

Product Highlights

Manage your small and midrange business growing storage needs by deploying the next generation 6Gb SAS low cost, flexible tiered external storage system. Ideal for small application environments in SMBs, remote offices and departmental locations as well as tier 2 or 3 storage for enterprise customers. The new 6Gb SAS enclosures - Large Form Factor (LFF) D2600 with 12 drive bays and Small Form Factor (SFF) D2700 with 25 drive bays - offer modular solutions to simplify capacity expansion of HP ProLiant server environments to external storage without having to make the full move to SAN or NAS. This allows you to buy what is needed today and purchase additional capacity as data storage needs grow.

The D2000 enclosures support direct attach storage to ProLiant Servers with the HP Smart Array P411, P212, P812, P222, P421, P431 or the P822 Controllers. On HP ProLiant and Integrity servers Dual Domain support is available for the HP Smart Array P411, P421, P431, P812 & P822 Controllers attached to a D2600/D2700. (Single initiator environment only.) (For Dual Domain - HP Smart Array Advanced Pack 2.0 No Media 1 Server 1yr 24x7 Support Software is required with the P421 Controller). HP UX 11iv3 and Windows 2008 R2 OS supported for HP Integrity servers (single initiator environment only). Blade 6Gb SAS connectivity is enabled using a HP Smart Array P711m, P721m and P731m Controllers, 6Gb SAS BL Switches and the D2000 disk enclosures. HP H221 and the H222 Host Bus Adapters are also supported with the D2600/D2700 Disk Enclosures.

NOTE: HP Integrity servers that are supported:
[rx3600](#), [rx6600](#), [rx2600](#), [rx2800i2](#), [rx7640](#), [rx8640](#), [Superdome](#) (only the versions that support PCI-e cards)

Total support can grow as needed to up to 96 LFF drives or 200 SFF drives.

The D2700 is also supported when attached to a HP P2000 G3 Modular Smart Array System family.

What's New

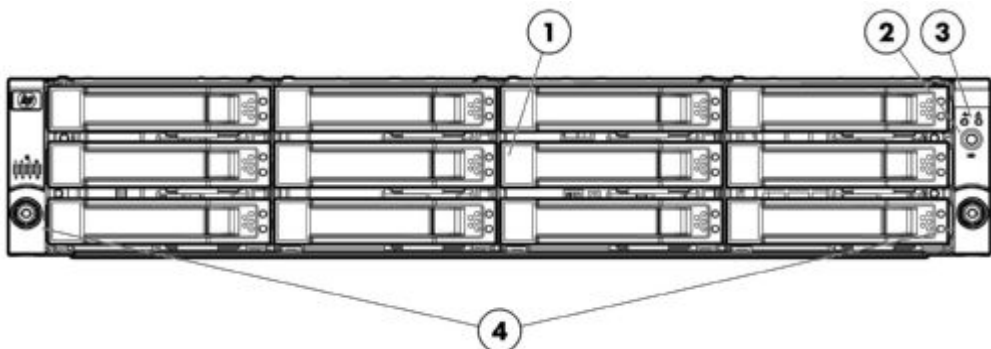
- Adding support for 12G Mainstream Endurance and High Endurance Solid State drives

Models

HP D2000 Disk Enclosures	HP D2600 Disk Enclosure	AJ940A
	HP D2700 Disk Enclosure	AJ941A
D2600 + Hard Drive Bundles	HP D2600 w/12 600GB 6G SAS 15K LFF Dual Port HDD 7.2TB Bundle	AW523A
	HP D2600 w/12 3TB 6G SAS 7.2K LFF Dual port MDL HDD 36TB Bundle	QK765A
	HP D2600 w/6 3TB 6G SAS 7.2K LFF Dual port MDL HDD 18TB Bundle	QK766A
	HP D2600 w/12 2TB 3G SATA 7.2K LFF HDD 24TB Bundle	BK765A
	HP D2600 w/12 2TB 6G SAS 7.2K LFF DP MDL HDD 24TB Bundle	BK766A
	HP D2600 w/6 2TB 6G SAS 7.2K LFF DP MDL HDD 12TB Bundle	BK782A
	HP D2600 w/12 1TB 6G SAS 7.2K LFF Dual Port Midline HDD 12TB Bundle	BV899A
	HP D2600 w/12 4TB 6G SAS 7.2K LFF Dual Port MDL HDD 48TB Bundle	E7W32A

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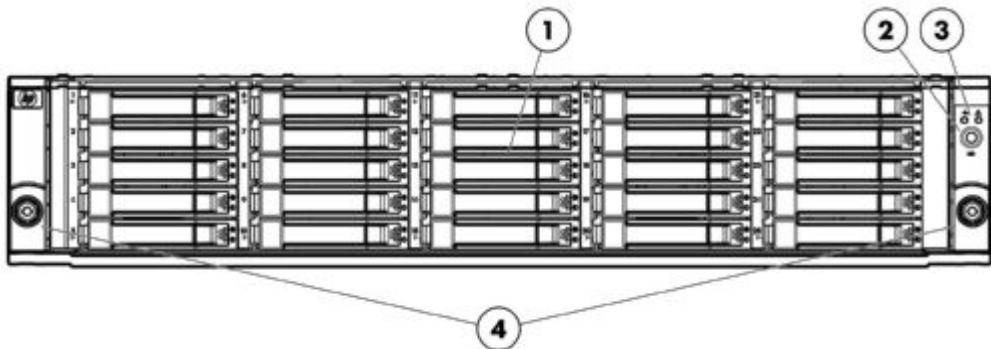
D2700 + Hard Drive Bundles	HP D2700 w/25 146GB 6G SAS 15K SFF Dual Port HDD 3.6TB Bundle	AW524A
	HP D2700 w/25 300GB 6G SAS 10K SFF Dual Port HDD 7.5TB Bundle	AW525A
	HP D2700 w/25 300GB 6G SAS 15K SFF Dual Port HDD 7.5TB Bundle	QW957A
	HP D2700 w/25 450GB 6G SAS 10K SFF Dual Port HDD 11.2TB Bundle	BK767A
	HP D2700 w/25 600GB 6G SAS 10K SFF Dual Port HDD 15TB Bundle	BK768A
	HP D2700 w/10 600GB 6G SAS 10K SFF Dual Port HDD 6TB Bundle	BK783A
	HP D2700 w/25 900GB 6G SAS 10K SFF Dual port HDD 22.5TB Bundle	QK771A
	HP D2700 w/10 900GB 6G SAS 10K SFF Dual port HDD 9TB Bundle	QK772A
	HP D2700 w/25 1TB 6G SAS 7.2K SFF Dual port MDL HDD 25TB Bundle	QK769A
	HP D2700 w/10 1TB 6G SAS 7.2K SFF Dual port MDL HDD 10TB Bundle	QK770A



HP D2600 Disk Enclosure

Front panel LEDs and buttons

- 1. Disk drives
- 2. UID push button and LED
- 3. Enclosure LEDs
- 4. Rack-mounting thumb screw

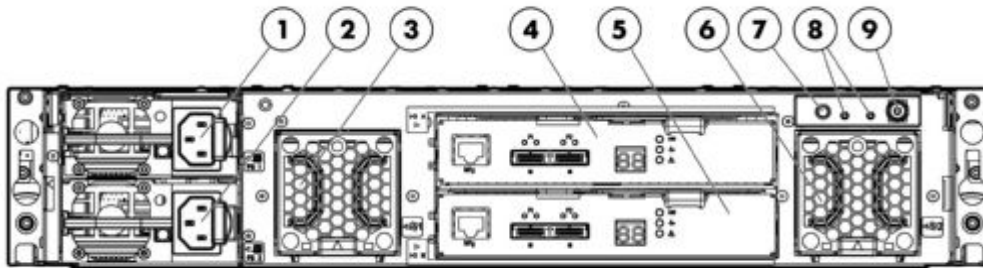


HP D2700 Disk Enclosure

Front panel LEDs and buttons

- 1. Disk drives
- 2. UID push button and LED
- 3. Enclosure LEDs
- 4. Rack-mounting thumb screw

