



Lifecycle Controller with Dell Repository Manager

Dell, Inc.
Dell Repository Manager Team
Chandrasekhar G

Dell Engineering
October 2013

Revisions

Date	Description
October 2013	Initial release

THIS WHITE PAPER IS FOR INFORMATIONAL ONLY, AND MAY CONTAIN TYPOGRAPHICAL ERRORS AND TECHNICAL INACCURACIES. THE CONTENT IS PROVIDED AS IS, WITHOUT EXPRESS OR IMPLIED WARRANTIES OF ANY KIND. © 2013 Dell Inc. All rights reserved. Reproduction of this material in any manner whatsoever without the express written permission of Dell Inc. is strictly forbidden. For more information, contact Dell.

PRODUCT WARRANTIES APPLICABLE TO THE DELL PRODUCTS DESCRIBED IN THIS DOCUMENT MAY BE FOUND AT: <http://www.dell.com/learn/us/en/19/terms-of-sale-commercial-and-public-sector> Performance of network reference architectures discussed in this document may vary with differing deployment conditions, network loads, and the like. Third party products may be included in reference architectures for the convenience of the reader. Inclusion of such third party products does not necessarily constitute Dell's recommendation of those products. Please consult your Dell representative for additional information.

Trademarks used in this text:

Dell™, the Dell logo, Dell Boomi™, Dell Precision™, OptiPlex™, Latitude™, PowerEdge™, PowerVault™, PowerConnect™, OpenManage™, EqualLogic™, Compellent™, KACE™, FlexAddress™, Force10™ and Vostro™ are trademarks of Dell Inc. Other Dell trademarks may be used in this document. Cisco Nexus®, Cisco MDS®, Cisco NX-OS®, and other Cisco Catalyst® are registered trademarks of Cisco System Inc. EMC VNX®, and EMC Unisphere® are registered trademarks of EMC Corporation. Intel®, Pentium®, Xeon®, Core® and Celeron® are registered trademarks of Intel Corporation in the U.S. and other countries. AMD® is a registered trademark and AMD Opteron™, AMD Phenom™ and AMD Sempron™ are trademarks of Advanced Micro Devices, Inc. Microsoft®, Windows®, Windows Server®, Internet Explorer®, MS-DOS®, Windows Vista® and Active Directory® are either trademarks or registered trademarks of Microsoft Corporation in the United States and/or other countries. Red Hat® and Red Hat® Enterprise Linux® are registered trademarks of Red Hat, Inc. in the United States and/or other countries. Novell® and SUSE® are registered trademarks of Novell Inc. in the United States and other countries. Oracle® is a registered trademark of Oracle Corporation and/or its affiliates. Citrix®, Xen®, XenServer® and XenMotion® are either registered trademarks



or trademarks of Citrix Systems, Inc. in the United States and/or other countries. VMware®, Virtual SMP®, vMotion®, vCenter® and vSphere® are registered trademarks or trademarks of VMware, Inc. in the United States or other countries. IBM® is a registered trademark of International Business Machines Corporation. Broadcom® and NetXtreme® are registered trademarks of Broadcom Corporation. Qlogic is a registered trademark of QLogic Corporation. Other trademarks and trade names may be used in this document to refer to either the entities claiming the marks and/or names or their products and are the property of their respective owners. Dell disclaims proprietary interest in the marks and names of others.



Table of contents

- Revisions..... 2
- 1 Introduction..... 5
- 2 Create Repository using Dell Repository Manager..... 6
- 3 Selecting updates using Local Drives (CD/DVD/USB)..... 13
- 4 Selecting updates using Network Share (CIFS/NFS)..... 19
- 5 Selecting updates over Internet (ftp.dell.com) 22
- 6 Automatic Update using iDRAC 7 (v1.50.50 or greater)..... 26
- 7 Summary 27



1 Introduction

This whitepaper will discuss various ways to update Lifecycle Controller using Dell Repository Manager. There are three different ways to use the update repositories with Lifecycle Controller. The main advantage is to update the server in a Pre-OS environment. The Lifecycle Controller GUI offers a single access point and interface for performing comprehensive platform updates hardware configuration, OS deployments, and diagnostics on Lifecycle Controller. The Lifecycle Controller GUI introduces multiple platform update features, which are designed to simplify, automate, standardize, and secure the update process for IT administrators. Administrators can launch the application by booting the server and pressing and holding the F10 button.

- Selecting updates using Local Drives (CD/DVD/USB)
- Selecting updates using Network Share (CIFS/NFS)
- Selecting updates over Internet (<ftp.dell.com>)



2 Create Repository using Dell Repository Manager

Dell Repository Manager is an application that allows you to create customized bundles and repositories on systems running the Microsoft Windows operating system. Following steps will explain about the creation of repository using the Dell Repository Manager.

