HP MSA/P2000 Family Disk Array Installation and Startup Service

HP Services

Technical data

The HP MSA/P2000 Family Disk Array Installation and Startup Service provides the necessary activities required to integrate your HP Modular Storage Array(MSA)/P2000 into your storage environment.

With the assistance of your designated IT storage administrator, an HP certified service specialist will help plan, design, and implement a customized configuration for your HP MSA/P2000 Disk Array. The HP certified service specialist will also perform installation verification tests and provide a customer orientation session as described below in the "Service features" section.

Service benefits

- Allows your IT resources to stay focused on their core tasks and priorities
- Reduces implementation time, impact, and risk to your storage environment
- Helps you effectively utilize HP products from the knowledge gained during onsite delivery of the service
- Customized installation plan to support your unique configuration requirements

Service features

- Service planning
- Service deployment
- Installation verification tests (IVT)
- Customer orientation session

Specifications
Table 1. Service features

Feature	Delivery specifications
Service planning	The HP service specialist will work with the Customer to plan all necessary activities and schedule the delivery of the service at a mutually agreed-upon time during local HP standard business hours, excluding HP holidays, unless otherwise agreed to by HP or the HP certified channel partner. Any services provided outside of HP standard business hours will be subject to additional charges.
	The service specialist will contact the Customer to review expectations and to validate that predelivery requirements have been, or will be, met prior to installation.
	The service planning activities will include:
	• Communication with the Customer, including queries by the Customer regarding service delivery
	• Verification, using a predelivery checklist, that all service prerequisites have been met, including OS, hardware, software, driver, and environmental prerequisites required for the installation of HP MSA/P2000 Disk Array
	• Collection, using a predelivery checklist, of the information needed to plan the deployment, including:
	- Confirmation that the hosts are in a supported configuration and determination of any steps needed to be taken to bring them into a supported configuration
	- The hardware RAID levels to be implemented
	• Agreement on the proposed configuration and review of the service completion criteria
	• Installation of the add-on HP MSA/P2000 hardware into a customer-supplied rack
	• Creation of a written installation plan to serve as both the project plan and completion point for this service
Service deployment	The service deployment activities will include:
	• Communicating the service delivery agenda
	• Verification that service prerequisites have been met
	• Confirmation of appropriate operating system patch levels and firmware version on a selected number of hosts, as identified in the installation plan
	• Verification and update (as needed) of prerequisite array and host bus adapter (HBA) firmware versions
	• Update of HP array management configuration software, as appropriate
	• Deposit and license activation of the HP MSA/P2000 Snapshot software included with the product; implementation of separate HP Volume Copy, Snapshot, or Remote Snapshot software is excluded from this service
	• Brief discussion with the Customer to describe array configuration options
	• Implementation of an array configuration design defined by the Customer, as long as the Customer's design does not exceed the product specification limits
	• Creation of configuration documentation
	Service includes connection of up to four hosts total, in any combination of Fibre Channel, SAS, or iSCSI protocols.
	For a Fibre Channel and SAS interconnect, if the Customer does not have a preexisting storage interconnect environment, the service specialist will implement a new one, up to a maximum size of 16 ports, into which the HP MSA/P2000 array will be integrated.
	• For new storage interconnect environments, the implementation will include Fibre Channel, and/or SAS switch installation and racking, and any configuration/zoning necessary to provide the required connectivity between the HP MSA/P2000 array and any associated hosts. (Any hardware and software products needed to construct the new storage interconnect environment are to be supplied by the Customer.)
	• For standalone servers, deployment is limited to a maximum:
	- Installation of up to two Fibre Channel and/or SAS switches
	- Installation of up to two HBAs per installed physical host
	- Configuration of multipath software instances (either HP branded or distributed and supported by HP, such as Microsoft® Multipath I/O (MPIO), QLogic failover, etc.) for each installed physical host

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- For blade servers, deployment includes:
  - Installation of up to two blade Fibre Channel and/or SAS switches and installation of associated mezzanine cards in a single blade enclosure
  - Configuration of multipath software instances (either HP branded or distributed and supported by HP, such as MPIO, QLogic failover, etc.) for each installed physical host

For an iSCSI interconnect, the service specialist will connect the HP MSA/P2000 array into an existing operational Ethernet network environment supplied by the Customer into which the HP MSA/P2000 array will be integrated.

