



# Demand More.

## HP Storage for the Adaptive Enterprise

Bob Schultz

Sr. Vice President and General Manager  
Network Storage Solutions



# Return on IT: the traditional model



A diagram consisting of a horizontal line with three circular nodes. A light blue triangle is formed by connecting the two outer nodes to the middle node. The text "Manage costs:" is positioned to the left of the left node, "Increase quality:" is positioned below the middle node, and "Mitigate risk:" is positioned to the right of the right node. Each section contains a bulleted list of objectives.

## Manage costs:

- Lower operations and acquisition costs
- Manage fixed costs

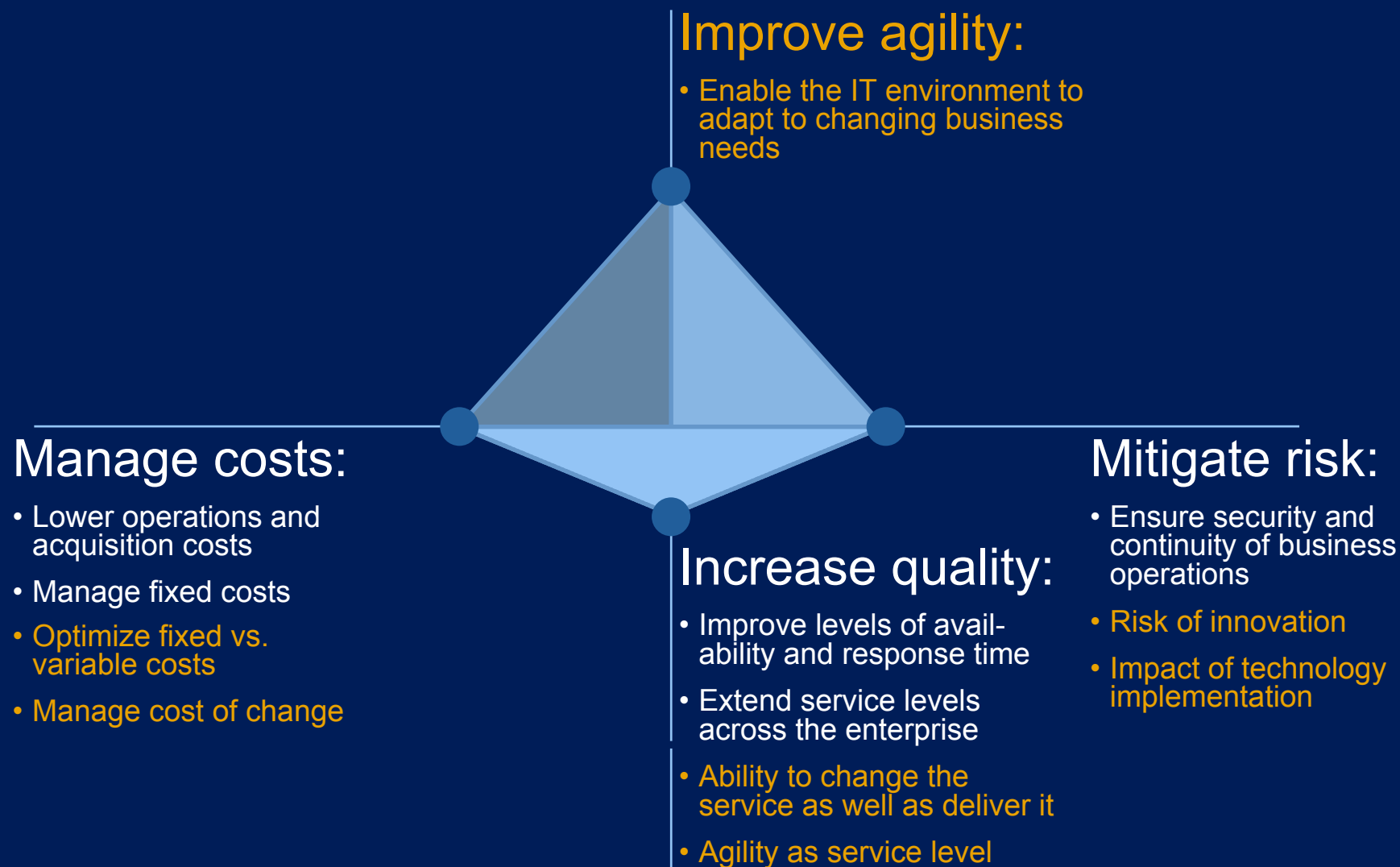
## Increase quality:

- Improve levels of availability and response time
- Extend service levels across the enterprise

## Mitigate risk:

- Ensure security and continuity of business operations

# Business agility: the new dimension

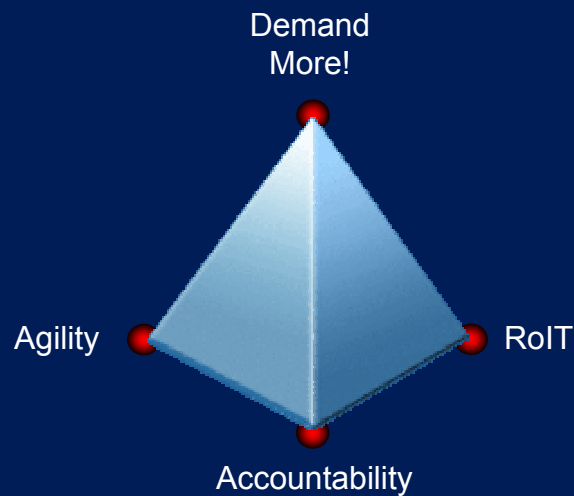


# HP Storage vision for an adaptive utility service



- Deliver the right information, to the right person, anytime, anywhere
- An adaptive storage utility must support:
  - Flexibility
    - Non-disruptive growth
    - Dynamically assign and reassign access as needed
  - Continuous availability
  - Continuous accessibility
  - Leverage
    - Physical assets
      - Hardware
    - Logical assets
      - Software
    - Intellectual Property
      - Management model





