## Overview

### HPE Synergy Image Streamer

HPE Synergy is the first Composable Infrastructure – it empowers IT to create and deliver new value instantly and continuously. This single infrastructure reduces operational complexity for traditional workloads and increases operational velocity for the new breed of applications and services.  Through a single interface, HPE Synergy composes compute, storage, and fabric pools into any configuration for any application.  It also enables a broad range of applications and operational models such as virtualization, hybrid cloud, and DevOps.  With HPE Synergy, IT becomes the internal partner to rapidly launch new businesses.

**HPE Synergy delivers Composable Infrastructure** with:
- **Fluid pools of resources**, where a single infrastructure of Compute, Storage, and Fabric boots up ready for workloads and demonstrates self-assimilating capacity,
- **Software-defined intelligence**, with a single interface that precisely composes logical infrastructures at near-instant speeds; and demonstrates template-driven, frictionless operations, and
- **Unified API Access**, which enables simple line-of-code programming of every infrastructure element; easily automates IT operational processes; and effortlessly automates applications through infrastructure deployment.

**Managing Composable Infrastructure**
HPE Synergy Composer provides the enterprise-level management to compose and deploy system resources to your application needs. This management appliance uses software-defined intelligence with embedded HPE OneView to aggregate Compute, Storage and Fabric resources in a manner that scales to your application needs, instead of being restricted to the fixed ratios of traditional resource offerings.

HPE Synergy Image Streamer is a new approach to deployment and updates for composable infrastructure. This management appliance works with HPE Synergy Composer for fast software-defined control over physical compute modules with operating system provisioning. HPE Image Streamer enables true stateless computing combined with capability for quick deployment and updates. This management appliance rapidly deploys and updates infrastructure.

## What's New

HPE Synergy Image Streamer works with HPE Synergy Composer to rapidly deploy and update infrastructure.

Enhanced capabilities now activate the Synergy "fluid resource pools" by enabling workload swapping.
Other capabilities include:
- Changing Server Profile OS Deployment Plan preserves settings common to both plans,
- Scope-based access control (SBAC) extended to Image Streamer OS deployment plans , and
- Expanded data views allow OS volume and artifact storage to be displayed by the management appliance.

# Standard Features

**HPE Synergy Image Streamer** is a hardware management appliance that is designed to work with HPE Synergy Composer to rapidly deploy and update infrastructure. Image Streamer units operate in pairs for redundancy and high availability.

**Image Streamer**  **"Manage physical servers like virtual machines"**
HPE Synergy Image Streamer adds a powerful dimension to 'infrastructure as code'—the ability to manage physical servers like virtual machines. This new approach for composable infrastructure combines true stateless computing with rapid deployment and updates.

In traditional environments, deploying an OS or hypervisor is time consuming because it requires building or copying the software image onto individual servers, possibly with multiple reboot cycles. In HPE Synergy, the tight integration of HPE Image Streamer with HPE Composer enhances server profiles with images and personalities for true stateless operation.

True stateless computing combines the following elements using software-defined intelligence:
- **Profile** – Software-defined intelligence which defines compute modules
- **Golden Image** -- Operating environment (Bootable OS and Application) and I/O driver version
- **Personality** – Operating system (OS) and Application configuration (Hostname, IP config, etc.)

**NOTE:** If your golden image captures your application stack, then your application stack can also be deployed and/or updated with HPE Image Streamer.

HPE Composer, powered by HPE OneView, captures the physical state of the server in the server profile. HPE Image Streamer enhances this server profile (and its desired configuration) by capturing your golden image as the 'deployed software state' in the form of bootable image volumes. These enhanced server profile and bootable OS images are software structures ('infrastructure as code')—no compute module hardware is required for these operations! The bootable OS images are stored on redundant HPE Image Streamer appliances, and they are available for fast implementation onto multiple compute nodes at any time. This enables bare-metal compute modules to boot directly into a running OS and multiple compute nodes to be quickly updated.

HPE Image Streamer implements 'infrastructure as code' to manage physical servers with flexibility like virtual machines to reduce complexity, provide consistency across infrastructure, and save significant time and resources.

**True Stateless Operation**  Stateless protocols, like Internet Protocol (IP) and Hypertext Transfer Protocol (HTTP), treat each request as an independent transaction and unrelated to any previous request. Stateless operation does not require a compute module to retain session information or status.

