Overview

Unbelievably simple. Uniquely affordable. Unquestionably reliable.

About HP All-in-One (AiO) Storage: Imagine having a single integrated solution that could provide shared storage for application servers (iSCSI Target), enhanced file serving for end-user clients (NAS), backup target services for network data, and data protection software to keep all of your data safe and secure; these are the key functions of HP All-in-One Storage and together, they allow businesses to lower costs, increase efficiencies, and respond to rapid data growth. HP StorageWorks All-in-One Storage Systems are radically simple, integrated, and affordable network storage solutions that enable small and mid-size companies to easily manage, grow, and protect their data without requiring them to become storage experts. These systems are designed to be deployed and managed by IT generalists with no storage expertise and deliver everything you need to lower the cost and complexity of rapidly growing data storage environments.

The easy-to-use, All-in-One Storage Manager (ASM) interface reduces the time, expense, and expertise required to keep up with rapidly growing applications like Microsoft Exchange. Busy IT Managers do not have time to learn complex storage technologies; ASM eliminates this barrier by handling all underlying storage tasks and presenting network storage in application-centric terms, giving administrators newfound levels of control. Data migration tools for Exchange 2003/2007 and SQL Server 2000/2005 include 'best practice' recommendations which allow any IT generalist to look like a storage expert. Tools for hosting 'user defined' applications enable flexible deployment in many different environments.

ASM provides easy setup of shared folders, backup target areas, and iSCSI Target storage for hosts running Windows Server, Linux, VMWare ESX, or any other standards-compliant iSCSI initiator. Administrators can quickly and easily setup or expand data areas, migrate data from capacity constrained servers, manage disk based backup storage areas, implement disk and tape backup policies, and more.

Now you can have a simple, affordable, and reliable network storage solution that provides many of the management, consolidation, and data protection features typically reserved for higher-priced and more complex storage products.

About the AiO600: This tower/rack solution provides shared storage expansion for application servers (iSCSI SAN), enhanced file serving for end-user clients (NAS), and comprehensive data protection features. The AiO600 is an excellent solution for customers looking for increased capacity, scalability, and hardware redundancy. The AiO600 is available in both SATA and Serial Attached SCSI (SAS) configurations.

NOTE: Updates to the HP All-in-One Storage Manager (ASM) are posted to support links available at http://www.hp.com/go/AiOStorage. Some of the management features discussed in this document may require the installation of software updates depending on the version of ASM installed on your system. Be sure to check for updates to make sure you are using the latest version of the software. Critical updates for the Windows Storage Server 2003 R2 operating system can be implemented using standard Windows Update functionality but you should disable any auto-restart options to avoid complications with iSCSI connections. For other software components you should only update components as part of an All-in-One Storage System update. Do not separately download or install individual updates for Data Protector Express as this may adversely affect the management integration of these components.

Highlights

Benefits of HP StorageWorks All-in-One Storage Systems	Breakthrough simplicity that lowers the cost and complexity of data management	The intuitive All-in-One Storage Manager interface radically simplifies the growth, management, and protection of data by hiding complexity and enabling storage to be a turnkey resource. Designed for IT generalists with no storage expertise, these systems can be setup and actively serving files in minutes.
	Integrated and adaptive storage solutions to enable business growth	A single storage solution that can respond to a wide variety of business needs. HP All-in-One Storage Systems offer an incredible degree of utility and flexibility by providing shared storage for multiple application servers, file serving for end-user clients, disk based backup capabilities, and data protection for both file and application data via snapshots and backup software.
	Affordable and cost effective solution for growing application environments	Managed through a single interface, HP All-in-One Storage provides shared application storage (iSCSI Target), file serving (NAS), and data protection below the cost of separate products and without the need to change your infrastructure. NOTE: A dedicated segment is recommended for your iSCSI traffic and can be implemented using standard Ethernet hardware you probably already have.
	Application-centric storage management simplifies operation and lowers costs	Easy to manage because it uses terms and functions familiar to application administrators. Includes end-to-end iSCSI management for Windows Servers plus iSCSI provisioning for other iSCSI initiators (Linux, VMWare ESX Server, etc.). Provides data migration wizards for Microsoft Exchange 2003/2007 and SQL Server 2000/2005.
	'Best Practice' toolkit makes every IT Administrator look like a storage expert	HP All-in-One Storage Systems include tools to easily migrate and manage data using best practice settings. For example, iSCSI storage for a Microsoft Exchange Storage Group can be expertly setup and migrated in less than 10 mouse clicks, saving you time and reducing the risk to your business.
	Shared storage for growing application servers (iSCSI SAN) enables efficient use of capacity	Sharing storage between servers is more efficient and costs less to manage over time when compared against adding additional drives to individual servers. Sharing storage means that you maximize investments in additional capacity while enabling easier growth and shorter backup windows. HP All-in-One Storage Systems utilize the Microsoft iSCSI Software Target to provide block-based access to network storage.
	Enhanced file serving for end-user clients (NAS) to improve productivity and collaboration	Tuned for faster file serving performance (20% faster than standard Windows Server on the same hardware). Single Instance Storage (SIS) de-duplication features can improve capacity utilization by 30% or more by eliminating duplicate files within shared volumes. Full text search capabilities increase the speed of end-user search. Support for heterogeneous environments (CIFS/NFS) gives you the flexibility your changing business needs to serve multiple operating environments.
	Comprehensive and integrated data protection to ensure easy roll-back and disaster recovery	Provides an easy mechanism to manage disk based snapshots for easy rollback, integrated data protection software for offsite and archive, hot plug disk drives (RAID), and hardware redundancy. Data can also be replicated to another system for enhanced disaster recovery. Utilize your All-in-One Storage pool as a disk based backup target for other systems in your environment and manage Data Protector Express virtual library objects direct from the All-in-One Storage Manager.
	Easy to deploy and manage so you can focus on your core business	Uses standard tools and concepts familiar to server administrators to reduce learning curve and barriers to network storage. The industry standard iSCSI interface provides the benefits of shared SAN storage on a traditional TCP/IP network. HP ProLiant hardware ensures reliability, low TCO, and supportability. The All-in-One Storage Manager quickly walks administrators through all major setup and management tasks.
	Award winning warranty, support and troubleshooting tools to ensure worry-free operation	HP All-in-One Storage Systems can send alerts for various events such as an impending disk failure reducing the potential for downtime while HP's world class support organization and partner network ensures that you can quickly recover in the case of a problem.

