

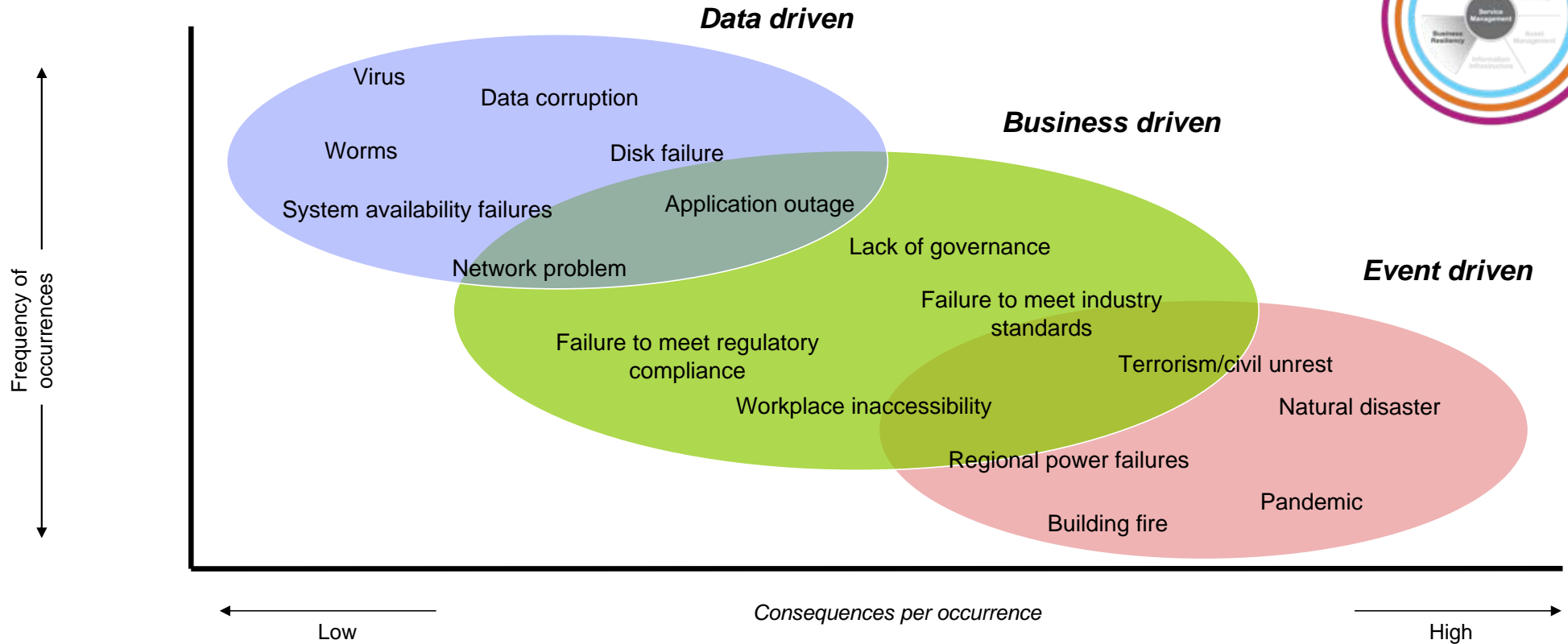


How To Maximise Storage Management Efficiency: Next Generation of Backup & Recovery

