

Family data sheet

HP D2000 and D6000 Disk Enclosures



Manage your growing storage needs



March 2014

Manage your growing storage needs by deploying the 6 Gb SAS low-cost, high-capacity external storage enclosures with up to 384 TB SATA or 240 TB SAS. Has your business exceeded your storage capacity?

Manage your small and midrange business' growing storage needs by deploying the HP D2000 Disk Enclosures, the 6 Gb SAS low-cost, high-capacity, tiered external storage system. The HP D2000 Disk Enclosures are ideal for your small application environments, remote offices and departmental locations. The 6 Gb SAS enclosures—large form factor (LFF) D2600 with 12 drive bays and small form factor (SFF) D2700 with 25 drive bays—offer flexible, modular solutions to simplify capacity expansion of HP ProLiant and Integrity server environments and MSA Arrays (SFF only) 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. Total support can grow up to 96 LFF or 200 SFF drives as needed.

Finding it difficult to keep up with the growth in unstructured data? Looking for a cost-effective high capacity direct attach storage (DAS) option?

The HP D6000 delivers high-density, low-cost external zoned direct attach storage (DAS) for HP BladeSystem without sacrificing flexibility or performance. The HP D6000 Disk Enclosure with 6 Gb/s with straight forward SAS architecture is ideal for direct attached storage for HP BladeSystem servers. You get the simplicity and cost effectiveness of DAS without sacrificing flexibility or performance. The 6 Gb/s SAS BL switches support up to six D6000 Disk Enclosures, for up to 1680 TB of in-rack storage.

Groups of drives are zoned directly to individual blade servers, appearing as local storage to that server allowing multiple servers to own HDD in an enclosure rather than being limited to one server seeing only one JBOD. With D6000 Disk Enclosure zoned direct attach capabilities; server administrators can build local storage on the fly according to their configuration requirements.

The D6000 can also be directly connected to selected ProLiant Gen8 servers using the Smart Array P421 and P822 Controllers using a standard 2m SAS cable; Single and Dual Domain (P822) environments.



HP D2000 Disk Enclosures

Key features and benefits

The HP D2000 Disk Enclosures allow you to purchase storage based on need and future growth, and provide hassle-free expansion with little IT expertise required, click [here](#) to know more.

Affordable storage for capacity demands

- HP D2000 Disk Enclosures 6 Gb SAS enables a higher/faster data transfer rate adding crucial bandwidth.
- The modular platform provides investment protection by allowing you to purchase based on your current need, and plan for the future without hidden management charges.
- Increase your data speed with enterprise-class dual-port SAS drives as the need and budget dictates.
- Provides a higher level of redundancy and reliability, thereby reducing single points of failure within the storage network.

Flexible and scalable with room to grow

- The HP D2000 Disk Enclosures give you the flexibility to mix and match SAS, SATA, and solid state drives in the same enclosure, and extends the benefit of tiered storage to direct attach customers.
- Designed to give you room to grow as your storage demands increase, the D2600 LFF can grow up to 96 drives. You can also add up to eight D2600 large form factor (LFF) enclosures that can be connected together from a single controller port.
- With the D2700 SFF you can add up to 200 drives or up to eight small form factor (SFF) enclosures can be connected together from a single controller port.
- With a Gen8 Smart Array Controller you can mix D2600 and the D2700 enclosures for expansion, up to four (4) D2600 and four (4) D2700 (4xLFF and 4xSFF) allowing for expansion up to 148 drives.
- On the D2700 you can get solid state drive support for up to 25 drives per Smart Array Controller.

Easy to manage

- The HP D2000 Disk Enclosures uses familiar HP ProLiant management tools including HP Systems Insight Manager and the HP Array Configuration Utility (ACU) software.
- The HP D2000 Disk Enclosures are compatible with selected HP Smart Array SAS Controllers.
- Little IT expertise required to manage the enclosures.

