

Dell EMC Unisphere 360

Version 9.0.1

Installation Guide

REV 02

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

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About this content

As part of an effort to improve its product lines, Dell EMC periodically releases revisions of its software and hardware. Therefore, some functions described in this document might not be supported by all versions of the software or hardware currently in use. The product release notes provide the most up-to-date information on product features.

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Purpose

This document describes how to configure and use Unisphere 360.

Related documentation

The following publications provide additional information:

- *Dell EMC Unisphere for PowerMax Release Notes*
- *Dell EMC Unisphere for PowerMax Online Help*
- *Dell EMC Unisphere 360 Online Help*
- *Dell EMC Solutions Enabler Installation Guide*
- *Dell EMC Solutions Enabler Release Notes*
- *Dell EMC Solutions Enabler SRM CLI Product Guide*
- *Dell EMC Solutions Enabler CLI Command Reference*
- *Dell EMC PowerMax Family Security Configuration Guide*

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Your suggestions help us improve the accuracy, organization, and overall quality of the documentation. Send your comments and feedback to:

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CHAPTER 1

Pre-installation considerations

This chapter lists some points to consider before installing Unisphere 360:

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Product description

Unisphere 360 is an on-premises management solution that provides an aggregated view of the storage environment, as provided by the enrolled Unisphere instances.

The term Unisphere incorporates "Unisphere for PowerMax" for the management of PowerMax and All Flash storage systems using PowerMaxOS 5978, and "Unisphere for VMAX" for the management of VMAX All Flash and VMAX storage systems using HYPERMAX OS 5977 and Enginuity 5876.

Unisphere 360 consolidates and simplifies management of PowerMax and All Flash storage systems using PowerMaxOS 5978, and management of VMAX All Flash and VMAX storage systems using HYPERMAX OS 5977 and Enginuity OS 5876.

Note

DMX arrays (arrays running Enginuity OS 5773) are not supported in Unisphere 360.

Before you begin

The following section contains information to consider before beginning the installation.

- The user performing the installation must have operating system administrator permissions on the system.
- On Linux systems, before starting the installation procedure, create the `postgres` user and group. For more information about how to do this, see [Setting up the PostgreSQL user on Linux](#) on page 11.

Server operating system requirements

Windows

The following Windows versions are supported:

- Windows Server 2016
- Windows Server 2012 R2
- Windows Server 2008 R2 (64-bit only)

Linux

Note

Before you attempt to install Unisphere 360 on Red Hat Linux 6.0 or a later release, verify that the packages listed below are installed. Not all installer packages include these libraries by default so it is important to verify their presence before running the installation program. Do not attempt to run the installation process without them.

Without these items, an error may occur at the end of the product install and in some cases the product might not function as intended. The package is:

`unzip_XYZ_x86_64.rpm` / corresponding package.

The following Linux versions are supported:

- Red Hat Enterprise Linux 6.7 (64-bit)

- Red Hat Enterprise Linux 7.2 (64-bit)
- SUSE Linux Enterprise Server 11 (64-bit)
- SUSE Linux Enterprise Server 12 (64-bit)

Server hardware requirements

The following hardware requirements apply for Unisphere 360:

Table 1 Unisphere 360 server hardware requirements

Operating system	Windows	Linux
Minimum processor	2-core 1.8 GHz processor	2-core 1.8 GHz processor
Minimum available memory	16 GB	16 GB
Minimum available disk space	120 GB	120 GB

Client operating system requirements

The following client operating systems are supported:

- Windows 7
- Windows 8
- Windows 10

Client browser requirements

The minimum browser versions supported are:

- Firefox version 59.0
- Chrome version 65.0.3325
- Internet Explorer 11.0 (Desktop only)
- Microsoft Edge 38

Setting up the PostgreSQL user on Linux

Before starting a new installation of Unisphere for PowerMax or Unisphere 360 on Linux, the PostgreSQL user (`postgres`) and group (`postgres`), must be present. In addition, the user must be a member of the `postgres` group.

Use the following commands to create the `postgres` group and add the `postgres` user to the `postgres` group:

```
groupadd postgres
useradd -g postgres postgres
```


CHAPTER 2

Installing Unisphere 360

This chapter explains how to install Unisphere 360:

- [Installing Unisphere 360 on a Windows system](#).....14
- [Installing Unisphere 360 on a Linux system](#).....15
- [Launching Unisphere 360](#)..... 16
- [Starting and stopping the Unisphere 360 server](#)..... 17
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Installing Unisphere 360 on a Windows system

The default installation method for Windows is the wizard, but you can launch the console mode using the following command:

```
UNISPHERE360_version_WINDOWS_X86_64.exe -i console
```

To install Unisphere 360:

Procedure

1. To run the installer, double click the executable file.
2. In the **Introduction** page, click **Next**.
3. In the **Choose Install Folder** page, do one of the following:
 - In the **Where Would You Like to Install** field, type the installation path.
 - Click **Choose** and navigate to the installation path.
4. Click **Next**.
5. In the **Ports Configuration** page, do the following:
 - a. In the **HTTPS Port No** field, type the HTTPS port number, or accept the default value of 8470.
 - b. In the **DB Port No** field, type the database port number, or accept the default value of 3424.
 - c. Click **Next**.
6. In the **X.509 Certificate-based Client Authentication** page, do one of the following:

Note

Enable X.509 certificate-based authentication only if it is enabled on the Unisphere for PowerMax instance. Otherwise, enrollment of the Unisphere for PowerMax instance will fail.

