

# **Consolidating Storage Management**

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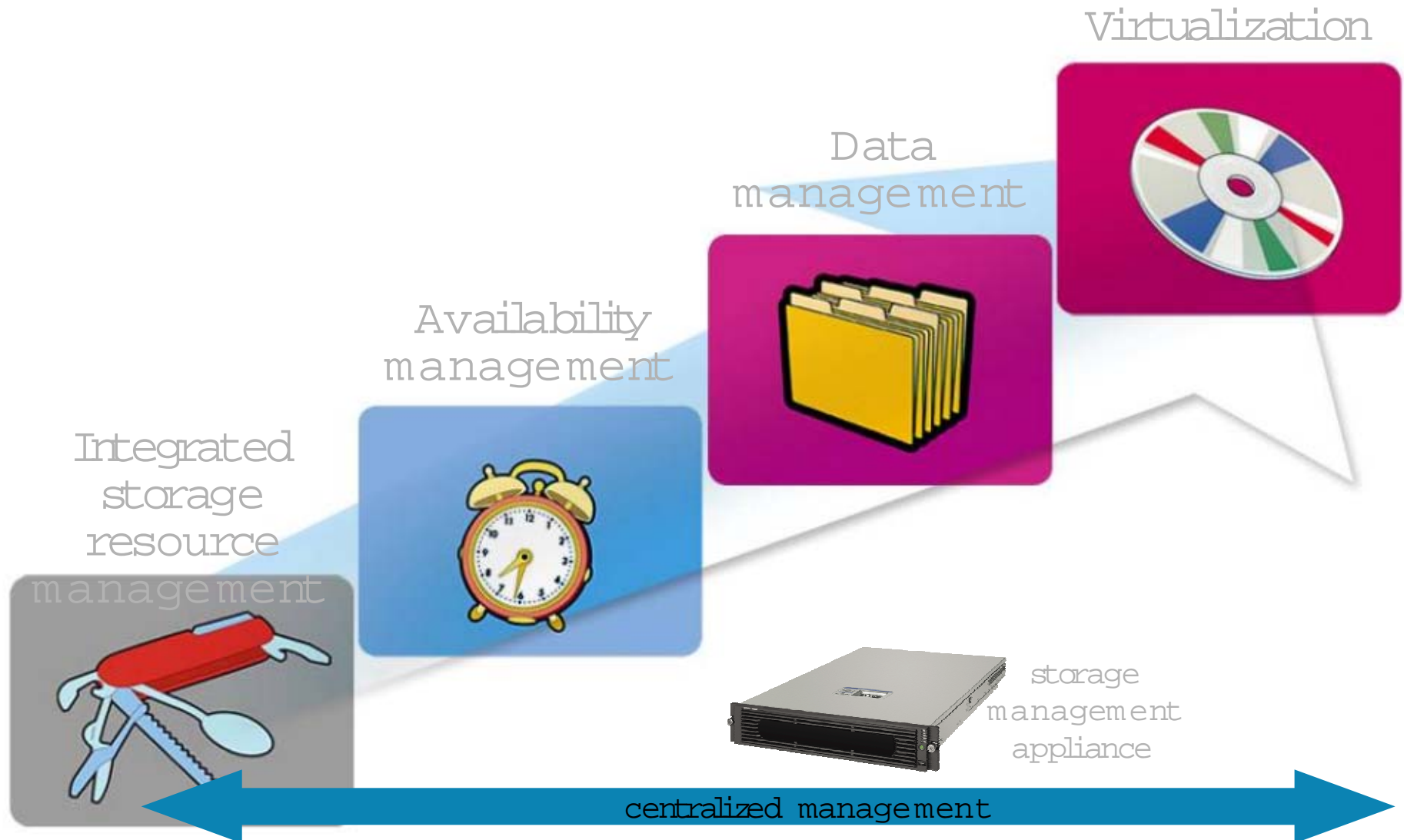
# Agenda

- Market trends
- HP storage management software portfolio
- HP OpenView Storage Management Appliance
- Important details
- Services
- Who benefits & why
- More information