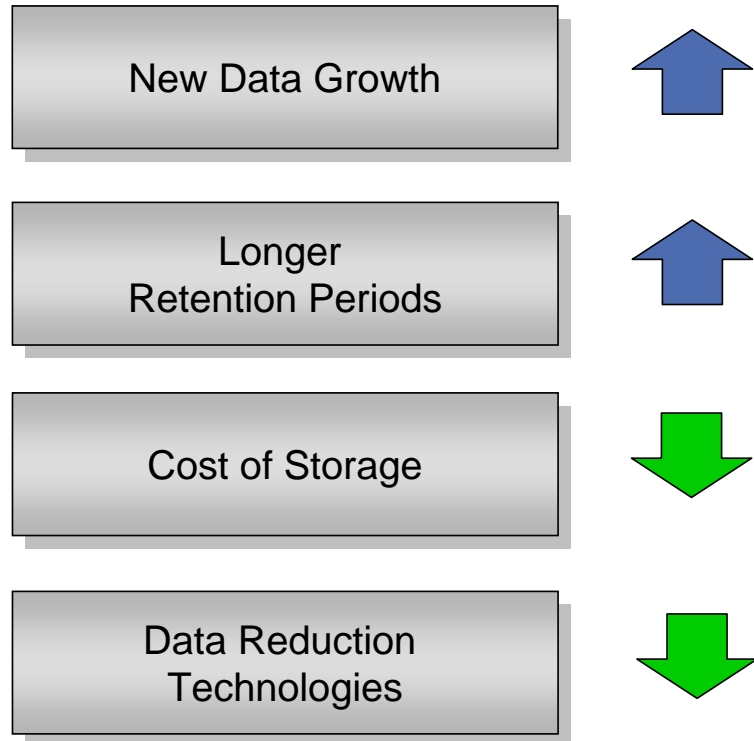
Ian Hancock



Dynamic Infrastructure & Business Resiliency



Data Protection and Retention Dynamics

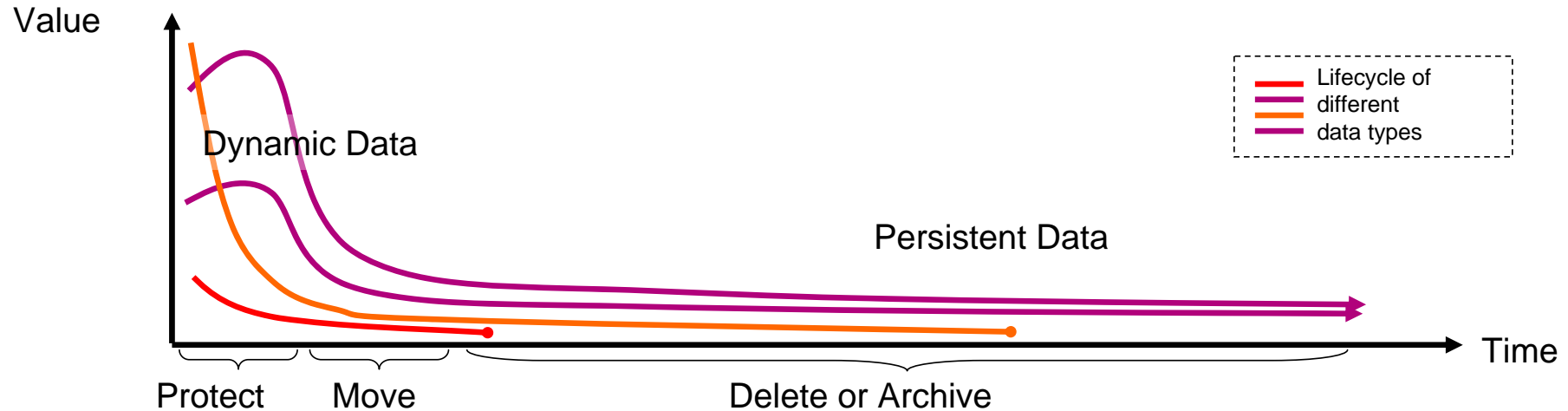


How can you get control?

- Understand your data.
 - Business value?
 - Retention period?
 - Capacity growth?
- Reduce and reuse
 - Eliminate unnecessary data
 - Minimize redundant data
- Automate processes
 - Reduce manual tasks
 - Improve recovery success



Managing Data Through the Lifecycle



Protect

- Match technology to recovery objectives and cost
- Consider data in Data Centers, ROBOs, laptops
- **TSM** cost effectively protects data and manages recovery across the full environment

Move

- Move data through storage hierarchy based on policy
- Keep high end disk for high priority applications
- **TSM** automatically moves data based on policy to cost effective tiers

Delete or Archive

- Delete unneeded data freeing capacity
- Archive selected records based on retention policy
- **TSM** can manage retention of records to meet business and regulatory requirements.



Leading the Way in Data Protection and Recovery

Tivoli Storage Manager has been a leader in helping organizations protect, retain and assure availability of their most important asset, their data, **for more than 15 years.**

Comprehensive Solution

- Backup / Restore
- Archive / Retrieve
- Continuous Data Protection (CDP)
- Disaster Recovery
- HSM / ILM
- Application Protection
- Database Protection
- Bare Machine Recovery
- Robust Remote Office Recovery

- Innovation:
 - 1st disk-based backup solution
 - optimized over 15 years
 - Data reduction via Progressive Incremental
- Market:
 - More than 20,000 loyal customers
 - 60% of Fortune 500
 - Above market growth four consecutive years*
- Unified recovery across:
 - The broadest range of OS and HW platforms: *from laptop to mainframe*
 - All storage tiers



Continuing to Lead the Way

Tivoli Storage Manager 6 leapfrogs the competition to address our customers' most challenging issue: the continuing tidal wave of data growth.



