Abstract

This guide provides instructions and best practices for updating HPE Synergy firmware and drivers through HPE OneView.
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Introduction to firmware updates of HPE Synergy components

Maintaining up-to-date firmware for the HPE Synergy solution fixes problems, improves performance, and adds new features to the appliance. This guide covers instructions to update firmware for the following:

- **Management appliances**
  - HPE Synergy Composer
  - HPE Synergy Image Streamer

- **Managed hardware**
  Each logical enclosure can include the following component types:
  - Shared infrastructure (Frame Link Modules, interconnect modules, drive enclosures)
  - Compute modules

**Management appliances**

**HPE Synergy Composer**

The HPE Synergy Composer is a management appliance that hosts HPE OneView for HPE Synergy and allows you to set up, manage, and monitor single or multiple linked frames. HPE Synergy Composer provides reliable, and simplified firmware and driver management for HPE Synergy hardware.

**NOTE:** The generic terms “HPE Synergy Composer” and “Composer” are used to refer to both HPE Synergy Composer (1st gen) and HPE Synergy Composer2.

**Migration**

Starting with release 5.0, HPE OneView supports HPE Synergy Composer2. Transferring configuration settings and data from a HPE Synergy Composer (1st gen) appliance to a new Composer2 appliance is referred to as migration. The process uses the backup and restore facility of HPE OneView along with some additional steps.

**IMPORTANT:** To migrate, the version of HPE OneView must be the same on the HPE Synergy Composer (1st gen) and Composer2. The version must be HPE OneView 5.0 or later.

**More information**

- “About migrating a Composer (1st gen) appliance to a Composer2 appliance” in the [HPE OneView Help for HPE Synergy](#).
- “Settings: Appliance” and “Managing the appliance” in the [HPE OneView Help for HPE Synergy](#).
- [HPE Synergy Migration Guide](#)
**HPE Synergy Image Streamer**

HPE Synergy Image Streamer is a management appliance that hosts remote boot, and runs the OS and the applications stored on it. Image Streamer integrates with server profiles that are managed by HPE OneView and hosted on the HPE Synergy Composer. It deploys, configures, updates, and manages the images deployed to these boot or run volumes.

**NOTE:** You cannot update an Image Streamer appliance in a single frame configuration. Reimage the appliance to the required release.

*More information*

**HPE Synergy Image Streamer User Guide**

**Managed hardware**

**Shared Infrastructure**

Shared infrastructure is common to the all compute modules in the frame and includes:

- Frame Link Modules
- Interconnect modules
- Drive enclosures

*More information*

“Interconnects” in the [HPE OneView Help for HPE Synergy](#).

**Compute Modules**

Compute modules are servers that provide the ability to deploy either virtual or physical workloads. Compute modules increase virtual machine density by providing a full range of processor and storage options, and a simplified I/O architecture.

**HPE Synergy Software Releases**

HPE Synergy releases firmware and driver updates through HPE Synergy Software Releases. The software releases comprise of HPE Synergy Management combinations and the HPE Synergy Custom SPP (Service Pack for ProLiant) that must be used together, eliminating the need to track and update individual firmware and drivers for your HPE Synergy. However, for a matching HPE Synergy Management combination version, there may be several HPE Synergy Custom SPPs that can be used.

**HPE Synergy Management combinations**

The HPE Synergy Management combinations are paired release versions of HPE Synergy Composer and HPE Synergy Image Streamer appliances that run a combination of software and firmware.

**HPE Synergy Custom SPP**

An HPE Synergy Custom SPP is a comprehensive collection of firmware and system software components. Using the firmware management features built into the appliance, you can define firmware baselines and perform firmware updates across managed resources. HPE Synergy Custom SPPs enable you to update firmware on HPE Synergy compute modules and shared infrastructure.
Each SPP contains the shared infrastructure firmware, Smart Update Manager (SUM), and firmware and OS driver smart components.

**Hotfixes**

Hotfixes are included in the HPE Synergy Custom SPP bundle after they have been tested as part of a software release.

**Contents of HPE Synergy Software Releases**

The software releases contain the following:

- HPE Synergy Composer firmware file — Includes either an update file or a reimage file, or both.
- HPE Synergy Image Streamer firmware file — Includes either an update file or a reimage file, or both.
- HPE Synergy firmware bundle file includes:
  - A subset of the full SPP that is developed for the HPE Synergy environment.
  - Hotfixes that apply to the HPE Synergy solution.
- Links to firmware of switches that are not managed by HPE OneView.

**NOTE:** There are additional webpages that require you to enter your credentials or select additional links. Browse through these pages until you get to the applicable HPE Synergy Software Releases page.

**Support policy**

Preparing to install or update firmware

Hewlett Packard Enterprise recommends that you validate firmware and driver updates in a nonproduction environment before rolling out to production. In production, apply the updates starting with low-impact compute modules and then subsequently apply the updates to business-impact compute modules.

Planning nondisruptive firmware updates

- HPE Synergy Composer
- HPE Synergy Image Streamer
- Shared infrastructure
- Compute modules

HPE Synergy Composer nondisruptive firmware update

To update an HPE Synergy Composer, you must restart the Composer. Restarting the Composer does not affect the operations of the systems under management. On a clustered appliance, the updates occur in sequence; first the active appliance and then the standby appliance is updated. As a result, this update minimizes disruption of management activities. During the update of the active Composer, the HPE OneView management functions are not available. While the standby Composer is being updated, you can manage the Synergy environment using HPE OneView.