Product Highlights



Rear Panel components

- | | |
|-------------------|----------------------------|
| 1. Power Supply 1 | 6. Fan 2 |
| 2. Power Supply 2 | 7. Rear UID push button |
| 3. Fan 1 | 8. Enclosure LEDs |
| 4. I/O Module A | 9. Power on/standby button |
| 5. I/O Module B | |

At a Glance

Affordable, low cost Storage

- Purchase only what you need today and avoid up-front costs. Modular platform provides investment protection and by purchasing only what is needed today, allows for growth as storage requirements evolve. Buying storage only when needed simplifies planning and relieves budget pressures.
- D2700: Maximum storage capacity of 30 TB SAS (1.2 TB SAS), 25 TB SAS MDL (1TB SAS MDL) or SATA (1TB SATA MDL) per enclosure scalable to 240 TB SAS, 200 TB SAS MDL or SATA (dependent on the Smart Array Controller). D2700 also supports SAS SLC and MLC Solid State Drives (SSD) . Number of Solid State drives is limited to twenty five (25) SSDs per controller.
- D2600: Maximum storage capacity of 7.2 TB SAS (600GB SAS) or 48 TB SAS MDL or SATA MDL (4TB SAS or SATA HDD) per enclosure scalable to 57.6 TB SAS, or 384 TB SAS MDL or SATA MDL.
- Enterprise-class dual port SAS or archival-class SATA drives as the need and budget dictates

Flexible/Scalable

- Grow storage capacity easily by attaching up to four D2600 enclosures from a single Controller port, for expansion of up to 8 enclosures or 96 drives, allowing for room to grow as storage demands increase
- Grow storage capacity easily by attaching up to two D2700 enclosures from a single Controller port, for expansion of up to 4 enclosures or 100 drives, allowing for room to grow as storage demands increase. (Smart Array Controllers P411 & P812)
- With the new Smart Array P421, P431 and P822 Controllers grow your storage capacity easily by attaching up to four (4) D2700 enclosures from a single Controller port, for expansion of up to eight (8) enclosures or 200 drives, allowing for room to grow as storage demands increase
- Smart Array Controllers P421 and P822 support the mixing of the D2600 and the D2700 for expansion, Supports four (4) D2600 and four (4) D2700 (4xLFF and 4xSFF) allowing for expansion up to 148 drives. Flexibility to mix and match SAS and SATA drives in the same enclosure

Easy to Manage

- Hassle free expansion - little IT expertise required.
- Compatible with the latest HP Smart Array SAS controllers (P812, P411, P212, P222, P421, P431, P822, P711m, P721m, P731m).
- Compatible with HP H221 and H222 Host Bus Adapters (HBAs)
- Familiar ProLiant management tools provided via the Smart Controller - SIM, ACU, ORCA.
- Easy removal of parts provides better serviceability.

High performance 6Gb SAS host connectivity

- 6Gb SAS host connectivity enables a higher data transfer rate.
- End-to-end 6 Gb SAS connectivity ensures a high performance storage solution using a P212, P411, P812, P222, P421, P431, P822, P711m, P721m or the P731m Smart Array controller and the D2000 enclosures. D2600/D2700 is also supported with the HP H221 and the H222 Host Bus adapters (HBA).
- SAS disk enclosure support for c-Class BladeSystem utilizing the recently introduced HP 6Gb SAS BL Switch with the P711m and P721m Smart Array Controllers.
- Since storage is contained within the rack, latency is reduced as data does not travel over large distances.

HP reliability

- Deploy with confidence. HP offers a complete end-to-end storage solution including the D2000 storage enclosures, Smart Array P212, P411, P812, P222, P421, P431, P822, P711m, P721m or the P731m Controllers and HP ProLiant Servers
- Familiar Smart Array technology of the P212, P411, P812, P222, P421, P431, P822, P711m P721m and the P731m Controllers enable support for RAID levels 0, 1, 1+0, 5 and RAID 6 with ADG, 50 and 60. Optional battery-backed write cache.
- Advanced Data Guarding (RAID 6): This is the highest level of fault tolerance. It allocates two sets of parity data across drives and allows simultaneous write operations. This level of

At a Glance

fault tolerance can withstand two simultaneous drive failures without downtime or data loss.

- Distributed Data Guarding (RAID 5): This allocates parity data across multiple drives and allows simultaneous write operations.
- Receive pre-failure alerts with HP SIM. When drives installed in D2000 disk enclosures are used in conjunction with the P212, P411, P812, P222, P421, P431, P822, P711m, P721m and the P731m Smart Array Controller and Systems Insight Manager, the Smart Array firmware in HP hard drives enables extensive fault prediction capabilities. If potential problems develop in one of the drives, the Smart Array Controller, Systems Insight Manager and/or Smart hard disk drive lets you know in advance so you can have the drive replaced, before it fails, under warranty.
- Remove / replace/ add components when system is running without service disruption with hot Plug drives, power and cooling
- Redundant power and cooling provides increased reliability as failure of a power supply or fans does not interrupt system functioning
- Dual domain SAS creates redundant pathways from servers to storage devices. The redundant paths created by these configurations reduce or eliminate single points of failure within the storage network. This provides increased levels of high availability with redundant paths from the controller to the drives. Dual domain SAS implementations make it possible to tolerate host bus adapter (HBA) failure, external cable failure, expander failure, failure in a spanned disk (JBOD) environments.

D2000 Enclosure Components

HP D2000 Disk Enclosures

The HP D2000 Disk Enclosures (hereafter referred to as "D2000") is a family of disk drive storage enclosure with 6 Gb SAS host connectivity. The D2000 is a 2U direct attach, external storage solution designed for small to medium size deployments or remote locations. These enclosures deliver industry-leading availability, storage density, and upgradeability to meet customers' demanding and growing storage needs. The D2000 delivers the ideal mix of low-cost and high capacity, for minimum I/O workloads such as reference data, archival, and disk-to-disk backup.

High Levels of Storage Density, Data Protection, and Functionality

- **Storage Capacity** - The SFF D2700 disk enclosure supports up to 25 (twenty five) 6Gb SFF SAS drives for a maximum capacity of 30 TB with 6G 1.2 TB SAS drives or 25 TB with 1 TB 6G SAS MDL or 1 TB 3G SATA MDL drives. D2700 also supports SAS SLC and MLC Solid State Drives. Number of Solid State drives is limited to twenty five (25) per controller. The LFF D2600 disk enclosure supports up to 12 (twelve) 6G LFF SAS drives for a maximum capacity of 7.2 TB with 6G 600GB SAS drives or 48 TB with 6G 4 TB SAS MDL or 3G 4TB SATA MDL drives.
- **Data Protection** - D2000 is designed for a high level of data protection. It includes redundant fans and power supplies (standard), and supports various RAID levels including RAID6 with ADG, 50 & 60 (depending upon the Smart Array Controller used)
- **Storage Manageability** - The D2000 features familiar configuration and management tools such as Array Configuration Utility (ACU) and HP Systems Insight Manager (SIM). Online Management Features include: Online Capacity Expansion, Online RAID Level Migration, Online Stripe Size Migration, Online Spares (Global)
- **Choice of Computing Platform** - The D2000 is designed and qualified for HP ProLiant servers
- **Advanced Data Guarding** (RAID 6 with ADG)
- **Fault Tolerance** - It allocates two sets of parity data across drives and allows simultaneous write operations. This level of fault tolerance can withstand two simultaneous drive failures without downtime or data loss.

