



HPE TIER 1 STORAGE ARRAY UPGRADE SERVICES

SERVICE OVERVIEW

Your projects can involve many aspects. Storage is just one of them. Let us help you get your storage operational, so you and your team can focus on the bigger picture. We can walk you through our process and help you avoid the issues that can delay your project and distract you from your main goal—getting your project done. HPE Tier 1 Storage Array Upgrade Services are intended to minimize downtime and any potential downtime that may be caused by improper upgrades.

HPE Tier 1 Array Upgrade Services are part of our standardized installation offering that focuses on services that are designed to properly upgrade your HPE Alletra 6000 or HPE Nimble Storage array for additional application or data workload. For in family array upgrades, the service includes the upgrading of components on a single existing array, including adding or upgrading eligible cache, NICs, and controllers to adding capacity with expansion shelves. Our cross-family upgrade service allows you to easily migrate from your existing HPE Alletra 6000 or HPE Nimble Storage array to the next generation of storage without time consuming data migration. These services are fixed-price allowing you to easily fit them into your IT budget.

SERVICE BENEFITS

HPE Tier 1 Storage Array Upgrade Service configures your array to be ready for additional workloads, aims to help you minimize the time required to upgrade your HPE Alletra 6000 or HPE Nimble Storage array, and prepares it for additional your workload. Let our trained professionals guide you through the process, so your team can focus on improving their productivity.

SERVICE FEATURE HIGHLIGHTS

HPE Tier 1 Storage Array Upgrade Service is intended to guide Customer from start to finish and helps make the installation a success. Our engagement includes the following phases:

• Planning

- The upgrade will begin with HPE authorized installation specialist reviewing the upgrade requirements and planning the key steps with using our predeployment checklist.

• Upgrade

- HPE authorized installation specialist will install the in-scope component upgrades as defined on the preinstallation workbook and as detailed in the following service features table.

• Validation and health check

- The HPE authorized installation specialist will conduct a set of HPE standard installation and verification tests based upon the upgrades that are being performed.

• Customer orientation

- After the physical array upgrade work has been completed, HPE authorized installation specialist will conduct a high-level review of the system and its operation.

TABLE 1. Service features

Feature	Delivery specifications
Planning	<p>HPE authorized installation specialist will remotely review the following as well as any upgrade prerequisites required in order to be eligible for this service:</p> <ul style="list-style-type: none"> • Review upgrade plan using our preinstallation checklists. This process will help ensure that Customer will be ready for installation • Review network IP and SAN connectivity requirements to be completed prior to upgrading NIC or HBA • Run a system health check as described in the upgrade workbook • Work with the Customer to schedule the upgrade • Monitor the project during delivery • Close the project once Customer confirms delivery complete
Upgrade(s)	<p>In-family upgrades: Hewlett Packard Enterprise will work with you to perform the component upgrade activities for each respective upgrade kit purchased as applicable:</p> <ul style="list-style-type: none"> • Unpack and inspect the new chassis, controllers, and power supplies <p>Cache upgrade</p> <ul style="list-style-type: none"> • Installation of additional or higher capacity cache • Verification of new array model number based on additional cache <p>Expansion shelf upgrade</p> <ul style="list-style-type: none"> • Physical racking and cabling of one new expansion shelf to existing array • Conduct power-on tests and verify operation • Verification of additional storage capacity on the array <p>Controller upgrade</p> <ul style="list-style-type: none"> • Removal of the existing controllers and installation of the new hardware • Migration of existing NICs and HBAs (if applicable) • Controller failover testing using HPE standard failover testing procedures • Confirmation of new array model number <p>NIC or Fibre Channel upgrade</p> <ul style="list-style-type: none"> • Removal of the existing NIC and/or Fibre Channel HBAs and installation of the new hardware • Verification of operation of NIC and/or Fibre Channel HBA • Controller failover testing using HPE standard failover testing procedures <p>Cross-family offline upgrades: Hewlett Packard Enterprise will work with you to perform the hardware upgrade and disk migration from your existing array to the new family array chassis. Including:</p> <ul style="list-style-type: none"> • Unpack and inspect the new chassis, controllers, and power supplies. • Deactivate the configuration for synchronous replication on the existing array (if applicable). • Prepare the existing array to be migrated and shutdown. • Move the drive carriers from the old array into the new chassis. • Reconnect power and cables for additional shelves as needed. • Wrap and pack the old hardware chassis in the shipping and packing container that came with the new chassis for Customer RMA return. <p>Cross-family online upgrades: Hewlett Packard Enterprise will work with you to perform the hardware upgrade and disk migration from your existing array to the new family array chassis. Including:</p> <ul style="list-style-type: none"> • Unpack and inspect the new chassis, controllers, and power supplies. • Installation of the new chassis and additional hardware components into the rack. • Prepare the existing array to be migrated. • Deactivate the configuration for synchronous replication on the existing array (if applicable). • Migrate the drive carriers from the old array into the new chassis. • Reconnect power and cables for additional shelves as needed. • Reconfigure synchronous replication (if applicable). • De-installation of the existing array from the rack. • Wrap and pack the old hardware chassis in the shipping and packing container that came with the new chassis for Customer RMA return.
Validation	<p>HPE authorized installation specialist will conduct HPE standard testing procedures as noted:</p> <ul style="list-style-type: none"> • Verify the array's high availability (HA) capabilities by pulling the cable on the active controller • Test outbound path by pinging gateway, DNS server, and hpe.com, where possible • Test DNA, heartbeats, and email alerts, where possible • Use vdbench (or equivalent tools) on hosts to validate array performance
Customer orientation	<p>On the same day as the upgrade services are performed, HPE authorized installation specialist will conduct a high-level review not to exceed one hour to show the functionality of the upgraded components and their operation.</p>



SERVICE ELIGIBILITY

Customers must meet the prerequisites required for this service, including but not limited to the following:

- A suitable physical operating environment must be provided, including implementation of any environmental recommendations made by Hewlett Packard Enterprise.