# Key market trends

- Wide acceptance of SAN as a storage-interconnect technology
  - by 2005, 72% of storage will be SAN-attached
- Explosion in data growth
- Introduction of heterogeneous environments in the data center (e.g., NT/UNIX)
- Increasing cost of managing storage
  - management storage costs are typically five to seven times the acquisition cost (Gartner Group)
  - 24 x 7 availability requirement for business operations

# Family positioning

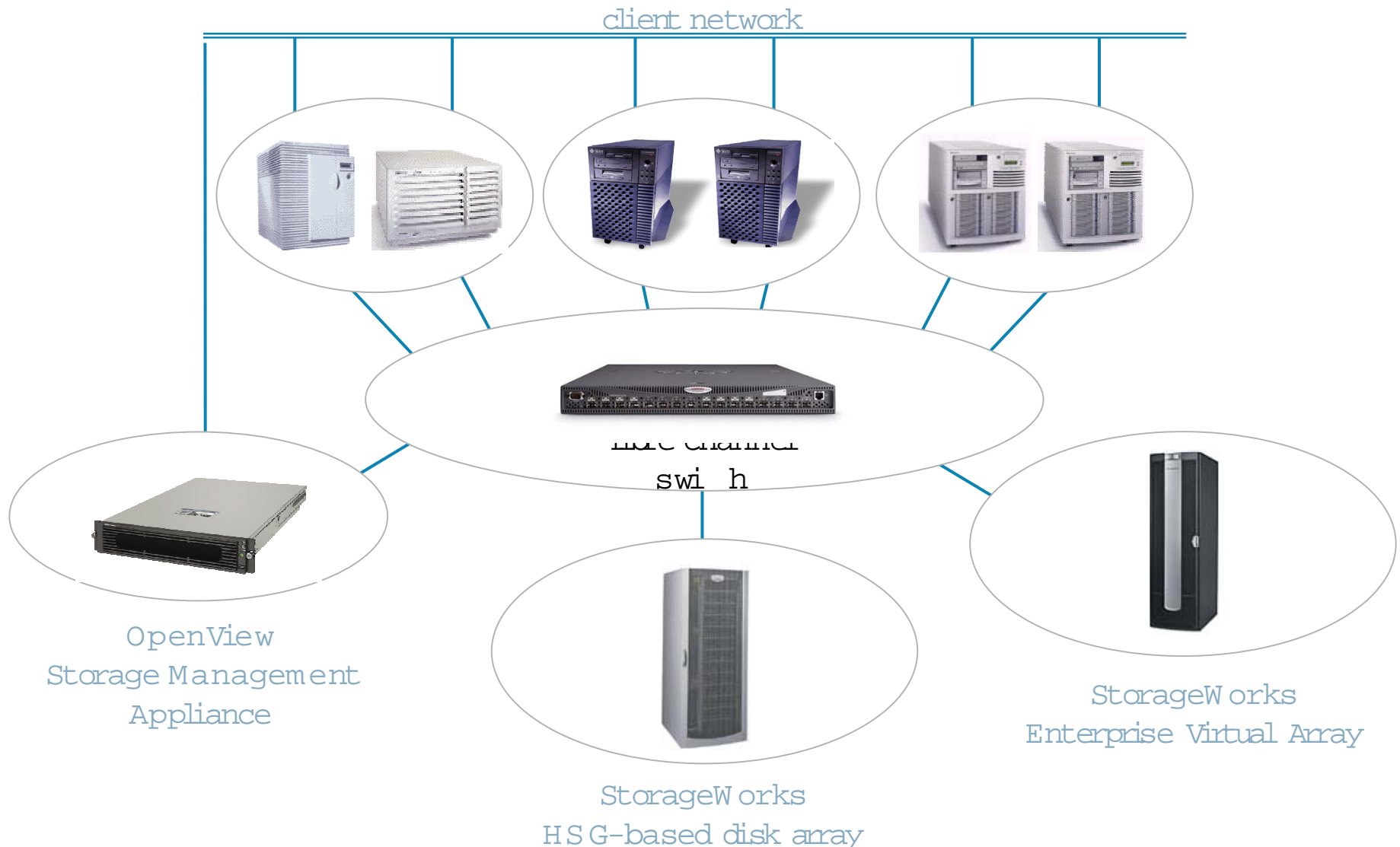


# HP OpenView Storage Management Appliance

- Centralized, host independent storage management
  - **cost-effective:** reduces TCO with a centralized and automated approach to storage resource management
  - **manageable:** provides an easy web-based interface for enterprise storage management anywhere, anytime
  - **high-performance:** out-of-band design ensures no impact to overall performance