Low Total Cost of Ownership

The modular, scalable design of the D2000 disk enclosure family provides an extremely flexible platform. You can buy what you need today and purchase additional capacity as your data storage needs grow, instead of making a large up-front investment. Additional drives and enclosures can be easily added as your needs dictate.

- **Cascading** - The D2700 has the unique capability of cascading up to two (2) enclosures behind a single SAS port (depends on the Smart Array Controller). The D2600 has the capability of cascading up to four (4) enclosures behind a single SAS port (depends on the Smart Array Controller).
- **Pre-Failure Warranty** - Drives installed in either the D2600 or the D2700 and monitored under HP Systems Insight Manager are supported by a Pre-Failure (replacement) Warranty (3 years for SAS drives). Pre-Failure Warranty allows for the replacement of designated drives in the D2600 or the D2700 before they actually fail when using HP Systems Insight Manager on HP ProLiant servers.
NOTE: [Some operating systems may not support all of these features.](#)
- **Integrated Configuration and Management Tools** - The D2000 family utilizes the standard, integrated set of Smart Array management and utility software for HP ProLiant Servers. These tools consistently lower the cost of ownership by reducing training and technical expertise necessary to install and maintain HP server storage.

D2000 Enclosure Components

D2000 Disk Enclosures D2600 Disk Enclosure The 2U array houses up to twelve (12) 3.5 inch Universal hot pluggable SAS drives.

Each D2600 includes the following standard components:

- D2600 base enclosure with redundant power supplies and fan modules
- Two (2) integrated 6Gb SAS IO Modules
- Rack mounting hardware kit
- Two (2) 0.5m mini-SAS cables
- Two (2) PDU interconnect cords

D2700 Disk Enclosure The 2U array houses up to twenty five (25) 2.5 inch Universal hot pluggable SAS drives.

Each D2700 includes the following standard components:

- D2700 base enclosure with redundant power supplies and fan modules
- Two (2) integrated 6Gb SAS IO Modules
- Rack mounting hardware kit
- Two (2) 0.5m mini-SAS cables
- Two (2) PDU interconnect cords

Smart Array P411 Features

- The HP Smart Array P411 is HP's PCI Express (PCIe) Serial Attached SCSI (SAS) RAID controller
- Low profile, half height card has 8 ports and utilizes DDR2-800 memory
- The P411 is ideal for RAID 0/1, 5, 1+0 & 5+0 and can be upgraded with the 512MB battery-backed write cache (BBWC) module and Smart Array Advanced via license key for RAID 6 & 6+0, 50 and 60
- For more information see:
http://h18004.www1.hp.com/products/quickspecs/13202_div/13202_div.html

Smart Array P212 Features

- The HP Smart Array P212 is HP's entry level PCI Express (PCIe) Serial Attached SCSI (SAS) RAID controller
- The Low Profile, Half height card has 8 ports and utilizes DDR2-266 memory
The P212 is ideal for RAID 0/1, 1+0 and can be upgraded with the 256MB battery-backed write cache (BBWC) module for RAID 5, 5+0
- For more information see:
http://h18004.www1.hp.com/products/quickspecs/13203_div/13203_div.html

Smart Array P812 Features

- The HP Smart Array P812 provides superior RAID performance, while delivering high levels of connectivity, reliability, and many advanced features
- Increased connectivity with 8 internal ports and 16 external ports.
- 1 G 72-bit wide DDR2-800 flash-backed write cache (FBWC).
- Smart Array Advanced Pack (SAAP) license key included standard
- For more information see:
http://h18004.www1.hp.com/products/quickspecs/13558_div/13558_div.html

D2000 Enclosure Components

Smart Array P222 Features

- Second Generation 6Gb/s SAS Controllers
- Eight (8) SAS physical links distributed across 1 internal x4/1 external x4 wide port connectors
- Read ahead caching
- Flash Backed Write-back Cache
- For more information see:
http://h18000.www1.hp.com/products/quickspecs/14227_div/14227_div.html

Smart Array P421 Features

- Second Generation 6Gb/s SAS Controllers
- The SA-P421 Controller supports up to 200 drives
- Eight (8) SAS physical links distributed across 2 external x4 miniSAS connectors.
- Write-back caching (with FBWC)
- For more information see:
http://h18000.www1.hp.com/products/quickspecs/14229_div/14229_div.html

Smart Array P431 Features

- The SA-P431 Controller supports up to 200 physical drives
- The SA-P431 Controller supports the HP D2600/D3600 and the HP D2700/D3700 Disk Enclosure (up to 8 daisy chained). Seamless upgrades to current or next generation HP high performance and high capacity Serial Attached SCSI Smart Array controllers.
- 12 Gb/s SAS technology delivers high performance and data bandwidth and contains full compatibility with 6 Gb/s SATA technology
- PCI Express Gen3 x8 link width delivers high performance and data bandwidth up to 8GT/s theoretical maximum bandwidth
- 2 GiBytes Flash Backed Write Cache (FBWC) provides read ahead caching and write back caching with indefinite write cache data retention in the case of unexpected power outage
- Standard on the P431 are RAID 6, RAID 60, RAID 1 ADM, Capacity Expansion, mirror split, recombine and rollback in Online Mode, Drive Erase, Performance Optimization-Degraded Reads and Read Coalescing, Move/Delete any individual LUNs
- The HP SSD Smart Path feature included in the Smart Array software stack improves SSD reads for all RAID levels and RAID 0 write operations by optimizing the path to each SSD attached to the controller
- The HP SmartCache feature (HP Smart Cache license is required on P431) is a controller-based read caching solution in a DAS environment that caches the most frequently accessed data ("hot" data) onto lower latency SSDs to dynamically accelerate application workloads
- Mix-and-match SAS and SATA hard drives lets you deploy drive technology as needed to fit your computing environment
- For more information see:
http://h18000.www1.hp.com/products/quickspecs/14625_div/14625_div.pdf

Smart Array P822 Features

- Second Generation 6Gb/s SAS Controllers
- The SA-P822 Controller supports up to 200 drives
- PCIe 3.0 with DDR3-1333 cache.
- Write-back caching (with FBWC)
- For more information:
http://h18000.www1.hp.com/products/quickspecs/14341_div/14341_div.html

D2000 Enclosure Components

Smart Array P711m Features

- Storage interface (SAS/SATA)
- Recovery ROM protects against ROM corruption.
- Smart Array PCIe mezzanine card that connects to a HP 6Gb/s SAS BL Switch through the c-Class enclosure high-speed mid-plane supporting shared SAS storage.
- Eight (8) 6Gb/s SAS physical links distributed across 4 external 2x ports to support up to 4 6Gb/s SAS Switches
- For more information see:
http://h18004.www1.hp.com/products/quickspecs/14035_div/14035_div.html

Smart Array P721m Features

- 6 Gb/s SAS technology delivers up to 600 MB/s per physical link
- Smart Array PCIe mezzanine card that connects to a HP 6Gb/s SAS BL Switch through the c-Class enclosure high-speed mid-plane supporting shared SAS storage.
- Four (4) 6Gb/s SAS physical links distributed across 2 external 2x ports to supports up to 2 6Gb/s SAS Switches
- Two (2) 6Gb/s SAS physical links distributed across 2 internal 1x ports to support up to 2 6Gb/s SAS HDDs
- Software consistency among all Smart Array family products: Array Configuration Utility, Systems Insight Manager, Array Diagnostic Utility (ADU) and SmartStart
- For more information see:
http://h18000.www1.hp.com/products/quickspecs/14404_div/14404_div.html

