Dell Management Plug-in for VMware vCenter: Installation, Purchase, Licensing, and Upgrade

This Dell technical white paper describes how to install, purchase, apply license, and update the Dell Management Plug-in for VMware vCenter.
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Introduction

The Dell Management Plug-in is a virtual appliance, which is used to reduce tools and tasks associated with management and deployment of Dell servers in your virtual environment. It reduces complexity by natively integrating the key management capabilities into the vCenter console. It minimizes risk with hardware alarms, streamlines firmware updates, and provides deep visibility into inventory, health, and warranty details.

The Dell Management Plug-in for VMware vCenter is designed to streamline the management processes in your data center environment by letting you use VMware vCenter to manage your entire infrastructure—both physical and virtual. From firmware updates to bare metal deployment, the Dell Management Plug-In for VMware vCenter expands and enriches your data center management experience with Dell PowerEdge servers.

This white paper provides step-by-step procedures for installing, purchasing, registering, licensing, and upgrading the Dell Management Plug-in for VMware vCenter.

Audience and scope

The scope of the document is to provide detailed procedures for installing, configuring, and managing the Dell Management Plug-in for VMware vCenter. This white paper is intended for sale engineers, field application engineers, test engineers, architects, or IT administrators who are involved in the decision making process for the planning, configuration, and operation of a dynamic datacenter. This document is intended to assist solution architects in planning, designing, and deploying the Dell Management Plug-in.

Prerequisites

Readers are expected to have working knowledge of networking, VMware vSphere, virtual networking concept, Windows W2KR8, and the Linux environment. Requirements are VMware ESX/ESXi™ 4.1 or later host installation and VMware vCenter™.

Installation

The installation is a simple two-step process of extracting the Dell Management Plug-in files from an installation package and deploying the OVF.
Extracting the Dell Management Plug-in

1. Unzip the zip file containing the Dell Management Plug-in package, for example Dell Management Plug-in-Xhosts.zip (where X is 3, 10, 25, 50, and 100) and run setup.exe.

2. To view the EULA before proceeding to extract the contents, click Next.

3. To accept the EULA, click Yes.

   All the files are extracted to the same folder where you have setup.exe.
Deploying the Dell Management Plug-in OVF file

1. Start the VMware vSphere Client application.
   
   **NOTE:** All the snapshots below are from VMware vSphere Client 5.0

   ![VMware vSphere Client](image)

2. Select File -> Deploy OVF Template.

   ![VMware vSphere Client](image)

3. In the Source location window, use the Browse button to locate the OVF package. The location can be a local drive, network drive, CD-ROM/DVD, or from the Internet. For version 1.5, the Dell Management Plug-in file OVF size is approximately 2.1GB.
4. Review the information, and then click Next.
5. In the Name and Location window, specify a name and location for the deployed template. This name can contain up to 80 characters. Click Next.
6. Depending on the vCenter configuration, one of the following options displays:

- If resource pools are configured - On the Resource Pool page, select the pool virtual servers to which the Dell Management Plug-in will be deployed.
- If resource pools are not configured - On the Hosts/Clusters page, select the host or cluster to which the Dell Management Plug-in will be deployed.

7. If there is more than one datastore available on the host, the datastore page displays. Select the location to store the Dell Management files and click **Next**.

8. Select the format in which you want to store the virtual disks.

   a. **Thick Provision Lazy Zeroed**
      
      A lazy-zeroed thick disk has all disk space allocated at the time of creation, but each block is zeroed only on first write. This results in a shorter creation time, but reduced performance the first time a block is written to. Subsequent writes, however, have the same performance as on eager-zeroed thick disks.

   b. **Thick Provision Eager Zeroed [Recommended]**
      
      An eager-zeroed thick disk has all space allocated and zeroed out at the time of creation. This increases the time it takes to create the disk, but results in the best performance, even on the first write to each block.

   c. **Thin Provision**
      
      Space required for a thin-provisioned virtual disk is allocated and zeroed upon first write, as opposed to upon creation. There is a higher I/O cost (similar to that of lazy-zeroed thick disks) during the first write to an unwritten file block, but on subsequent writes thin-provisioned disks have the same performance as eager-zeroed thick disks.
9. If you want to Power on the Virtual Machine right after deployment process completes, select the **Power on after deployment** check box.

