The Benefits of Combining Archiving Technologies for Exchange 2003 Migration

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Agenda

- **Short Review of Exchange 2003**
  - Architecture
  - Migration from earlier versions
- **E-Mail Archiving: Why and How?**
- **Combining migration with archiving**
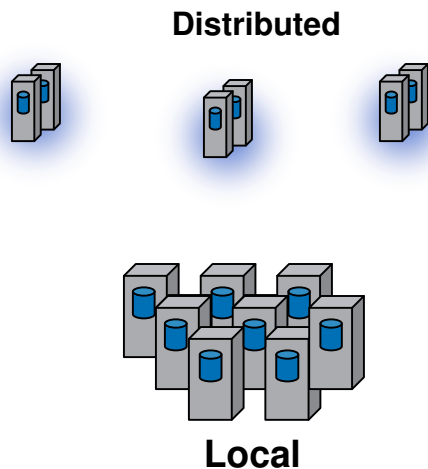- **A Case Study**
- **Conclusion**

E-Mail in the corporate world

- Email storage estimated at 30-40PB and growing at 38%+ annually

- Over 2.75 Billion e-mails were sent last year

- The average user sends/receives 40-60 emails a day

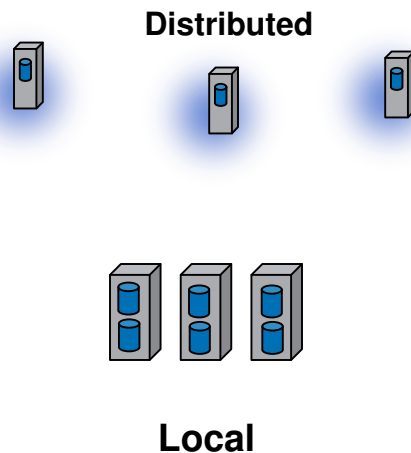- Up to 80% of Corporate IP contained in e-mail stores

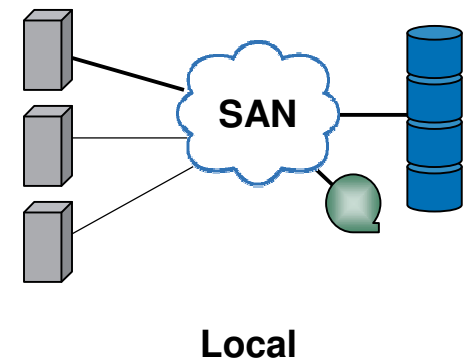# Exchange Server Evolution

Microsoft Exchange Server 5.5

Distributed

Local

- 1 Exchange DB/server
- 1K-2K users/server
- Remote users access distributed Exchange servers

Microsoft Exchange 2000 Server

Distributed

Local

- Up to 20 DB/server
- 3K-5K users/server
- Remote users access distributed Exchange servers

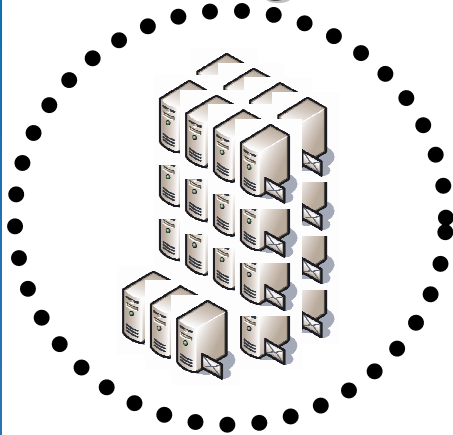**Microsoft EXCHANGE SERVER 2003**

SAN

Local

- Up to 20 DB/server
- 5k+ users/server
- Improved remote user support
- SAN and Cluster centric

Enables Site, Server and Storage Consolidation

HP WORLD 2004
Solutions and Technology Conference & Expo
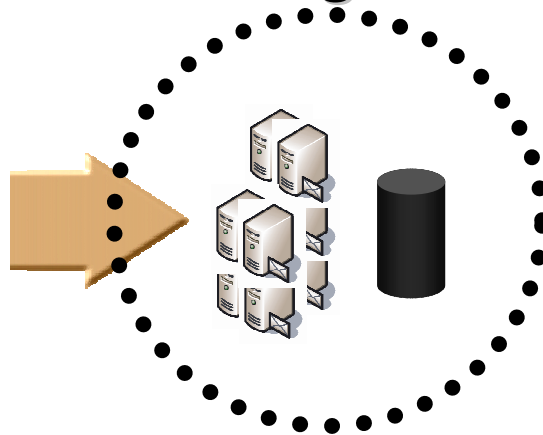
Microsoft Corporation Exchange Deployment