Stateless systems can simplify compute nodes by allowing the removal of local hard disks and RAID controllers. Systems can also be pre-planned, for fast implementation later. And stateless systems can also switch to a different personality quicker than with a local installation. These advantages of stateless systems can result in CAPEX savings on server-local hardware and in highly cost-effective operations when compared to traditional 'boot-from-SAN' or local storage volumes.

HPE Image Streamer provides true 'stateless' operation by combining Profiles (from HPE Composer) with your golden images (OE and I/O driver) and with your personalities (OS and application). The resulting stateless images can be pre-planned for your environment and can remain in your control in a highly-available image repository. These stateless images are then available on-demand for rapid implementation onto hardware when needed – for initial deployment or for fast updates!

**High-Availability Boot and Run**  HPE Image Streamer provides a high-availability (HA) configuration of two physical management appliances. These redundant physical appliances install into HPE Synergy frame appliance bays and are automatically set

# Standard Features

**Environment**         up as a repository to manage and deploy your images on remote storage volumes. Image Streamer pairs are configured in a Network RAID-10 configuration. This provides a highly-available boot and run environment for your compute modules.

Image Streamer environments scale by adding additional pairs of Image Streamer units for each additional Logical Enclosure (LE). Primary pairs will failover to secondary pairs to maintain high availability operations. HPE Image Streamer can support up to seven LE's per management ring with either 10Gb or 20Gb fabrics in this release. Full scaling up to 21 frames per management ring can be achieved using multiple LE's.

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**Deploy and Update**

HPE Image Streamer uses similar processes for initial deployments and image updates. This is a new paradigm in how to manage images for compute modules. This paradigm improves administrator control over multiple nodes and multiple virtual machine hosts while improving operating efficiencies and dramatically increasing agility.

Deployments are performed from your golden images, with its operating environments and personalities. Your image content can consist of the compute module's Profile (from HPE Composer), and your Golden Image (operating environment with a bootable OS and application, and the I/O driver version) and your Personality (operating system and application configuration, which includes the hostname, IP config, etc.). If you capture an application stack as part of your image, then that application can also be deployed and updated.

In HPE Composer, the deployment plan and image parameters are specified, which results in a REST API call to the Image Streamer appliance. The Image Streamer appliance then provisions boot/run storage volume and deploys the operating system image to it. It then personalizes the operating system per the deployment plan, and generates iSCSI target for the boot/run volume. HPE Composer automatically configures the compute node with an iSCSI boot target. When the system administrator powers on a compute module, that **bare-metal compute module will boot directly into a running operating system**.

Updates can likewise be performed by capturing revised images and rapidly re-deploying them. Out-of-compliance images can be quickly replaced with updated images on the specified nodes. HPE Image Streamer works with HPE Composer to provide a simple user experience to accomplish server boot/run storage provisioning and operating system deployment.

Automated deployments for VMware ESX can be performed using the HPE integration for VMware vCenter (HPE OneView for VMware vCenter). Likewise, sample Ansible playbooks for deployments and updates for RHEL Linux are available. See **https://github.com/HewlettPackard/**.

HPE Synergy Image Streamer is most effective when similar images are deployed to multiple compute modules. Its 'infrastructure-as-code' control can provide significant time savings in web-scale environments, where a software image needs to be provisioned across a large number of infrastructure blocks. These capabilities can greatly benefit IT areas needing fast changeovers, security updates, HA image storage, or programmatic access and control over infrastructure.

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**Workload Swapping**

Synergy Image Streamer activates the Synergy "fluid resource pools" by enabling workload swapping.

Image Streamer achieves this using:
- Integrated deployment using Server Profiles and Templates
- Storing bootable images for all compute modules, and
- Rapid OS/workload provisioning and updates.

Workload swapping can provide you with operations flexibility for maximum utilization and efficiency.

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**Tools for Images**    A variety of tools are provided in HPE Image Streamer to assist you in creating and manipulating images:

## Standard Features

- Golden image capture
- Deployment plan, build plan, capture plan, and plan script creation and modification
- Import and export of the above artifacts
- Personalization environment (software image configuration)
- Sample artifacts for ESXi, RHEL, and SLES

HPE Image Streamer supports a variety of operations for flexibility in how you handle your images. For example, you can capture golden images for your use, import images from another location, or to edit some of your 'known good' images for re-use. This flexibility allows you to easily establish your desired images for use.

