FAQs

SANtricity 11.5

NetApp
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Table of Contents

FAQs

What do I need to know before upgrading the SANtricity OS Software?

Before you upgrade your controller's software and firmware, be aware of these items.

- You have read the document and the `readme.txt` file and have determined that you want to do the upgrade.
- You know whether you want to upgrade your IOM firmware.

  Normally, you should upgrade all components at the same time. However, you might decide not to upgrade the IOM firmware if you do not want to upgrade it as part of the SANtricity OS controller software upgrade or if technical support has instructed you to downgrade your IOM firmware (you can only downgrade firmware by using the command line interface).

- You know whether you want to upgrade the controller NVSRAM file.

  Normally, you should upgrade all components at the same time. However, you might decide not to upgrade the controller NVSRAM file if your file has either been patched or is a custom version and you do not want to overwrite it.

- You know whether you want to activate now or later.

  Reasons for activating later might include:

  - **Time of day** — Activating the software and firmware can take a long time, so you might want to wait until I/O loads are lighter. The controllers fail over during activation so performance might be lower than usual until the upgrade completes.
  - **Type of package** — You might want to test the new software and firmware on one storage array before upgrading the files on other storage arrays.

These components are part of the SANtricity OS controller software upgrade:

- **Management software** — System Manager is the software that manages the storage array.
- **Controller firmware** — Controller firmware manages the I/O between hosts and volumes.
- **Controller NVSRAM** — Controller NVSRAM is a controller file that specifies the default settings for the controllers.
- **IOM firmware** — The I/O module (IOM) firmware manages the connection between a controller and a drive shelf. It also monitors the status of the components.
- **Supervisor software** — Supervisor software is the virtual machine on a controller in which the software runs.

As part of the upgrade process, the host's multipath/failover driver and/or HBA driver might also need to be upgraded so the host can interact with the controllers correctly.

To determine if this is the case, see the NetApp Interoperability Matrix Tool.

If your storage array contains only one controller or you do not have a multipath driver installed, stop I/O activity to the storage array to prevent application errors. If your storage array has two controllers and you have

a multipath driver installed, you do not need to stop I/O activity.

Do not make changes to the storage array while the upgrade occurs.

What do I need to know before suspending IOM auto-synchronization?

Suspending IOM auto-synchronization prevents the IOM firmware from being upgraded the next time a SANtricity OS controller software upgrade occurs.

Normally, controller software and IOM firmware are upgraded as a bundle. You can suspend IOM auto-synchronization if you have a special build of IOM firmware that you want to preserve on your enclosure. Otherwise, you will revert to the IOM firmware bundled with the controller software the next time you do a controller software upgrade.

Why is my firmware upgrade progressing so slowly?

The firmware upgrade progress depends on the overall load of the system.

During an online upgrade of drive firmware, if a volume transfer takes place during the rapid reconstruction process, the system initiates a full reconstruction on the volume that was transferred. This operation might take a considerable amount of time. Actual full reconstruction time depends on several factors, including the amount of I/O activity occurring during the reconstruction operation, the number of drives in the volume group, the rebuild priority setting, and the drive performance.

What do I need to know before upgrading drive firmware?

Before upgrading your drive firmware, be aware of these items.

- As a precaution, back up your data using disk-to-disk backup, volume copy (to a volume group not affected by the planned firmware upgrade), or a remote mirror.
- You might want to upgrade only a few drives to test the behavior of the new firmware to ensure it is functioning correctly. If the new firmware is functioning correctly, upgrade the remaining drives.
- If you have any failed drives, fix them before you start the firmware upgrade.
- If the drives can do an offline upgrade, stop I/O activity to all volumes associated with the drives. When I/O activity is stopped, no configuration operations associated with those volumes can occur.
- Do not remove any drives while upgrading drive firmware.
- Do not make any configuration changes to the storage array while upgrading drive firmware.

How do I choose which type of upgrade to perform?

You choose the type of upgrade to perform on the drive depending on the state of the pool or volume group.

- **Online**

  If the pool or volume group supports redundancy and is Optimal, you can use the Online method to upgrade the drive firmware. The Online method downloads firmware *while the storage array is processing*

I/O to the associated volumes using these drives. You do not have to stop I/O to the associated volumes using these drives. These drives are upgraded one at a time to the volumes associated with the drives. If the drive is not assigned to a pool or volume group, its firmware can be updated by the Online or the Offline method. System performance may be impacted when you use the Online method to upgrade drive firmware.

- **Offline**

  If the pool or volume group does not support redundancy (RAID 0), or is degraded, you must use the Offline method to upgrade the drive firmware. The Offline method will upgrade firmware *only while all I/O activity is stopped* to the associated volumes using these drives. You must stop all I/O to any associated volumes using these drives. If the drive is not assigned to a pool or volume group, its firmware may be updated by the Online or the Offline method.

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