



Using HP's Adaptive Enterprise to Design and Maintain a Bullet-proof Messaging System in a Microsoft Exchange 2003 Environment.



Michael Bloom

michael.bloom@hp.com

Infrastructure Architect

Enterprise Solutions & Architecture Team

MCSA, MCSE:Messaging & HP Master ASE

© 2004 Hewlett-Packard Development Company, L.P.
The information contained herein is subject to change without notice



Migration to Exchange 2003 with HP

- Introduction
- Platform Considerations
- Customer Priorities
 - Adaptive Enterprise
 - High Availability
 - Manageability
 - 3rd Party Tools



Migration to Exchange 2003 with HP



- Introduction
- Platform Considerations
- Customer Priorities
 - Adaptive Enterprise
 - High Availability
 - Manageability
 - 3rd Party Tools



Exchange 2003: IT Benefits

Productive



- Consolidation (lower cost of ownership)

- Server consolidation: 4,000 + users / server
- Site consolidation: No need for local servers
- Storage consolidation: SAN's & archiving
- Reduced administration overhead

Dependable



- Improved Administration & Security (more reliable)

- Improved security, antispam, virus-checking
- Improved reliability, stability & performance (including 8-way clusters)
- Improved transport & routing performance
- Recovery Storage Group for recovering mailboxes and contents
- Many new admin features
- Volume Shadow Copy service enables online backup of Exchange Storage Groups - no need to take systems offline

Exchange 2003: User Benefits



- Improved user experience: New UI, features and performance
 - Outlook 2003
 - Local cache for reduced network load
 - MAPI compression (20% better throughput)
 - MAPI tunneling over HTTP (full Outlook features through firewall)
- Mobile Messaging
 - Integrated functionality of mobile information server
 - Browse Exchange data (email, contacts, calendar, folders) from mobile devices
 - Browse Intranet / Internet information either on- or off-line
 - Synchronize Exchange data directly with server from IPAQ or Smartphone
 - Receive secure notifications from server to device when connected via carrier
 - Outlook Web Access new look and features
 - Outlook Mobile Access for HTML mailbox rendering (for phone, PDA etc)

10 Reasons to Move to Microsoft Exchange 2003



1. Improved manageability increases server availability
2. Anytime, anywhere access
3. Increased server availability and reliability
4. Capitalize on existing technology and infrastructure
5. Faster, easier migrations and deployments (explore)
6. Increased productivity for administrators
7. Immediate increase in user productivity
8. Reduced Cost
9. Enhanced security
10. Fear





HP Exchange Experience and Expertise

- >18 million seats of Exchange deployed/under contract through HP Services and its partners
- 550+ global enterprise customers
- ProLiant hardware — platform of choice for Exchange with >41% market share
- HP Services: Over 850 Exchange consultants and recognized by Microsoft as worldwide prime integrator for Exchange
- Development and publication of “best practices” and implementation tools and guidelines for Exchange 2003 available online with ActiveAnswers
- Best-of-breed partners — extending the reach and power of Exchange with wireless access and security



Migration to Exchange 2003 with HP

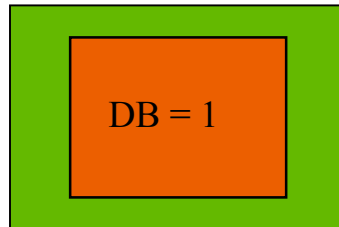
- Introduction
- Platform Considerations
- Customer Priorities
 - Adaptive Enterprise
 - High Availability
 - Manageability
 - 3rd Party Tools



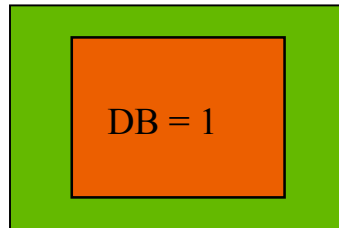
Exchange Server Consolidation:

Fewer, More Powerful Servers to Manage

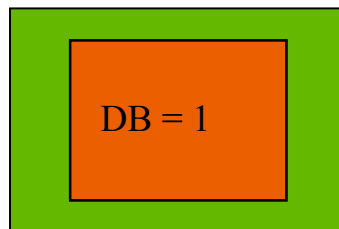
Exchange 5.5 server



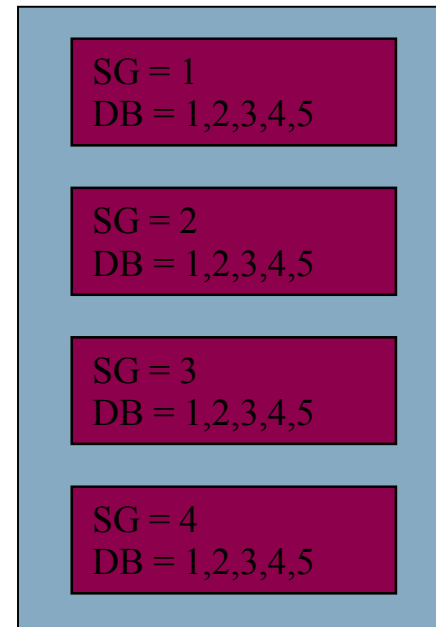
Exchange 5.5 server



Exchange 5.5 server



Exchange
2003 server

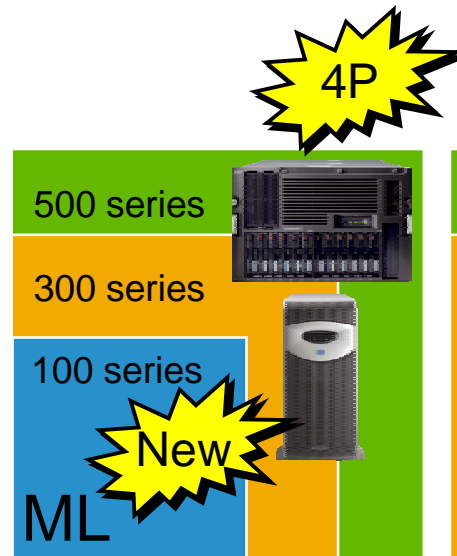


Smaller databases aid in
faster recovery times

HP ProLiant Portfolio Overview



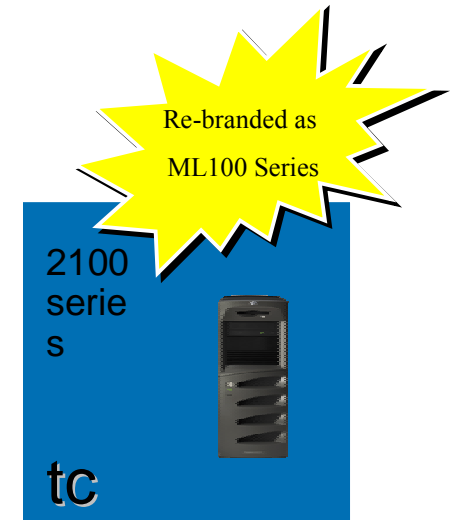
HP ProLiant DL
Density-optimized
for rack mount
environments