A variety of images can be used on HPE Image Streamer. Reference implementations provide artifacts for recent versions of VMware ESXi (5.0, 6.0, 6.5), or for Red Hat Enterprise Linux (RHEL 6.7, 6.8, 7.2, 7.3) and SUSE Linux (SLES 12 SP1, SP2). Linux file system support is limited to ext3 and ext4.

You can also enable your own specific images and image types using the tools provided with HPE Image Streamer.  HPE will provide support for the artifacts and automation scripts as posted in HPE GitHub. See **https://github.com/HewlettPackard/**. Consulting services are available for a fee for additional modification to these artifacts.

**User Privacy**

HPE Image Steamer works as a complement to HPE Composer and leverages its server profile capabilities. User access control is also leveraged from HPE Composer to maintain user privacy. Furthermore, control over the deployment and update processes are contained within the Image Streamer appliance only.  These processes utilize the HPE Image Streamer HA image repository volume storage and do not directly involve the compute modules.

**Integration**

Tight integration of HPE Image Streamer with HPE Composer allows simple setup and use. HPE Image Streamer integration with HPE Composer and with its profiles are set up automatically. Image Streamer also automatically configures the compute module's UEFI to perform an iSCSI boot from the volume.

Unlike traditional boot-from-SAN environments, HPE Image Streamer requires no additional manual setup or configuration (like multipath support, adapter configuration, access control, and SAN array configuration in typical SAN environments). This integration allows HPE Image Streamer to set up and deploy new boot volumes much faster than traditional direct attach boot disks or boot-from-SAN environments. And because HPE Image Streamer functionality is accessed through HPE Composer, it can also be programmatically controlled using the Unified API.

In its initial product release, it is recommended to set up Image Streamer at the same time as the initial Synergy system installation to avoid later reconfiguration work.

**Unified API**

A Unified API enables access to the full power of HPE Image Streamer, assuming appropriate permissions, via the HPE Composer Representational State Transfer (REST) API and State-Change Message Bus. RESTful APIs are the standard of the modern IT industry because they are widely used, simple, and efficient. You can integrate, automate, and customize your use of HPE Image Streamer to control its activities using the Unified API.

The Unified API, which is also native to HPE OneView, makes 'infrastructure as code' accessible to:
- Create an intelligent automation hub to orchestrate and reduce manual operations,
- Automate standard work flows, troubleshooting steps, and integrations (such as for configuration management databases, also known as CMDB),
- Connect to Service Desks, providing a consistent and reliable representation of the state of infrastructure across multiple tools at any given moments,
- Monitor resources, collect data, map/model systems, and export data to custom formats,
- Attach custom databases, data warehouses, or 3rd party business intelligence tools, or

# Standard Features

- Integrate in-house user customizations.

HPE Composer, which embeds HPE OneView, hosts a powerful State-change Message Bus which the REST APIs use to provide automation and a closed-loop method of ensuring compliance. This interface notifies custom scripts and integrations of all changes to managed resources (both logical and physical resources) via asynchronous messaging without having to continuously poll for status. The message bus returns commands in 500 milliseconds to give you fast responses for your custom integration of applications, processes, and devices.

Through HPE OneView, HPE Composer also provides access to an embedded RabbitMQ, a highly-scalable and distributed message bus infrastructure. RabbitMQ supports the industry-standard Advanced Message Queuing Protocol (AMQP), and it offers a variety of enterprise-class management features like reliability, high availability, flexible routing, clustering, federation, guaranteed delivery, multiprotocol, and tracing.

Using the HPE Unified RESTful APIs, you can obtain certificates to access the two message buses: the State-Change Message Bus or the Metric Streaming Message Bus. The message content is sent in JavaScript Object Notation (JSON) format and includes the resource model.