Smart Array P731m Features

- Eight (8) 6 Gb/s SAS physical links distributed equally across 4 external 2x ports to support up to four 6 Gb/s SAS Switches
- 6 Gb/s SAS technology delivers up to 600 MB/s theoretical bandwidth per physical lane
- RAID 0, 1, 10, 5, 50, 6, 60, 1 ADM, 10 ADM
- Recovery ROM protects against ROM corruption
- HP Smart Cache (HP Smart Cache license is not required on P731m with 2 GiBytes FBWC)
- HP SSD Smart Path
- PCI Express Gen3 x8 link
- 2 GiBytes Flash Backed Write Cache (FBWC) provides read ahead caching and write back caching with indefinite write cache data retention in the case of unexpected power outage.
- For more information see:
http://h18000.www1.hp.com/products/quickspecs/14626_div/14626_div.pdf

HP H221 Host Bus Adapter

- SAS technology delivers high performance and data bandwidth up to 6 Gb/s per physical link
- Mix-and-match SAS and SATA hard drives; deploy drive technology as needed
- PCIe x8 (4 GB/s bandwidth)
- PCIe 2.0 x8 capable
- For more information see:
http://h18004.www1.hp.com/products/quickspecs/14222_div/14222_div.html

HP H222 Host Bus Adapter

- SAS technology delivers high performance and data bandwidth up to 6 Gb/s per physical link
- Mix-and-match SAS and SATA hard drives; deploy drive technology as needed
- PCIe x8 (8 GB/s bandwidth)
- PCIe 3.0 x8 capable
- For more information see:
http://h18004.www1.hp.com/products/quickspecs/14337_div/14337_div.pdf

6Gb SAS BL Switch

- Hot Pluggable 6Gb/s SAS Switch for HP c-Class BladeSystem
- Sixteen internal blade bay ports containing 2x 6Gb/s SAS links



D2000 Enclosure Components

- Eight external Mini-SAS ports containing 4x 6Gb/s SAS links
- Use the embedded Virtual SAS Manager GUI or CLI interface to zone switch ports or drive bays to server bays.
- Supported by c3000 and c7000 c-Class BladeSystem enclosures
- For more information see:
http://h18000.www1.hp.com/products/quickspecs/13960_div/13960_div.html

RAID

Several fault tolerant configurations keep data available and servers running while drives are being replaced - RAID levels that offer fault tolerance include:

- **RAID 50 (RAID 5+0)** protects against failure of one drive (and failure of particular multiple drives). RAID 50 is a nested RAID method that uses RAID 0 striping across RAID 5 arrays. RAID 50 tolerates one drive failure in each spanned array without loss of data. RAID 50 requires less rebuild time than single RAID 5 arrays RAID 50 requires a minimum of six drives.
- **RAID 60 (RAID 6+0)** allows administrators to split the RAID 6 storage across multiple external boxes. RAID 60 requires a minimum of eight drives. RAID 60 is a nested RAID method that uses RAID 0 block-level striping across multiple RAID 6 arrays with dual distributed parity. With the inclusion of dual parity, RAID 60 will tolerate the failure of two disks in each spanned array without loss of data.
- **RAID 6 with ADG:** Allocates the equivalent of two parity drives across multiple drives and allows simultaneous write operations Distributed Data Guarding (RAID 5): Allocates parity data across multiple drives and allows simultaneous write operations. Drive Mirroring (RAID 1 and 1+0 Striped Mirroring): Allocates half of the drive array to data and the other half to mirrored data, providing two copies of every file.

Dual Domain (NEW)

- Dual domain SAS creates redundant pathways from servers to storage devices. The redundant paths created by these configurations reduce or eliminate single points of failure within the storage network. This provides increased levels of high availability with redundant paths from the controller to the drives. Dual domain SAS implementations make it possible to tolerate external cable failure, expander failure, failure in a spanned disk (JBOD) environments. Requires FW v 3.x

Common Slot Power Supply

The D2000 Disk enclosures use the 460W Common Slot Power supply.

HP's Common Slot Power supplies meet multiple Energy Efficiency Initiatives:

- 460W, 92%: Climate Savers Computing Initiative GOLD and ECOS Consulting 80PLUS GOLD

NOTE: The 80 PLUS program is a unique forum that unites electric utilities, the computer industry, and consumers in an effort to bring energy efficient technology solutions to the marketplace. 80 Plus independently tests power supply efficiency and publicly posts the results on 80Plus.org.

D2000 Disk Enclosure - Software Components

Utilities

The D2000 disk enclosure family utilizes a single, consistent set of utility software for storage and RAID management, setup, configuration and troubleshooting. This consistency reduces the cost of ownership by reducing the training and technical expertise necessary to install and maintain your HP server storage solution.

Configuration Utilities Array Configuration Utility (ACU) [On-line for Microsoft and Linux, Remote Web-Based & Off-line]
Option ROM Configuration for Arrays (ORCA), NetWare ACU
CPQONLIN ([only online support no Web based support](#))

Management/Health Utilities HP Systems Insight Manager

Array Configuration Utility (ACU)

- Provides a graphical view of HP drive array configurations.
- Easy to use Wizards for configuration.
- Web Based ACU supports On-Line, Remote Web Based and Off-line configuration.
- Supports on-line configuration for Microsoft, NetWare and Linux.

HP Systems Insight Manager (SIM)

- Powerful storage, server and server option management tool.
- Monitor storage from a remote central location.
- Browser based Insight Manager 7 provides full access from anywhere on the Intranet, eliminating the need for a dedicated Insight Manager console.

Supported Operating Systems

HP ProLiant Servers

NOTE: For information on supported Operating Systems, see the following Smart Array Quickspecs:

P212: http://h18004.www1.hp.com/products/quickspecs/13203_div/13203_div.html

P411: http://h18004.www1.hp.com/products/quickspecs/13202_div/13202_div.html

P812: http://h18004.www1.hp.com/products/quickspecs/13558_div/13558_div.html

P222: http://h18000.www1.hp.com/products/quickspecs/14227_div/14227_div.html

P421: http://h18000.www1.hp.com/products/quickspecs/14229_div/14229_div.html

P431: http://h18000.www1.hp.com/products/quickspecs/14625_div/14625_div.pdf

P822: http://h18004.www1.hp.com/products/quickspecs/14341_div/14341_div.html

H221: http://h18004.www1.hp.com/products/quickspecs/14222_div/14222_div.html

H222: http://h18004.www1.hp.com/products/quickspecs/14337_div/14337_div.pdf

HP P2000 G3 FC Modular Smart Array System

NOTE: For up to date compatibility, see the following URL for complete Smart Array Controller compatibility and support information:

<http://h18006.www1.hp.com/products/servers/proliantstorage/arraycontrollers/index.html>

HP Integrity Servers

HP-UX 11iv3

Microsoft Windows 2008 R2

NOTE: HP Integrity Servers supported: rx3600, rx6600, rx2600, rx2800i2, rx7640, rx8640, Superdome (only the versions that support PCI-e cards)

HP BladeSystem Servers

NOTE: For Information on Supported Operating Systems, see the following Smart Array Quickspecs:

P711m: http://h18004.www1.hp.com/products/quickspecs/14035_div/14035_div.html

P721m: http://h18000.www1.hp.com/products/quickspecs/14404_div/14404_div.html

P731m: http://h18000.www1.hp.com/products/quickspecs/14626_div/14626_div.pdf

Service and Support, HP Care Pack, and Warranty Information

Warranty

Three-year limited parts only warranty, including hardware diagnostic support, pre-failure warranty (coverage of hard drives, memory and processors). The warranty is fully supported by HP Services and a worldwide network of resellers and service providers. In addition 90-day's getting started software telephone support may be covered under the warranty or available for an additional fee. Enhancements to warranty services are available through HP Care Pack services.

NOTE: The D2000 family has a limited 3 year parts only warranty. SAS and Solid State drives have 3 year warranty. SAS MDL and SATA MDL, Drives have 1 year warranty.

