hp StorageWorks
NAS family

hp invent

the future of
network storage
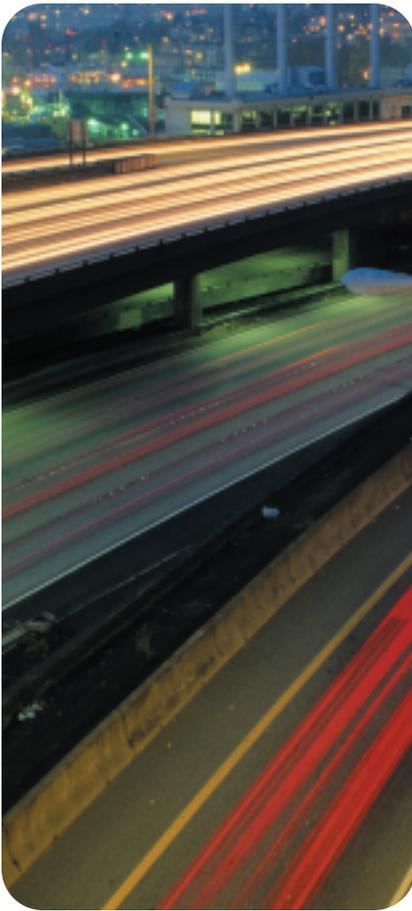
hp StorageWorks NAS family

HP, the worldwide leader in network storage, delivers the HP StorageWorks NAS family, the industry's most extensive range of NAS solutions, optimized for your IT environment. From reliable, dedicated NAS products for departments and branch offices, to visionary NAS/SAN fusion solutions for the datacenter, HP StorageWorks NAS drives down the cost of implementation and management of the storage network.

NAS/SAN fusion

Fusing NAS and SAN capabilities gives you the ability to utilize your storage network for all types of data seamlessly. HP NAS/SAN fusion solutions enable implementation of a single storage utility in the datacenter and integration with multiple remote locations and their storage needs. Better efficiency, simpler management, seamless integration and access to file or block level data lead to decreased cost of implementation and management of the storage network.

the most comprehensive and extensive range of NAS solutions

From dedicated, remote office or workgroup solutions, to consolidated NAS/SAN fusion solutions for the corporate datacenter, HP provides the answer. Only with HP can customers implement corporate and worldwide storage solutions using consistent, open platforms and infrastructure.

ideal for your IT environment

HP recognizes that different IT environments require different types of optimization. HP provides the right solution for each customer environment providing rapid integration, seamless management and raw performance tailored for the customer's IT architecture. No need to settle for trade-offs.

fusion drives down costs

Integrating NAS and SAN in the same architecture is the kind of innovation that makes HP the world leader in network storage solutions. It's the right step in storage consolidation — greater efficiency from your storage investment. Plus, HP is committed to open systems and standards, which deliver ongoing savings to you.

the world leader in network storage

When you choose HP you have the reassurance of unsurpassed experience behind you. HP ships more networked storage solutions than any company in the world. Whether it's Direct Attached Storage, Network Attached Storage or Storage Area Networks, our experience with flexible optimized solutions ensures your success. It's all from HP, the world's #1 vendor of network storage solutions.

hp StorageWorks NAS advantages

- virtually unlimited storage scalability
- continuous data availability
- maximum return on storage investment
- a turnkey package includes all of the components for high performance block and file-serving through the same consolidated storage pool
- lower total cost of ownership (TOC) through centralized storage and system management
- built on industry standards so you can leverage existing infrastructure
- world-class infrastructure-as the visionary leader in storage solutions, HP enables efficient managed storage at the lowest total cost through Enterprise Network Storage Architecture (ENSA). ENSA technology lets you take advantage of visionary storage architecture that encompasses the integration of NAS, SAN and DAS solutions

