Unified Recovery Management

Richard Vining, Tivoli Storage Product Marketing

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Session Abstract

Learn how effective 'unified recovery management' can help you reduce administrative costs, make faster and smarter decisions, and improve quality of service for your IT users and customers. Protecting data from accidental or malicious loss, and ensuring timely recoverability, has become extremely challenging with increased IT complexity. Different things can go wrong in different locations to different types of systems. Recovering a single file or email is a lot different that restoring a disk volume or an entire system from the ground up. Policies can help you to balance costs against business needs, delivering greater levels of protection – both in terms of Recovery Point Objectives (RPO) and Recovery Time Objectives (RTO), as well as improved utilisation of physical and personnel resources.

Speaker profile

Mr. Richard Vining is the Product Marketing Manager responsible for the IBM Tivoli Storage Manager portfolio of products.

Mr. Vining joined IBM in April 2008 as part of the acquisition of FilesX, where he served as Director of Marketing. Mr. Vining has more than 20 years of experience in the data storage industry, holding senior management roles in marketing, alliances, customer support and product management at a number of leading edge companies, including Signiant, OTG Software, Plasmon and Cygnet.

Unified Recovery Management for a Smarter Planet

- The planet is: smaller and flatter
- The world is connected: economically, socially and technically
- It is becoming more instrumented, interconnected and intelligent
- And it is creating an enormous amount of digital information (data)
- We need smarter ways of managing all this data; we need to do more with less
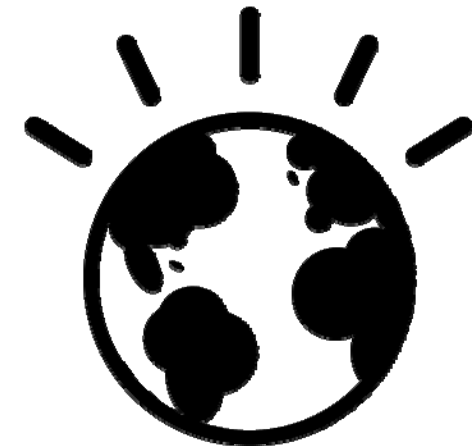
"On the Internet, things are communicating with things more than people are communicating with people" – Al Gore, former U.S. Vice President, at PULSE 2010

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Agenda

The complexities of data protection and recovery

IBM Unified Recovery Management Solutions

Sample Recovery Capabilities

Summary

Why IBM?

Next steps

More information

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Data protection and recovery is complex

- The amount of digital information continues to grow exponentially …
- The number of different kinds of systems you're using continues to expand …
- Each application is more important the next …
- The places where important data is being created and stored are multiplying …
- There are way too many things that can go wrong …
- Every vendor claims to be able to fix all your problems …

**You Need to do More with Less,
and you need to do it smarter**

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Where is the data?

