



Hewlett Packard Enterprise

HPE SAN Deployment Service

HPE Lifecycle Event Services

HPE SAN Deployment Service provides installation and configuration of your storage area network (SAN). Hewlett Packard Enterprise offers three service levels based on the size and complexity of your SAN environment.

HPE SAN Deployment Service covers a comprehensive complement of technologies, including Fibre Channel (FC), Fibre Channel over Ethernet (FCoE), Fibre Channel over IP (FCIP), FICON (Fibre Channel for HPE XP Storage Array-based mainframe storage), and iSCSI or serial-attached SCSI (SAS), for switches and associated devices. This service implements a new single-fabric or dual-fabric SAN or extends an existing SAN but does not include configuration of arrays or storage devices that are covered by their own corresponding deployment services.

Three levels of support are available:

Level 1: For SAN environments of up to 48 physically present and available ports located in a single physical location

Level 2: For more complex SAN environments of up to 624 physically present and available ports located within a single physical location or across multiple locations within 100 miles of each other

Level 3: For complex SAN environments of more than 624 physically present and available ports, multiple sites located more than 100 miles apart; SANs too complex to fit into Level 1 or 2 Service; SANs that include fabric-based encryption or requirements for integration into SAN or IT management applications such as, but not limited to HPE Operations Manager, Tivoli, CA OpsCenter, or Brocade Network Advisor

Entry-level options are available to accommodate small, single location SANs of up to 24 physically present and available ports or HPE BladeSystem switches implemented within a BladeSystem enclosure. These services are delivered to Level 1 specifications.

A SAN Host Connection only option is also available as part of this service. This standalone option solely accommodates incremental connection of hosts into an existing SAN and does not provide for the creation of a new SAN fabric or the extension of an existing SAN.

Service benefits

This service includes implementation of the storage switches in the SAN environment according to Hewlett Packard Enterprise quality standards by a trained service specialist and provides:

- Implementation in accordance with product manufacturer specifications and the configuration requirements of your business
- Validation of the SAN design and configuration
- Project management to manage the implementation of the service (for Level 2 and Level 3 Services only)
- Delivery of the service at a mutually scheduled time convenient to your organization
- Verification prior to installation that all service prerequisites have been met
- Expedited implementation meeting all agreed-upon specifications

- Availability of a service specialist to answer questions during the onsite portion of the service delivery
- Documentation of the deployed SAN environment
- Availability of custom implementation through a Statement of Work (SOW) (for Level 3 Service only)

Service feature highlights

- Service planning
- Service deployment
- Installation verification tests (IVT)
- Customer orientation session
- Project management (for Level 2 and 3 Services only)

Table 1. Service features

Feature	Delivery specifications
Service planning	A Hewlett Packard Enterprise service specialist or project manager will schedule the delivery of the service at a mutually agreed-upon time. The service specialist or project manager will discuss delivery prerequisites with the Customer at this point.
Service deployment (Level 1)	<p>Level 1 deployment activities include the following:</p> <ul style="list-style-type: none"> • Simple design: Based upon Customer input, the service specialist will select an appropriate, simple topology • Design review: The intended logical and physical design of the SAN and its components will be reviewed with the Customer • Implementation planning and scheduling: The implementation plan will be developed, identifying the steps, roles, responsibilities, and timeline for the implementation • Site validation: Hewlett Packard Enterprise will conduct a facilities review and verify the environment (arrays, hosts, and other storage devices) to be integrated into the SAN • Switch installation: Storage switches purchased with the solution will be installed as needed (physical racking is included if necessary). The switches will be connected to a Customer-provided Ethernet network, and necessary IP parameters will be set to establish visibility to the Customer's network • Product configuration: The storage switches will be connected to the associated storage devices and hosts, and configured according to the reviewed logical and physical design. For HPE BladeSystem environments, insertion of HPE SAN blade and mezzanine adapters is included as necessary • Functional connectivity testing of hardware and software: Hardware and software diagnostics and connectivity tests will be executed to confirm intended connectivity between storage source and targets • Documentation: HPE will provide detailed documentation of the SAN topology and host/device connectivity as implemented
Service deployment (Level 2 and 3)	<p>Level 2 deployment activities include the following:</p> <ul style="list-style-type: none"> • Environment assessment: Working with the Customer, Hewlett Packard Enterprise will evaluate the overall storage environment and how the SAN will be integrated into that environment • High-level design: HPE will determine the SAN topology and configuration that match the Customer's technical and business requirements • Design review: HPE will review and verify the intended logical and physical design of the SAN and its components with the Customer • Implementation planning and scheduling: The project plan will be developed, identifying the steps, roles, responsibilities, and timeline for the implementation • Site validation: HPE will conduct a facilities review and verify the environment (arrays, hosts, and other storage devices) to be integrated into the SAN