Highlights

| Available Product Configurations | HP StorageWorks 400 All-in-One Storage System (AiO400) | This entry-level rackable solution provides shared storage expansion for application servers (iSCSI SAN), enhanced file serving for end-user clients (NAS), and comprehensive data protection features. The AiO400 is an excellent solution for customers needing less than 1TB total raw capacity without the performance requirements of SAS. |

- Sizing Guidelines: For Exchange environments, the AiO400 can be used for smaller Storage Groups with less than 100 mailboxes when using the Exchange ESRP implementation guidelines. Out of the box implementations should only use the AiO400 for very few users or archival Storage Groups. While it is certified for VMWare ESX iSCSI connectivity, the AiO400 is not recommended in VMFS environments due highly random read/write performance characteristics of VMFS.

| | HP StorageWorks 600 All-in-One Storage System (AiO600) | This tower/rack solution provides shared storage expansion for application servers (iSCSI SAN), enhanced file serving for end-user clients (NAS), and comprehensive data protection features. The AiO600 is an excellent solution for customers looking for increased capacity, scalability, and hardware redundancy. The AiO600 is available in both SATA and Serial Attached SCSI (SAS) configurations. |

- Sizing Guidelines: For Exchange environments, AiO600 SATA configurations are appropriate for storage groups with less than 500 mailboxes while AiO600 SAS configurations support up to 1,000 mailboxes when using the Exchange ESRP implementation guidelines. Out of the box implementations for the AiO600 will support approx 25% of these numbers. The AiO600 is certified with VMWare ESX for iSCSI connectivity; due to the highly random read/write performance characteristics of VMFS we recommend SAS HDDs and the AiO1200 SAS as the best performance option for use with VMWare ESX and VMFS.

| | HP StorageWorks 1200 All-in-One Storage System (AiO1200) | This high capacity all-in-one solution provides shared storage expansion for application servers (iSCSI SAN), enhanced file serving for end-user clients (NAS), and comprehensive data protection features. The AiO1200 is an excellent solution for customers looking for increased performance and capacity from 12 internal drives and a high performance RAID controller. The AiO1200 is available in both SATA and Serial Attached SCSI (SAS) configurations. |

- Sizing Guidelines: For Exchange environments, AiO1200 SATA configurations are appropriate for storage groups with less than 500 mailboxes while AiO1200 SAS configurations support up to 1,500 mailboxes when using the Exchange ESRP implementation guidelines. Out of the box implementations for the AiO1200 will support approx 25% of these numbers. The AiO1200 is certified with VMWare ESX for iSCSI connectivity; due to the highly random read/write performance characteristics of VMFS we recommend SAS HDDs for use with VMWare ESX and VMFS.

| | HP StorageWorks All-in-One SB600c Storage Blade (AiO SB600c) | This half-height all-in-one storage blade solution was designed for HP c-class BladeSystem environments and provides shared storage expansion for blade servers (iSCSI SAN), enhanced file serving for end-user clients (NAS), and comprehensive data protection features. The AiO SB600c is an excellent solution for customers looking at c-3000 or c-7000 BladeSystem deployments. The AiO SB600c is available a SAS configuration. |

- Sizing Guidelines: For Exchange environments, AiO SB600c SAS configurations are appropriate for storage groups with less than 500 mailboxes. The AiO SB600c is certified with VMWare ESX for iSCSI connectivity.

| Software Feature Specifications for the HP All-in-One Storage Family | All-in-One Storage Management Interface | • This single easy to use, integrated storage management tool can manage many aspects of the storage environment. |

- Rapid startup tools for fast and easy installation and out-of-the box configuration
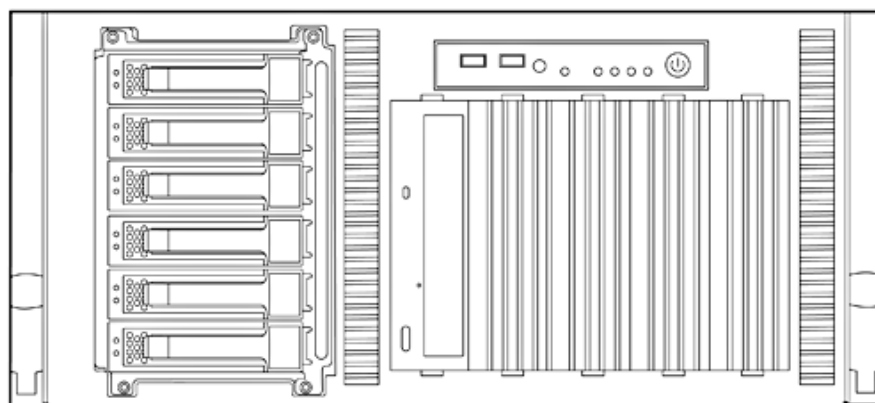-