Infrastructure

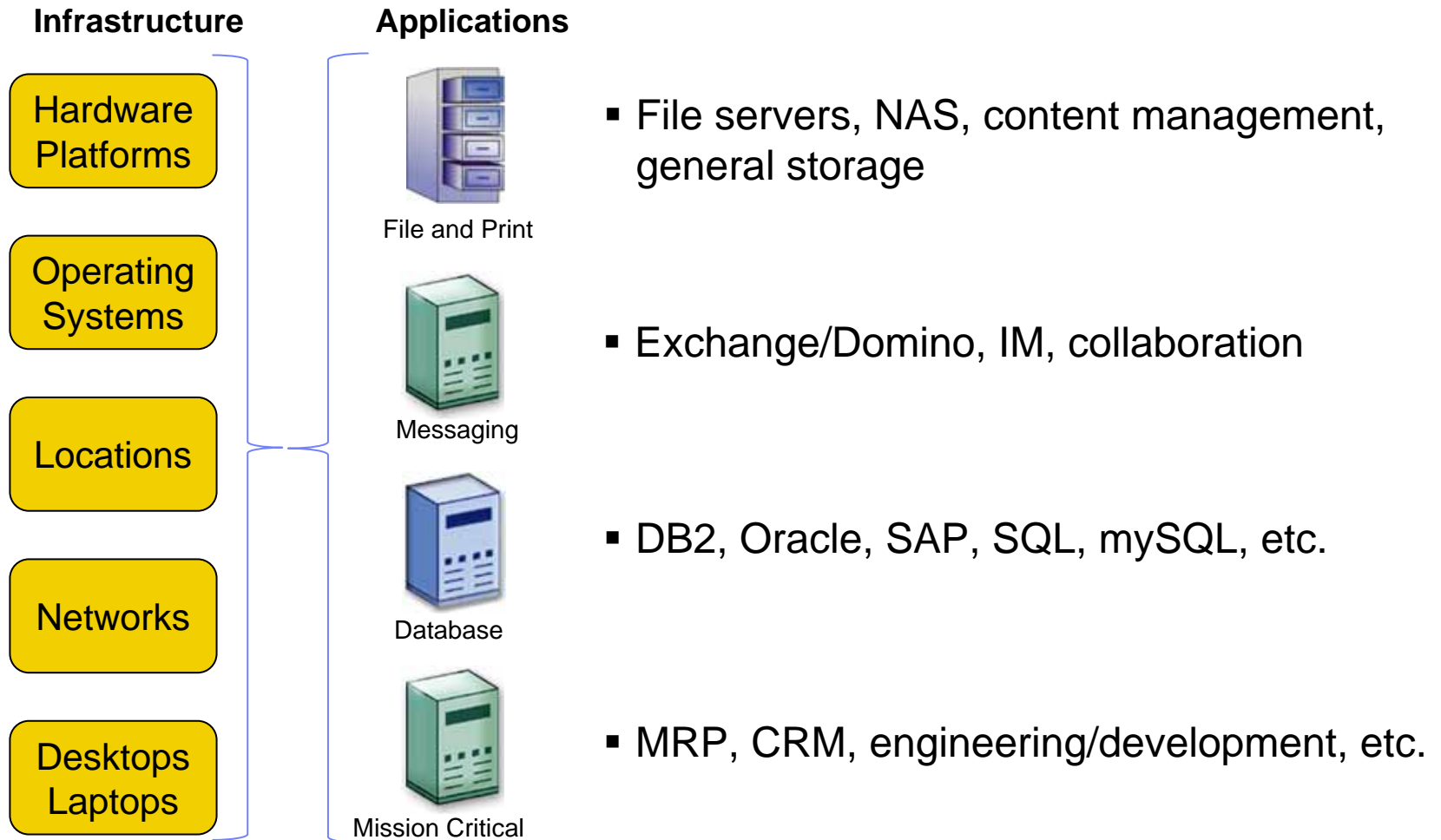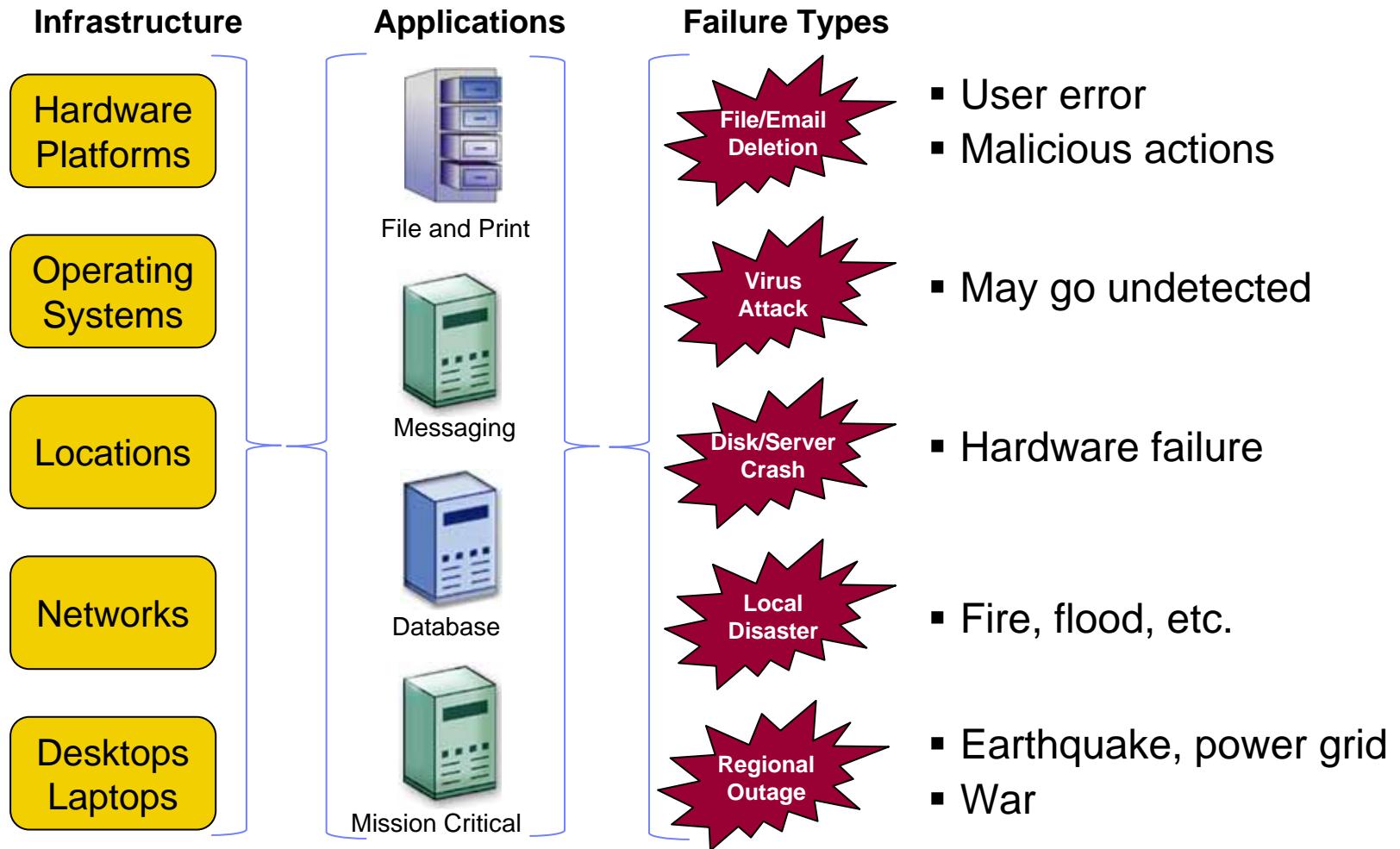| **Hardware Platforms**	▪ Computers: x86, Power, RISC, Mainframe, etc. ▪ Storage: DAS, NAS, SAN, tape, optical, etc.
Operating Systems	▪ AIX, HP-UX, Linux, Solaris, Windows, z/OS, etc.
Locations	▪ Data center, staff offices, production facility, remote/branch offices, DR site, warehouse, etc.
Networks	▪ LAN, SAN, WAN, MAN, Cable, USB, telecom, etc.
Desktops Laptops	▪ Connected, disconnected, mobile, etc.