HP ProLiant ML
Maximum expansion
for rack and tower
environments



HP ProLiant BL
Maximum flexibility
and control in blade
server infrastructures



**HP Server tc
series**
Dependable servers
for value-conscious
small businesses



Exchange 2003

ProLiant Server Architecture

- Blade (BL) Servers
 - Front-end (e, p-class), back-end with SAN (p-class)
- Density Line (DL) Servers
 - Enterprise front-end (DL360, 380) and back-end (DL560, 580, 740, 760), Active Directory, content and spam filters and virus checkers
- High Capacity (ML) Servers
 - SMB (ML350, 370), Large Sites, Bridgehead (ML370, 570) and AD

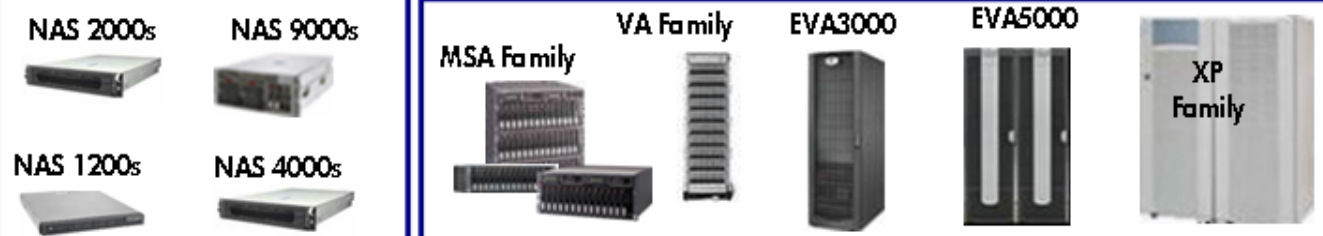


HP StorageWorks product portfolio

Infrastructure



NAS & Storage Arrays



Tape & Optical storage



Software

Storage resource management portfolio

- Device management
- Storage area management
- Array-based software



Information Lifecycle Management portfolio

- Protect and recover
- Active archiving focused on retrieval
- ISV solutions across hardware portfolio



SERVICES & SOLUTIONS

HP Rapid Restore Solutions for Exchange

- HP and VERITAS Quick Recovery Solution for Microsoft Exchange 2003
 - ProLiant server, StorageWorks MSA and EVA storage and VERITAS Storage Foundation for Windows
 - Quick point-in-time snapshots of Exchange databases and transaction log files, leveraging Microsoft Volume Shadow Copy Services (VSS) for approved and supported snapshots
 - Automated restore process ensures quick recovery for Exchange, full restore to a point-in-time or to the point immediately before a failure
 - Automation simplifies the operation, reduces human error and provides protection for mission critical Exchange data
- HP XP storage array can produce itself for large Enterprise users

HP Archiving Options for Exchange

- HP RISS Appliance
 - Integration of hardware/software for capture, compression, index, store, search, retrieve of email
 - Advanced security features for non-alterability of emails
 - Grid computing appliance simplifies mgmt and reduces cost
 - Scales well for large organizations
- Sarbanes Oxley
- Digital Rights Management (DRM)
- NAS based solutions- KVS, CommVault
 - Focused at SMB market
 - Low cost of entry, easy to install
- Array/Optical based solutions-KVS, IXOS, LEGATO
 - Utilize existing investment in HP arrays and optical libraries
 - Take advantage of new array/disk/price points for non-operational data

HP Value-added Software, Documentation, and Tools for Exchange 2003 and ProLiant Servers



- Tools, sizers
 - Storage Planning Calculator
 - Exchange 2003 Sizer
- White papers
 - Deployment: Enterprise and SMB; migration, mobility
 - Operations: Performance /configuration, backup, anti-virus
 - Availability: Clustering and SAN booting
- All documentation/tools available on ActiveAnswers:
www.hp.com/solutions/activeanswers/exchange



Storage Planning Calculator (SPC)

- Storage planning (for capacity and throughput) is a key consideration for deploying Exchange 2003
- Tool allows for what-if analysis
 - What's the difference between disk sizes / types?
 - How does RAID5 compare to RAID0+1?
 - How fast can you backup and restore?
 - What if I change the number or type of user?



Information Store RAID Comparison		
	RAID 0	RAID 0+1
Spindle Count (before spares)	62	40
Total of Storage Requirements		
Controllers	6	6
Controllers	2	2
Total Spindle Count	70	46
Total Usable Storage (includes Hardware Spares)	1,814 GB	1,814 GB
Total Usable Storage	1,814 GB	1,814 GB
Cost per GB	\$46.80	\$46.41
Total Solution Cost	\$11,287.00	\$11,282.00

Migration to Exchange 2003 with HP



- Introduction
- Platform Considerations
- Customer Priorities
 - Adaptive Enterprise
 - High Availability
 - Manageability
 - Service and Support