Highlights

- Provides end-to-end management and provisioning of iSCSI storage for 32-bit and 64-bit Windows Server 2003 hosts from the iSCSI Target all the way through to the host
- Provides management and provisioning of iSCSI storage for standards-compliant non-Windows iSCSI initiators such as VMWare, Linux, etc..
- Application data hosting and migration wizard using HP and Microsoft 'Best Practice' storage configurations for Microsoft Exchange 2003/2007 Storage Groups and Microsoft SQL Server 2000/2005 databases.
- Application data hosting and iSCSI Setup wizard for other 'User Defined' Application (Oracle, mySQL, etc…)
- File Share creation wizard with storage allocation and directory quota management.
- Data protection policy assignment (snapshots and backup) integrated into application migration and share creation wizards for data hosted on the system.
- Data Protector Express virtual library device provisioning and space management as well as support for Data Protector Express D2D2Any add-on option.
- Application-level capacity provisioning and online growth for shares, SQL Server and Exchange. SQL Server support includes data file and log directory provisioning and Exchange support includes Mailstore, Publicstore and log directory provisioning.
- Quota monitoring and alerting per share or application.
- Remote management via Microsoft Internet Explorer or Terminal Services.
- Support for setup and management of both internal storage as well as supported direct attached MSA storage enclosures
- Supports management of tiered storage environments where both SAS, parallel SCSI, or SATA hard drives are attached to the All-in-One Storage System either internally or on externally attached MSA storage enclosures.

Shared Application Storage (Microsoft iSCSI Software Target)

- Compliant with iSCSI industry standards and compatible with industry standard iSCSI initiators. Interoperability has been verified for Windows 2000, Windows Server 2003, VMware ESX Server 3, SUSE Linux Enterprise Server 10, RedHat Enterprise Linux 5, and Qlogic 4050c. For additional information please visit http://www.microsoft.com/storage.
- MMC based console to setup iSCSI Target storage. This console can be used to setup advanced storage options. Basic iSCSI Target setup and management can be performed directly from the All-in-One Storage Manager.
- Support for advanced features such as TCP/IP offload with multi-function network adapters (requires Microsoft Scaleable Network Pack (SNP) and multi-pathing (MPIO). NOTE: HP iSCSI Acceleration Pack is not supported on the iSCSI Target.
- The Microsoft iSCSI Target can be used as target storage behind a Microsoft application cluster. For more information on this implementation read the whitepaper on this topic found at http://www.hp.com/go/AiOStorage.

File/print serving (NAS Operating System - Windows Storage Server 2003 R2 Standard Edition)

- Native CIFS file serving support - Windows based file serving optimized for Windows clients
- Microsoft Services for Network File System (NFS) to enable heterogeneous file serving to non-Windows clients.
- HP Enhanced, File Server Management Console
- De-duplication via Single Instance Storage (SIS) to eliminate duplicate files and maximize available capacity; SIS can improve capacity utilization by 30% or more
- Full-text indexing to maximize productivity and allow for fast data retrieval.
- File Server Resource Manager for quotas, file screening and storage

Highlights

reporting
- Print Server management console with unlimited printer support
- Unlimited Client Access License (CAL) included
- Print Server support
  - Easy to use print management console
  - Unlimited printer support

Integrated Data Protection
- RAID hard drive configurations (hot swappable drives)
- Disk-based snapshots for easy roll-back
  - Scheduled or ad-hoc by application
  - Managed through HP All-in-One Storage Manager
  - Exchange and SQL Server aware snapshots ensure consistent data sets for the applications.
  - 512 snapshots per independent iSCSI/Application volume. 64 snapshots for file share volumes. (NOTE: If iSCSI LUNs and file shares are on a common volume the iSCSI snapshot limit is 448.)
- A fully integrated copy of HP StorageWorks Data Protector Express software (v3.1SP4) provides enhanced backup and recovery operations. (NOTE: This is the backup server LTU component of Data Protector Express and does not include any add-on licenses for features such as Bare Metal Recovery or Disk-to-Disk-to-Any functionality. If using the All-in-One Storage System as a backup server for a Data Protector Express backup domain all members of the domain should be running the same version of Data Protector Express - v3.1SP4)
  - Automatic discovery of tape devices
  - Software based Virtual Tape functionality
  - Disk-to-disk-to-any data protection
- Microsoft Distributed File System Replication (DFS-R) to enable replication of files to an alternate HP All-in-One Storage System, including
  - DFS Management Console
  - Configuration and Diagnostic Tools
- Support for HP StorageWorks Storage Mirroring v4.5 (AiO Edition) to enable replication and failover of both files and iSCSI LUNs.
  - A 60-day trial version of HP StorageWorks Storage Mirroring software is included on most systems or can be downloaded from http://h18000.www1.hp.com/products/storage/software/sm/index.html

Operating System
- Microsoft Windows Storage Server 2003 Release 2, Standard Edition

HP All-in-One 600 Storage System configured with optional tower to rack conversion kit