hp StorageWorks NAS e7000 v2

hp StorageWorks NAS e7000 v2

the fusion is now

The HP StorageWorks e7000 v2 fuses NAS with SAN technologies. It combines the simplicity of NAS with the scalability of SAN-setting new standards in performance, flexibility and consolidated management. Simplifying centralized storage and system management saves you resources and time and lowers your TCO. The NAS e7000 meets the needs of your business applications through enhanced storage and system management performance. The fusion of NAS and SAN in a common, networked storage pool means you have the flexibility to choose file (NAS) or block (SAN) level access for business critical applications. Plus, with virtually unlimited storage scalability, you grow your storage infrastructure as your business grows — without downtime and without compromising performance. The e7000 solution ensures data is always available, maintaining business continuance through cluster support, hardware redundancy and replication.

key features and benefits

connectivity
- featuring HP StorageWorks SAN connectivity
- 10/100 Ethernet
- Gigabit Ethernet
- fibre channel storage connectivity

manageability
- storage virtualization
- snapshot capabilities
- backup support
- anti-virus software support

availability
- cluster support
- redundant hardware components
- data replication support
- HP Remote Insight Lights-Out Edition

file serving
- multi-protocol — Microsoft® Windows®, UNIX®/Linux, Novell NetWare, Macintosh Appletalk
- users, groups-share creation/management
- quotas

services
- installation and configuration service
- HP SupportPack services providing 24x7 support

"The HP StorageWorks NAS e7000 provides the availability and scalability we require from an enterprise-level, network attached storage system. Its seamless integration into our existing SAN, capitalizes on the centralized management benefit, further minimizing our cost of ownership."

Kevin Scully, CIO, Donald Danforth Plant Science Center
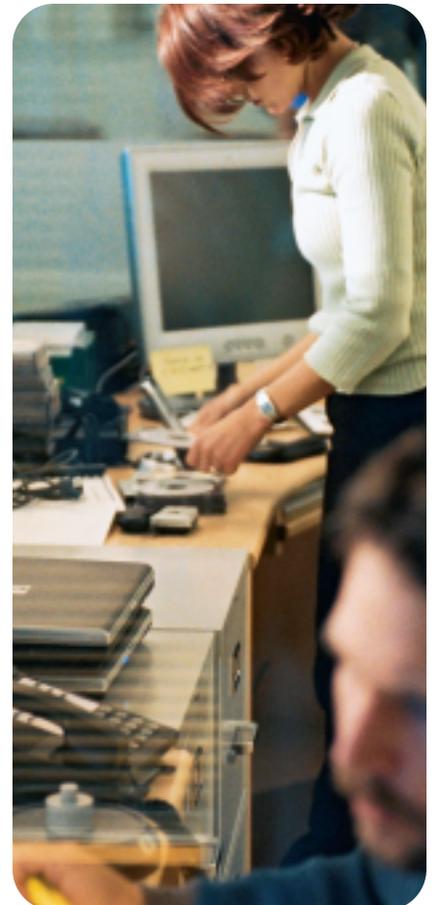
hp StorageWorks NAS b3000 v2

hp StorageWorks NAS b3000 v2

the entry point of fusion

The new HP StorageWorks NAS b3000 v2 delivers a NAS solution for enterprise-level availability, scalability and performance. It's the solution for businesses needing server/storage consolidation with connectivity to an entry-level SAN. The b3000 scales to 48 TB with 146 GB universal drives and the embedded switches, and with external options it scales to reach even higher capacities. You get all components necessary for high performance block and file serving with the added advantage of turnkey simplicity — it's all-in-one NAS/SAN fusion.

