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HP ProLiant Storage Server family
Radically simple storage

Solutions for the adaptive enterprise.



The HP ProLiant Storage Server family delivers affordable, easy-to-use network attached storage (NAS) solutions that simplify storage management without compromise. They allow your business to change without chaos and grow without limits.

HP offers a comprehensive range of storage server solutions for small business, branch office and enterprise data center customers. We optimize your IT environment and simplify network storage, giving you a decisive competitive advantage. Our customized, end-to-end solutions deliver more technology and expertise, agility and accountability, and a better return on IT, so you can focus on what matters most—your business.



Storage doesn't get any easier than this.

Storage needs and complexity grow rapidly, while budgets continually shrink—making it difficult to deliver the service levels your environment demands using current storage architectures. And with management applications and direct-attached storage scattered throughout your infrastructure, storage is more complicated than ever. That's why you need HP ProLiant Storage Server solutions.

- They're affordable, easy to understand, and simple to deploy.
- They're built from industry-standard components.
- They're compatible with your existing Ethernet infrastructure.
- They're easy to manage through a Web-based GUI.
- They provide file and print services to help you maintain control over your business-critical information.
- They lower your total cost of ownership (TCO) by enabling consolidation and centralization of storage and storage management.
- They allow quick and easy scaling for future storage expansion.

A complete portfolio of storage server solutions

HP ProLiant Storage Server products include both tower and rack-mount form factors to fit a variety of IT environments. Tower-based storage servers range from the affordable, entry-level HP ProLiant ML110 G2 Storage Server to the mid-range ProLiant ML350 G4 and ML370 G4 Storage Servers.

Rack-mount storage servers include HP ProLiant DL100 Storage Server SATA-based solutions, mid-range HP ProLiant DL380 G4 Storage Server SCSI or SATA-attached solutions, enterprise HP ProLiant DL380 G4 Storage Server (SAN storage model) and enterprise HP ProLiant DL585 Storage Server NAS/SAN fusion solution.

Select models of HP Storage Servers can be upgraded to include block storage services over Ethernet with the HP ProLiant Storage Server iSCSI Feature Pack.

Standards-based to reduce your costs

The dedication of HP to industry standards helps to lower your total cost of ownership through investment protection and improved IT efficiency.

HP delivers the standards you want with the technological innovations you need for rapid integration, flexibility and simplified management. HP ProLiant Storage Server solutions are built on two industry-leading business platforms—HP ProLiant servers and the Microsoft® Windows® Storage Server 2003 operating system (OS).

Windows Storage Server 2003 offers:

- Point-in-time data copies
- Replication
- Server clustering
- Quota management capabilities with hard and soft quota enforcement

Select the storage that meets your needs.

Tower line of storage servers:

HP ProLiant ML110 G2 Storage Server



Fixed configuration

Utilizes SATA drives with fixed storage capacities

HP ProLiant ML350 G4 Storage Server



Scalable capacities

Utilizes SCSI and/or SATA storage

HP ProLiant ML370 G4 Storage Server



Get more—small and medium business or remote offices

HP ProLiant Storage Servers install quickly on Ethernet networks and allow file sharing over multiple protocols, providing seamless migration to new systems. In fact, HP ProLiant Storage Servers are great storage companions to your HP ProLiant or other application servers.

Price-conscious small and medium businesses or remote offices have unique priorities. Because growth is always on the horizon, scalable HP Storage Server solutions enable you to meet your needs today knowing that you can accommodate future storage requirements.

They also offer the confidence of a proven solution. HP ProLiant servers lead the industry with technology, innovation and a proven record for dependability. The Microsoft Windows Storage Server 2003 OS includes features for managing and controlling storage in a heterogeneous environment. Together, HP and Microsoft offer tools, support and innovation that is unmatched by any other NAS vendor.

And, of course, these storage servers offer real value. Priced right for smaller businesses, they come complete with integrated hardware, software and support services that only HP can deliver.

Tower form factor for business environments

Common features

Whichever tower-based storage server model you choose, you're assured the reliability and dependability you expect from HP. Select models include hardware RAID for data protection and mirrored OS disks. Select models support HP ProLiant iSCSI Feature Pack software. And all our tower models can be rack mounted as your data environment changes. (Note: The ML110 G2 Storage Server 320GB Model is the only model in the tower line that does not support hardware RAID or the iSCSI Feature Pack).