The D2600/D2700 has been designed with customer self repairable parts to minimize repair time and provide greater flexibility in performing defective parts replacement. Refer to HP's limited warranty Statement and parts replacement instructions for further details.

<http://h18006.www1.hp.com/products/storageworks/warranty.html>

Service and Support **Services to accelerate time to results**

HP Storage Services bring you a rich portfolio of consulting and support services designed to add value to our core storage products and solutions. We have the know-how and experience to put storage 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 optimize your enterprise. Choose from services aligned to our storage product offerings and lifecycle. From mission-critical onsite services to innovative web-based remote support, you choose the precise level of attention and support your business demands.

Discover, plan, and design

Choose from a rich portfolio of services to make the most of HP D2000 Disk Enclosures (Rockford - PL LL), so you can efficiently and affordably consolidate, manage, and extract value from unstructured data.

HP Services can help you discover needs and create a plan for simplifying the environment reducing risk, and maximizing your storage investments

HP Storage Efficiency Analysis - The HP Storage Efficiency Analysis provides customers with a view of their storage infrastructure and operating environment; highlighting recommendations for improvements. The report provides extensive insight about the existing storage environment, opportunities for efficiency gains, asset aging and replacement through interaction with key decision makers

<http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA3-6727ENW.pdf>

HP Storage Impact Analysis (SIA): The HP Storage Impact Analysis service provides a 2-4 week discovery engagement with executive summary presentation. The goal of this service is to help provide customers guidance on storage related issues and develop remediation plans.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA4-1174ENW.pdf>

HP Storage Modernization Service: The HP Storage Modernization service is a 4-6 week service that defines the customers envisioned target storage environment based on a proven solution design methodology. HP architects will quickly perform tool-assisted automatic discovery and facilitate a two-day strategy workshop with all key stakeholders involved in the storage infrastructure initiative

<http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA3-4620ENW.pdf>

Deploy and integrate

We can help you configure, set up, and efficiently use your HP D2000 Disk Enclosures (Rockford - PL LL), as well as help migrate data, improve capacity utilization, and establish information management standards used across backup, replication, and archiving needs.

HP MSA/P2000 Family Disk Array Installation and Startup Service - Implement right from the start, as HP experts install, test, and configure your hardware and software onsite. We deliver a

Service and Support, HP Care Pack, and Warranty Information

tailored storage deployment properly integrated into your environment.

HP Storage Data Migration Services - End-to-end data migration service providing seamless discovery, assessment, planning, and design, completely customizable to your organization's storage area network or network attached storage environment and using innovative software to help you migrate to HP storage quickly and efficiently.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA3-0774ENW.pdf>

HP Storage and Data Residency Service - Strategic augmentation of your current environment with HP resources who become your trusted advisor to provide answers that are right for your storage and backup environment. <http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA3-9481ENW.pdf>

HP Proactive Select - A flexible way to purchase services to fit your environment with an extensive menu of HP Proactive Select event and technical services, such as onsite firmware upgrades, health checks, assessments, and education.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA2-3842ENW.pdf>

Operate and support

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.

HP Proactive Care 24x7 - Hardware and software support services designed specifically for your technology with rapid access to Advanced Solution Center Specialists plus firmware and software management and best practice advice <http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA3-8855ENW.pdf>

HP Proactive Care Personalized Support - An option-if you have HP Proactive Care- to bring increased personalization of the Proactive Care support experience through the assignment of an Account Service Manager (ASM) who provides IT best practice advice to help address IT issues and projects. <http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA4-3446ENW.pdf>

HP Foundation Care 24x7 Service - HP Foundation Care 24x7 connects you to HP 24 hours a day, seven days a week for assistance on resolving issues - hardware onsite response within four hours and software call back within two hours after opening your case. Three years' coverage recommended with HP Care Pack Service.

HP Education Services - Comprehensive training for new, as well as experienced, storage administrators designed to expand your skills and keep you up to speed with the latest storage and virtualization technology from HP Storage. <http://education.hp.com/curr-storsan.htm>

Optimized Care -

Delivers the highest levels of performance and stability through deployment and proactive management practices

Choose from three levels of operate and support care

HP Proactive Care 24x7-Plus, 20 credits per year

Additional options -HP Proactive Care Personalized Support (once per Proactive Care support new environment), an additional day of HP Personalized Support, and 10 additional HP Proactive Select credits per year

Standard Care -

maintains high level of uptime, along with expert help to cut the cost and complexity of implementation and support

HP Proactive Care 24x7-Plus, 10 credits per year

Additional options -HP Proactive Care Personalized Support (once per Proactive Care support new environment), an additional day of HP Personalized Support, and 10 additional HP Proactive Select credits per year



Service and Support, HP Care Pack, and Warranty Information

Basic Care - Minimum recommended support

HP Support Plus 24- Plus, 10 credits per year

Additional options - 10 HP Proactive Select credits per year

Remote Support Automation

HP Automation provides 24x7 coverage, proactive problem prevention, accurate problem diagnosis and faster problem resolution, as well as interactive support portals and tools. This is an integral, and cost-free, part of your HP support relationship and we are continually investing in additional cutting-edge capabilities to make it better.

For more information

www.hp.com/services/storage

To learn more on HP Storage Services, please contact your HP sales representative or HP Authorized Channel Partner

HP Care Pack Services are sold by HP and HP Authorized Service Partners:

- Services for customers purchasing from HP or an enterprise reseller are quoted using HP order configuration tools.
- Customers purchasing from a commercial reseller can find HP Care Pack Services at: www.hp.com/go/lookuptool

Configuration Information

Step 1: Base Configuration

Model	Model Description	Part Number
D2600	HP D2600 Disk Enclosure	AJ940A
D2600 6G SAS Dual Port drives bundle	HP D2600 w/12 600GB 6G SAS 15K LFF Dual Port HDD 7.2TB Bundle	AW523A
D2600 6G SAS Dual Port MDL drives bundle	HP D2600 w/12 4TB 6G SAS 7.2K LFF Dual Port MDL HDD 48TB Bundle	E7W32A
	HP D2600 w/12 3TB 6G SAS 7.2K LFF Dual port MDL HDD 36TB Bundle	QK765A
	HP D2600 w/6 3TB 6G SAS 7.2K LFF Dual port MDL HDD 18TB Bundle	QK766A
	HP D2600 w/12 2TB 6G SAS 7.2K LFF DP MDL HDD 24TB Bundle	BK766A
	HP D2600 w/6 2TB 6G SAS 7.2K LFF DP MDL HDD 12TB Bundle	BK782A
	HP D2600 w/12 1TB 6G SAS 7.2K LFF Dual Port Midline HDD 12TB Bundle	BV899A
D2600 3G SATA Port drives bundle	HP D2600 w/12 2TB 3G SATA 7.2K LFF HDD 24TB Bundle	BK765A
D2700	HP D2700 Disk Enclosure	AJ941A
D2700 6G SAS Dual Port drives bundle	HP D2700 w/25 146GB 6G SAS 15K SFF Dual Port HDD 3.6TB Bundle	AW524A
	HP D2700 w/25 300GB 6G SAS 10K SFF Dual Port HDD 7.5TB Bundle	AW525A
	HP D2700 w/25 300GB 6G SAS 15K SFF Dual Port HDD 7.5TB Bundle	QW957A
	HP D2700 w/25 450GB 6G SAS 10K SFF Dual Port HDD 11.2TB Bundle	BK767A
	HP D2700 w/25 600GB 6G SAS 10K SFF Dual Port HDD 15TB Bundle	BK768A
	HP D2700 w/10 600GB 6G SAS 10K SFF Dual Port HDD 6TB Bundle	BK783A
	HP D2700 w/25 900GB 6G SAS 10K SFF Dual port HDD 22.5TB Bundle	QK771A
	HP D2700 w/10 900GB 6G SAS 10K SFF Dual port HDD 9TB Bundle	QK772A
D2700 6G SAS Dual Port MDL drives bundle	HP D2700 w/25 1TB 6G SAS 7.2K SFF Dual port MDL HDD 25TB Bundle	QK769A
	HP D2700 w/10 1TB 6G SAS 7.2K SFF Dual port MDL HDD 10TB Bundle	QK770A

Configure to Order Program Information

The D2600/D2700 models and options may or may not be factory installed in a rack with add-on controllers, and hard drives. The D2600/D2700 enclosures may be integrated with ProLiant servers or as standalone storage.