HP D6000 Disk Enclosure

Key features and benefits

High-density, low-cost external SAS storage for BladeSystem servers

- The 6 Gb/s SAS HP D6000 Disk Enclosure is designed with two pull-out disk drawers to support hot plug large form factor (LFF) SAS or SAS mid-line (MDL) drives in just 5U of rack space for you that require a dense storage option with one of the lowest acquisition cost that optimizes cost per U.
- The simplicity of an in-rack storage solution reduces your expense and complexity from the storage architecture; just a Smart Array P721m or the P731m Controller in the blade server, 6 Gb/s SAS BL Switches in the blade enclosure connect to up to six D6000 Disk Enclosures.
- Supports up to six D6000 from a single BladeSystem enclosure providing up to 1680 TB of in-rack storage for customers requiring high-density, low-cost storage.
- The D6000 also supports the H221/H222 Host Bus Adapters (HBAs).
- The D6000 can also be directly connected to selected ProLiant Gen8 servers using the Smart Array P421 and P822 Controllers using a standard 2m SAS cable; Single and Dual Domain (P822) environments.

Build local storage on the fly for BladeSystem servers

- The HP D6000 Disk Enclosure uses the management software of the 6 Gb/s SAS BL Switch to group D6000 drives and assign them to individual blade servers. These drives now appear as local storage to that server.
- With D6000 zoned direct attach capabilities server administrators can build local storage on the fly according to their configuration requirements.
- Just add additional drives to the D6000 and zone to a newly deployed blade server, or add capacity to the zone of an existing blade server configuration. No need for complex configuration or rewiring.

High performance 6 Gb/s SAS connectivity to external storage

- The HP D6000 Disk Enclosure delivers 6 Gb/s host connectivity enabling higher performance, eases configuration/deployment and broadens supported features of an D6000 using HP Smart Array P721m or the P731m Controller and 6 Gb/s SAS BL Switches.
- With the D6000, applications and storage are installed in the same rack. Latency is reduced as data does not travel over large distances.
- A Smart Array P721m or the P731m Controller installed in the blade server provides 2 GB flash-backed write cache (FBWC).

Technical specifications



HP D2600 Disk Enclosure



HP D2700 Disk Enclosure



HP D6000 Disk Enclosure

| | HP D2600 Disk Enclosure | HP D2700 Disk Enclosure | HP D6000 Disk Enclosure |
|----------------------------------|---|---|--|
| Model Differentiator | LFF drive enclosure | SFF drive enclosure | LFF drive enclosure |
| Drive Description | (12) LFF SAS/SATA Supported | (25) SFF SAS/SATA/SSD Supported | (70) LFF SAS Supported |
| Drive Type | <p>SAS</p> <p>300 GB 6G 15K LFF Dual-port ENT SAS 450 GB 6G 15K LFF Dual-port ENT SAS 600 GB 6G 15K LFF Dual-port ENT SAS</p> <p>SAS MDL</p> <p>1 TB 6G 7.2K LFF Dual-port MDL SAS 2 TB 6G 7.2K LFF Dual-port MDL SAS 3 TB 6G 7.2K LFF Dual-port MDL SAS 4 TB 6G 7.2K LFF Dual-port MDL SAS</p> <p>SATA</p> <p>500 GB 3G 7.2K LFF MDL SATA 1 TB 3G 7.2K LFF MDL SATA 2 TB 3G 7.2K LFF MDL SATA 3 TB 3G 7.2K LFF MDL SATA 4 TB 3G 7.2K LFF MDL SATA</p> | <p>SAS</p> <p>146 GB 6G 10K SFF Dual-port ENT SAS 300 GB 6G 10K SFF Dual-port ENT SAS 450 GB 6G 10K SFF Dual-port ENT SAS 600 GB 6G 10K SFF Dual-port ENT SAS 900 GB 6G 10K SFF Dual-port ENT SAS 1.2 TB 6G 10K SFF Dual-port ENT SAS 146 GB 6G 15K SFF Dual-port ENT SAS 300 GB 6G 15K SFF Dual-port ENT SAS</p> <p>SAS MDL</p> <p>500 GB 6G 7.2K SFF Dual-port MDL SAS 1 TB 6G 7.2K SFF Dual-port MDL SAS</p> <p>SATA</p> <p>1 TB 3G 7.2K SFF MDL SATA</p> <p>SSD</p> <p>200 GB 12G Performance SFF ENT SAS 400 GB 12G Performance SFF ENT SAS 800 GB 12G Performance SFF ENT SAS 200 GB 6G/12G ME SFF ENT Mainstream SAS 400 GB 6G/12G ME SFF ENT Mainstream SAS 800 GB 6G/12G ME SFF ENT Mainstream SAS</p> | <p>SAS</p> <p>300 GB 6G 15K LFF DP ENT SAS 450 GB 6G 15K LFF DP ENT SAS 600 GB 6G 15K LFF DP ENT SAS</p> <p>SAS MDL</p> <p>1 TB 6G 7.2K LFF DP MDL SAS 2 TB 6G 7.2K LFF DP MDL SAS 3 TB 6G 7.2K LFF DP MDL SAS 4 TB 6G 7.2K LFF DP MDL SAS</p> |
| Capacity | 48 TB maximum Depending on the drive type | 30 TB maximum Depending on the drive type | 280 TB maximum Depending on the drive type |
| Storage Expansion Options | Up to 8 from a single controller port | Up to 8 from a single controller port | Up to 6; see QuickSpecs for detailed information |

