

# Dell Unity™ Family


## Upgrading Unity Software

Version 5.3

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## Notes, cautions, and warnings

 **NOTE:** A NOTE indicates important information that helps you make better use of your product.

 **CAUTION:** A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

 **WARNING:** A WARNING indicates a potential for property damage, personal injury, or death.

As part of an improvement effort, revisions of the software and hardware are periodically released. 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. Contact your technical support professional if a product does not function properly or does not function as described in this document.

## Where to get help

Support, product, and licensing information can be obtained as described below.

## Product information

For product and feature documentation or release notes, go to Unity Technical Documentation at: [dell.com/unitydocs](https://dell.com/unitydocs).

## Troubleshooting

For information about products, software updates, licensing, and service, go to Support (registration required) at: [dell.com/support](https://dell.com/support). After logging in, locate the appropriate product page.

# Introduction

## Topics:

- [About this document](#)
- [Types of software updates](#)
- [Information on changes and new features in a release](#)

## About this document

This document provides information that you can use to understand, plan, and upgrade the Operating Environment software, Drive Firmware, and Language Packs installed on your Unity storage system. It also includes information on some of the common issues that can interrupt the upgrade and associated troubleshooting procedures. For more information about performing a Unity Data-in-Place conversion to upgrade hardware, refer to the *Unity Data-in-Place Conversion Guide*.

## Types of software updates

The storage system can have the following types of software updates:

- Operating Environment (OE) software (also called Unisphere)
- Drive firmware
- Language packs

Note the following:

- Software updates are available in an encrypted binary file format (.gpg). The encryption ensures that the contents of the file are valid and not corrupted.
- OE software updates sometimes include system firmware and drive firmware upgrades. Such upgrades may take a bit longer to complete.
- Language packs are associated to a relevant system OE version.
- Drive firmware versions do not match the system OE versions, and can be upgraded separately.

## Information on changes and new features in a release

The *Release Notes* document includes information on the enhancements, fixed issues, and known issues in a release. When applicable, it also includes information on specific upgrade instructions or considerations for a release.

The *Release Notes* document can be located on [dell.com/support](https://dell.com/support).

# Plan the upgrade

## Topics:

- [Upgrade readiness considerations](#)
- [Common issues that can interrupt an upgrade](#)
- [Time needed to complete an upgrade](#)
- [I/O activities during an upgrade](#)

## Upgrade readiness considerations

There is no way to cancel an upgrade that is in progress. Once you start the upgrade process, you must finish it. Before you start the upgrade, consider the following:

- When you upload a new upgrade file onto your system, it replaces the previously uploaded version. There can only be one upgrade candidate on the system at a time.
- You are prevented from using Unisphere or the CLI to make configuration changes to the system while the upgrade is in progress.
- Unisphere may be temporarily disconnected during the upgrade. Access to Unisphere is automatically reestablished after the upgrade completes.
- It is strongly recommended that you perform a system health check about a week before installing an upgrade. This check ensures that you have time to resolve underlying problems that may prevent a successful update.
- Attempt to reduce the I/O to the system during the upgrade process as much as possible. During the upgrade process, there is only one storage processor handling I/O, so performance will be reduced.
- Any hot fixes that were installed before the upgrades are automatically removed during the upgrade. If the hotfix is not in the upgrade, ensure that you install the hotfix again after the upgrade. See the relevant *Release Notes* to ensure that the issue addressed by the hotfix is included as a fixed issue in the new system OE software version.

**NOTE:** It is recommended to always upgrade to the latest drive firmware before performing a software upgrade to help mitigate any nondisruptive upgrade issues. If newer firmware is available for your system drives, you receive an alert in Unisphere that updated firmware is available. When upgrading from Unity releases 5.1 and later, the Pre-upgrade Health Check will notify you before a software upgrade if newer drive firmware is available for your system.

## Common issues that can interrupt an upgrade

The following common issues may interrupt an upgrade:

### Faulted component

If a component has faulted, an alert may already be present in Unisphere. You can also check for any faulted components in the **System View** page of Unisphere. Once you identify the component, make the necessary replacements, and then try running the upgrade again.