Highlights

AiO600 Hardware Specifications		
	Processor	• Dual Core Intel Xeon 2.67 GHz/1333 MHz FSB with 4MB (1 x 4MB) L2 Cache; NOTE: The AiO600 supports up to 2 processors
	Memory	• 1 GB of PC2-5300 Fully Buffered DIMMs; 2 x 512MB (AiO600 has Eight PC2-5300 FB-DIMM (DDR2 667) sockets) • Up to 4GB supported
	Operating System	• Windows Storage Server 2003, Release 2 Standard Edition
	Network Controller	• Embedded NC373i Multifunction Gigabit Network Adapter with TCP/IP Offload Engine • Additional Dual port 10/100/1000T Adapter (NC360T) NOTE: The NC360T replaces the NC7170 NIC which previously shipped with the AiO600. These network adapters are functionally equivalent in all respects and both adapters will continue to be fully supported by HP. Support for units in the field, including replacement parts, will be provided to both the NC7170 or NC360T.
	Storage Controller	• Smart Array E200i Controller with 128MB BBWC included (RAID 0,1,10,5)
	Internal Storage (varies by model)	• 1.5TB SATA Model: 6 x 250GB front load, hot plug, 7200 RPM SATA HDDs • 3.0TB SATA Model: 6 x 500GB front load, hot plug, 7200 RPM SATA HDDs • 876GB SAS Model: 6 x 146GB front load, hot plug, 15,000 RPM Serial Attached SCSI (SAS) HDDs • 1.8TB SAS Model: 6 x 300GB front load, hot plug, 15,000 RPM Serial Attached SCSI (SAS) HDDs
	Optical Drive	• HP DVD+R/RW 16X Half Height
	Expansion Slots	• (3) x4 PCI-Express (x8 connectors) (NOTE: One slot occupied by NC360T Network Card) • (1) 64 bit, 133MHz 3.3V PCI-X • (2) 64 bit, 100MHz 3.3V PCI-X
	Power Supply	• Dual Hot-Plug redundant power supplies
	Cooling Fans	• Two system fans plus two redundant system fans
	Remote Management	• Remote system management User Interface (UI), Remote Desktop or Telnet • Integrated Lights Out 2 (iLO2) with Advanced License Pack
	Form Factor	• 5 U Tower or Rack with optional rack conversion
	Warranty	• The AiO600 has a standard 3-3-3 warranty (3 years parts exchange, three years labor, and three years on-site, next business day response) which can be upgraded to same day support through HP Care Packs.
	SIM Support	• The AiO600 supports Insight Manager through SNMP. For more information on HP Insight Manager please visit: http://h18013.www1.hp.com/products/servers/management/hpsim/index.html

Highlights

Optional Software to Enhance HP All-in-One Storage Systems

- HP StorageWorks Storage Mirroring (AiO Edition) - HP StorageWorks Storage Mirroring software offers a host-based application that performs remote copy over an IP LAN/WAN. Key features include asynchronous replication that can be scheduled to a fine granular level, Logical Unit Number (LUN), file or byte level. Other features include multiple replication configuration options including peer-to-peer and many-to-one. In addition, Storage Mirroring is a very cost effective disaster recovery alternative from one host to another within a LAN, storage center, or between direct attached storage in metro offices and regional centers. Additional configurations allow replication from small office environments to ensure business continuity without an outside IT staff.

  For more information:
  http://h18000.www1.hp.com/products/storage/software/sm/index.html

- HP Data Protector Express optional extensions - Data Protector Express delivers class leading features and reliability without compromising its ease of use. Features such as open file backup, D2D2Any backup and recovery and bare metal disaster recovery minimize the impact of backup and recovery operations. The D2D2Any feature extends the scale and capability of the D2D backup (Virtual Library) to allow backups to be moved or copied from disk to other media such as tape for longer term retention. Agents are available for the protection of networked file servers, application servers, HP Data Protection Storage Server and Windows desktops. High performance is delivered through the Data Protector Express three-tier architecture - unique in this class of product - and self-tuning parallel backup streams that allows multiple jobs to run concurrently.

  The HP All-in-One Storage System includes the backup server LTU which enables the backup and recovery of file and iSCSI data on the AiO and the setup and management of virtual libraries; you can consolidate the rest of your backup infrastructure and add advanced functionality by including any of the optional extensions such as D2D2Any, bare metal recovery, or network agents for backup of data stored locally on other servers.

  For more information on Data Protector Express visit www.hp.com/go/dataprotectorexpress. Click on the QuickSpec link for information on SKU's, options, and functional extensions.

- HP Systems Insight Manager - HP SIM 5.x is the first unified server and storage management platform. Now, from a single management console, administrators can manage their complete HP server and storage environment with a feature rich, extensible and secure management tool set.

  HP SIM also serves as a central access point for ProLiant Essentials, Integrity Essentials, and Storage Essentials software options that deliver targeted functionality for these platforms. For more information: http://h18013.www1.hp.com/products/servers/management/hpsim/index.html

- Insight Management Agents - Allow all HP servers to present system instrumentation, health and configuration information into HP Systems Insight Manager and the HP System Management Homepage. The HP System Management Homepage aggregates systems data from Insight Management Agents and other HP management tools, providing a consolidated browser-based interface for managing individual servers.

- HP Storage Essentials NAS Manager - Provides comprehensive Network Attached Storage (NAS) management capabilities for HP All-in-One Storage Systems. Visualize your distributed HP All-in-One Storage Systems and centrally manage their capacity, performance, events, and dependencies to ensure availability and performance and unify SAN and NAS management. For more information on the complete line of HP Storage Essential products go to:
  http://www.hp.com/go/storageessentials

Service and Support, HP Care Pack, and Warranty Information

HP Care Pack Services offer upgraded service levels to extend and expand your standard product warranty with easy to buy, easy to use support packages that help you make the most of your hardware and software investments. They let you choose the support levels that meet your business requirements. They help you contain total cost of ownership.

HP Care Pack warranty extensions can be purchased along with HP products to cost-effectively upgrade or extend your warranty. For most HP products, including the AiO600, post-warranty HP Care Pack Services are available when your original warranty has expired.

Why purchase an HP Care Pack service?	Your standard warranty protects against product defects during normal working hours. HP Care Pack Services help you extend this protection to more coverage hours and more days per week. This can increase uptime which can improve your productivity and profitability. These convenient service packages:

- Protect your investment in HP products
- Provide consistent, predictable levels of support across your entire department or business
- Ease budget planning with fixed-cost support that includes parts and labor
- Give you direct access to proven technical and problem-solving expertise
- Offer a choice of response-time and repair-time commitments
- Deliver prompt, measurable results
- Are available whenever and wherever you do business
- HP Care Pack availability may vary by country and product.