Software developer kits (SDK) for the REST-based Unified API are available for several languages:
- Python: **https://github.com/HewlettPackard/python-hpOneView**
- PowerShell: **https://github.com/HewlettPackard/POSH-HPOneView**
- Java: **https://github.com/HewlettPackard/oneview-sdk-java**
- Ruby: **https://github.com/HewlettPackard/oneview-sdk-ruby**

Other documents to assist your custom integrations using the REST APIs can be found at:
- **HPE Image Streamer API documentation**
- **HPE OneView technical documentation**
- Integration with HPE OneView: A technical guide for ISVs and developers **https://www.hpe.com/h20195/v2/GetDocument.aspx?docname=4AA5-8669ENW**
- **HPE OneView 3.0 REST API Scripting Help for HPE Synergy**
- **HPE OneView 3.0 Help and REST API Scripting Help for HPE Synergy (download)**
- **HPE OneView Community forum**

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**Software Release Sets (with Synergy subsets of the SPP)**

HPE Synergy Software Release Sets allow users to perform firmware, driver, and related software updates. Software Release Sets include download files to allow component updates for the Synergy subset of the SPP (delivered as a custom download), HPE Synergy Composer, HPE Synergy Image Streamer, and other switches that are not managed by Composer.  Combinations within a specific release set are developed and released together.
- Overview of HPE Synergy Software Release Sets: **http://www.hpe.com/downloads/synergy**

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**Developers Hub, Sample Artifacts, and Reference Architectures**

HPE Synergy Image Streamer can be easily integrated with common applications in order to automate, orchestrate, and customize its use in IT environments. The Composable Infrastructure Developers Hub provides a wealth of resources, including sample artifacts which can be used as a starting point for customizations and reference architectures for common applications like Docker and Oracle (as a single database or as a node in an Oracle RAC cluster).
- Composable Infrastructure Developers Hub: **http://www.hpe.com/info/composablepartners**

# Service and Support

**Service and Support**

HPE Technology Services offers you a rich portfolio of consulting and support services designed to add value to our core products and solutions. We have the know-how and experience to put technology to work for you. We work closely with you, as your strategic partner, leveraging our full services portfolio to make sure that everything works to help optimize your enterprise.

Choose from services aligned to our product offerings and lifecycle. From proactive onsite services to innovative support when your products are connected to Hewlett Packard Enterprise, you choose the precise level of attention and support your business demands.

### HPE Technology Services for HPE Synergy

HPE Technology Services delivers confidence, reduces risk and helps customers realize agility and stability. Connect to Hewlett Packard Enterprise to help prevent problems and solve issues faster. Our support technology lets you to tap into the knowledge of millions of devices and thousands of experts to stay informed and in control, anywhere, any time.

### Protect your business beyond warranty with HPE Support Services

Hewlett Packard Enterprise support services offer complete care and support expertise with committed response choices that are designed to meet your IT and business needs.

**HPE Foundation Care services** offer scalable reactive support-packages for HPE Synergy and software. You choose the type and level of service that is most suitable for your IT and business needs.
HPE Proactive Care keeps your system stable and reliable helping to prevent problems and reduce outages through proactive service management and enhanced technical response.

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**Advise, transform, integrate, support, automate, and flex**

HPE Technology Services helps you get the most out of what you have today and transition to HPE Synergy, a composable infrastructure, at your pace and from wherever you are on the journey.

Start with the HPE Transformation Workshop to ensure that your business and IT organizations collaborate, define the topline strategy for composable, software-defined, cloud-ready infrastructure and kick-start your projects confidently. This workshop clarifies your business requirements and the issues that IT and operations teams must resolve in order to meet these requirements. A detailed executive briefing or high-level report summarizes the strategies, high-level plan and functional requirements.

**HPE Modernization and Migration Services** helps you choose the right platform for the right workload at the right cost and evolve your IT infrastructure, processes and organization taking advantage of "on-hybrid infrastructure" innovations such as composable, converged, software-defined,  technologies. Hewlett Packard Enterprise experts advise, transform, integrate and implement for platform refresh, datacenter consolidation virtualization, migration and automation projects.

**HPE Flexible Capacity** is a pay per use model for on premise infrastructure.   This offers needed HPE Synergy capacity in the datacenter, plus a buffer of additional capacity.   As HPE Synergy will be a dynamic environment, this provides enough room to grow your environment, but only pay for actual metered use.  Technology transitions and refresh can be built in, infrastructure and services are billed monthly, enabling you to align costs to business use.

