

### 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 and the P812 Controllers. On HP ProLiant and Integrity servers Dual Domain support is available for the HP Smart Array P411 & P812 Controllers attached to a D2600/D2700. (Single initiator environment only.) HP UX 11iv3 and Windows 2008 R2 OS supported for HP Integrity servers (single initiator environment only).

**NOTE:** HP Integrity servers that are supported:  
rx3600, 6600, 2600, 7640, 8640, SuperDome (only the versions that support PCI-e cards)

Total support can grow as needed to up to 96 LFF drives or 100 SFF drives.

The D2000 is also supported when attached to a HP StorageWorks P2000 G3 FC Modular Smart Array System.

---

### What's New

- Three (3) new D2600 + HDD fully populated (2) and one partially populated bundles
  - HP StorageWorks D2600 w/12 2 TB 3G SATA 7.2K LFF HDD 24 TB Bundle
  - HP StorageWorks D2600 w/12 2 TB 6G SAS 7.2K LFF DP MDL HDD 24 TB Bundle
  - HP StorageWorks D2600 w/6 2 TB 6G SAS 7.2K LFF DP MDL HDD 12 TB Bundle
- Dual Domain support for HP Smart Array P411 & P812 Controllers for higher levels of redundancy and reliability

---

### Models

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

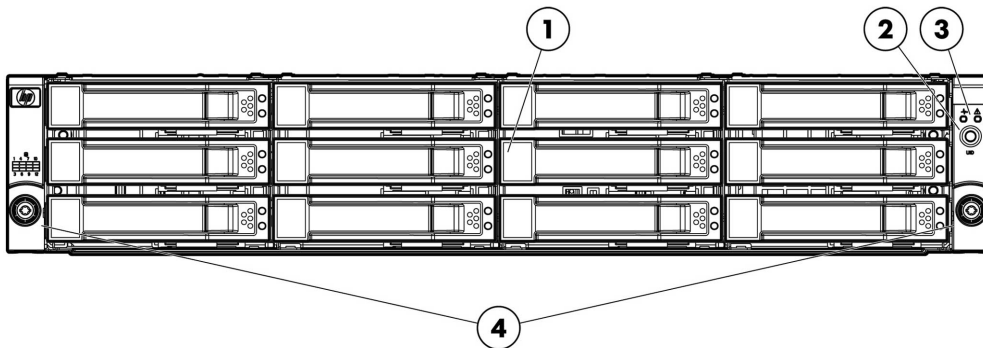
---



### Product Highlights

<b>D2600 + Hard Drive Bundles</b>	HP StorageWorks D2600 w/12 450GB 6G SAS 15K LFF Dual Port HDD 5.4TB Bundle	AW522A
	HP StorageWorks D2600 w/12 600GB 6G SAS 15K LFF Dual Port HDD 7.2TB Bundle	AW523A
	HP StorageWorks D2600 w/12 2TB 3G SATA 7.2K LFF HDD 24 TB Bundle	BK765A
	HP StorageWorks D2600 w/12 2 TB 6G SAS 7.2K LFF Dual Port MDL HDD 24 TB Bundle	BK766A
	HP StorageWorks D2600 w/6 2 TB 6G SAS 7.2K LFF Dual Port MDL HDD 12 TB Bundle	BK782A
	HP StorageWorks D2600 w/12 1TB 6G SAS 7.2 LFF Dual Port ML - 12TB Bundle-Americas	BK815A
	HP D2600 w/6 450 GB SAS 15k LFF 2.7 TB- Disk Encl Starter Kit/Smart-Buy-Americas	AW613SB

<b>D2700 + Hard Drive Bundles</b>	HP StorageWorks D2700 w/25 146GB 6G SAS 15K SFF Dual Port HDD 3.6TB Bundle	AW524A
	HP StorageWorks D2700 w/25 300GB 6G SAS 10K SFF Dual Port HDD 7.5TB Bundle	AW525A
	HP StorageWorks D2700 w/25 500GB 6G SAS 7.2K SFF Dual Port MDL HDD 12.5TB Bundle	AW526A
	HP D2700 w/6 300 GB SAS 15k SFF 1.8 TB Disk Encl Starter Kit/Smart-Buy-Americas	AW614SB