10. To start the deployment process, click **Finish**.
Purchasing the Dell Management Plug-in

The Dell Management Plug-In is available as a free, fully functional (non-expiring) version, which is capable of managing a server and letting you try out the software risk free. When you are ready to purchase a license for more servers, Dell has a license structure that fits your needs. With version 1.5, we have expanded the granularity of the licenses for purchase. You can purchase a license for 3, 10, 25, 50, 100, or unlimited servers.

To simplify the process of migrating from the 1-server product to a multiple host product, version 1.5 adds a Buy Now link that takes you to the Dell Web site with details of how to purchase a license. The Buy Now link is only available if you are running the 1-server install version. If you have a previous license, and need to apply a newer license for more managed servers, In the Administration Portal, see “Registering Dell Management Plug-in within vCenter and importing the License File.”

Understanding the Dell Management Plug-in user interfaces

The Dell Management Plug-in has three different user interfaces (UIs). Each one offers a different level of administration. You need to understand where your different configuration options are located before you can manage your hosts. These three UIs are:

- **Administration Portal**: This is a Web Client used for managing server registration, licenses, upgrades, and manage backup and restore.
- **VMware vCenter Dell Tab**: Monitor infrastructure health, inventory, advanced host management, and warranty.
- **Dell Management Center**: Run the Configuration Wizard, manage server compliance, configuration profiles, logs, settings, warranty, and schedules.
Administration Portal

Figure 1. The Web portal for registering and managing the virtual appliance
Dell Management Center

Figure 2. Manage configuration, compliance, and connection profiles for a particular host.
Dell Tab within VMware vCenter

Figure 3. Manage appliance health, inventory, storage, firmware, and warranty.
Registering Dell Management Plug-in within vCenter and importing the license file

To register Dell Management Plug-in within vCenter and upload the license file, you would first need to setup administrator password:

1. From the vSphere Client, select **Home → Hosts and Clusters**.

2. Locate the Dell Management Plug-in virtual appliance in the left pane.
3. Select the Dell Management Plug-in, then right click and select **Power -> Power On**.
4. To initiate the console Administrator Portal, in the right pane, click the **Console tab**.
   (You can also right click the Dell Management Plug-in and select **Open Console**.)
5. Wait for the Dell Management Plug-in to finish booting up.
6. In the menu, select **Change Admin Password**.
7. Once you have set the password, register the Dell Management Plug-in.
Registering the Dell Management Plug-in

1. Launch Internet Explorer, and enter https://<ApplianceIPaddress> as the URL.

2. On the Login page, enter administrator password and click Login.

3. Click Register New vCenter Server.

4. Enter the IP or Hostname of the vCenter server.

5. Enter the Admin User Name and the Password.
6. Verify the password.
   There is no need to upload a license for trial version of the Dell Management Plug-in. The trial version comes with a one host built-in license. To manage more hosts, or upgrade from trial to managing more hosts, upload the new license following below steps:

7. Click **Upload License**.

![Upload License](image)

8. To navigate to the license file, click **Browse**.
   For example, the license file name is LicenseConfig.xml.asc. This license file is found at the same location as the setup.exe.

9. To import the license file, click **Upload**.
   **NOTE**: If the license file is modified or edited in any way, the license file will not work.

### Updating the appliance

This section talks about the mechanics of updating the Dell Management Plug-in virtual appliance to latest available version.

### Updating appliance using the Administration Portal

Starting from version 1.0.1 of the Dell Management Plug-in, the APPLIANCE MANAGEMENT page of the Administration Portal contains an APPLIANCE UPDATE section for updating the virtual appliance. If you have version 1.0 of the Dell Management Plug-in virtual appliance, read [updating to the new OVF](#).

As shown below, the APPLIANCE UPDATE section shows the current version of the appliance, the available version of the appliance at a given update, the repository path, and a default repository reference.
The Dell Management Plug-in virtual appliance takes advantage of RPM packaging and yum update process to update the virtual appliance to a newer version.

The yum repositories containing RPM packages for the Dell Management Plug-in are found at http://linux.dell.com/repo/hardware/vcenter-plugin/.

