Data Storage and Performance

Marco Coulter

Vice President, Storage

Computer Associates

Abstract

eBusiness made data availability and performance critical to businesses. Storage management involves much more then just backups and restoration of data. Storage management and performance directly impacts data warehousing, business intelligence, data movement, systems and database performance.

This session will bring the attendee up to speed on what impact storage management and performance have, as well as the technologies that are available to companies today.

Computer Associates™

The Software That Manages eBusiness ™

Speaker Bio

As Vice President, Data Management Solutions in Computer Associates, Marco Coulter is responsible for backup products from laptop to mainframe. A member of the Storage Line of Business team, Mr. Coulter focuses on the future direction of CA's storage solutions.

Marco speaks regularly with CIO's and Storage experts on how storage is changing its role in IT.

Marco Coulter comes with over 20 years experience working in the IT industries in Australia, Europe and the USA. He has seen all aspects of business computing in the finance, telecommunications and health industries; from operational to CIO perspective.

Bottleneck Changing

Improvement 1995-2000   **Performance 2000**

% CAGR

Ethernet speeds	151	**1 Gbps**
Last mile access speed	58	**144 Kbps**
Max Disk transfer rate	40	**40 Mbytes/s**
Processor speeds	28	**440 MHz**
PCI bus	5	**133 MHz**
Disk access density	-28	**3 IO/s/GB**

Storage related

Computer **Associates™**

McKinsey & Company

Application Needs Differ

Degree of connectedness →

Externally networked	• E-mail • Web page delivery	• E-commerce • Rich media on demand • Cross-enterprise applications • Credit card processing	Multi-user applications External
Enterprise	• Intranet • Document management	• ERP, OLTP • CRM, SCM • Data warehousing, BI • Work flow management • Core legacy systems • Industry-specific applications	Multi-user applications Internal
Workgroup	• Word processing • Spreadsheets • Desktop/PC backup	• Research databases • Animation • CAD/CAE/CAM	Single user applications
	Low	High	