Model	Model Description	Part Number
D2600	HP D2600 Disk Enclosure	AJ940A-#0D1
D2700	HP D2700 Disk Enclosure	AJ941A-#0D1

Configuration Information

Step 2: Array Controllers

	Description	Part Number
Smart Array Controllers Supported (Single Domain)	HP ProLiant Servers	
	HP Smart Array P812/1G FBWC 2-ports Int/4-ports Ext PCIe x8 SAS Controller	487204-B21
	HP Smart Array P411/1G FBWC 2-ports Ext PCIe x8 SAS Controller	572531-B21
	HP Smart Array P411/256 2-ports Ext PCIe x8 SAS Controller	462830-B21
	HP Smart Array P411/512 BBWC 2-ports Ext PCIe x8 SAS Controller	462832-B21
	HP Smart Array Advanced Pack including 1yr 24x7 Technical Support and Updates Single Server License	516471-B21
	HP Smart Array P212/256 1-ports Int/1-ports Ext PCIe x8 SAS Controller	462834-B21
	HP Smart Array P222/512 FBWC 6Gb 1-port Int/1-port Ext SAS Controller	631667-B21
	HP Smart Array P421/1GB FBWC 6Gb 2-ports Ext SAS Controller	631673-B21
	HP Smart Array P421/2GB FBWC 6Gb 2-ports Ext SAS Controller	631674-B21
	HP Smart Array P822/2GB FBWC 6Gb 2-ports-Int/4-ports Ext SAS Controller	615418-B21
NOTE: Firmware version 2.0 or higher required on the listed Smart Array Controllers		

NOTE:

- Smart Array Controller P421 supports up to 200 drives for D2700 only
 - Up to eight (8) D2600 can be cascaded for the P421 with a depth of 4 on each chain, for a total of 96 drives
 - Up to eight (8) D2700 can be cascaded for the P421 with a depth of 4 on each chain, for a total of 200 drives
- Smart Array Controller P421 supports the mixing of the D2600 and the D2700 for expansion
 - Supports eight (8) D2600 and/or D2700 allowing for expansion up to 148 drives.

Smart Array Controllers Supported (Single Domain)	HP Integrity Servers	
	HP Integrity Smart Array P411/256 2-port External PCIe 6Gb SAS Controller	AM311A
	HP Integrity Smart Array P812/1GB PCIe SAS Controller	AM312A
NOTE: Supported for rx2660, rx2800i2, rx3600, rx6600 rx7640, rx8640 and Superdome on HP-UX11iv3, Microsoft Windows Server 2008 SP2 for Integrity and Microsoft Windows Server R2 for Integrity.		



Configuration Information

Smart Array Controllers Supported (Dual Domain)	HP ProLiant & Integrity Servers	
	HP Smart Array P812/1G FBWC 2-ports Int/4-ports Ext PCIe x8 SAS Controller	487204-B21
	HP Smart Array P411/1G FBWC 2-ports Ext PCIe x8 SAS Controller	572531-B21
	HP Smart Array P411/256 2-ports Ext PCIe x8 SAS Controller	462830-B21
	HP Smart Array P411/512 BBWC 2-ports Ext PCIe x8 SAS Controller	462832-B21
	HP Smart Array P421/1GB FBWC 6Gb 2-ports Ext SAS Controller	631673-B21
	HP Smart Array P421/2GB FBWC 6Gb 2-ports Ext SAS Controller	631674-B21
	HP Smart Array P431/2GB FBWC 6Gb 2-ports Ext SAS Controller	698531- B21
	HP Smart Array P431/4GB FBWC 6Gb 2-ports Ext SAS Controller	698532- B21
	HP Smart Array Advanced Pack 2.0 No Media 1 Server 1yr 24x7 Support Software	
HP Integrity Smart Array P812/1GB PCIe SAS Controller		AM312A

NOTE:

- Requires DP SAS or SAS DP MDL drives
- Up to eight (8) D2600 or four (4) D2700 enclosures can be cascaded in a dual domain configuration behind a P411 or P812 Smart Array Controllers
- Dual Domain configuration with:
 - P411 - Requires HP Smart Array Advanced Pack including 1yr 24x7 Technical Support and Updates Single Server License (516471-B21)
- Even though the P812 has two additional ports the number of drives supported by the Smart array controller is limited to 108. Drive count is per controller, so behind the P812 even though there are 4 ports the maximum enclosure supported in a Dual Domain configurations is (8) D2600 - 96 drives or (4) D2700 - 100 drives.
- Up to eight (8) D2600 or eight (8) D2700 enclosures can be cascaded in a dual domain configuration behind a P421 or P822 Smart Array Controllers
- Drive count is per controller, so behind the P421, P431 or the P822 Smart Array Controllers the maximum enclosure supported in a Dual Domain configuration is (8) D2600 - 96 drives or (8) D2700 - 200 drives
- **Smart Smart Array Controllers P421 and the P822 support the mixing of the D2600 and the D2700 for expansion**
 - **Supports four (4) D2600 and four (4) D2700 (4xLFF and 4xSFF) allowing for expansion upto 148 drives.**
- Integrity Servers - Supported for rx2660, rx2800i2, rx3600, rx6600 rx7640, rx8640 and Superdome on HP-UX11iv3, Microsoft Windows Server 2008 SP2 for Integrity and Microsoft Windows Server R2 for Integrity

HP Host Bus Adapters (HBAs)	HP H221 Host Bus Adapter	650931-B21
	HP H222 Host Bus Adapter	650926-B21

Smart Array Controllers /Switches	BladeSystem Servers	
	HP Smart Array P711m/1G 6Gb FBWC 4-ports Ext Mezzanine SAS Controller	513778-B21
	HP Smart Array P721m/2GB FBWC 6Gb 4-ports Ext Mezzanine SAS Controller	650072-B21
	HP Smart Array P731m/2GB FBWC 6Gb 4-ports Ext Mezzanine SAS Controller	698535-B21
	HP 6Gb SAS Switch Single Pack for HP BladeSystem c-Class	BK763A
	HP 6Gb SAS Switch Dual Pack for HP BladeSystem c-Class	BK764A
NOTE: D2600/D2700 6Gb SAS BL Switch support requires Firmware version 1.34.		