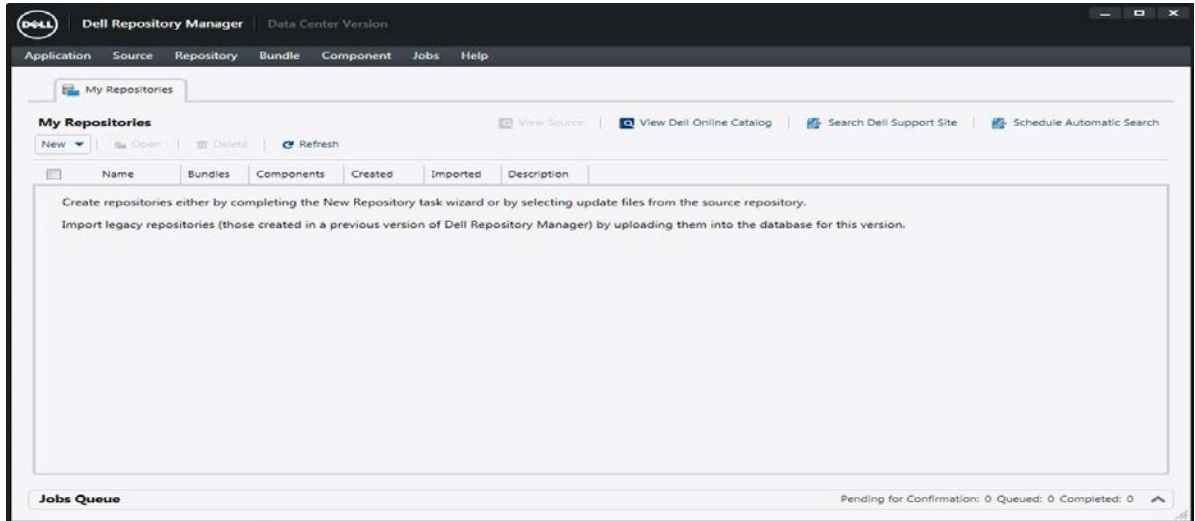


Figure 1 Dell Repository Manager Console

1. Open the Dell the repository Manager.

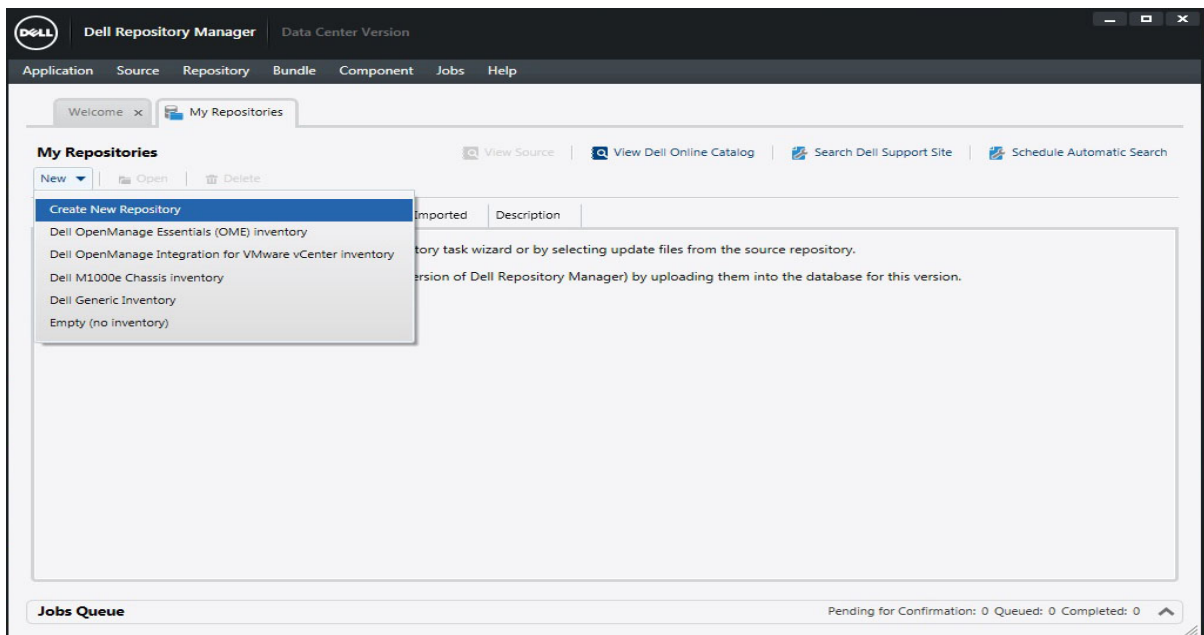


Figure 2 Create New Repository

2. On the “My Repositories” tab, Click New -> Create New Repository menu option..



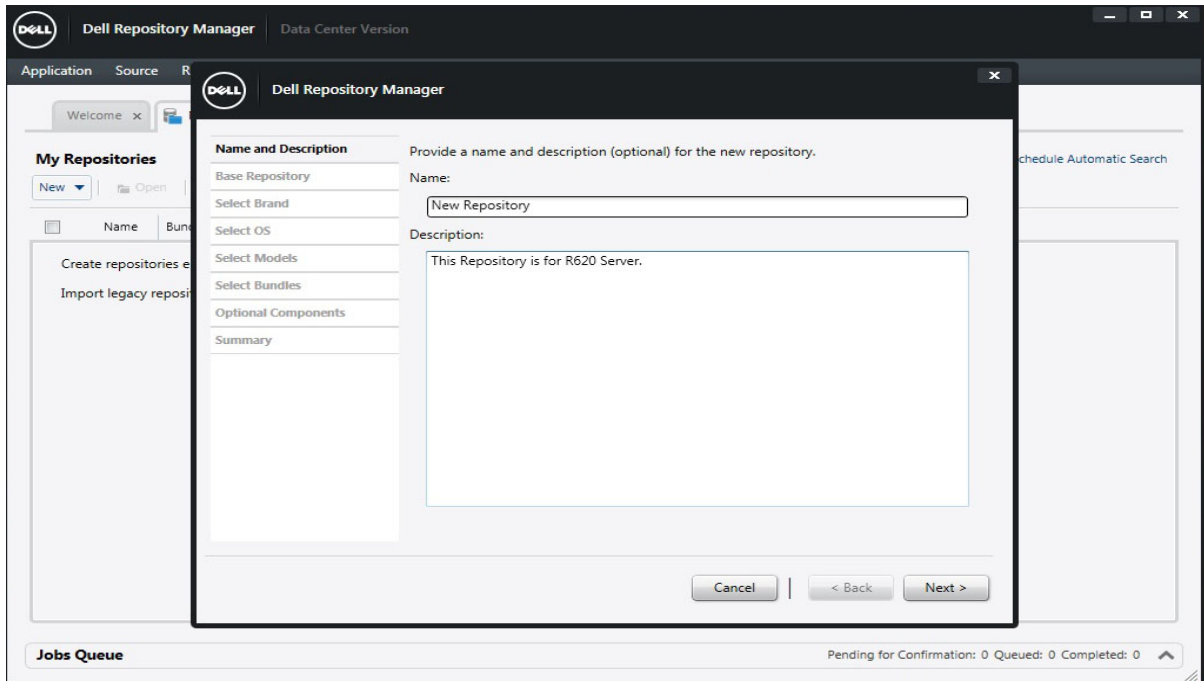


Figure 3 Provide Name and Description to the new repository

3. The Create New Repository menu option will pop-up the wizard where to provide few details for creating new repository. Provide the Name and Description for the new repository as shown in the above screenshot. Click "Next" to proceed further.

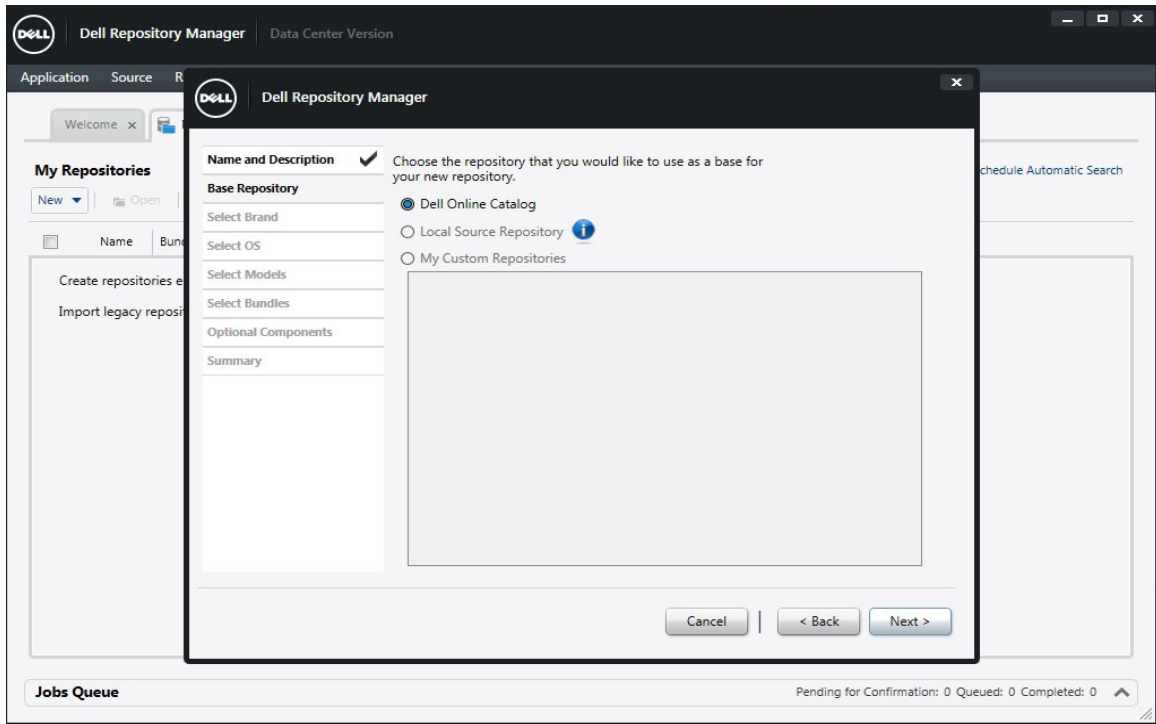


Figure 4 Select Base Repository

4. Select the Base Repository with Dell Online Catalog or Local Source Repository or Custom Repositories. In this example, the Dell Online Catalog option is selected as the Base Repository for creating new repository. Click "Next" to proceed further.

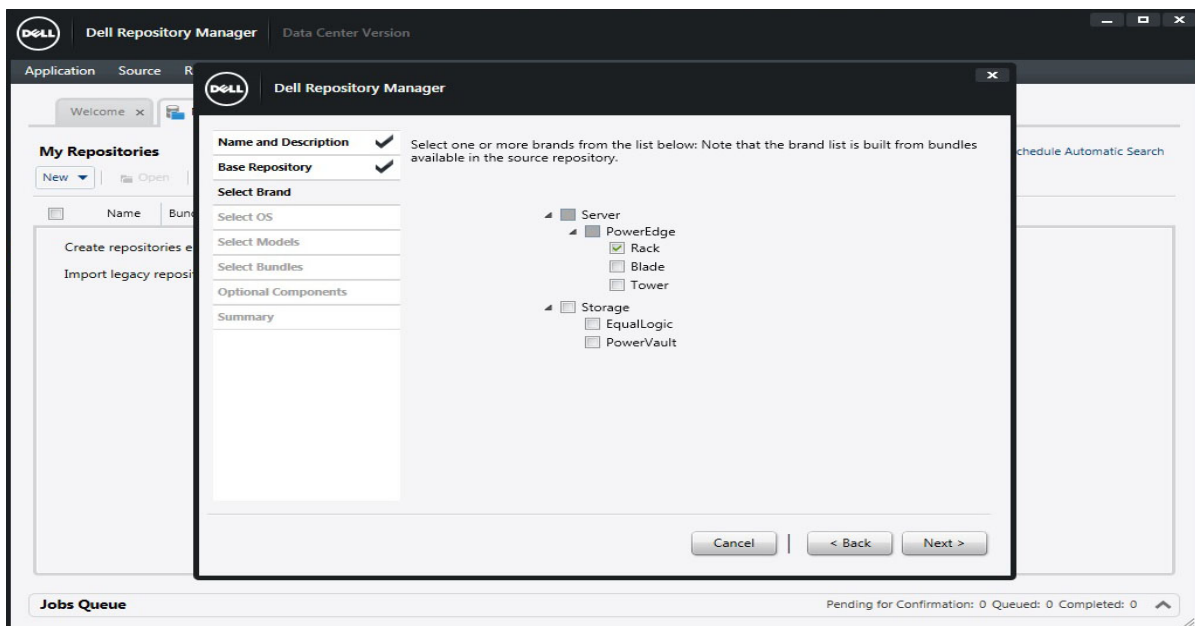


Figure 5 Select Brand Server

5. Select the Brand of Server or Storage for creating new repository and Click "Next" to proceed further.

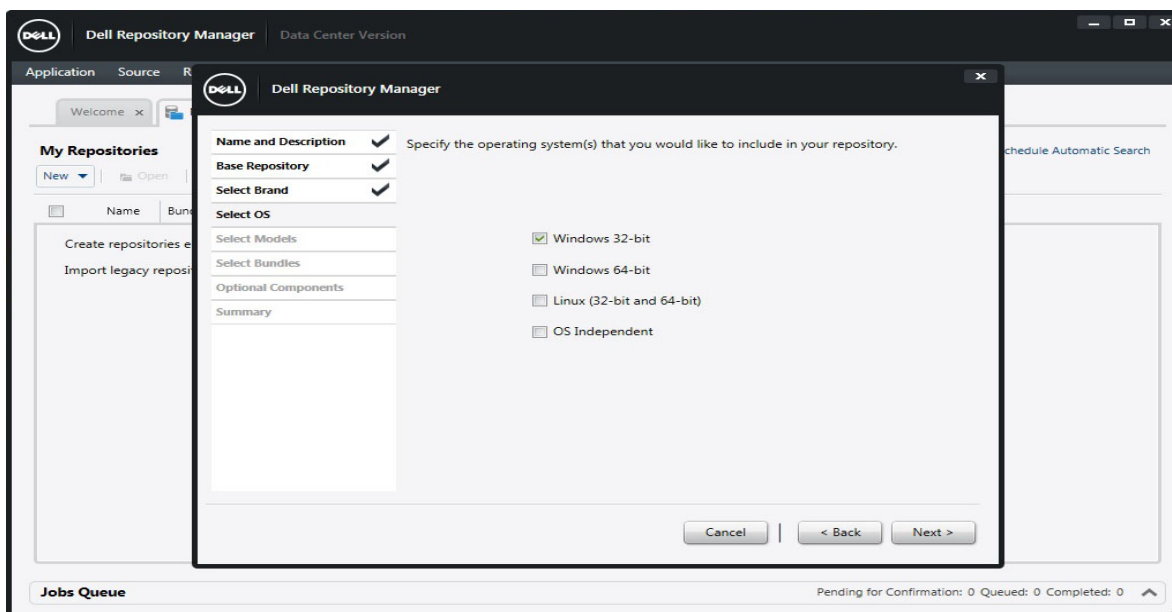


Figure 6 Select Operating Systems

6. Select Windows 32-bit operating system for creating the new repository. Lifecycle Controller utilizes Windows DUPs to deploy updates. Click "Next" to proceed further.

