Dell EMC Repository Manager Integration with Dell EMC OpenManage Enterprise

Firmware-update lifecycle and baseline management with custom repositories created using Dell EMC Repository Manager integration with Dell EMC OpenManage Enterprise

Abstract

This technical whitepaper provides information about assessing and achieving firmware compliance by using custom repositories. The custom repositories are created by using a seamless integration between Dell EMC Repository Manager and Dell EMC OpenManage Enterprise. The integration not just helps in reducing the manual effort of setting up the repositories, but also enables establishment of enterprise-wide group or device-based firmware baselines

March 2019

Revisions

Date	Description
March 2019	Initial release

Acknowledgements

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Executive summary

Firmware update is one of the critical activities in device monitoring and management that helps you keep the environment up-to-date and compliant. It also protects the devices against vulnerabilities and fixes bugs. Dell EMC OpenManage Enterprise enables you to regularly check the compliance of devices and upgrade or roll back, as necessary. With the integration of Dell EMC OpenManage Enterprise into Dell EMC Repository Manager, firmware update becomes even more simpler and seamless.

Dell EMC Repository Manager (DRM) allows you to create customized bundles and repositories based on certain specified criteria and update specific software components on Dell devices.

Using DRM with Dell EMC OpenManage Enterprise ensures that your Dell device managed through OpenManage Enterprise is equipped with the latest BIOS, driver, and firmware updates. Primary use case for this feature is to have different custom repositories generated by DRM, filtered for specific use cases, and then use them against the custom device groups.

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1 Introduction

Dell EMC Repository Manager (DRM) is an application that allows you to create customized bundles and repositories on systems running the Microsoft Windows operating system and the Linux Operating system.

The customized bundles and repositories are made up of Dell Update Packages (DUPs) based on certain specified criteria. DUPs are software utilities provided by Dell to update specific software components on Dell devices.

Using DRM ensures that your Dell device is equipped with the latest BIOS, driver, and firmware updates by providing searchable interface used to create custom software collections.

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2 Purpose and Scope

This technical whitepaper provides information about assessing and achieving firmware compliance using custom repositories.

The custom repositories are created using a seamless integration between Dell EMC Repository Manager and Dell EMC OpenManage Enterprise. This integration not only helps in reducing the manual effort of setting up the repositories, but also enables establishment of enterprise-wide group or device-based firmware baselines

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3 Terminology

The following terms will be used throughout this document

Table 1   Dell EMC Repository Manager Terminology

Dell Update Catalog	A metadata file to define all elements of a Dell update repository. The catalog file is in XML format or a .cab file containing a catalog XML file. For Dell EMC server platforms, the Dell online catalog file is Catalog.cab while for Dell business client systems, it is CatalogPC.cab. DRM can save a catalog in XML or CAB formats.
Dell Update Package	A self-contained installation package for BIOS, firmware, drivers, and system application software.
Bundle	A virtual concept in a Dell update catalog. A bundle defines a container that contains a group of correlated Dell update packages. The common bundle is system bundle which includes all update packages for one Dell platform. All update packages of a bundle must be defined in the same catalog.
Component	A Dell update package. A component may or may not be contained within one or multiple bundles.
Source (Repository)	A source (repository) refers to a repository which a local repository can inherit bundles and/or components from. A source repository can be assigned by a user. By default, it refers to the Dell online repository which is hosted on ftp.dell.com. A source will be opened as a read-only repository in DRM.
Local Repository	A local repository is created by a DRM user. A local repository data is saved in a local database. The owner of a local repository has full permissions on a local repository.

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4 Configuring Dell EMC OpenManage Enterprise repository using Dell EMC Repository Manager

Here we discuss about the detailed procedure of configuring the Dell EMC OpenManage repository using DRM.

Assuming that you already have Dell EMC OpenManage Enterprise application installed and your Dell devices discovered and managed through the application, the procedure would walk you through installation, configuration and then integration of DRM.

4.1 Install Dell EMC Repository Manager

Dell EMC OpenManage Enterprise can be easily integrated with DRM from DRM 3.0 onwards. However, the way the integration happens is a little different post DRM 3.2. We would recommend using the latest available version of DRM from https://support.dell.com and searching for "Dell EMC Repository Manager"

Also, from DRM 3.0 onwards there is an option to install DRM on both Windows and Linux systems.

After you have identified the required DRM version, you can proceed with the below steps to install DRM on your choice of system.

1. Click Download Now link to download the.EXE or .BIN file.
2. The File Download window is displayed, click Save to save the file to the hard drive.
3. Browse to the folder where the files are saved
4. Provide executable permission for the file on Linux.
5. Execute the file and follow the instructions

Note: Upgrade from DRM 2.x is not supported for DRM 3.2.0. The existing configuration and repositories can be migrated from existing DRM 2.x installation on Windows by using the installation wizard page for migration.