SERVICE LIMITATIONS

For in-family upgrades, this service is limited to installing add-on components into a single HPE Alletra 6000 or HPE Nimble Storage array when those components are all installed at the same time.

HPE's ability to deliver this service is dependent upon the Customer's full and timely cooperation with HPE, as well as the accuracy and completeness of any information and data the Customer provides to HPE.

An upgrade of the HPE Alletra OS or HPE NimbleOS upgrade may be required as part of (or before) the upgrade process as required for the components being upgraded.

Activities such as, but not limited to, the following are excluded from this service:

- Any service that is not clearly specified in this document.
- Application integration or integration of third-party products or peripherals not included with the system.
- Backup, recovery, and support of the operating system, other software, and data.
- Installation and configuration of any third-party storage hardware, servers, switches, routers, network gateways, and so on.
- Laying of any cable beyond the required internal array interconnect cables.
- Installation, configuration, or provisioning of any external SANs the Customer is using for data storage.
- Analysis and/or reconfiguration of the existing environment to improve performance or robustness.
- Operational testing of applications or additional tests requested or required by the Customer.
- Planning, design, or implementation of the Customer's overall [SAN](#) or fabric architecture.
- Implementation of hardware and software products other than those specified in this document, including the Customer's server, application, database, storage, SAN, and network; the Customer's host, servers, applications, databases, storage, SAN, and network components used with HPE Alletra 6000 or HPE Nimble Storage array.
- Services that, in the opinion of Hewlett Packard Enterprise, are required due to unauthorized attempts by third-party personnel to install, repair, maintain, or modify hardware, firmware, or software.
- Activities are delivered during HPE local standard business hours unless additional services have been purchased or special arrangements have been made.
- Services will be performed at the Customer location identified in the predeployment checklist between the hours of 8:00 a.m. and 5:00 p.m. local time Monday through Friday, excluding HPE holidays ("Standard Work Day"). Weekend and holiday hours or hours outside the Standard Work Day may be available at an additional charge, and are subject to the change order process.
- Any deliverable documentation created for this engagement will be available in electronic format, in Adobe PDF format and/or using the Microsoft Office suite.



CUSTOMER RESPONSIBILITIES

The Customer will:

- Contact an HPE authorized installation specialist to schedule and provide for the delivery of the service within 90 days of purchase
- Purchase or provide all hardware, software, licenses, staff, current maintenance contracts, and environments necessary for HPE to provide these services
- Ensure that all service prerequisites have been met
- Allow HPE authorized installation specialist full and unrestricted access to all locations where the service is to be performed
- Be responsible for all data backup and restore operations
- For the “In-Family” and “Cross-Family Offline” upgrade services, it is the Customer’s responsibility to deactivate (before) and reactivate (after) the configuration for synchronous replication on the existing array (if applicable)
- Assign a designated person from the Customer’s staff who, on behalf of the Customer, will grant all approvals; provide information; ensure that all hardware, firmware, and software that the HPE authorized installation specialist will need in order to deliver this service are available and that software products are properly licensed; and otherwise, be available to assist in facilitating the delivery of this service
- Customer may be required to upgrade their HPE NimbleOS version as determined in the preupgrade workbook prior to the HPE authorized installer arriving on-site

GENERAL PROVISIONS/OTHER EXCLUSIONS

Customer acknowledges and agrees that Hewlett Packard Enterprise may use resources outside the country of purchase for delivery of these services unless otherwise specified as part of a service feature description.

- Hewlett Packard Enterprise reserves the right to reprice this service if the Customer does not schedule and provide for subsequent delivery within 90 days of purchase.
- Services will be provided on a single array at one Customer location.
- Hewlett Packard Enterprise reserves the right to charge, on a time and materials basis, for any additional work over and above the service package pricing that may result from work required to address service prerequisites or other requirements that are not met by the Customer.
- Defective hardware, as identified during the installation, will be replaced or repaired under the original vendor warranty terms for products supplied and supported by Hewlett Packard Enterprise. Such hardware replacement or repair will not be covered under the terms of this service.
- Portions of the service may be delivered remotely or on-site at HPE’s discretion.
- The service is delivered as a single continuous event. Environments that require multiple engagements over a longer period of time are not eligible for this service, but appropriate services for such environments are available at additional cost.
- To find out whether a specific location is eligible for this service, please check with a local HPE authorized representative.
- Travel charges may apply in some geographic locations. Please contact a local HPE representative for details.



ORDERING INFORMATION

To obtain further information and to order this service, contact a local HPE sales representative or authorized partner and reference the following service product numbers:

- In-family upgrade: HA124A1#5MS—HPE Tier 1 Storage Array Upg Startup SVC
- Cross-family Offline upgrade: HA124A1#VOR—HPE Tier 1 Storage XFam Offline Upg SVC
- Cross-family Online Upgrade: HA124A1#VOX—HPE Tier 1 Storage XFam Online Upg SVC

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