## Simplification

- Accelerate Deployment

## Standardization

- Reduce storage management complexity

## Modularity

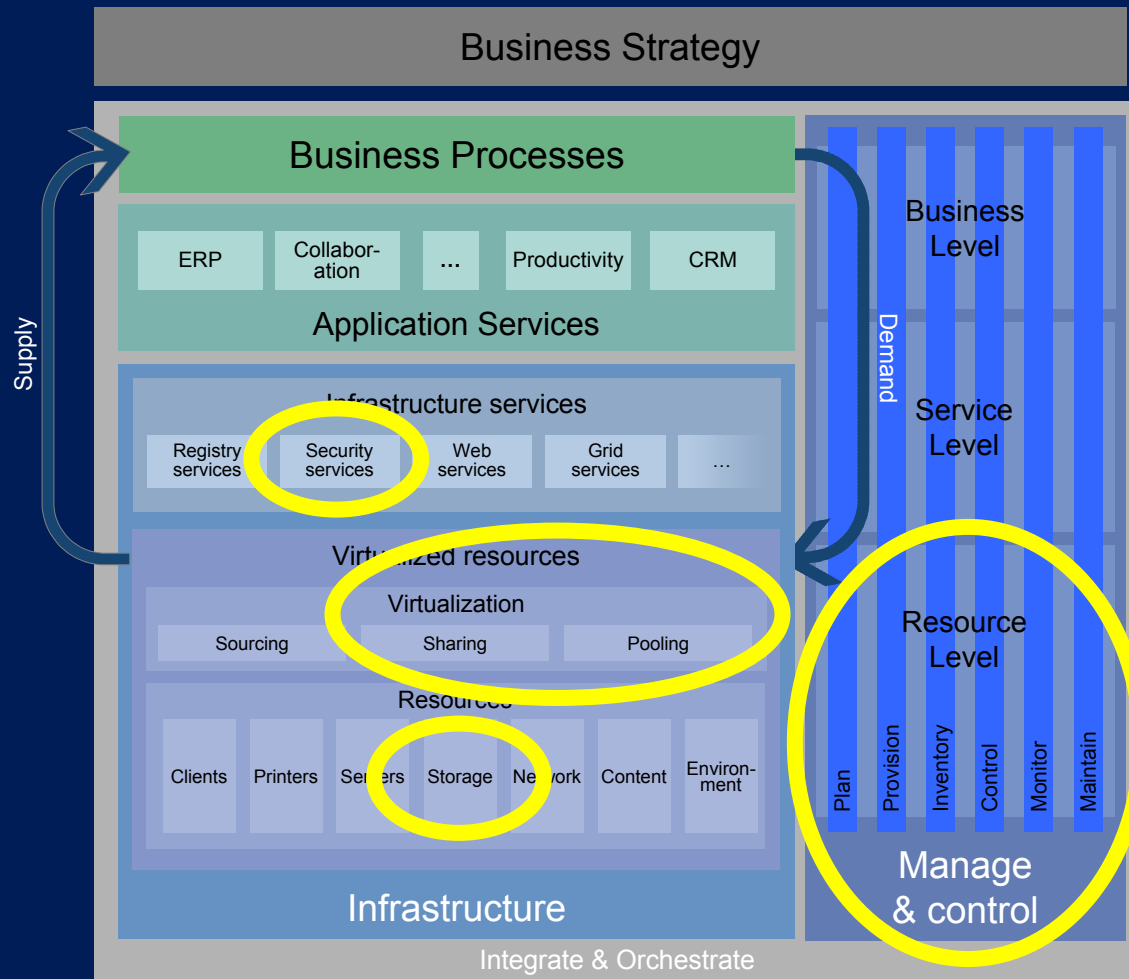
- Reduce storage infrastructure complexity

## Integration

- Protect investments and leverage time to market

# HP Storage builds an Adaptive Enterprise

demand more agility, accountability and better return on IT



An IT foundation that dynamically adapts to rapidly changing business conditions

# Commitment to standards



## Server architectures

- Two foundational architectures
- IA-32 and Itanium®
- Improved performance, flexibility and cost

## Storage technologies

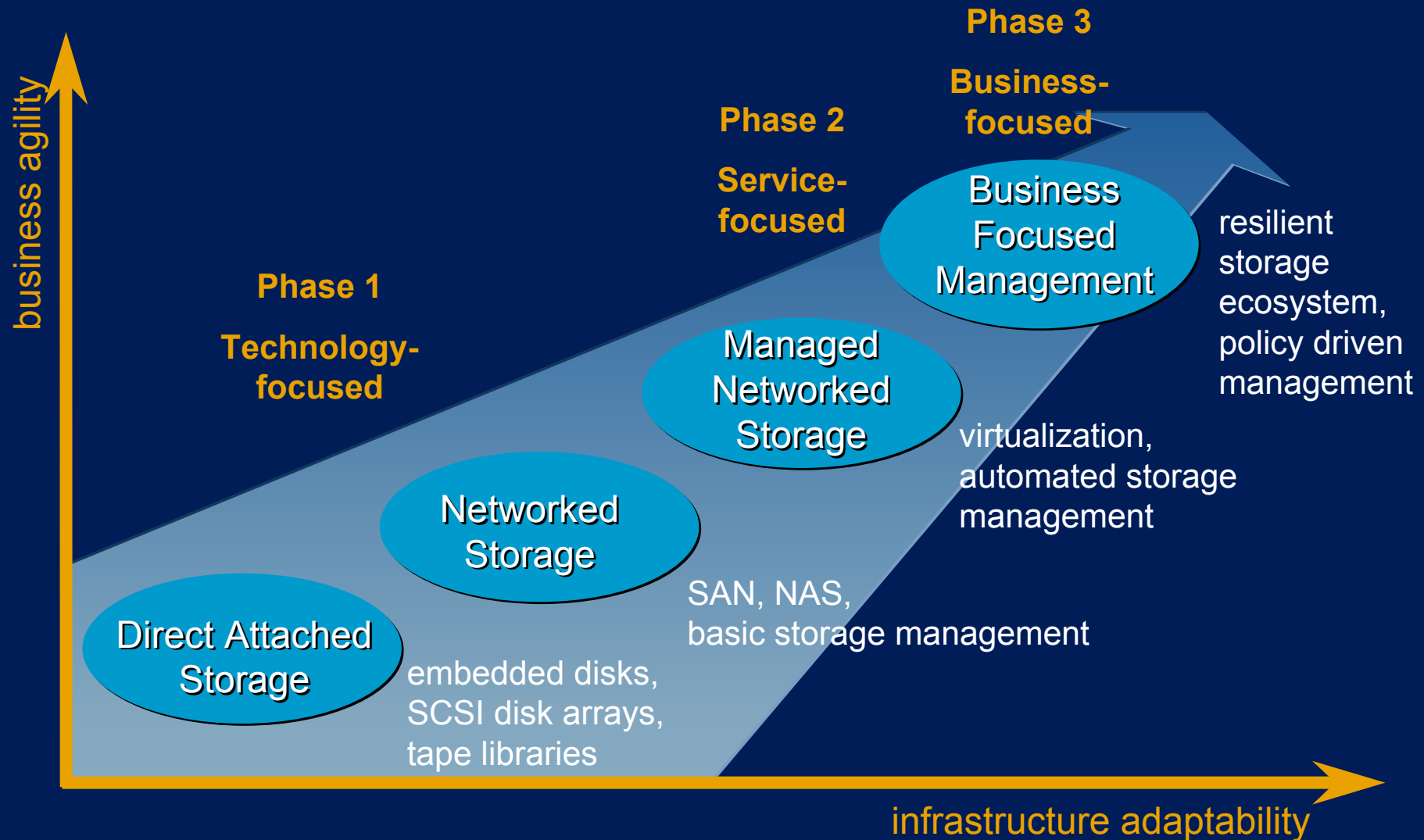
- Management and application interfaces
  - Enables modular applications
  - Reduced time to market
- Tape and automation
  - Leadership, choice, breadth
  - The most advanced near-line technologies
- Fabric based interconnects and interfaces
  - Driving fiber/Ethernet convergence
- SNIA compliance