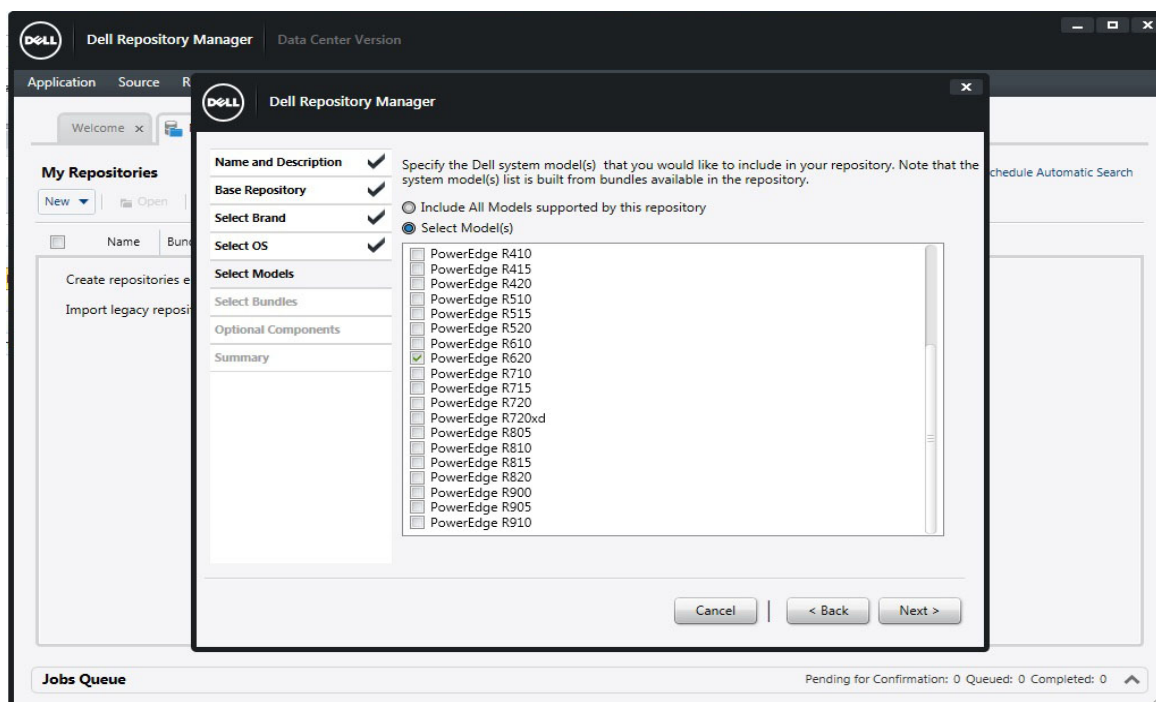


Figure 7 Select Models from the list of models

7. This shows up the models available for the selected brand. Select the models that you would like to include in your repository. In this example, PowerEdge R620 is selected for the new repository. Click "Next" to proceed further.

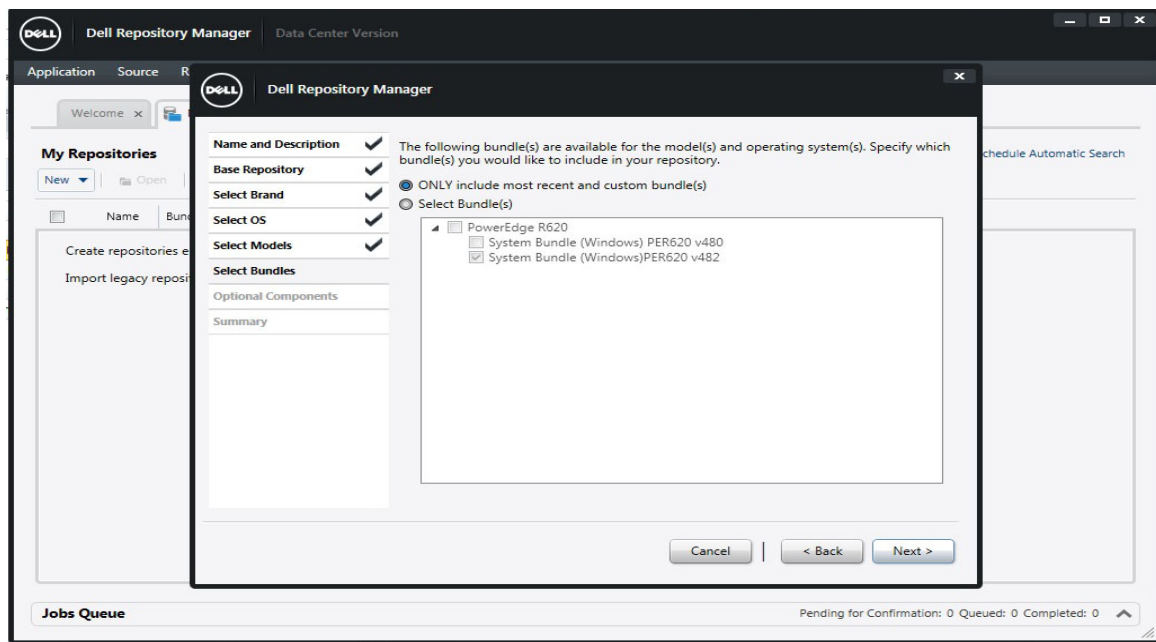


Figure 8 Select Bundles

8. Select the bundles from the list of bundles or the Repository Manager will automatically include the most recent bundle for the given platform. Click "Next" to proceed further..