Exchange 5.5

Redmond
- ☐ 35 4-proc servers
- ☐ Backup to tape
- ☐ Offline restore 8 hours
- ☐ 800-1K users/server
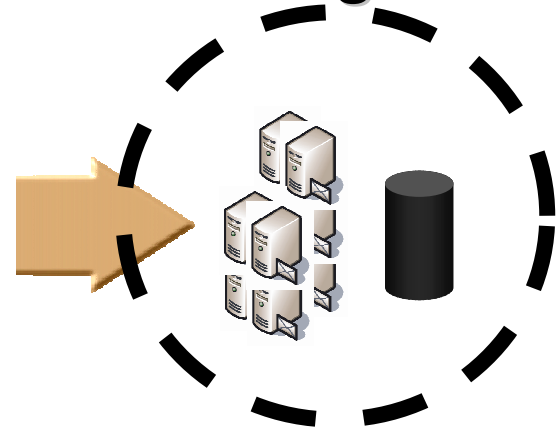- ☐ 50MB per user

Exchange 2000

Redmond
- ☐ 10 8-proc servers + SAN
- ☐ 3K-3.5K users/server
- ☐ 100MB per user

Worldwide
- ☐ 74 physical sites
- ☐ 215 Total Exchange servers
- ☐ 200 AD Servers

Exchange 2003

Worldwide
- ☐ 200 MB per user
- ☐ 17 physical sites
- ☐ 7 Regional Datacenters
- ☐ ES03 and Outlook 2003
- ☐ < 100 Total Exchange Servers
- ☐ < 140 AD Servers

Microsoft Exchange 2003 Consolidation Project

- 150,000+ PCs
- >7,000 servers

- 72,000 mailboxes

- Single Instance SAP

Reducing Exchange sites from 74 to 17

Reducing Exchange servers from 215 to 90

Initial Estimate of $5M/year annual savings

Stockholm
Benelux
Dublin
Munich
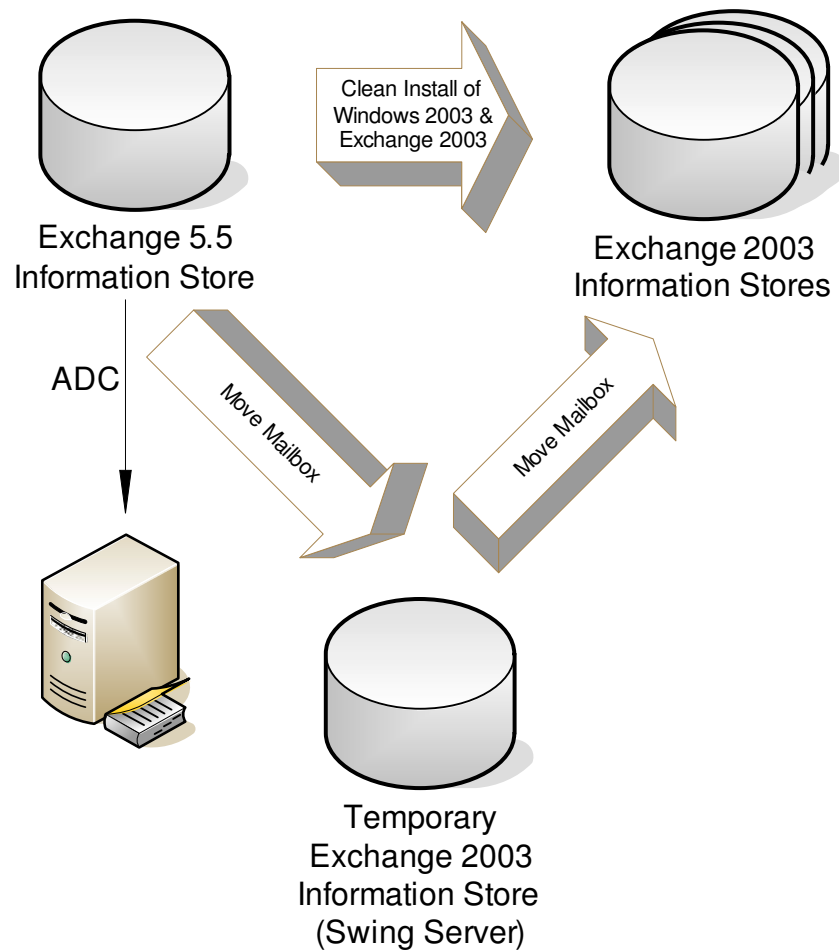Reading
Les Ulis
Milan
Redmond
Madrid