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4.2   How does Dell EMC Repository Manager Work?

DRM allows you to either:

- Manually create a repository of updates or
- Automate creation of a custom repository of updates

The automated creation of a custom repository is possible by integrating DRM with other Dell EMC tools like:

- OpenManage Enterprise
- OpenManage Essentials
- OpenManage Integration with VMware vCenter
- OpenManage Integration with Microsoft System Center
- Chassis Management Controller
- iDRAC

Once a repository is created, you can schedule searches for new updates, saving time otherwise spent manually searching through the Dell support site. You can also create custom deployment tools such as custom catalogs that are used by Dell EMC Tools, a custom server update utility, scripted deployment packs, and/or bootable ISOs.

DRM connects to Dell's online catalog of updates that contains information on the available Dell Update Packages (DUPs). Once updates have been selected by you, Dell EMC Repository Manager downloads the specific, requested files.

Dell EMC Repository Manager will also automate the refresh of repositories with the latest version of update packages or run a comparison and lets you select which new updates to include in the repository. DRM can then be used to create deployment tools from the contents of a repository.

4.3   Configure DRM integration with Dell EMC OpenManage Enterprise

DRM has built in integration with the Dell EMC OpenManage Enterprise. Using your Dell EMC OpenManage Enterprise credentials, DRM pulls Dell device inventory and automatically creates a custom local firmware update repository that matches your environment.

DRM also lets you create diff reports between online repository from Dell and your local repository, so you can move new updates into your local repository as you need them.

With Dell EMC OpenManage Enterprise configured to consume that local repository, once new updates are made available in your local repository with DRM, Dell EMC OpenManage Enterprise matches device in your environment against your custom baselines and deploys updates directly from the DRM repository.

With DRM version 3.2 there is an enhancement in the user experience for Dell EMC OpenManage Enterprise repository creation. So, the options for DRM integration into Dell EMC OpenManage Enterprise has some dissimilarities pre- and post- DRM version 3.2.

Note: For ease of use, we would recommend to use DRM version 3.2 or above for your integration with Dell EMC OpenManage Enterprise

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4.3.1 Integration of OpenManage Enterprise with DRM when DRM version is less than 3.2

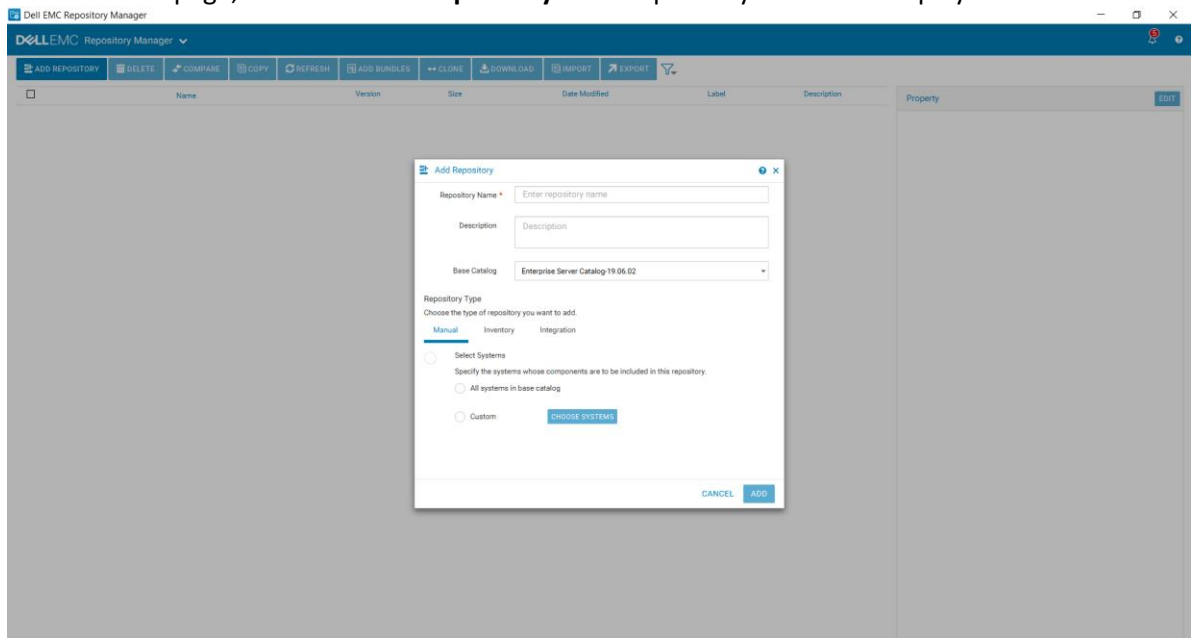- On the Home page, click **Add New Repository**. Add Repository window is displayed.