**HPE Datacenter Care Infrastructure Automation:** HPE Synergy with OneView embedded helps enable infrastructure automation and is integrated with tools such as those from Chef, Puppet, and Docker, to enable rapid bare metal provisioning. With DC-IA, HPE service experts provide advice, support, best practices, for these tools that work with OneView to help create a fast, agile, and reliable automated IT environment. With this approach, customers can deploy faster. DC-IA delivers support to customers to enable infrastructure as code and agile processes as part of the service. Customers schedule quarterly reviews and reports with HPE Center of Expertise, as well as having access to these experts when needed, for automation development and code

## Service and Support

coaching.

Choose the right support to maximize uptime, free up your resources, and achieve improved value—as you get the most out of the existing IT assets while accelerating time-to-revenue.

**Optimized Support**

**HPE Proactive Care Advanced - 24x7 coverage, three-year Support Service**

Builds and incorporates on Proactive Care and also gives customers personalized technical and operational advice from an assigned, local Account Support Manager for personalized technical collaboration, flexible access to specialist skills to help optimize business critical IT, and Critical Incident Management to help so the business is not affected if there is a system or device outage. This recommendation provides 24x7 coverage with four-hour response for hardware and Basic Software Support and Collaborative Call Management for selected non-HPE software that offers two-hour callback for supported software issues.
**https://www.hpe.com/h20195/v2/GetPDF.aspx/4AA5-3259ENW.pdf**

**Standard Support**

**HPE Proactive Care - 24x7 coverage, three-year Support Service**

Hardware and software support services designed specifically for your technology with rapid access to Advanced Solution Center specialists for start to finish case management plus proactive reports and recommendations for firmware and software management and best practice advice. This recommendation provides 24x7 coverage with four-hour response for hardware and Basic Software Support and Collaborative Call Management for selected non-HPE software that offers two-hour callback for supported software issues.
**https://www.hpe.com/h20195/v2/getpdf.aspx/4aa3-8855enw.pdf**

**Deploy and integrate**

**HPE Factory Express Initial Frame Service for Synergy**
Factory Express allows a customers' configurations to be pre-configured in the HPE Integration center with an implementation project manager to manage the deployment end to end. The project manager will act as a single point of contact to coordinate the build, delivery and onsite installation and commissioning of the solution. In addition to the configuration and deployment activities, your HPE Synergy configuration goes through comprehensive testing and a detailed documentation package on the configuration and settings of the delivered solution will be provided.

**HPE Factory Express Synergy Additional Frame Service for Synergy**
Add additional frames to your HPE Synergy Factory Express service or expand your existing HPE Synergy Infrastructure.

**HPE Synergy First Frame Installation and Startup**
Provides for hardware installation (HPE Synergy compute modules, Storage Modules, Virtual Connect modules, Interconnect Link Modules, Frame Link Modules, and HPE Synergy D3940 Storage Modules) and software startup for the first frame of your HPE Synergy deployment. Additional frames can be added using the HPE Synergy Additional Frame Installation and Startup Service.

**HPE Synergy Additional Frame Installation and Startup Service**
Add additional frames to your HPE Synergy First Frame Startup service or expand your existing HPE Synergy Infrastructure.

**Implementation Service**

The HPE Synergy Image Streamer Implementation Service is an on-site consulting service. This service configures and demonstrates the Image Streamer system operation with the user's specific application stacks and images. This includes knowledge transfer to the users on the design, best practices, and troubleshooting of the system. The Image Streamer Implementation Service gets users started with multiple working samples.

**HPE Education Services**

Training your IT staff is critical to help drive the value of HPE Synergy with increased efficiencies and better business outcomes. Training is key to the transformation and management of HPE Synergy. See

## Service and Support

**http://http://www.hpe.com/ww/learnconvergedsystems**

| | |
|---|---|
| **Parts and Materials** | Hewlett Packard Enterprise will provide HPE-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements. |
| | Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product quick-specs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services. |
| | The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by Hewlett Packard Enterprise due to malfunction. |
| **For more information** | Additional Support Services can be found at HPE Support Services Central **http://ssc.hpe.com** |

# Platform Information

| | |
|---|---|
| **HPE Image Streamer** | **HPE Synergy Image Streamer is a management appliance for use with HPE Composer** |

REQUIREMENT: HPE Synergy Image Streamer units are <u>always</u> implemented as redundant pairs in different frames for use in Production environments.

**CAUTION:** Single-frame configurations may be used in Development and Proof of Concept (POC) environments, but are not supported for use in Production environments.

