QuickSpecs

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 or the P822 Controllers. On HP ProLiant and Integrity servers Dual Domain support is available for the HP Smart Array P411, P421, 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 P421Controller). 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 H222 Host Bus Adapter is 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 a new Smart Array Controller
  - HP Smart Array P731m/2GB FBWC 6Gb 4-ports Ext Mezzanine SAS Controller

Models

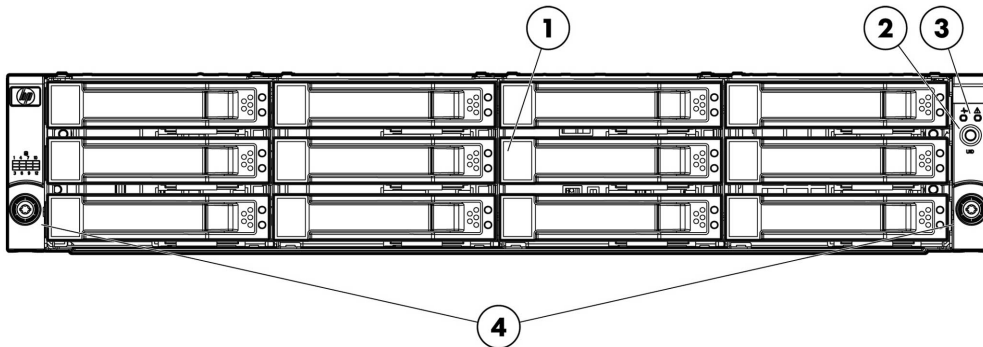|		
HP D2000 Disk Enclosures	HP D2600 Disk Enclosure	AJ940A
	HP D2700 Disk Enclosure	AJ941A

D2600 + Hard Drive Bundles	HP D2600 w/12 450GB 6G SAS 15K LFF Dual Port HDD 5.4TB Bundle	AW522A
	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 36 TB Bundle	QK765A
	HP D2600 w/6 3TB 6G SAS 7.2K LFF Dual port MDL HDD 18 TB Bundle	QK766A
	HP D2600 w/12 2TB 3G SATA 7.2K LFF HDD 24 TB Bundle	BK765A
	HP D2600 w/12 2 TB 6G SAS 7.2K LFF Dual Port MDL HDD 24 TB Bundle	BK766A
	HP D2600 w/6 2 TB 6G SAS 7.2K LFF Dual Port MDL HDD 12 TB Bundle	BK782A
	HP D2600 w/12 1TB 6G SAS 7.2K LFF Dual Port Midline HDD 12TB Bundle	BV899A
	HP D2600 w/6 450GB 6G SAS 15K LFF Dual Port Enterprise HDD 2.7TB Bundle	BV900A