Increased scalability, availability and performance



Built-in Data Deduplication



Simplified deployment and management



Improved integration with VMware and NetApp / N series NAS Filers

**Net Result = Unified Recovery Management
Improved Quality of Service**





What's New: Integrated DB2 Database

- “Under the covers” in TSM 6
 - No need to hire a DB2 administrator
- Enables next-generation management, scalability, availability and performance
- Rock solid reliability; industry’s best security, scalability and performance
- DB2 customers include:
 - 59 of the top 59 banks in the world
 - 9 of the top 10 global life & health insurance companies
 - 23 of the top 25 U.S. retailers

Powered by



Customer Benefits of DB2 inside:

- **Exploitation of autonomic computing concepts**
 - A self-tuning database buffer pool
 - Online database reorganization enables changes and tuning of the database while the system remains operational
- **More reliable backup and recovery**
 - Run-time data validity checks
 - Errors are immediately detected and corrected
- **Improved Availability**
 - The **Tivoli Storage Manager 6** server does not need to be taken "offline" for database repair actions
 - Competitive offerings require the servers to be off-line to preserve the integrity of their distributed catalogs and index files.



Next Step in Data Reduction...



Built-in Data De-Duplication

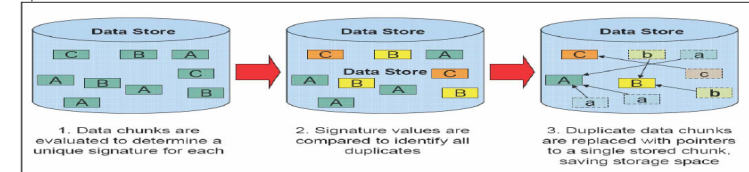
- **Tivoli Storage Manager 6** Extended Edition includes data de-duplication for disk storage pools, *at no extra charge*
- Improves recovery times as many more recovery points can be stored on disk; or reduces the amount of capacity needed
- Operates as a post-process / no impact on backup performance / automatic space reclamation
- Complementary with TS7650G ProtecTIER Gateway for long-term data retention

Tivoli Storage Manager 6, combining progressive incremental data capture with data deduplication, does a better job of reducing storage capacity requirements than pure data deduplication solutions



Customer Benefits of Data De-Duplication

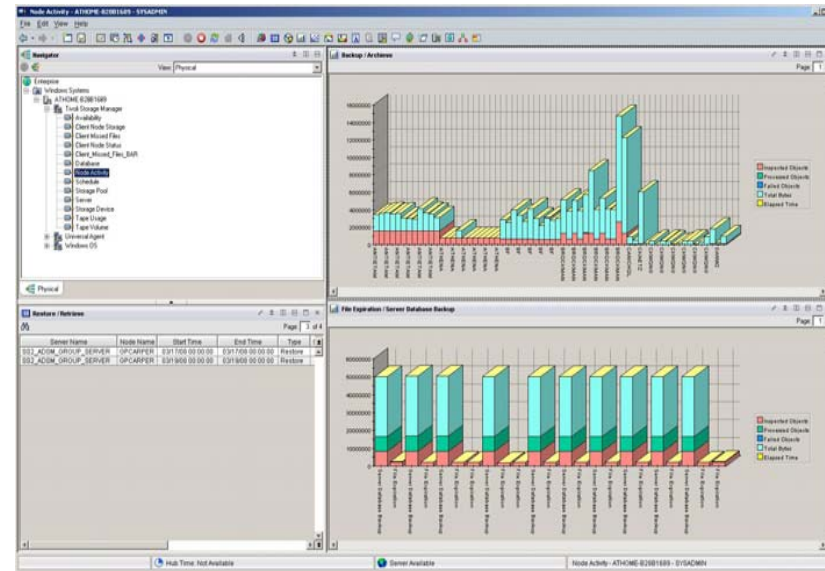
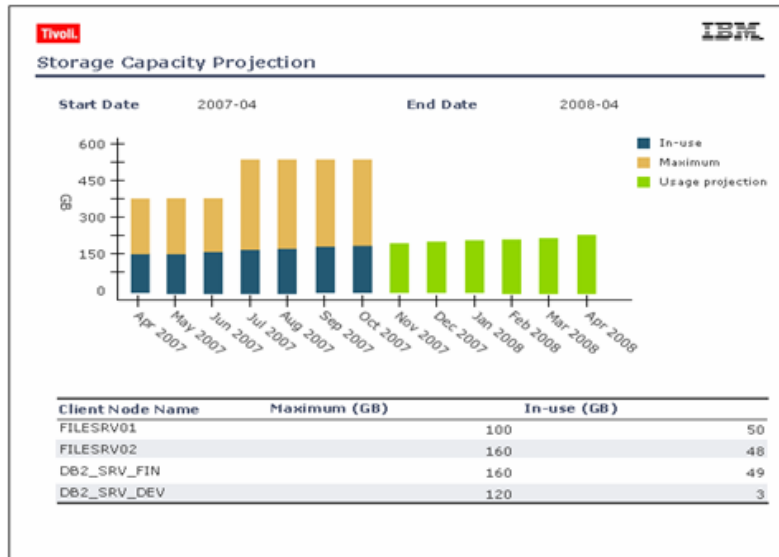
- Increases* the amount of data available for recovery from disk (compared to TSM 5.5)
 - Adds to the benefits of progressive incremental data capture and data compression technologies
- Effective with data from any source,
 - including: API, backup, HSM, archive
- Built into Tivoli Storage Manager 6
 - At no additional charge
- Post-process does not impact backup operations