**NOTE:** No direct license is required. Supports any HPE Synergy Compute module and other installed module options.

REQUIREMENT: HPE Synergy Image Streamer use in Production environments requires a minimum of three (3) Synergy Frames with two (2) HPE Image Streamers and two (2) HPE Composers. This minimal system also requires two (2) Interconnect Modules, two (2) transceivers, and four (4) cables for operation. For details, see products below and the Setup and Installation Guides.

| | |
|---|---|
| HPE Synergy Image Streamer | 804937-B21 |

**NOTE:** Single unit; 2 units per solution required for a redundant pair

| | |
|---|---|
| HPE Synergy TAA-compliant Image Streamer | 804937-B22 |

**NOTE:** Single unit; 2 units per solution required for a redundant pair

**NOTE:**  HPE offers multiple Trade Agreement Act (TAA) compliant configurations to meet the needs of US Federal Government customers.  These products are either manufactured or substantially transformed in a designated country.

### Interconnect Modules

| | |
|---|---|
| HPE Virtual Connect SE 40Gb F8 Module for Synergy | 794502-B23 |

**NOTE:** Single module; 2 modules per solution required for a redundant pair
**NOTE:** The following products are used for connecting to this Interconnect Module.

### Connectors

| | |
|---|---|
| HPE BladeSystem c-Class QSFP+ to SFP+ Adapter | 720193-B21 |
| HPE 10GBase-T SFP+ Transceiver | 813874-B21 |

**NOTE:** Four (4) of each are required for redundant connection to the above Interconnect Modules.

| | |
|---|---|
| HPE Synergy Dual 10GBASE-T QSFP+ 30m RJ45 Transceiver | 838327-B21 |

**NOTE:** Two (2) transceivers required for redundant connection to the above Interconnect Modules.

### HPE CAT6A Cables

| | |
|---|---|
| HPE Synergy Frame Link Module CAT6A 1.2m Cable | 861412-B21 |
| HPE Synergy Frame Link Module CAT6A 3m Cable | 861413-B21 |
| HPE Synergy Frame Link Module CAT6A 6.4m Cable | 861414-B21 |

**NOTE:**  Four (4) CAT6A cables are required for the HPE Synergy Image Streamer connection from the Frame Link Modules (MGMT port) to the Transceiver plugged into the Interconnect Module.

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| | |
|---|---|
| **Configuration Rules for Image Streamer** | **Configuration rules for use in Production Environments**<br>**Rule #1**<br>The first Logical Enclosure (LE) in a Frame Link Network must have three (3) frames (minimum). Additional Logical Enclosures in a Frame Link Network need only have two (2) frames.<br><br>**Rule #2**<br>Additional Logical Enclosures in the same Frame Link Network need only have two (2) frames. |