Who owns the data?

Infrastructure

- Hardware Platforms
- Operating Systems
- Locations
- Networks
- Desktops Laptops

Applications

File and Print
- File servers, NAS, content management, general storage

Messaging
- Exchange/Domino, IM, collaboration

Database
- DB2, Oracle, SAP, SQL, mySQL, etc.

Mission Critical
- MRP, CRM, engineering/development, etc.

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What can go wrong?

Infrastructure	Applications	Failure Types	
Hardware Platforms	File and Print	**File/Email Deletion**	▪ User error ▪ Malicious actions
Operating Systems	Messaging	**Virus Attack**	▪ May go undetected
Locations	Database	**Disk/Server Crash**	▪ Hardware failure
Networks	Mission Critical	**Local Disaster**	▪ Fire, flood, etc.
Desktops Laptops		**Regional Outage**	▪ Earthquake, power grid ▪ War

Is your critical application data adequately protected?

- Traditional once-a-night backup leaves up to 24 hours of your most recent data at risk
  - How much data will you lose if your database server crashes at 5 PM?
  - How much will it cost you to re-create those transactions?

- It can take many hours or days to perform a full restore from traditional backup systems
  - How much application downtime can your business tolerate?

Recovery Point Objective:
How much data can you afford to lose?

Recovery Time Objective:
How much downtime can you afford?