Figure 1: Adding Repository

- On the **Integration** tab, enter the **Repository Name** and **Description**.

Figure 2: Entering repository details

- From the **DUP Format** check-boxes, select the formats that you want to include in the repository.
- From the **Integration Type** drop-down menu, select the product option, **Dell Console Integration**, with which you want to integrate.

Fig 3: Integration Type

- Based on the **"Dell Console Integration"** product selection the following options are displayed.
  - o URL, Username, Password, and Proxy server
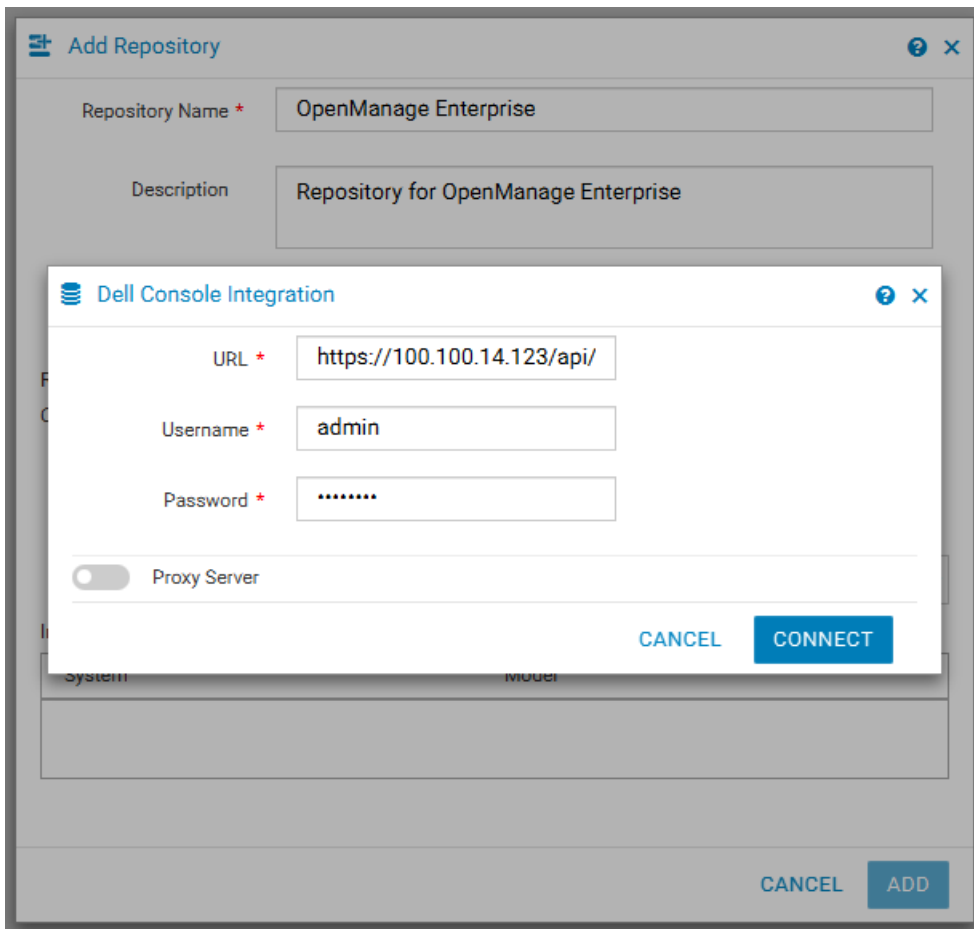
Fig 4: Console Integration details

- In the URL specify the integration URL
  - https://<IP Address>/api/DRMInventoryService
  - where IP Address is the IP Address of the OpenManage Enterprise application
- Specify the OpenManage Enterprise username and password along with proxy settings if required.
- After selecting the required option click **Connect**.

Fig 5: Repository creation by selecting specific group

- DRM would connect to the OpenManage Enterprise application and collect information about all the devices currently managed by that instance of OpenManage Enterprise.
- After DRM has gathered the device information, in the **Integration Type** section it would list all the group that are currently configured in OpenManage Enterprise.
- You can selectively create repositories for specific groups, or select all the groups for creating repositories for all of the OpenManage Enterprise device groups.
- After you have selected specific groups click on **Add** to create the repository.