## 3-OS strategy and multi-OS support

- Windows, Linux, HP-UX
- NonStop, Open VMS, Tru64 UNIX, and others

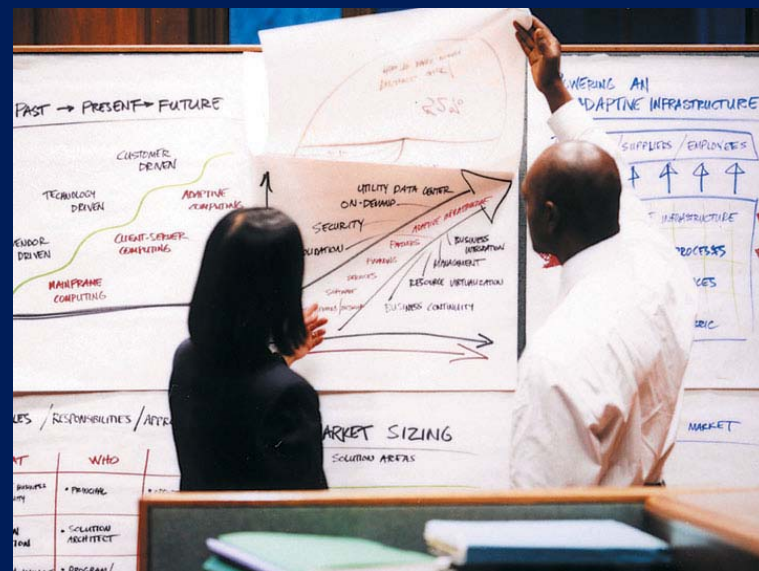


# HP storage evolution enables an Adaptive Enterprise

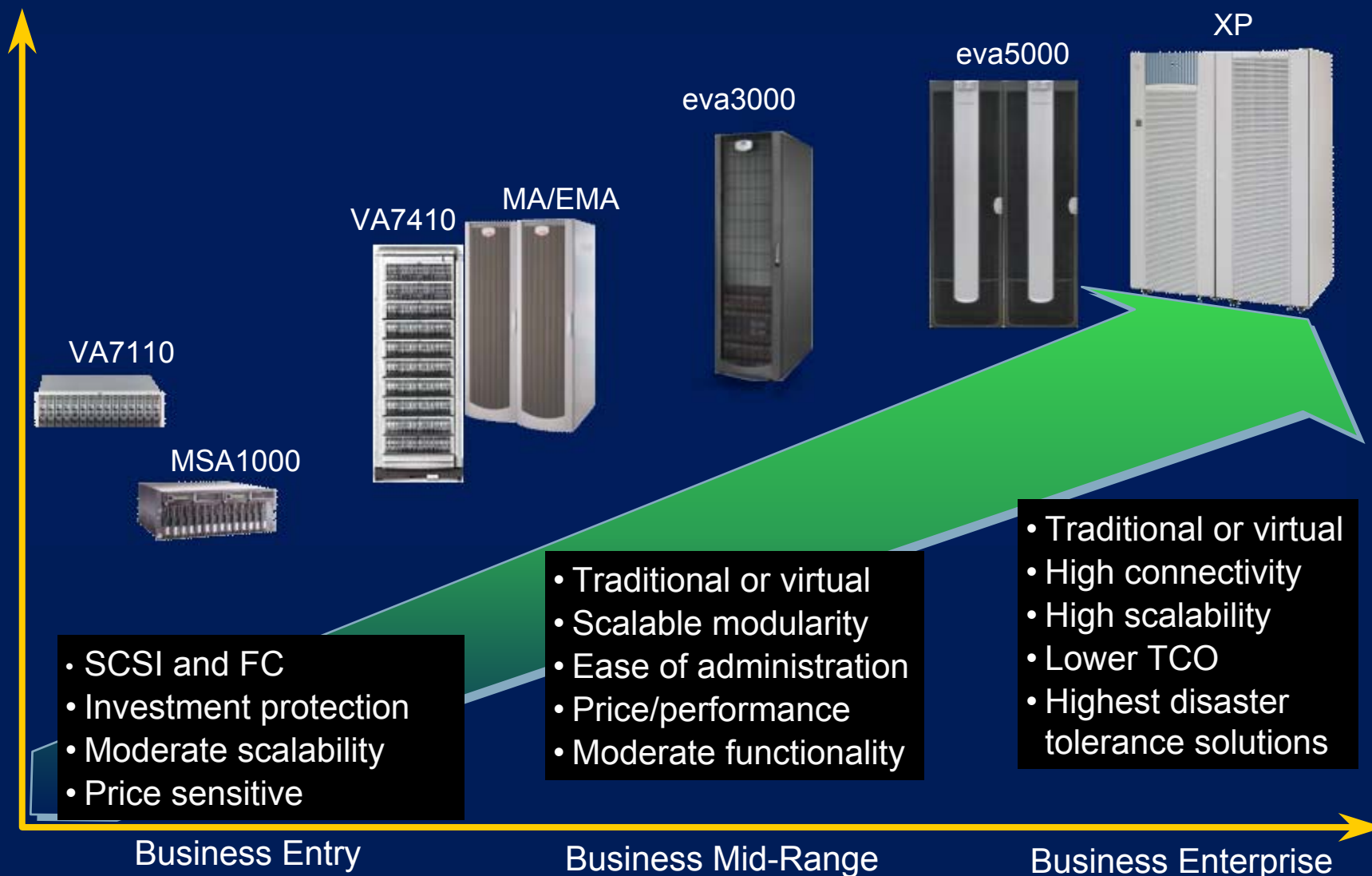




- Online array storage
- Network attached storage (NAS)
- Nearline tape and automation
- Storage software
- Storage services