Product Highlights

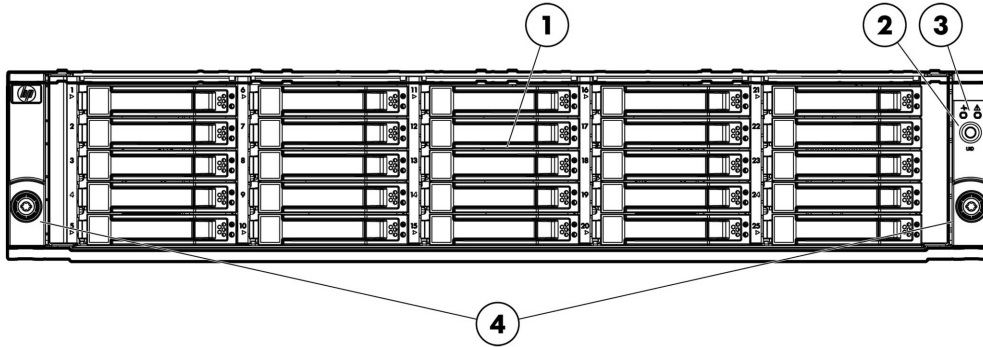| D2700 + Hard Drive Bundles		
	HP D2700 w/25 146GB 6G SAS 15K SFF Dual Port HDD 3.6TB Bundle	AW524A
	HP D2700 w/25 300GB 6G SAS 10K SFF Dual Port HDD 7.5TB Bundle	AW525A
	HP D2700 w/25 300 GB 6G SAS 15K SFF Dual port HDD 7.5TB Bundle	QW957A
	HP D2700 w/25 450GB 6G SAS10K SFF Dual Port HDD 11.2TB Bundle	BK767A
	HP D2700 w/25 600GB 6G SAS10K SFF Dual Port HDD 15TB Bundle	BK768A
	HP D2700 w/10 600GB 6G SAS10K SFF Dual Port HDD 6TB Bundle	BK783A
	HP D2700 w/25 900GB 6G SAS 10K SFF Dual port HDD 22.5 TB Bundle	QK771A
	HP D2700 w/10 900GB 6G SAS 10K SFF Dual port HDD 9 TB Bundle	QK772A
	HP D2700 w/25 500GB 6G SAS 7.2K SFF Dual Port MDL HDD 12.5TB Bundle	AW526A
	HP D2700 w/25 1TB 6G SAS 7.2K SFF Dual port MDL HDD 25 TB Bundle	QK769A
	HP D2700 w/10 1TB 6G SAS 7.2K SFF Dual port MDL HDD 10 TB Bundle	QK770A

HP D2600 Disk Enclosure

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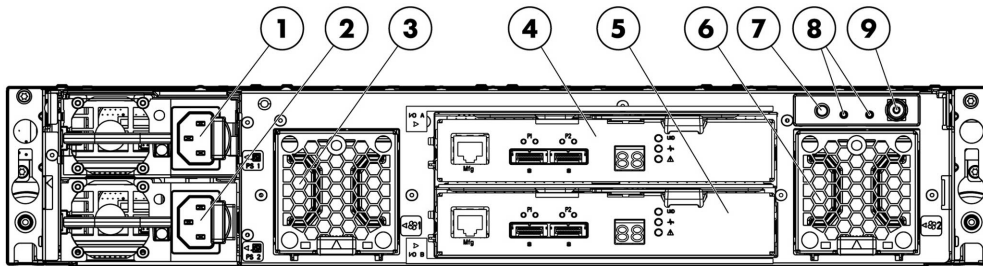4. Rack-mounting thumb screw

Product Highlights

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

Rear Panel components

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

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 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, P822, P711m, P721mand 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 P822, P711m, P721m or the P731m Smart Array controller and the D2000 enclosures. D2600/D2700 is also supported with the HP H221 or the H222 Host Bus adapter (HBA). • SAS disk enclosure support for c-Class BladeSystem utilizing the recently introduced HP 6Gb SAS BL Switch with the P711m, P721m and the P731m 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, P822, P711m, P721m, or the P731m Controllers and HP ProLiant Servers • Familiar Smart Array technology of the P212, P411, P812, P222, P421,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

At a Glance

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.

- 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, 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

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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

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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

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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 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
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

D2000 Enclosure Components

- 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 withindefinite 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_na/14337_na.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
- 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

D2000 Enclosure Components

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

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_na/14337_na.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

D2000 Disk Enclosure - Software Components

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

HP Care Pack Services: Packaged server and storage services for increased uptime, productivity and ROI

When you buy HP server and storage products and solutions, it's also a good time to think about what levels of support you may need. Our portfolio of service options reduce deployment and management worries while helping you get the most out of your server and storage investments. We take a holistic approach to your environment, bridging servers, blades, storage, software and network infrastructures with our packaged HP Care Pack Services for servers and storage.

Protect your business beyond warranty
When it comes to robustness and reliability, standard computing equipment warranties have matured along with technology. Good news that can also create problems stemming from depending on standard warranties designed to only protect against product defects and some downtime causes. Using a standard approach to warranty uplifts, such as HP Care Pack Services, helps reduce downtime risks and provides operational consistency for mission-critical and standard business computing.