Need for availability →

From Simplicity…

HP

Direct Attached Storage

SUN

WINDOWS

…to Complexity

Mobile Computing

Applications

Network Attached Storage

Storage Area Network

Mainframe S/390, AS/400

e-commerce

Application

Database
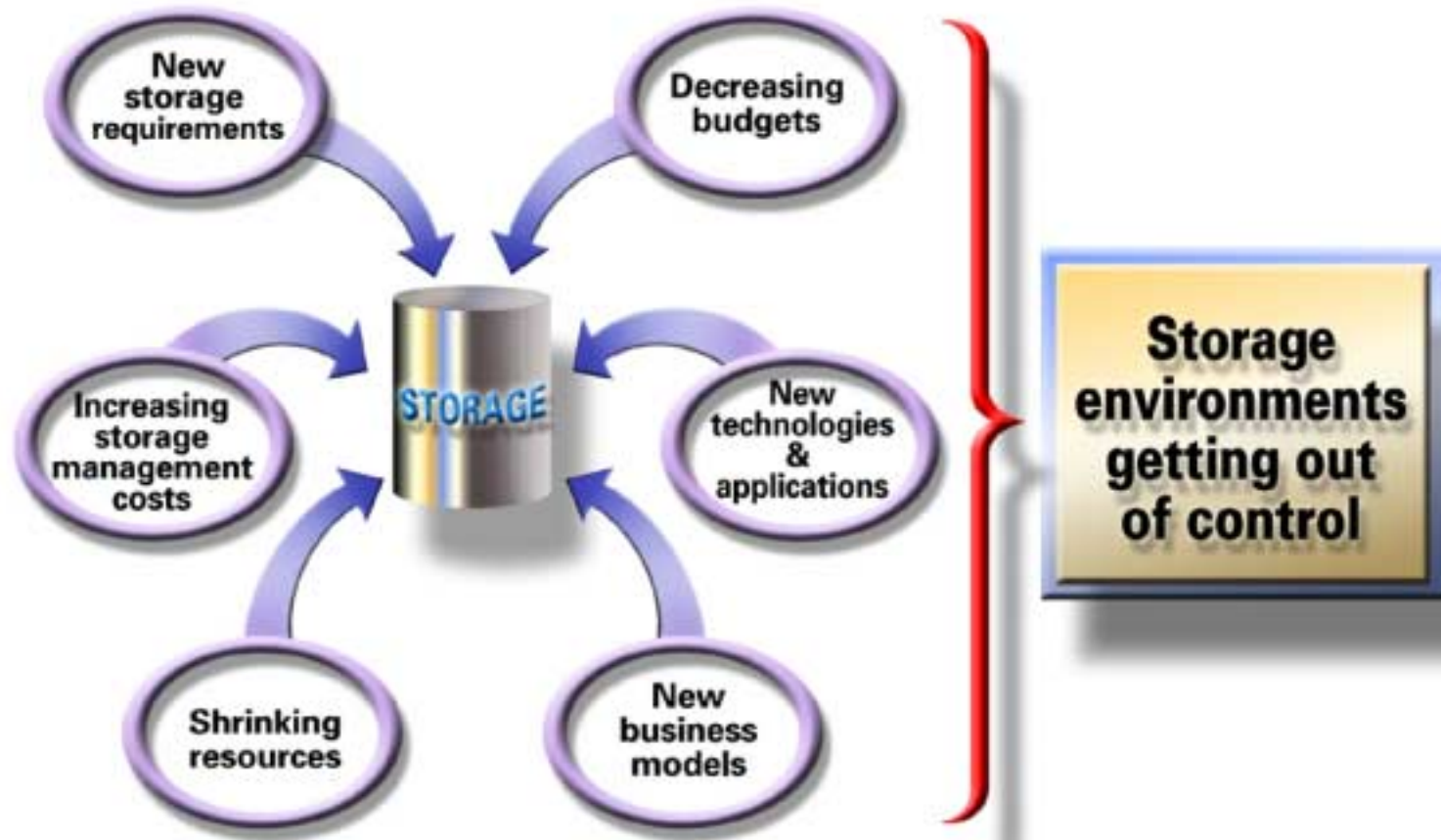
SAN

HP

NAS

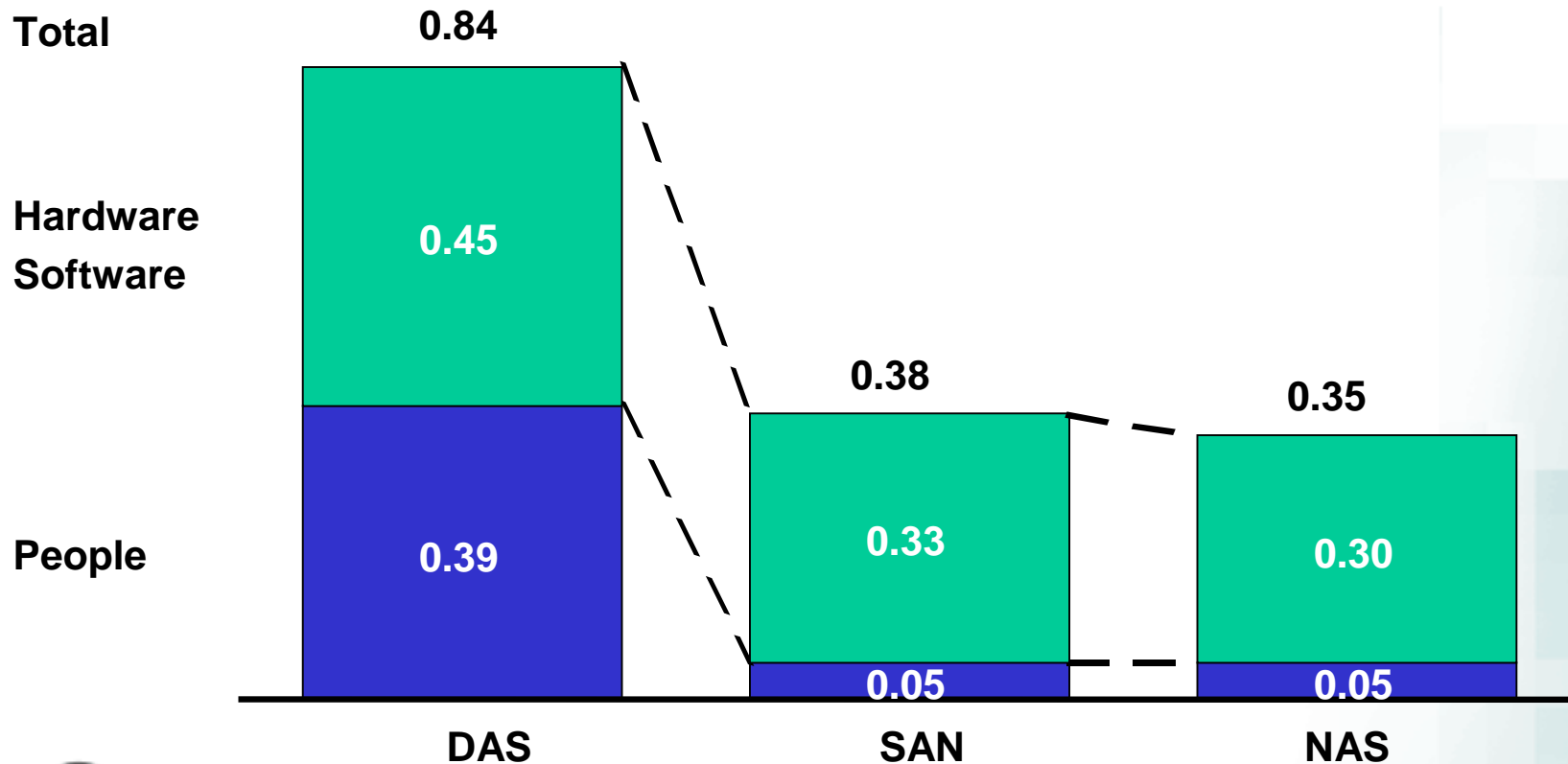Windows

Windows

AIX

Tru64

RAID

Computer Associates™

Competing Forces Changing Storage

NAS and SAN – lower cost

3-Year total cost of ownership by storage architecture

$ per megabyte of user data

Total

Hardware
Software

People

	DAS	SAN	NAS
Total	0.84	0.38	0.35
Hardware/Software	0.45	0.33	0.30
People	0.39	0.05	0.05