Fig 6: Repository creation in progress for devices from selected group

- The repository would be populated for the devices part of the selected group/s and once complete this repository would be displayed in the repository dashboard available on the home page.
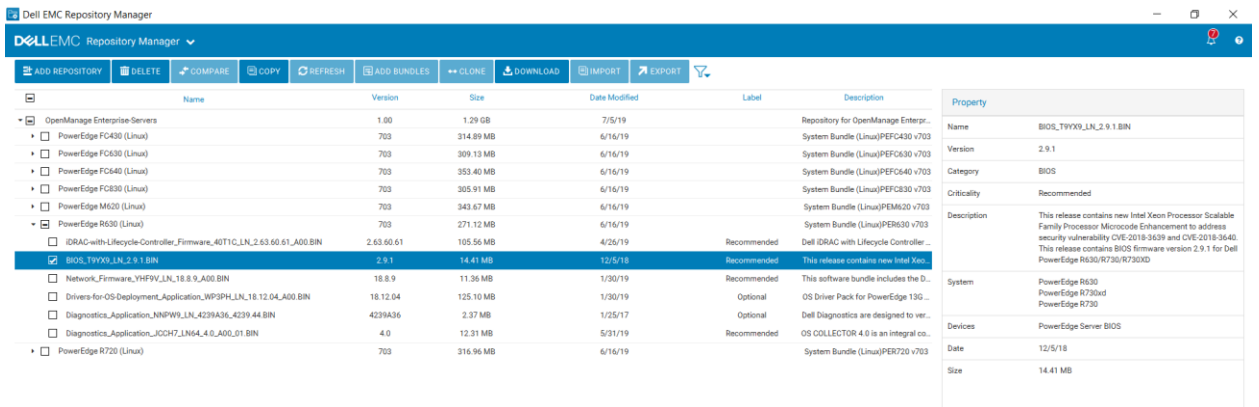
Fig 7: Repository created for every device component

4.3.2   Integration of OpenManage Enterprise with DRM when DRM version is 3.2 or Higher

- On the Home page, click **Add New Repository**. Add Repository window is displayed.
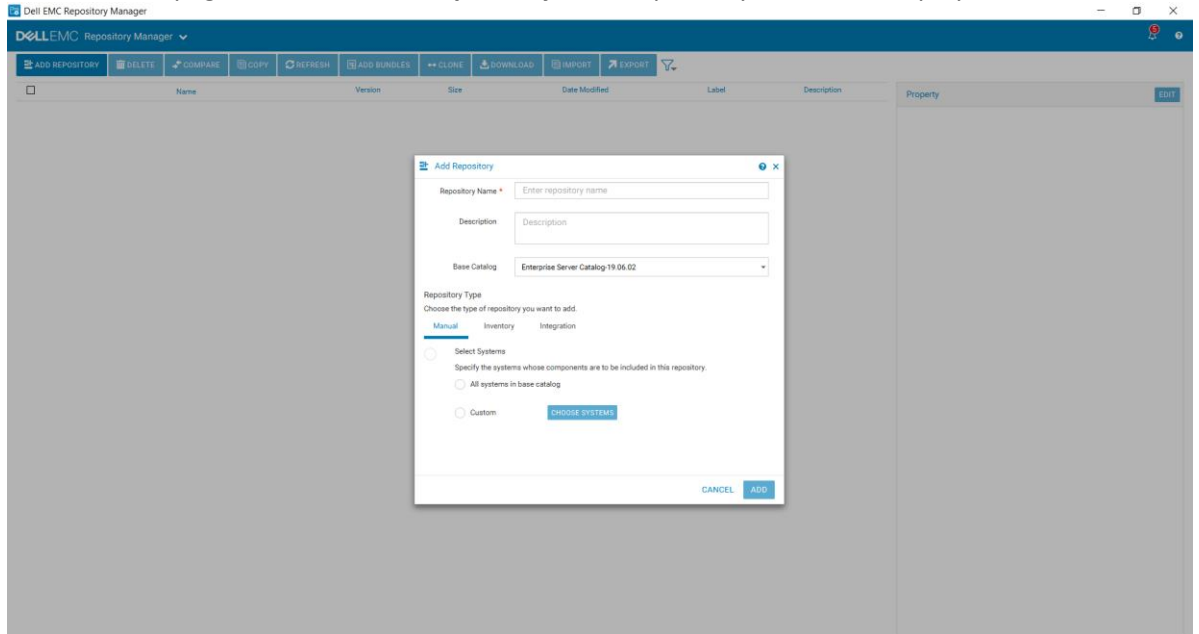
Figure 8: Adding Repository

- On the **Integration** tab, enter the **Repository Name** and **Description**.

Figure 9: Entering repository details

- From the **DUP Format** check-boxes, select the formats that you want to include in the repository.

- From the **Integration Type** drop-down menu, select the product option, **Dell OpenManage Enterprise**, with which you want to integrate.

Fig 10: Integration Type

- Based on the **"Dell OpenManage Enterprise"** product selection the following options are displayed.
  - Host name or IP address and port number, Username, Password, and Proxy server

Fig 11: DRM integration with OpenManage Enterprise details

▪ After selecting the required option click **Connect**.