HPE Synergy Image Streamer nondisruptive firmware update

In an HPE Synergy Image Streamer pair, the OS volume storage maintains continuous connectivity to compute modules during appliance pair update. OS volume deployment and other image management activities are taken offline temporarily. These activities resume operation once the appliance pair update is complete.

If you have multiple Image Streamer pairs, first update the primary pair. After the primary pair update is complete, update the secondary pairs. You can update multiple secondary pairs in parallel.

Shared infrastructure nondisruptive firmware update

You can update firmware for shared infrastructure using either the orchestrated or parallel activation method.

Orchestrated

The Orchestrated activation option updates the hypervisor clusters nondisruptively. If a logical enclosure contains one or more hypervisor profiles each hypervisor is picked up sequentially and configurations are updated. Orchestrated firmware updates do not affect the network traffic and outages are not caused while the update is in progress. One virtual connect module is always forwarding network traffic with no or minimal impact to application network connection.

Nondisruptive updates of interconnects occur when interconnects, compute modules, and operating systems are properly configured, connections are redundant, and the orchestrated activation method is chosen.

- Frame Link Modules
  - The HPE Synergy Frame Link Module is taken offline and brought back into management automatically during a logical enclosure firmware update. The update does not affect the operations of system under management. Only one Frame Link Module pair is updated in the management ring at a time.

- Interconnects and Logical interconnects
  - If there are redundant paths from a server to the top-of-rack (ToR) switch, the orchestrated activation option allows nondisruptive updates of interconnects. This activation method is not disruptive to workloads that work on top of reliable transport protocols. A validation occurs to determine if redundant paths from a server to the ToR are present.
If the validation is successful, an orchestrated update is performed. If not, a warning is displayed, explaining the cause and the resolution.

Before applying the update, you can check if a firmware update is disruptive in the **Logical Interconnects** screen. If the update is disruptive, follow resolutions in the screen to enable the system to perform an orchestrated update.

**Parallel**

When the parallel activation method is chosen, all interconnect modules are activated at the same time. Parallel activation disrupts network and storage connectivity. Parallel activation completes in less time than orchestrated activation.

**More information**

“About orchestrated and parallel activation” in the [HPE OneView Help for HPE Synergy](#).

**Compute modules nondisruptive firmware update**

Through HPE OneView, you can set a firmware baseline and a state that you want for firmware versions on compute modules. Firmware and drivers updates are staged and then activated during an application maintenance window. This ability to perform firmware staging and development tasks outside of the actual maintenance window reduces service interruption, operational costs, and planned downtime.

Maintenance window is the duration when the hardware has downtime during the update process. For the update, you must stop the VMs and workloads that are running on the compute modules. To activate the firmware, you must install and reboot the compute modules during a maintenance window. Identify when the downtime can happen and plan the update.

Hewlett Packard Enterprise recommends using the Smart Update Tools (SUT) with HPE OneView for a minimally disruptive method of updating firmware and operating system drivers on compute modules. Firmware updates can be staged on the compute modules at any time and activated by running the deploy reboot SUT command during a maintenance window. Alternatively, you can update the compute modules in offline mode.

- **Fully nondisruptive hypervisor cluster rolling updates**
  
  If you are managing ESXi workloads and want a nondisruptive update, create or import VMware ESXi clusters in HPE OneView using the hypervisor cluster profiles.

  Hypervisor clusters that are managed by HPE OneView are updated nondisruptively when the orchestrated activation option is chosen. If the logical enclosure contains one or more hypervisor profiles, each hypervisor is serially placed into a maintenance mode before updating.

- **Minimally disruptive firmware update**
  
  Use the [Firmware and OS Drivers using Smart Update Tools](#) or [Firmware only using Smart Update Tools](#) option to update firmware using the firmware settings in the server profile. If you choose SUT, install and configure SUT, see the [table](#).

- **Offline update**
  
  Use the [Firmware only](#) option to update firmware using the firmware settings in the server profile.

**More information**

- “Hypervisor Cluster Profiles” in the [HPE OneView Help for HPE Synergy](#).
- “Update firmware from a logical enclosure” in the [HPE OneView Help for HPE Synergy](#).
- “Update firmware with a server profile” in the [HPE OneView Help for HPE Synergy](#).
Acquiring firmware and drivers

Download the HPE Synergy Management combinations and HPE Synergy Custom SPPs that must be used together from the HPE Synergy Software Releases website: http://www.hpe.com/downloads/synergy.

Each HPE Synergy Software Release is identified with the date of the release, and contains firmware and drivers that are qualified. Each release is tested to verify the versions of all the components work together. Hewlett Packard Enterprise recommends using the HPE Synergy Custom SPP from the appropriate software release.

Tools to help choose the release

Use the following tools to understand new features, hardware that is supported by a release, and choose the release. You can access the tools on the Hewlett Packard Enterprise website: http://www.hpe.com/info/synergy-sw-release-information.