Availability Choices

Complete spectrum of availability

Availability

99.9999%

99.999%

99.99%

99.9%

99%

Non-stop Computing

Automatic Failover

Replication

HSM

Single-Click Recovery

Backup

$ 1K $ 10K $ 100K $ 1M $ 10M
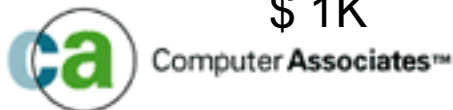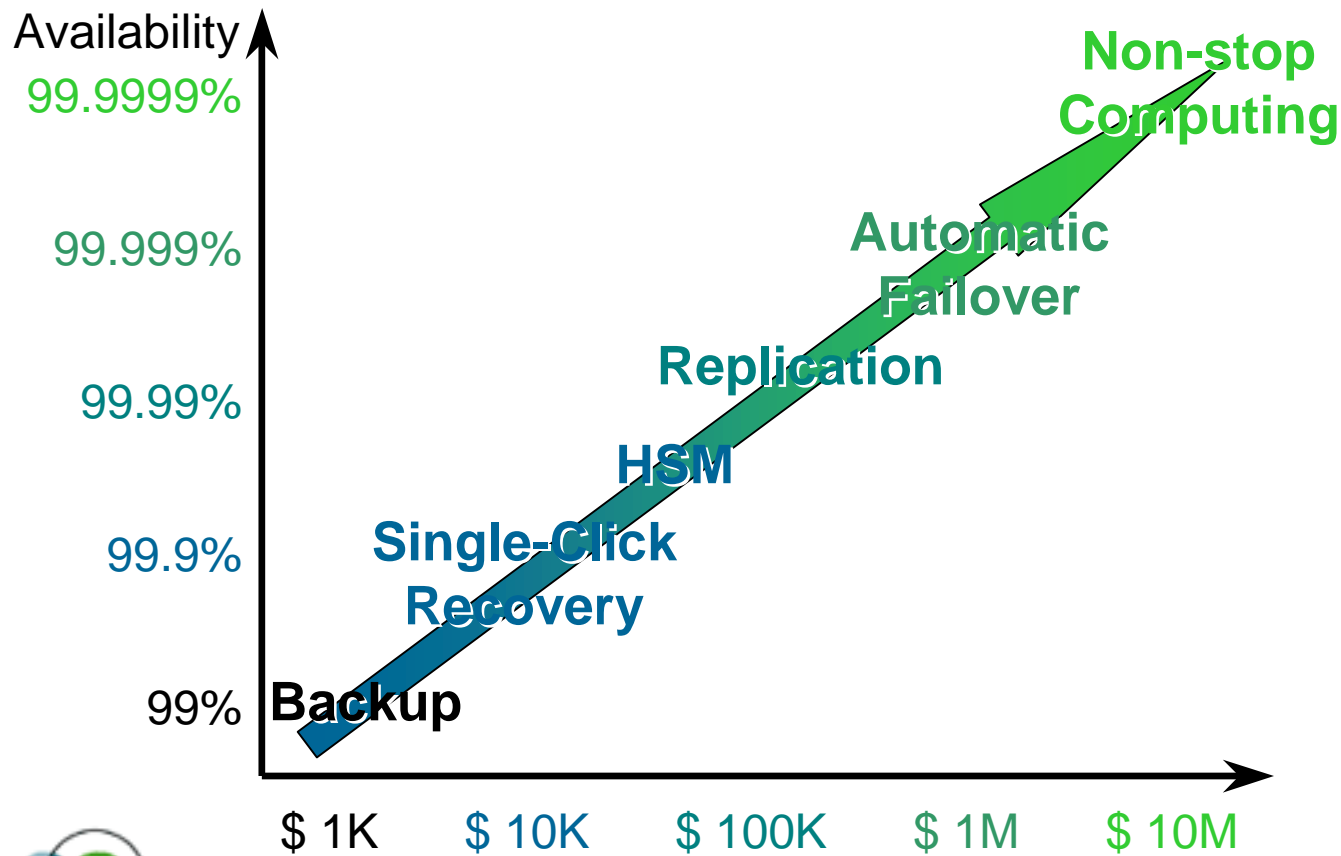
A Time of Opportunity

- Keep business available
- Keep business recoverable
- Deliver within budget - TCO
- Add value - deliver new applications

Getting in Control

- Storage management solutions for the enterprise

  - Data management

  - Enterprise storage resource management

  - Storage infrastructure

  - Centralized enterprise storage management

- Mainframe > open systems > desktop > mobile

Computer Associates™

Data Management

- ## Independent of platform

  - from *laptop* to *mainframe*

    Windows, Solaris, HP-UX, IBM AIX, Linux, Tru64, OS/400, OS/390, Z-OS, …

- ## Independent of technology

  - SAN, NAS, local, remote, IP based, etc

- ## Optimized Application storage

  - databases, applications

Enterprise Backup

- High-performance Enterprise Data Protection Solution
    - Eliminate backup window limitations
- Unlimited environment scalability
- Advanced manageability features
    - Reduces total cost of ownership
    - Ensures business continuity
- Data protection for all popular enterprise server platforms
    - UNIX
    - Windows