Fig 12: Repository creation by selecting specific group

▪ DRM would connect to the OpenManage Enterprise application and collect information about all the devices currently managed by that instance of OpenManage Enterprise.
▪ After DRM has gathered the device information, in the **Integration Type** section it would list all the group that are currently configured in OpenManage Enterprise
▪ You can selectively create repositories for specific groups, or select all the groups for creating repositories for all of the OpenManage Enterprise device groups
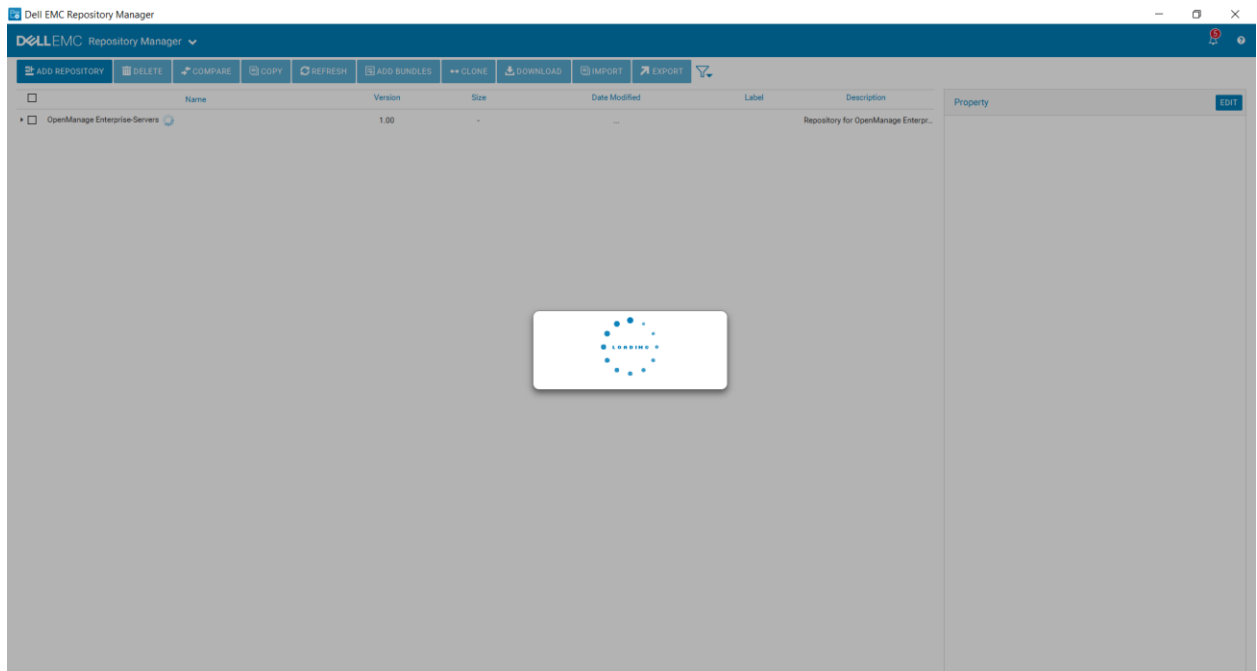▪ After you have selected specific groups click on **Add** to create the repository.

Fig 13: Repository creation in progress for devices from selected group

▪ The repository would be populated for the devices part of the selected group/s and once complete this repository would be displayed in the repository dashboard available on the home page.
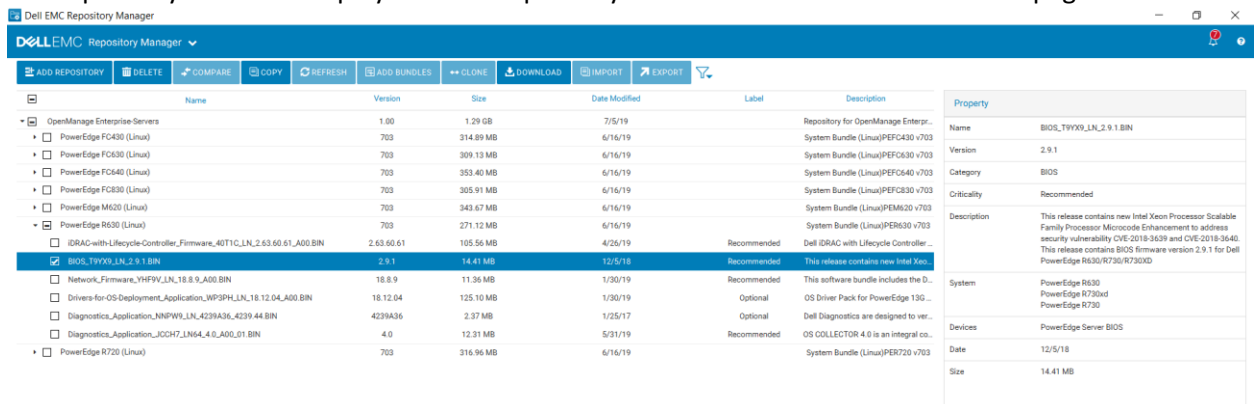

Fig 14: Repository created for every device component

4.4 Export Repository

This section describes the process to export the custom repository that you created using the steps mentioned in the above sections.