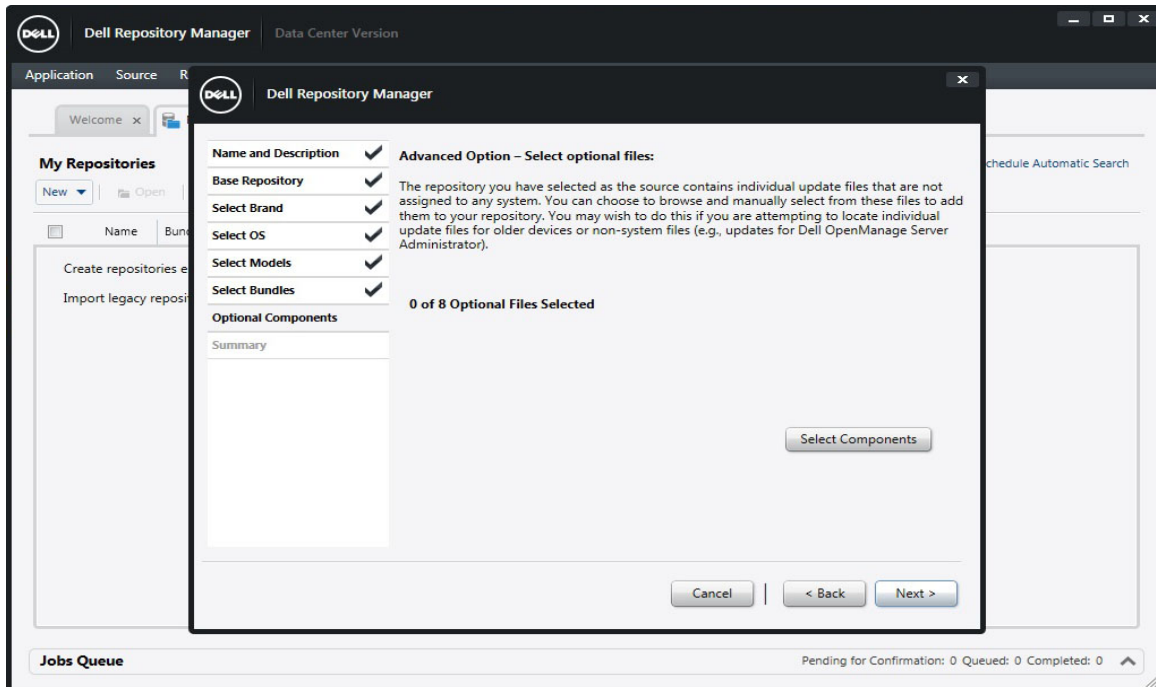


Figure 9 Choose Optional Components

9. Choose Optional Components if necessary and Click "Next" to proceed further.

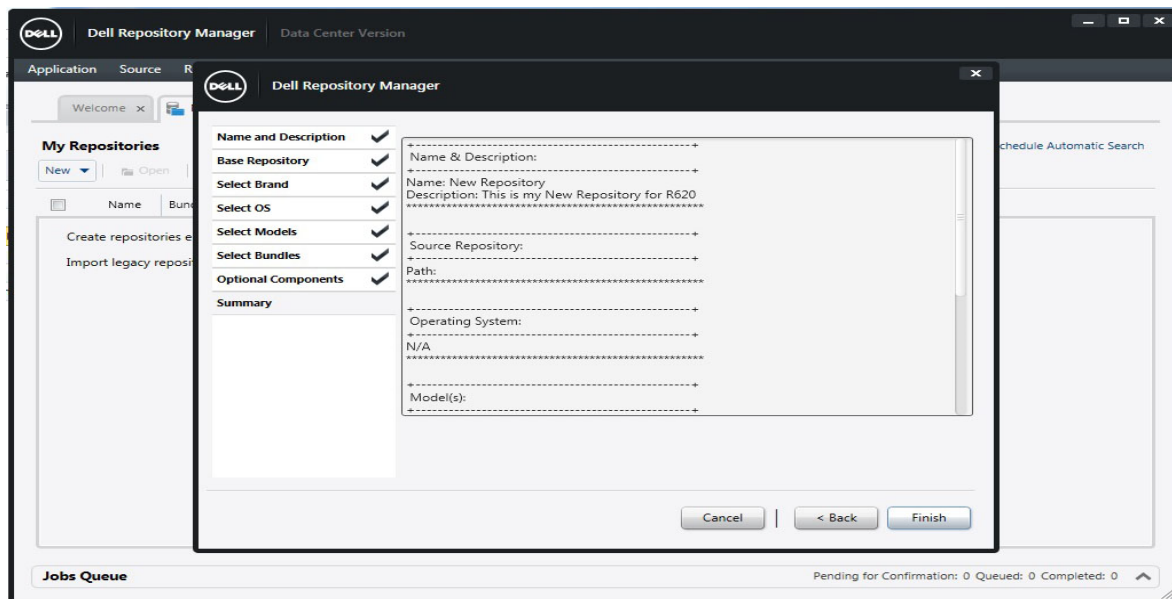


Figure 10 Displays Summary Information

10. It displays the summary information and Click "Finish" to create new repository.

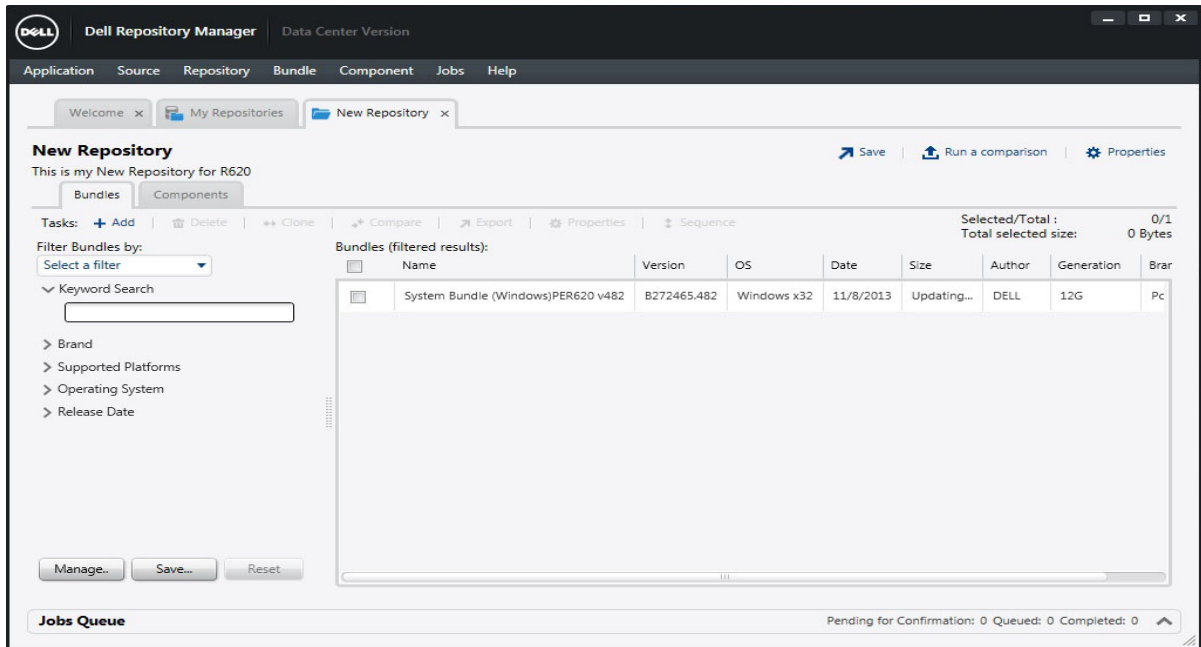


Figure 11 Created New Repository with Bundles

The above screenshot displays new repository created with the system bundles.

3 Selecting updates using Local Drives (CD/DVD/USB)

Lifecycle Controller allow the administrators to update the platform by using CD, DVD, USB drive or Local Virtual Drive. In this example, we are updating the platforms using Virtual Drive. Virtual Drive can be created via iDRAC and upload the folder through virtual drive where the repository having Dell Update Packages and catalog.xml file.

The below procedure is for creating DUP's and Catalog.xml using the Dell Repository Manager.

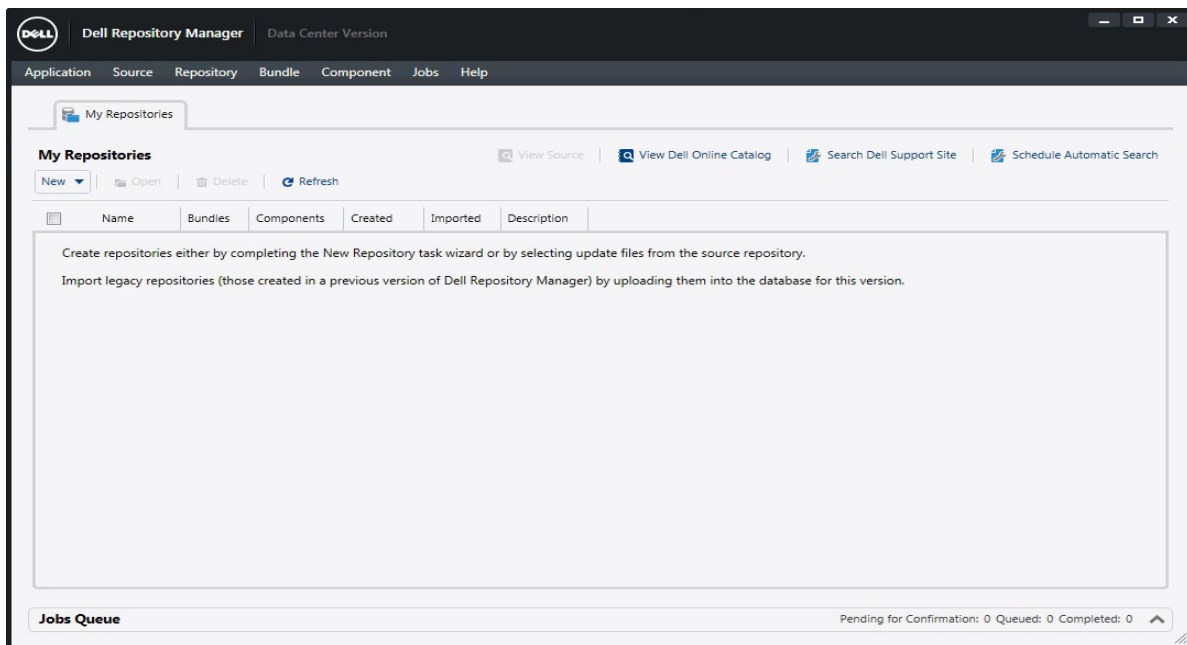


Figure 12 Dell Repository Manager Console

1. Open the Dell the repository Manager.



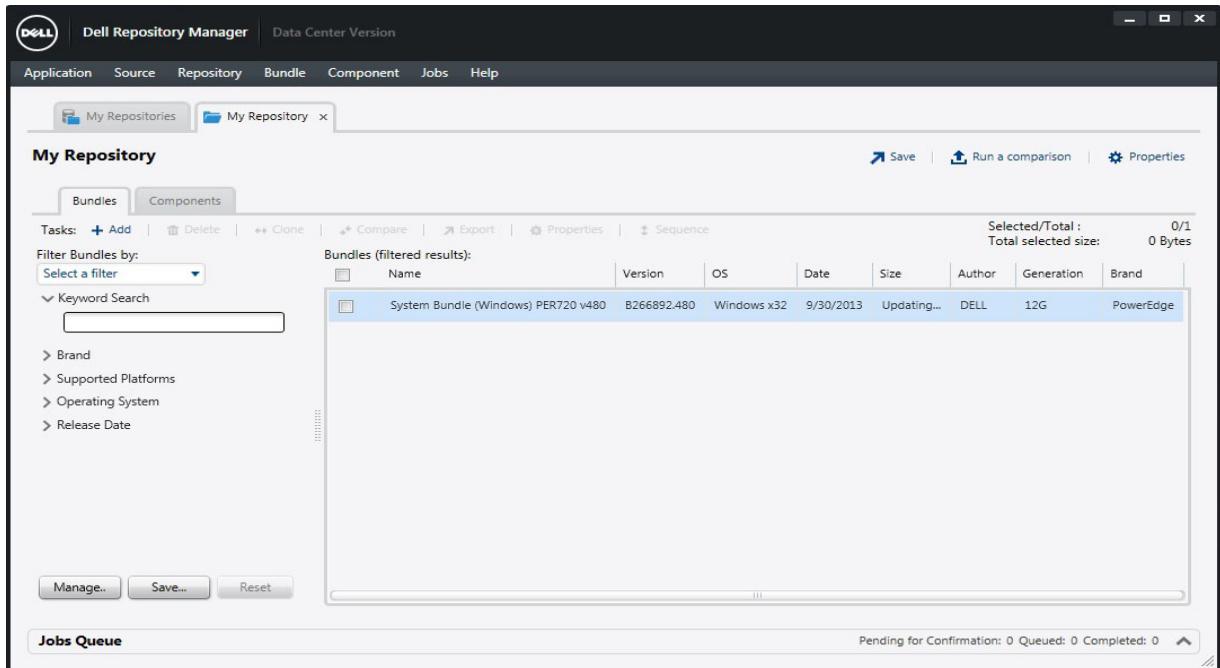


Figure 13 Select Bundles in Dell Repository Manager

2. Create Repository and add the bundles to the repository. Choose the bundles that are supported to the current platform where Lifecycle Controller is running. You can create multiple bundles with the same repository.

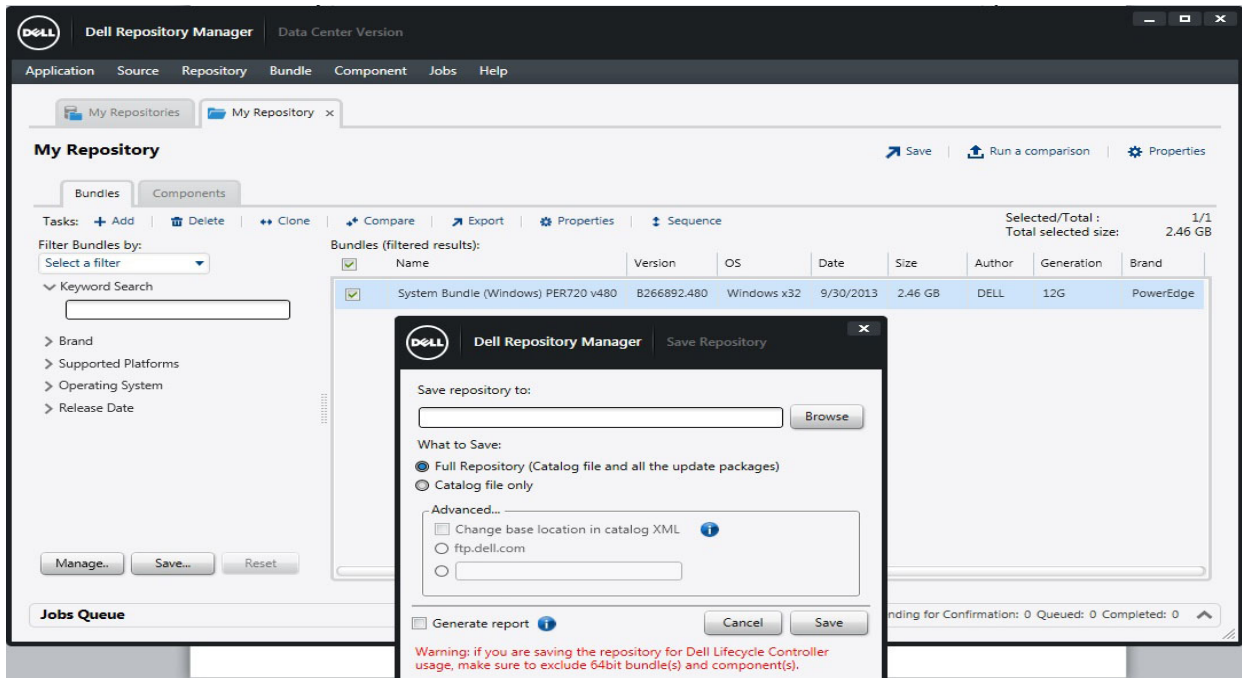


Figure 14 Save the repository

3. Select the bundle and click "Save" to download the Full Repository that contains both Catalog file and the Dell Update Packages or the catalog.xml only. Save repository to the local folder by selecting the browse button. Click "Save" button to download the packages. It will start downloading the Dell Update Packages along with the Catalog.xml.