Through the fusion of NAS and SAN, the HP StorageWorks NAS b3000 enables efficient storage and delivers a complete storage solution. Plus, with the NAS b3000 you achieve outstanding levels of availability through Advanced Data Guarding (ADG), fully integrated software packages, and no-single-point-of-failure clustered configurations. HP combines all these capabilities to drive down your overall cost of storage and give you the best return on your storage investment.

hp StorageWorks NAS b3000 v2

hp StorageWorks NAS b2000 v2

affordable-scalable

By combining turnkey simplicity with powerful consolidation capabilities, HP StorageWorks b2000 v2 delivers a NAS solution that effortlessly manages the demanding storage needs of workgroups, enterprise departments and remote office storage environments. We understand your time and resources are valuable, and you need an easily expandable storage solution. One that offers both heterogeneous protocol support, and efficiently utilizes storage space. The HP StorageWorks NAS b2000 features meet these challenges with multi-protocol file support, up to 9 TB of scalable storage and an integrated user interface for single point of management. This affordable solution's cutting-edge technology for diverse environments goes even one step more. HP StorageWorks b2000 gives you impressive availability, high performance and dual-processor support with the ADG option. NAS b2000, the technology you need to stay ahead-without bottoming-out your bottom-line.

hp StorageWorks NAS 8000

hp StorageWorks NAS 8000

fusion from the ground up

For customers who require file-sharing flexibility, HP StorageWorks NAS 8000 solutions provide easily managed network-attached storage (NAS) solutions in dedicated storage and SAN configurations. With an operating system optimized for file serving, the NAS 8000 attaches directly to Ethernet networks, providing easy installation, low maintenance and high uptime. Cluster technology is available for environments requiring mission-critical access to data.

The NAS 8000 solutions support Microsoft Window, UNIX, and Linux. They allow IT managers to increase departmental and site storage quickly and easily without bringing down servers or disrupting client access to network data. The solutions scale easily from 288 GB of storage to tens of TB. They use hot-swappable fans, memory and power supplies for increased availability. Network administration, user access, and storage configuration are all easily managed through the HP StorageWorks Command View NAS GUI or command line interface.

key features and benefits

controllable

• provides command line and Web interfaces — Command View NAS

resilient

• ensures data availability with basic and enhanced network backup and local backup

• provides high uptime with available 24x7 x 365 telephone and Web support

• maximizes uptime with clustering and redundant, hot-swappable components

• UNIX and Microsoft Windows security, universal file locking, and integrated virus protection

extensible

• integrated functions with popular system management applications and backup solutions

• operates with a wide range of applications for databases, Web serving and e-mail

• operates with Microsoft Windows 98/ME/XP/NT/2000, UNIX, and Linux clients

• extends storage to 15.4 TB attached to VA arrays, more with SAN (VA, XP, and EMA arrays)
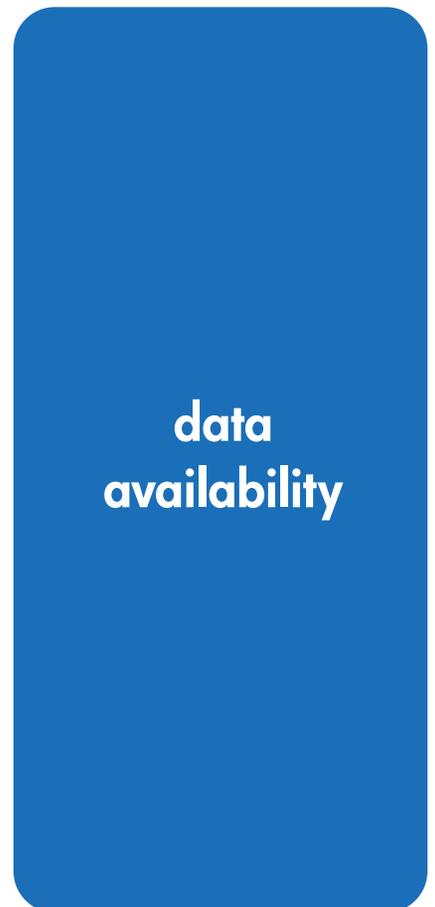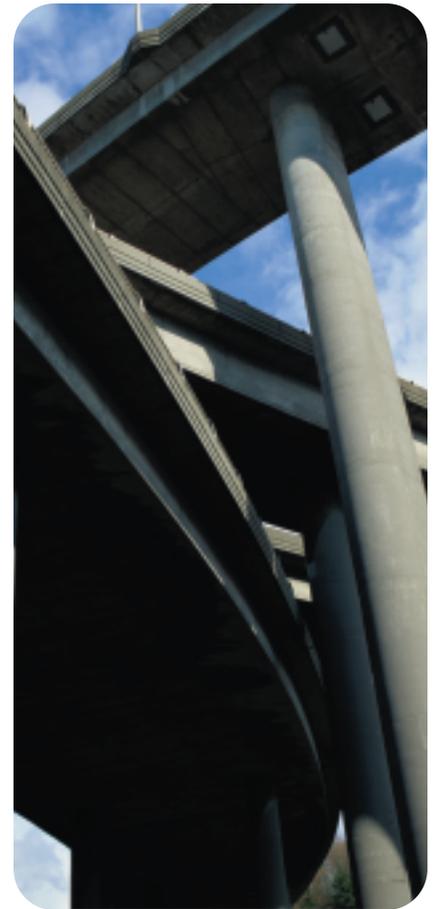
All HP StorageWorks NAS products support many third part products and operating systems. For more information on compatibility, please visit: www.compaq.com/products/storageworks/nas/supportedsoftware.html