Silicon Valley
Charlotte
Chofu & Otemachi

Las Colinas
Dubai

Singapore

- 400+ supported Microsoft sites worldwide

Sao Paulo

- 50K employees

Johannesburg
Sydney

- 4.5M+ e-mail messages per day internally

Migrations Options

- In-Place Upgrade

Exchange 5.5
Information Store

Clean Install of
Windows 2003 &
Exchange 2003

Exchange 2003
Information Stores

ADC

Move Mailbox

Move Mailbox

Temporary
Exchange 2003
Information Store
(Swing Server)

Migration Options (cont.)

- Migration to a new Exchange Organization
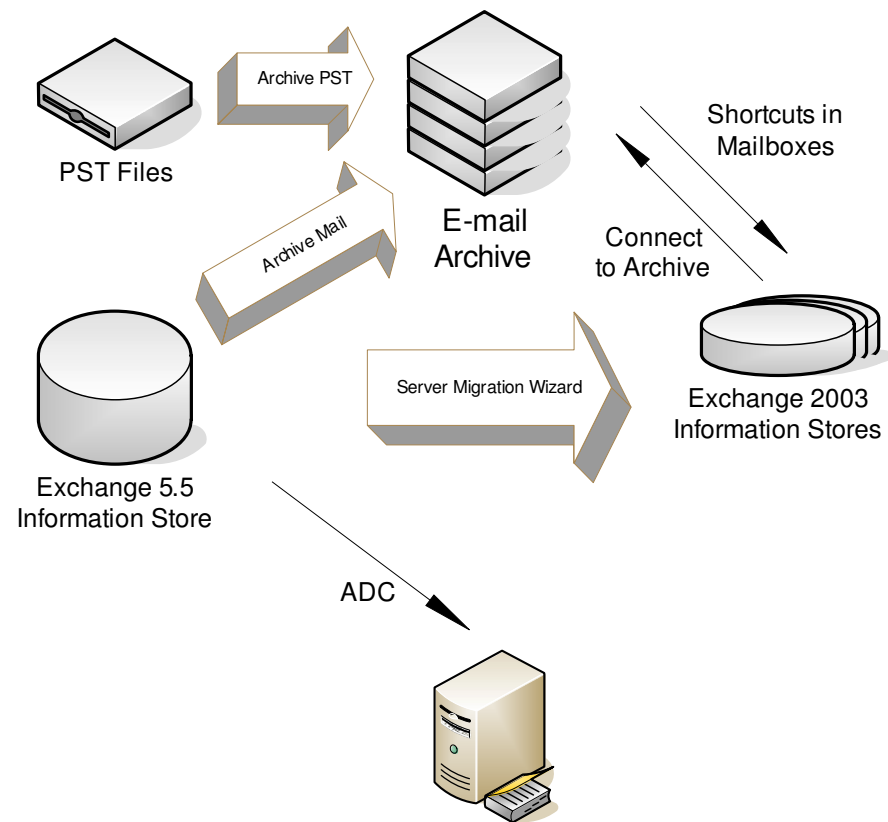