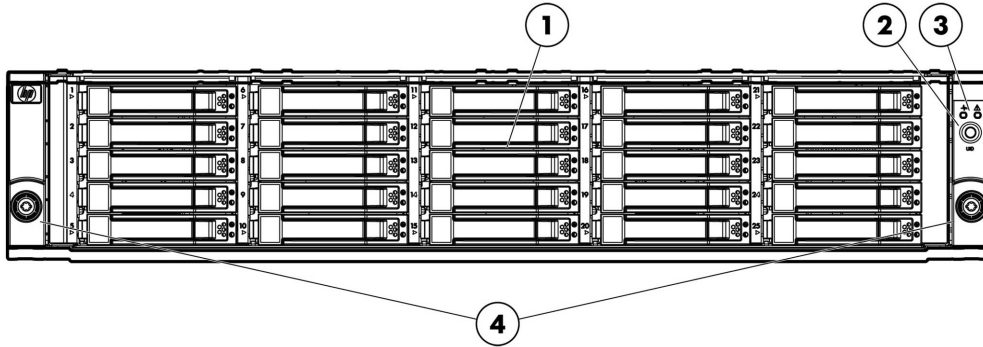


HP StorageWorks D2600 Disk Enclosure

#### Front panel LEDs and buttons

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

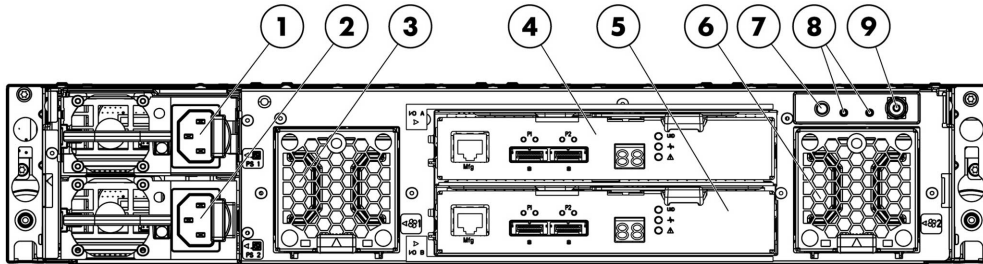
### Product Highlights



HP StorageWorks 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 7.5 TB SAS (300GB SAS), 12.5 TB SAS MDL (500GB SAS MDL) or SATA (500GB SATA MDL) per enclosure scalable to 30 TB SAS, 50 TB SAS MDL or SATA.
- D2600: Maximum storage capacity of 7.2 TB SAS (600GB SAS) or 24 TB SAS MDL or SATA per enclosure scalable to 57.6 TB SAS, or 192 TB SAS MDL or SATA.
- 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.
- 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).
- Familiar ProLiant management tools provided via the Smart Controller - SIM, ACU, ORCA.
- Easy removal of parts provides better serviceability.

#### High performance 6 Gb 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 or a P812 Smart Array controller and the D2000 enclosures.
- 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 or the P812 and HP ProLiant Servers
- Familiar Smart Array technology of the P212 or the P411 Smart Array Controller/512 MB and the P812 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 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 or the P812 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



### *At a Glance*

- 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 StorageWorks D2000 Disk Enclosures** The HP StorageWorks 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 7.5 TB with 6Gb 300GB SAS drives or 12.5 TB with 500GB 6Gb SAS MDL or 500GB 3Gb SATA MDL drives. The LFF D2600 disk enclosure supports up to 12 (twelve) 6Gb LFF SAS drives for a maximum capacity of 7.2 TB with 6Gb 600GB SAS drives or 24 TB with 6G 2 TB SAS MDL or 3G 2 TB 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: <ul style="list-style-type: none"><li>● D2600 base enclosure with redundant power supplies and fan modules</li><li>● Rack mounting hardware kit</li><li>● 0.5m mini-SAS cable</li><li>● Two PDU interconnect cords</li></ul>
	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: <ul style="list-style-type: none"><li>● D2700 base enclosure with redundant power supplies and fan modules</li><li>● Rack mounting hardware kit</li><li>● 0.5m mini-SAS cable</li><li>● Two PDU interconnect cords</li></ul>