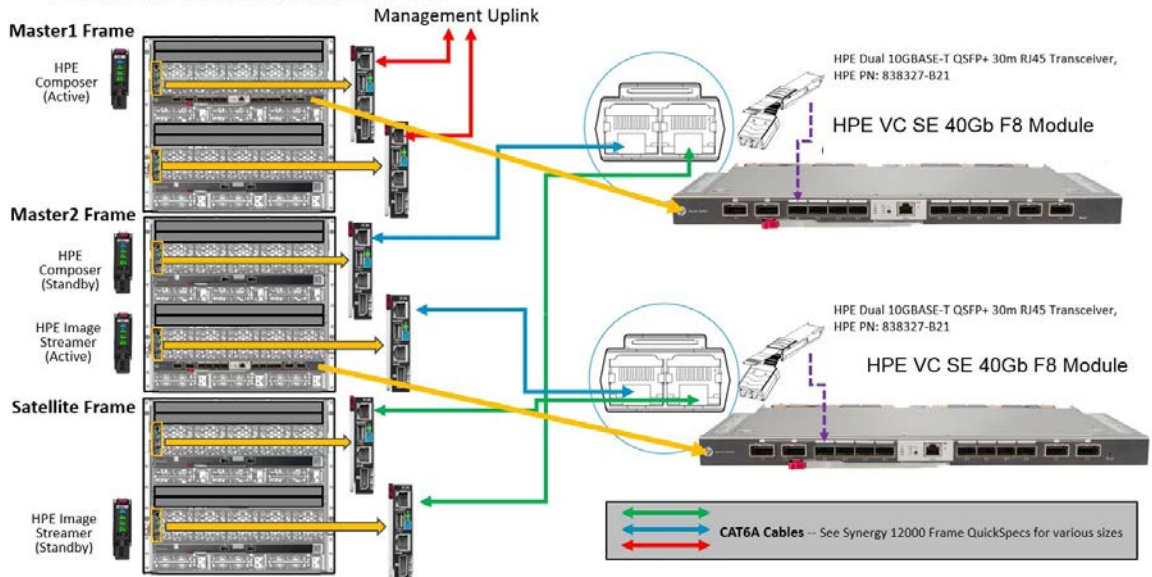# Platform Information

### Configuration examples

The following figures illustrate various configurations of HPE Synergy Image Streamer.

- Single-frame configuration only for use in Development and Proof-of-Concept environments.
- Three-frame (single-port) configuration for use in Production environments.
- Three-frame (two-port) configuration for use in Production environments.
- HPE Image Streamer use in a Production environment with a single management ring.
- HPE Image Streamer use in a Production environment with multiple management rings.



HPE Image Streamer: Single-frame configuration
For use in Development and Proof-of-Concept environments
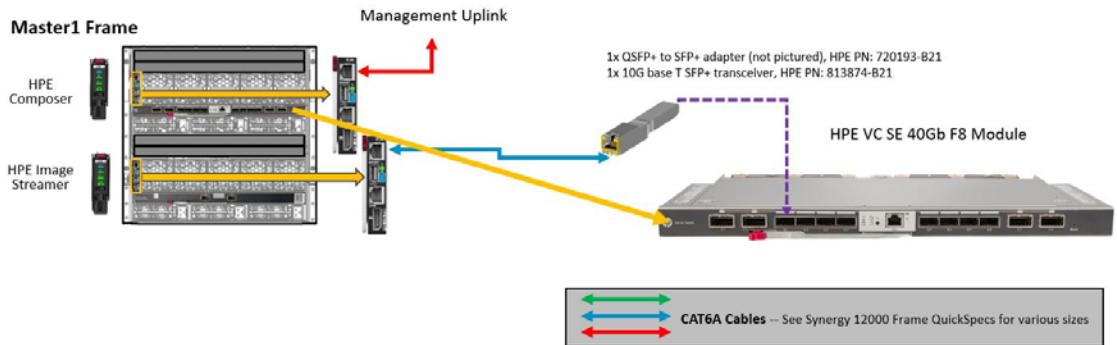


HPE Image Streamer: Three-frame (single-port) configuration
For use in Production environments

## Platform Information



HPE Image Streamer: Three-frame (two-port) configuration
For use in Production environments



HPE Image Streamer with one management ring

## Platform Information



HPE Image Streamer with multiple management rings

Pair #1 for Logical Enclosure (LE)          Pair #2 for LE          Pair #3 for LE
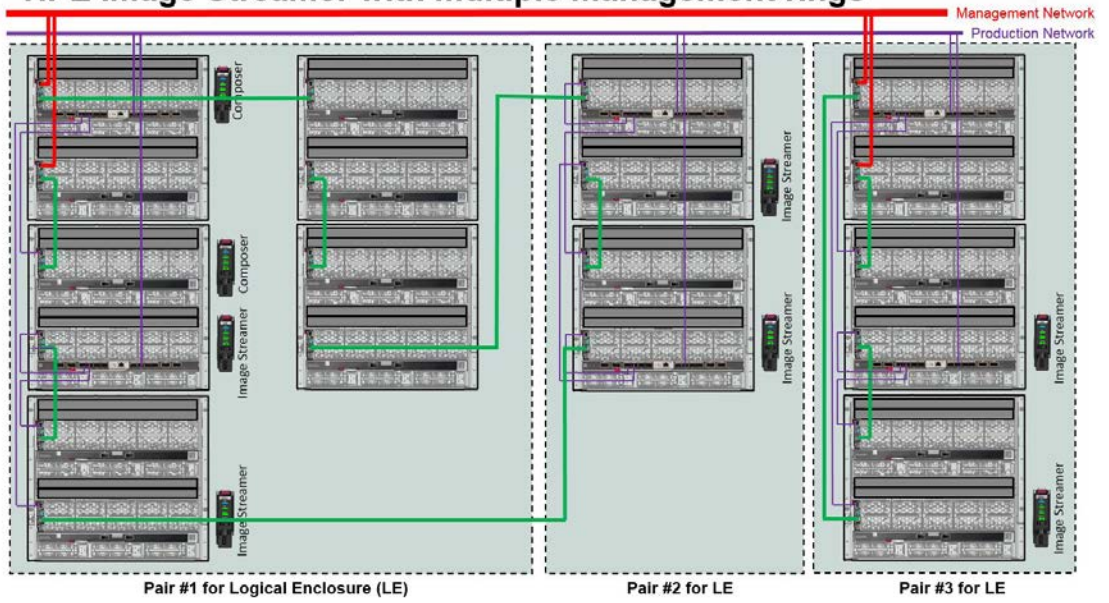
# Related Options