Exchange 5.5
Information Store

Server Migration
Wizard

Exchange 2003
Information Stores

ADC
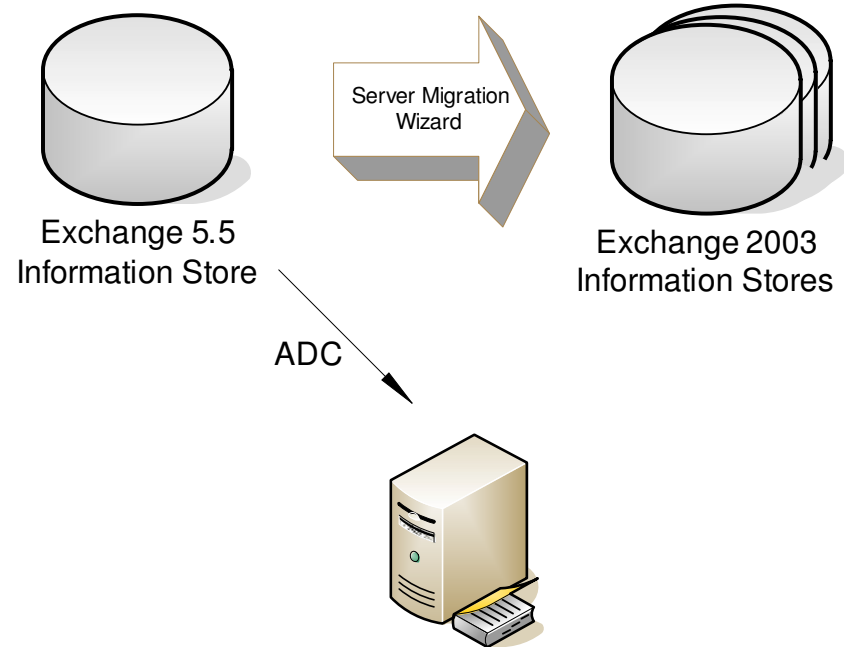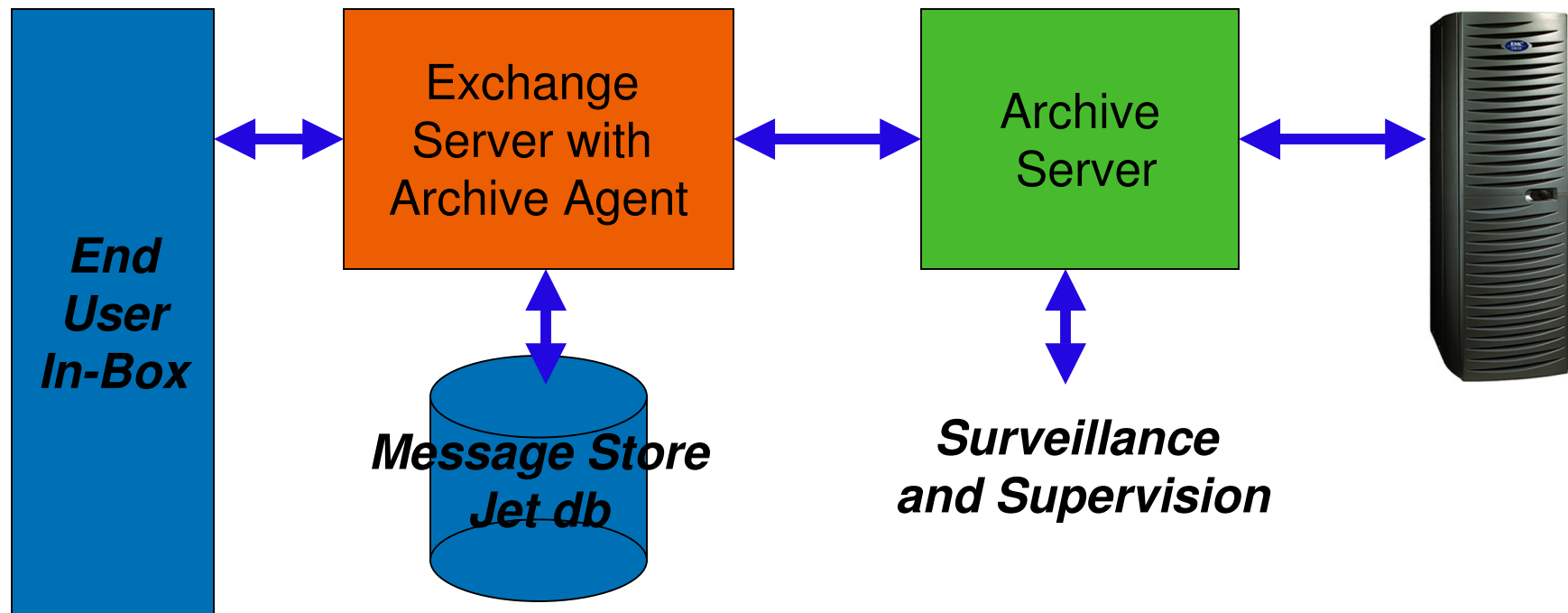
Migration Options (cont.)

- Combining migration with Archiving

Archiving: Why?