---

#### 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](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](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](http://h18004.www1.hp.com/products/quickspecs/13558_div/13558_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 host bus adapter (HBA) failure, 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](http://80Plus.org).



### D2000 Disk Enclosure - Software Components

<b>Utilities</b>	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.
<b>Configuration Utilities</b>	Array Configuration Utility (ACU) [On-line for Microsoft and Linux, Remote Web-Based & Off-line] Option ROM Configuration for Arrays (ORCA), NetWare ACU CPQONLIN ( <a href="#">only online support no Web based support</a> )
<b>Management/Health Utilities</b>	HP Systems Insight Manager
<b>Array Configuration Utility (ACU)</b>	<ul style="list-style-type: none"><li>● Provides a graphical view of HP drive array configurations.</li><li>● Easy to use Wizards for configuration.</li><li>● Web Based ACU supports On-Line, Remote Web Based and Off-line configuration.</li><li>● Supports on-line configuration for Microsoft, NetWare and Linux.</li></ul>
<b>HP Systems Insight Manager (SIM)</b>	<ul style="list-style-type: none"><li>● Powerful storage, server and server option management tool.</li><li>● Monitor storage from a remote central location.</li><li>● Browser based Insight Manager 7 provides full access from anywhere on the Intranet, eliminating the need for a dedicated Insight Manager console.</li></ul>

### Supported Operating Systems

HP ProLiant Servers

**NOTE:** For information on supported Operating Systems, please see the following Smart Array QuickSpecs:

P212: [http://h18004.www1.hp.com/products/quickspecs/13203\\_div/13203\\_div.html](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](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](http://h18004.www1.hp.com/products/quickspecs/13558_div/13558_div.html)

HP StorageWorks P2000 G3 FC Modular Smart Array System

**NOTE:** For up to date compatibility, please 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, 6600, 2600, 7640, 8640, SuperDome (only the versions that support PCI-e cards)



### 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 drives have 3 year warranty. SAS MDL and SATA MDL 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. Please refer to HP's limited warranty Statement and parts replacement instructions for further details.

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

---

#### For increased uptime, productivity and ROI -HP Care Pack packaged services for Storage

These days, you need to get the most out of your storage investment-you can't afford not to. When you buy HP storage products and solutions, it's also a good time to think about what levels of service and support you may need. To help take the worry out of deploying, designing, maintaining, and managing your environment, we've designed a portfolio of service options that are as: flexible, reliable and scalable as your storage. Unlike storage-only vendors, we take a holistic approach to your entire environment, bridging storage, servers, blades, software and network infrastructures with our HP Care Pack packaged services for Storage.

#### Protect your business beyond the warranty

When it comes to robustness and reliability, standard warranties on today's computing equipment have matured just as the technologies have matured. Good news on some fronts-but also a source of potential problems and subsequent consequences that come from depending on standard warranties alone. Standard warranty protects against product defects and some causes of downtime- but not the business. By using a standard approach to warranty uplifts, such as HP Care Pack Services, you can reduce downtime risks and be more certain of operational consistency for both mission-critical and standard business computing. Simply put, HP Care Pack Services normalize the warranty of combined products - helping you proactively guard against unplanned downtime.