- HPE Synergy Firmware Comparison Tool — Review the list of management combinations and compare HPE Synergy Custom SPPs that are supported by the selected management combination.
- HPE Synergy Firmware Feature Comparison Table — Review the new supported features for an HPE Synergy Management Combination and HPE Synergy Custom SPPs.
- HPE Synergy Upgrade Paths — Determine the upgrade path for HPE Synergy Composer and HPE Synergy Image Streamer management combinations.
- VMware OS support tool for HPE Synergy — Determine the VMware vSphere OS releases that are supported with the HPE Synergy Custom SPPs.

Download release files

Download the appropriate files based on your upgrade paths for your selected release.

More information

HPE Synergy Software Releases

Adding or importing firmware bundle to firmware repositories

Adding the firmware bundle to the firmware repository enables you to store the firmware bundle and deploy them across your environment. Selecting a firmware bundle from the repository displays its release date, supported languages and operating systems, and the file components. The Repository panel displays the amount of storage space available for additional firmware bundles on the appliance. To add the firmware bundle to a repository, ensure that you have enough space.

Two types of repositories are supported:

- Internal Repository — An internal embedded firmware repository has a maximum size limit of 12 GB to store and upload firmware files for use by components managed by HPE OneView. An HPE Synergy Composer2 firmware repository has a maximum size limit of 62 GB to store and upload firmware files.
NOTE: You cannot add or modify the space allocated or remove the internal repository.

- **External Repository** — One additional externally managed and user-maintained web server can be added to the appliance as a repository. You can upload the firmware bundle in a specific directory and register the server with HPE OneView.

More information

- "Install and configure a web-based external firmware repository on Microsoft Windows" and “Install and configure a web-based external firmware repository on Linux” in the [HPE OneView User Guide for HPE Synergy](http://www.hpe.com/info/synergy-fw-comparison-tool).

### Identifying hardware that require firmware updates

You can identify hardware that requires firmware updates either manually or using the firmware compliance tool.

**Manual**

Use the following options to manually identify servers that require firmware updates.

- **Firmware comparison tool**

- **Server firmware inventory** report
  Generate the report. Compare the firmware version of each server in the report with the firmware version in the new firmware bundle documentation.

- **Logical Enclosures** and **Logical Interconnects** screens
  Alternatively, use these screens to compare the firmware version installed on the server and the firmware version in the new firmware bundle.

**Firmware compliance**

Starting with release 5.0, firmware compliance is available after upgrading the appliance. HPE OneView lists the pending firmware updates and their firmware compliance reports for all the firmware bundles, hardware, and firmware components. This information helps you to plan the pending firmware updates.

**NOTE:** The compliance reports are available for shared infrastructure and Gen10 and newer generation HPE Synergy compute modules.

Firmware compliance reports provide the following views:

- **Detailed**
  The detailed view has the match counter that shows the count of resources with filters applied compared to the total resources when filters are not applied.

- **Summary**
  The summary view is a bar chart that displays an overall count of compliance mismatches and the status of all the latest and pending firmware updates.
More information

- “Firmware Compliance” in the HPE OneView Help for HPE Synergy.
- “View and save a report” in the HPE OneView Help for HPE Synergy.

**Backing up the appliance**

Before updating HPE OneView, ensure you back up the appliance.

**Procedure**

1. For manual backup, do the following:
   a. Select **Settings > Backup > Actions > Create backup**.
   b. Select **Settings > Backup > Actions > Download backup**.

2. For remote backup, do the following:
   a. Select **Settings > Backup > Remote Backup Location**.
   b. Select **Edit backup settings** option under **Remote Backup Location**.
   c. Select **Enable remote backup location** and enter the requested information. Click **OK**.
   d. Verify that the backup is saved in the remote backup location.

More information

- “Back up an appliance manually” and “Configure automatic remote backups” in the HPE OneView Help for HPE Synergy.
- “About restoring the appliance”, “Backup and restore the appliance”, and “Best practices for restoring an appliance” in the HPE OneView Help for HPE Synergy.

**Backing up the Image Streamer**

The configuration information for HPE Synergy Image Streamer such as IP addresses and appliance details is in HPE OneView. Therefore, creating a backup using HPE OneView also backs up the Image Streamer configuration information.

If you are updating Image Streamer and want to back up the artifacts in Image Streamer, create and download a backup bundle using the Image Streamer user interface. If you want to back up OS volumes, create a golden image that uses a capture type OS build plan.

More information

- “Create a backup bundle” and “Download a backup bundle” in the HPE Synergy Image Streamer Online Help.
- “Backup, restore and recovery” in the HPE Synergy Image Streamer User Guide.

**Backing up the compute modules**

Optionally, identify and backup compute module workloads as required prior to performing the firmware and driver updates.
Managing high availability and redundancy

- HPE Synergy Composer high availability configuration
- Image Streamer high availability configuration
- Interconnect high availability configuration
- HPE Synergy Frame Link Modules redundancy configuration

HPE Synergy Composer high availability configuration

For high availability and redundancy management, install two HPE Synergy Composers within the same HPE Synergy management domain. Check the appliance settings and ensure both the appliances are healthy and synchronized.

The following are the recommendations to manage high availability:

- Hewlett Packard Enterprise recommends that for each frame containing a Composer, connect the MGMT port on the HPE Synergy Frame Link Module that is in the same frame and bay as the Composer to the management network. Proper cabling ensures that the communication links between the Composers are highly redundant.
- Install the HPE Synergy Composers in separate frames, so that if a frame fails, the HPE Synergy management appliance in the other frame can function as the active appliance.