The repository folder will contain the Catalog.xml and the corresponding Dell Update Packages.

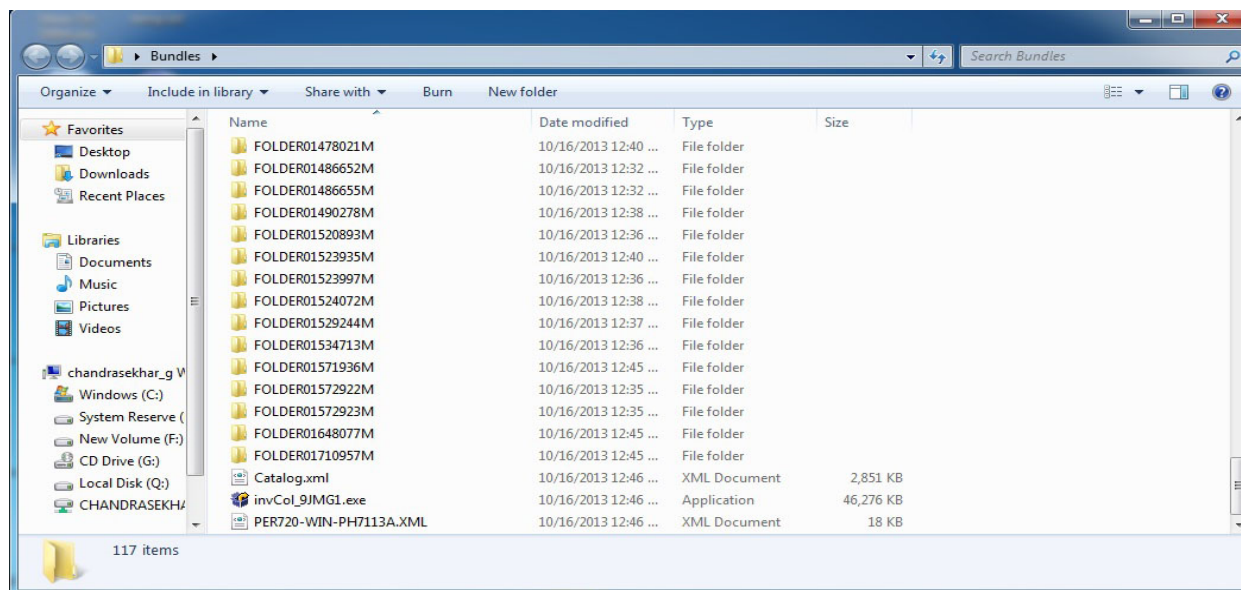


Figure 15 Display the contents of the saved repository

4. The saved repository folder is copied to either through CD, DVD, USB or by creating Virtual USB Drive through iDRAC. Once uploaded the saved repository folder from the Virtual USB Drive, go to the Unified Server Configuration by pressing F10 on the BIOS menu. It will start the Lifecycle Controller and click the "Firmware Update" to launch the firmware update.