- Compliance: SEC 17a4, SRO regulations, HIPAA, 21 CFR Part 11, Corporate Governance and Liability

- Cost Reduction: Part of an overall ILM strategy for reducing costs, management, storage, and simplifying operations

- Consolidation: Reduced message store sizes allow more end-users to be supported on an Exchange server

- Conversion: Archiving reduces the pain and expense of migration to new versions of Exchange

- Risk Reduction: Archiving allows for faster Backups and Restores, simplifies Disaster Recovery

- Cleaning up .pst's

E-Mail Archiving for Compliance

End User In-Box	Exchange Server with Archive Agent	Archive Server	

Message Store Jet db

Surveillance and Supervision

- Journaling is transparent to the end-user
- Journaling occurs as soon as the message arrives in the In-Box
- Journaling should never be used as a substitute for Backup
- Journaling does not improve performance

Cost reduction with Archiving: the Virtual Infinite In-Box

End User In-Box

Exchange Server with Archive Agent

Archive Server

Message Store Jet db
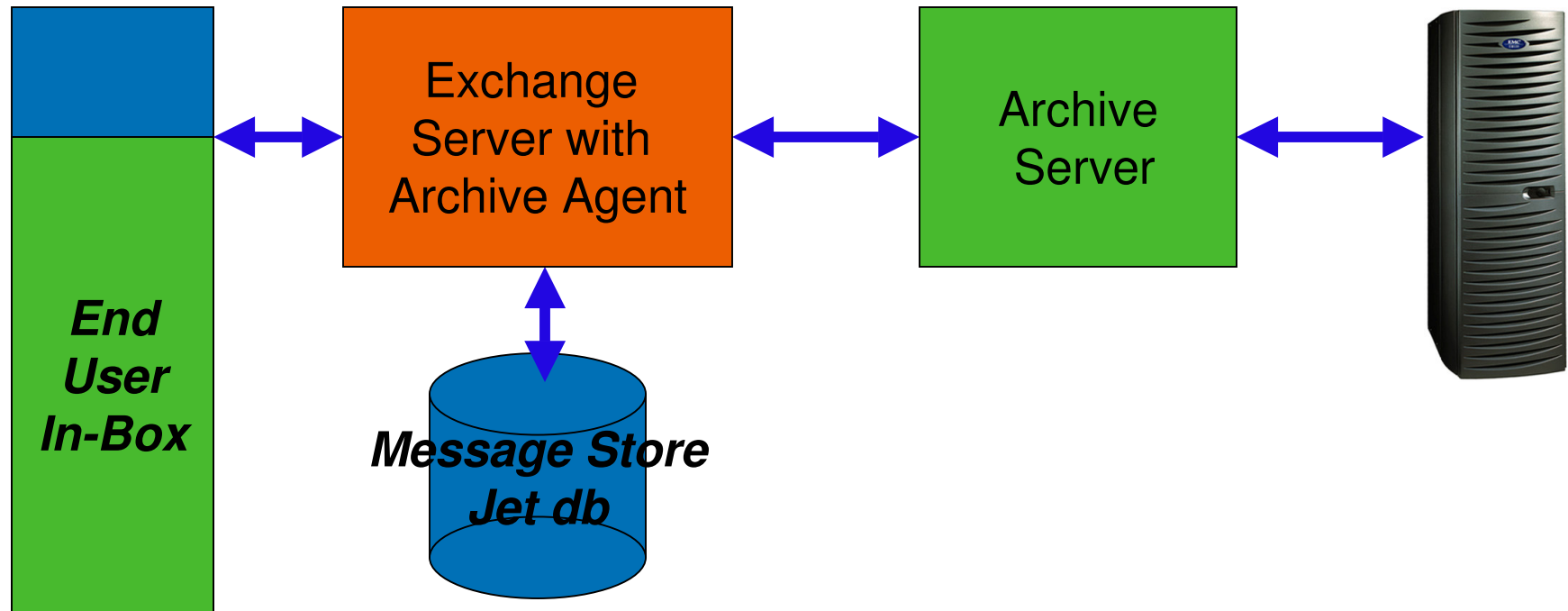
- End-user has total online access to all items in his In-Box
- This is a separate process from journaling
- All items in email are Fixed Content, only read rates determine the placement of messages
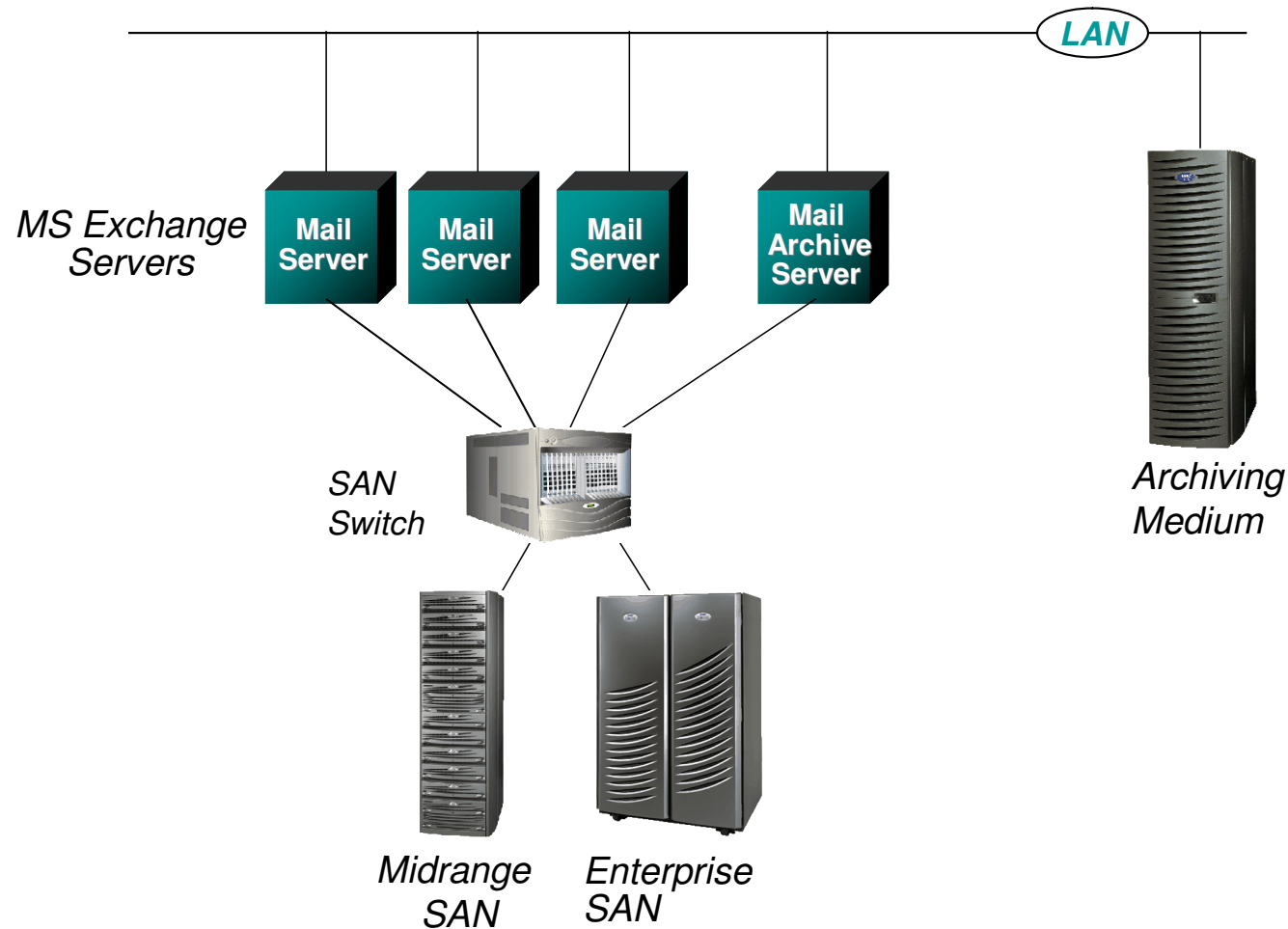- End-users can have a larger In-Box while the Message store gets smaller