More information

- “About an HPE Synergy Frame Link Module” in the HPE OneView Help for HPE Synergy
- HPE Synergy Cabling Guide
- “HPE Synergy Composer” and “HPE Synergy Image Streamer configurations” in the HPE Synergy Configuration and Compatibility Guide

Image Streamer high availability configuration

Each logical enclosure in a high availability configuration must have two interconnected HPE Synergy Image Streamer appliances.

Storage perspective (storage for the active OS volumes and extracted golden images)

Each Image Streamer appliance pair has an active-active configuration. That is, the components that support storage of OS volumes are always active in every Image Streamer appliance pair, providing a continuous connection between compute modules and its OS volume. During an update, there is an active appliance providing connection to the OS volume.

Management perspective

One appliance in the pair is active and the other is standby. While updating the active appliance, the standby appliance assumes control, protecting against data loss (management data and audit log).

In configurations where the Image Streamer appliances are used in multiple logical enclosures, many appliance pairs are formed. One appliance pair is designated as the primary appliance pair and the rest are designated as secondary appliance pairs.

If a failure occurs in the primary appliance pair, you can designate the secondary appliance pair as the new primary appliance pair. HPE OneView updates its information and provides a link to the Image Streamer user interface on the newly designated primary appliance pair.
Interconnect high availability configuration

The interconnect modules provide connectivity from the compute modules to the data fabrics. Redundancy is used to preserve connectivity during firmware update and prevent loss of connectivity during a failure.

More information

- “About redundancy modes” and “Valid configurations for enclosure groups with multiple logical interconnect groups” in the HPE OneView Help for HPE Synergy.

- HPE Synergy Cabling Guide

HPE Synergy Frame Link Modules redundancy configuration

The HPE Synergy Frame Link Module is used by HPE OneView to discover and manage the HPE Synergy 12000 Frame. A single HPE Synergy frame or enclosure has one or two frame link modules. For redundancy, or to link multiple HPE Synergy frames together, each frame must have two frame link modules. These frame link modules automatically negotiate so that one frame link module takes on an active state and the other takes on a standby state. Management of the HPE Synergy frame is automatically maintained during a failover and firmware update.

The HPE Synergy Frame Link Modules are located in the rear panel of the frame. If a remote ring is used, it must be healthy and properly cabled for firmware update to happen. The HPE OneView frame link interconnect topology must be healthy.

More information

HPE Synergy 12000 Frame Setup and Installation Guide

Managing Smart Update Tools for online updates

Smart Update Tools (SUT) provide an online, minimally disruptive mechanism to update firmware and operating system drivers on server hardware.

An operating system utility, SUT enables you to perform both firmware and OS driver updates online while the server is powered on without the need to maintain operating system credentials in HPE OneView. Updating firmware and drivers together allow updates to be done with a single reboot that can be managed within a normal maintenance window, resulting in less downtime during a scheduled maintenance window.

Set SUT mode as mentioned in the following table.
# Table 1: Recommended SUT mode

<table>
<thead>
<tr>
<th>Server</th>
<th>Host (hypervisor OS)</th>
<th>Recommended SUT mode</th>
<th>SUT type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gen9</td>
<td>Windows and Linux</td>
<td><strong>AutoStage</strong></td>
<td>iSUT for Windows and Linux</td>
</tr>
<tr>
<td>Gen9</td>
<td>ESXi</td>
<td><strong>AutoDeploy</strong></td>
<td>SUT for ESXi</td>
</tr>
<tr>
<td>Gen10 or later</td>
<td>Windows, Linux, and ESXi</td>
<td><strong>AutoStage</strong>¹</td>
<td>iSUT for Windows, Linux, and ESXi</td>
</tr>
</tbody>
</table>

¹ If you are using hypervisor cluster profiles rolling updates, **AutoStage** is not supported. The recommended SUT mode is **AutoDeploy**.

These SUT modes help in staging the firmware nondisruptively by allowing you to apply the server profile without powering down the server hardware. After updating the firmware, during the maintenance window, run the SUT commands for installation and reboot from the SUT command-line interface.

**NOTE:** **AutoStage** mode is not supported for Gen9 ESXi. Firmware staging is done only once for a set of compute modules and the recommendation is to apply the server profile during the maintenance window.

**More information**

- [Integrated Smart Update Tools for Windows and Linux User Guide](#)
- [Smart Update Tools for VMware ESXi User Guide](#)
Updating the firmware

Upgrade paths

For information about HPE OneView versions that are released earlier and upgrade paths, see the HPE Synergy upgrade table.

Recommended firmware update order

Hewlett Packard Enterprise recommends that you update the components in the following order:

1. **Update the firmware for HPE Synergy Composer** — If you have only HPE Synergy Composer, update only the Composer.

2. **Update an Image Streamer appliance** — If you have both HPE Synergy Composer and HPE Synergy Image Streamer, update both during the same appliance maintenance window. First update the Composer and then update the Image Streamer.

3. **Update the firmware for managed hardware** — Use the orchestrated or parallel update method initiated from a logical enclosure. You can choose to update shared infrastructure and compute modules together or separately.

4. **Update compute modules** — Update firmware and drivers on the computes to the versions in the baseline SPP.