HP Care Pack Services: Upgrading or extending standard server and storage warranties cost effectively

HP Care Pack Services offer a standard reactive hardware and software support services suite sold separately, or combined with our Support Plus and Support Plus 24 services. The portfolio also provides a combination of integrated proactive and reactive services, such as Proactive 24 Service and Critical Service. In addition with HP Proactive Select, you can acquire the specific proactive constancy and technical services. HP Proactive Select menu offers a broad set of service options that you can mix and match depending on your specific requirements. Proactive service options include offers for server, storage, network, SAN device, software, environment and education services.

HP server and storage lifecycle support services offers a full spectrum of customer care-from technology support to complex migrations to complete managed services. HP Factory Express provides customization, integration and deployment services for turnkey solutions. HP Education Services offer flexible, comprehensive training on to help your IT staff get the most out of your server and storage investments. HP Financial solutions extend innovative financing and cost-effective asset management programs-from purchase to equipment retirement.
Learn more: www.hp.com/services/servers and www.hp.com/services/storage

NOTE: Care Pack Services availability may vary by product and country.

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
http://www.hp.com/go/lookuptool

Service and Support, HP Care Pack, and Warranty Information

Recommended HP Care Pack Services for optimal satisfaction with your HP product.

3-Year HP Support Plus 24 For a higher return on your server and storage investment, HP Support Plus 24 provides integrated hardware and software support services designed specifically for your technology. Available 24x7, this 3-year combined reactive support option delivers onsite hardware support and over-the-phone software support around-the-clock. Leverage the full strength of HP Technology Services - customers can trust the services professionals at HP to work collaboratively with them, putting our strategic and technical know-how to work across their entire infrastructure.

- Improve uptime with responsive hardware and software services
- Enjoy consistent service coverage across geographically dispersed sites
- Update HP software at a predictable cost
- Increase customer satisfaction-with no interoperability gaps

http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-6638EEE

HP Proactive Select Service HP Proactive Select Service improves your IT performance and manageability through the use of cost effective flexible services. HP provides technical expertise and best practices to accelerate ROI of your technology investment. Selectable proactive services span a wide range of technology and process services - a flexible way to purchase proactive services that fit your particular environment and situation.

HP Proactive Select Service is technology agnostic and purchased in addition to your choice of underlying reactive support.

- Access to a list of flexible and customizable proactive service activities
- Enhance customers' in-house IT team with complementary assistance from HP
- Improved time to solution
- Reduce business risk and project costs by accessing HP specialists
- Simplify IT operational procedures by leveraging HP best practices

http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA2-3842ENN.pdf

Optional HP Care Pack Services that will enhance your HP product experience.

HP Entry Storage Data Migration Service for Windows

For customers who need to safely migrate Windows data within their TCP/IP networks with minimal impact to their operations:

You have a need to migrate data between Windows servers within your TCP/IP network. Or you have a need to migrate storage for your Windows servers. Or both. And you need to accomplish these migrations efficiently while minimizing risk at the same time.

HP Entry Storage Data Migration Service for Windows offers you a cost competitive and convenient way to accommodate data migration triggered by a need to refresh or consolidate storage, or to create different storage tiers. This service offers a migration cost in line with the costs of storage products in small and medium-sized storage environments. The service is delivered via a skilled HP service specialist with special consideration for data availability, integrity, and ongoing operational performance during the transfer process.

Service and Support, HP Care Pack, and Warranty Information

http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA2-4734ENW.pdf

eSupport	HP eSupport is a portfolio of technology-based services that assist you with managing your business environment - from the desktop to the data center.

Support Portal
The HP support portal provides one-stop access to the information, tools and services you need to manage the daily operations of your IT environment.