Resource Management

- Collection
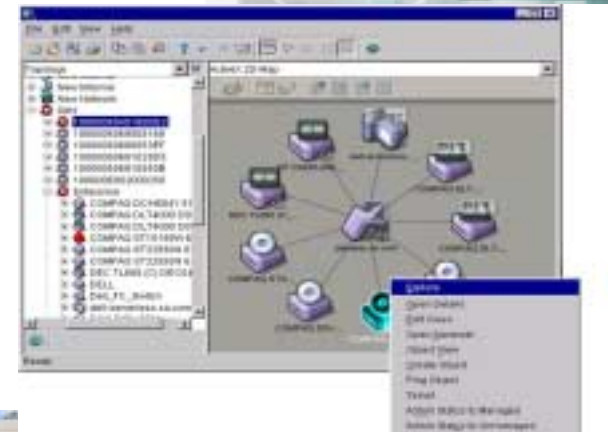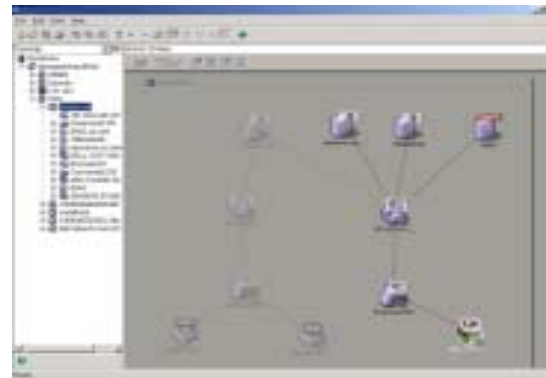
- Reporting

- Analysis

- Automation

- Integration
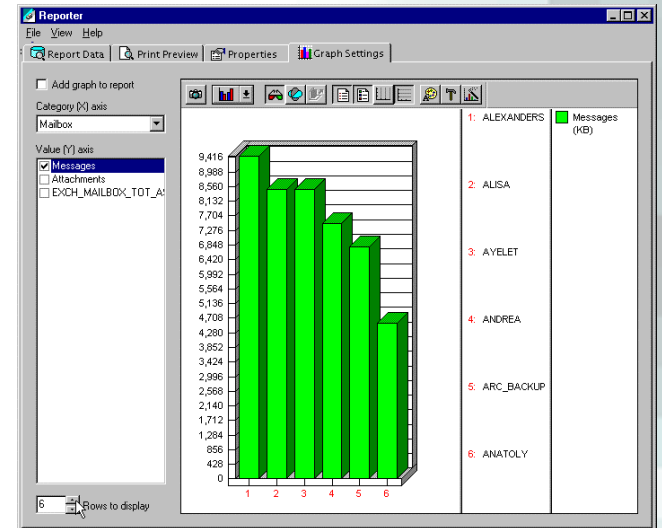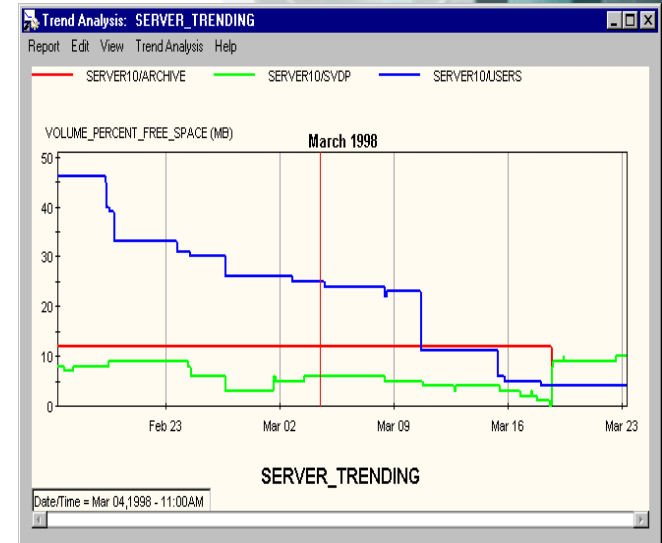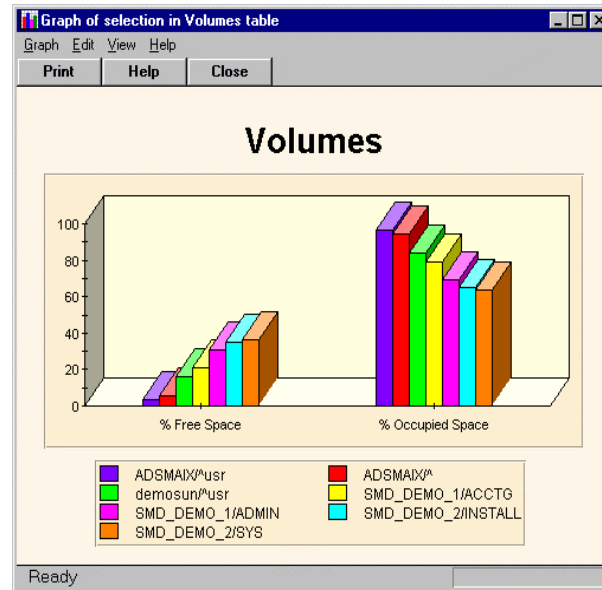
Resource Management - SAN