- To continue installing without configuring X.509 certificate-based authentication, click **Next**.
- To configure X.509 certificate-based authentication, complete the following steps:
 - a. Select **Enable certificate based client authentication**.
 - b. Specify whether to use the CN or UPN of the client's identify.

Note that instances of the following special characters are stripped from the alias: @:?:|<>[]+=,*/\
 - c. In the **Admin User Name** field, specify the admin user name.

The admin user name must match CN/UPN of the X.509 certificate (minus any special characters that are stripped out) as configured in step [6.b](#) on page 14.

This user is created in Unisphere 360 and assigned administration privileges to bootstrap administration of the system.
 - d. Click **Next**.

After you complete the installation of Unisphere 360, further configuration is required to use X.509 certificate-based authentication. For more information, refer to [Configuring X.509 certification](#) on page 20.

7. In the **Pre-Installation Summary** page, review the summary information and click **Install**. A first-time fresh installation on Windows Server 2016 may ask for the Microsoft Visual C++ Redistributable Package. Click **OK**.

The installation operation completes.

8. In the **Install Complete** page, click **Done**.

After you finish

The installation operation creates a shortcut on the Windows desktop. Double-click this shortcut to launch Unisphere 360.

Installing Unisphere 360 on a Linux system

The default installation method for Linux is the console mode, but you can launch the wizard mode using the following command:

```
./UNISPHERE360_version_LINUX_X86_64.bin -i swing
```

To install Unisphere 360:

Procedure

1. To run the installer, run the following command:

```
./UNISPHERE360_version_LINUX_X86_64.bin -i console
```

2. In the **Introduction** panel, press Enter.
3. In the **Choose Install Folder** panel, do one of the following:
 - Type the installation path and press Enter.
 - Press Enter to accept the default installation path.
4. In the **Ports Configuration** panel, do the following:
 - a. Type the database port number and press Enter, or press Enter to accept the default value of 3424.
 - b. Type the HTTPS port number and press Enter, or press Enter to accept the default value of 8470.
5. In the **X.509 Certificate-based Client Authentication** panel, do one of the following:

Note

Enable X.509 certificate-based authentication only if it is enabled on the Unisphere for PowerMax instance. Otherwise, enrollment of the Unisphere for PowerMax instance will fail.

- To continue installing without configuring X.509 certificate-based authentication, type 1.
- To configure X.509 certificate-based authentication, type 2 and complete the following steps:

a. Do one of the following:

- To use the CN of the client's identity, type 1.
- To use the UPN of the client's identity, type 2.

Note that instances of the following special characters are stripped from the alias: @:?:|<>[]+=,*/\

b. Type the admin user name and press Enter.

The admin user name must match CN/UPN of the X.509 certificate (minus any special characters that are stripped out) as configured in step 5.a on page 16.

This user is created in Unisphere 360 and assigned administration privileges to bootstrap administration of the system.

After you complete the installation of Unisphere 360, further configuration is required to use X.509 certificate-based authentication. For more information, refer to [Configuring X.509 certification](#) on page 20.

6. In the **Pre-Installation Summary** panel, review the summary information and press Enter.

The installation operation completes.

7. In the **Install Complete** panel, press Enter to exit the installer.

Launching Unisphere 360

Consider the following points when launching Unisphere 360:

- When using X.509 certificate-based authentication, ensure that the certificate for Unisphere 360 is imported into the trust store for each Unisphere for PowerMax to be enrolled.
- When using Lightweight Directory Access Protocol (LDAP) or Active Directory (AD), ensure that you use the same user names as when signing in to Unisphere for PowerMax using LDAP/AD. For more information about this, refer to [Using Lightweight Directory Access Protocol or Active Directory](#) on page 20.

To launch Unisphere 360:

Procedure

1. Type the following URL in a browser:

```
https://host_IP|host_name:port_number/unisphere360
```

The port number is configured during installation. The default HTTPS port number is 8470.