Migration to Exchange 2003 with HP

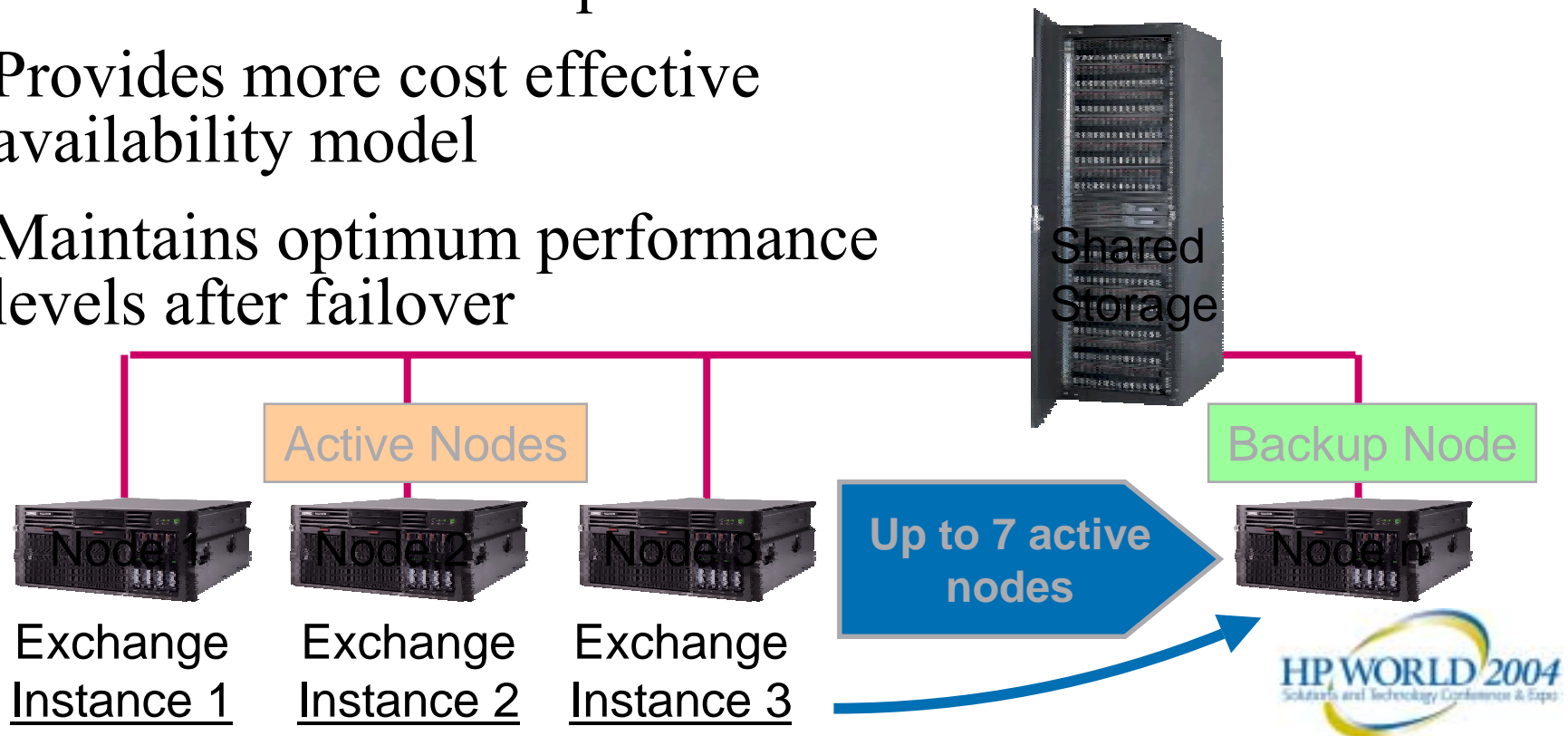


- Introduction
- Platform Considerations
- Customer Priorities
 - Adaptive Enterprise
 - **High Availability**
 - Manageability
 - 3rd Party Tools

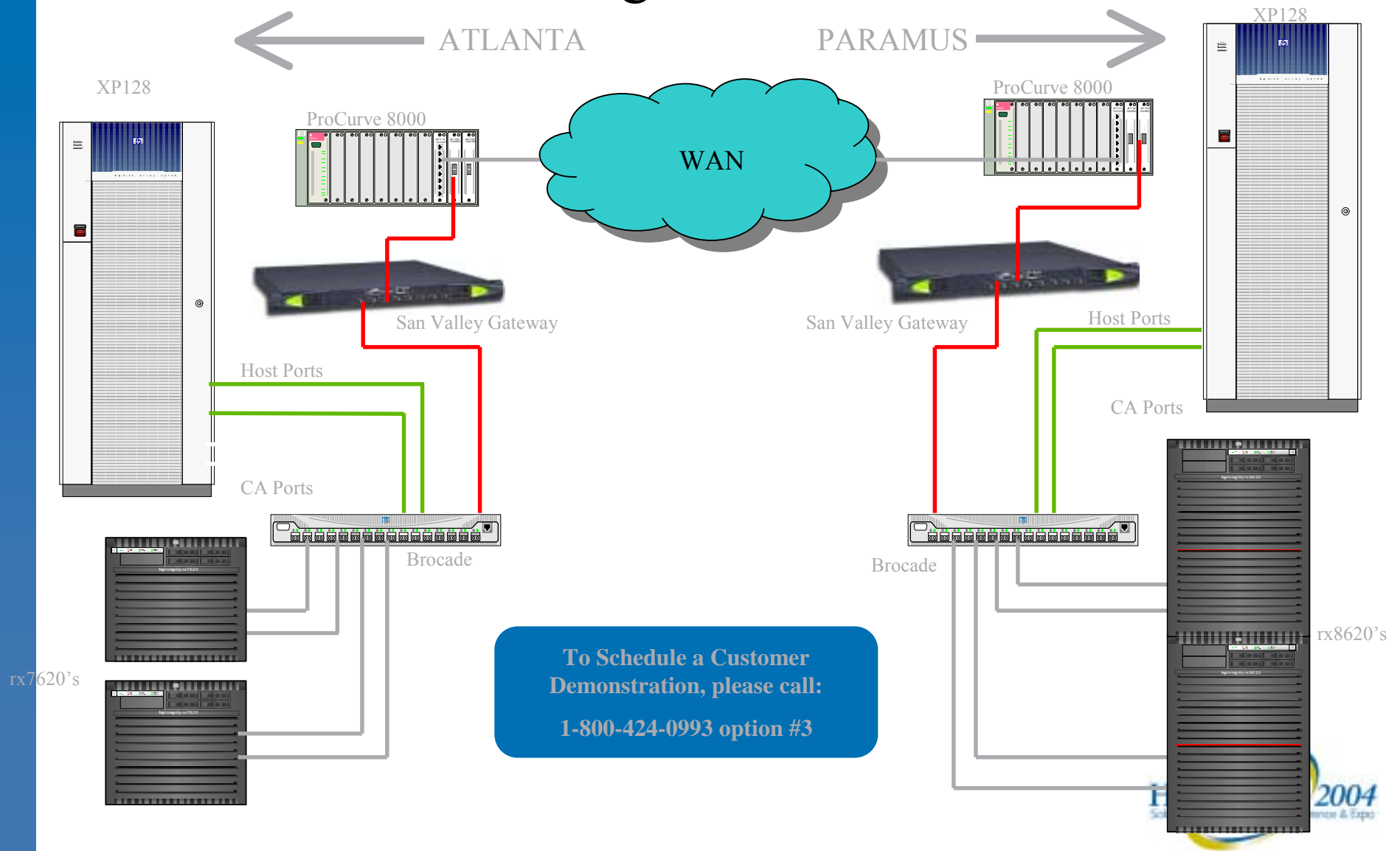


Exchange and Clustering

- Windows Server 2003 now supports up to 8-node clusters
- Exchange 2003 configuration can have up to 7 active nodes with one backup node
- Provides more cost effective availability model
- Maintains optimum performance levels after failover