The breadth, depth, and quality of HP hardware and software support services can help you improve the performance of your IT support processes and resolve the complex software and hardware problems that tax user productivity. HP Care Pack services help you increase IT environment stability, efficiency, and agility from the desktop to the data center, and improve the productivity of your employees.

HP offers an optional migration service to assist the customer in moving to the newest product release. This may be in the form of a defined kit and service, or may alternatively be performed on a time & material basis.

HP Services allows the customer to leverage HP's experience in selecting and configuring the most widely used security features, and provides an environment that is immediately more available due to increased change control and significantly improved data security.

For more information on these and other service options, please contact any of our worldwide sales offices or visit our web site at: http://www.hp.com/hps/support

Warranty and Services Included with the Product	HP basic Software warranty provides that the Software media will be free of physical defects for a period of ninety (90) days from delivery. In addition to this basic Software warranty HP also includes, as part of the product, a 1 year, Software Support Carepack that provides phone in support for 9hrs/day, 5 days/week for all the bundled software including the WSS2003 R2 operating system including the iSCSI functionality, the Data Protector Express software, and the enhanced All-in-One Storage Manager (ASM) GUI. This AiO600 product support can be uplifted to 24x7 for up to 5 years.

The HP AiO600 comes with a 3-3-3 hardware warranty (3 years parts exchange, 3 years labor, and 3 years on-site, next business day response) for product hardware.

Service and Support, HP Care Pack, and Warranty Information

Available HP Care Pack
Services

Extend your product warranty with a choice of cost-saving support packages.

HP Care Pack Services are sold by HP and HP authorized enterprise and commercial resellers. Services for customers purchasing via direct and enterprise resellers are quoted using HP order configuration tools.

- HP Care Pack is defined as an upgrade to the product warranty attribute, available for a specific duration and hours of coverage.
- HP Care Pack is not available for less than the product's warranty duration.
- HP Care Pack is available for sale anytime during the warranty period for most products, but the commencement date will be the same as the Warranty Start Date (delivery date to end user customer). Proof of purchase may be required.
- HP Care Pack services are prepaid.

For additional information on Product Services and HP Care Pack, as well as orderable part numbers, please refer to the URL: http://www.hp.com/hps/carepack/.

If you have specific questions about availability or how to obtain services contact your local HP representative. Contact information for your local area can be found at: http://www.hp.com/services.

Installation Services

The Installation service deployment activities follow the AiO Quick Start Poster and include:

- Unpacking the product, performing initial inspection, rack mounting if required, and setting up product hardware and power connectivity and connecting customer provided cables
- Working with the customer to determine if access to the AiO will be DHCP or networking
- Configuring the AiO by running the Rapid Startup Wizard which sets such things as date, time, user name and password, setting up integrated Lights Out (iLO) and simple network management protocol (SNMP).
- The AiO "Create a Shared Folder" Wizard is run to configure the AiO to share files, and access is confirmed.

Finally, a product orientation of less than 10 minutes provides a brief overview of how the product was set up, as well as how to find information within the product documentation.

Support Plus 24 CarePack

HP Support Plus 24 provides all the benefits of the regular Support Plus Care Pack, but HP Services engineers are available to work with your IT team to deliver onsite hardware support and over-the-phone software support around-the-clock 365 days per year.
Three years of HP Support Plus 24 x 7

- Improve coverage hours from 9x5 to 24x7
- Improve HW response time from warranty of next business day to 4hrs same day
- Extend coverage from 1 year to 3 years
- Includes both AiO hardware and software
- Improve the productivity of system managers and operators
- Improve system performance and reduce downtime due to software defects
- Expedite problem resolution through expert-level technical resources
- Enjoy consistent service coverage across geographically dispersed sites
- Access to patches for HP and selected third-party software and firmware

In short you enjoy all the benefits of HP Support Plus at any time or on any day you may need them. Choose Support Plus 24 when you not only need all of the benefits of Support Plus, but also require responsive hardware and software services available anytime.

Service and Support, HP Care Pack, and Warranty Information

Support Plus CarePack

HP Support Plus helps you increase the performance and availability of your IT infrastructure with comprehensive, consistent hardware and software services. HP Services engineers deliver onsite hardware support and over-the-phone software support 13 hours per day, 5 days per week. Three years of HP Support Plus 13x5

- Extend basic coverage from 1 year to 3 years
- Improve HW response time from warranty of next business day to 4hrs same day
- Improve coverage hours from 9x5 to 13x5 (due to improved response time)
- Includes both AiO hardware and software
- Improve the productivity of system managers and operators
- Improve system performance and reduce downtime due to software defects
- Expedite problem resolution through expert-level technical resources
- Enjoy consistent service coverage across geographically dispersed sites
- Access to patches for HP and selected third-party software and firmware

Our Service coverage encompasses the HP AiO 400/600/1200 products, selected multi-vendor hardware and provides trouble-shooting software problems which in turn range from the Windows Storage Server 2003 operating system up to the available utilities. And Support Plus provides recovery and re-configuration assistance of the base HP AiO400/600/1200 using the Quick Recovery disk and your saved configuration file (application recovery not included).

Choose Support Plus when you need to:

- Improve uptime with responsive hardware and software services.
- Enjoy consistent service coverage across geographically dispersed sites.
- Update HP and selected third-party software with tested and certified patches.