# Sample configuration





# Storage Management Appliance software v2.0

- Improved manageability features increase operational efficiency and enable higher levels of availability
- Higher levels of security provide more control over access to SAN resources and data
- Enhanced GUI and usability features support a more intuitive, task-oriented user experience



# Integrated core applications

- OpenView Storage Management Appliance software v2.0

## *Providing...*

- Monitoring
  - Event management & notification
  - Automation
  - Auditing & logging
  - License management
- StorageWorks HSV Element Manager V2.0A
  - StorageWorks HSG Element Manager V1.0D
  - Insight Management Agents V5.20



# Supported layered applications

- OpenView Storage Area Manager
- StorageWorks Business Copy
- StorageWorks Continuous Access EVA
- StorageWorks Secure Path Manager
- OpenView Storage Provisioner
- HP Proactive Remote Service
- *HP SANworks Network View*
- *HP SANworks Storage Allocation Reporter*

what's new?



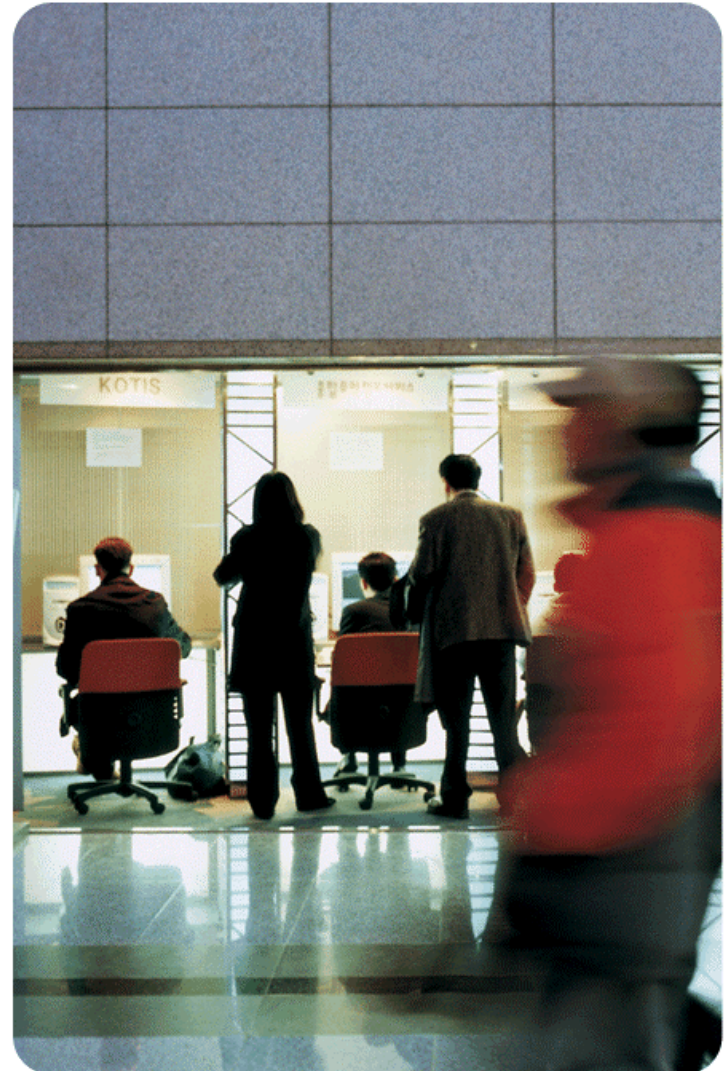
# Security

- Three levels of authorization enable role-based privileged access
  - Administrator
  - Operator
  - User
- Authentication by username ensures detailed audit trails
- Support of virus protection software decreases vulnerability to attacks
- SSL encryption and https support ensures data transmission privacy