Continental Cluster – Continuous Access Configuration



What is a ProLiant? Superior Reliability through Engineering Innovation and Validation



Scripting Toolkit



Remote Insight Lights-Out Edition



Integrated Lights-Out

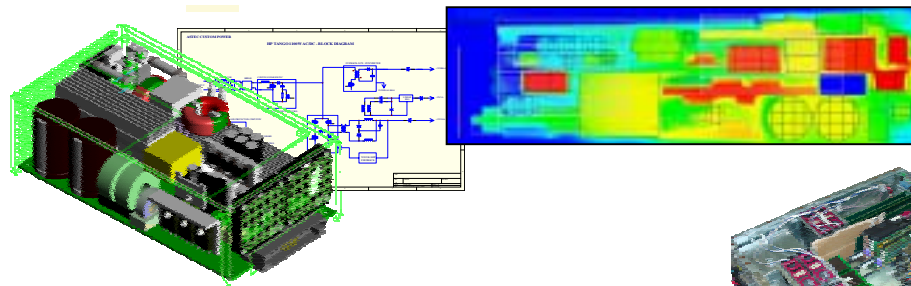


Hot plug components

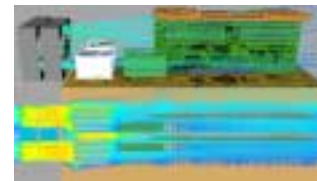


Advanced memory protection

ProLiant power supply design and architecture sets pace for the industry



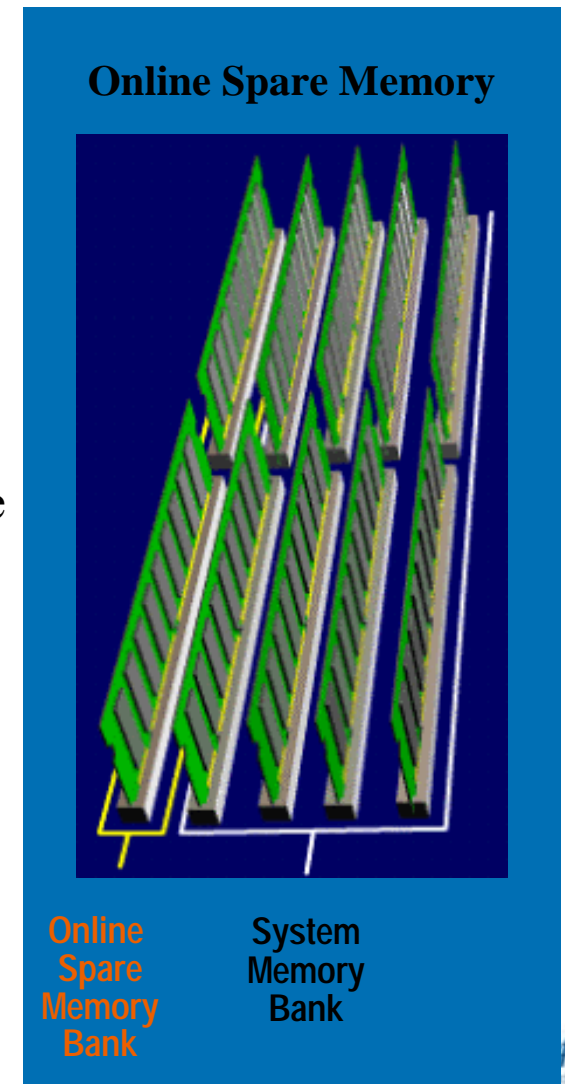
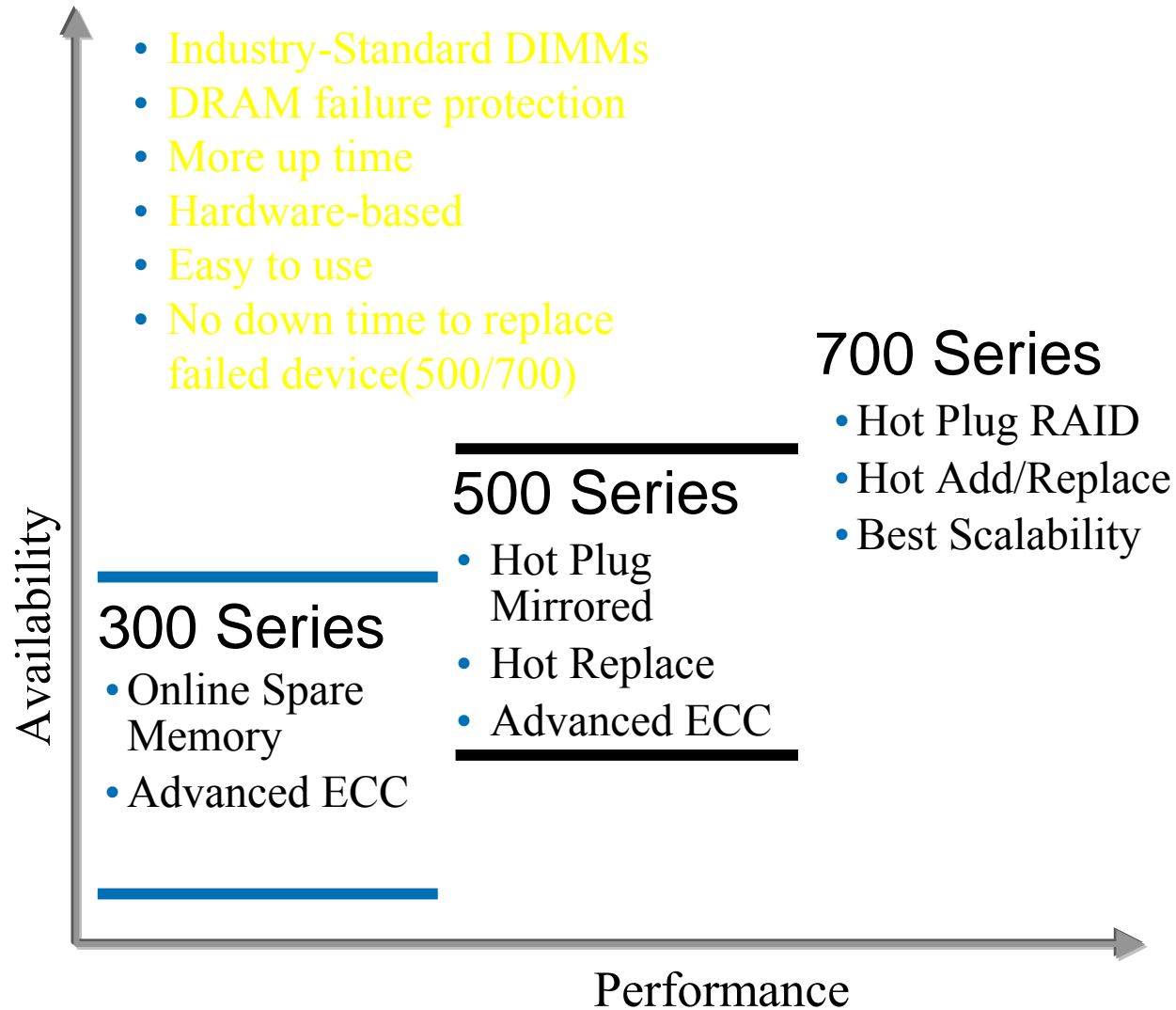
Comprehensive thermal solution