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

Education Services

HP offers a variety of training methods to fit your needs including traditional instructor-led courses at one of our 120 training centers worldwide, onsite training customized to your needs, in your facility, or even Remotely Assisted Instruction Learning that combines the best of traditional classroom training (including its live instructor and labs) with the best of online training (no traveling required). And if you like learning on your own schedule, at your own pace, make use of e-learning opportunities on the award-winning HP IT Resource Center, a "learning community" with extensive on-demand resources that can be accessed 24x7. For more information on these services, contact your HP sales representative or visit: http://www.hp.com/learn and click on "HP StorageWorks".

Financial Services

HP Financial Services provides innovative financing and financial asset management programs to help customers cost-effectively acquire, manage, and ultimately retire their HP solutions. For more information on these services, please contact your HP sales representative or visit: http://www.hp.com/go/hpfinancialservices

Product Configuration Wizard

In the following steps you will be guided through a series of steps to help you configure the best solution for your environment. You will also be supplied with information about complementary products that can be ordered at the same time. It is important to note that HP StorageWorks All-in-One Storage Systems include all of the software features and benefits listed above as standard features; this means that there are no expensive upgrades or options required to achieve this integrated storage functionality and data management.

NOTE: The steps outlined below are intended only as a guide for the options available. All options chosen are not be factory integrated or configured and ship as separate components.

Step 1 - Order the desired HP All-in-One Storage System based on capacity, performance, scalability, and redundancy requirements.

AiO600 Configurations
NOTE: The AiO600 is configured as a tower but can easily be converted to a rackable array by installing the AiO600 Tower to Rack Conversion Kit which includes face plate, rails, and all rack mount hardware. Part number AG546A.

HP StorageWorks AiO600 Common Specifications	Processor	Dual Core Intel Xeon 2.67 GHz/1333 MHz FSB with 4MB (1 x 4MB) L2 Cache (Up to 2 processors supported)
	Memory	1 GB of memory standard, expandable to 4 GB
	Operating System	Windows Storage Server 2003 Release 2, Standard Edition
	Storage Controller	Smart Array E200i Controller with 128MB BBWC
	Optical Drive	HP DVD+R/RW 16X Half Height internal
	Network Controller	Embedded NC373i Multifunction Gigabit Network Adapter with TCP/IP Offload Engine plus additional Dual port NC360T 10/100/1000T
	Form Factor	5U tower or rack mount with optional conversion kit
	Power Supply	Standard dual Hot-Plug redundant power supplies
	Cooling Fans	Standard two system fans plus redundant set of two system fans
	Remote Management	Remote management User Interface (UI), Remote Desktop, or Telnet. Integrated Lights Out 2 (iLO2)
	Protocol Support	SMB/CIFS, NFS, NCP, AppleTalk, HTTP, FTP
	iSCSI Initiator Support	Compliant with iSCSI industry standards and compatible with industry standard iSCSI initiators. Interoperability has been verified for Windows 2000, Windows Server 2003, VMware ESX Server 3, SUSE Linux Enterprise Server 10, RedHat Enterprise Linux 5, and Qlogic 4050c

HP StorageWorks AiO600 1.5TB SATA Model AG536A (Americas) AG537A (AP) AG538A (EMEA) AG539A (Aust)	Internal Storage	6 x 250GB front loading, hot plug, 7200 RPM SATA HDDs

HP StorageWorks AiO600 3.0TB SATA Model AG541A (Americas) AG542A (AP) AG543A (EMEA) AG544A (Aust)	Internal Storage	6 x 500GB front loading, hot plug, 7200 RPM SATA HDDs

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HP StorageWorks AiO600 876GB SAS Model AG547A (Americas) AG548A (AP) AG549A (EMEA) AG550A (Aust)	Internal Storage	6 x 146GB front loading, hot plug, 15,000 RPM Serial Attached SCSI (SAS) HDDs	
HP StorageWorks AiO600 1.8TB SAS Model AG725A (Americas) AG726A (AP) AG727A (EMEA) AG728A (Aust)	Internal Storage	6 x 300GB front loading, hot plug, 15,000 RPM Serial Attached SCSI (SAS) HDDs	

Step 2 - Select expansion options

Additional Processor	Dual-Core Intel Xeon Processor 5150 (2.67 GHz, 1333 FSB)	416890-B21
Additional Memory for AiO600	NOTE: Every HP All-in-One 600 Storage System comes standard with 1 GB of memory and is expandable to OS limit of 4 GB	
	512 MB FBD PC2-5300 1 x 512 MB Kit	413507-B21
	1 GB FBD PC2-5300 2 x 512 MB Kit	397409-B21
	2 GB FBD PC2-5300 2 x 1 GB Kit	397411-B21
	4 GB FBD PC2-5300 2 x 2 GB Kit	397413-B21
	NOTE: The HP AiO600 Storage System requires memory interleaving when more than one DIMM is installed. For interleaving, DIMMs must be configured in identical pairs. The system will not boot properly if multiple DIMMs of varying density or type are installed in the system.	
SCSI Host Bus Adapter for backup	HP 64-bit/133-MHz single channel Ultra320 SCSI host bus adapter G2	374654-B21
	HP SC11Xe Host Bus Adapter	412911-B21
SAS Host Bus Adapter for backup	HP SC44Ge Host Bus Adapter	416096-B21
SCSI Controllers for External Drive/Storage Support (PCI-X)	Smart Array 6402/128 NOTE: Ultra320 SCSI. 4 external ports	273915-B21
	Smart Array 6404/256 NOTE: Ultra320 SCSI. 2 external ports.	273914-B21
	Smart Array 642 NOTE: Ultra320 SCSI. 1 external port	291967-B21
SAS Controller for External Drive Support (PCI-e)	HP Smart Array P600 Controller NOTE: Requires Mixed PCI-E/X riser cage.	337972-B21
	512 MB Battery-Backed Cache Upgrade NOTE: This 512-MB Battery-Backed Cache Module upgrade kit supports the Smart Array P600 Controller and the Smart Array 6400 series Controller.	372538-B21
	HP Smart Array P800/512 BBWC Controller	381513-B21
	For more information on these or other Smart Array controllers please visit http://h18004.www1.hp.com/products/servers/proliantstorage/ arraycontrollers/index.html	