HP ProLiant ML110 G2 Storage Server—Fixed storage with SATA drives

An entry-level solution with fixed storage capacities of 320 GB, 640 GB and 1 TB utilizing SATA drives, the ML110 G2 Storage Server is a very low-cost solution that provides networked storage quickly and simply.

HP ProLiant ML350 Storage Server—Scalability

Designed with price-conscious small to medium business or remote office needs in mind, the HP ProLiant ML350 Storage Server features higher performance (3.0 and 3.2 GHz Intel Xeon Processors) and the option of remote management. While the base model allows you to configure the type and amount of storage you need, an enhanced model comes pre-configured with 1.2 TB of storage. Both models include a Smart Array 642 controller allowing you to connect external storage such as our HP StorageWorks Modular Smart Array (MSA) 20 and MSA 30 arrays.

Select the storage that meets your needs.

Rack-mount line of storage servers:

HP ProLiant DL100 Storage Server



Fixed configuration

Utilizes SATA drives with fixed storage capacities

HP ProLiant DL380 Storage Server



Scalable

Utilizes SCSI and/or SATA storage, scalable to multiple TBs

HP ProLiant DL585 Storage Server



Scalable and powerful

Utilizes SCSI and/or SATA storage, virtually limit-less scalability

HP ProLiant ML370 Storage Server— Scalability and performance

The HP ProLiant ML370 Storage Server brings the latest in technology and higher performance to price-conscious customers. It uses 3.4 GHz Intel Xeon Processors (single or dual), and scalability is enhanced with a high-performance Smart Array 6402 controller that features even greater connectivity to MSA 20 or MSA 30 arrays. In addition, this controller supports Advanced Data Guarding, which can tolerate multiple simultaneous drive failures without downtime or data loss.

On both models, you select the type and amount of storage that meets your needs today and can be confident that it can scale as your business grows. In addition, both models can be remotely managed utilizing built-in Integrated Lights-Out (iLO) technology.

Rack form factor for data center environments

HP ProLiant DL100 Storage Server—Fixed storage with SATA drives

An entry-level solution that provides fixed storage capacities of 320 GB, 640 GB and 1 TB with SATA drives, the HP ProLiant DL100 Storage Server provides a very low-cost solution when you need rack-mount storage quickly and simply.

HP ProLiant DL380 G4 Storage Server—Performance, scalability and flexibility

The powerful rack-mount HP ProLiant DL380 Storage Server provides even higher levels of performance, scalability and flexibility. Performance is assured with single or dual Intel 3.6 GHz processors. When used in SCSI or SATA-attached solutions, this server offers the ability to scale to multiple terabytes of capacity. The DL380 offers

deployment flexibility with three standalone appliance models or a NAS gateway model. All models can be remotely managed via iLO technology. The hardware platform for the DL380 Storage Server is one of the best-selling servers in the world, delivering reliability, dependability, performance and leading-edge technology at an affordable price.