data availability

fusion

get the future now with the hp StorageWorks NAS family

NAS/SAN fusion meets the needs of both small businesses and large enterprise data centers with seamless integration through storage network solutions. HP StorageWorks fusion solutions let you implement a single storage utility in the data center and integrate it with multiple remote locations and their storage requirements. Fusion capabilities mean increased productivity, uncomplicated management, seamless integration and access to file or block-level data lead. Fusion for significant savings on your implementation and storage network management costs.

why storage networks?

- file server and storage consolidation
- multi-protocol environments
- remote office deployment

NAS data copy — host-based replication

- 100% compatible with NSI Double Take
- synch/asynch replication at file system, directory of file level
- block level replication
- IP based failover/failback of shares and replica sets
- cluster aware
- 30 day evaluation on s1000, b2000, b3000, e7000
- HP part number for full version

data replication manager — SAN based replication

- NAS e7000
- NAS 8000 based SAN
- like for like SAN at target and initiator sites
- block level replication
- failover/failback between sites
- windows clusters up to 100km apart

NAS e7000 — NAS/SAN fusion

- SAN for block level services — enterprise applications deployed naturally
- NAS is a LUN consumer from the SAN
- NAS data can replicate via DRM or NAS Data Copy
- data center class features
- SAN based virtualization:>200TB

NAS 8000 — fusion from the ground up

- multi-protocol file services — CIFS, NFS
- SAN storage (XP, VA, EMA)
- HP built OS and file system
- cluster availability-active/active clusters
- scalable to the limits of the SAN (>100 TB)
- optimized for heterogeneous environments

NAS b3000 — the entry point of fusion

- multi-protocol file services — CIFS, NFS, NCP, AppleTalk, HTTP, FTP
- uses SAN storage (MSA 1000)
- availability-active/active clusters, file based replication
- scalable to the limits of SAN (27 + TB)
- optimized for industry leading CIFS (250MBps)

NAS b2000 — affordable-scalable

- multi-protocol file services — CIFS, NFS, NCP, AppleTalk, HTTP, FTP
- SCSI storage-internal and external cabinet
- dual processor capable NAS head
- advanced hardware raid support
- IP based failover and data replication availability
- scalable to 18TB