# Manageability

- Extended event management provides detailed notification based on policy
- Additional multi-vendor device support for more control
  - Brocade
  - McData
  - Network Appliance filers
- Windows domain integration speeds up setup and ensures accuracy & control
- Improved backup/restore tool ensures data recovery for applications
- Support of industry-standard backup agents enables compliance with corporate backup strategies





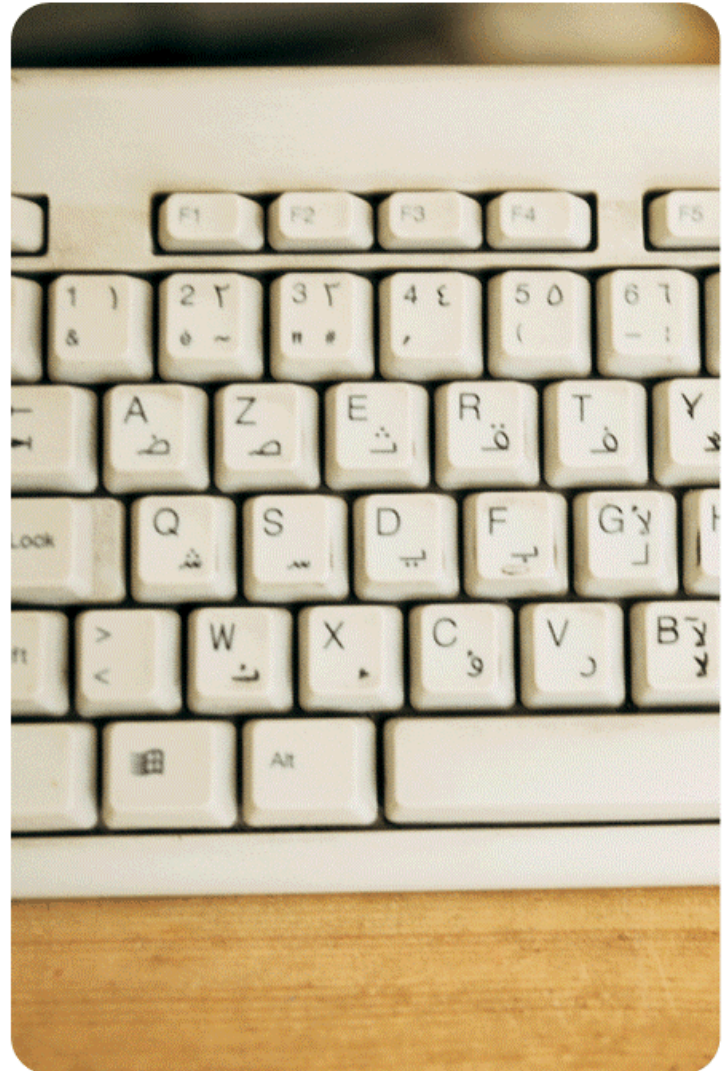
# Availability

- Dual-redundant SAN support with one Storage Management Appliance
- Active/passive configuration support enables quicker recovery in event of a fatal Storage Management Appliance outage
- Enhanced integral and industry-standard backup support



# Usability

- New **Getting Started** feature gets you up and running fast
- Single login across all applications
- New streamlined GUI increases user productivity
- On-screen status alerts
- Wizards added to simplify complex management tasks
- Downloadable logs enable email & print
- 'My Links' preserves favorite URL's for each user





# More protection

## ■ Virus Protection

- McAfee NetShield V4.5
- Symantec Norton Antivirus V7.6
- Trend Micro ServerProtect V5.31
- eTrust InnoculateIT 6.0

## ■ Data Protection

- HP OpenView Storage Data Protector V5.0
- Veritas Backup Exec V8.6
- Veritas NetBackup Business Server V4.5
- Legato NetWorker V6.2