If the host IP address is an IPv6 address, surround the IP address with square brackets, for example:

```
https://[2001:db8:ffff:ffff:ffff:ffff:ffff:ffff]:8470/unisphere360
```

If the host IP address is an IPv4 address, type the IP address as normal, for example:

```
https://198.51.100.255:8470/unisphere360
```

2. Do one of the following:
 - At the login window, type the Unisphere Initial Setup User username and password.
The default username for the Unisphere Initial Setup User in Unisphere 360 is `admin` and the default password is `admin`.
 - If X.509 certificate-based user authentication is configured on the server, the **Use X.509 Client Certificate** checkbox is automatically selected.
3. Click **Login**.

Starting and stopping the Unisphere 360 server

If required to do so, you can start and stop the Unisphere 360 server manually.

Starting and stopping the Unisphere 360 server on Windows

To start or stop the Unisphere 360 server in Windows, use the **Services** panel. Click **Control Panel > Administrative Tools > Services** to open the **Services** panel.

Right-click on the `EMCUnisphere360Server` service. Select **Start**, **Stop**, or **Restart**, as appropriate.

Alternatively, you can use the following commands to start or stop the Windows services using the CLI:

```
net start " EMCUnisphere360Server"
net stop " EMCUnisphere360Server"
```

Starting and stopping the Unisphere 360 server on Linux

To start or stop the Unisphere 360 server in Linux, change to this directory: `/etc/init.d` and use the following commands:

Action	Command
Start server	<code>./unisphere360 start</code>
Stop server	<code>./unisphere360 stop</code>
Restart server	<code>./unisphere360 restart</code>

Upgrading Unisphere 360

Note

As part of the upgrade process, you must re-enroll all Unisphere for PowerMax instances to enhance security and system-to-system trust.

The following upgrade paths are supported:

- V8.4.x -> V9.0.x
- V8.3.x -> V9.0.x
- V8.3.x -> V8.4.x
- V8.2.x -> V8.4.x

- V8.2.x -> V8.3.x

To upgrade Unisphere 360:

Procedure

1. Take note of the currently enrolled Unisphere for PowerMax instances.
2. Navigate to the location of the kit and run the appropriate executable for your operating system.
3. When prompted to do so, confirm that you want to upgrade the installed features.
4. Complete the upgrade by following the instructions on screen.

After you finish

Launch Unisphere 360 and re-enroll the required Unisphere for PowerMax instances.

CHAPTER 3

Configuring security settings

This chapter explains how to configure security settings for Unisphere 360:

- [Configuring X.509 certification](#).....20
- [Using Lightweight Directory Access Protocol or Active Directory](#).....20
- [Configuring Certificate Revocation List for X.509 certificate-based authentication](#).....21

Configuring X.509 certification

To use X.509 certification, complete the following

Procedure

1. When installing Unisphere 360, select the option to use certificate based client authentication.

For more information, refer to the following topics:

- [Installing Unisphere 360 on a Windows system](#) on page 14
- [Installing Unisphere 360 on a Linux system](#) on page 15

2. When installing Unisphere 360, specify an administration name.

For more information, refer to the following topics:

- [Installing Unisphere 360 on a Windows system](#) on page 14
- [Installing Unisphere 360 on a Linux system](#) on page 15

3. Stop the Unisphere 360 server.

For more information, refer to [Starting and stopping the Unisphere 360 server](#) on page 17.

4. Import the required certificates for Unisphere 350.

5. (Optional) Import Unisphere server certificates for any Unisphere for PowerMax instances that you plan to enroll.

6. Start the Unisphere 360 server.

For more information, refer to [Starting and stopping the Unisphere 360 server](#) on page 17.

Using Lightweight Directory Access Protocol or Active Directory

Before you begin

LDAP and AD users need to be configured as external users under "domain.com \username".

When using Lightweight Directory Access Protocol (LDAP) or Active Directory (AD) complete the following steps:

Procedure

1. Configure LDAP or AD for a Unisphere for PowerMax instance.
2. Enroll that Unisphere for PowerMax in Unisphere 360.
3. Add users as external users to ensure that they can login to Unisphere 360.

When signing in to Unisphere for PowerMax, specify the user name in the following format:

- AD users sign in specifying "domain\name".

- LDAP and local users sign in specifying "name".

Configuring Certificate Revocation List for X.509 certificate-based authentication

Unisphere 360 installations with X.509 certificate-based authentication may optionally configure a Certificate Revocation List (CRL) for greater PKI security. The CRL could be replaced periodically, based on the PKI security requirement set by the enterprise.

Procedure

1. Open the `application.properties` file:

For Windows:

```
install_dir\Unisphere360\config\application.properties
```

For Linux:

```
install_dir/Unisphere360/config/application.properties
```

2. Add the following line:

```
tls.crl-file=absolute_filename_of_the_CRL_file
```

3. Stop and restart the Unisphere 360 server.

For more information, refer to [Starting and stopping the Unisphere 360 server](#) on page 17.