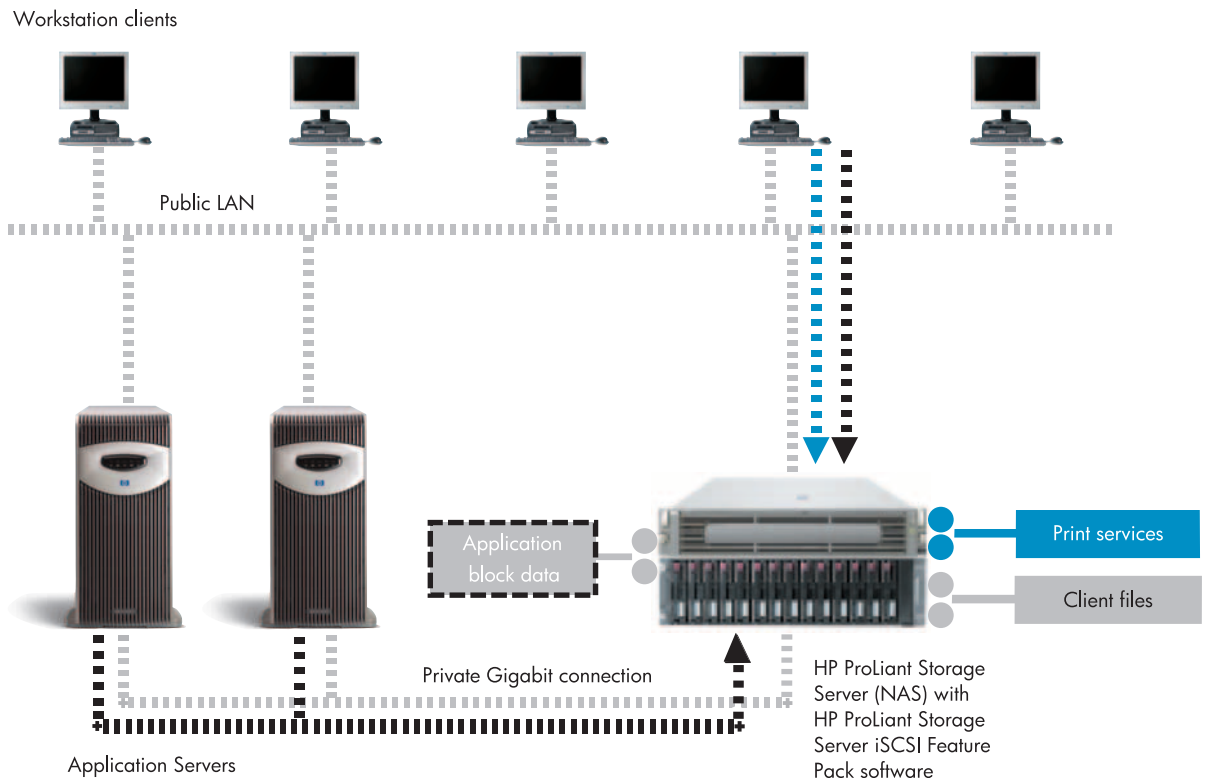
HP ProLiant DL585 Storage Server—The ultimate in NAS/SAN fusion

The HP ProLiant DL585 Storage Server offers the ultimate in NAS gateway performance, scalability and availability.

Robust performance with support of two to four processors, it simplifies centralized storage and system management, saving you time and resources and lowering your TCO. The fusion of NAS and SAN in a common, networked storage pool provides the flexibility to choose file-level (NAS) or block-level (SAN) access for business-critical applications. Plus, with virtually unlimited storage scalability, your storage infrastructure grows with your business—without downtime and without compromising performance. The DL585 Storage Server solution helps ensure data is highly available, maintaining business continuance through cluster support, hardware redundancy and replication. You get the confidence you need in an enterprise environment with connection to the industry's broadest range of SAN arrays.

Demand more—HP ProLiant Storage Servers and NAS/SAN fusion

HP ProLiant DL380 G4 Storage Server (SAN storage model) and DL585 Storage Server combine the best NAS and SAN capabilities on a shared storage pool. The power of fusion connects NAS “heads” or “gateways” to a SAN to provide file services to clients. Application servers can also hook into the SAN to provide block services. As a result, NAS scales to the limits of the SAN. You no



longer have storage islands to manage individually. Clustering keeps your applications up and running. And enhanced scalability and manageability, file-level access and virtualization give you the ability to utilize your storage network for all types of data.

For enterprise-level deployments, the DL380 Storage Server and the DL585 Storage Server allow you to demand more from your IT SANs—more flexibility, more agility and superior ROI.

HP ProLiant Storage Server iSCSI software—A powerful yet affordable upgrade

HP ProLiant Storage Server iSCSI Feature Pack is powerful and easy-to-use software that adds iSCSI functionality and block-level storage services to HP Storage Server (NAS) devices for small and medium businesses. The combination creates an iSCSI Storage Server solution that can host file, print and application storage services on a single platform. The software can be upgraded to support enhanced features such as snapshots, clustering and direct backup.

The HP ProLiant Storage Server iSCSI Feature Pack solution is ideal for storage consolidation and for Microsoft Exchange 2000 and 2003 servers and Microsoft SQL 2000 and 2003 servers; verified on Oracle Database 9i and 10g.

- **Application storage**—Qualified with Microsoft Exchange 2000 and 2003 servers and Microsoft SQL 2000 and 2003 servers; verified on Oracle Database 9i and 10g.
- **Ethernet infrastructure**—Leverages well-understood technology utilizing low-cost components.
- **Standards**—Adheres to Internet Engineering Task Force iSCSI specification and runs on industry-standard HP ProLiant Storage Servers running Microsoft Windows Storage Server 2003.
- **Ease of use**—The iSCSI Feature Pack application integrates seamlessly with Windows Storage Server 2003 GUI.