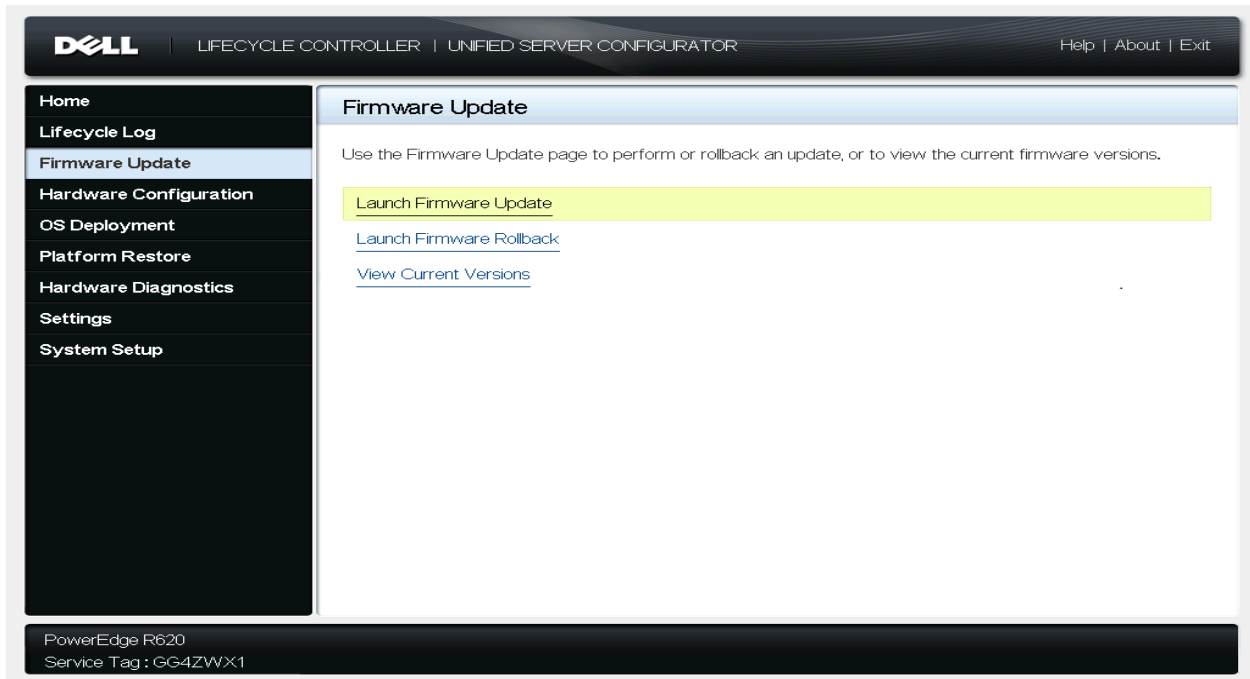


Figure 16 Launch firmware update

5. Click on the firmware update and it shows up the selection of the local repository.

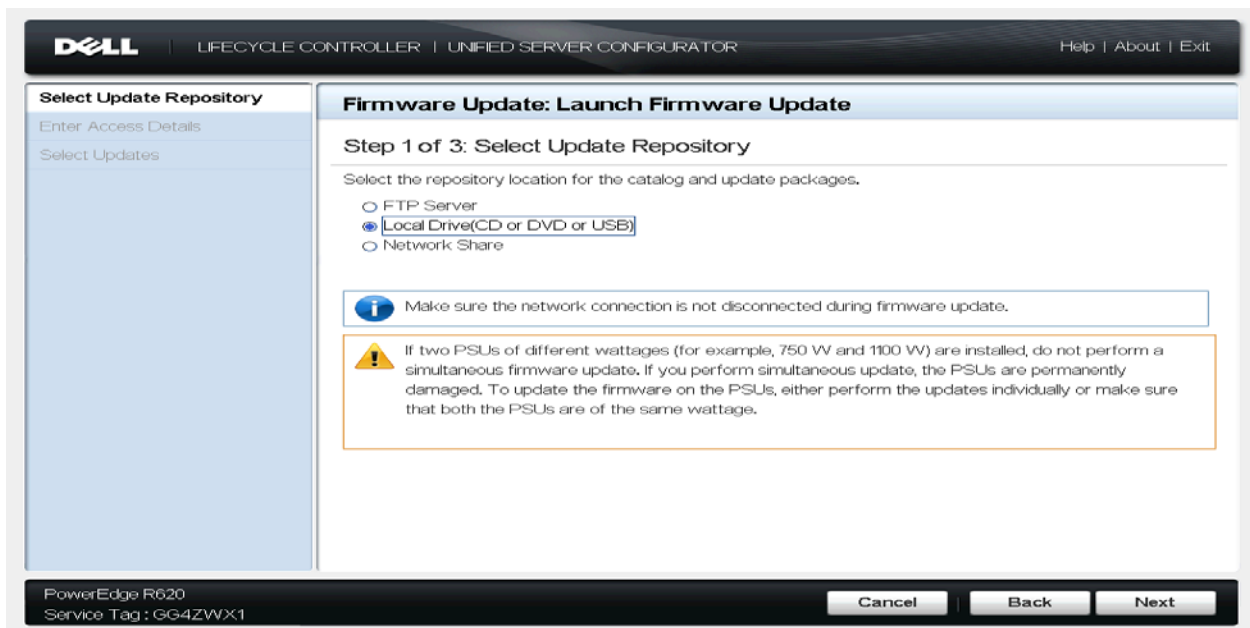


Figure 17 Select the update repository for Local Drive

6. Select the local drive (CD or DVD or USB) and click "Next" to proceed further.



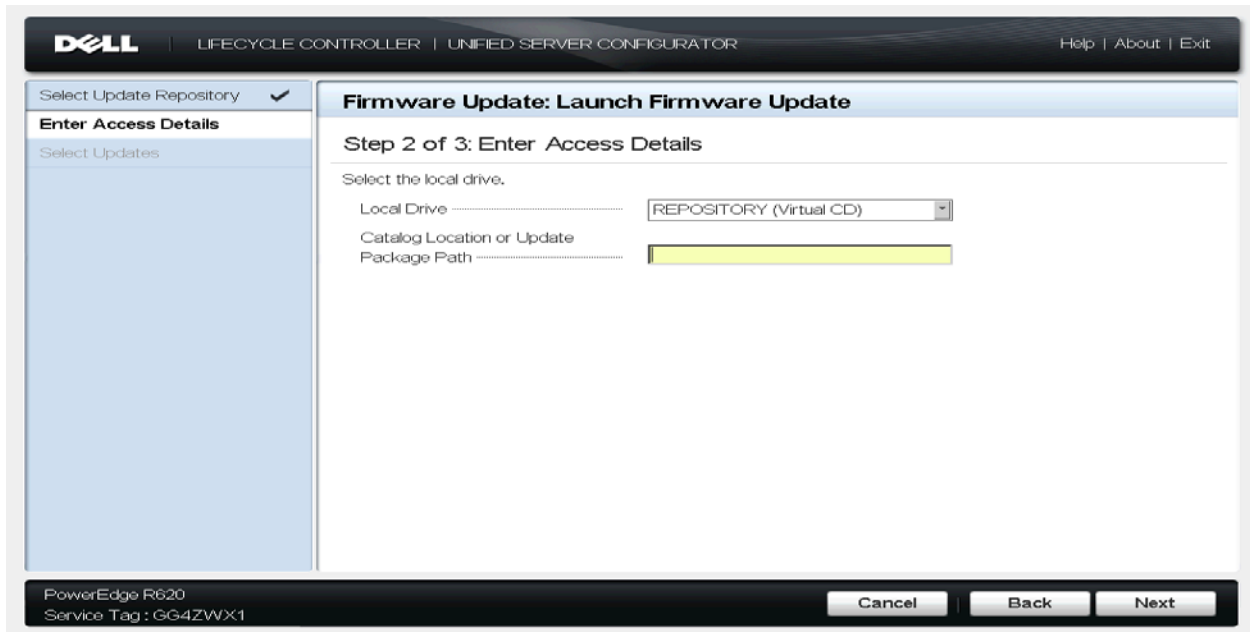


Figure 18 Enter the path of saved repository location

7. In the above screen, select the local drive where the update packages are available or else provide the path for catalog.xml location if the file is available in different location. In this example, the catalog.xml is available on the same drive where packages are going to be updated. So the catalog location need not specify if the Catalog.xml file is available in the same location. The Lifecycle controller will pick up catalog.xml file in the default folder. Click "Next" to go to the next screen.

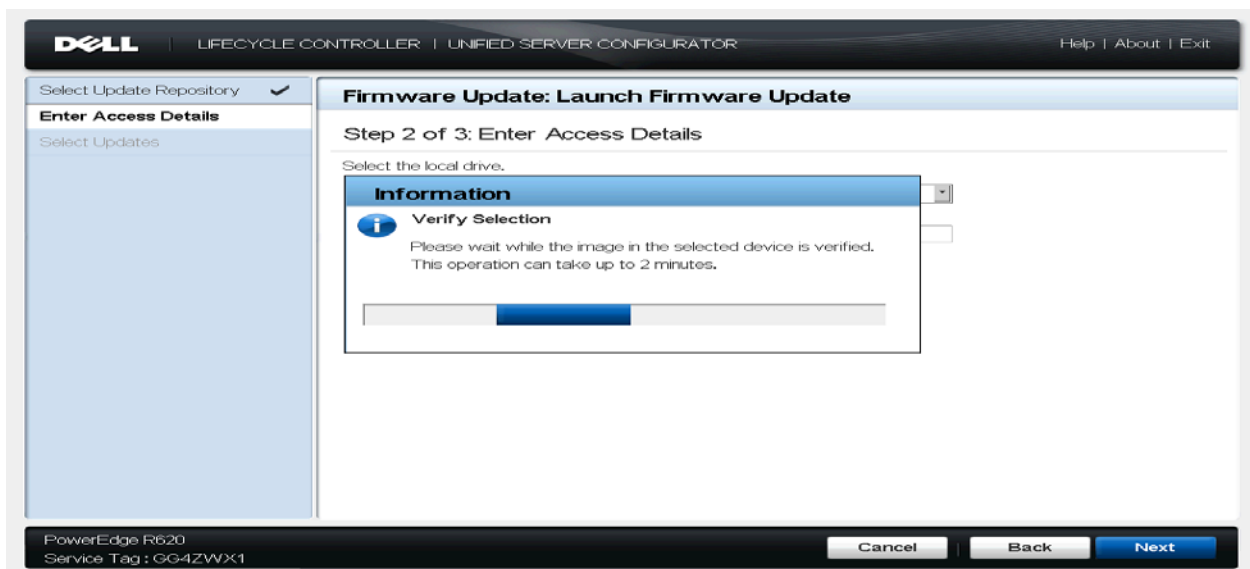


Figure 19 Verify the image for selected device

8. It displays the popup "Please wait the image in the selected device is verified" for verifying the selected devices.

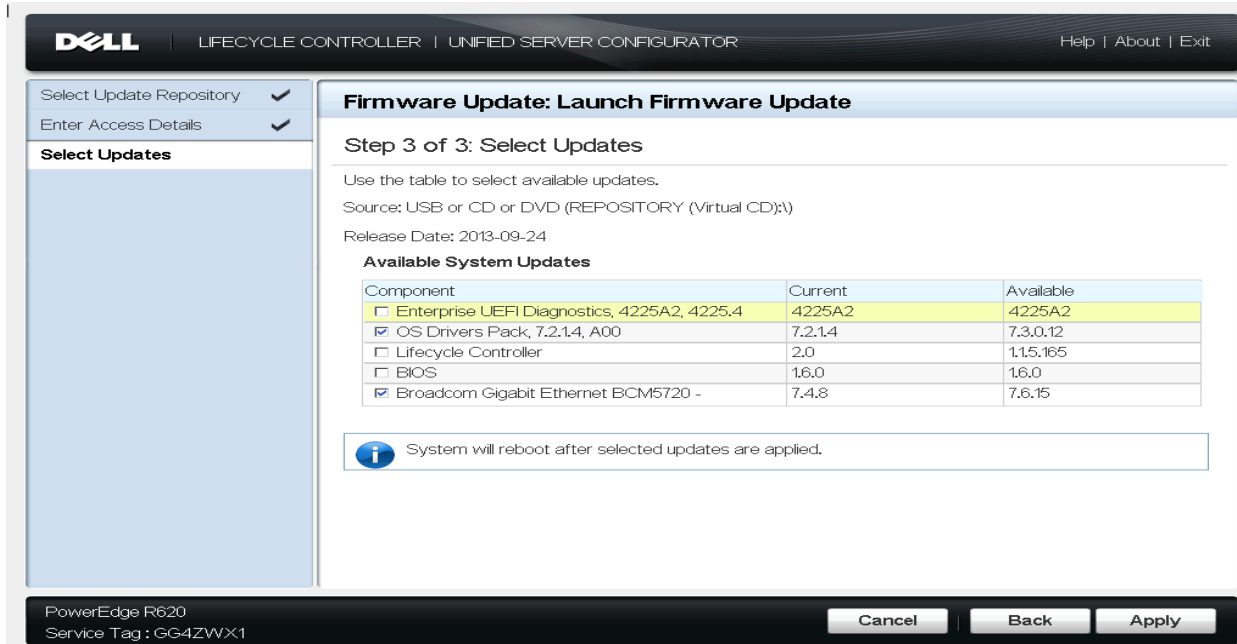


Figure 20 Display the available system updates

- After verifying of the selected device, the Firmware Update displays the selected devices that are applicable for the current platform and it shows the current and previous versions of each component. Click "Apply" to update the platform.

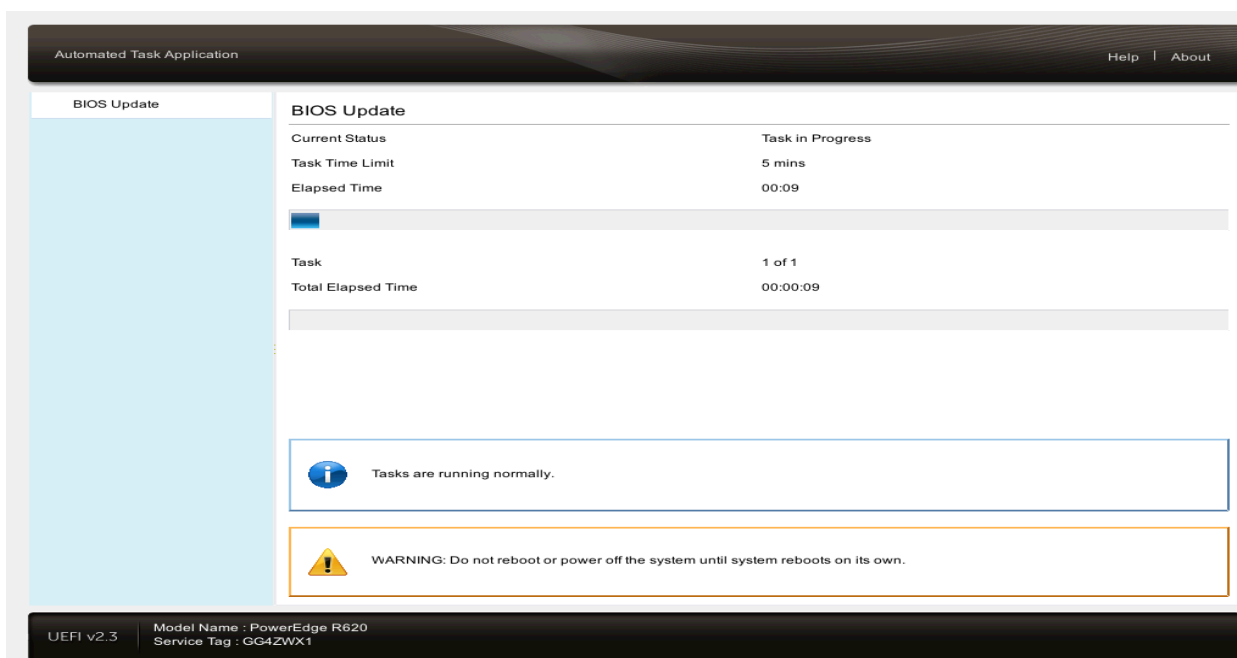


Figure 21 Update task in progress

The above figure shows the progress of BIOS update for the current platform.



4 Selecting updates using Network Share (CIFS/NFS)

You can use the network share either CIFS or NFS for updating the platform. Copy the saved bundles and the catalog.xml folder in the network share.