5. After the update:
   - Check the firmware inventory to make sure that the firmware version matches your preferred version.
   - Perform application level tests with test workloads to make sure that the applications perform in the preferred manner.
   - Evaluate any critical alerts and warnings that might have been raised on the resources for any recommended actions.

6. Use the firmware compliance reports to verify that the firmware is in compliance.

More information

- “Firmware Bundles” in the HPE OneView Help for HPE Synergy.
- “Firmware Compliance” in the HPE OneView Help for HPE Synergy.

Update the firmware for HPE Synergy Composer

The appliance update file contains updates for both HPE Synergy Composer and HPE OneView. See the HPE OneView for HPE Synergy Release Notes to understand how much time is required to update.

Considerations for a clustered appliance

- Both appliances in a high availability cluster are updated to the new version. First the active appliance is updated, and then the standby appliance is updated.
- During the update of the active HPE Synergy Composer, the management functions are not available.
• The active appliance is available while the standby appliance is updated. However, the high availability configuration is restored only after the standby appliance update is complete and the appliance is synchronized. The status of the standby appliance update is shown in the Activity page as an Update appliance task.

• If the active appliance cannot be updated, the high availability cluster is returned to the version before the update. If the standby appliance cannot be updated after the active appliance is updated, the high availability cluster is not restored. To recover from the condition, reimage the standby appliance so that its version matches the active appliance. Restart the appliance and the high availability cluster is restored.

Prerequisites

• Privileges: Infrastructure administrator.

• Ensure that no other users are logged in to the appliance and that no one logs in during the update.

• You have downloaded the HPE OneView update images (.bin) file from the HPE Synergy Software Releases to your local computer.

• You have created and download a backup file before updating the appliance.

Procedure

1. Use a checksum utility of your choice and the .md5 file to verify the integrity of the downloaded update image file.

2. Log in to your appliance and select Settings > Appliance > Actions > Update appliance.

3. Make the downloaded image file available to the appliance UI screen either by dragging and dropping or browsing to it.

   IMPORTANT: Select an image file that is appropriate for your appliance platform.

4. Click Upload and install.

5. When the file upload and verification is complete, read and accept the license agreement, and click Update to start the update process.

   NOTE: Do not manually reboot or shut down the appliance during the update. An interruption may be unrecoverable, requiring appliance data to be restored from the backup.

More information

• Acquiring firmware and drivers

• Backing up the appliance

• “Back up an appliance manually” and “Configure automatic remote backups” in the HPE OneView Help for HPE Synergy.

• “Update the appliance” in the HPE OneView Help for HPE Synergy.

Update an Image Streamer appliance

To understand how much time is required to update, see the HPE Synergy Image Streamer Release Notes.
Prerequisites

- Privileges: Infrastructure administrator.
- The post-upgrade HPE Synergy Image Streamer appliance version is compatible with the HPE Synergy Composer version in use. For information about version compatibility between the Image Streamer appliance and Composer, see the HPE Synergy Software Releases website: http://www.hpe.com/downloads/synergy and HPE Synergy Image Streamer Support Matrix.
- You have downloaded the update (.bin) file to your local computer from the appropriate software release for Image Streamer at http://www.hpe.com/downloads/synergy.
- You have backed up the appliances undergoing an update.
- You have verified the status of the management and storage cluster status is OK. To verify, navigate to the storage section on the Deployment Appliances screen.

**NOTE:** The OS volumes that are in the Synchronizing or Restriping state changes to OK state after a few minutes.

Procedure

1. From the main menu, select **APPLIANCE > OS Deployment Servers**.
2. In the **General** section, click the link in the **Image Streamer UI** field to connect to Image Streamer.
3. In Image Streamer, from the main menu, select **Deployment Appliances**.
4. In the master pane, select the appliance you want to update.
5. Select **Actions > Update appliance**.
6. Make the downloaded image file available to the appliance UI screen either by dragging and dropping or browsing to it.
7. Click **Upload and install**.

**IMPORTANT:** Select an image file that is appropriate for your appliance platform.

You can monitor the update progress of primary and secondary deployment appliances on the corresponding deployment appliance screen.

**More information**

- **Back up the Image Streamer**
- **HPE Synergy Image Streamer User Guide**

**Update Image Streamer in a single frame configuration**

Hewlett Packard Enterprise recommends a three-frame configuration as a minimum requirement for production environment. A special single frame configuration with one Image Streamer appliance can be used for development or testing environments. However, updating an Image Streamer appliance in a single frame configuration is not supported; therefore, you must reimage the appliance to a new version.

**IMPORTANT:** This procedure causes a downtime of at least 6-7 hours and you will lose all existing configurations.
Prerequisites
HPE Synergy Image Streamer configured in a single frame setup for testing or artifact development purposes.

Procedure

1. From the Image Streamer main menu, select Deployment Groups > Actions > Create backup bundle to backup all Image Streamer artifacts.

2. Select Deployment Groups > Actions > Download backup bundle to download the backup bundle to the local machine. You can use it to restore the artifacts later.

3. From the HPE OneView main menu, select SERVERS > Server Profiles > Actions > Edit OR select SERVERS > Server Profile Templates > Actions > Edit.
   
   a. Choose none in the Deployment Plan section.
   
   b. Remove the associated Deployment Network iSCSI boot connections.
   
   c. Clear Manage boot order under Boot Settings and click OK.