* Results will vary depending on user's environment, systems/processors, type of data, expiration policies, data change rates, etc.

Simplified Management: Tivoli Reporting and Monitoring

- Customizable reporting and near real-time monitoring
 - Wide range of pre-configured 'out-of-the-box' reports; reports are fully-customizable
 - Near real-time monitoring via a customizable dashboard
 - Integrates with Tivoli Monitoring data to enable end-to-end performance analytics
 - Included with *no additional licensing*



Powered by



VMware Consolidated Backup Full Image Backup

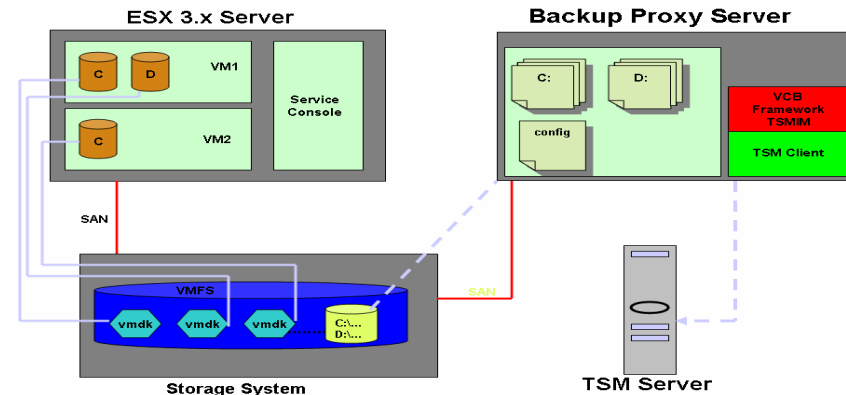
'Near Zero Impact Backup' on ESX Servers by using proxy backup server

Integrated approach that significantly reduces impact of backup on ESX Servers which can allow it to run more virtual machines

- Builds on TSM 5.5 Support
 - VCB support
 - Single agent on proxy server vs. agent on every VM
 - Reduced load on ESX server
 - Faster recovery
 - Eliminates LAN traffic

Full image backup of virtual machines for enhanced business continuity and disaster recovery

Image level virtual machine backups are OS neutral





Enhanced support for IBM nSeries and NetApp Filers

- Faster full image backup with new Network Data Management Protocol (NDMP) integration
 - SnapMirror to Tape integration enables backup of large NetApp filesystems to secondary media for disaster recovery
- Extremely fast incremental backup
 - IBM's **'First-to-Market'** integration with NetApp that eliminates the need to scan the file system looking for changed files
 - Enables faster and more frequent backups