Configuration Information

Step 3: Choose HP ProLiant Servers/MSA Arrays/HP Integrity Servers

HP ProLiant Server Compatibility	<p>HP ProLiant Servers: For up to date compatibility, see the following URL for complete Smart Array P411, P421, P431, P212, P812, P221, P822, P711m, P721m, P731m Controller and HBA H221, H222 compatibility and support information:</p> <p>http://h18004.www1.hp.com/products/servers/proliantstorage/arraycontrollers/index.html</p>
Array Compatibility	<p>HP P2000 G3 FC Modular Smart Array System</p> <p>NOTE: For up to date compatibility, see the following URL for complete Smart Array Controller compatibility and support information:</p> <p>http://h18006.www1.hp.com/products/servers/proliantstorage/arraycontrollers/index.html</p>
HP Integrity Server Compatibility	<p>HP Integrity Servers supported:</p> <p>HP Integrity Server rx2660 with combination PCIx/PCIe riser only</p> <p>HP Integrity Server rx3600 with combination PCIx/PCIe backplane only</p> <p>HP Integrity Server rx6600 with combination PCIx/PCIe backplane only</p> <p>HP integrity Server rx7640 with combination PCIx/PCIe only</p> <p>HP integrity Server rx8640 with combination PCIx/PCIe only</p> <p>HP integrity Server sx2000 with combination PCIx/PCIe only</p> <p>NOTE: HP Integrity Server home:</p> <p>www.hp.com/products1/serverconnectivity/support_matrices.html</p>
HP BladeSystem Server Compatibility - P711m Controller	<p>HP Blade Systems supported</p> <p>BL280c/BL420c</p> <p>BL460c</p> <p>BL465c</p> <p>BL490c</p> <p>BL620c</p> <p>BL680c</p> <p>BL685c</p> <p>c3000</p> <p>c7000</p> <p>BL860</p> <p>BL870</p> <p>BL890</p>
HP BladeSystem Server Compatibility - P721m Controller	<p>HP Blade Systems supported (P721m Controller) - Gen8 BladeSystems servers only</p> <p>HP ProLiant BL420c Gen8</p> <p>HP ProLiant BL460c Gen8</p> <p>HP ProLiant BL465c Gen8</p> <p>HP ProLiant BL685c Gen8</p> <p>NOTE: For updated list of BladeSystem servers supported, see:</p> <p>http://h18000.www1.hp.com/products/quickspecs/14404_div/14404_div.html</p> <p>NOTE: Some servers listed above may be discontinued.</p> <p>NOTE: For more information on internal vs external connections, refer to proper blade QuickSpecs visit: http://h18000.www1.hp.com/products/quickspecs/division/12534.html</p>
HP BladeSystem Server Compatibility - P731m Controller	<p>HP ProLiant BL420c Gen8</p> <p>HP ProLiant BL460c Gen8</p> <p>HP ProLiant BL465c Gen8</p> <p>HP ProLiant BL660c Gen8</p> <p>NOTE:</p> <p>For BL420c Gen8 & BL460c Gen8 - P731m is a Type B mezzanine .It can only be installed on mezzanine slot 2 which requires a second processor for functionality. The BL420c, BL465c, and BL460c Gen8 can only support one Type B mezzanine.</p> <p>For BL465 Gen8 - P731m is a Type B mezzanine and can only be installed on mezzanine slot 2</p> <p>For BL660c Gen8 - P731m is a Type B mezzanine. It can only be supported on mezzanine slot 2 and mezzanine slot 3. The BL660c Gen8 can support up to two Type B mezzanines.</p>

Configuration Information

NOTE: For more information on internal vs external connections, please refer to proper blade QuickSpecs visit: <http://h18000.www1.hp.com/products/quickspecs/division/12534.html>

Step 4: Choose Hard Drives

SAS Drives - LFF	D2600 - Large Form Factor (LFF)	
	HP 300GB 6G SAS 15K rpm LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	516814-B21
	HP 450GB 6G SAS 15K rpm LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	516816-B21
	HP 600GB 6G SAS 15K rpm LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	516828-B21
SAS Drives - SFF for D2700 behind MSA Arrays	D2700 - Small Form Factor (SFF) for expansion behind MSA Arrays - MSA 2040/P2000	
	NOTE: When ordering a D2700 as an expansion behind an existng P2000/MSA 2040 then order the following MSA hard drive SKUs	
	HP MSA 300GB 6G SAS 10K SFF(2.5-inch) Dual Port Ent 3yr Warranty Hard Drive	E2D55A
	HP MSA 450GB 6G SAS 10K SFF(2.5-inch) Dual Port Ent 3yr Warranty Hard Drive	E2D56A
	HP MSA 600GB 6G SAS 10K SFF(2.5-inch) Dual Port Ent 3yr Warranty Hard Drive	C8S58A
	HP MSA 900GB 6G SAS 10K SFF(2.5-inch) Dual Port Ent 3yr Warranty Hard Drive	C8S59A
	HP MSA 146GB 6G SAS 15K SFF(2.5-inch) Dual Port Ent 3yr Warranty Hard Drive	E2D54A
	HP MSA 300GB 6G SAS 15K SFF(2.5-inch) Dual Port Ent 3yr Warranty Hard Drive	C8S61A
	NOTE: When ordering a D2700 as an expansion behind an existng P2000/MSA 2040 then order the above MSA hard drive SKUs	
	D2700 - Small Form Factor (SFF) for expansion behind ProLiant servers	
SAS Drives - SFF for D2700 behind ProLiant servers	NOTE: When ordering a D2700 as a standalone to attach behind a ProLiant server order the following Hard drive SKUs	
	HP 300GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	507127-B21
	HP 450GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	581284-B21
	HP 600GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	581286-B21
	HP 900GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	619291-B21
	HP 1.2TB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	693648-B21
	HP 146GB 6G SAS 15K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	512547-B21
	HP 300GB 6G SAS 15K rpm SFF (2.5-inch) Hot Plug Enterprise 3yr Warranty Hard Drive	627117-B21
	NOTE: When ordering a D2700 as a standalone to attach behind a ProLiant server order the above Hard Drive SKUs	

Configuration Information

SAS Midline (MDL) - LFF	HP 1TB 6G SAS 7.2K rpm LFF (3.5-inch) Dual Port Midline 1yr Warranty Hard Drive	507614-B21
	HP 2TB 6G SAS 7.2K rpm LFF (3.5-inch) Dual Port Midline 1yr Warranty Hard Drive	507616-B21
	HP 3TB 6G SAS 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	625031-B21
	HP 4TB 6G SAS 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	693689-B21
SAS Midline (MDL) - SFF D2700 behind MSA Arrays		
	D2700 - Small Form Factor (SFF) for expansion behind MSA Arrays - MSA 2040/P2000	
	HP MSA 1TB 6G SAS 7.2K SFF (2.5-inch) Dual Port Midline 3yr Warranty Hard Drive	C8S62A
	NOTE: When ordering a D2700 as an expansion behind an existng P2000/MSA 2040 then order the above MSA Hard Drive SKUs	
SAS Midline (MDL) - SFF D2700 behind ProLiant servers		
	D2700 - Small Form Factor (SFF) for expansion behind ProLiant servers	
	HP 500GB 6G SAS 7.2K rpm SFF (2.5-inch) Dual Port Midline 1yr Warranty Hard Drive	507610-B21
	HP 1TB 6G SAS 7.2K rpm SFF (2.5-inch) Dual Port Midline 1yr Warranty Hard Drive	605835-B21
	NOTE: When ordering a D2700 as a standalone to attach behind a ProLiant server order the above Hard Drive SKUs	
SATA Drives - LFF		
	D2600 - Large Form Factor (LFF)	
	HP 1TB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	454146-B21
	HP 2TB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	507632-B21
	HP 3TB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	628059-B21
	HP 4TB 3G SATA 7.2k rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	694374-B21
SATA Drives - SFF		
	D2700 - Small Form Factor (SFF)	
	HP 500GB 3G SATA 7.2K rpm SFF (2.5-inch) Midline 1yr Warranty Hard Drive	507750-B21
	HP 1TB 3G SATA 7.2K rpm SFF (2.5-inch) Hot Plug Midline 1yr Warranty Hard Drive	625609-B21
	NOTE: SATA drives are single ported and therefore do not have a fail-over path intrinsic to their design. Only Dual Port (DP) SAS drives will work in the Dual Domain environment.	
Solid State Drives (SAS Performance-SFF)		
	HP 200GB 12G SAS High Endurance SFF 2.5-in Enterprise Performance 3yr Wty Solid State Drive	741148-B21
	HP 400GB 12G SAS High Endurance SFF 2.5-in Enterprise Performance 3yr Wty Solid State Drive	741153-B21
	HP 800GB 12G SAS High Endurance SFF 2.5-in Enterprise Performance 3yr Wty Solid State Drive	741157-B21
	HP 200GB 6G SAS SLC SFF (2.5-inch) Enterprise Performance 3yr Warranty Solid State Drive	632492-B21
	HP 400GB 6G SAS SLC SFF (2.5-inch) Enterprise Performance 3yr Warranty Solid State Drive	632494-B21
Solid State Drives	D2700 - Small Form Factor (SFF) for expansion behind MSA Array - MSA	