Technical specifications (continued)

| | HP D2600 Disk Enclosure | HP D2700 Disk Enclosure | HP D6000 Disk Enclosure |
|---|--|--|---|
| Host Interface | 6 Gb/sec SAS | 6 Gb/sec SAS | 6 Gb/sec SAS |
| Storage Controllers/Host Bus Adapters (HBAs) | Smart Array P212 Smart Array P411 Smart Array P812 Smart Array P222 Smart Array P421 Smart Array P822 Smart Array P711m Smart Array P721m Smart Array P731m H221 Host Bus Adapter H222 Host Bus Adapter Supported | Smart Array P212 Smart Array P411 Smart Array P812 Smart Array P222 Smart Array P421 Smart Array P822 Smart Array P711m Smart Array P721m Smart Array P731m H221 Host Bus Adapter H222 Host Bus Adapter Supported | Smart Array P721m/2 GB FBWC Smart Array P731m H221 Host Bus Adapter H222 Host Bus Adapter Supported |
| SAN Backup Support | No | No | No |
| Storage Mirroring Support | No | No | No |
| Systems Insight Manager Support | Yes | Yes | Yes |
| Compatible Operating Systems | Microsoft® Windows® 2003 Microsoft Windows 2008 Novell NetWare Red Hat® Linux XenServer SUSE Linux VMware Microsoft Windows Hyper-V HP-UX | Microsoft Windows 2003 Microsoft Windows 2008 Novell NetWare Red Hat Linux XenServer SUSE Linux VMware Microsoft Windows Hyper-V HP-UX | Windows Server 2003 Microsoft Windows Server 2008 R2 Red Hat Enterprise Linux (RHEL) SUSE Linux Enterprise Server (SLES) VMware ESX Depending on host connectivity |
| Form Factor | 2U | 2U | 5U |
| Warranty (parts-labor-onsite) | 3/0/0 | 3/0/0 | 3/0/0 |
| QuickSpecs URL | h18000.www1.hp.com/products/quickspecs/13404_div/13404_div.pdf | h18000.www1.hp.com/products/quickspecs/13404_div/13404_div.pdf | h18000.www1.hp.com/products/quickspecs/14419_div/14419_div.pdf |

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HP services

HP Technology Services—consultants and support experts to solve your most complex infrastructure problems. We help keep your business running, no matter what. Boost availability and avoid downtime, trust our expertise to enhance your HP solution.

Recommended services

- **3-Year HP Support Plus 24 Service**—For a higher return on your storage technology, this 3-year combined reactive support option delivers integrated onsite hardware/software support services available 24x7.
- **HP Installation Service**—Provides for the basic installation of your all-in-one storage system, including installation of hardware and software.
- **HP Proactive Select Service**—Improves IT performance and manageability through the use of cost effective flexible proactive services.

Related services

- **3-Year HP Support Plus 24**—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.

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Service and support

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Customer Technical Training

Gain the skills you need with ExpertOne training and certification from HP. With HP Converged Storage training, you will accelerate your technology transition, improve operational performance, and get the best return on your HP investment. Our training is available when and where you need it, through flexible delivery options and a global training capability. hp.com/learn/storage

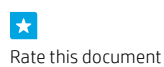
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