Extensive shock, vibe and HALT testing



Advanced Memory Protection



Server Management – ProLiant Essentials



Optional

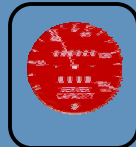


ProLiant Essentials Value Packs



Workload Management Pack

- Application Protection
- Dynamic Resource allocation
- Workload balancing



Performance Management Pack

- System Bottleneck Analyzer
- Online & Offline analysis
- Performance trending



Lights-Out Advanced Pack

- Remote Control
- Power on/Power off
- Virtual console & Media



Rapid Deployment Pack

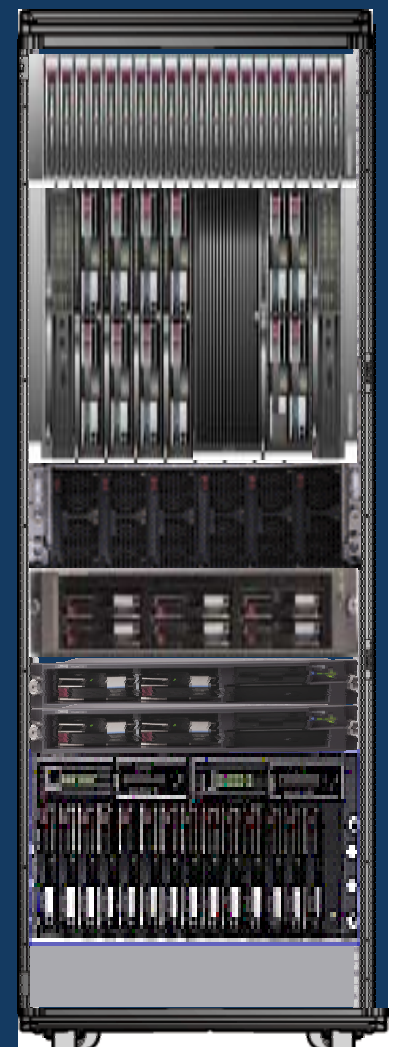
- Unattended bare metal deployment
- Scripting & Imaging
- Blade Server rip & Replace



Foundation Pack

- Single Server Deployment
- Health status and event monitoring
- Discovery and system software config

Included with Server



Migration to Exchange 2003 with HP

- Introduction
- Platform Considerations
- Customer Priorities
 - Adaptive Enterprise
 - High Availability
 - **Manageability**
 - 3rd Party Tools



HP Systems Insight Manager

- In-depth hardware lifecycle management
- Hardware status and fault monitoring
- Systems configuration data
- Software version control
- Inventory data collection reporting
- Extensible with lifecycle management plug-ins
- Hosted on Windows, HP-UX, Linux

Performance Management Pack

- **Preventing performance issues**
- **Solving after-hours performance problems**
- **Extending the useful life of servers**
- **Justifying legitimate system replacement.**
- **Identifying server consolidation opportunities**

Adaptive Management

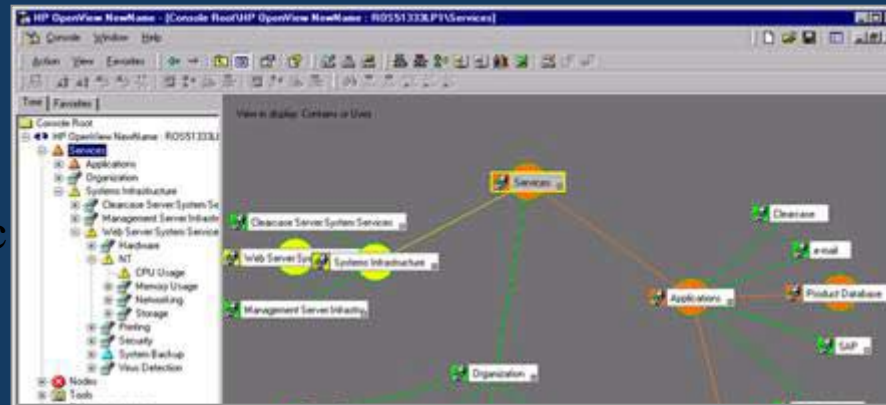
Integrated From Service Level to System Level



service-centric
management

systems
lifecycle
management

single system
instrumentation and
element management



OpenView Operations for Windows
manages service level of applications and
can drill down to agent and lights-out for
analysis/repair