▪ On the DRM home page, select the repositories or bundles which you want to export. A warning message is displayed if you do not select any repository.
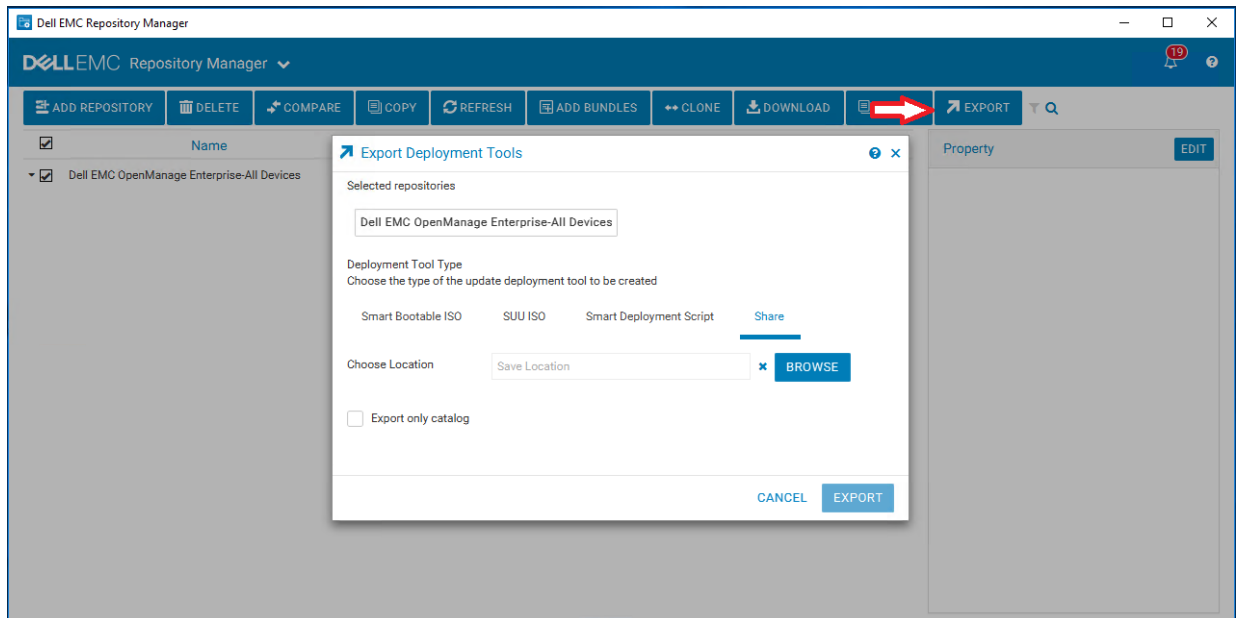▪ Click **Export**. The **Export Deployment Tools** window is displayed.

Fig 15: Export Repository

- The repositories that you select is displayed in the **Selected Repositories** section. Select option **Share** as the required **Deployment Tool Type** and click **Create**.
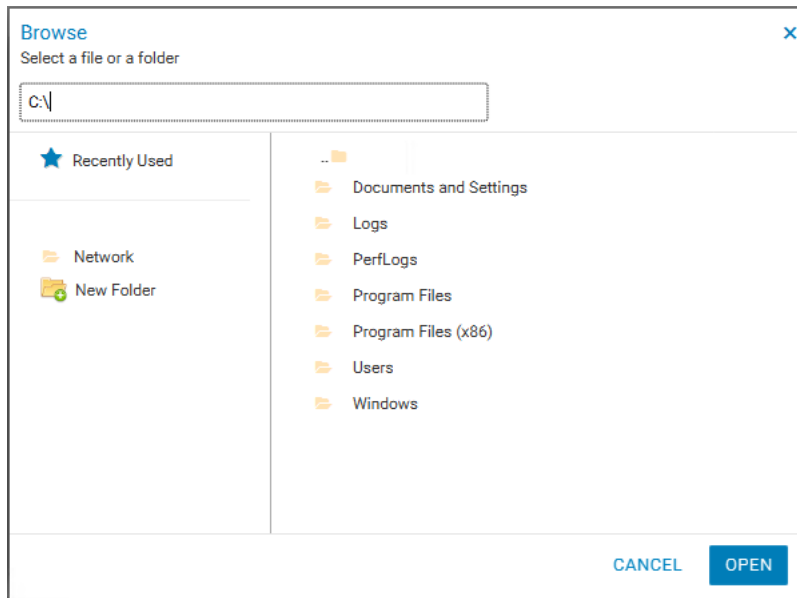- Click **Browse** to select the location to download the DUPs and catalogs.