- Discovery

- Visualization

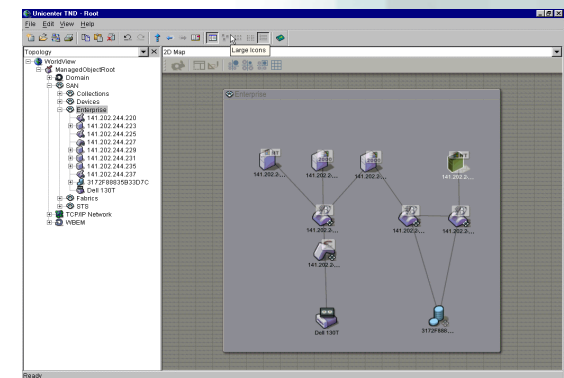- Monitoring

- Administration

- Performance

Zone Management

Zone Discovery/ Visualization

Device Discovery/ Visualization

Centralized Enterprise Storage Management

- Single Point of Control
- Enterprise Wide Policies
- Intelligence
- Automation
- Integration

Computer Associates™

Centralized Enterprise Storage Management

CA Storage Strategy

- Best-in-class, branded applications
- Intelligent Enterprise-wide solutions
- Integration - Partners
  - HP, and others
- Integration - Products
  - 3rd Party, API's, …
- Complete Platform Coverage
  - Mobile to mainframe
  - DAS, SAN and NAS