IBM System
Storage N6000



Item Level Recovery for Microsoft Exchange

TSM for Mail

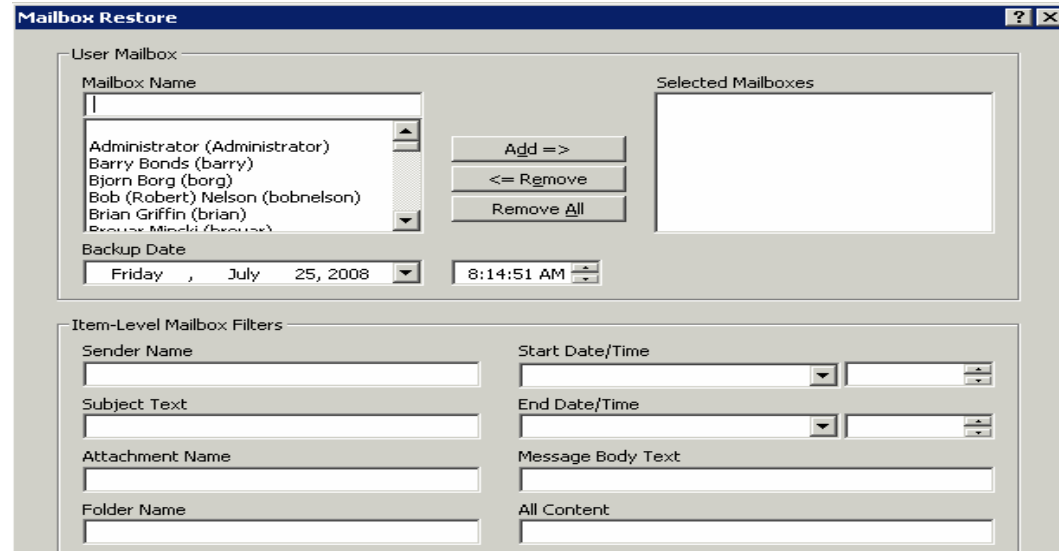
Faster, easier way to recover individual mail items:

Entire inbox, deleted items, email drafts, journal, calendar, notes, tasks, and user folders

Leverages the Microsoft Exchange Recovery Storage Group and standard Microsoft interfaces

Microsoft Exchange 2003 and 2007 support

- TSM 6 supports restore of a user's mailbox that may have been accidentally deleted as well as restoration of the mailbox as it existed at a previous point in time



Mailbox Restore

User Mailbox

Mailbox Name:

Selected Mailboxes:

Administrator (Administrator)
Barry Bonds (barry)
Bjorn Borg (borg)
Bob (Robert) Nelson (bobnelson)
Brian Griffin (brian)
Bruce Minski (bruce)

Add =>
<= Remove
Remove All

Backup Date: Friday, July 25, 2008 8:14:51 AM

Item-Level Mailbox Filters

Sender Name:

Subject Text:

Attachment Name:

Folder Name:

Start Date/Time:

End Date/Time:

Message Body Text:

All Content:



The Value of TSM 6

Tivoli Storage Manager 6 keeps IBM on the leading edge of enterprise-class data protection and recovery management, staying ahead of the ever-increasing growth in digital information, no matter where it resides.

IBM Tivoli Storage Manager 6 can help to:

- + Reduce infrastructure costs – servers, storage, bandwidth
- + Reduce operational expenses
- + Improve application availability and reduce downtime
- + Reduce risk associated with data loss
- + Achieve regulatory and corporate compliance
- + Manage data throughout its lifecycle
- = Future-proof data management processes