Benefits of Email Archiving for Cost Reduction and Consolidation

- The bulk of the problems with Exchange stability occur while the message store is at its maximum size

- Smaller message stores mean smaller Backups, faster Restores, and simpler Disaster Recovery

- Less Administration needed

- Eliminates waste in the form of Fixed Content being backed up up multiple times

- Lower tape costs

- Message store size is the governing factor in the number of users that an Exchange server can support

- Smaller active message store per user means more users per server
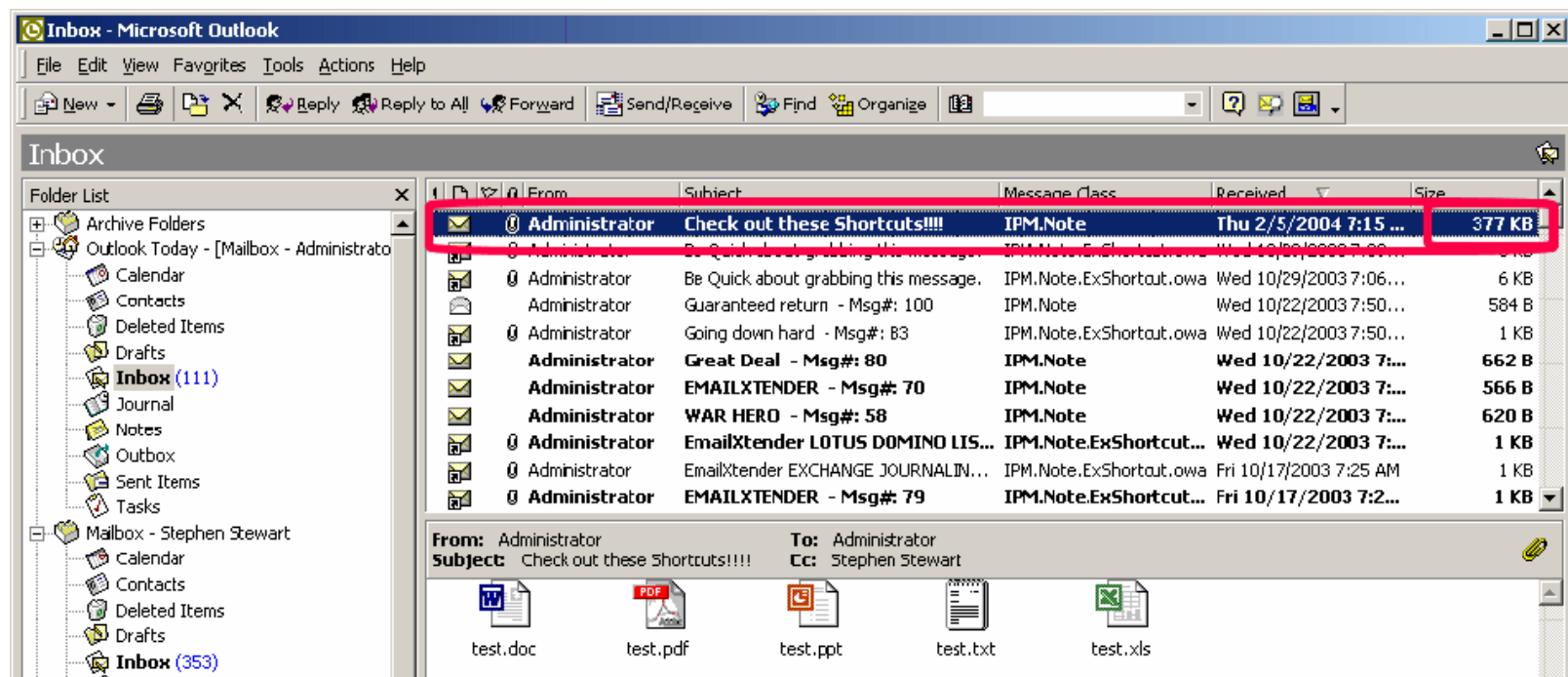
Taming the .pst Monster

- Archive .pst files are outside of any corporate governance or regulatory policy and are discoverable information

- .pst files append and can grow quite large. Incremental backups of desktops or home directories see the entire file as new information.

- Large amounts of transactional disk are taken up with .pst files which require support and management

- .pst files can be eliminated

Exchange 2003 with SAN integration and Archiving Solution

MS Exchange Servers

Mail Server

Mail Server

Mail Server

Mail Archive Server

LAN

Archiving Medium

SAN Switch

Midrange SAN

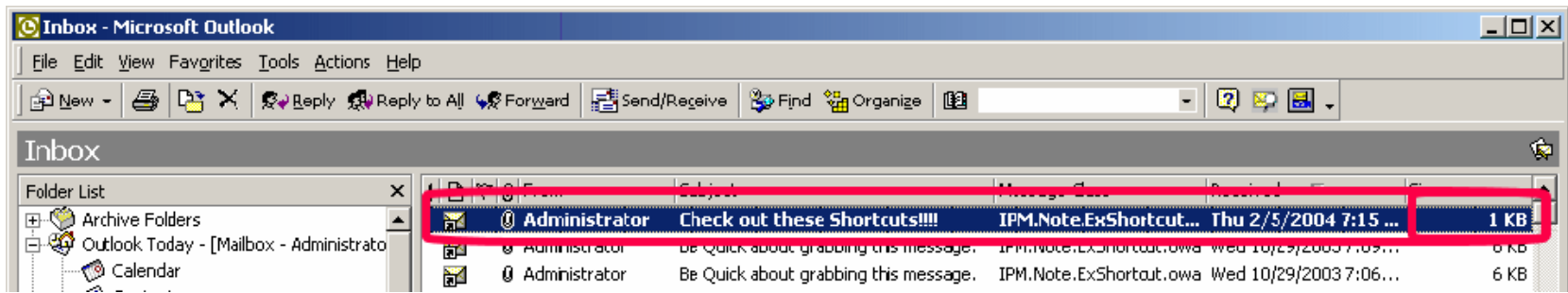Enterprise SAN

Archiving from the User's Point of View

- Before…

Archiving from a User's Point of View (cont.)

