



EMC[®] PowerPath[®] Virtual Appliance

Version 1.2 and Minor Releases

Installation and Configuration Guide

P/N 302-000-474

REV 03

EMC²

Copyright © 2013 EMC Corporation. All rights reserved. Published in USA.

Published December, 2013

EMC believes the information in this publication is accurate as of its publication date. The information is subject to change without notice.

The information in this publication is provided as is. EMC Corporation makes no representations or warranties of any kind with respect to the information in this publication, and specifically disclaims implied warranties of merchantability or fitness for a particular purpose. Use, copying, and distribution of any EMC software described in this publication requires an applicable software license.

EMC², EMC, and the EMC logo are registered trademarks or trademarks of EMC Corporation in the United States and other countries. All other trademarks used herein are the property of their respective owners.

For the most up-to-date regulatory document for your product line, go to EMC Online Support (<https://support.emc.com>). For documentation on EMC Data Domain products, go to the EMC Data Domain Support Portal (<https://my.datadomain.com>).

EMC Corporation
Hopkinton, Massachusetts 01748-9103
1-508-435-1000 In North America 1-866-464-7381
www.EMC.com

CONTENTS

| | | |
|------------------|---|-----------|
| Tables | | 5 |
| Chapter 1 | Deployment Overview | 7 |
| | System requirements..... | 8 |
| | Deploying PowerPath Virtual Appliance..... | 8 |
| | Starting the appliance | 10 |
| | Virtual appliance property settings..... | 11 |
| | Verifying the appliance deployment | 11 |
| | Logging in to appliance using SSH..... | 12 |
| | Change the appliance Linux password | 12 |
| Chapter 2 | Uninstallation | 13 |
| | Uninstalling the appliance..... | 14 |
| | Post uninstallation tasks..... | 14 |
| Chapter 3 | Upgrade the Virtual Appliance | 15 |
| | Upgrading PowerPath Virtual Appliance using an ISO image..... | 16 |

CONTENTS

TABLES

| | | |
|---|---------------------------------------|----|
| 1 | Recommended system requirements | 8 |
| 2 | Virtual appliance properties..... | 11 |

TABLES

CHAPTER 1

Deployment overview

This section contains the following topics:

- ◆ [System requirements](#) 8
- ◆ [Deploying PowerPath Virtual Appliance](#) 8
- ◆ [Starting the appliance](#) 10
- ◆ [Verifying the appliance deployment](#) 11
- ◆ [Logging in to appliance using SSH](#) 12
- ◆ [Change the appliance Linux password](#) 12

System requirements

Ensure that you have the following minimum requirements for PowerPath Virtual Appliance 1.2:

- ◆ A server running VMware vCenter 5.0 or later
- ◆ Disk requirements: 2GB thin provisioned or 10GB thick provisioned

Table 1 Recommended system requirements

| Requirement | Minimum |
|-------------|---------------------|
| Disk space | 1 virtual hard disk |
| Memory | 8 GB RAM |
| CPU | 2 |
| Virtual NIC | 1 |
| Video card | 1 |

Deploying PowerPath Virtual Appliance

Deploy PowerPath Virtual Appliance from an OVA file using a VMware vSphere client.

Before you begin

- ◆ Download the `PowerPath_Virtual_Appliance_1.2_P02_New_Deployment.zip` file from EMC Online Support <https://support.emc.com>. This package contains the `EMCPower.vApp.1.2.0.02.00-b118.ova` file that is required to deploy EMC PowerPath Virtual Appliance 1.2 P02.

Note

Depending on user settings such as browser updates and other factors not related to PowerPath/VE, some internet browsers might not download the PowerPath Virtual Appliance OVA file correctly. If that occurs, try downloading the OVA file with a different internet browser or check the browser settings.

- ◆ Details of the VMware vCenter server where you are installing the virtual appliance.
- ◆ Details of the Datastore you can use for installation.
- ◆ Details of the local area network (LAN) shared by your VMware ESX/ESXi servers, to minimize deployment time. Deployment time should take approximately 5 to 15 minutes. Installation across a WAN could take 2 hours or more.
- ◆ Static IP address to assign to your appliance. This should be the same unique IP address specified in the served license file.
- ◆ Appliance server name; this should be the same Server name specified in the served license file.
- ◆ Gateway
- ◆ Netmask
- ◆ DNS servers
- ◆ NTP (time) server IP address