Before you start the upgrade process, it is recommended that you perform a pre-upgrade health check. It checks for any hardware faults and the health of the file system. Ensure that there are no issues reported.

### Incompatible software update file

Some software upgrades require that you are running on a specific version. Refer to the *Release Notes* document associated with the software update. For more information, see [Information on changes and new features in a release](#).

### Corrupt software update file

Use the SHA256 checksum method to confirm whether the software update file is corrupt. For more information, see [Verify that the upgrade file is not corrupted](#).

If the file is corrupted, download the software update one more time, verify it using SHA256 checksum, and then proceed with the upgrade.

It is recommended that you always verify that the software update file is valid and not corrupt using the SHA256 checksum.

## Time needed to complete an upgrade

The total estimated time for an upgrade is around 2 hours. It may change based on the I/O activities and other factors specific to your environment. A separate firmware upgrade typically takes around 45 minutes, although times can vary. OE software updates sometimes include system firmware updates. In such cases, the upgrade may take a bit longer to complete. Do not take actions, such as closing and opening the web browser or power cycling the SPs in the middle of an upgrade.

The upgrade retains your existing configuration settings. These settings include the IP addresses that you configured for the system (static or dynamic).

## I/O activities during an upgrade

Unisphere may be temporarily disconnected during the upgrade. Once the upgrade is complete, it will automatically be reconnected. It is recommended that you reduce all I/O activity before you proceed with the upgrade.

# Perform the upgrade

## Topics:

- Upgrade the system software
- Upgrade drive firmware
- Periodic upgrades to drive firmware
- Update language packs

## Upgrade the system software

### Prerequisites

Updates are made when new software or firmware is released. Depending on the implementation, you can obtain updates from online support or from your service provider. If you have SupportAssist enabled (applicable only to hardware platforms with release 5.3 or later) or ESRS enabled (applicable only to UnityVSA with release 5.3 or later), you can contact support and request that they automatically push down the latest software or firmware to your system.

**NOTE:** It is recommended to always upgrade to the latest drive firmware before performing a software upgrade to help mitigate any nondisruptive upgrade issues. If newer firmware is available for your system drives, you receive an alert in Unisphere that updated firmware is available. When upgrading from Unity releases 5.1 and later, the Pre-upgrade Health Check will notify you before a software upgrade if newer drive firmware is available for your system.

- Perform a system health check about a week before upgrading your software or firmware to ensure that you have time to resolve underlying problems that may prevent a successful update.
- When you upload a new upgrade file onto your system, it replaces the previous version. There can only be one upgrade candidate on the system at a time.
- You will be prevented from using Unisphere or the CLI to make configuration changes to the system while the upgrade is in progress.
- Unisphere may be temporarily disconnected during the upgrade when the primary storage processor reboots, and it may take a few minutes to be automatically reconnected.

When upgrading from an older release to release 5.3, SupportAssist replaces ESRS (applicable only to hardware platforms). Before proceeding with the upgrade, be aware of the following restrictions and limitations with regards to SupportAssist:

- If integrated ESRS is enabled with a SOCKS proxy in an earlier Unity OE version prior to an upgrade to Unity OE version 5.3, the upgrade will be blocked by a pre-upgrade health check error. If integrated ESRS is not enabled but a SOCKS proxy is configured, the upgrade will not be blocked. If a global proxy server is configured in Unity OE version 5.3 or later, it must be of type HTTP. If you configure a SOCKS proxy server in Unity OE version 5.3 or later for external network connectivity, SupportAssist cannot be enabled.
- A Unity system with either ESRS gateway (version 3.x) or SupportAssist Enterprise (version 4.y) configured for centralized ESRS cannot be upgraded to Unity OE version 5.3. Neither ESRS gateway (version 3.x) nor SupportAssist Enterprise (version 4.y) is supported in Unity OE version 5.3 for SupportAssist. SupportAssist only supports Secure Connect Gateway version 5.12.00.10 or later.
- If a policy manager sever address is configured for a connection type of **Integrated ESRS** on the Unity system prior to an upgrade to Unity OE version 5.3 or later, the policy manager setting is not transferred during the upgrade. After the upgrade, an error is logged to indicate that the policy manager can no longer manage the network communication between the Unity system and the backend servers.