# Storage Area Manager support

- Provides investment protection for customers migrating from SANworks products
- Supported layered application
- Support requirements
  - Storage Management Appliance II with 1 GB RAM **upgrade**
  - Storage Management Appliance software v2.0
  - Storage Area Manager v3.0 with SANMGR\_00008 patch or later
  - SANworks Network View must be removed prior
- Application Note outlines complete details

# SANworks software upgrade path

<u>SANworks</u>	Discontinuance Date*	<u>OpenView</u> <u>Storage Area Manager</u>
Storage Resource Manager v4.X	1/31/03	Storage Builder
Storage Allocation Reporter V1.X	1/31/03	Storage Accountant
Network View v2.X	6/30/03	Storage Node Manager & Storage Optimizer

\* SANworks products will be supported (break/fix plus bug fixes) by HP for 18 months after discontinuance

- SRM and SAR to be supported thru 7/31/04
- Network View to be supported thru 12/31/04

# SANworks software upgrade guidelines



- Free OpenView Storage Area Manager upgrade software licenses & CD's are available for past purchases of:
  - Network View v2.0+
  - Storage Resource Manager v4.0+
  - Storage Allocation Reporter v1.0+
- HP requires an hp OpenView SAM certified professional to install OpenView Storage Area Manager software
  - ex. HP Services implementation service
  - ex. HP OpenView SAM Certified Professional implementation (via hp partner reseller)
- SANworks software must be uninstalled after completion of OpenView Storage Area Manager upgrade
- Existing SANworks support contracts will transition into equivalent OpenView support contracts



information of note

# Software availability & support

- Current customers
  - Free update
  - Download kit or order CD from web:  
[www.compaq.com/products/sanworks/softwaredrivers/managementappliance/index.html](http://www.compaq.com/products/sanworks/softwaredrivers/managementappliance/index.html)
  - Updated documentation included
  - Supported on Management Appliance II and original Management Appliance
- New customers
  - Update CD included with new Management Appliance II purchase



# Browser matrix

operating system	browser
Windows Server 2003 (IA32)	Internet Explorer V6.0 SP1
Windows NT V4.0 with SP6a	Internet Explorer V5.5, V6.0 SP1; Netscape Navigator 6.2.3
Windows 2000 Server and Advanced Server SP2 or higher	Internet Explorer V5.5, V6.0 SP1; Netscape Navigator 6.2.3
HP Tru64 UNIX 5.1, 5.1a	Netscape Navigator 6.2.3
Sun Solaris 7, 8	Netscape Navigator 6.2.3
HP-UX 11.0, 11.i	Netscape Navigator 6.2.1
Red Hat Linux 7.1	Netscape Navigator 6.2.3
HP OpenVMS 7.2-2, 7.3, 7.3-1	Compaq Secure Web Browser v1.0

# Browser support guidelines

- Command View EVA and HSG Element Manager supported with Microsoft IE 5.5 and 6.0 only
- HSG Element Manager support for Microsoft Windows Server 2003 requires Hot Fix
  - Q Article # 818506
  - Can be acquired from <http://support.microsoft.com/default.aspx?scid=kb;en-us;818506>
- Command View EVA not supported with OpenVMS
- HSG Element Manager not supported with Red Hat Linux

# Configuration & support guidelines

- New software v2.0 only installable on a Management Appliance with:
  - Management Appliance v1.0C Software Update (January 2002)
- Manages a single or dual-redundant SAN
- One Storage Management Appliance per SAN
- Only HP-qualified applications are supported
- Maximum 25 HSG and/or 16 HSV1xx controller pairs supported

# Service Packs and Security Patches

<http://h18000.www1.hp.com/products/sanworks/softwaredrivers/managementappliance/index.html>

- Storage Management Appliance software v2.0 SP4
  - Storage Management Appliance software v2.0 SP1a
    - Critical
    - Addresses Network View & EVA (false critical events)
    - Includes integration support for future layered products
  - Command View EVA v3.0a
    - Support for Network View v2.0 SP2 and OpenView SAM
  - HSG Element Manager v1.0e
    - Support for ACS 8.7 W & R variants
    - Browser support for Microsoft Windows Server 2003 (IA32)
  - Fibre Channel Performance Optimization update
  - Internet security vulnerability patch (DisableWebDAVPatch)
  - Interoperability patch for Proactive Remote Service v5.0