NAS/SAN fusion implementation

wide area network

IP based replication   IP based replication

NAS 8000   NAS 8000   SAN   e7000   e7000   **NAS**   NAS b3000   **NAS**   Fibre Channel connection (directly to storage)   **email**   NAS b2000

data center
array based storage

regional office

remote office

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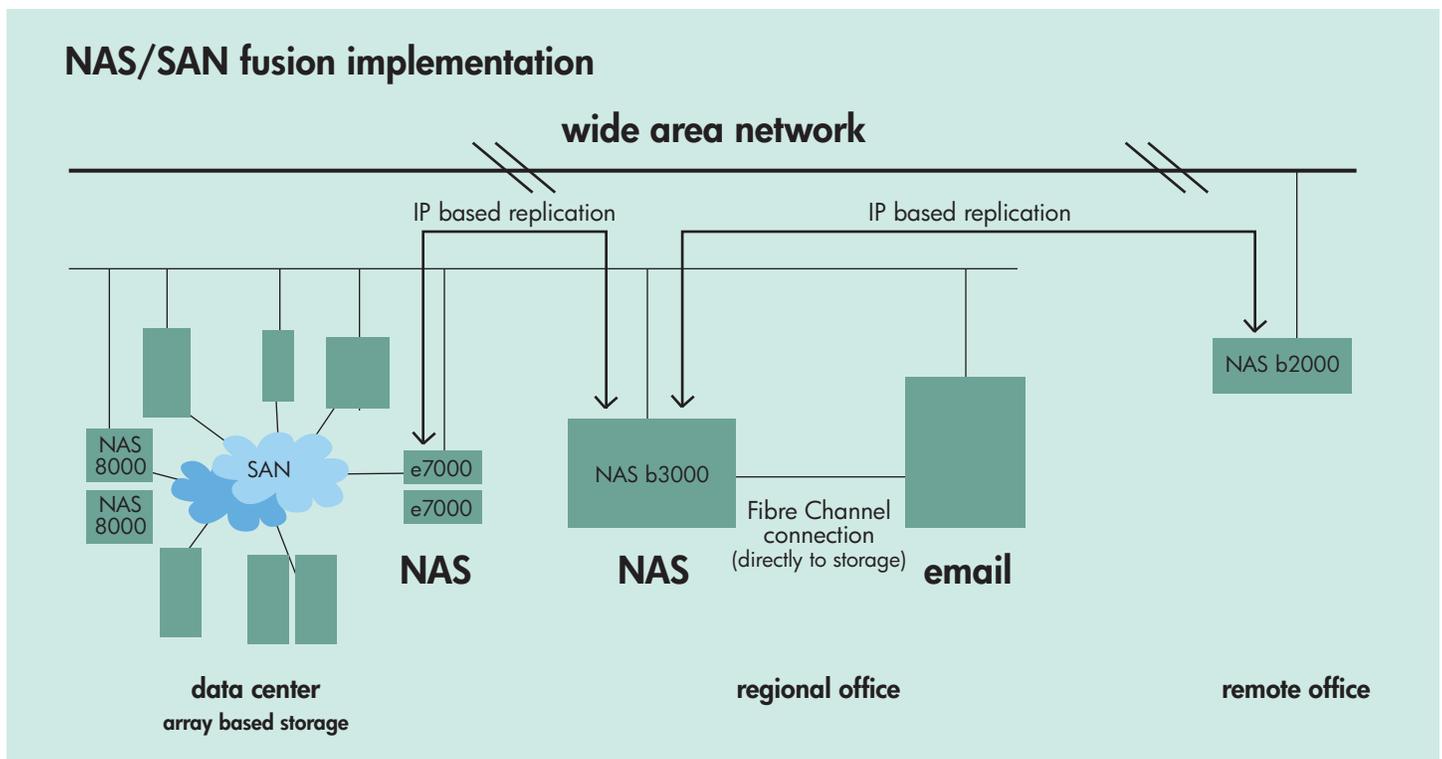
stories in success

Texas Children's Cancer Center and Hematology Service

cancer center treats storage shortage with hp StorageWorks NAS technology

Texas Children's Cancer Center (TCCC) and Hematology Service, offers breakthrough therapies to children with all forms of pediatric cancers and blood disorders. An educational faculty and medical staff of 455 persons conduct life-saving hematology and oncology research. All of their informatics services programs reside on HP ProLiant servers. When stored research data reached capacity, TCCC needed another option. HP recommended the HP StorageWorks NAS b3000. This system centralizes storage resources, making management easy and expanding storage capacity, and it combines the benefits of NAS for file serving with block-level storage found in a SAN. Now, instead of keeping track of the individual storage requirements of each server, the b3000 consolidates all their data into one system. The system connects to a Gigabit Ethernet LAN, allowing other network servers to share resources. Pre-configured with Microsoft Windows 2000 Advanced Server operating system, the NAS unit lets the IT staff migrate servers to the Microsoft Windows 2000 and continue its platform standardization initiative.