For more information, see *Dell Unity Family Configuring Support Assist*.

### Steps

1. Navigate to the following web address `https://<Management_IP>/` to access the Unisphere Graphical User Interface.

**NOTE:** <Management\_IP> refers to the Unity system management IP address.




2. Under **Settings**, select **Software and Licenses > Software Upgrades**.
3. Select **Perform Health Checks** to perform the health check independently of an upgrade, or several days or weeks prior to a planned upgrade.


If the health check fails, you must resolve the problem before performing an update. If the health check does not fail, but displays warning messages highlighting potential issues, you can choose to check and correct these issues, or ignore these messages and proceed with the update.
4. Select **Download New Software** to download a new software upgrade image in advance of starting the upgrade.
5. If you downloaded the software manually, save the upgrade file to the local computer from which you are running Unisphere. Do not change the name of the file.
6. Select **Start Upgrade**.
7. If you have not performed a system health check recently, select **Perform Health Checks**.

This enables you to identify and resolve any issues that may have appeared in the system after the last health check.
8. There are multiple possible options for **Select New Software**. They may not all be available at the same time. Select one of the following options and click **Next**:
  - No files available for download: **Choose File** to upload an image previously downloaded to your system.
  - **Use Candidate Software**: This image was previously uploaded to your system by a user.
  - **Use Latest Image**: This image was automatically pushed to your system by support.
  - **Upload a File**: If there are other images available on your system, but you want to upload a file now by navigating to a previously downloaded image file on your local machine.
9. Select the checkbox if you want the storage processors to reboot automatically during the upgrade. For more information, see [Automatically reboot storage processors](#)
10. Review the planned upgrade and select **Finish**.
11. On the **Software Upgrade Successful** dialog, you have the option of automatically launching the Drive Firmware wizard if new firmware is available. It will also indicate how many drives have outdated firmware and will be upgraded. It is highly recommended that you upgrade to the latest firmware available following a software upgrade. Select or deselect the checkbox and click **Finish**.

## Results

The screen shows the progress of the upgrade as both storage processors are upgraded and rebooted.

 **NOTE:** If you did not select the option to reboot the storage processors automatically, the upgrade process will pause before rebooting the first storage processor, and wait for your input to proceed with the upgrade.

 **NOTE:** Once the software upgrade completes, it is strongly recommended that you also install the latest drive firmware updates for your system. Check the **Alerts** page for notifications for newly available drive firmware upgrades. Upgrade notification alerts are sent weekly, so you may want to review the alert notifications for the last week, if possible. For additional information on upgrading drive firmware, including drive part numbers and the latest firmware packages available for each, refer to Knowledgebase article 000490700.

## Automatically reboot storage processors


The default option during a software upgrade is to automatically reboot both storage processors, one-at-a-time, as soon as the software upgrade image is staged and the system is prepared for upgrade. If you like tighter control over when the reboots happen, you can clear this option so that upgrade can be started and staged, but neither storage processor will reboot until you are ready.

Doing so reduces the duration of the window (approximately by 10-20%) when the storage processors could be rebooting, which makes it easier to plan for a time of reduced activity during the upgrade. If that window is not a factor during your upgrade, then leave the default option of rebooting the storage processors automatically to avoid delays with the upgrade completing.

## Upgrade drive firmware

### About this task

You can upgrade the drive firmware separately from the OE software by using the following procedure. You may receive an alert notifying you that updated drive firmware is available for your system. This task applies to physical deployments only.

 **NOTE:** With Unity releases 5.0 and later, drive firmware is bundled with the software OE upgrade package. You may see an option to launch the drive firmware wizard after performing the software upgrade, if drive firmware upgrades are applicable to your system. It is strongly recommended that you always install any new drive firmware that is available.