- After…

- Message replaced by short cut

- Message size reduced to 1KB

- Transparent to user

- Minimal increase in mail access times

- Significantly reduced storage costs

The Legato Test (without archiving)

- **Migration Test #1: Microsoft Exchange 5.5 to Exchange Server 2003**
- Objective: Determine the amount of time required to migrate a specific Exchange 5.5 configuration to Exchange Server 2003 using standard Microsoft utilities.

- *Test Results*
- Total migration time: **7 hours, 37 minutes** required to migrate from Exchange 5.5 to Exchange Server 2003

- *Environment*
- Microsoft Exchange 5.5 Server
- Compaq DL360 800 MHz P3 Xeon with 1 GB RAM, Dual 18 GB SCSI Hard drives
- Windows 2000 Advanced Server with Service Pack 3 Active Directory
- Domain Controller Exchange 5.5
- Active Directory Connector
- Microsoft Exchange Server 2003 Server Edition
- Compaq DL360 1.4 MHz P3 Xeon with 512 MB RAM, Dual 18 GB SCSI Hard drives
- Windows Server 2003
- Exchange Server 2003
- Users 2,003
- Number of unique email messages 39,122
- Total number of email messages 102,043
- Amount of data in Exchange message store Approx. 6 GB

The Legato Test (with archiving)

- **Migration Test #2: Microsoft Exchange 5.5 to Exchange Server 2003 Utilizing LEGATO EmailXtender**

- Objective: Assess the amount of time required to migrate the same environment with the addition of EmailXtender, and to measure the storage reduction during the migration from Exchange 5.5 to Exchange Server 2003.

- *Test results*

- Total migration time from Exchange 5.5 to Exchange Server 2003: **53 minutes, 37 seconds**.

- Total migration time savings: **85% faster** migration time from Exchange 5.5 to Exchange Server 2003

- Total storage savings: **70% less storage** used for email archives

- *Environment*
- Microsoft Exchange 5.5 Server
- Compaq DL360 800 MHz P3 Xeon with 1 GB RAM, Dual 18 GB
- SCSI Harddrives
- Windows 2000 Advanced Server with Service Pack 3
- Active Directory
- Domain Controller Exchange 5.5
- Active Directory Connector
- Microsoft Exchange Server 2003
- Compaq DL360 1.4 MHz P3 Xeon with 512 MB RAM, Dual 18 GB SCSI Hard drives
- Windows Server 2003
- Exchange Server 2003
- EmailXtender Server
- Compaq DL360 1.4 MHz P3 Xeon with 512 MB RAM, Dual 18 GB SCSI hard drives
- Windows Server 2003
- EmailXtender 4.5
- Users 2,003
- Number of unique email messages 39,122
- Total number of email messages 102,043
- Amount of data in Exchange message store Approx. 6 GB

The benefits of the combined approach

- Smaller message stores = **shorter** migration time

- Shorter migration time = **reduced** down time

- Faster migration = **reduced** migration costs

- Less data to migrate = **lower** risk of data loss

- Bonus benefits:
  - Compliance
  - Reduction in storage costs
  - Centralization of mail (no .pst files)

Case Study

- Background
  - Upgrade Exchange 5.5 to 2003
  - Centralize and consolidate e-mail infrastructure
  - Remove aggressive storage limits on individual mailboxes
  - Reduce amount of mails held in PST files
  - Implement e-Mail archiving solution after successful migration to Exchange 2003

Case Study (cont.)

- Solution
  - Reverse the order of projects: Archive first, migrate later!
  - Migrate mails from .pst files to archiving DB
    - Remove duplicates
    - Free space on file servers
  - Archive old and large mail items from user mailboxes
  - Consolidate Exchange 5.5 servers prior to migration
  - Archive all remaining mail in preparation for Exchange migration
  - Migrate all Exchange 5.5 mailoxes to Exchange 2003 over one weekend

Case Study (cont.)

- Lesson learned:
  - Time originally allocated for the migration project was halved and project costs reduced by almost 30 percent.
  - The eradication of all PST files eliminated the need for new file servers
  - Eradicated PST related support calls.
  - Storage restriction on individual mailboxes lifted to 250 megabytes
  - IT department agreed to new and improved service levels for e-Mail

Conclusion

Be wise: **Archive first**, then migrate!

Q & A

Thank you!

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