Recovery Point Objectives
The 7 Tiers of Business Continuity

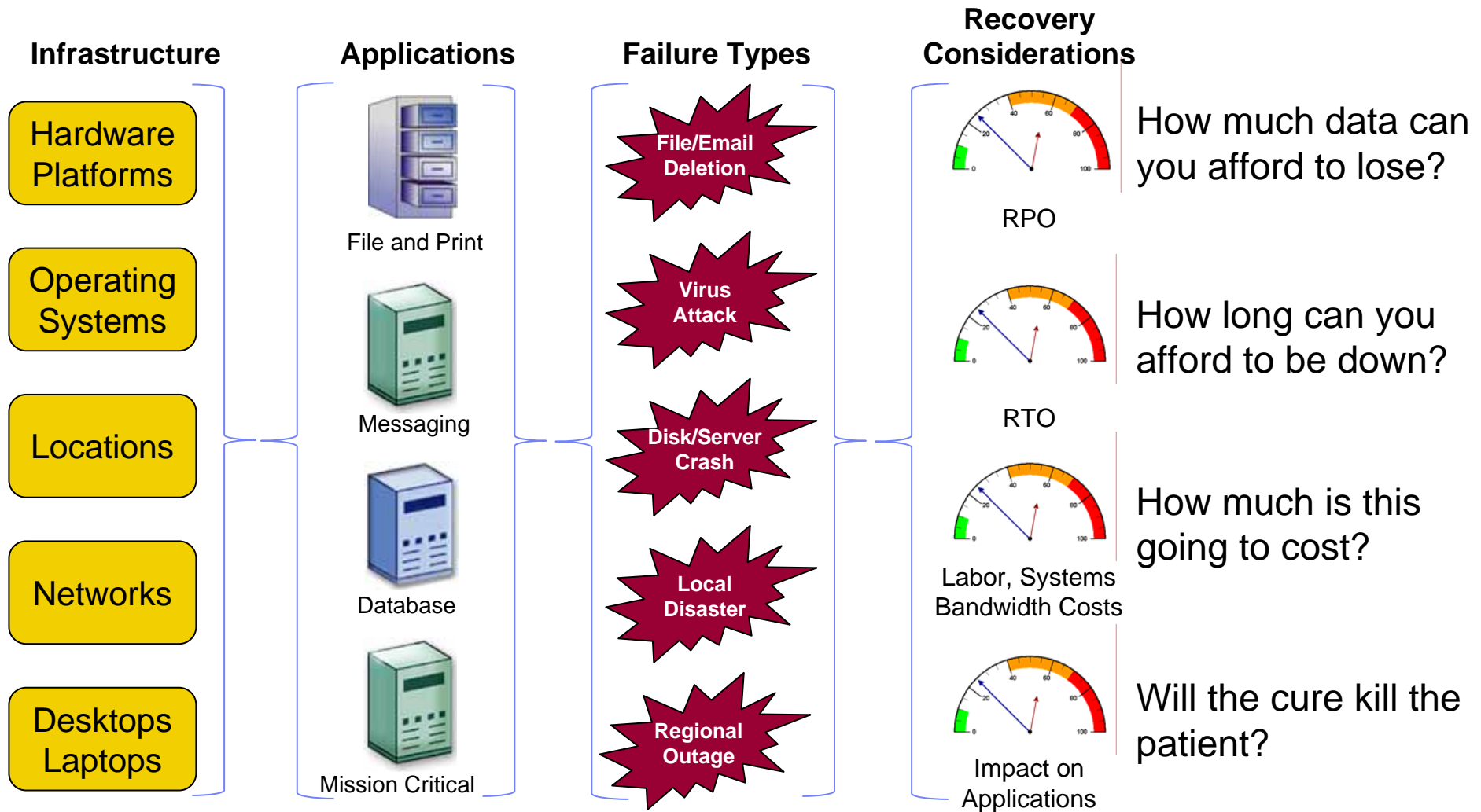**Rule of Thumb:** In tiers 5 – 7, network costs can be 50% of TCO over 3 years.

Recovery from a disk image   *Recovery from a tape copy*

Value / Cost

- ● **Tier 7 – Site Mirroring with automated recovery**
- ● **Tier 6 - Storage mirroring (with/without automation)**
- ● **Tier 5 –Software replication (transaction integrity)**
- ● **Tier 4 – Point-in-Time disk copy**
- ● **Tier 3 - Electronic Vaulting**
- ● **Tier 2 - Hot Site, Restore from Tape**
- ● **Tier 1 – Restore from Tape**

Tiers 5 – 7 applications have:

- ▪ **little or no tolerance for data loss, and**
- ▪ **a need to restore data to applications rapidly.**