#### Extending warranties with HP Care Pack Services

For cost-effective upgrading or extending your standard warranty, HP Care Pack Services offer a suite of standard reactive hardware and software support services that are sold separately, or combined as with our Support Plus and Support Plus 24 services. The portfolio also provides a combination of proactive and reactive services, such as Proactive 24 Service and Critical Service. In addition, with HP Proactive Select we offer an innovative approach to service delivery that gives you the flexibility to acquire the specific proactive services you need today, then add services as your needs evolve. HP Proactive Select offers a broad set of technical or per-event type service options - including server, storage, and network, SAN device, and software, environment, installation and education services. Services that you can mix and match depending on your specific requirements, from preliminary planning and equipment delivery to installation, configuration, integration, and testing, through every level of ongoing support. Our HP Care Pack packaged services for Storage assures help when you need it most. And for many products, post-warranty HP Care Pack Services are available when your original warranty has expired.

#### HP Storage Services: Offering reliability, flexibility and value-just like your storage

HP Storage Services offers a full spectrum of customer care, from technology support to complex migrations to complete completely managed services. HP Factory Express provides customization, integration and deployment services for turnkey solutions. HP Education offers flexible, comprehensive training on storage networking, disk storage systems, and storage software to help your IT staff get the most out of your investments. And HP Financial solutions extend innovative financing and asset management programs to cost-effective buy, manage and eventually retire your older equipment.



### Service and Support, HP Care Pack, and Warranty Information

HP Storage Services, the trusted business technology experts who manage your technology in action, because when technology works, business works. <http://www.hp.com/hps/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://h30125.www3.hp.com/csn/salesmktg/elfpack/elf\\_nonlkup\\_ctrylang.asp?code=ELNL](http://h30125.www3.hp.com/csn/salesmktg/elfpack/elf_nonlkup_ctrylang.asp?code=ELNL)

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

#### Recommended Support 3-Year HP Support Plus 24

For a higher return on your 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
- Cost-effectively obtain expert multivendor support
- Enjoy consistent service coverage across geographically dispersed sites
- Update HP and selected third-party software at a predictable cost
- Take advantage of subscription savings on software updates
- Increase revenue-with access to world-class expertise without headcount implications
- Increase customer satisfaction-with no interoperability gaps

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-6638EN.pdf>

### HP Care Pack Services recommended for optimal satisfaction of all deployments of your product.

**3-Year HP Support Plus 24** 3-Year HP Support Plus 24 provides integrated hardware and software support services designed specifically for your technology. HP Services engineers deliver reactive onsite hardware support and over-the-phone software support around-the-clock.

**HP Installation Service** HP Hardware Installation provides initial hardware installation of your product into your technology environment (System configuration is not included)

Product Number	Product Name	Service Name	Care Pack Services Product # and Band	Alternate Care Pack Services Product #
		HP Installation Service	HA113A1-564	U8132E
AJ940A	HP StorageWorks D2600 Disk Enclosure	3-Year HP Support Plus 24	HA110A3-14C	UQ105E



### Service and Support, HP Care Pack, and Warranty Information

AJ941A

HP StorageWorks  
D2700 Disk  
Enclosure

3-Year HP  
Support Plus 24

HA110A3-14C

UQ105E

#### Recommended Deployment

#### HP Installation Service

For smooth startup and better business outcomes, HP Hardware Installation - this service provides initial hardware installation of your product into your technology environment (system configuration is not included). In today's new era of business technology- 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.

#### Service Features:

- Installation in accordance with your business's configuration requirements
- The ability to achieve more effective data management  
<http://h71028.www7.hp.com/ERC/downloads/5981-9356EN.pdf>

---

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

#### Related Services

##### HP Proactive Select Service

For customers who need to improve IT performance and manageability through the use of cost effective flexible proactive services:

Proactive Select - increased flexibility, minimal complexity -- Select what works for you - your package

##### Delivery planning + Proactive Service Credits

- Credits are used to redeem proactive services
- Three 'predefined' service credit levels - 30, 60, 180 credits
- Additional credits available
- Available in 1, 3, 4 & 5 year packages

##### Reactive

- Utilize existing reactive services products - ranging from Next Day, through 24x7, to 6 Hour Call to Repair

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

##### 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



### Service and Support, HP Care Pack, and Warranty Information

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.