The screenshot shows the Dell Lifecycle Controller Unified Server Configurator interface. The top bar includes the Dell logo, 'LIFECYCLE CONTROLLER | UNIFIED SERVER CONFIGURATOR', and links for 'Help | About | Exit'. On the left, a sidebar titled 'Select Update Repository' contains three options: 'Enter Access Details', 'Select Updates', and 'Select Updates'. The main panel is titled 'Firmware Update: Launch Firmware Update' and 'Step 1 of 3: Select Update Repository'. It instructs the user to 'Select the repository location for the catalog and update packages.' and provides three radio button options: 'FTP Server', 'Local Drive(CD or DVD or USB)', and 'Network Share' (which is selected). Below these options is an information box with a blue 'i' icon and the text: 'Make sure the network connection is not disconnected during firmware update.' At the bottom, a status bar shows 'PowerEdge M620' and 'Service Tag : J1RSB2S'. Navigation buttons 'Cancel', 'Back', and 'Next' are located at the bottom right.

Figure 22 Select the update repository for Network Share

1. Select the Network Share to update the platform. Click "Next" to continue.

The screenshot shows the Dell Lifecycle Controller Unified Server Configurator interface at Step 2 of 3: Enter Access Details. The top bar is the same as in Figure 22. The sidebar now has 'Enter Access Details' selected with a checkmark. The main panel is titled 'Firmware Update: Launch Firmware Update' and 'Step 2 of 3: Enter Access Details'. It instructs the user to 'Select the Network Share.' and provides two radio button options: 'CIFS' (selected) and 'NFS'. Below these are four text input fields: 'Share Name' (containing '\\10.94.197.56\raghu\dups'), 'Domain and User Name' (empty), 'Password' (empty), and 'Catalog Location or Update Package Path' (containing 'q41bios\bios.exe'). A link 'Test Network Connection' is located below the input fields. At the bottom, the status bar shows 'PowerEdge M620' and 'Service Tag : J1RSB2S'. Navigation buttons 'Cancel', 'Back', and 'Next' are located at the bottom right.

Figure 23 Enter the details of network share



2. On the screen, select either CIFS or NFS to access the updates over the network share. In this example, I choose the option "CIFS" and provided the share name where the updates are available and also provided the Update Package path to "bios.exe" for updating BIOS. Click Next to continue.

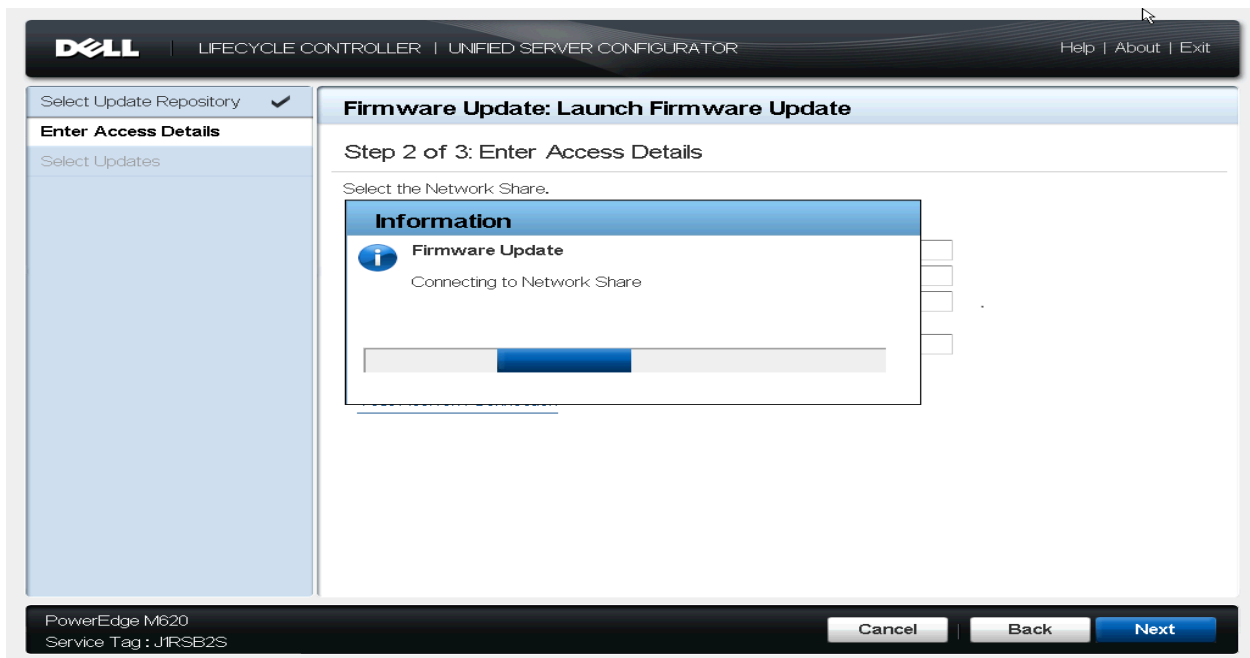


Figure 24 Connecting to the network share

3. It pops up message "Connecting to Network Share" to connect CIFS Network share.

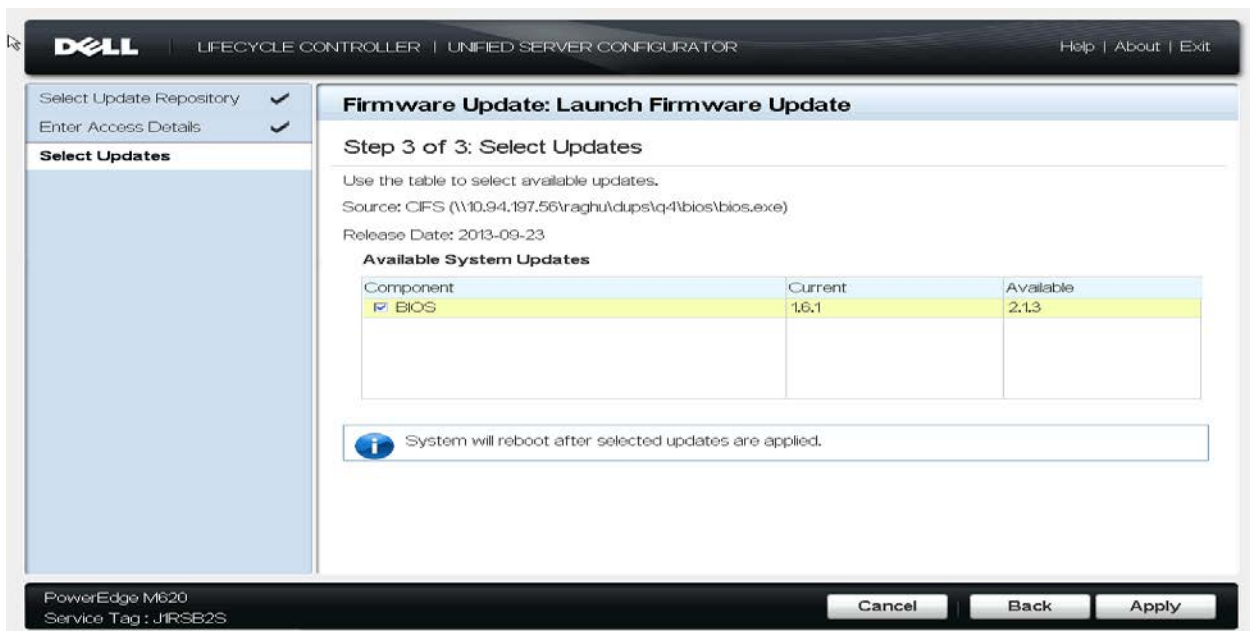


Figure 25 Display the available system updates



4. It launches the firmware update page where it shows the information about the current and previous available update for BIOS. Click Apply to update the platform. It may require rebooting the server.



5 Selecting updates over Internet (<ftp.dell.com>)

The updates can be downloaded over the internet via <ftp.dell.com> or provide the local configured ftp server.

1. Select the "ftp server" on the launch firmware page.

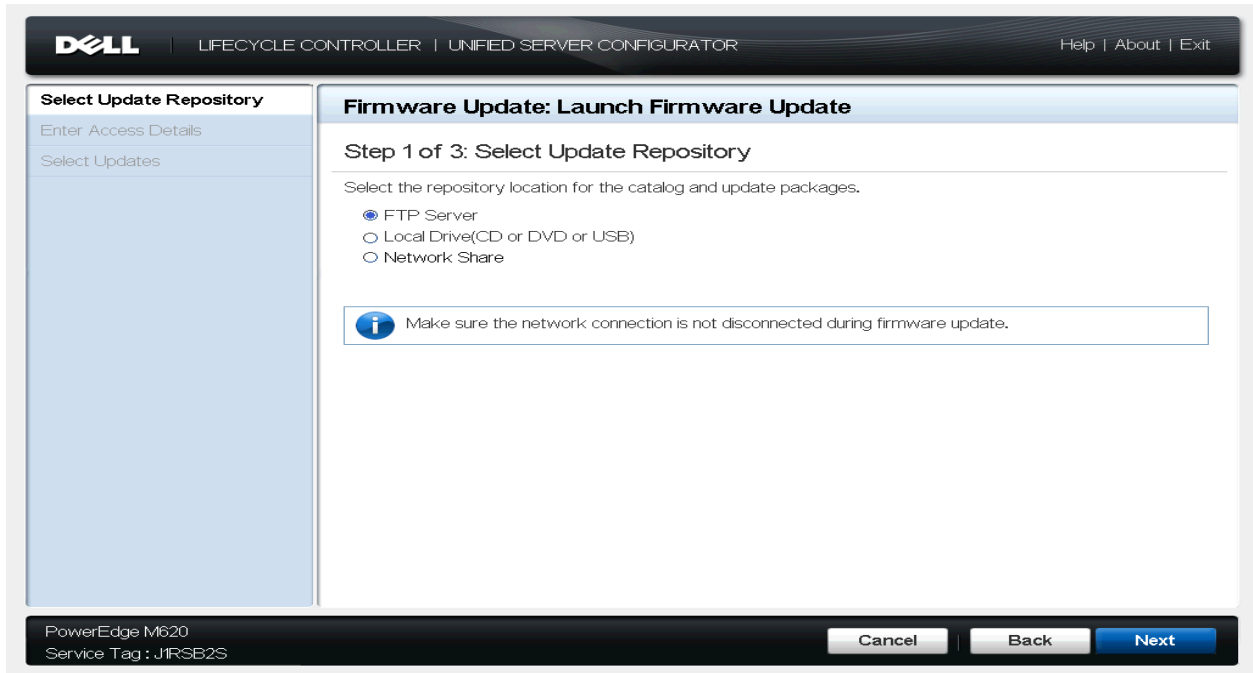


Figure 26 Select the update repository for FTP server

2. Click on the "Launch Update Firmware" where you will find the option of selecting the "FTP Server" for updating through <ftp://ftp.dell.com/>. Click "Next".