### Steps

1. Select the **Settings** icon, and then select **Software and Licenses > Drive Firmware**.
2. Select **Obtain Drive Firmware Online** to download a new drive firmware package.
3. Select **Install Drive Firmware** to upload and install a new drive firmware package to the storage system.
4. Select **Perform Health Checks**.  
If the pre-update health check fails, you need to resolve the problem before performing an upgrade. If the health check does not fail, but displays warning messages highlighting potential issues, you can choose to check and correct these issues, or ignore these messages and proceed with the upgrade.
5. Select the drive firmware file you want to upload, or one that was automatically pushed to your system by Support.
6. Select **Upload**. The drive firmware file is uploaded and installed on the system.
7. View the results and close.

## Periodic upgrades to drive firmware

Online Disk Firmware Upgrades (ODFU) occur automatically after you upgrade to OE version 5.3.

The system runs a preupgrade health check before upgrading the drive firmware. These upgrades occur weekly. In addition, the system automatically dials home if firmware upgrade failures occur.

### Use case

You can use the following service script to enable or disable ODFU or to see the current setting status:

```
svc_change_hw_config  
[-O | --periodic_odfu | --enable | --disable | --status]
```

For more information about this service command, see the *Dell Unity Family Service Commands Technical Notes*.

## Update language packs

### Steps

1. Select the **Settings** icon, and then select **Software and Licenses > Language Packs**.
2. Select **Obtain Language Pack Online** and download a language pack file to your local system.
3. Select **Install Language Pack** to launch the Install Language Pack wizard.
4. Select the language pack file you want to upload.
5. Select **Upload**. The language pack is uploaded and installed on the system.
6. View the results and close.
7. Select the **My Account** icon and select **Preferences**.
8. Select the preferred language from the **Language** list.

# Perform the upgrade using CLI commands

## Topics:

- [Install the Unisphere CLI client](#)
- [Launch the Unisphere CLI client](#)
- [Upgrade the system](#)
- [Associated CLI commands](#)


## Install the Unisphere CLI client

### About this task

To install the Unisphere CLI client:

### Steps

1. Go to your support website.
2. Download the Unisphere CLI client for your operating system.
3. Perform the following based on your operating system:
  - On Windows, double-click the installer executable and follow the prompts. The default installation location is:
    - 64-bit systems: C:\Program Files (x86)\Dell EMC\Unity\Unisphere CLI
    - 32-bit systems: C:\Program Files\Dell EMC\Unity\Unisphere CLI

 **NOTE:** The installation directory is added to the PATH system variable.
  - On UNIX/Linux, type: `rpm -ihv <filename>`,  
 where `filename` is the name of the installer executable. The default installation location is: `/opt/emc/uemcli-<version>/bin/`,  
 where `version` is the version of the client installed.

## Launch the Unisphere CLI client

### About this task

After installing the Unisphere CLI client, you can launch the client on a Microsoft Windows or UNIX/Linux computer.

To launch the Unisphere CLI client, perform the following in a command prompt based on your operating system:

### Steps

1. If you have a Windows operating system, type:  
`uemcli.exe`
2. If you have a UNIX/Linux operating system, type:  
`/usr/bin/uemcli`

## Upgrade the system

Create an upgrade session to upgrade the system or view existing upgrade sessions. The upgrade session installs an upgrade candidate file that was uploaded to the system. Download the latest upgrade candidate from the support website. Use the `-upload` switch to upload it to the system before creating the upgrade session.

The latest software upgrade candidate contains all available hot fixes. If you have applied hot fixes to your system, the hot fixes will be included in the latest upgrade candidate.

**NOTE:** All system components must be healthy, prior to upgrading the system. If any system components are degraded, the update will fail. [Perform a system health check](#) explains how to run a health check on the system.

The following table lists the attributes for upgrade sessions.

**Table 1. Upgrade session attributes**

Attribute	Description
Status	Current status of the upgrade session. Value is one of the following: <ul style="list-style-type: none"><li>• <code>running</code> — Session is upgrading the system software.</li><li>• <code>completed</code> — Session has completed upgrading the system software.</li><li>• <code>paused</code> — Upgrade session has paused before rebooting the SPs.</li><li>• <code>failed</code> — Upgrade session has failed.</li></ul>
Progress	Current progress of the upgrade session.
Creation time	Date and time the upgrade session was created.
Elapsed time	Amount of time that the upgrade session has been running.
Estimated time left	Estimated time required to complete the upgrade session.
Percent complete	Indicates the progress of the upgrade in percent.
Type	The type of upgrade being performed: software upgrade or storage processor upgrade. With software upgrade, details can be found with <code>/sys/soft/ver show</code> .
Additional info	Additional information about the status of the upgrade.