The Update Repository Path value can be changed to another repository under http://linux.dell.com/repo/hardware/vcenter-plugin/ or a custom internal repository that represents an updated version of the appliance. The Default Update Repository value (http://linux.dell.com/repo/hardware/vcenter-plugin/latest) is not used in the update process but used as a reference repository path.


For virtual appliances less than version 1.5.0, use http://linux.dell.com/repo/hardware/vcenter-plugin/latest as the value of Update Repository Path. Once the virtual appliance is updated to 1.5.0, you notice that the Update Repository Path is automatically updated from latest to latest-greatest and there is no change required.

Changing the Update Repository Path

1. In the Administration Portal > Appliance Management page, click Edit.
2. Change the value for the repository path, and then click Apply.
The Available Virtual Appliance Version indicates the version of the appliance represented by the repository at the Update Repository Path location.

**Updating the virtual appliance**

1. In the Administration Portal, click **Update Virtual Appliance**.
2. Review the update information shown, and then click **Update**.

After confirming the update, you are automatically logged out from the Administration Portal. During the update progress, you cannot log back into the Administration Portal. However, you can check the update progress by opening the appliance’s console from the Dell tab in VMware vCenter. During the update, there are two reboots applied to the virtual appliance and all the update activities are captured in the `/usr/share/tomcat5/rpmupdate.log`

Once the update completes, you can log in to the Administration Portal. From the APPLIANCE MANAGEMENT window, you can verify the current version of your Dell Management Plug-in.
Updating using the new OVF

If you have the 1.0 version of the Dell Management Plug-in virtual appliance it does not support the yum update process or the virtual appliance is unable to upgrade using the normal yum update process. You can update your Dell Management Plug-in virtual appliance without losing any data. Follow the steps below:

1. Login into the Administration Portal (https://<ApplianceIPAddress>) and in the left pane, click Backup and Restore.
2. Backup the virtual appliance data to a network share location using following steps:
   a. In the Backup and Restore Settings page, click Backup Now.
   b. Enter network share path in UNC format, the credentials to access the share and encryption password in the dialog that is shown.
   c. Click Apply.

3. On the vCenter Registration window, to unregister all registered vCenters to which the Dell Management Plug-in is registered, click Unregister.
4. In vSphere Client, on the Dell tab, shutdown the 1.0 virtual appliance by selecting the virtual appliance, right click, and then select **Power->Shutdown Guest**.

5. Deploy an updated version of the Dell Management Plug-in OVF from the vSphere Client, set the admin password, and configure network or time zone for the appliance through the appliance console UI so that the updated appliance has same network address as 1.0 appliance. See **Installation** for details on OVF Deployment.

6. Clear the browser cache.

7. Login into the Administration Portal of the updated virtual appliance, and register the appliance with the same vCenter used with the old appliance. See Installation for details on vCenter registration.

8. Re-upload the product license file that was included as part of the product package. See Licensing for details on uploading license file.

9. Restore your data that was earlier backed up from the network share to the updated appliance.

**Restoring the 1.0 appliance data to the 1.5 appliance**

1. In the Administration Portal, on the Backup and Restore Settings window, do the following:
   a. Click **Restore Now**.
   b. Use the Browse button to navigate to the file path of the backed up 1.0 appliance file.
c. Enter the credentials to access the share and the encryption password.
d. To start the restoration process, click Apply.

Figure 9. Restoring Data

2. The Restore process logs you out from the Administration Portal and prevents anyone from logging in until the process completes. After the process has completed, the appliance automatically reboots. You can see the restore progress by opening the virtual appliance console UI from the Dell Tab.

3. Close and reopen any running vSphere Client instances to reload the new security certificate used for the updated virtual appliance communication.

4. After verifying the updated virtual appliance is functioning properly, it is safe to remove the 1.0 virtual appliance.

Conclusion

Now that you have successfully installed Dell Management Plug-in, the next step is to configure the Dell Management Plug-in to start managing your Dell servers from your vSphere Client itself. You can read more details on how to setup the Dell Management Plug-in to manage Dell servers in Dell Management Plug-in for VMware vCenter User’s Guide.

References

1. Dell Management Plug-in for VMware vCenter Quick Installation Guide