- Switch installation: Storage switches purchased with the solution will be installed as needed (physical racking is included if necessary). The switches will be connected to a Customer-provided Ethernet network, and necessary IP parameters will be set to establish visibility to the Customer's network
 - Product configuration: Storage switches will be connected to the associated storage devices and hosts, and will be configured according to the reviewed logical and physical design
 - Functional connectivity testing of hardware and software: Hardware and software diagnostics and connectivity tests will be executed to confirm intended connectivity between storage source and targets
 - Documentation: HPE will provide detailed documentation of the SAN topology and host/device connectivity as implemented
- Level 3 deployment activities include customizable activities defined in a mutually agreed-upon SOW. The activities may include any of the following or others specified by the Customer:
- Environment assessment: Working with the Customer, HPE will evaluate the overall storage environment and how the SAN will be integrated into that environment
 - High-level design: HPE will determine the SAN design and topology that match the Customer's technical and business needs
 - Design review: HPE will review and verify the intended logical and physical design of the SAN and its components
 - Implementation planning and scheduling: The project plan will be developed, identifying the steps, roles, responsibilities, and timeline for the implementation
 - Site validation: HPE will conduct a facilities review and verify the environment (arrays, hosts, and other storage devices) to be integrated into the SAN
 - Switch installation: Storage switches purchased with the solution will be installed as needed (physical racking is included if necessary). The switches will be connected to a Customer-provided Ethernet network, and necessary IP parameters will be set to establish visibility to the Customer's network
 - Product configuration: Storage switches will be connected to the associated storage devices and host, and will be configured according to the reviewed logical and physical design
 - IT environment integration: The SAN environment will be integrated with the Customer's existing and installed IT management environment
 - Functional connectivity testing of hardware and software: Hardware and software diagnostics and connectivity tests will be executed to confirm intended connectivity between storage source and targets
 - Documentation: HPE will provide detailed documentation of the SAN topology and host/device connectivity as implemented
 - Customized activities: These include additional/other activities such as implementation of encrypted SAN technologies, integration of IT or SAN management software suites or technologies, SAN fabric replacement or conversion, topology redesign or renovation, multi-segment or long-distance (greater than 100 miles) SANs, or other requirements as specified by the Customer

Service deployment (SAN Host Connection option)

The standalone SAN Host Connection option includes connection of hosts into an existing SAN and the testing of that connection. If the HPE SAN Deployment Service was ordered previously for SAN implementation, the existing topology documentation will be updated. No other deployment activities are performed for this standalone option.

Installation verification tests (IVT)

The service specialist will run the appropriate installation verification tests required for the level of service the Customer has chosen. Testing activities include the following:

- Hardware and firmware diagnostics as applicable
- Tests to validate the presence of the installed storage switches and the intended visibility between source and target devices
- Tests to demonstrate alternate or multi-pathing capabilities, if included in the reviewed logical and physical design

Customer orientation session

The customer orientation session will:

- Familiarize the Customer with how to verify devices through switch- or host-based tests
- Review the SAN implementation, configuration, and documentation
- Review the Customer's support procedures

The SAN Host Connection option will be accompanied by an abbreviated orientation session that only includes an overview of the host connection and support processes.

The customer orientation session is delivered informally as part of the implementation process. It is not a formal presentation or classroom activity, nor is it intended as a substitute for in-depth product training.

Project management

The project manager (for Level 2 and 3 Services only) will work with the Customer to manage the integration, development, and delivery of the service during HPE standard business hours. The activities detailed below will be provided either remotely or onsite, at the discretion of the project manager.

The project manager will:

- Manage any Hewlett Packard Enterprise or authorized delivery partner resources required for the delivery of the service
- Develop the project plan, which defines the scope of the services to be delivered

- Identify the Customer's responsibilities and other requirements in order to facilitate the delivery of this service
 - Act as the liaison and single point of contact between delivery resources and the Customer
 - Develop the project schedule and manage the project against the defined timelines
 - Escalate delivery issues to the appropriate organization and monitor the resolution of these issues for the Customer
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Service limitations

The following are specifically excluded from the service:

- Service deployment on hardware not covered by a Hewlett Packard Enterprise warranty or Hewlett Packard Enterprise support agreement
- Service deployment on hardware covered by a third-party maintenance contract
- Planning, design, implementation, or assessment of the Customer's existing SAN or fabric architecture beyond that specifically included with the service; if extending an existing SAN, the scope of deliverables is limited only to that necessary to successfully extend the existing SAN environment; complete redesign and deployment of the existing SAN is not included but can be accommodated at additional cost
- SAN implementation or extension beyond a single-fabric or dual-fabric (intended to provide alternate or redundant paths between host and storage devices) environment
- Services that, in the opinion of Hewlett Packard Enterprise, are required due to unauthorized attempts by non-HPE personnel to install, repair, maintain, or modify hardware, firmware, or software
- Services required due to causes external to the HPE-maintained hardware or software
- Providing documentation other than that mentioned in this document
- Performance testing or modeling
- Backup, restoration, or migration of Customer data
- Design, installation, configuration, or testing of the Customer's backup solution
- Installation or configuration of any storage device not specifically included in the service
- Configuration of optional software or switch features not specifically included in the service
- Extensive cabling activities, including those involving conduits, raceways, patch panels, and movement/configuration of computer room floor panels
- Reracking or other reconfiguration of existing equipment or solutions
- Any other services not clearly specified in this document

Service eligibility

Customers are eligible for the delivery of this service if they meet the following prerequisites:

- The Customer must have all HPE-supported storage switches available and ready for installation as needed. Physical space and power must also be available at time of installation.
- The Customer must have all HPE-supported storage devices, host bus adapters (HBAs), routers, and other SAN devices installed at HPE supported revision levels.
- The Customer's hosts must have operating systems supported in HPE SANs and be at supported OS revision, patch, and driver levels.
- The Customer must provide a suitable physical operating environment for the SAN, including implementation of any environmental recommendations made by Hewlett Packard Enterprise.