**HPE Synergy Services**

**HPE Synergy Proactive Care Services**

| | |
|---|---|
| HPE 3 Year Proactive Care 24x7 Synergy Image Streamer Service | H0YJ1E |
| HPE 3 Year Proactive Care 24x7 with DMR Synergy Image Streamer Service | H0YJ2E |
| HPE 3 Year Proactive Care Advanced 24x7 Synergy Image Streamer Service | H0YJ4E |
| HPE 3 Year Proactive Care Advanced 24x7 with DMR Synergy Image Streamer Service | H0YJ5E |

**HPE Synergy Deployment/Installation & Start-up Services**

| | |
|---|---|
| HPE Factory Express Synergy Initial Frame Package 4 Service | HA454A1-300 |
| HPE Factory Express Synergy Add-on Frame Package 4 Service | HA454A1-301 |
| HPE Synergy First Frame Startup Service | U8JM3E |
| HPE Synergy Additional Frame Startup Service | U8JM4E |

**HPE Synergy Image Streamer Implementation Service**

| | |
|---|---|
| HPE Image Streamer Implementation Service | H5UP9A1 |

# Technical Specifications

**Environmental-friendly Products and Approach**

**End-of-life Management and Recycling**

Hewlett Packard Enterprise offers end-of-life Hewlett Packard Enterprise product return, trade-in, and recycling programs in many geographic areas. Products returned to Hewlett Packard Enterprise will be recycled, recovered or disposed of in a responsible manner. For more information, contact your nearest Hewlett Packard Enterprise sales office or visit the **HPE Product Return and Recycling site**.

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the above Hewlett Packard Enterprise web site. These instructions may be used by recyclers and other WEEE treatment facilities as well as Hewlett Packard Enterprise OEM customers who integrate and re-sell Hewlett Packard Enterprise equipment.

## Summary of Changes

| Date | Version History | Action | Description of Change |
|------|-----------------|--------|------------------------|
| 05-Feb-2018 | From Version 7 to 8 | Changed | Standard Features and Service and Support sections were updated. |
| 04-Dec-2017 | From Version 6 to 7 | Changed | Overview and Standard Features sections were updated. |
| 11-Jul-2017 | From Version 5 to 6 | Changed | Overview, Standard Features, Service and Support, Platform Information, and Technical Specifications sections were updated. |
|  |  | Added | SKUs added in Platform Information and Related Options sections: 804937-B22, H5UP9A1. |
| 03-Apr-2017 | From Version 4 to 5 | Changed | Overview and Standard Features sections were updated. |
| 16-Dec-2016 | From Version 3 to 4 | Changed | Overview, Standard Features, Service and Support, and Related Options sections were updated. |
| 18-Nov-2016 | From Version 2 to 3 | Changed | Models, Related Options and Service and Support sections were updated. |
| 31-Mar-2016 | From Version 1 to 2 | Changed | Overview, Standard Features, Service and Support, Models, Related Options, Technical Specifications sections were updated. |
|  |  | Added | SKUs added in Models and Related Options sections: 804937-B21, 794502-B23, 720193-B21, 813874-B21, 838327-B21, 861412-B21, 816413-B21, 816414-B21, H0YJ1E, H0YJ2E, H0YJ4E, H0YJ5E, HA454A1-300, HA454A1-301, U8JM3E, U8JM4E. |
| 1-Dec-2015 | Version 1 | Created | New QuickSpecs |

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**Sign up for updates**

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