# Service Packs and Security Patches

- Microsoft Hot Fix and Security Bulletin
- W32.SQLExp (“slammer” virus) communication bulletin
  - SMA-specific directions and pointer to Microsoft-developed patch
- Management Appliance v1.0C Software Update
  - Service Pack 1: Microsoft SNMP Services patch
  - Service Pack 3: SQL worm virus vulnerability patch
  - Service Pack 4: HSG Element Manager v1.0D
  - Service Pack 5: HSV Element Manager v2.0A (replaces SP2)

# About SMA Service Packs

- Storage Management Appliance software v2.0 Service Packs are somewhat “cumulative”
- Management Appliance v1.0C Software Update Service Packs are non-cumulative
  - Not all are required
  - Understand environment and SP content before installing
- Security-related concerns will be addressed as soon as possible
  - Close working relationship with Microsoft
  - Complete integration testing required
  - Monitor SMA Software Update web page or subscribe for electronic Security Advisories from Software Response Team
    - <http://www.support.compaq.com/patches/mail-list.shtml>
  - May recommend application of Microsoft Hot Fix or patch



# Quick Restore CD

- Quick Restore CD now available for original SANworks Management Appliance
  - HP Services no longer required
  - Restores to Management Appliance v1.0C Software Update (January 2002)
  - Web order from:
    - <http://h18000.www1.hp.com/products/sanworks/softwaredrivers/managementappliance/qrv20.html>
- **Note!** Management Appliance Quick Restore CD's are not interchangeable
- Management Appliance II Quick Restore CD included with purchase

# Preview of new hardware



- Intel Xeon 2.4 GHz processor
- 2 GB RAM
- 2 – 72 GB 10k rpm drives
- 1u form factor
- 2 - embedded Gbit Ethernet NICs
- Integrated Lights-Out Management (iLO) Advanced Pack
- 1 - Emulex LP9002dc FC adapter
- Redundant power supply
- DVD-ROM
- 1.44 MB floppy disk drive



services

# Installation & Startup Service

## *Faster time to deployment*

- Storage Management Appliance and core applications
- Hardware and software validation tests
- Customer orientation session
- Knowledge transfer
- 12 hr. deliverable



# Proactive Remote Service

*Focused on achieving zero downtime*

- Runs on Storage Management Appliance
  - integrates completely with appliance event system
- Automatically alerts HP Customer Support Center
- Service personnel dispatched to achieve quick and efficient repairs
- Delivers higher system availability and serviceability
- Free to customers with storage hardware service contract

A low-angle, upward-looking photograph of several tall, multi-story buildings in a city. The buildings are constructed from dark stone or concrete, featuring numerous windows and classical architectural details like cornices and pilasters. The sky is a pale, overcast blue. In the bottom right corner, there is a semi-transparent blue rectangular box containing white text.

differentiation  
and leadership



# Who benefits?

- Customers who require a simple, cost-effective deployment strategy for highly productive, high performance management of complex network storage configurations
- Customers planning on centralizing their storage management efforts
- Businesses running mission-critical, storage-intensive applications



# Why HP OpenView Storage Management Appliance?



- Simple, centralized, out-of-band deployment
- Anytime, anywhere mission-critical storage management
- Unique host-independent implementation fits in any environment
- Comprehensive event management for the Open SAN
- Automated actions based on policy increases efficiency
- Proactively alerts before an outage

# For more information

<http://h18000.www1.hp.com/products/sanworks/managementappliance/index.html>

- Product collateral
- QuickSpecs
- Software Updates, Service Packs, Security Patches
- Tech Docs, White Papers, Application Notes
  - “Using Storage Area Manager on the Storage Management Appliance”
  - “High Availability Configuration”
  - “Installing Antivirus and Backup Software”
  - “Active/Passive Configuration”
- Web orderable CD's
  - Storage Management Appliance software v2.0
  - Management Appliance (G1) v2.0 Quick Restore
  - Management Appliance v1.0C Software Update



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