Fig 16: Catalog share location

- Optional: Select the **Export only catalog** checkbox if you would like to export only the catalog
- Click **Export**.
- An Export job is created in DRM for this operation.

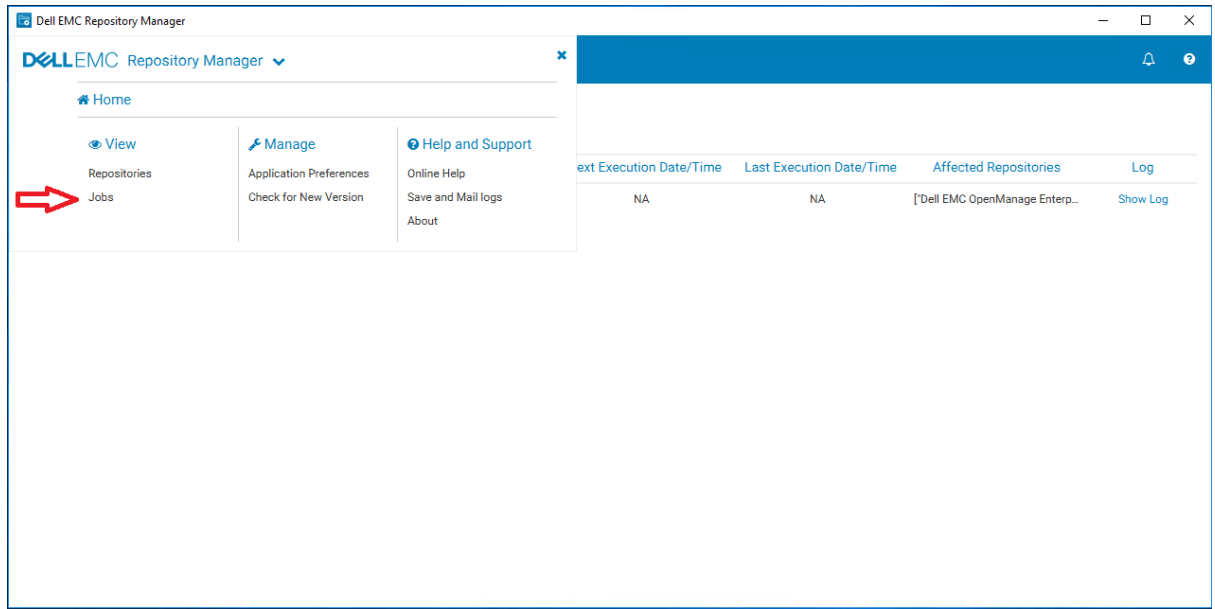▪ To check the status of the Export job, navigate to the **Jobs** page.

Fig 17: Navigation to Jobs page

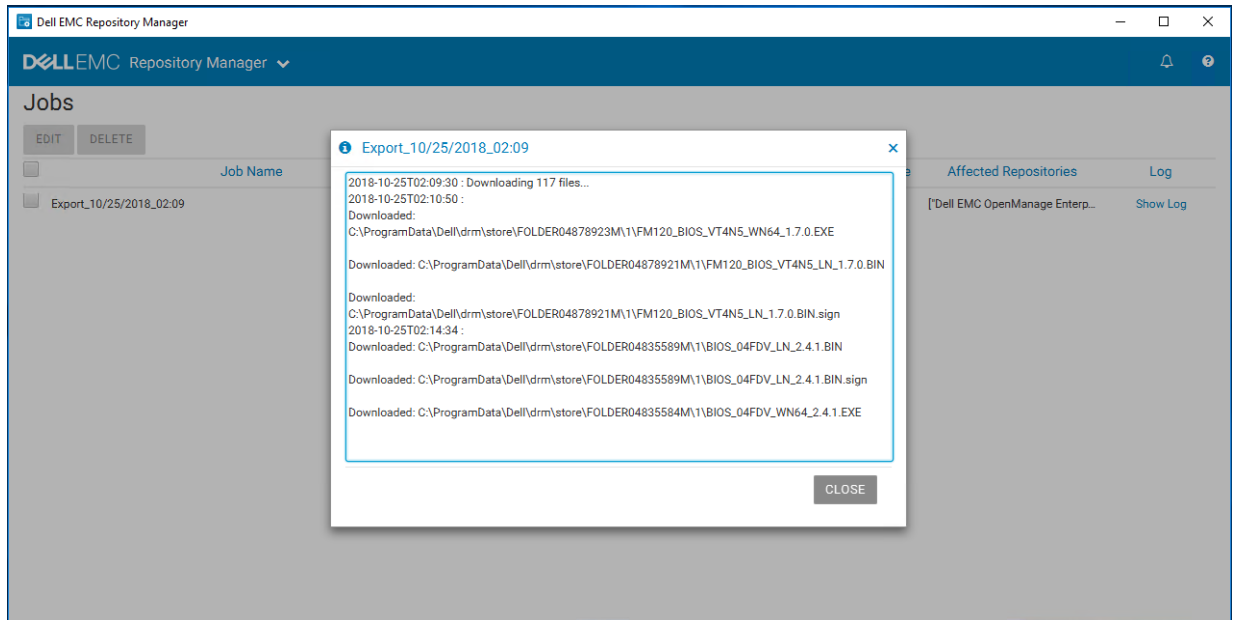▪ To check the job details, click on **Show log** for that specific Export job.