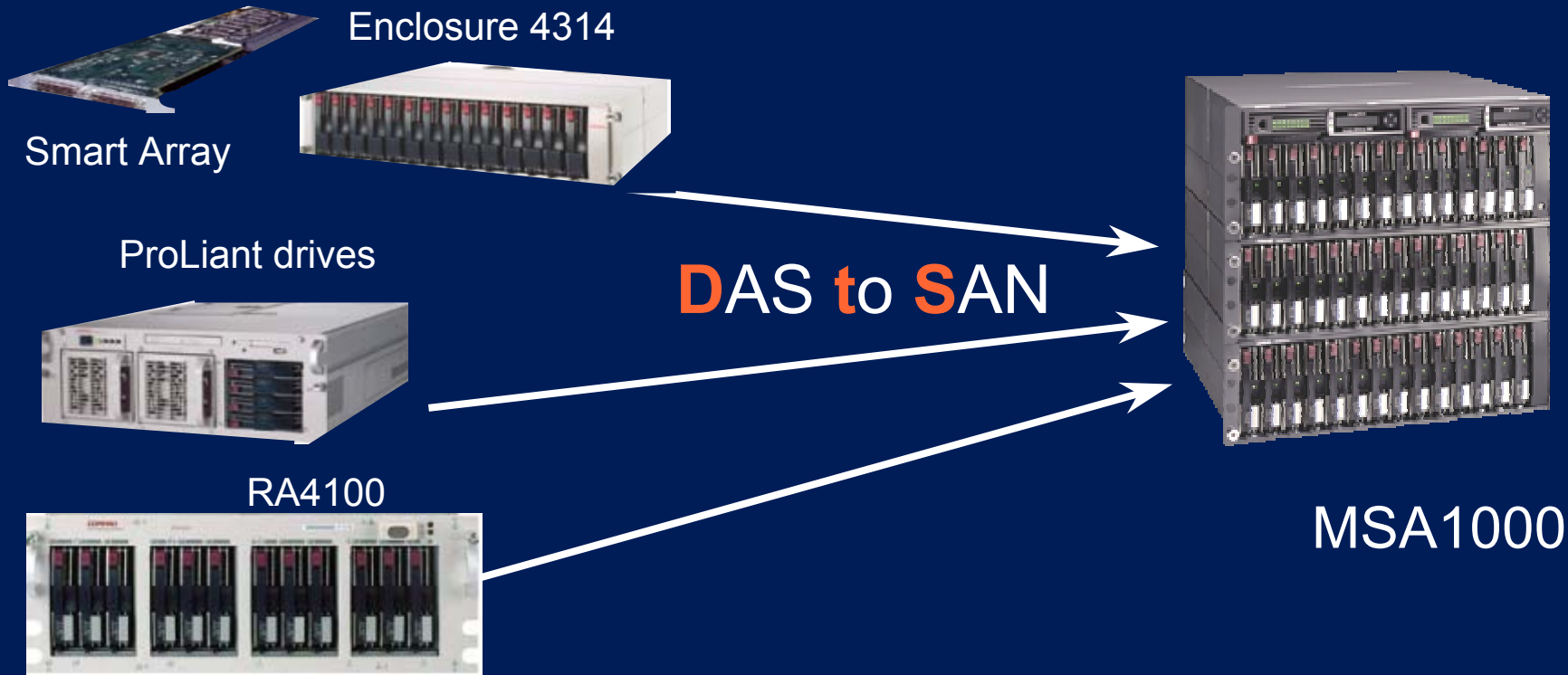


# Online array portfolio



# DAS-to-SAN seamless disk migration

## Investment protection for ProLiant customers



- Low cost/high performance solution
- Easy SAN deployment
- Secondary storage for backup and recovery

# Enterprise Virtual Arrays



- Better return on IT through automation and virtualization technology:
  - > Greater capacity utilization through space saving Vsnapshots
  - > Dynamic LUN expansion eliminates data migration
- Very easy to use – reduces training and management costs

## Martiz, Inc.

- 80% less time spent on storage management tasks
- 25% reduction in time spent to add storage while maintaining uptime and performance
- Minimal training time required and greater staff efficiency