Features include:

- Access to self-solve tools (including search technical knowledge base)
- Efficient logging and tracking of support cases
- Collaboration with other business and IT professionals
- Download of patches and drivers
- Access to diagnostic tools
- Proactive notification of relevant information

Access to certain features of the support portal requires an HP service agreement. To access the support portal, visit: http://www.hp.com/support

HP Insight Remote Support software delivers secure remote monitoring and support for your HP Servers and Storage, 24 x 7, so you can spend less time solving problems and more time focused on your business. You can have your systems remotely monitored for hardware failure using secure technology that's been proven at thousands of companies around the world. In many cases, you can avoid problems before they occur. |
| **Customer Technical Training** | **HP Education Services**
In today's cost-conscious business environment, IT professionals, developers, consultants and users face an interesting challenge: how to keep up with the latest technologies and expand important skills while delivering profitable results on current projects. To help address this challenge, HP offers innovative training solutions that help keep you up-to-date on virtualization, server, storage, Insight Control, Citrix, Microsoft® and open source/Linux-related topics-while spending less time away from business-critical activities. |
| **HP Services Awards** | HP Technology Services continues to be recognized for service and support excellence by customers, partners, industry organizations and publications around the world. Recent honors and award reflect our services team's dedications, technical expertise, professionalism and uncompromising commitment to customer satisfaction. |
| **Additional Services Information** | To learn more on HP ProLiant servers, HP BladeSystem servers and HP storage products, contact your HP sales representative or HP Authorized Channel Partner. Or visit: www.hp.com/services/proliant or www.hp.com/services/bladesystem or http://www.hp.com/services/storage |

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 450GB 6G SAS 15K LFF Dual Port HDD 5.4TB Bundle	AW522A
	HP D2600 w/6 450GB 6G SAS 15K LFF Dual Port Enterprise HDD 2.7TB Bundle	BV900A
	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 3 TB 6G SAS 7.2K LFF Dual Port MDL HDD 36 TB Bundle	QK765A
	HP D2600 w/6 3 TB 6G SAS 7.2K LFF Dual Port MDL HDD 18 TB Bundle	QK766A
	HP D2600 w/12 2 TB 6G SAS 7.2K LFF Dual Port MDL HDD 24 TB Bundle	BK766A
	HP D2600 w/6 2 TB 6G SAS 7.2K LFF Dual Port MDL HDD 12 TB 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 24 TB 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/25 300 GB 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
	HP D2700 w/25 500GB 6G SAS 7.2K SFF Dual Port MDL HDD 12.5TB Bundle	AW526A

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 Advanced Pack 2.0 No Media 1 Server 1yr 24x7 Support Software	BC377A
	HP Smart Array P822/2GB FBWC 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 four (4) D2600 and four (4) D2700 (4xLFF and 4xSFF) allowing for expansion up to 148 drives.

	Description	Part Number
Smart Array Controllers Supported (Single Domain)	**HP Integrity Servers**	
	HP Integrity Smart Array P411/256 2-port External PCIe 6Gb SAS Controller	AM311A
	HP PCIe SAS SA P812 1G flashlight 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 PCIe SAS SA P812 1G flashlight 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 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

Configuration Information

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/2G FBWC Ctrlr	650072-B21
	HP Smart Array P731m/2GB FBWC 6Gb 4-ports Ext Mezzanine SAS Controller	698535-B21
	HP 6Gb SAS BL Switch - Single Pack for BladeSystems	BK763A
	HP 6Gb SAS BL Switch - Single Pack for BladeSystems	BK764A
	NOTE: D2600/D2700 6Gb SAS BL Switch support requires Firmware version 1.34.	