| 15 Min. | 1-4 Hr.. | 4 -8 Hr.. | 8-12 Hr.. | 12-16 Hr.. | 24 Hr.. | Days |

Recovery Time Objective

Recovery Time Objectives – by Industry
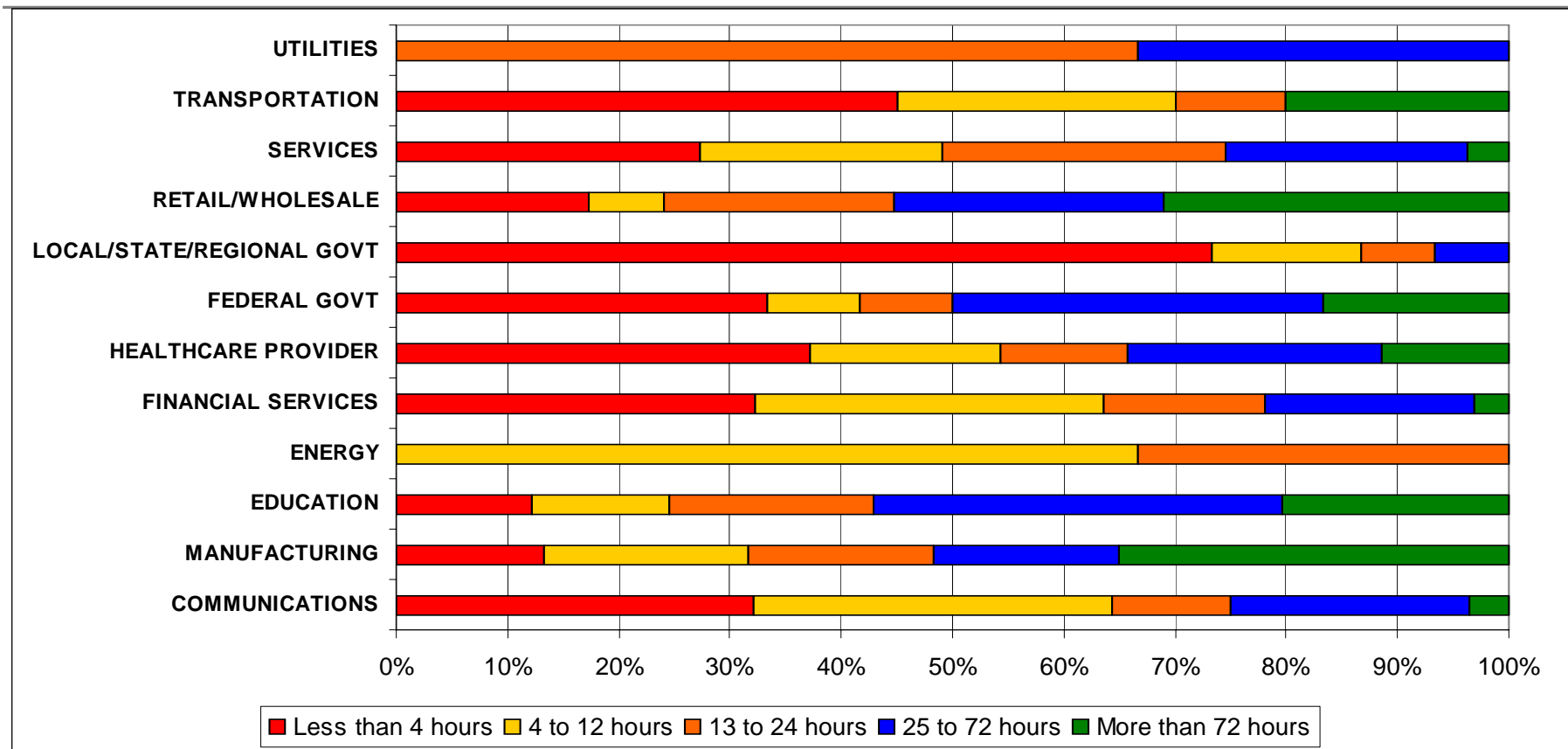
How do you balance needs and costs?

Infrastructure	Applications	Failure Types	Recovery Considerations	
Hardware Platforms	File and Print	File/Email Deletion	RPO	How much data can you afford to lose?
Operating Systems	Messaging	Virus Attack	RTO	How long can you afford to be down?
Locations	Database	Disk/Server Crash	Labor, Systems Bandwidth Costs	How much is this going to cost?
Networks		Local Disaster		
Desktops Laptops	Mission Critical	Regional Outage	Impact on Applications	Will the cure kill the patient?

It's a very complex matrix; example scenario

Situation:

- Large software company with HQ in Melbourne
- Development office in San Jose, CA w/:
  - Microsoft Exchange server
  - 3 file servers
  - Solaris server for development

Event:

- Local admin gets angry, quits, deletes VP's email inbox

What would you do to recover?

- What tools would you use?
- Where / who?
- How long would it take?
- How much data would be lost?