The b3000 offers data-protection safeguards and no-single-point-of-failure, ensuring secure access to the bulk of research data. The network-interface cards and power-array components are all redundant.

The cancer center is leveraging its current hardware investments, recovering floor space and managing one storage device. The low cost and management efficiencies make the long-term effects of the HP solution the right choice.

> "The HP StorageWorks NAS b3000 is the best turnkey NAS/SAN fusion solution available. It offers the scalability and performance our customers expect in their storage environment while supporting both file and block access to a common storage pool."
>
> **Joseph Dicso, Director, Enterprise Technologies Wareforce**

Works Computing-ISE, LLC

working storage magic with hp StorageWorks solutions

As we entered a new millennium, a new understanding of corporate storage needs and solutions emerged. A storage platform is now a critical part of the IT infrastructure. Patrick Cadle saw this trend. In the 1990s, he founded Works Computing, a systems-integration company. Today, Works Computing-ISE, LLC is one of the largest resellers of HP systems in the Minneapolis and St. Paul, Minn., and in Minnesota, Iowa, Western Wisconsin and the Eastern Dakotas. Cadle chose HP StorageWorks solutions. "As business needs evolve, it is paramount to have open, highly scalable, multi-platform storage solutions," says, Cadle. "That's why we use HP StorageWorks technology and follow the precepts of the ENSAextended (ENSAx) architecture. HP StorageWorks equipment is ideal for heterogeneous server environments, and it gives our customers exceptional investment protection. HP is the industry leader in storage, backup and recovery technology. We rely on HP StorageWorks internally to keep our own data safe."

The Works Computing IT staff sees the fusion of NAS and SANs as the next logical step in building solid enterprise-storage platforms. Cadle and his colleagues favor the HP StorageWorks NAS e7000 system. "The HP StorageWorks NAS e7000 system enables customers to combine NAS and SAN systems in a single storage pool, maximizing previously unused capacity," says Cadle. Works Computing is careful to design storage solutions to meet each customer's business needs. We choose among various strategies and business models to dictate our course of action, using HP StorageWorks ENSA — and now ENSAx — blueprints. The ENSAx vision helps customers derive greater value for less money. Many organizations are now writing off storage investments in three years. With HP StorageWorks solutions, however, the investment-protection stretches out to five years or more. Customers are quickly finding that they can re-deploy their HP StorageWorks systems as their needs change. We built our reputation on HP StorageWorks systems and have a very satisfied customer base to show for it," concludes Cadle.

To read another NAS technology success story please go to:
www.compaq.com/storage/casestudies/workscomputing.html/

hp services

HP Services offers comprehensive support for every computing need-including hardware and software support, complex IT management and a full portfolio of partner-assisted services. HP is the only company in the industry recognized by Microsoft as a worldwide prime integrator. That's because HP has the world's leading team of service professionals. A team 65,000 strong produces, implements and delivers top-level solutions in 160 countries around the world. Last year, HP proudly accepted service excellence recognition awards from five organizations — DaimlerChrysler, Novell, TSANet, the United States Postal Service and WebStar. Award recognition plus, our on-going commitment to giving customers unrivaled products and services, gives you the reassurance of HP dedication to quality. We keep you up and running-all the time.

for more information

HP provides industry-leading support for our partner and customers. For more information on the HP StorageWorks NAS family and other HP products and services, contact your local HP sales representative or reseller, or visit our web site at **http://h18006.www1.hp.com/storage** or **www.hp.com/go/nas**.

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