DELL | LIFECYCLE CONTROLLER | UNIFIED SERVER CONFIGURATOR | Help | About | Exit

Select Update Repository ✓
Enter Access Details
 Select Updates

Firmware Update: Launch Firmware Update

Step 2 of 3: Enter Access Details

FTP Server Settings

Address ftp.dell.com
 User Name
 Password
 Catalog Location or Update
 Package Path

Proxy Settings

☒ **Enable Settings**

Server
 Port
 User Name
 Password
 Type HTTP

[Test Network Connection](#)

PowerEdge R620
 Service Tag : GG4ZWx1

Cancel Back Next

Figure 27 Enter details of FTP server

3. This page provides you the option to enter the details of the ftp server. In this case, we choose to enter the default server to get the updates for the current platform. Also you can provide the local ftp server which you are configured on your box by providing the username, password and catalog location where the catalog is stored. In case if your server is having any proxy settings you can also provide the proxy setting details by enabling the “Enable Settings” option. Click “Next”.

DELL | LIFECYCLE CONTROLLER | UNIFIED SERVER CONFIGURATOR | Help | About | Exit

Select Update Repository ✓
Enter Access Details
 Select Updates

Firmware Update: Launch Firmware Update

Step 2 of 3: Enter Access Details

FTP Server Settings

Information

Firmware Update

Please wait while the image at the remote repository is verified. This operation can take up to 3 minutes.

Server
 Port
 User Name
 Password
 Type HTTP

[Test Network Connection](#)

PowerEdge R620
 Service Tag : GG4ZWx1

Cancel Back Next

Figure 28 Verify the image for selected device



4. The dialog pops up to verify the available platform information at the remote repository.

DELL | LIFECYCLE CONTROLLER | UNIFIED SERVER CONFIGURATOR | Help | About | Exit

Select Update Repository ✓
Enter Access Details
Select Updates

Firmware Update: Launch Firmware Update

Step 2 of 3: Enter Access Details

FTP Server Settings

Information
Firmware Update
Verifying the signature of the Catalog

Server: _____
Port: _____
User Name: _____
Password: _____
Type: _____ HTTP

[Test Network Connection](#)

PowerEdge R620
Service Tag: GG4ZWVX1

Cancel Back Next

Figure 29 Verify the catalog signature

It also verifies the catalog signature on the remote location.

DELL | LIFECYCLE CONTROLLER | UNIFIED SERVER CONFIGURATOR | Help | About | Exit

Select Update Repository ✓
Enter Access Details ✓
Select Updates

Firmware Update: Launch Firmware Update

Step 3 of 3: Select Updates

Use the table to select available updates.
Source: FTP (\\ftp.dell.com\\)
Release Date: 2013-09-04

Available System Updates

Component	Current	Available
<input type="checkbox"/> Enterprise UEFI Diagnostics, 4225A2, 4225.4	4225A2	4225A2
<input checked="" type="checkbox"/> OS Drivers Pack, 7.2.1.4, A00	7.2.1.4	7.3.0.12
<input type="checkbox"/> Lifecycle Controller	2.0	1.15.165
<input type="checkbox"/> BIOS	1.6.0	1.6.0
<input type="checkbox"/> BP12G+ 0:1	1.00	1.00

i System will reboot after selected updates are applied.

PowerEdge R620
Service Tag: GG4ZWVX1

Cancel Back Apply

Figure 30 Display the available system updates



5. Once the verification is done, it displays the available system updates information. This will show the table of components containing the Current and Available versions. Select the components you want to update and Click Apply for update the system.

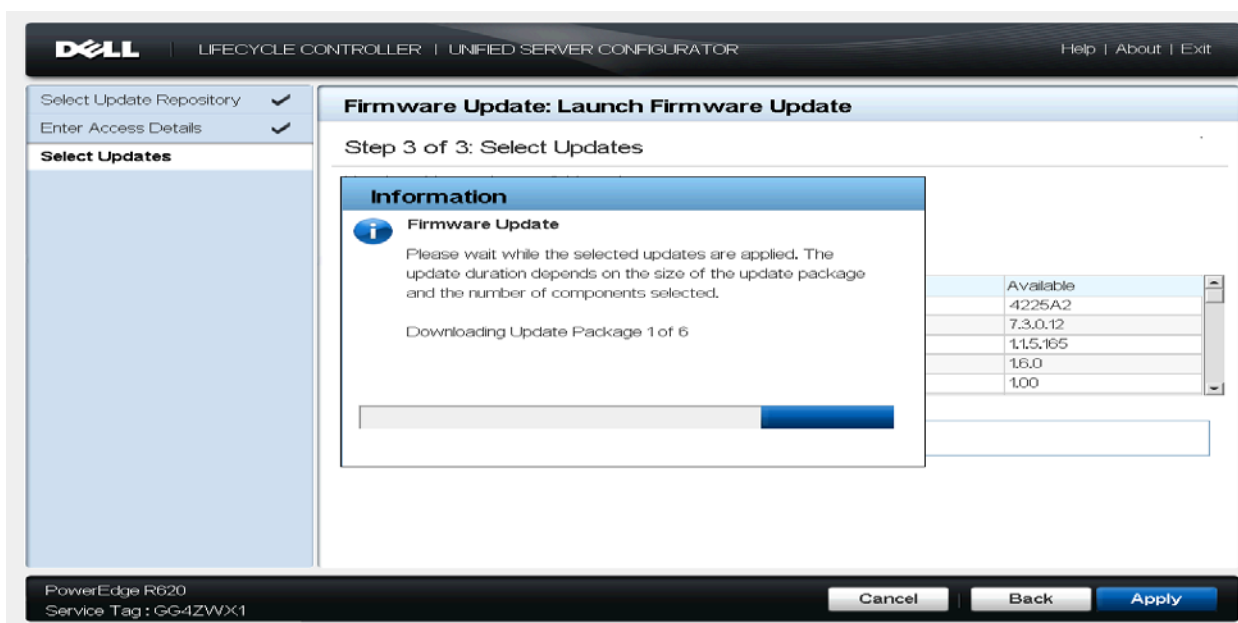


Figure 31 Download the update packages

6. After clicking Apply, the Lifecycle controller will download the updates and start applying them to your system when it is rebooted. BIOS and Firmware updates generally always require a reboot.



6 Automatic Update using iDRAC 7 (v1.50.50 or greater)

Remote repository updates is the newest and the most advanced firmware update mechanism to update a wide variety of firmware and applications installed on the PowerEdge server at the click of a button. This feature uses an update repository created using the Dell Repository Manager to download and install the updates. The repository could either be ftp.dell.com or a user generated repository on the local network share. Gone are the days when you had update your PowerEdge server one firmware at a time. Remote repository updates provides a simple and easy way to automatically figure out the latest updates that are available for your PowerEdge server and install it all at once at the click of a button. The Automatic update is available on iDRAC from 12G (For example PowerEdge R720) and above servers.

iDRAC web user interface can be used for scheduling automatic updates as shown in the figure(s) below:

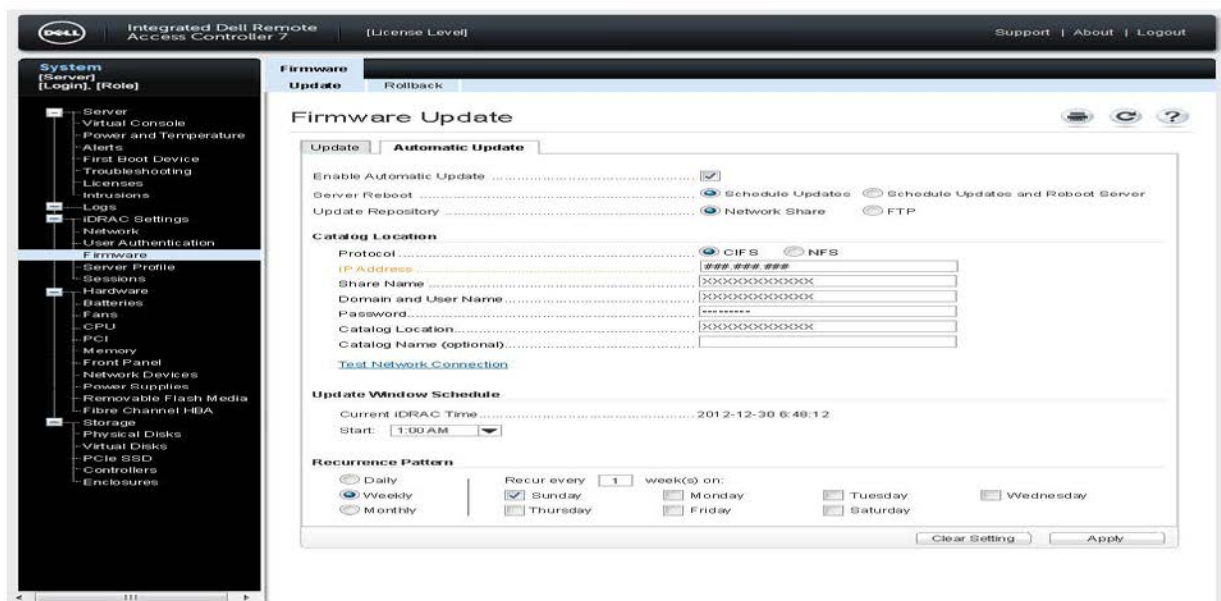


Figure 32 Automatic Update

The wireframe above shows the Automatic Update tab with Network share and CIFS selected. The selected recurrence pattern shows the weekly options. Similarly Automatic Updates can also be scheduled through FTP (<ftp.dell.com>)

Prerequisites for Automatic Update:

- PowerEdge 12G or greater server
- iDRAC7 1.50.50 or greater
- PowerEdge Server access to Network Share or Dell FTP site



7 Summary

Dell provides various tools for applying the Dell Update Packages (DUPs) in various contexts for keeping any server up to date. This technical paper describes recommended method(s) for updating Dell system(s) in various methods using Lifecycle Controller.