## View system software versions

Display details about the version of the installed system software any upgrade candidates that have been uploaded to the system. [Upgrade the system](#) explains how to upgrade the system software.

### Format

```
/sys/soft/ver [{-id <value>|-type {installed|candidate|downloaded}}] show
```

### Object qualifier

Qualifier	Description
<code>-id</code>	Type the ID of the system software.
<code>-type</code>	Type the software type. Value is one of the following: <ul style="list-style-type: none"><li>• <code>installed</code> — View the version of the system software that is installed.</li><li>• <code>candidate</code> — View the version of the system software upgrade candidate that was uploaded to the system.</li><li>• <code>downloaded</code> — Software image that was automatically pushed to the system by support.</li></ul>

### Example

The following command displays details about the installed system software and an uploaded upgrade candidate:

```
uemcli -d 10.0.0.1 -u Local/joe -p MyPassword456! /sys/soft/ver show -detail
```

```
Storage system address: 10.0.0.1
Storage system port: 443
HTTPS connection
```

```

1:      ID          = INST_1
      Type          = installed
      Version       = 5.2.0.0.5.001
      Release date  = 2020-08-26 08:32:30
      Full version  = Unity 5.2.0.0 (Release, Build 001, 2020-08-26 08:32:30,
5.2.0.0.5.001)
      Image type    =
      Reboot required =
      Pause allowed  =
      Image filename =

2:      ID          = CAND_1
      Type          = candidate
      Version       = 5.2.0.0.5.002
      Release date  = 2020-08-28 07:26:51
      Full version  = Unity 5.2.0.0 (Release, Build 002, 2020-08-28 07:26:51,
5.2.0.0.5.002)
      Image type    = software
      Reboot required = yes
      Pause allowed  = yes
      Image filename = Unity-upgrade-5.2.0.0.5.002-5.2.0.0.5.002-GNOSIS_RETAIL.tgz.bin


3:      ID          = ASD_1
      Type          = downloaded
      Version       = 4.2.0.9215195
      Release date  =
      Full version  =
      Image type    = software
      Reboot required =
      Pause allowed  =
      Image filename = Unity-merlin_dev_qiand2-
upgrade-4.2.0.9215195.9215195-4.2.0.9215195.9215195-GNOSIS_DEBUG.tgz.bin.gpg

4:      ID          = ASD_2
      Type          = downloaded
      Version       = V2-Dec-19-2016
      Release date  =
      Full version  =
      Image type    = firmware
      Reboot required =
      Pause allowed  =
      Image filename = Unity-Drive-Firmware-V2-Dec-19-2016.tgz.bin.gpg

```

## Perform a system health check

Perform a health check of the entire system. A health check is a series of checks on the state of your system to ensure that no underlying problems exist.

 **NOTE:** Before upgrading the system software, a system health check must be performed. All system components must be healthy prior to upgrading the system software. If any of the system components are degraded, the software update will fail.

### Format

```
/sys/general healthcheck
```

### Example

The following command performs a health check of the system:

```
uemcli -d 10.0.0.1 -u Local/joe -p MyPassword456! /sys/general healthcheck
```

```

Storage system address: 10.0.0.1
Storage system port: 443
HTTPS connection

```

```
1: Error code = Error: The health check has failed. An internal error is preventing
the health check from completing successfully. Record the error code and search the
EMC Online Support website for available support options.
[Error Code: platform::check_boot_control_status_2]
```

Operation completed successfully.

#### NOTE:

- The results of the health check may show errors and warnings, but a message of `Operation completed successfully.` displays in the output. This is only an indication that the health check action was performed, not that it was successfully completed without errors and warnings. Attempt to resolve all errors and rerun the health check.
- If errors occur, a system software upgrade is not allowed. If warnings occur, they can be bypassed during the upgrade procedure.