<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>

##### Remote Support Technology (RST)-HP Remote Support Pack

Taking a more proactive approach to IT support, the HP Remote Support pack plug-in module easily integrates with HP Systems Insight Manager to provide a powerful, unified "single pane of glass" solution for onsite and remote management.

HP Remote Support Pack enhances HP Systems Insight Manager with intelligent event diagnosis plus the automatic submission of hardware event notifications securely to HP support, including acknowledgment and status returns. It adds remote configuration collections to allow the delivery of assessment and proactive services for your SAN storage and HP-UX environments.

---

#### Customer Technical Training

Consider education as an integral part of your strategy to get the best return on investment for your HP storage solution. HP offers a variety of training courses on storage software, networking, archiving and disk storage systems. Our classes are available in many delivery modalities from traditional instructor-led courses at one of our 80 training centers worldwide to on-site training customized to your needs or online. [www.hp.com/learn/storage](http://www.hp.com/learn/storage)



### *Service and Support, HP Care Pack, and Warranty Information*

#### **HP Services Awards**

HP 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. For a list of all our awards, please visit

<http://h20219.www2.hp.com/services/cache/433028-0-0-225-121.html>

---

#### **Additional Services Information**

For more information about HP Care Pack Services for Storage, please visit:

<http://www.hp.com/hps/storage>

If you have specific questions, contact your local HP representative. Contact information for a representative in your area can be found at "Contact HP" <http://www.hp.com>



### Configuration Information

#### Step 1: Base Configuration

Model	Model Description	Part Number
D2600	HP StorageWorks D2600 Disk Enclosure	AJ940A
D2600 6G SAS Dual Port drives bundle	HP StorageWorks D2600 w/12 450GB 6G SAS 15K LFF Dual Port HDD 5.4TB Bundle	AW522A
	HP StorageWorks D2600 w/12 600GB 6G SAS 15K LFF Dual Port HDD 7.2TB Bundle	AW523A
	HP StorageWorks D2600 w/12 1TB 6G SAS - 12TB 7.2k DP ML Bundle- Americas	BK815A
	HP StorageWorks D2600 w/6 450 GB SAS 15k LFF 2.7 TB- Disk Enclosure Starter Kit/Smart-Buy- Americas	AW613SB
D2600 6G SAS Dual Port MDL drives bundle	HP StorageWorks D2600 w/12 2 TB 6G SAS 7.2K LFF Dual Port MDL HDD 24 TB Bundle	BK766A
	HP StorageWorks D2600 w/6 2 TB 6G SAS 7.2K LFF Dual Port MDL HDD 12 TB Bundle	BK782A
D2600 3G SATA Port drives bundle	HP StorageWorks D2600 w/12 2TB 3G SATA 7.2K LFF HDD 24 TB Bundle	BK765A
D2700	HP StorageWorks D2700 Disk Enclosure	AJ941A
D2700 6G SAS Dual Port drives bundle	HP StorageWorks D2700 w/25 146GB 6G SAS 15K SFF Dual Port HDD 3.6TB Bundle	AW524A
	HP StorageWorks D2700 w/6 300GB 6G SAS 15k SFF 1.8 TB Disk Enclosure Starter Kit/Smart-Buy- Americas	AW614SB
	HP StorageWorks D2700 w/25 300GB 6G SAS 10K SFF Dual Port HDD 7.5TB Bundle	AW525A
D2700 6G SAS Dual Port MDL drives bundle	HP StorageWorks 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 StorageWorks D2600 Disk Enclosure	AJ940A-#0D1
D2700	HP StorageWorks D2700 Disk Enclosure	AJ941A-#0D1



### Configuration Information

#### Step 2: Array Controllers

	Description	Part Number
<b>Smart Array Controllers Supported</b> (Single Domain)	<b>HP ProLiant Servers</b>	
	HP Smart Array P812 Controller/ 1G Flash Backed Cache Controller	487204-B21
	HP Smart Array P411/1G Flash Backed Write Cache Controller	572531-B21
	HP Smart Array P411/256 MB Controller	462830-B21
	HP Smart Array P411/512 MB Controller	462832-B21