How HP NAS makes Microsoft Exchange better

HP NAS solutions extend the flexibility and power of networked storage provisioning into environments that need lower deployment costs, simplified deployment and easier management than Fibre Channel-based SANs.

There are four specific scenarios where HP NAS makes Exchange better for small and medium enterprises:

- **Server consolidation**—One of the key benefits of Exchange Server 2003 is its ability to reduce “server sprawl” by consolidating the workload of multiple Exchange 5.5 servers onto a smaller number of Exchange Server 2003 servers. HP File and Mail Consolidation multiplies this benefit, allowing Exchange and file server storage to be consolidated onto powerful, inexpensive NAS systems.
- **Branch office deployments**—When business drivers dictate deployment of file servers and Exchange servers in geographically distributed offices, it’s critical to manage deployment costs. HP NAS solutions offer low per-gigabyte acquisition costs, reliable performance, and low operating and maintenance costs.
- **High-availability Exchange deployments**—For maximum availability, Exchange architects usually deploy Exchange on Windows clusters backed with SANs. This combination provides improved availability, but the SAN purchase and maintenance costs make it an impractical solution for smaller businesses. HP File and Mail Consolidation enables Exchange cluster deployment without the need for a SAN. Two cluster nodes can access the reliable, shared storage of a NAS device—a capability that until now was only possible using traditional SANs.

- **Business continuance**—All enterprises, small or large, need the ability to quickly resume business operations after an interruption in service. Traditional business continuance solutions involve expensive replicated SANs. But HP ProLiant Storage Servers, in combination with HP OpenView Storage Mirroring (SM) software, offer an alternative that provides business continuance at a lower entry cost.

HP ProLiant Application Storage Manager—Microsoft Exchange 2003 storage management just got easier

Why use multiple management interfaces and dozens of process steps to configure, allocate and manage Microsoft Exchange 2003 Storage Groups when HP delivers a simple alternative?

HP ProLiant Application Storage Manager (ASM) is the single management interface that does it all—and it’s included with HP ProLiant Storage Server iSCSI Feature Pack (Standalone Edition only). HP ProLiant ASM makes life easier by:

- Reducing the time and training required to set up and manage Microsoft Exchange 2003 Storage Groups by eliminating process steps and multiple storage and application management interfaces
- Automating best-practice storage configuration for Microsoft Exchange 2003 Storage Groups using iSCSI protocols
- Providing a single point of management for monitoring and allocating capacity of Microsoft Exchange 2003 Storage Groups and file shares

The HP StorageWorks Grid is the architectural blueprint for how storage will be developed, deployed, used, and managed in an adaptive enterprise—where business and IT are synchronized to capitalize on change.



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HP OpenView management software



- **HP OpenView Storage Data Protector software** Protect essential data and eliminate downtime with our backup and recovery solution.
- **HP OpenView Storage Mirroring software** A host-based software for IP networks, this application offers numerous features for data replication over IP networks.

Building a better storage architecture

Standards-based HP ProLiant Storage Servers are designed to fit perfectly into the HP StorageWorks Grid—the HP vision for the future of storage.

The HP StorageWorks Grid is the architectural blueprint for how storage will be developed, deployed, used and managed in an adaptive enterprise—where business and IT are synchronized to capitalize on change.

The HP StorageWorks Grid is an innovative, virtualized, standards-based architecture that is built using “smart cell” technology, connected together in a collaborative network, and powered by a combination of software modules that deliver traditional and advanced storage and management capabilities.