   **NOTE:** A warning about the deleted associated OS volume appears. Click OK to proceed.

4. Remove the Image Streamer OS deployment settings from the logical enclosure:

   a. Select SERVERS > Enclosure Groups > Actions > Edit. Set the Deployment network type to none and remove the logical interconnect group from the logical enclosure.

   b. Select NETWORKING > Logical Interconnect Groups > Actions > Edit. Remove the Image Streamer uplink set.

   c. Select SERVERS > Enclosure Groups > Actions > Edit. Add the logical interconnect group that you removed earlier.

   d. Select SERVERS > Logical Enclosures > Actions > Update from group.

   **NOTE:** Wait for the Update from group operation to complete before proceeding to the next step.

5. Select APPLIANCE > OS Deployment Servers > Actions > Remove.

6. Update HPE OneView to a version that supports the Image Streamer version that you require.
   
   For instructions on how to update HPE OneView to a later version, see HPE OneView Help for HPE Synergy.

7. Reimage Image Streamer with the required version.
   
   For instructions on how to reimage Image Streamer, see HPE Synergy Image Streamer User Guide.

   **IMPORTANT:** The new Image Streamer version must be compatible with the updated HPE OneView version.

8. In Image Streamer, remove and reinsert the Image Streamer appliance after reimaging. This action ensures that HPE OneView discovers and claims the Image Streamer appliance afresh.

9. From the HPE OneView main menu, select APPLIANCE > OS Deployment Servers > +Add OS deployment servers. Create the OS deployment server after HPE OneView discovers and claims the Image Streamer appliance.

10. Configure the Image Streamer OS deployment settings to the logical enclosure.
a. Select SERVERS > Enclosure Groups > Actions > Edit. Remove the logical interconnect group from the logical enclosure.


c. Select SERVERS > Enclosure Groups > Actions > Edit. Set the Deployment network type to External, the Deployment network to the network you created for deployment and add the logical interconnect group that you removed earlier.

d. Select SERVERS > Logical Enclosures > Actions > Update from group

11. From the Image Streamer main menu, select Deployment Groups > Actions > Restore from backup bundle and restore the backup bundle that you downloaded.

12. From the HPE OneView main menu, select SERVERS > Server Profiles > Actions > Edit to edit the server profiles OR select SERVERS > Server Profile Templates > Actions > Edit to edit server profile templates that use OS Deployment Plans.

   a. Choose the OS Deployment Plan in OS Deployment section.

      The iSCSI boot connection is created automatically.

   b. Click OK.

Update the firmware for managed hardware

Hewlett Packard Enterprise recommends that you update shared infrastructure and compute modules by initiating the update process through a logical enclosure. From the logical enclosure, you can update HPE Synergy Frame Link Modules, interconnect modules, drive enclosures, and the compute modules.

To update both shared infrastructure and compute modules, choose Shared infrastructure and profiles as the firmware update option in the Update firmware page of a logical enclosure. For a nondisruptive firmware update of interconnects, choose Orchestrated as the type of firmware activation for Interconnect activation.

Update shared infrastructure

You can choose to update one or more components of the shared infrastructure, that is, frame link modules, interconnect modules, and drive enclosures, which are common to all the compute modules in a frame.

Some firmware updates do not support the orchestrated activation method. See the “More firmware update information” section of the HPE Virtual Connect SE Module for HPE Synergy Release Notes to understand if an update supports the nondisruptive orchestrated activation method. Also, in the Logical Enclosures screen, check warnings, and resolutions that are shown when you choose the orchestrated activation method.

- Update only the shared infrastructure from a logical enclosure: To update only the shared infrastructure components configured in the logical enclosure, select the Shared Infrastructure option when configuring the firmware update option for the logical enclosure.

- Update only the HPE Synergy Frame Link Modules from a logical enclosure: To update only the HPE Synergy Frame Link Modules from a logical enclosure, select Frame link modules only as the firmware update option for a logical enclosure.

- Update only interconnects from a logical interconnect: You can apply firmware from a software release to a logical interconnect, which results in all associated interconnects having the same firmware baseline. This operation only updates firmware on those member interconnects that are running a different version of firmware.
More information

“Update firmware from a logical enclosure” and “Update firmware for logical interconnects within enclosures” in the HPE OneView Help for HPE Synergy.

Update compute modules

Update firmware for compute modules

• Through logical enclosure:
  ◦ If a server profile is assigned, the logical enclosure firmware update uses the server profile installation method.
  ◦ If there is no server profile assigned, the logical enclosure firmware update performs a Firmware only (offline) update of the compute module.
  ◦ If you select the orchestrated interconnect activation method to perform the update, the hypervisor cluster rolling update is done for the server profiles that are part of the hypervisor cluster profile.

• Through server profile or server profile template:
  You can choose to update the firmware for a specific compute module using its server profile or server profile template.
  ◦ To update the firmware for a specific compute module, edit the existing server profile or server profile template. For server hardware without an associated server profile, you may create a server profile to update the firmware.
  ◦ If you chose to use SUT, set the SUT mode as recommended in the Recommended SUT mode table. All configuration for SUT is done from the command line on the host server.
  ◦ For a fully nondisruptive update of a specific compute module that has an associated hypervisor profile, use the hypervisor cluster profile rolling updates.