eva3000



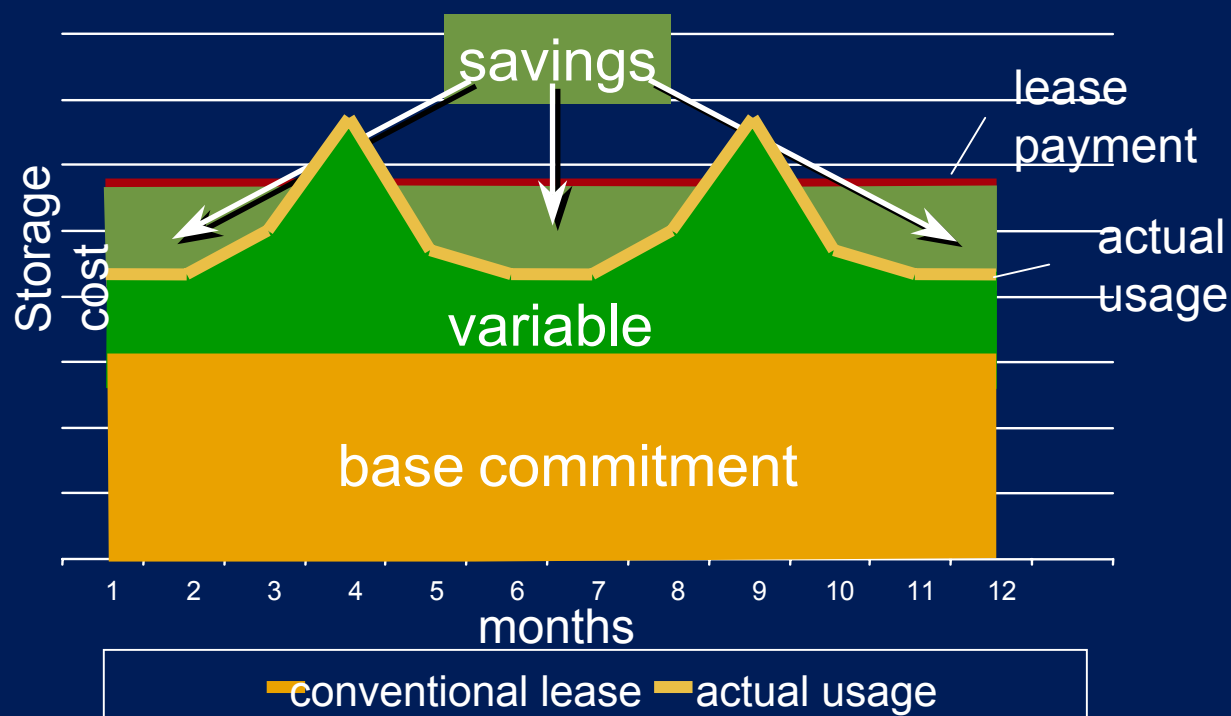
eva5000



# XP - Pay Per Use

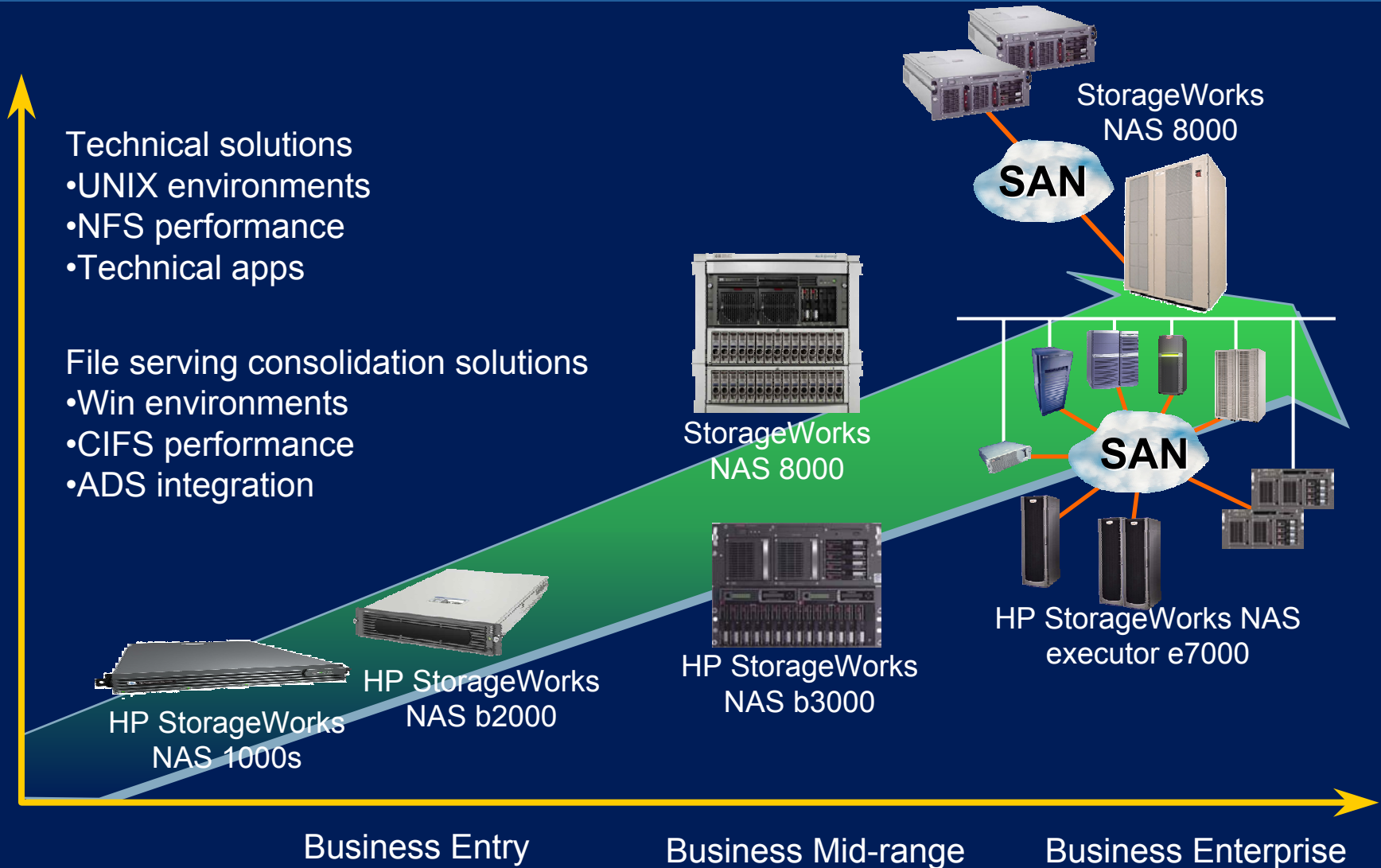


- Predictable IT costs in line with business growth
- Reduces “capital or investment” risk



# Network attached storage portfolio

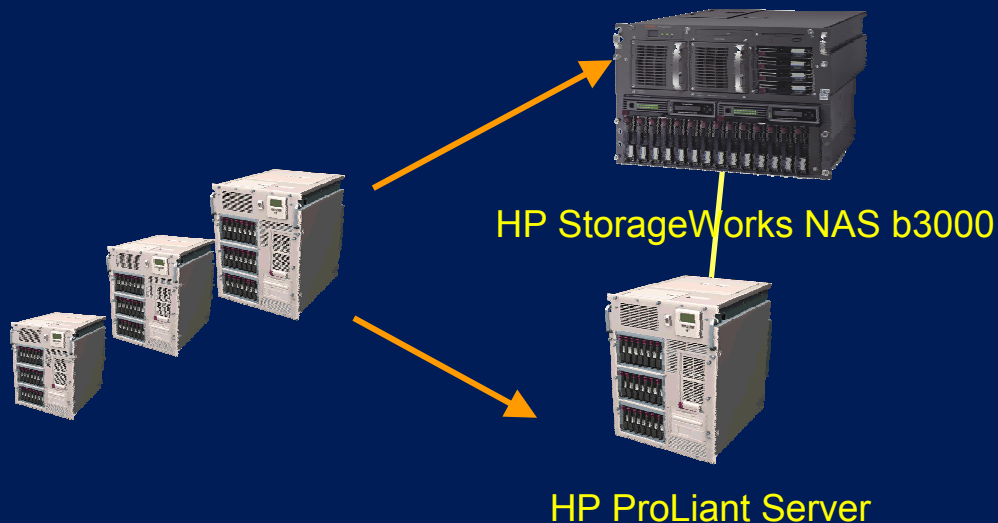
NAS/SAN fusion – flexibility to scale to the limits of any SAN



# Texas Children's Hospital



- lack of dedicated IT staff
- growing storage needs
- lack of data backup systems
- need for business continuity



**manageability  
up**

**Costs  
down**

- ✓ Single storage pool for applications and files
- ✓ Improved manageability, highly available