- For new or existing standalone servers, the implementation is limited to iSCSI configuration tasks on the HP MSA/P2000 array and iSCSI host initiators on the installed physical host. The Customer must ensure prior network connectivity between the HP P2000 target and iSCSI hosts.
- For new or existing blade environments, the implementation is limited to iSCSI configuration tasks on the HP MSA/P2000 array and iSCSI host initiators on the installed physical host. The Customer must ensure prior network connectivity between the HP MSA/P2000 target and iSCSI hosts, including configuration of the blade enclosure's Ethernet network.

Installation verification tests	This service includes the appropriate installation verification tests, including, but not limited to, power-on self-tests (POSTs) and visibility of LUNs to target hosts via multipath software, if installed.
Customer orientation session	This service will provide up to a one-hour orientation on the installed HP MSA/P2000 Disk Array. The orientation is informal, is typically conducted at a management console with selected members of the Customer's staff, and is not intended as a classroom activity or substitute for formal product training. The orientation may include the following: - Review of the configuration documentation that outlines the storage virtual disk design and related host topology - Highlights of the basic operation of array management - Help locating troubleshooting information [SDG points to] - A brief question-and-answer forum

Service eligibility

The Customer must meet the following hardware and software prerequisites prior to beginning onsite delivery of this service. Prerequisites include, but are not limited to:

- The Customer must provide a suitable physical operating environment for the array product, including implementation of any power, cooling, and other environmental requirements.
- The Customer's existing computer operating system platform(s) must be supported by and be compatible with the HP MSA/P2000 Disk Array being installed.
- The Customer's existing SAN and/or network environment must be fully operational and in a supported configuration as defined in the HP SAN Design Guide.
- Where geographically separated hosts are being configured, the Customer must ensure prior network connectivity between the HP MSA/P2000 target and iSCSI hosts.
- The Customer is responsible for providing servers that meet the minimum requirements of HP remote support tools.

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Service limitations

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

- Configuration of virtual management software or environments
- Array configuration design beyond a brief discussion with the Customer describing array configuration options
- A full site inspection, such as a comprehensive analysis of the Customer's power, cooling and humidity, airborne contaminants, vibration, and sufficient structural capability of the data center raised floor, to accommodate the weight of the array to be installed; separate services are available
- Integration with any hardware or software components not supported by the HP MSA/P2000 Disk Array family products
- Implementation of software revisions, including hot fixes, patches, service packs or upgrades from prior versions, on the Customer's existing SAN, network, and host environment
- Extensive racking, re-racking, or cabling activities, including cabling activities involving conduits, raceways, patch panels, and the movement/configuration of computer room floor panels
- Configuration of HP MSA/P2000 Snapshot, Volume Copy, or Remote Snapshot software
- Implementation of other complex configurations such as host clustering, external replication/mirroring solutions, and storage management software external to an HP MSA/P2000 array
- Implementation of host-based logical volumes and associated file system structures
- Installation or configuration of any hardware or software products external to the array subsystem, including, but not limited to, servers, host operating systems, and tape libraries
- HBA installation is limited to up to four physical host servers; firmware/driver updates are limited to the four HBAs installed by HP as part of this service
- Installation and configuration of additional instances of multipathing software; the service is limited to installation of up to four instances of multipathing software only
- Installation of host operating system patches and any associated device drivers
- Installation of any required software, patches, firmware updates, or topology changes needed to achieve an HP-supported interconnect environment compatible with the HP MSA/P2000 product
- Migration of existing data to the new array configuration, or de-installation of the Customer's legacy storage resource management environment
- Loading, management, or manipulation of Customer data
- Planning, design, implementation, or assessment of the Customer's new or preexisting storage interconnect environment beyond what is outlined in the "Service deployment" section
- Deployment activities, including planning, design, assessment, and configuration, related to the redeployment of an existing storage interconnect environment
- Implementation of hardware and software products other than those specified in this document
- Operational testing of applications or troubleshooting of interconnectivity, network, compatibility, or any problem not directly related to the installation of the HP MSA/P2000 product
- Performance testing or modeling
- Travel charges may apply in some geographic locations. Please contact your local HP representative for detail.