## Upload an upgrade candidate

To upgrade the system software, upload an upgrade candidate file that you download from the support website and use the `-upload` qualifier. Once you upload the candidate file to the system, use an upgrade session to start the upgrade process. [Create upgrade sessions](#) explains configuring upgrade sessions.

### Prerequisites

Download the latest system software upgrade candidate from the support website.

### Format

```
uemcli -d 10.0.0.1 -u Local/joe -p MyPassword456! -upload -f <file> upgrade
```

### Options

Qualifier	Description
<code>-f</code>	Type the path and file name of the upgrade candidate file to upload. Wrap the path and file name in quotes.

### Example

The following example upload a upgrade candidate file to the system:


```
uemcli -d 10.0.0.1 -u Local/joe -p MyPassword456! -upload -f "upgrade-2.0.0.12190-MAGNUM-RETAIL.tgz.bin" upgrade
```

```
Storage system address: 10.0.0.1
Storage system port: 443
HTTPS connection
```

```
Operation completed successfully.
```

## Create upgrade sessions



Creates a new upgrade session. This could be a software or hardware upgrade that is monitored by a session.

 **NOTE:** Do not use Unisphere or Unisphere CLI to manage or configure the system during a software upgrade.

## Format

```
/sys/upgrade create -type {software [-candId <value>] [-pauseBeforeReboot] | sp -newSPModel <value>} [-offline]} [-pauseBetweenReboots]
```

## Action qualifiers

Qualifier	Description
-candId	Type the ID of the uploaded upgrade candidate. <a href="#">View system software versions</a> explains how to view the ID of the uploaded software candidate.  <b>NOTE:</b> This argument is optional. If unspecified, the system looks up the upgrade candidate.
-pauseBeforeReboot	Specify whether to pause during the upgrade, executing all tasks before the SPs reboot.  <b>NOTE:</b> This option is ignored for language packs, hot fix, and ODFU upgrades.
-newSPModel	Start a storage processor upgrade with the specified target model. The possible values for this system are identified using <code>/sys/general show</code> .
-offline	Optional parameter that will start an offline storage processor upgrade rather than an online (default) storage processor upgrade.
-pauseBetweenReboots	Optional parameter for software or online Data-in-place (DIP) upgrades. If specified, the system will pause after the first SP has been upgraded, but before the second SP is upgraded. This will allow you to suspend the upgrade until you manually resume the upgrade using <code>/sys/upgrade resume</code> .


## Example 1

The following command creates a session to upgrade the system software:

```
uemcli -d 10.0.0.1 -u Local/joe -p MyPassword456! /sys/upgrade create -type software
```

```
Storage system address: 10.0.0.1
Storage system port: 443
HTTPS connection

Operation completed successfully.
```

 **NOTE:** All warning messages, if any, appear the first time you run the upgrade process. When a potential issue results in a warning message, the upgrade process stops. Once you review the warning message, run the upgrade command again to continue with the upgrade process. This time the upgrade process will run the checks again, but it will not stop for any warnings. The upgrade process will only stop when an error occurs.

## Example 2

The following command creates a session to upgrade the storage processor:

```
uemcli -d 10.0.0.1 -u Local/joe -p MyPassword456! /sys/upgrade create -type sp -newSPModel SP500
```

```
Storage system address: 10.0.0.1
Storage system port: 443
HTTPS connection

Operation completed successfully.
```

## Example 3

The following command initiates an offline DIP upgrade.

```
uemcli -d 10.0.0.1 -u Local/joe -p MyPassword456! /sys/upgrade create -type sp -newSPModel SP500 -offline
```

```
Storage system address: 10.64.75.201
Storage system port: 443
HTTPS connection

Operation completed successfully.
```

## Example 4

The following command initiates a software upgrade that pauses after the first SP reboots.

```
uemcli /sys/upgrade create -type software -pauseBetweenReboots
```

```
Storage system address: 10.64.75.201
Storage system port: 443
HTTPS connection

Operation completed successfully.
```

## View upgrade sessions

View details for an existing upgrade session.