**NOTE:** Firmware version 2.0 or higher required on the listed Smart Array Controllers

---

<b>Smart Array Controllers Supported</b> (Single Domain)	<b>HP Integrity Servers</b>	
	HP Smart Array P812 Controller/ 1G Flash Backed Cache Controller	487204-B21
	HP Smart Array P411/1G Flash Backed Write Cache Controller	572531-B21
	HP Smart Array P411/256 MB Controller	462830-B21

HP Smart Array P411/512 MB Controller 462832-B21

**NOTE:** HP Smart Array P411 & P812 Controllers in a single initiator environment only.

---

<b>Smart Array Controllers Supported</b> (Dual Domain)	<b>HP ProLiant Servers</b>	
	HP Smart Array P812 Controller/ 1G Flash Backed Cache Controller	487204-B21
	HP Smart Array P411/1G Flash Backed Write Cache Controller	572531-B21
	HP Smart Array P411/256 MB Controller	462830-B21

HP Smart Array P411/512 MB Controller 462832-B21

**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
- 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.



### Configuration Information

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

HP ProLiant Server Compatibility	HP ProLiant Servers: For up to date compatibility, please see the following URL for complete Smart Array P411, P212 & P812 Controller compatibility and support information: <a href="http://h18004.www1.hp.com/products/servers/proliantstorage/arraycontrollers/index.html">http://h18004.www1.hp.com/products/servers/proliantstorage/arraycontrollers/index.html</a>
Array Compatibility	HP StorageWorks P2000 G3 FC Modular Smart Array System <b>NOTE:</b> For up to date compatibility, please see the following URL for complete Smart Array Controller compatibility and support information: <a href="http://h18006.www1.hp.com/products/servers/proliantstorage/arraycontrollers/index.html">http://h18006.www1.hp.com/products/servers/proliantstorage/arraycontrollers/index.html</a>
HP Integrity Server Compatibility	<b>HP Integrity Servers supported:</b> 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 <b>NOTE:</b> HP Integrity Server home: <a href="http://www.hp.com/products1/serverconnectivity/support_matrices.html">www.hp.com/products1/serverconnectivity/support_matrices.html</a>

#### Step 4: Choose Hard Drives

SAS Drives - LFF	<b>D2600 - Large Form Factor (LFF)</b> HP 300GB 6G SAS 15K LFF (3.5 inch) DP ENT HDD 516814-B21 HP 450GB 6G SAS 15K LFF (3.5 inch) DP ENT HDD 516816-B21 HP 600GB 6G SAS 15K LFF (3.5 inch) DP ENT HDD 516828-B21
SAS Drives - SFF	<b>D2700 - Small Form Factor (SFF)</b> HP 146GB 6G SAS 10K SFF (2.5 inch) DP ENT HDD 507125-B21 HP 300GB 6G SAS 10K SFF (2.5 inch) DP ENT HDD 507127-B21 HP 72GB 6G SAS 15K SFF (2.5 inch) DP ENT HDD 512545-B21 HP 146GB 6G SAS 15K SFF (2.5 inch) DP ENT HDD 512547-B21
SAS Midline (MDL) - LFF	HP 1TB 6 GB SAS 7.2K LFF (3.5 inch) DP MDL HDD 507614-B21 HP 2TB 6 GB SAS 7.2K LFF (3.5 inch) DP MDL HDD 507616-B21
SAS Midline (MDL) - SFF	HP 500GB 6G SAS 7.2K SFF (2.5 inch) DP MDL HDD 507610-B21
SATA Drives - LFF	<b>D2600 - Large Form Factor (LFF)</b> HP 500GB 3G SATA 7.2K LFF (3.5 inch) MDL HDD 458928-B21 HP 1TB 3G SATA 7.2K LFF (3.5 inch) MDL HDD 454146-B21 HP 2TB 3G SATA 7.2K LFF (3.5 inch) MDL HDD 507632-B21
SATA Drives - SFF	<b>D2700 - Small Form Factor (SFF)</b>



### Configuration Information

HP 250GB 3G SATA 5.4K SFF (2.5 inch) ETY HDD	460355-B21
HP 500GB 3G SATA 7.2K SFF (2.5 inch) MDL HDD	507750-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.