Fig 18: Export job status

▪ A job success message would be displayed in the job log once the Export job is completed successfully and all the files are uploaded to the selected share location.
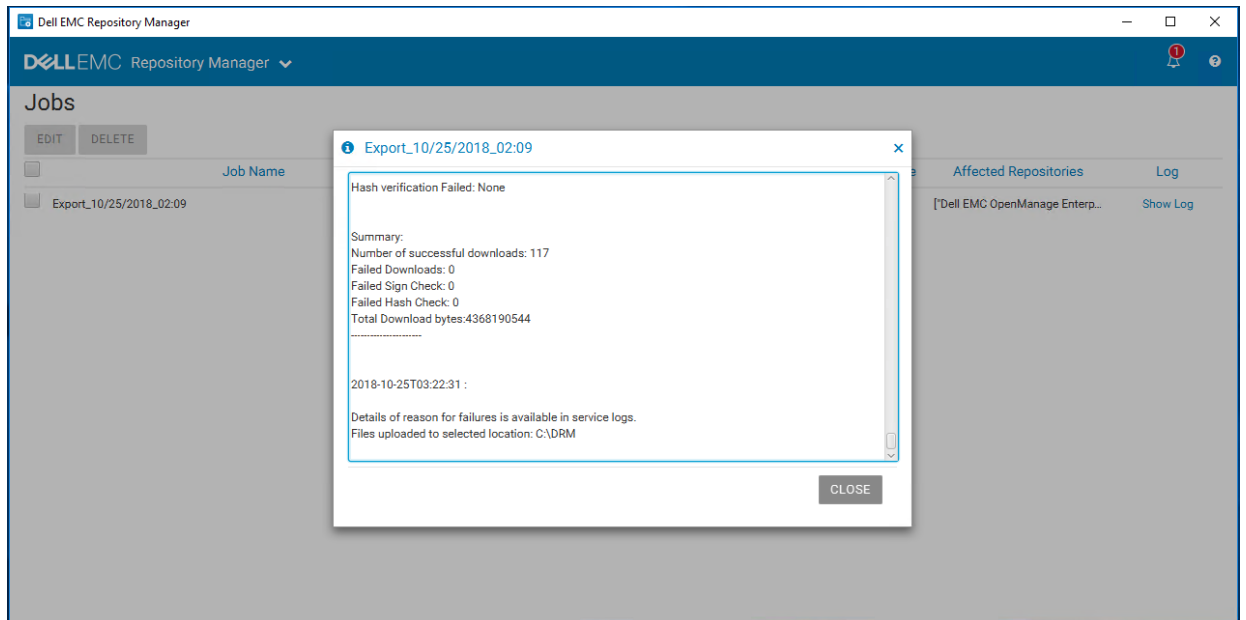
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Fig 19: Export job completion

5   Conclusion

It is easy to configure the integration between Dell EMC Repository Manager and Dell EMC OpenManage Enterprise and create custom repositories for specific devices that are managed through your OpenManage Enterprise application.

Once a repository is created, you can schedule searches for new updates, saving time otherwise spent manually searching through the Dell support site and also define your baselines and let this integration take care of keeping your devices up-to-date with the latest updates available from Dell.

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6 Additional resources

This section describes the process of launching the DRM page on support site for additional documentation.

To view the DRM manuals:

- Browse to Dell.com/support
- Click **View Products** to view the Dell EMC portfolio.
- Click **Software**.
- Click **Enterprise Systems Management**.
- Click **Repository Manager**.
- Select the relevant release and click **Manuals & documents**.