Pulse

Comes to You 2009



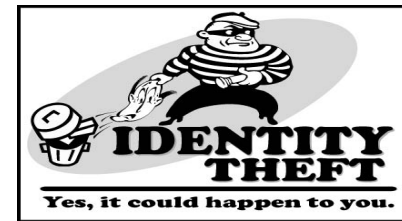
Managing the World's Infrastructure

IBM Tivoli Storage Manager FastBack



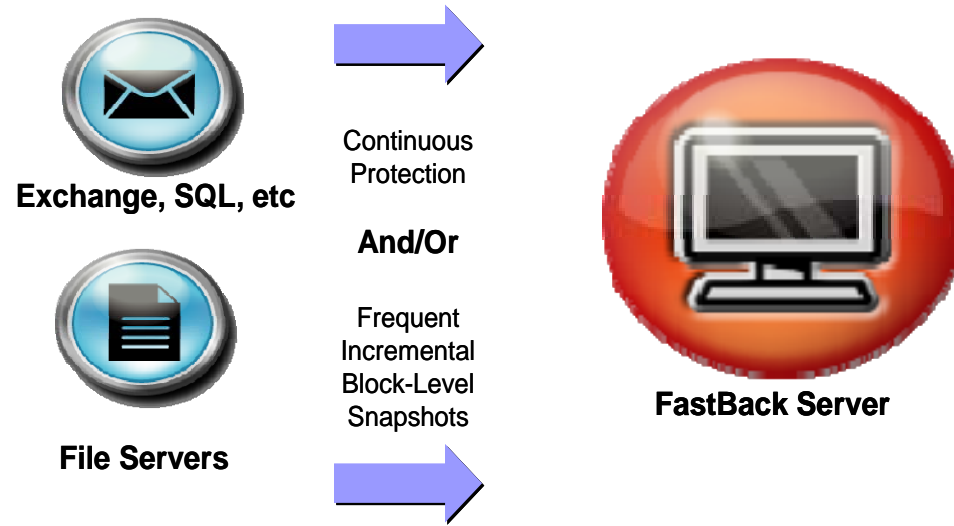
Tape-Based Backup has its Issues

- Tape-based systems often rely on manual processes that introduce significant risks to data protection and recovery
 - Labeling, loading, unloading, storage, transport, etc.
- Physically moving tapes off-site for disaster recovery also opens the door to data security risks
 - Tapes get lost/stolen
- Recovering lost data from tape is a painful and often impossible task
 - Usually requires expert IT support, which is costly and time-consuming



IBM introduces Tivoli Storage Manager FastBack

- Comprehensive, cost-effective solution for SMBs and remote offices
- Protects business-critical Windows servers
- Quickly recovers any amount of data, anywhere, from any previous point-in-time, following almost any type of data loss:
- Integrates easily into central data protection systems such as IBM Tivoli Storage Manager



IBM Tivoli Storage Manager FastBack Value

- Improve Recovery Point Objectives (RPO)
 - Reduce the amount of at risk to almost ZERO
- Improve Recovery Time Objectives (RTO)
 - Reduce downtime to just a seconds or minutes
- Improve Return on Investment (ROI)
 - Eliminate the costs of managing a tape-based backup and DR infrastructure
 - Perfect for small/mid-sized businesses and for remote offices



TSM FastBack – *It's All About Recovery*

Comprehensive Approach to Recover from any Disaster:

- Lost or deleted files/folders
- Crashed disk/server
- Corrupt database / virus attack
- Local or regional disaster

Next Generation Technologies:

- FastBack Mount
- Instant Restore
- Granular E-Mail Object Restore
- Disaster Recovery
- Bare Machine Recovery



TSM FastBack – Product Family Offerings

TSM FastBack

- Disk-based, block-level, incremental-forever technology
- Near-instant restore of data from any point-in-time, anywhere in the environment
- *Disaster Recovery* built in
- Policy-based “selective replication” for off-site recovery

TSM FastBack for Bare Machine Recovery

- Restore the OS volume on dissimilar hardware in minutes
- Great tool for cost-effective business continuance and server migrations

TSM FastBack for Microsoft Exchange

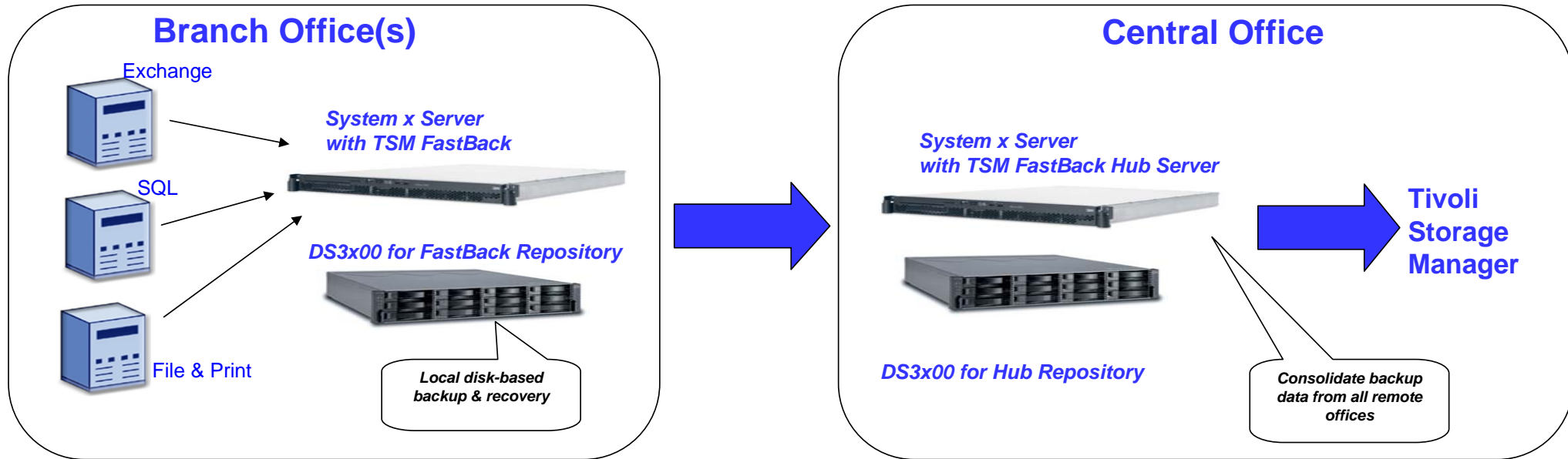
- Rapidly recover any e-mail object: message, attachment, calendar entry, contact, tasks, notes
- Near-instant access provides a great tool for data mining and unobtrusive testing of production environments