Customer responsibilities

The Customer will:

- Contact a Hewlett Packard Enterprise service specialist or authorized delivery partner within 90 days of date of purchase to schedule the delivery of the service
- Coordinate service deployment on third-party-maintained hardware and software (if applicable) with the service specialist or project manager
- Assign a designated person from the Customer's staff who, on behalf of the Customer, will grant all approvals, provide information, and otherwise be available to assist the service specialist in facilitating the delivery of this service
- Ensure that all service prerequisites as identified in the 'Service eligibility' section have been met
- Ensure that all hardware and software that the service specialist will need in order to deliver this service is available; licensing keys must also be available for any in-scope product utilizing licensing mechanisms
- Allow the service specialist or authorized delivery partner full and unrestricted or escorted access to all locations where the service is to be delivered
- Provide a suitable work area for delivery of the service, including access to an outside telephone line for consultation, power, and any network connections required to deliver the service
- Ensure participation of the Customer IT storage administrator, database administrator, and selected other staff in discussions of the Customer organization's business and operational objectives; in addition, provide for any special requirements as necessary
- Be responsible for all data backup and restore operations
- Be responsible for complex cabling involving conduits, raceways, patch panels, and movement/configuration of computer floor panels
- Uncrate products and place the boxes in the immediate location where the installation service will take place
- Adhere to licensing terms and conditions regarding the use of any Hewlett Packard Enterprise service tools used to facilitate the delivery of this service, if applicable

General provisions/Other exclusions

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.

Hewlett Packard Enterprise reserves the right to re-price this service if the Customer does not schedule and provide for subsequent delivery within 90 days of purchase.

Hewlett Packard Enterprise'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.

Portions of the service are delivered remotely or onsite, at Hewlett Packard Enterprise's discretion.

The service is delivered as a single, contiguous event. Environments that require multiple engagements over a longer period of time are not included with this service and are available at additional cost.

This service is only available during local HPE standard business hours. Any service delivery outside these hours will be subject to additional charges.

Travel charges may apply; please consult your local office

Ordering information

To obtain further information or to order the HPE SAN Deployment Service, contact a local Hewlett Packard Enterprise sales representative and reference the following product numbers:

Level 1 Service:

- HA124A1#5VZ (U7PD2E) for HPE SAN Level 1 Tier 1 Startup Svc

Level 2 Service:

- HA115A1#5W0 (U7PD3E) for HPE SAN Level 2 Tier 2 Implementation Svc
- HA115A1#5W1 (U7PD4E) for HPE SAN Level 2 Tier 3 Implementation Svc
- HA115A1#5W2 (U7PD5E) for HPE SAN Level 2 Tier 4 Implementation Svc
- HA115A1#5W3 (U7PD6E) for HPE SAN Level 2 Tier 5 Implementation Svc
- HA115A1#5W4 (U7PD7E) for HPE SAN Level 2 Tier 6 Implementation Svc
- HA115A1#5W5 (U7PD8E) for HPE SAN Level 2 Tier 7 Implementation Svc
- HA115A1#5W6 (U7PD9E) for HPE SAN Level 2 Tier 8 Implementation Svc
- HA115A1#5W7 (U7PE0E) for HPE SAN Level 2 Tier 9 Implementation Svc
- HA115A1#5W8 (U7PE1E) for HPE SAN Level 2 Tier 10 Impl Svc
- HA115A1#5W9 (U7PE2E) for HPE SAN Level 2 Tier 11 Impl Svc
- HA115A1#5WA (U7PE3E) for HPE SAN Level 2 Tier 12 Impl Svc
- HA115A1#5WB (U7PE4E) for HPE SAN Level 2 Tier 13 Impl Svc

Level 3 Service:

- HA115A1#54K for HPE SAN Level 3 Custom Impl Svc

Special services:

- HA124A1#5VX (U1XZ8E) for HPE SAN Startup 24 ports limited Svc
- HA124A1#5VY (U1XZ9E) for HPE SAN C-Class Blades Only Startup Svc
- HA124A1#54S (UT039E) for HPE SAN Host Con Only 2 Host Startup Svc
- HA124A1#54Y (UT040E) for HPE SAN Host Con Only 5 Host Startup Svc
- HA124A1#55E (UT041E) for HPE SAN Host Con Only 10 Host Startup Svc

For more information

For more information on Hewlett Packard Enterprise support services, contact any of our worldwide sales offices or visit the following website:

www.hpe.com/services/support