Computer Associates™

The Software That Manages eBusiness ™

eBusiness Storage Management
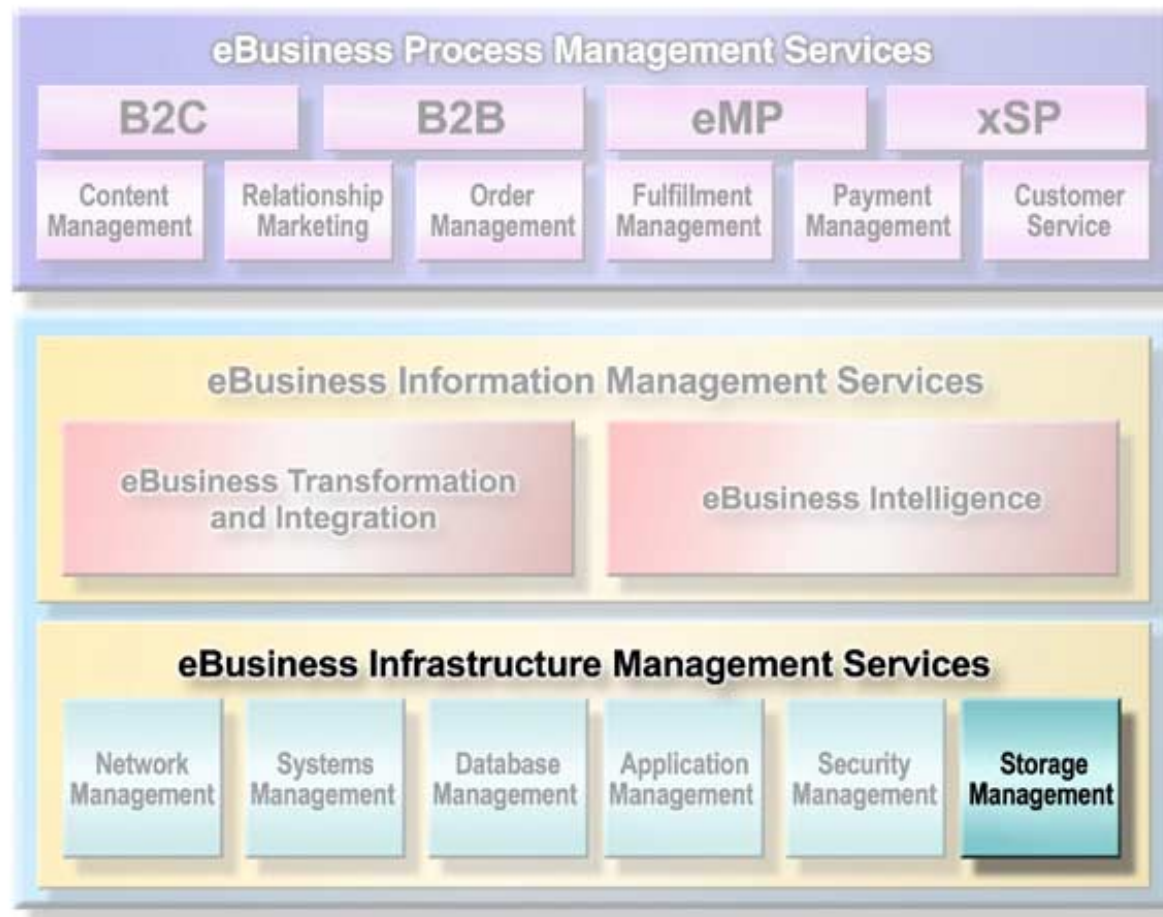
BrightStor Storage Management Solutions
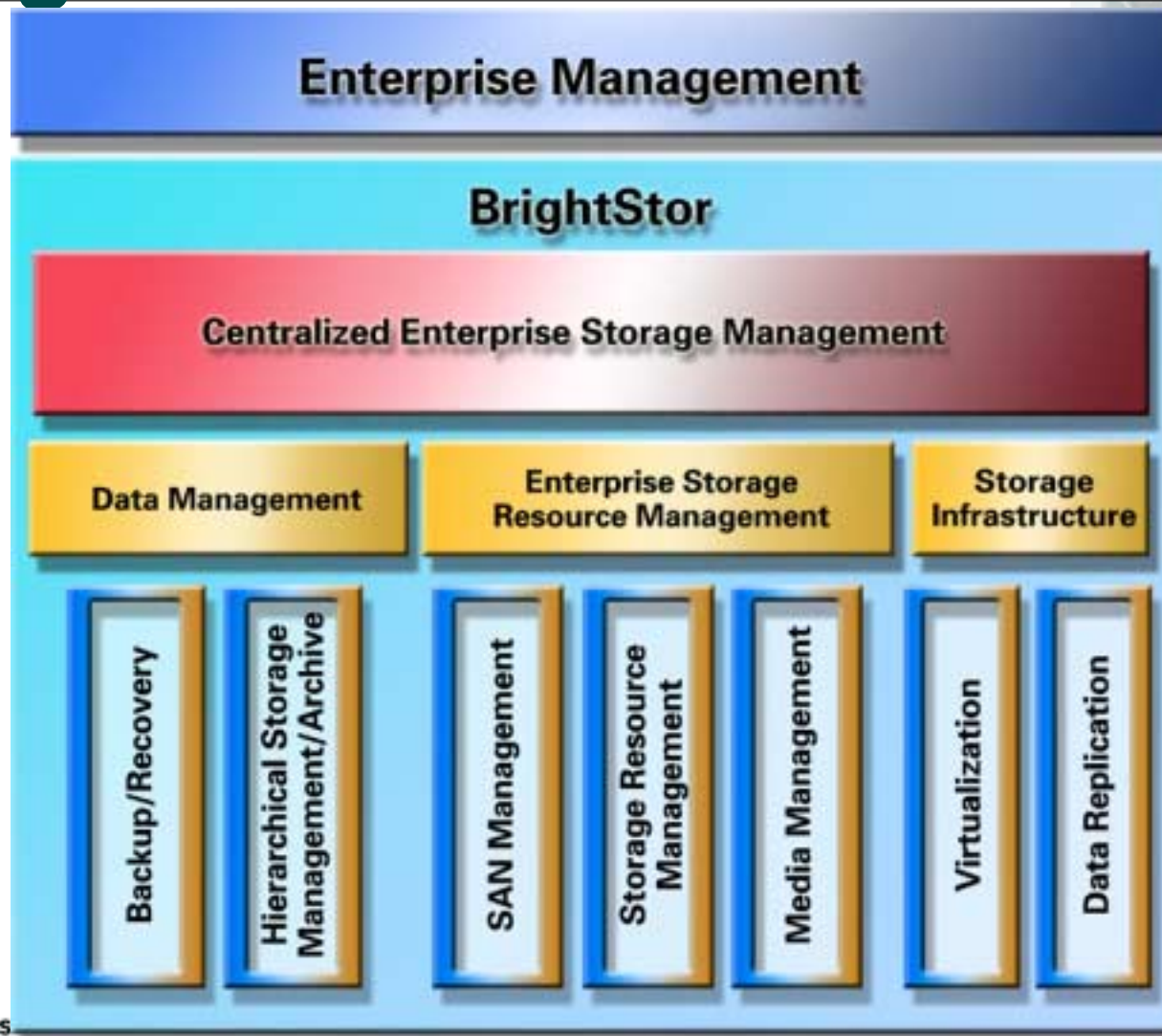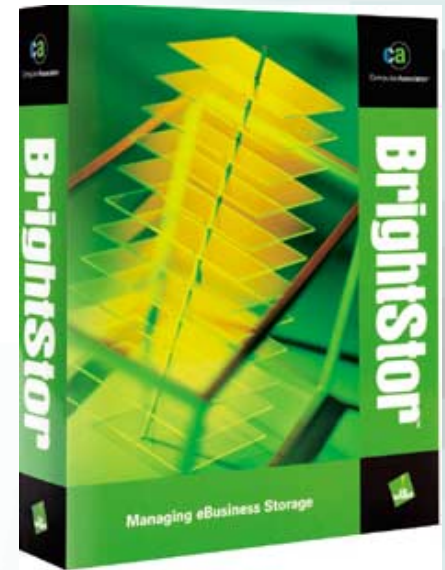
Takeouts…

- What are your requirements?
- Can you wait?
- Is your business protected?
- Watch for the name BrightStor

Data Storage and Performance

Marco Coulter

Vice President, Storage

Computer Associates