## SAN/NAS fusion – the best of both worlds

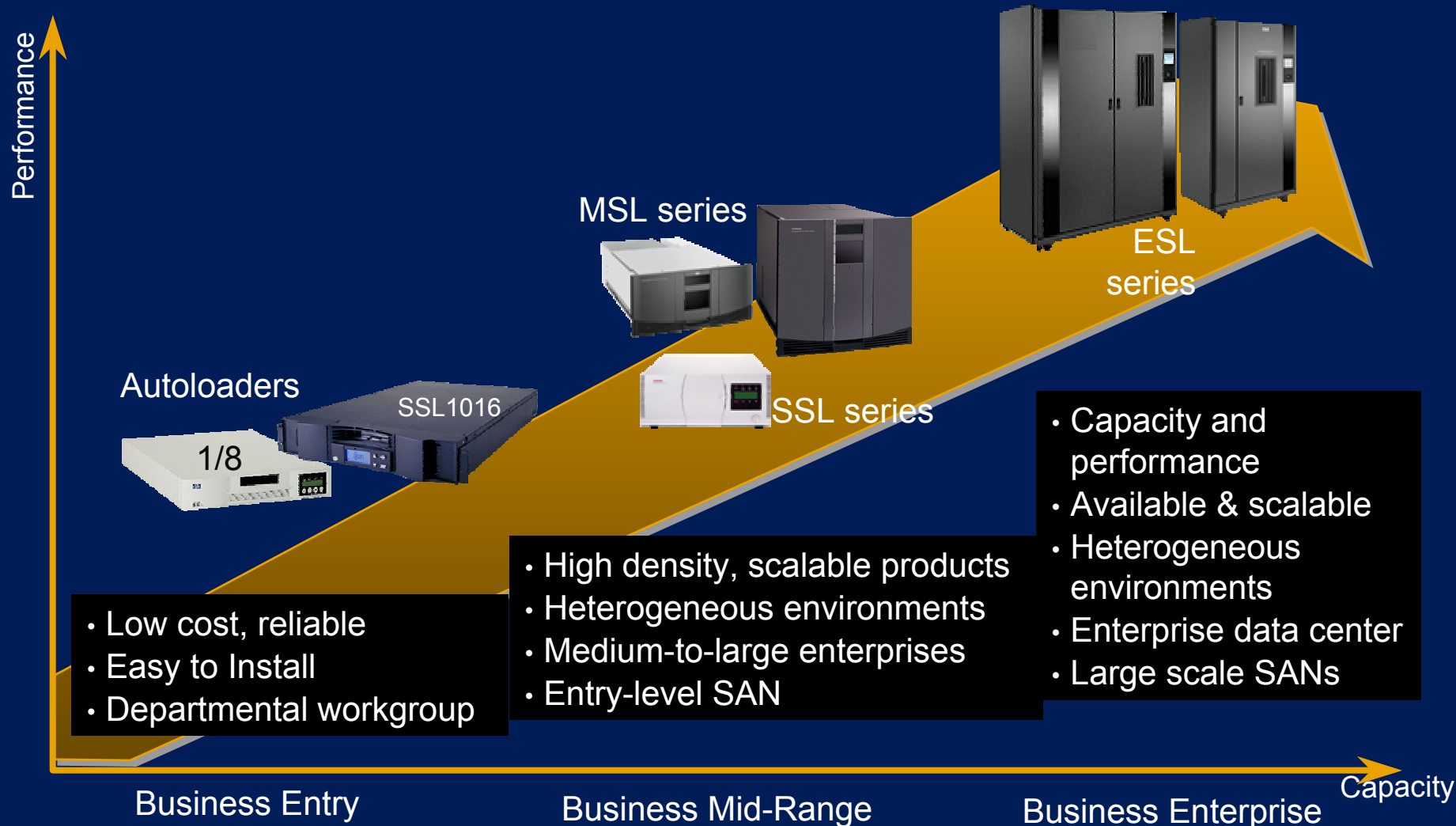


- combines the best of both technologies
- enhances NAS with SAN scalability and management
- enhances SAN with file-level access and virtualization
- eliminates storage islands
- reduces overall management complexity
- drives down cost
- optimized for storage environments



# Nearline tape and automation portfolio

for simplified network, SAN and direct backup solutions



## Dense, scalable storage for midrange and departmental customers

- Industry's highest storage density in a 5U/10U rack and lowest cost per GB of storage
- First to introduce hot plug drives for mid-range tape automation
- Simplified management with easy-to-use touch screen GUI control panel



MSL6000s



MSL5000s

# ESL9000 series

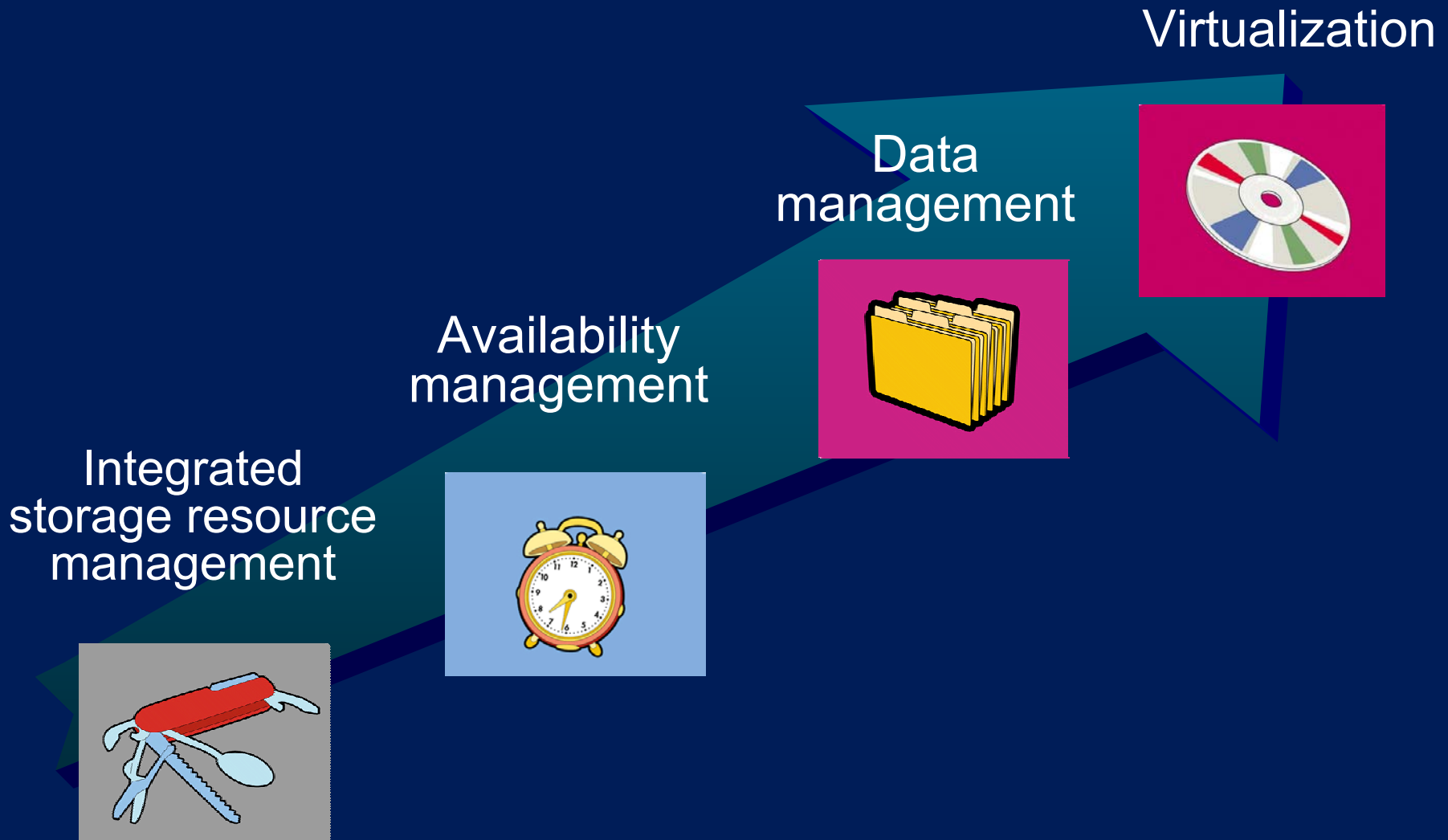


## Modern, modular automation for enterprise customers

- Seamless capacity scaling through capacity upgrade technology
- Component level redundancy with hot swap 2N cooling and power
- Simplified management with easy-to-use touch screen GUI control panel
- Industry's leading storage density in compact footprint



# Storage software portfolio



# Integrated storage resource management



## HP OpenView building blocks

System  
Management

Application  
Management

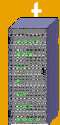
Network  
Management

Performance and  
Resource Mgmt.

