slots of M820.
5. Fix the top cover, and then insert the server module in the CMC VRTX Chassis. The server module is now ready for use in the CMC VRTX Chassis.

Additional Resources

See the following documentation available at the Dell Tech Center and Del Support sites:

- o integrated Dell Remote Access Controller (iDRAC) User's Guide
- o RACADM Command Line Reference Guide for iDRAC and CMC
- o Chassis Management Controller (CMC) User's Guide
- o Chassis Management Controller for PowerEdge VRTX User's Guide
- o RACADM Command Line Reference Guide for Chassis Management Controller for PowerEdge VRTX User's Guide
- o Lifecycle Controller User's Guide
- o Lifecycle Controller Remote Services Quick Start Guide
- o Relevant white papers

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