TSM FastBack Center

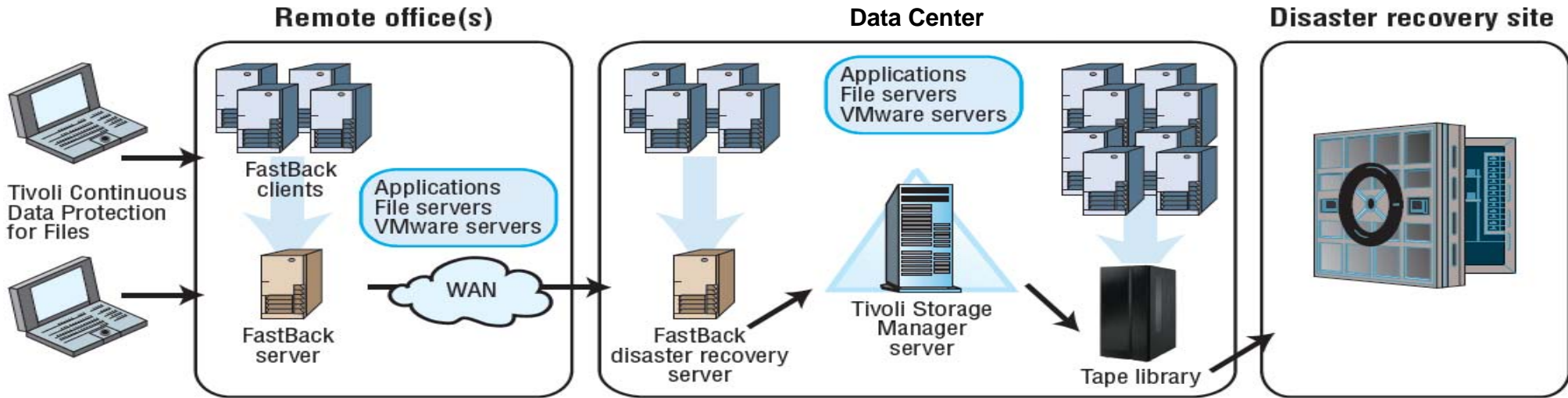
- Convenient bundle of the 3 components above



Smarter Solution: FastBack + System x + DS3000



End-to-End Data Recovery Management



- Tivoli CDP for Files: Continuous data protection for desktops & mobile users
- FastBack: Block Level Incremental Forever & CDP protection for critical servers
- Tivoli Storage Manager:
 - ✓ Industry leading tape support
 - ✓ Broad OS and HW platform support, application protection
 - ✓ Superior scalability, performance, availability



TSM Fastback - a Smarter Solution

- Next-generation data protection and recovery solution for Windows servers
- Comprehensive solution for mid-sized companies and remote offices
 - Local backup occurs in the background; no more backup windows
 - Disaster Recovery / Business Continuity
- Set Recovery Point Objectives on a per-application basis
- Near-instant recovery of any amount of data
- Secure 'selective replication' over WAN
- Integrates easily with Tivoli Storage Manager or other central data management solutions
- TSM FastBack for MS Exchange – granular recovery of e-mail objects
- TSM FastBack for BMR – fast restore of OS volume on dissimilar H/W



Pulse

Comes to You 2009

IBM



Managing the World's Infrastructure

Questions?



© 2009 IBM Corporation