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Networking Communications	Embedded NC373i Multifunction Gigabit Server Adapter with TCP/IP Offload Engine standard. Select additional cards for higher performance and further redundancy.	
	NOTE: Multifunction Server Adapters require installation of the Microsoft Windows Server 2003 Scalable Networking Pack (a free download from Microsoft) to enable TCP Chimney offload (TOE), Receive-side Scaling (RSS), and Network Direct Memory Access (NetDMA) features. The iSCSI Acceleration Pack component Multifunction network adapters are not supported on the iSCSI Target.	
	HP NC110T PCI Express Gigabit Server Adapter	434905-B21
	HP NC150T PCI 4-port Gigabit 1000T Combo Switch Adapter	367132-B21
	HP NC310F PCI-X 1000SX Gigabit Server Adapter	368169-B21
	HP NC340T PCI-X 4-port 1000T Gigabit Server Adapter	391661-B21
	HP NC360T PCI Express Dual Port Gigabit Server Adapter	412648-B21
	HP NC373T PCI Express Multifunction Gigabit Server Adapter	394791-B21
	HP NC373F PCI Express Multifunction Gigabit Server Adapter	394793-B21
	HP NC380T PCI Express Dual Port Multifunction Gigabit Server Adapter	394795-B21
	HP NC510F PCIe 10 Gigabit Server Adapter	414126-B21
	NOTE: A minimum of 1 gigabyte (1 GB) of server memory is required per each NC510F adapter.	
	HP NC510C PCIe 10 Gigabit Server Adapter	414129-B21
	NOTE: A minimum of 1 gigabyte (1 GB) of server memory is required per each NC510C adapter.	
	NOTE: Any NIC (except the NC1020) on the option list can be used for redundancy with the embedded NC373i Multifunction Gigabit NIC. When teaming with other NICs or with the embedded NIC, the lack of Jumbo Frames and LSO features on the NC1020 will cause high end NICs to have those features disabled. 2006 Agere PCI high-speed international soft modem	
Tower to Rack Conversion Kit	AiO600 Tower to Rack Conversion Kit	AG546A
	Shipping Bracket for Round Hole Racks	371482-B21
	NOTE: This kit is required if the system will be configured and shipped within a round hole rack.	

Step 3 - add optional Data Protector Express extensions

NOTE: HP All-in-One Storage Systems ship with the HP StorageWorks Data Protector Express Backup server LTU. No functional extensions are required to backup file or iSCSI block data but the following extensions can be added for advanced functionality. (NOTE: This is the backup server LTU component of Data Protector Express and does not include any add-on licenses for features such as Bare Metal Recovery or Disk-to-Disk-to-Any functionality)

Additional extensions are available if you are enabling network backup from clients or servers to the AiO as a backup target.
For more information on HP Data Protector Express please visit http://www.hp.com/go/dataprotectorexpress.

Optional extensions	HP StorageWorks Data Protector Express D2D2Any LTU	BB130AA
	HP StorageWorks Data Protector Express Drive Expansion (1 incremental drive) LTU	BB133AA

Product Configuration Wizard

Step 4 - add external storage disk array for additional capacity

NOTE: The latest version of the HP All-in-One Storage Manager (ASM) does support management of both internal storage on the All-in-One Storage System as well as direct attached MSA storage enclosures. ASM also supports management of tiered storage environments where both SCSI/SAS or SATA hard drives are attached to the All-in-One Storage System.

External storage enclosure support matrix for HP All-in-One Storage Systems

System	Enclosure	Quantity Supported	Host Controller or Adapter
AiO600	MSA20 MSA30	1 per SCSI VHDCI connector	Smart Array 642 Controller Smart Array 6402/128 Controller Smart Array 6404/256 Controller
AiO600	MSA50 MSA70	2 per connector (supports 1+1 cascading)	HP Smart Array P600/256 BBWC Controller HP Smart Array P800/512 BBWC Controller
AiO600	MSA60	4 per connector (supports 1+3 cascading)	HP Smart Array P800/512 BBWC Controller

NOTE: For more information on storage enclosures from HP, including product QuickSpecs, please visit
http://h18006.www1.hp.com/storage/disk_storage/msa_diskarrays/drive_enclosures/index.html

HP StorageWorks Modular Smart Array 20	HP StorageWorks Modular Smart Array 20 (SATA) NOTE: Rack-mountable 12 (SATA) drive enclosure with U320 Host connectivity and redundant power supplies.	335921-B21
	HP StorageWorks Modular Smart Array 20 Starter Kit NOTE: Rack-mountable 12 (SATA) drive enclosure with U320 Host connectivity and redundant power supplies. Includes Smart Array 6402/128 Controller. NOTE: The Modular Smart Array Enclosure 20 Family supports the SATA 1.5Gb/s 3.5" Hot Plug Hard Drives.	366172-B21
HP StorageWorks Modular Smart Array 30	HP StorageWorks Modular Smart Array 30 SB (SCSI) NOTE: Rack-mountable 14 (SCSI) drive enclosure with single bus and redundant power supplies	302969-B21
	HP StorageWorks Modular Smart Array 30 DB (SCSI) NOTE: Rack-mountable 14 (SCSI) drive enclosure with dual bus and redundant power supplies NOTE: The Modular Smart Array Enclosure 30 Family supports the Wide Ultra3 or Ultra320 Hot Plug Hard Drives.	302970-B21
HP StorageWorks Modular Smart Array 50	HP StorageWorks Modular Smart Array 50 (SAS) NOTE: 1U Serial Attach SCSI(SAS) disk drive storage enclosure supporting Small Form Factor(SFF) SAS or Serial ATA(SATA) drives.	364430-B21
HP StorageWorks Modular Smart Array 60	HP StorageWorks Modular Smart Array 60 (SAS) NOTE: High capacity 2U disk drive storage enclosure supporting 12 3.5" SAS or Serial ATA (SATA) drives.	418408-B21
HP StorageWorks Modular Smart Array 70	HP StorageWorks 70 Modular Smart Array NOTE: Rack-mountable 25 drive (2.5" SAS/SATA) enclosure with 3Gb/s SAS host connectivity and redundant power supplies.	418800-B21