 **NOTE:** The `show action command` explains how to change the output format.

### Format

```
/sys/upgrade show
```

## Example 1

The following command displays details about the hardware upgrade session:

```
uemcli -d 10.0.0.1 -u Local/joe -p MyPassword456! /sys/upgrade show
```

```
Storage system address: 10.0.0.1
Storage system port: 443
HTTPS connection

1:      Type           = SP
        Status         = Running
        Status message  =
        Creation time    = 2015-11-09 19:43:08
        Elapsed time     = 01h 3m 08s
        Estimated time left = 01h 70m 00s
        Progress         = Task 2 of 5 (Running health checks)
        Percent complete  = 5%
```

## Example 2

The following command displays details about the software upgrade session:



```
uemcli -d 10.0.0.1 -u Local/joe -p MyPassword456! /sys/upgrade show
```

```
Storage system address: 10.0.0.1
Storage system port: 443
HTTPS connection

1:      Type           = Software
      Status          = Failed
      Status message   = Stopping c4 stack on SPA timeout expired
      Creation time     = 2009-11-09 18:04:12
      Elapsed time      = 00h 20m 08s
      Estimated time left = 
      Progress         = Task 5 of 25 (Stopping c4 stack on SPA)
      Percent complete  = 15%
```

## Example 3

The following command shows an issue with the pre-upgrade health check in `Additional info`.

```
uemcli -d 10.0.0.1 -u Local/joe -p MyPassword456! /sys/upgrade show -detail
```

```
Storage system address: 10.0.0.1
Storage system port: 443
HTTPS connection

1:      Type           = Software
      Status          = Failed
      Creation time     = 2009-11-09 18:04:12
      Elapsed time      = 00h 20m 08s
      Estimated time left = 
      Progress         = 
      Percent complete  = 5%
      Additional info   = "Error: The health check has failed. An internal
error is preventing the health check from completing successfully. Record the error
code and search the EMC Online Support website for available support options.
[Error Code: platform::check_boot_control_status_2]","Error: One or more LUNs are in
degraded state. Record the error code and contact your service provider. [Error Code:
flr::check_if_lun_recovery_is_required_2]"
```

# Associated CLI commands

## The show action command

The `show` action command displays a list of objects that exist on the system and the attributes of those objects. You can specify an object qualifier to view the attributes for a single object. The `show` action command provides qualifiers for changing the display of the output, including the format and the attributes to include. The available output formats are name-value pair (NVP), table, and comma-separated values (CSV).

## Format

```
uemcli [<switches>] <object> [<object qualifier>] show [{-detail | -brief | -filter
<value>}] [-output {nvp | table [-wrap] | csv}]
```

## Action qualifier

Qualifier	Description
-output   -o	Specify the output format. Value is one of the following: <ul style="list-style-type: none"><li>nvp — The name-value pair (NVP) format displays output as name=value. <a href="#">Name-value pair format</a> provides an example of the NVP format.</li></ul>

Qualifier	Description
	<ul style="list-style-type: none"> <li><code>table</code> — The table format displays output as a table, with column headers and rows. By default, values that are too long to fit in a column are cut off. Add <code>-wrap</code> after the table qualifier, separated by a space, so that the values wrap. <a href="#">Table format</a> provides an example of the table format.</li> <li><code>csv</code> — The comma-separated values (CSV) format is similar to the table format, but the names and values are separated by commas. <a href="#">Comma-separated values format</a> provides an example of the CSV format.</li> </ul>
<code>-detail</code>	Display all attributes.
<code>-brief</code>	Display only the basic attributes (default).
<code>-filter</code>	Comma-separated list of attributes which are included into the command output.