---

### Step 5: Choose Rack Option

Select each required option with quantities specified.

HP Racks	10642 G2 (42U) Rack Cabinet - Pallet	AF001A
	10642 G2 (42U) Rack Cabinet - Shock Pallet	AF002A
	10642 G2 (42U) Rack Cabinet - Crated	AF003A
	10642 G2 (42U) Rack Cabinet, with Extension - Shock Pallet	AF004A
	10636 G2 (36U) Rack Cabinet - Pallet	AF011A
	10636 G2 (36U) Rack Cabinet - Shock Pallet	AF012A
	10636 G2 (36U) Rack Cabinet - Crated	AF013A
	10636 G2 (36U) Rack Cabinet, with Extension - Shock Pallet	AF014A
	10622 G2 Universal Rack w/Standard Pallet	AF021A
	10622 G2 Universal Rack w/Shock Pallet	AF022A
	Modular Cooling System G2 (MCS G2)	AF025A
	MCS G2 10642 G2 Expansion Rack	AF026A
	10647 Rack G2 Pallet	AF031A
	HP 10642 G2 200mm Extn Shock Rack	AF034A
	10642 G2 (42U) Rack Cabinet 1200mm Deep - Pallet	AF038A
	10842 G2 Universal Rack w/Standard Pallet	AF041A
	10842 G2 Universal Rack w/Shock Pallet	AF042A
	HP 10647 G2 200mm Extn Shock Rack	AF044A
	HP Rack S10614 (14U) Rack Cabinet - Shock Pallet	292302-B22
	5642 - 5000 Series rack	358254-B21

---



### Configuration Information

#### Step 6: Choose Cables

##### Cable Options

Cables used for connecting the HP Smart Array P212, P411, P812 Controllers and 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. Please see the following power cord matrix for details: [www.hp.com/products/powercords](http://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
Temperature Range	<b>Operating</b> 50° to 95° F (10° to 35° C) <b>Shipping</b> -40° to 150° F (-40° to 66° C) <b>NOTE:</b> Rated 1°C per 1000 feet of elevation to 10,000 ft.
Relative Humidity	<b>Operating</b> 10% to 90% <b>Non-operating</b> Up to 95%
Input Power Requirements	<b>Rated Input Voltage</b> 100 to 240 VAC <b>Rated Input Frequency</b> 50 to 60 Hz <b>Rated Input Current</b> 2.68A at 115 VAC typical, 4A Maximum <b>Input Power (max)</b> 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 <a href="http://h18004.www1.hp.com/products/servers/proliantstorage/arraycontrollers/index.html">http://h18004.www1.hp.com/products/servers/proliantstorage/arraycontrollers/index.html</a> P2000 G3 FC Modular Smart Array System <b>NOTE:</b> For up to date compatibility, please see the following URL for complete Smart Array Controller compatibility and support information: <a href="http://h18006.www1.hp.com/products/servers/proliantstorage/arraycontrollers/index.html">http://h18006.www1.hp.com/products/servers/proliantstorage/arraycontrollers/index.html</a>
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	<b>Connector Type</b> IPass (mini-SAS) <b>Number of Ports</b> Two (one IN, other is OUT)



### Technical Specifications

D2700 Disk Enclosure	2U Rack Form Factor	
	<b>Dimensions</b> (HxWxD)	3.47 x 17.99 x 22.3 in (8.8 x 45.0 x 56.7 cm)
	<b>Weight</b> (base unit)	38 lb (17.2 kg)
	<b>Weight</b> (with all drives)	50 lb (22.6 kg)

---

© Copyright 2010 Hewlett-Packard Development Company, L.P.

The information contained herein is subject to change without notice.

The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

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