Infrastructure

- Hardware Platforms
- Operating Systems
- Locations
- Networks
- Desktops Laptops

Applications

- File and Print
- Messaging
- Database
- Mission Critical

Failure Types

- File/Email Deletion
- Virus Attack
- Disk/Server Crash
- Local Disaster
- Regional Outage

Recovery Considerations

- RPO
- RTO
- Labor, Systems Bandwidth Costs
- Impact on Applications

What if an earthquake knocked the building off its foundation? Then how would you answer these questions?

Could you answer these questions for every possible event, in every location, for every different system & application type?

Which tool for which problem?

Infrastructure	Applications	Failure Types	Recovery Considerations	Solutions & Technologies
Hardware Platforms	File and Print	File/Email Deletion	RPO	Backup
Operating Systems	Messaging	Virus Attack	RTO	CDP
Locations	Database	Disk/Server Crash	Labor, Systems Bandwidth Costs	Replication
Networks	Mission Critical	Local Disaster	Impact on Applications	Snapshots
Desktops Laptops		Regional Outage		DR / BC

Solutions & Technologies: Backup, CDP, Replication, Snapshots, DR / BC, Deduplication, Disk & Tape, Virtual Tape, Reporting

The complexities of data protection and recovery

Solutions & Technologies

- Backup
- CDP
- Replication
- Snapshots
- DR / BC
- Deduplication
- Disk & Tape
- Virtual Tape
- Reporting

- How many different tools are you using to manage data protection and recovery?
- How many different admin tools do you have to use?
- Are they all located in one place, or scattered around the organization?
- Can one person have true visibility and control of the entire data protection and recovery infrastructure?
- How do you handle changes in the environment?

Recovery management is challenging

- Meeting service level objectives and providing continuous availability of valuable files
  - Including email and mission critical application data
- Waiting for data to be restored
  - It can take hours or days to restore a large system
- Trying to restore data that wasn't backed-up
  - Once-a-night backup = 24 hrs of data at risk
  - Unreliable manual backup processes = more risk
- Shortage of skilled data administrators to manage the influx of disparate data
  - What about data in remote/branch offices?
- Shrinking backup windows
  - Difficult to back everything up within allotted 'down time'

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Agenda

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IBM Unified Recovery Management Solutions

Sample Recovery Capabilities

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Why IBM?

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More information

IBM Software – Unified Recovery Management

- Multi-year strategic initiative in Tivoli Storage Software
- Goals:
  - To manage the entire data protection and recovery infrastructure from a single administrative interface
  - To unify the management of data with an integrated portfolio: understand where all the recovery points are, manage them efficiently, and provide the interfaces to recover whatever data is needed, where ever it resides
- Tivoli Storage Manager has always been a leader in broad, heterogeneous, multi-location recovery management
- Many improvements made in last 2 years:
  - Streamlined TSM Admin Center & Integrated Solutions Console
  - New, built-in reporting and monitoring
  - Integration of TSM, FastBack and FastBack for Workstations
  - Partial integration of Tivoli Storage FlashCopy Manager

Tivoli.
Storage Manager 6

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One Family – Managed Coherently

- Expand the role of TIP and TSM Admin Center as the point of control for **unified recovery** management
- Cover the full spectrum of data protection and recovery technologies
- Manager of managers, even if TSM does not transfer the data
- Common interface for data protection and recovery administration
- Ability to provision recovery based on SLAs

Tivoli Integrated Portal (TIP)

Environment

	Backup to Tape	Backup to Disk	HW/SW Snapshot	CDP/Replication
Enterprise	Traditional TSM TSM for … connectors		FlashCopy Manager	TPC-Replication Global / Metro Mirror
ROBO			TSM FastBack	
Workstation	Increasing Cost			FastBack for Workstations

Data Protection Technique/Technology

Improving Recovery Time Objective (RTO) & Recovery Point Objective (RPO)

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Tivoli Integrated Portal (TIP)

- Helps the interaction and secure passing of data between Tivoli® products through a common portal.

- Launch from one application to another and within the same dashboard view

- TIP Provides:
  - Services to support a console for individual products and for integrating multiple products.
  - Aggregated views
  - A Web-based user interface with inter-view messaging between products
  - A common task navigator for multiple products

Tivoli Integrated Portal

Tivoli Integrated Portal provides a common administration console for multiple products.