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Customer responsibilities

The Customer will:

- Contact an HP service specialist within 90 days of date of purchase to schedule the delivery of the service
- Coordinate service deployment on third-party-maintained products (if applicable) with HP
- 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 HP in facilitating the delivery of this service
- Ensure that all site preparation, power supply compatibility requirements, network cabling, and other specified service prerequisites, as listed in the "Service eligibility" section, have been met
- Ensure that IP addresses and network connectivity are available for the HP MSA/P2000 array, and that connectivity is established between target hosts and the HP MSA/P2000 product
- Provide remote access to hosts not local to the storage array
- Schedule downtime and provide access to the service specialist during delivery of the service for hosts requiring installation of an HBA
- Install any recommended host- or SAN-based software upgrades, patches, and device drivers
- Install any hosts or software beyond the limited deliverables provided by the service
- Provide HP with full access to all locations where the service is to be delivered
- Be responsible for all data backup and restore operations
- Provide a suitable work area for delivery of the service, including access to an outside telephone line, power, and any network connections required
- Provide IT administration resources (server, storage, network, and application) to gather necessary information, facilitate workshops and interviews as required, and perform any configuration activities needed to facilitate delivery of the service
- Ensure that the host, network, storage components, infrastructure management software, and application software with which the HP MSA/P2000 product may interact are installed, configured, and operating normally
- Ensure that all hardware and software that the service specialist will need in order to deliver this service are available and, for software products, properly licensed
- Provide the required management servers, meeting minimum hardware, OS, and software requirements, for use with the HP MSA/P2000 product
- Ensure the availability, at all times during service delivery, of one or more individuals who will provide administrator-level access to the systems where the work is to be performed
- Provide all necessary network and administration assistance to enable connectivity to the HP MSA/P2000 product to allow HP remote monitoring and support tools to communicate with the HP Support Center
- Place the HP MSA/P2000 product in the immediate location where the installation service will take place
- Adhere to licensing terms and conditions regarding the use of any HP service tools used to facilitate the delivery of this service or support tools used to provide ongoing remote monitoring, if applicable
- Perform other reasonable activities to help HP identify or resolve problems, as requested by HP

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General provisions/Other exclusions

- HP reserves the right to re-price this service if the Customer does not schedule and provide for subsequent delivery within 90 days of purchase.
- HP 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.
- HP's ability to deliver this service is dependent upon the Customer's full and timely cooperation with HP, as well as the accuracy and completeness of any information and data the Customer provides to HP.
- The service is delivered during local HP standard business hours. Service delivery outside these hours is available at additional cost.
- This service is delivered as a single, contiguous event. If Customer resource availability or other Customer restrictions delay installation or require additional visits beyond the defined scope of the service, additional charges may apply.
- Portions of the service are delivered remotely or onsite, at HP's discretion.

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

- Service deployment on hardware not covered by an HP warranty or service maintenance contract
- Service deployment on hardware covered by a third-party maintenance contract
- Services that, in the opinion of HP, are required due to unauthorized attempts by non-HP personnel to install, repair, maintain, or modify hardware, firmware, or software
- Service required due to causes external to the HP-maintained hardware or software
- Any services not clearly specified in this document

For more information

For more information on HP Services, contact any of our worldwide sales offices or visit one of the following websites:

HP support services: www.hp.com/hps/support
HP Care Pack services: www.hp.com/hps/carepack