Insight Manager performs system
management and has ProLiant
Essentials plug-ins

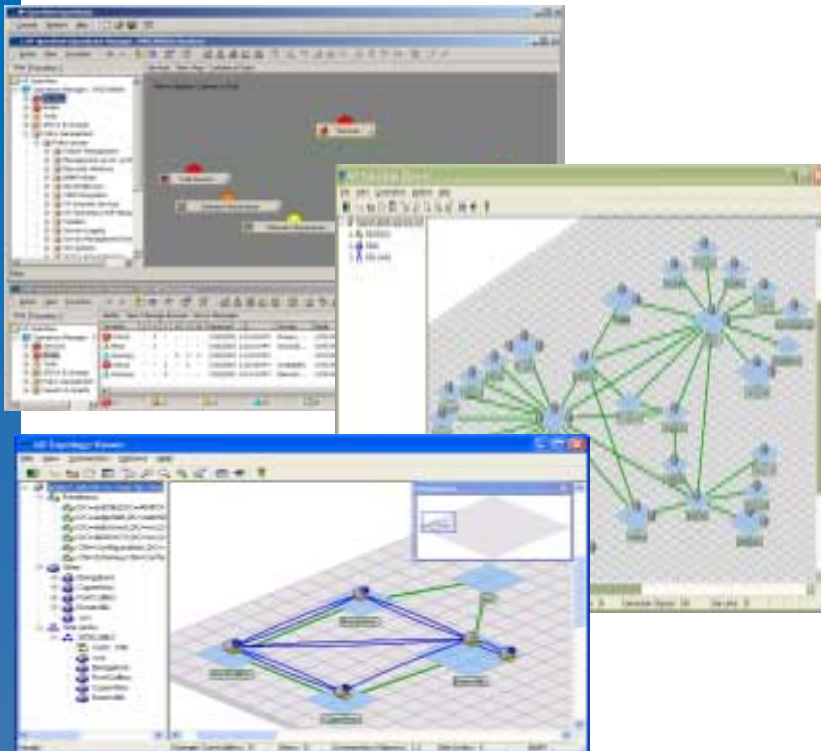
System Management Home page
exposes all built-in manageability

Manage an
Exchange SLA



OpenView Operations for Windows

The core of HP OpenView's Exchange solution



- Centralized point of control for Exchange Server, Active Directory, Windows 2000/3 enterprise environments
- Service management perspective. See what your users see. A true business perspective
- Sophisticated, patented Windows event and performance management
- Unique AD and Exchange visualization and topology capabilities
- Extensive out-of-the-box management tuned for Exchange leveraging HP expertise linked to Knowledgebase content
- Automated service discovery and policy deployment for Exchange, AD, Windows O/S
- Scalable 10-1000+ servers



Winner – Best of Show in the management category at MS Tech Ed 2003



Migration to Exchange 2003 with HP

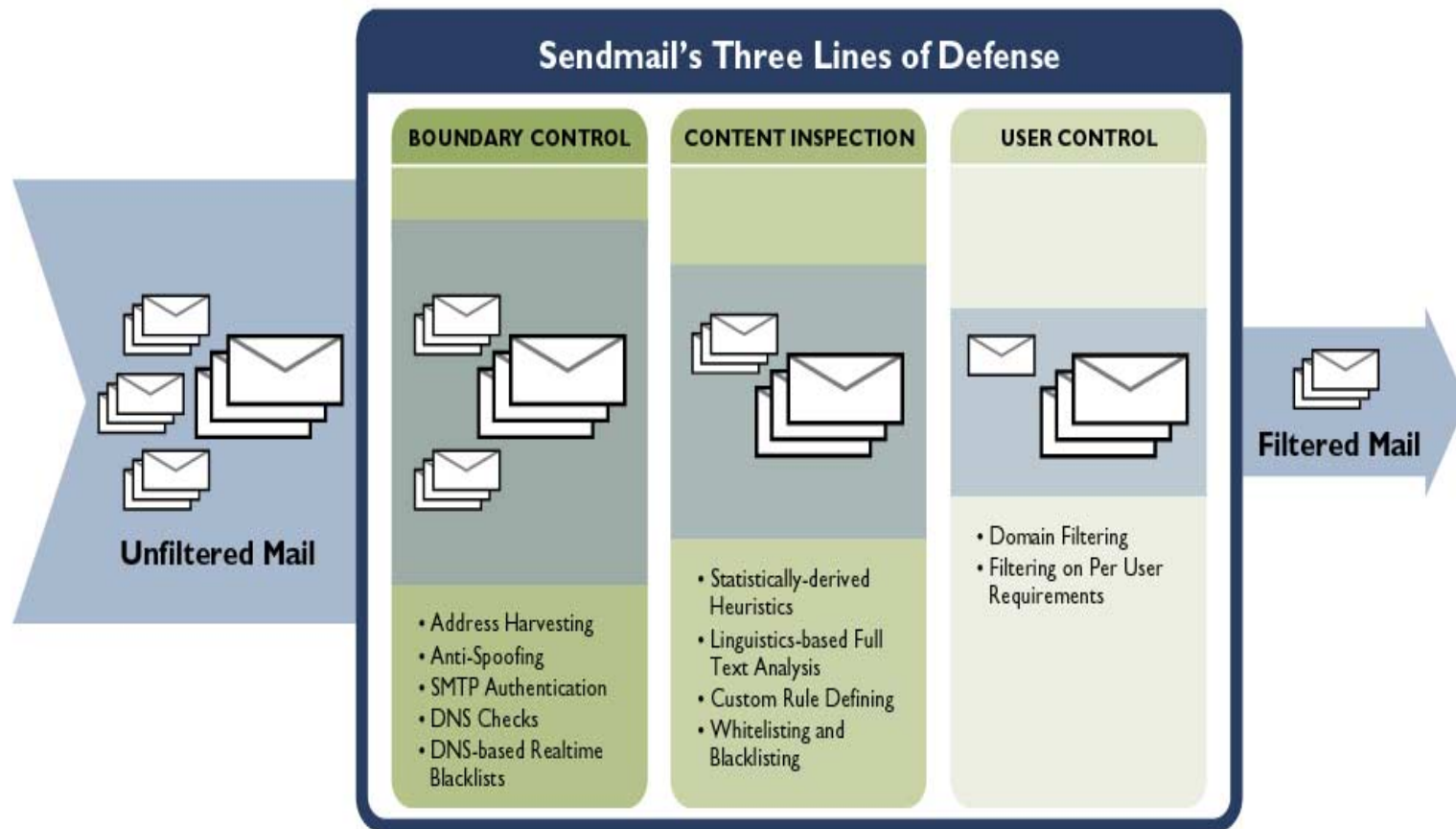


- Introduction
- Platform Considerations
- Customer Priorities
 - Adaptive Enterprise
 - High Availability
 - Manageability
 - **3rd Party Tools**