- ◆ Password you want to assign to the virtual appliance

Procedure

1. Open vSphere client and connect to the vCenter server managing your VMware environment.
2. Navigate to **File > Deploy OVF Template**.
By design, the vSphere client lists the option of deploying the OVF template. However, the PowerPath Virtual Appliance deploys an OVA template.
3. In the **Source** step, browse to the location of your OVA file.
For example: `EMCPower.vApp-1.2.0.02.00-118.ova`
4. Click **Next**.
5. Review the details of the loaded .ova file in the **OVF Details** window, and click **Next**.
6. Review the End User License Agreement. Click **Accept** and then **Next** to continue.
7. In the **Name and Location** window:
 - a. Type a **Name** for the appliance. This should be the same as the Server name specified in the served license file.
 - b. Specify an **Inventory Location** for the appliance within your VMware environment.
 - c. Click **Next**.
8. In the **Cluster** step, select a host or cluster where the appliance will run and click **Next**.
9. In the **Resource Pool** step, select a resource pool associated with the host or cluster where the appliance will run and click **Next**.
This step is necessary only if a resource pool has been predefined.
10. In the **Network Mapping** step, select a destination network and click **Next**.
The selected destination network must have an IP Pool associated with it.
11. In the **Disk Format** step, select the **Thick provision lazy zeroed** virtual disk format and click **Next**.
The **Datastore** and **Available space (GB)** fields are automatically populated.
12. In the **IP Address Allocation** step:
 - a. Under **Choose the IP allocation policy to use**, select **Fixed**.
 - b. At **Choose the Internet Protocol to use**, select **IPv4**.
 - c. Click **Next**.
13. In the **Properties** step:
 - a. Set **Appliance Fully Qualified Hostname** to the fully qualified host name of the appliance, such as myHost.emc.com.
You cannot change the hostname of the appliance after deployment. If you have to change the hostname, EMC recommends that you delete the appliance and redeploy it with the new hostname. If you need to change the hostname for a longer running appliance, the preferred method is to set up an alias in your domain name server (DNS) to resolve the appliance hostname.
 - b. (Optional) Set **Search Domain(s)** to a space-separated list of domains used in the network. For example, emc.com myhostname.emc.com.
 - c. Set **Name or IP Address of NTP (time) server** to the name or IP address of an NTP server to use for synchronizing the appliance date and time. For example, pool.ntp.org.

- d. Set **Timezone** to the timezone of the appliance. For example, US/Eastern.
- e. Set appliance Linux “root” password to the password for the root user of the appliance.

This password is used to log into the console in the vSphere Client or to SSH into the appliance. This password is stored in clear text.

- f. Set **Appliance IP Address** to a static IP address for the appliance. This should be the unique IP address specified in the served license file.

To change the IP address of the appliance after deployment, EMC recommends that you re-deploy the appliance.

- g. Set **Netmask** to the netmask applied to IP addresses in the network.
- h. Set **Gateway IP Address** to the gateway IP address for hosts in the network.
- i. Set **DNS Server(s)** to a comma-separated list of domain name servers (DNS) available in the network.

For example, 192.168.0.1, 192.168.0.2. You must independently register the hostname for your appliance with your domain name servers (DNS). The appliance does not validate hostnames. Hostnames not registered with the corresponding DNS may prevent normal operation.

- j. Click **Next**.

14. In the **Ready to Complete** window, verify the list of properties for the appliance and click **Power On after Deployment**.

15. click **Finish**.

A status bar is displayed in the vSphere Client, showing the deployment progress.

16. After deployment is complete, click **Close** in the **Deployment Completed Successfully** dialog box.

The log files, they are available in `/usr/share/tomcat6/logs`.

After you finish

Use one of the following methods to verify if the deployment is successfully completed.

- ◆ Launch a browser and point to `https://<host_name>`, where `host_name` is the FQDN of the Appliance Virtual Machine or its IP address.
- ◆ Log in to the virtual appliance. Check if the Tomcat server is running by entering the `# /etc/init.d/tomcat6 status` command.

Starting the appliance

Start the appliance using vSphere after deployment. The appliance may take up to 20 minutes to start the first time. You can monitor the progress on the vSphere console.

Procedure

1. In the vSphere Client, right-click the appliance name.
2. Select **Power > Power On**.

The status appears in the **Recent Tasks** bar.

Virtual appliance property settings

When deploying a virtual appliance, you have to supply property settings that are specific to your network environment. This information is necessary to ensure proper communications within your network.

Table 2 Virtual appliance properties

| Field | Description |
|---|---|
| Appliance Fully Qualified Hostname | The fully qualified hostname of the appliance, such as <code>myHost.emc.com</code> . You cannot change the hostname of the appliance after deployment. If you have to change the hostname, delete the appliance and redeploy it with the new hostname. If you need to change the hostname for a longer-running appliance, the preferred method is to set up an alias in your domain name server (DNS) to resolve the appliance hostname. |
| Appliance IP Address | A static IP address for the appliance. To change the IP address of the appliance after deployment, redeploy the appliance. |
| Gateway IP Address | The gateway IP address for hosts in the network. |
| Netmask | The netmask applied to IP addresses in the network. |
| DNS Server(s) | A comma-separated list of domain name servers (DNS) available in the network. For example, <code>111.111.1.1,111.111.1.2</code> You must independently register the hostname for your appliance with your domain name servers (DNS). The appliance does not validate hostnames. Hostnames not registered with the corresponding DNS may prevent normal operation. |
| Search Domain(s) | (Optional) A space-separated list of domains used in the network. For example, <code>emc.com myhostname.emc.com</code> . |
| Name or IP Address of NTP (time) server | The name or IP address of an NTP server to use for synchronizing the appliance date and time. For example, <code>pool.ntp.org</code> . |
| Timezone | The time zone of the appliance. For example, <code>US/Eastern</code> . |

Verifying the appliance deployment

After deploying the appliance, verify that it is working.