• Through server profile using HPE Synergy Image Streamer:
  Update compute modules including drivers from an existing OS volume by creating a deployment plan and golden image.
  1. Select a representative existing instance of the operating system from which you want to create a newly updated golden image.
  2. Update the firmware and drivers using one of the options listed in the previous Through server profile or server profile template section.
  3. Update the existing OS volume.
  4. Copy one or more deployment plans that use the original golden image, and then specify the new or updated golden image.
  5. To use the copied deployment plan, edit the server profiles and select the copied deployment plan.
  6. Ensure the firmware update mode in the server profiles/server profile template is set to Managed manually or Firmware only.

Alternatively, if you have an unallocated compute module, you can deploy a fresh golden image and update the drivers on the compute module to capture a new golden image.
More information

- HPE OneView Help for HPE Synergy
- HPE Synergy Image Streamer Help
- Smart Update Tools User Guide

Canceling a hung firmware update task

**IMPORTANT:** Canceling a task is disruptive to system operation. Cancel a task only after trying other methods to address the situation.

You can use the Cancel task option in the Activity screen to stop a firmware update that is in an unresponsive state. The Cancel task option is available for a task only in the following scenarios:

- When updating firmware with a server profile with the Firmware only option.
  When you cancel the server profile firmware update task, the cluster profile task enters the Error state.
- When a firmware update operation has already begun.
- When a firmware update of a server hardware initiated from the logical enclosure takes an unusually long time. A logical enclosure firmware update has multiple child server firmware update tasks running. The Cancel task option is available for each server firmware update task.

Use the Cancel task option only as an exception when the task appears to be hung and the progress bar is not showing progress. The task enters the Canceled state.

More information

“Cancel a hung firmware update task” in the HPE OneView Help for HPE Synergy.
The Hewlett Packard Enterprise Information Library (https://www.hpe.com/info/synergy-docs) provides a comprehensive, one stop location for all HPE Synergy documentation, including installation instructions, user guides, maintenance and service guides, best practices, and links to additional resources. The Library supports filtering to improve findability.

### Document: HPE Synergy Solution

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### HPE Synergy Image Streamer

Interactively describes the various steps involved in setting up HPE Synergy Image Streamer for OS deployment and has pointers to the different documents that contain detailed instructions on the steps.

Table Continued
Provides:

**Support Matrix**
The latest software and firmware requirements, supported hardware, and configuration maximums for HPE Synergy Image Streamer.

**User Guide**
The OS deployment process using HPE Synergy Image Streamer, features of HPE Synergy Image Streamer, and purpose and life cycle of HPE Synergy Image Streamer artifacts. Also includes authentication, authorization, and troubleshooting information for HPE Synergy Image Streamer.

**GitHub**
The repository ([github.com/HewlettPackard](https://github.com/HewlettPackard)) contains sample artifacts and documentation on how to use the sample artifacts. Also contains technical white papers explaining deployment steps that can be performed using HPE Synergy Image Streamer.

**Help**
Information about basic HPE Synergy Image Streamer concepts and user interface based tasks.

**HPE OneView for HPE Synergy**

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**HPE Synergy firmware update resources**

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The HPE Synergy Software Release Information site ([http://www.hpe.com/info/synergy-sw-release-information](http://www.hpe.com/info/synergy-sw-release-information)) provides an interactive resource for firmware update information. HPE Synergy firmware update resources are also available within HPE OneView.
Figure 1: HPE Synergy Software Release Information

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# HPE Synergy document overview (documentation map)

www.hpe.com/info/synergy-docs

## Planning
- HPE Synergy Migration Guide
- HPE Synergy 12000 Frame Site Planning Guide
- HPE Synergy Configuration and Compatibility Guide
- HPE OneView Support Matrix for HPE Synergy
- HPE Synergy Image Streamer Support Matrix
- Setup Overview for HPE Synergy
- HPE Synergy Software Overview Guide

## Installing hardware
- HPE Synergy Start Here Poster (included with frame)
- HPE Synergy 12000 Frame Setup and Installation Guide
- Rack Rails Installation Instructions for the HPE Synergy 12000 Frame (included with frame)
- HPE Synergy 12000 Frame Rack Template (included with frame)
- Hood labels
- User guides
- HPE Synergy Cabling Guide
- HPE OneView Help for HPE Synergy — Hardware setup

## Configuring for managing and monitoring
- HPE OneView Help for HPE Synergy
- HPE OneView User Guide for HPE Synergy
- HPE OneView API Reference for HPE Synergy
- User Guides
- HPE Synergy Software Release Information site

## Managing
- HPE OneView User Guide for HPE Synergy
- HPE Synergy Image Streamer Help
- HPE Synergy Image Streamer User Guide
- HPE Synergy Image Streamer API Reference
- HPE Synergy Image Streamer deployment workflow
- HPE Synergy Frame Link Module User Guide

## Monitoring
- HPE OneView User Guide for HPE Synergy
- HPE OneView Global Dashboard User Guide

## Maintaining
- Product maintenance and service guides
- HPE OneView for HPE Synergy Firmware and Driver Update Guide
- HPE OneView Help for HPE Synergy
- HPE OneView User Guide for HPE Synergy
- HPE Synergy Appliances Maintenance and Service Guide

## Troubleshooting
- HPE OneView alert details
- HPE Synergy Troubleshooting Guide
- Error Message Guide for HPE ProLiant Gen10 servers and HPE Synergy
- Integrated Management Log Messages and Troubleshooting Guide for HPE ProLiant Gen10 and HPE Synergy
- HPE OneView API Reference for HPE Synergy
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HPE OneView Remote Technician

Speed issue resolution with HPE OneView Remote Technician. With HPE OneView Remote Technician, troubleshooting and resolving support issues is faster and easier. At your invitation, authenticated HPE support technicians access your HPE OneView appliance through a secure TLS connection to troubleshoot and diagnose issues.