Storage  
Management

Centralized management and storage services – OpenView Storage Area Manager

Device  
(array)  
managemen  
t



Node  
managemen  
t



Capacity  
managemen  
t



Performance  
managemen  
t



Usage  
metering  
and billing



Configure  
& provision



SMI-S and API's

HP and heterogeneous storage



**HITACHI**



**EMC<sup>2</sup>**



# OpenView Storage Area Manager the right choice



- Simple, automated management
  - Increase operational efficiency with integrated architecture
- Guaranteed quality of service
  - Meet service level agreements as you scale
- Foundation for the future
  - Broad multi-vendor capability for adaptive management

ComputerWorld Readers Choice Awards Asia  
Best Storage Management Software 2002

Windows and .Net Magazine Readers Choice  
Awards: Best Storage Product/Best Storage  
Management tools July 2003

“HP, whose portfolio of OpenView solutions represents the most widely deployed management software in the market, offers one of the most comprehensive sets of storage management solutions available today.”

Enterprise Storage Group (ESG): HP's OpenView Storage Area Management Suite March 2003

# Screen Actors Guild - Results



## Original Situation:

- Management complexity of heterogeneous environment
- Manual allocation of disks, manual tracking and management of resources
- Manual file restoration of tapes

## Benefits:

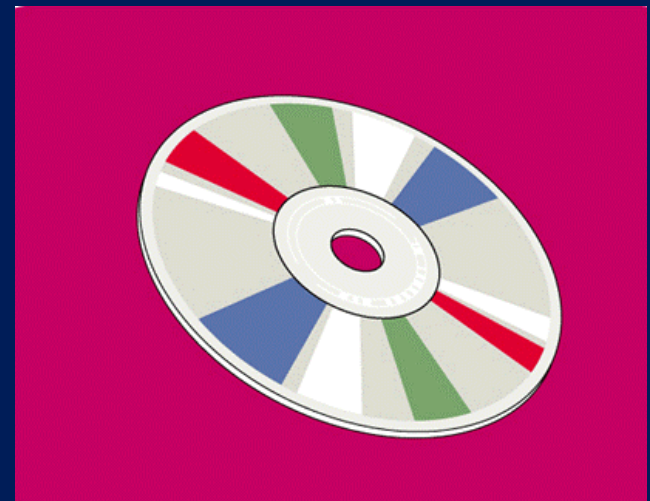
### SAN consolidation and centralized management

- Reduced backup times up to 50%
- Cut major application recovery time from 12-18 hours to minutes
- Improved IT staff efficiency and reduced staff workload
- More than doubled usable capacity
- Continuous access to critical information



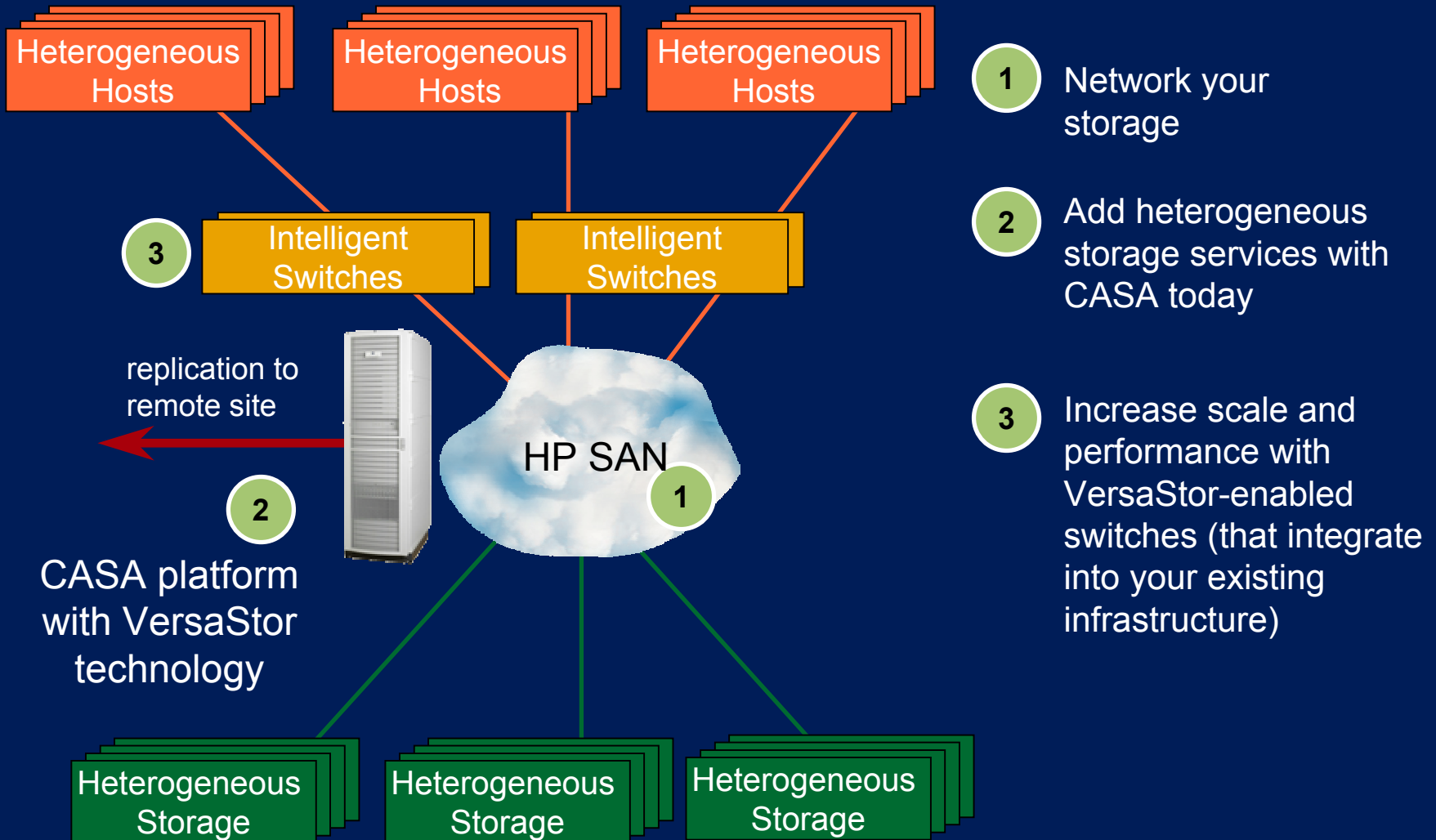
## HP storage virtualization strategy

- Focus on network-based virtualization
- Products will be characterized by:
  - Simplified deployment
  - Excellent RoIT
  - Increasing scalability
  - SAN-wide, non-disruptive management
  - Heterogeneous services





# Blueprint for virtualization CASA with VersaStor technology



# National Medical Health Card Systems - Results



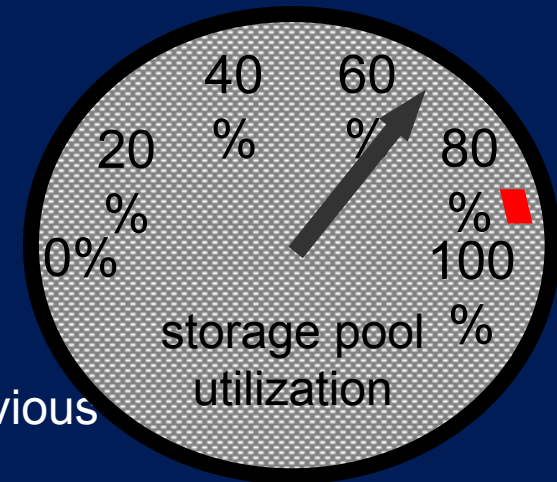
## Original Situation:

- Transaction volume quadrupled in last 18 months
- Complex heterogeneous environment
- Needed reliability and industry-leading technology



## Benefits:

- 100% improved delivery of service-level agreements
- One storage administrator working half-time to do previous of 4 expert administrators
- Improved storage utilization and disaster resilience



# HP Storage Services your competitive advantage



## DESIGN

Strategic storage consulting  
Adaptive storage  
architecture/design

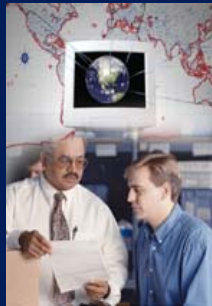
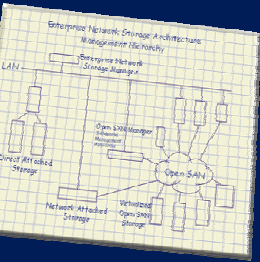
- Provide optimized storage for multi-vendor environments
- Mitigate risk of deployment
- Ensure time-to-market advantage
- Further improve cost savings

## BUILD and INTEGRATE

Adaptive storage solutions  
Deployment  
Migration  
Education

## MANAGE and EVOLVE

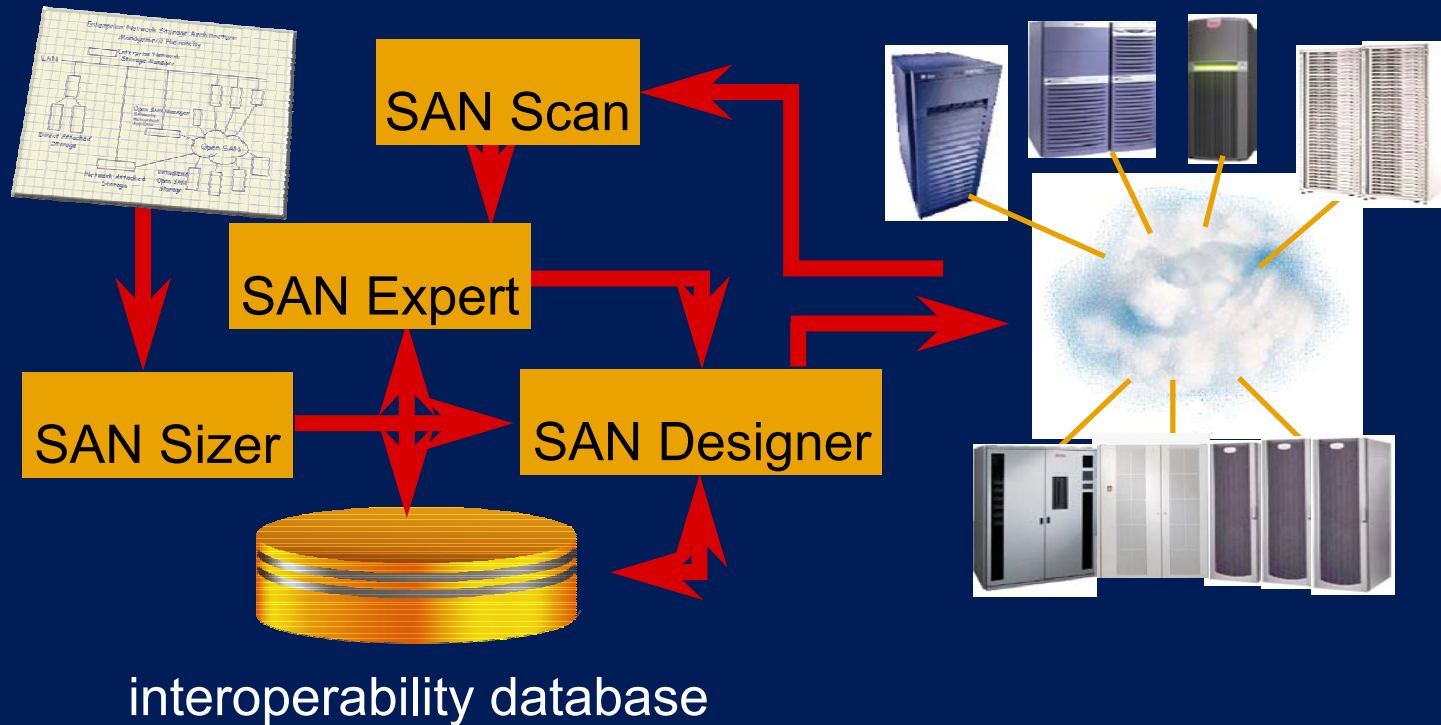
Managed storage solution  
Storage support  
Mission critical support  
Multi-vendor environment support



# Design optimized storage infrastructures



blueprint (based on business processes)



**Based on HP labs patented technology**

# SAN Environment Support

## Optimizing the storage fabric



- Single point of contact for multi-vendor environments
- Provides change management help for proactive firmware upgrades of HP and non-HP fabric switches
- Leverages HP's alliances with Brocade and Cisco
- Keeps fabrics running at optimum service levels, minimizes interoperability issues
- Critical service level provides fabric interconnectivity availability guarantee

# Best in class partnering



## ISVs – #1 with the leaders worldwide

- 40% platform share of Oracle
- 40% platform share of PeopleSoft
- 51% share SAP installed base
- 50% platform share of Siebel
- #1 partner MS Exchange and SQL server

## Resellers

- CRN channel champion
- VAR Business Annual Report Card winner

## Systems integrators

- 30+ years experience with SIs
- Complete solutions through global alliance partnerships
- Accenture, BearingPoint, CGE&Y, Deloitte







Looking into the future

# HP Storage Roadmap

## delivering on the Adaptive Enterprise vision

### building the network storage infrastructure

- 1998 articulated storage utility vision
- Network storage
  - Heterogeneous SAN leader
  - Disaster tolerant solutions
- Availability
  - Non-disruptive backup/restore
  - Data replication and point-in-time copy
- Heterogeneous management
  - OpenView storage management – SAN environmental services

1998-2002

### automating network storage management

- Active control SMI-S
- Integrated resource management
- Data access management
- Self-aware storage
- Business rule automation

2002 - 2004

### business focused storage management

- Self-healing storage
- Lifecycle data management
- Application integration

2004+



# Information Lifecycle Management



- Meeting regulatory requirements for content retention
  - Finance : SEC 17a-4, Sarbanes-Oxley Act of 2002, Australian Financial Transactions Reporting Act,
  - Healthcare : FDA, HIPPA
- Simplified management of increasing volume of content
- Intelligent restore and recall of content across applications
- Easy use of data from across applications to provide additional value to their customers



# HP StorageWorks for the Adaptive Enterprise



- Simplification
- Standardization and centralized management
- Modular network storage
- Strong partnerships





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