## Name-value pair format

```

1:      ID          = 1a0_SPA
      SP           = SPA
      Ports        = eth0_SPA,eth1_SPA
      Health state = OK (5)

2:      ID          = 1a0_SPB
      SP           = SPB
      Ports        = eth0_SPB,eth1_SPB
      Health state = OK (5)

```

## Table format

```

ID          | SP | Ports          | Health state
-----+-----+-----+-----
1a0_SPA | SPA | eth0_SPA,eth1_SPA | OK (5)
1a0_SPB | SPB | eth0_SPB,eth1_SPB | OK (5)

```

## Comma-separated values format

```

ID,SP,Ports,Health state
1a0_SPA,SPA,"eth0_SPA,eth1_SPA",OK (5)
1a0_SPB,SPB,"eth0_SPB,eth1_SPB",OK (5)

```

## Example

The following command modifies the set of attributes in the show action output. For example, if you add `-filter "ID,ID,ID,ID"` to the command, in the output you will see four lines with the "ID" attribute for each listed instance:

```

1:  ID = 1a_0
    ID = 1a_0
    ID = 1a_0
    ID = 1a_0

```

```
uemcli /net/nas/server show -filter "ID, SP, Health state, ID, Name"
```

## Filter format

```

Storage system address: 10.0.0.1
Storage system port: 443
HTTPS connection

1:      ID          = nas_1

```

```
SP = SPA
Health state = OK (5)
ID = nas_1
Name = Mynas1

2: ID = nas_2
SP = SPA
Health state = OK (5)
ID = nas_2
Name = Mynas2
```

# Troubleshooting upgrade issues

## Topics:

- [Unable to upload the upgrade file](#)
- [Verify that the upgrade file is not corrupted](#)
- [Upgrade failed. What next?](#)

## Unable to upload the upgrade file

### Steps


- Ensure that the upgrade file name is correct.  
The upgrade file name must match the name of the upgrade file listed on Online Support. If you tried to download the file more than once, it may have a [1] suffix in the file name. This may lead to the system recognizing it as an invalid file.
- Log on to Unisphere in a different Web browser and try uploading the file again.
- If this does not work, try restarting the Unisphere software by doing the following:
  - In Unisphere, go to **System > Service**. Under **Storage System**, select **Restart Management Software**.

## Verify that the upgrade file is not corrupted

### About this task

You can verify the upgrade file using the checksum available with each upgrade file on the support website. To verify that the downloaded upgrade file is not corrupt:

### Steps

1. Note the checksum value for the upgrade file from the support website.  
 **NOTE:** The checksum value appears when you click the **Checksum** link that appears with each downloadable upgrade file listed on the **Downloads** page of the support website for the system.
2. On the system where the upgrade file is downloaded, do one of the following:
  - On a Linux-based system, run the command: `sha256sum <downloaded upgrade file name>`.
  - On a Windows-based system, use one of the open source or freeware applications to calculate the checksum value.
3. Compare the checksum value generated for the upgrade file with the one you noted in Step 1.  
Matching values indicate the upgrade file is intact and not corrupt.

## Upgrade failed. What next?

### Steps

- Review [Common issues that can interrupt an upgrade](#).
- For upgrades that failed to start—A corrupted upgrade image may have caused this problem. Download a new image from Online Support and run the upgrade again.
- If your upgrade fails with a health check error, follow the link to consult the documentation as well as check the logs to get further details on the failure. If the upgrade fails with a warning, it is advised that you resolve the problem, but you may continue by clicking **Retry**.
- For upgrades that terminated unexpectedly—Select the **Settings** icon, and then select **Software and Licenses > Software Updates** and review information about the upgrade candidate. Try running the upgrade again.

- For upgrades that failed—The **Software Updates** page lists the errors the system encountered during the update. Select the **Settings** icon, and then select **Software and Licenses > Software Updates** and review information about the upgrade candidate. Try running the upgrade again.
- If you recently added new hardware, new drives and other similar hardware components, they may be on an incompatible image or you may not have configured them yet. New ports must be committed before they can be used, for example. Plan downtime and restart the entire system. When the system starts up, during the power-on self test, it will check for new firmware images and update all or any parts to latest images as required, self-healing the box. Once this is complete, try running the upgrade again.
- Before contacting support, access the Unisphere Online Help (click the Help icon in the top-right corner of the Unisphere screen) or the knowledgebase in the Online Support website for more information on steps you can take to fix the issue. If none of the options above help resolve the issue, do not apply in your scenario, or if you are not sure about the issue causing the failure, go to **Support > Contact Us > Chat** to chat with support personnel. If this option is not available, contact your service provider.