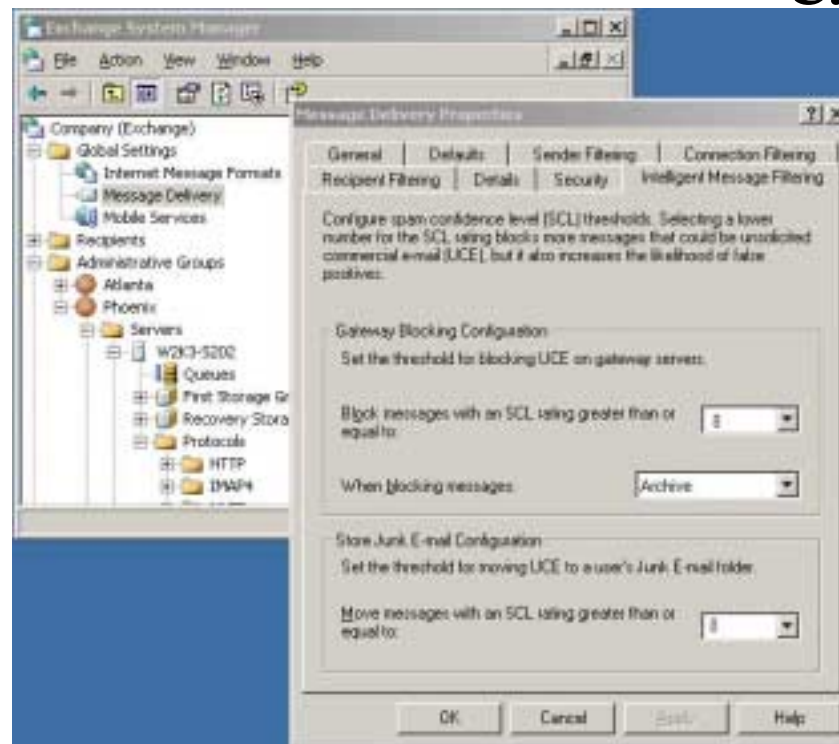


SENDMAIL®

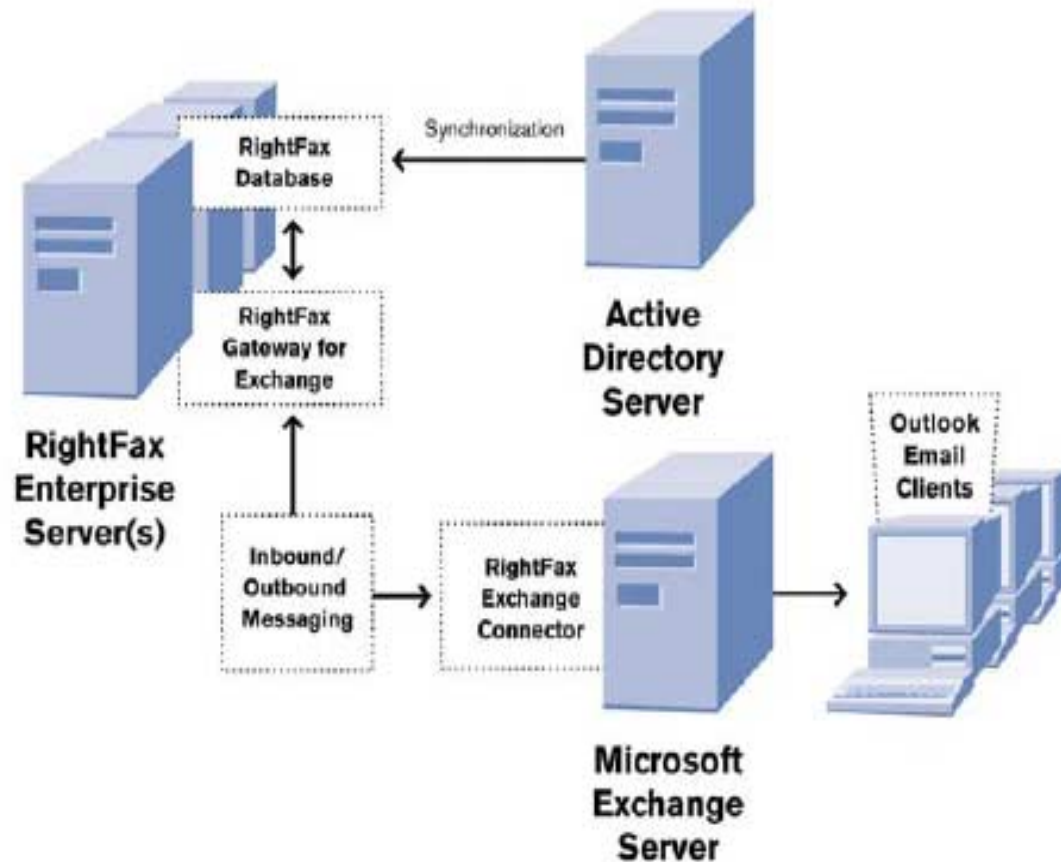


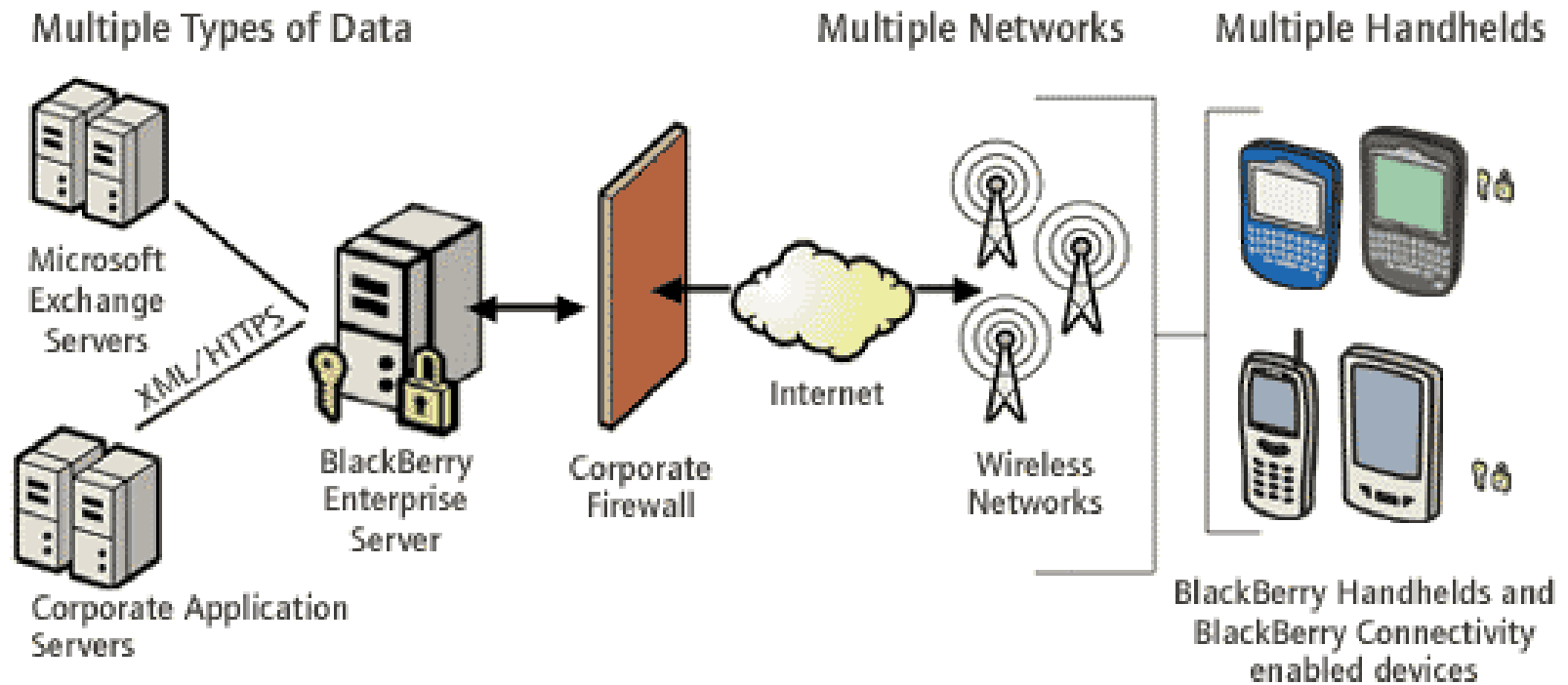
Microsoft's Intelligent Message Filter

- Integrated into Exchange 2003
- Easily configured
- Based on Microsoft's Smart Scan Technology



Captaris RightFax





Hosted Exchange

- Reality check, are you up to the task?
 - Can you fulfill all of your SLAs?
 - Security
 - Scalability
 - Experience
- Outsource for reduced IT
 - Purchase as service with performance guarantees, reduce internal costs
 - How much are you currently spending a seat?
- Can you trust someone else with your baby?

HP Runs its Business on Windows & Exchange Server 2003



- **Challenges**

- Integrate the HP and Compaq infrastructures
- Support mobile devices
- Improve services and service levels, reduce TCO

- **Solution:**

- HP spans over 800 locations worldwide; largest installation of Windows & Exchange 2003 (145K users will be 250K by 12/04)
- Production AD forest upgraded to Windows 2003
- Populating Office 2003 on client side
- Pilots for OWA/OMA/Server ActiveSync/MAPI-RPC

- **Results:**

- Consolidate number of servers and support staff
- Provide support for diverse devices
- Internal and external access over secure channel
- Planning for high availability and disaster recovery using Exchange 2003 clusters

“Exchange 2003 is the best Exchange ever. HP gets improved features, performance, stability and scalability and integrated mobile device support. The combination of Windows 2003 and Exchange 2003 makes clusters more attractive and the icing on the cake is Outlook 2003 cached mode which will allow major consolidation that was previously not possible.”

Stan Foster, Distinguished Technologist, HP Services



Migration to Exchange 2003 with HP



- Introduction
- Platform Considerations
- Customer Priorities
 - Adaptive Enterprise