Configuration Information

(SAS ME- SFF) D2700 behind MSA 2040	2040	
	NOTE: When ordering a D2700 as an expansion behind an existng MSA 2040 then order the following MSA Hard Drive SKUs	
	HP MSA 800GB 6G SAS Main End SFF(2.5in) Ent Mainstream 3yr Wty Solid State Drive	C8R21A
	HP MSA 400GB 6G SAS Main End SFF(2.5in) Ent Mainstream 3yr Wty Solid State Drive	C8R20A
	HP MSA 200GB 6G SAS Main End SFF(2.5in) Ent Mainstream 3yr Wty Solid State Drive	C8R19A
Solid State Drives (SAS ME- SFF) D2700 behind ProLiant servers	NOTE: When ordering a D2700 as an expansion behind an existng MSA 2040 then order the above MSA Hard Drive SKUs	
	D2700 - Small Form Factor (SFF) for expansion behind ProLiant servers	
	NOTE: When ordering a D2700 as a standalone to attach behind a ProLiant server order the following Hard Drive SKUs	
	HP 800GB 6G SAS Mainstream Endurance SFF 2.5-in Enterprise Mainstream 3yr Warranty Solid State Drive	690823-B21
	HP 400GB 6G SAS Mainstream Endurance SFF 2.5-in ENT Mainstream 3yr Warranty Solid State Drive	690821-B21
	HP 200GB 6G SAS Mainstream Endurance SFF 2.5-in Enterprise Mainstream 3yr Warranty Solid State Drive	690819-B21
	HP 800GB 12G SAS Mainstream Endurance SFF 2.5-in Enterprise Mainstream 3yr Wty Solid State Drive	741144-B21
	HP 400GB 12G SAS Mainstream Endurance SFF 2.5-in Enterprise Mainstream 3yr Wty Solid State Drive	741140-B21
	HP 200GB 12G SAS Mainstream Endurance SFF 2.5-in Enterprise Mainstream 3yr Wty Solid State Drive	741136-B21
	NOTE: When ordering a D2700 as a standalone to attach behind a ProLiant server order the above Hard Drive SKUs	
	12G Solid State drives will function as 6G drives in the D2700	
	Number of drives is limited to twenty five (25) per controller.	
	Solid State Drive support in the D2700 is for direct attach storage only.	
	Solid State Drives have not yet been qualified on the MSA2000 G2 or the P2000 G3 arrays	
	SAS Solid State drives are dual path and dual domain.	
	Cascading is supported in both single and dual domain environments	

Step 5: Choose Rack Option

Refer to the HP Infrastructure products page for more information on HP racks and rack options:
<http://h18004.www1.hp.com/products/servers/platforms/rackandpower.html>

Configuration Information

Step 6: Choose Cables

Cable Options	Cables to be used for connecting the D2600/D2700 with the HP Smart Array P212, P411, P812, P222 & P421 Controllers and the D2700 to the P2000 G3 and MSA 2040 Modular Smart Array System	
	Mini SAS 4x 2M Cable All	407339-B21*
	Mini SAS 4x 4M Cable All	432238-B21*
	Mini SAS 4x 6M Cable All	432239-B21*
	Cables to be used for connecting D2600/D2700 with the Smart Array P431 (HD connector)	
	HP 0.5m External Mini SAS High Density to Mini SAS Cable	691971-B21
	HP 1.0m External Mini SAS High Density to Mini SAS Cable	716189-B21
	HP 2.0m External Mini SAS High Density to Mini SAS Cable	716191-B21
	HP 4.0m External Mini SAS High Density to Mini SAS Cable	716193-B21
	* #0D1 will appear after this part number on your sales order if factory integration is indicated.	

Power Cord Options	<p>If customers require a power cord other than the included PDU style cords, they can check the power cord matrix for the appropriate SKU. See the following power cord matrix for details www.hp.com/products/powercords.</p> <p>NOTE: An optional longer 2meter PDU power cable (C14 to C13 style connector) for customers who would like additional length for connections to existing power distribution modules located on the right side of the rack. This is purely optional as the included .7meter power cables will also reach the right sides of the rack. (D2700 power supplies are on the left side of the enclosures). If desired, the quantity to order is 1 AF573A HP RDNT 2m,10A, C13-C14 JMPR CORD</p>
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Technical Specifications

LED Indicators for HDDs	Online (bottom) Drive Failure/ID (top)	
LED Indicators on Front Panel	Heartbeat LED	
	Fault LED	
	UID button/LED	
LED Indicators on Rear Panel	I/O Module LED (2) identify/On/Fault; Port (2) Link good/ link fault	
	UID button/LED	
	Heartbeat LED	
	Fault LED	
	Power On/Standby button/system power LED	
	Fan LED	
	Power supply LED	
Host Interface	4 x wide SAS 6 Gb/s ports	
Maximum Number of Drives	Up to 12 3.5 inch (D2600) or 25 2.5 inch (D2700) SAS or SATA drives	
	Up to 25 2.5 inch (2700) Solid State Drives	
Temperature Range	Operating	50° to 95° F (10° to 35° C)
	Shipping	-40° to 150° F (-40° to 66° C) NOTE: Rated 1°C per 1000 feet of elevation to 10,000 ft.
Relative Humidity	Operating	10% to 90%
	Non-operating	Up to 95%
Input Power Requirements	Rated Input Voltage	100 to 240 VAC
	Rated Input Frequency	50 to 60 Hz
	Rated Input Current	2.68A at115 VAC typical, 4A Maximum
	Input Power (max @ 280VAC)	390W (D2600)/340W (D2700)
	Heat Dissipation (maximum)	1331/Btu/hr.1160.Btu/hr [NOTE: standard conversion from Watts to Btu/hr = 3.413 Btu/hr per Watt]
RAID Support	See Quickspecs for Smart Array Controllers P212, P411, P812, P222 & P421 http://h18004.www1.hp.com/products/servers/proliantstorage/arraycontrollers/index.html P2000 G3 FC Modular Smart Array System NOTE: For up to date compatibility, see the following URL for complete Smart Array Controller compatibility and support information: http://h18006.www1.hp.com/products/servers/proliantstorage/arraycontrollers/index.html	
Upgradeable Firmware	Yes, Offline only. Firmware updates available through hp.com	
Disk Drives and Enclosure Protocol Support	HP 3.5 inch (D2600) or 2.5 inch (D2700) SAS 6 Gb/s	
I/O Module	Connector Type	IPass (mini-SAS)
	Number of Ports	Two (one IN, other is OUT)
D2600/D2700 Disk Enclosure	2U Rack Form Factor	
	Dimensions (HxWxD)	3.47 x 17.99 x 22.3 in (8.8 x 45.0 x 56.7 cm)
	Weight (base unit)	38 lb (17.2 kg)
	Weight (with all LFF drives)	59.97 lb (27.2 kg)
	Weight (with all SFF drives)	54.90 lb (24.9 kg)

Technical Specifications

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For hard drives, 1 GB = 1 billion bytes. Actual formatted capacity is less.