HP OpenView software—Take control of your IT resources

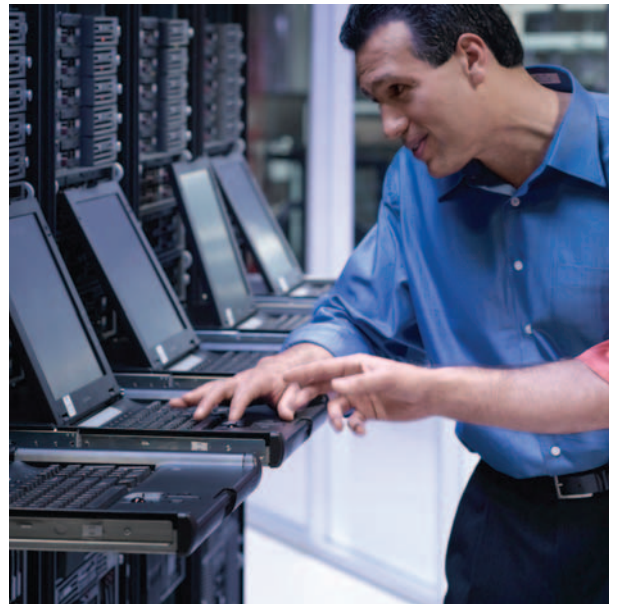
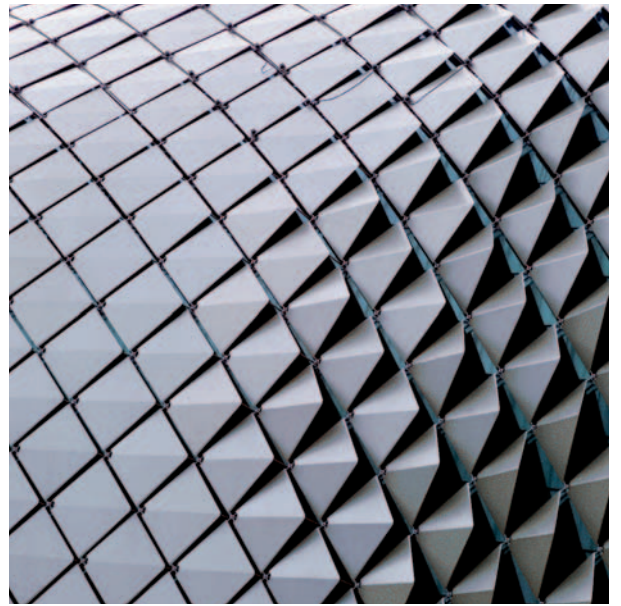
HP OpenView solutions help ensure that your business-critical data and services are delivered reliably. The HP OpenView portfolio gives you tools to troubleshoot problems, adapt quickly to change and keep your data secure. These easy-to-use solutions for business, service and resource management let you align your company’s people, processes and technology to contribute to an adaptive management environment.

HP OpenView Storage Data Protector—Data protection and disaster recovery

HP OpenView Storage Data Protector software offers data protection and disaster recovery to help ensure recovery from any disruption. Data Protector is the most efficient backup and recovery application for HP Storage Server devices. It provides instant recovery as well as several disaster recovery alternatives to eliminate unplanned downtime and recover data in minutes. Data Protector lets you reduce costs by automating routine tasks to maximize the effectiveness of your IT staff. It also gives you the ability to scale from a single server to a distributed enterprise and covers heterogeneous applications, operating environments and storage configurations with a single solution.

HP OpenView Storage Mirroring software—Host-based replication

HP OpenView Storage Mirroring software is a host-based application that performs remote copy over an IP LAN/WAN. Storage Mirroring software is a cost-effective disaster recovery alternative from one host to another within a LAN or storage center, or for direct attached storage between metro offices and regional centers.





Storage Mirroring software is an ideal host-based product for IP networks, by providing:

- Synchronous/asynchronous replication at the file system, directory or file level
- Block-level replication
- IP-based failover/failback of shares and replication sets
- Cluster awareness
- 100% compatibility with NSI Double Take

The smartest way to invest in IT

HP Financial Services provides innovative financing and financial asset management programs to help you cost-effectively acquire, manage and ultimately retire your HP solutions.

For more information on these services, please contact your HP sales representative or find us on the web at www.hp.com/go/hpfinancialservices.

HP Services

Turn to HP Services for comprehensive support—including hardware and software support, complex IT management and a full portfolio of partner-assisted services. The HP team of 65,000 experts implements leading solutions in 160 countries. From hardware and software installations and configurations to 24x7 proactive technical support services, we have the right solution for you.

For more information on HP storage service solutions go to www.hp.com/hps/storage.

For more information

For more information on HP ProLiant Storage Servers and network attached storage solutions visit www.hp.com/go/storageservers

To view Storage Server white papers, visit <http://h18006.www1.hp.com/storage/naswhitepapers.html>.

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For more information on HP ProLiant Storage Servers
and network attached storage solutions, visit:
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