 - High Availability
 - Manageability
 - Service and Support
- Successful Customers
- Next Steps



Complete your Exchange Solution with HP Partners



Wireless



Management Tools

AutoProf.

CITRIX®

QnetIQ



QUEST
SOFTWARE

Storage Enhancements



Collaboration



Security



Sybari
Ever-Vigilant Protection



Bundled Exchange 2003 Solutions to Fit Your Business



- Microsoft Exchange server for small businesses
 - Entry level to 75 users: ProLiant ML110 (ATA RAID) and ML330 (SCSI) with SBS2003, 512MB
 - scalable to 250 users: ProLiant ML350 with Exchange 2003 SE, 512MB and internal storage
- Microsoft Exchange server for medium businesses
 - scalable to 500 users: ProLiant ML370 with Exchange 2003 EE, 1GB and internal storage
- Microsoft Exchange server for enterprises
 - scalable to 1,000 users: ProLiant ML530 and ML570, 2GB memory and internal storage
 - scalable to 1,000+users: ProLiant DL380 and DL560, 2GB memory and MSA1000 SAN
- Mobile Exchange Solution Package (add to Exchange 2003 bundles)
 - Scalable to 1000+ users: 2 x ProLiant DL360: ISA security server in a DMZ plus a front-end Exchange 2003 server in the back-end network





HP Web Sites for more Information

- ActiveAnswers (technical white papers, tools)
 - www.hp.com/solutions/activeanswers/exchange
- Messaging solutions (case studies, pointers to additional info)
 - www.hp.com/solutions/microsoft/exchange
- Messaging services (consulting services available)
 - www.hp.com/hps/messaging/mc_infrastructure.html
- Mobile Exchange
 - <http://h71019.www7.hp.com/enterprise/html/3970-0-0-0-121.html>
- HP StorageWorks
 - www.hp.com/solutions/microsoft/exchange/storage
- HP Exchange Reseller Partners
 - www.hp.com/solutions/microsoft/partner-reach



HP WORLD 2004

Solutions and Technology Conference & Expo

Co-produced by:



RECOMMENDED TRAINING VENUE FOR THE
HP Certified Professional