- You do not have to be present when a trusted HPE support technician diagnoses the issue, including downloading logs directly without the need for an FTP site.
- HPE OneView Remote Technician is built into HPE OneView 4.1 and later with no additional applications.
- To access HPE OneView Remote Technician, open the Diagnostics menu within the HPE OneView Settings page.
- Does not require HPE OneView Remote Support.
Support and other resources

Accessing Hewlett Packard Enterprise Support

- For live assistance, go to the Contact Hewlett Packard Enterprise Worldwide website:
  http://www.hpe.com/info/assistance
- To access documentation and support services, go to the Hewlett Packard Enterprise Support Center website:
  http://www.hpe.com/support/hpesc

Information to collect

- Technical support registration number (if applicable)
- Product name, model or version, and serial number
- Operating system name and version
- Firmware version
- Error messages
- Product-specific reports and logs
- Add-on products or components
- Third-party products or components

Accessing updates

- Some software products provide a mechanism for accessing software updates through the product interface. Review your product documentation to identify the recommended software update method.

- To download product updates:
  Hewlett Packard Enterprise Support Center
  www.hpe.com/support/hpesc
  Hewlett Packard Enterprise Support Center: Software downloads
  www.hpe.com/support/downloads
  Software Depot
  www.hpe.com/support/softwaredepot

- To subscribe to eNewsletters and alerts:
  www.hpe.com/support/e-updates

- To view and update your entitlements, and to link your contracts and warranties with your profile, go to the Hewlett Packard Enterprise Support Center More Information on Access to Support Materials page:
  www.hpe.com/support/AccessToSupportMaterials

IMPORTANT: Access to some updates might require product entitlement when accessed through the Hewlett Packard Enterprise Support Center. You must have an HPE Passport set up with relevant entitlements.
Customer self repair

Hewlett Packard Enterprise customer self repair (CSR) programs allow you to repair your product. If a CSR part needs to be replaced, it will be shipped directly to you so that you can install it at your convenience. Some parts do not qualify for CSR. Your Hewlett Packard Enterprise authorized service provider will determine whether a repair can be accomplished by CSR.

For more information about CSR, contact your local service provider or go to the CSR website:

http://www.hpe.com/support/selfrepair

Remote support

Remote support is available with supported devices as part of your warranty or contractual support agreement. It provides intelligent event diagnosis, and automatic, secure submission of hardware event notifications to Hewlett Packard Enterprise, which will initiate a fast and accurate resolution based on your product's service level. Hewlett Packard Enterprise strongly recommends that you register your device for remote support.

If your product includes additional remote support details, use search to locate that information.

Remote support and Proactive Care information
HPE Get Connected
  www.hpe.com/services/getconnected
HPE Proactive Care services
  www.hpe.com/services/proactivecare
HPE Datacenter Care services
  www.hpe.com/services/datacentercare
HPE Proactive Care service: Supported products list
  www.hpe.com/services/proactivecaresupportedproducts
HPE Proactive Care advanced service: Supported products list
  www.hpe.com/services/proactivecareadvancedsupportedproducts

Proactive Care customer information
Proactive Care central
  www.hpe.com/services/proactivecarecentral
Proactive Care service activation
  www.hpe.com/services/proactivecarecentralgetstarted

Warranty information

To view the warranty information for your product, see the links provided below:

HPE ProLiant and IA-32 Servers and Options
  www.hpe.com/support/ProLiantServers-Warranties
HPE Enterprise and Cloudline Servers
  www.hpe.com/support/EnterpriseServers-Warranties
HPE Storage Products
  www.hpe.com/support/Storage-Warranties
HPE Networking Products
  www.hpe.com/support/Networking-Warranties
Regulatory information

To view the regulatory information for your product, view the Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products, available at the Hewlett Packard Enterprise Support Center:

www.hpe.com/support/Safety-Compliance-EnterpriseProducts

Additional regulatory information

Hewlett Packard Enterprise is committed to providing our customers with information about the chemical substances in our products as needed to comply with legal requirements such as REACH (Regulation EC No 1907/2006 of the European Parliament and the Council). A chemical information report for this product can be found at:

www.hpe.com/info/reach

For Hewlett Packard Enterprise product environmental and safety information and compliance data, including RoHS and REACH, see:

www.hpe.com/info/ecodata

For Hewlett Packard Enterprise environmental information, including company programs, product recycling, and energy efficiency, see:

www.hpe.com/info/environment

Documentation feedback

Hewlett Packard Enterprise is committed to providing documentation that meets your needs. To help us improve the documentation, send any errors, suggestions, or comments to Documentation Feedback (docsfeedback@hpe.com). When submitting your feedback, include the document title, part number, edition, and publication date located on the front cover of the document. For online help content, include the product name, product version, help edition, and publication date located on the legal notices page.