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

HP ProLiant Server Compatibility	HP ProLiant Servers: For up to date compatibility, see the following URL for complete Smart Array P411, P212, P812, P221, P221, P822, P711m, P721m, P731m Controller and HBA H221, H222compatibility and support information: http://h18004.www1.hp.com/products/servers/proliantstorage/arraycontrollers/index.html
Array Compatibility	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 Server Compatibility	**HP Integrity Servers supported**:
	HP Integrity Server rx2660 with combination PCIx/PCIe riser only
	HP Integrity Server rx3600 with combination PCIx/PCIe backplane only
	HP Integrity Server rx6600 with combination PCIx/PCIe backplane only
	HP integrity Server rx7640 with combination PCIx/PCIe only
	HP integrity Server rx8640 with combination PCIx/PCIe only
	HP integrity Server sx2000 with combination PCIx/PCIe only
	NOTE: HP Integrity Server home: www.hp.com/products1/serverconnectivity/support_matrices.html
HP BladeSystem Server Compatibility - P711m Controller	**HP Blade Systems supported** BL280c/BL420c BL460c BL465c BL490c BL620c BL680c BL685c c3000 c7000 BL860 BL870 BL890
HP BladeSystem Server Compatibility - P721m Controller	HP Blade Systems supported (P721m Controller) - Gen8 BladeSystems servers only HP ProLiant BL420c Gen8 HP ProLiant BL460c Gen8 HP ProLiant BL465c Gen8

Configuration Information

	HP ProLiant BL685c Gen8
	NOTE: For updated list of BladeSystem servers supported, see: http://h18000.www1.hp.com/products/quickspecs/14404_div/14404_div.html
	NOTE: Some servers listed above may be discontinued.
	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
HP BladeSystem Server Compatibility - P731m Controller	HP ProLiant BL420c Gen8 HP ProLiant BL460c Gen8 HP ProLiant BL465c Gen8 HP ProLiant BL660cGen8 **NOTE:** 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. For BL465 Gen8 - P731m is a Type B mezzanine and can only be installed on mezzanine slot 2 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. **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 rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	E2D55A
	HP MSA 450GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	E2D56A
	HP MSA 600GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	C8S58A
	HP MSA 900GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	C8S59A
	HP MSA 146GB 6G SAS 15K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	E2D54A
	HP MSA 300GB 6G SAS 15K rpm SFF (2.5-inch) Dual Port Enterprise 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	

Configuration Information

SAS Drives - SFF for D2700 behind ProLiant servers	**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 146GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	507125-B21
	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 3 yr 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	
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 rpm SFF (2.5-inch) Dual Port Midline 1yr 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

Configuration Information

	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 SLC- SFF)	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 (SAS ME- SFF) D2700 behind MSA 2040	**D2700 - Small Form Factor (SFF) for expansion behind MSA Array - MSA 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 Mainstream Endurance SFF 2.5-in Enterprise Mainstream 3yr Warranty Solid State Drive	C8R21A
	HP MSA 400GB 6G SAS Mainstream Endurance SFF 2.5-in ENT Mainstream 3yr Warranty Solid State Drive	C8R20A
	HP MSA 200GB 6G SAS Mainstream Endurance SFF 2.5-in Enterprise Mainstream 3yr Warranty Solid State Drive	C8R19A
	NOTE: When ordering a D2700 as an expansion behind an existng MSA 2040 then order the above MSA Hard Drive SKUs	
Solid State Drives (SAS ME- SFF) D2700 behind ProLiant servers	**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
	NOTE: When ordering a D2700 as a standalone to attach behind a ProLiant server order the above Hard Drive SKUs	
	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

QuickSpecs

Configuration Information

Step 6: Choose Cables

Cable Options	**Cables used for connecting the HP Smart Array P212, P411, P812, P222 & P421 Controllers and to the P2000 G3 FC 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*

* #0D1 will appear after this part number on your sales order if factory integration is indicated.

Power Cord Options

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.

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

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)	300 W
Heat Dissipation (maximum)	964 Btu/hr* * Input Power and Heat Dissipation specifications are maximum values and apply to worst-case conditions at full rated power supply load. The power/heat dissipation for your installation will vary depending on the equipment configuration.	
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)

Technical Specifications

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 drives)   50 lb (22.6 kg)

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