Procedure

1. In the vSphere client, navigate to the **VMs and Templates** view.
2. From the configured resource pool, find the resource pool you selected for the appliance.

The new appliance is listed under the resource pool.

3. In the console, log in to the appliance with the credentials you defined during the deployment.
4. Verify the services.

Logging in to appliance using SSH

Access the appliance from your local machine using SSH to view and manage the applications, such as RTOOLS and the PowerPath/VE ELMS, that are automatically deployed using the Virtual Appliance.

Procedure

1. From your local machine, connect through SSH to the Virtual Machine that you have deployed.

Log in to SSH as root.

2. Type the username and password that you set up when you created the Virtual Appliance.

Change the appliance Linux password

Using SSH or vSphere, you can change the appliance password for the Linux guest OS.

For security reasons, you should change this password after you first deploy the appliance. Make note of the new password. It is very difficult to recover.

Procedure

1. Log in as the root user to Linux guest OS.
2. Enter `passwd`
3. Press Enter.
4. Enter a new password and confirm it.

CHAPTER 2

Uninstallation

This section contains the following topic:

- ◆ [Uninstalling the appliance](#).....14

Uninstalling the appliance

Using your vSphere client, you can shut down and remove the appliance from your VMware inventory.

Procedure

1. Open the vSphere Client and connect to the vCenter server managing your appliance.
2. Right-click the appliance in the left pane of the **Inventory > VMs and Templates** window for the vSphere Client and select **Power > Shut Down Guest**.
3. Right-click the appliance and select **Delete from Disk**.

Post uninstallation tasks

This section describes what you must do after you have uninstalled the virtual appliance.

After you have uninstalled the virtual appliance, you can,

- ◆ Deploy the standalone RTOOLS
- ◆ Re-deploy the virtual appliance. Add the licenses to run the `rpowermt` commands

CHAPTER 3

Upgrade the virtual appliance

This section contains the following topic:

- ◆ [Upgrading PowerPath Virtual Appliance using an ISO image](#)..... 16

Upgrading PowerPath Virtual Appliance using an ISO image

You can upgrade from any earlier version of PowerPath Virtual Appliance to version 1.2 P02 by using an ISO image only.

Before you begin

- ◆ Download the `PowerPath_Virtual_Appliance_1.2_P02_Upgrade_only.zip` package from EMC Online Support. This package contains the `EMCPower.vApp-1.2.0.02.00-118.iso` file required to upgrade the virtual appliance from an earlier version.
- ◆ Burn the ISO image onto a CD/DVD or save the ISO image to a datastore on VMware vCenter.
- ◆ Alternatively, you can save the ISO image into a Datastore using vSphere Client and then map the ISO to the VM's CD ROM.
- ◆ The CST Standalone Lockbox passphrase is required after an upgrade from earlier versions of PowerPath Virtual Appliance to the current version. You will be prompted to re-enter the passphrase when you attempt to run the first `rpowermt` command on virtual appliance.

If the passphrase is lost, recreate the lockbox and re-enter the PowerPath/VE host information and credentials in order to perform `rpowermt` commands, or supply the host username and password on the `rpowermt` command line.

The PowerPath Virtual Appliance upgrade is supported by CD/DVD media or by upload of the ISO image. You must have root privileges to carry out the upgrade.

Procedure

1. Use the **Snapshot** capability in vCenter to create a backup of the existing PowerPath Virtual Appliance version.

Use the vSphere **Edit Settings** option to make the ISO image that was uploaded to the datastore or burned to a CD, visible to a virtual machine.
2. Using a browser, navigate to `https://<Appliance_IP_Address>:5480`, where `<Appliance_IP_Address>` is the IP address of the virtual appliance that you are upgrading.

A page with login option for PowerPath, is displayed.
3. Log into the PowerPath Virtual Appliance as root.
4. Click the **Update** tab.
5. Click the **Settings** tab.
6. Navigate to **Update Repository**. Select **Use CDRom Updates**.
7. Click **Save Settings**.
8. Click **Status**.
9. Click **Upgrade from CD/DVD media**.
 - a. Use the vSphere **Edit Settings** option for PowerPath Virtual Appliance VM to point the appliance CD/DVD drive to the datastore where the downloaded ISO image is placed.
 - b. Ensure that the **DVD/CD Drive Device Status: Connected** and **Connect at Power On** options are selected.
 - c. Map the CD/DVD drive device type to **Datastore ISO File** or to the CD/DVD drive of the system that has the PowerPath Virtual Appliance 1.2 P02 ISO image.

10. Click Check Updates.

An Available Updates message appears.

11. Click Install Updates.**12. Click OK.**

The update can take up to 15 minutes to complete.

After you finish

1. After the update is complete, select **System**.
2. Click **Reboot** to ensure that the PowerPath Virtual Appliance upgrade is complete.

Note

While upgrading the virtual appliance from an earlier version to the current version, you are not prompted to reboot the appliance. Reboot the appliance. It is required to successfully complete the upgrade.