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Step 5 - add tape backup solution

Tape Drives	HP StorageWorks Ultrium Tape Drive	
	HP StorageWorks Ultrium 960 Internal Tape Drive (800 GB compressed capacity)	Q1538A
	HP StorageWorks Ultrium 960 External Tape Drive (800 GB compressed capacity)	Q1539B
	HP StorageWorks Ultrium 960 Rack-Mount (800 GB compressed capacity) - single drive installed in a 3U Rack-mount kit	Q1595B
	HP StorageWorks Ultrium 920 Internal Tape Drive (800 GB compressed capacity)	EH841A
	HP StorageWorks Ultrium 920 External Tape Drive (800 GB compressed capacity)	EH842A
	HP StorageWorks Ultrium 920 Rack-Mount (800 GB compressed capacity) - single drive installed in a 1U Rack-mount kit	EH903A
	HP StorageWorks Ultrium 448 Internal Tape Drive (400 GB compressed capacity)	DW016A
	HP StorageWorks Ultrium 448 External Tape Drive (400 GB compressed capacity)	DW017B

Tape Autoloaders	HP StorageWorks 1/8 Tape Autoloader	
	HP 1/8 G2 Ultrium 920 Tape Autoloader	AH165A
	HP 1/8 G2 Ultrium 448 Tape Autoloader	AH164A
	1/8 Tape Autoloader Rackmount Kit	C9268R

NOTE: Required to install the unit in a standard 19-inch rack; includes rails and rackmount instructions

NOTE: Please reference the 1/8 Tape Autoloader QuickSpecs at http://www.hp.com/go/automation for additional information.

Tape Libraries	HP StorageWorks MSL2024 Tape Library	
	HP StorageWorks MSL2024 1 Ultrium 960 Drive Library	AG115A
	HP StorageWorks MSL2024 1 Ultrium 448 Drive Library	AG116A
	HP StorageWorks MSL2024 2 Ultrium 448 Drive Library	AG117A
	HP StorageWorks MSL4048 Tape Library	
	HP StorageWorks MSL4048 1 Ultrium 448 Drive Library	AG320A
	HP StorageWorks MSL4048 2 Ultrium 448 Drive Library	AG321A
	HP StorageWorks MSL4048 1 Ultrium 920 SAS Drive Library	AH560A
	HP StorageWorks MSL4048 1 Ultrium 920 Drive Library	AH171A
	HP StorageWorks MSL4048 2 Ultrium 920 Drive Library	AH172A
	HP StorageWorks MSL4048 1 Ultrium 960 Drive Library	AG322A
	HP StorageWorks MSL4048 2 Ultrium 960 Drive Library	AG323A

NOTE: Please reference the MSL2024 and MSL4048 Tape Library QuickSpecs at http://www.hp.com/go/automation for additional information.

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Step 6 - add HP CarePack services

AiO600 CarePacks	HP 1y Support Plus AiO600 SVC	UE981E
	HP 1y Support Plus24 AiO600 SVC	UE982E
	HP 1y 6h 24x7 CTR AiO600 HW Supp	UE983E
	HP 3y Support Plus AiO600 SVC	UE984E
	HP 3y Support Plus24 AiO600 SVC	UE985E
	HP 3y 6h 24x7 CTR AiO600 HW Supp	UE986E
	HP 1y PW Support Plus AiO600 SVC	UE987PE
	HP 1y PW Support Plus24 AiO600 SVC	UE988PE
	HP Installation	UF285E

Additional Specifications

AiO600 Additional Specifications	Dimensions (HxWxD) (with feet/bezel)	18.43 x 8.66 x 25.2 in (46.8 x 22 x 64 cm)	
	Weight (approximate)	60 lb (27.24 kg) (without hard drives)	
	Shipping Size	35.13 x 23.63 x 15.75 in (89.23 x 60.02 x 40.01cm)	
	Input Requirements (per power supply)	Rated Input Voltage	100-120 VAC / 200-240VAC
		Rated Input Frequency	50 Hz to 60 Hz
		Input Power	<1000W @ 90VAC <1050W @ 115VAC <1205W @ 180VAC
		Rated Input Current	10A(100VAC),6.7A(200VAC)
	Rated Line Frequency	50 to 60 Hz	
	BTU Rating	4112BTU/hr	180VAC
	Power Supply Output Power (per power supply)	Rated Steady-State Power	800W at 120V or 1000W at 220V
	Temperature Range	Operating	50° to 95° F (10° to 35° C) (No direct sustaining sunlight)
		Storage (up to one year)	40° to 158° F (-40° to 70° C)
	Maximum Wet Bulb Temperature	82.4° F (28° C)	
	Relative Humidity (non-condensing)	Operating	10% to 90%
		Non-operating	5% to 90%
	Acoustic Noise	Idle (Fixed Disk Drives Spinning)	
		L WAd (BELS)	6.0
		L pAm (dBA)	43
		Operating (Random Seeks to Fixed Disks)	
		L WAd (BELS)	6.0
		L pAm (dBA)	43