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✓ Simplify administration
✓ Make smarter decisions faster
✓ Cut costs
✓ Mitigate risks

Offerings – IBM Unified Recovery Management
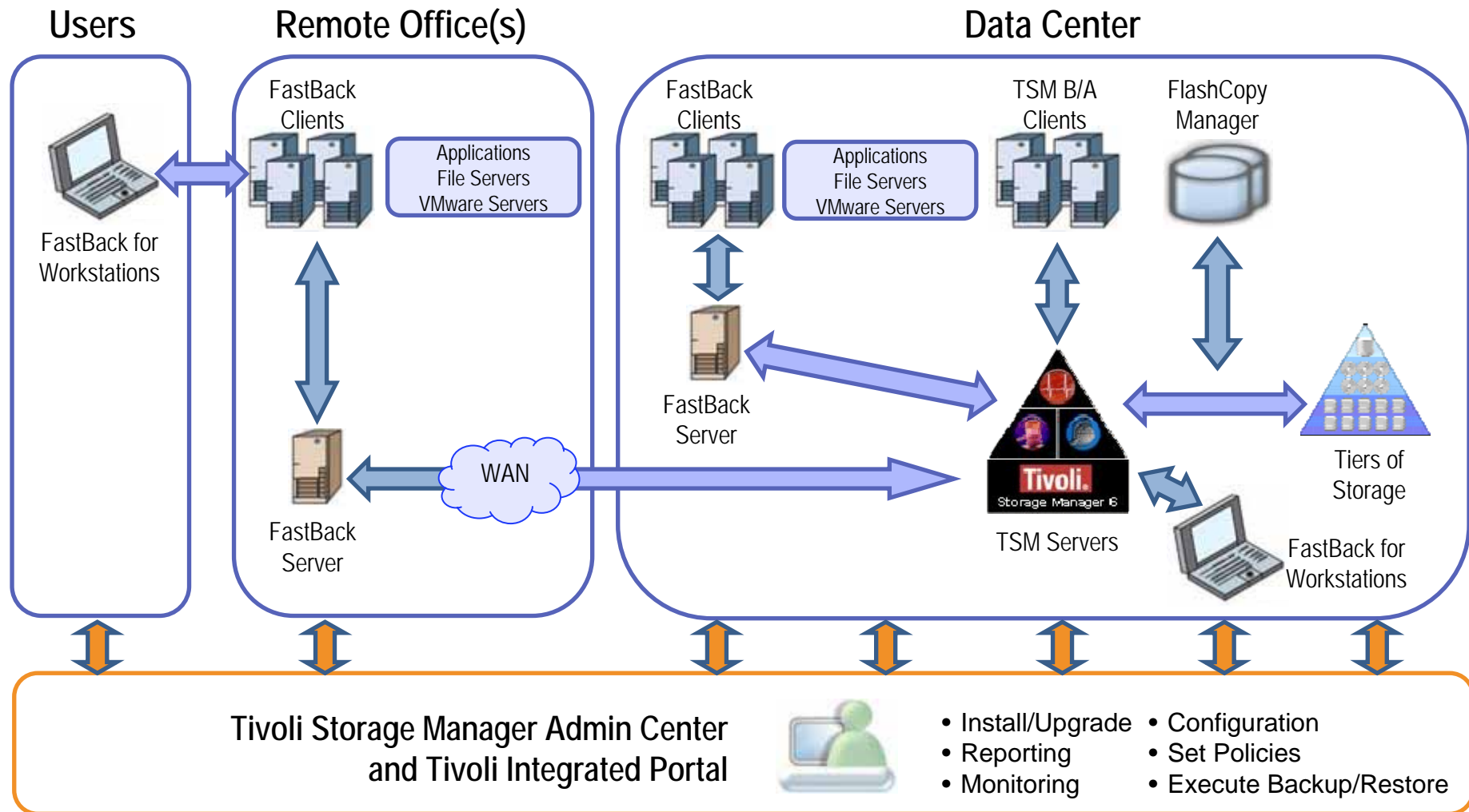
TSM Admin Center – *Unified Policy Management*
Tivoli Storage Manager and TSM FastBack

Benefits:

- Integrated management of policies between FastBack and TSM
  - Set RPO, RTO and retention based on the needs of the business
- Automate protection and migration of FastBack server data to TSM
  - Centralized location and a single interface
  - Configure FastBack policies for short-term operational recovery
  - Long-term data retention and retrieval with TSM
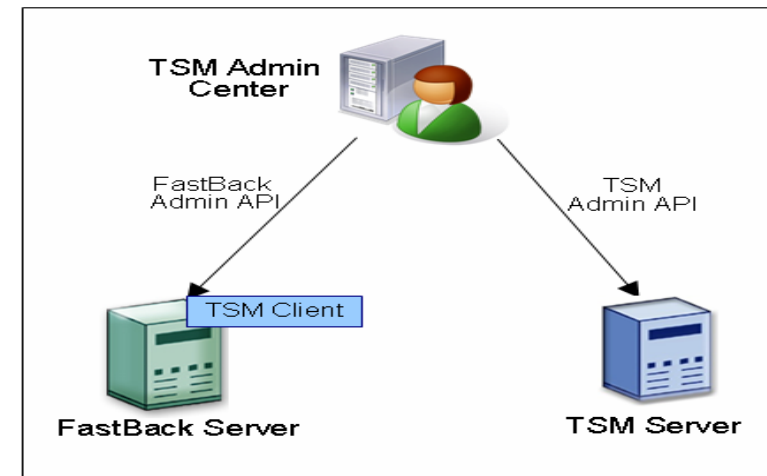
Integrated FastBack and TSM policies for:

- ✓ **What to back up**
- ✓ **When to back up**
- ✓ **How long to retain**

Built-in Reporting and Monitoring
Visibility and Control – Make Smarter Decisions Faster

Included in TSM and FastBack – no additional licensing

Customizable dashboard

Customizable Reports
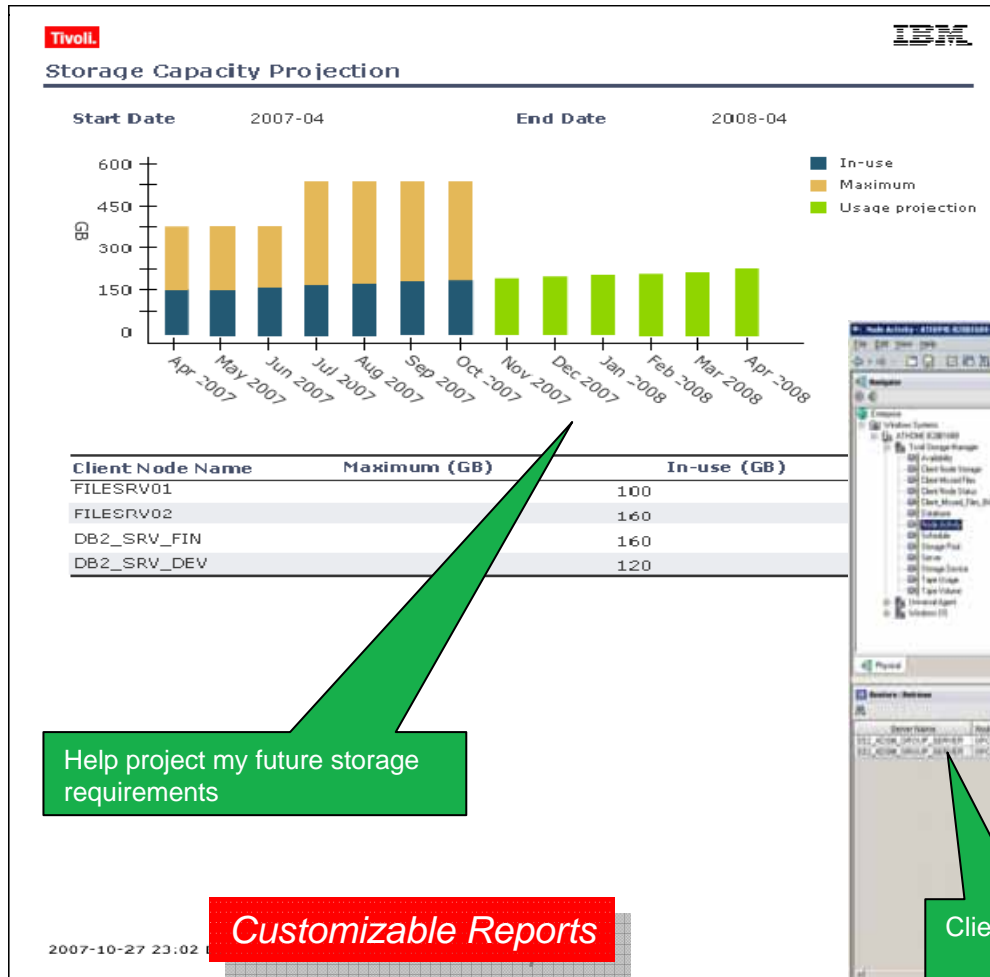
Help project my future storage requirements
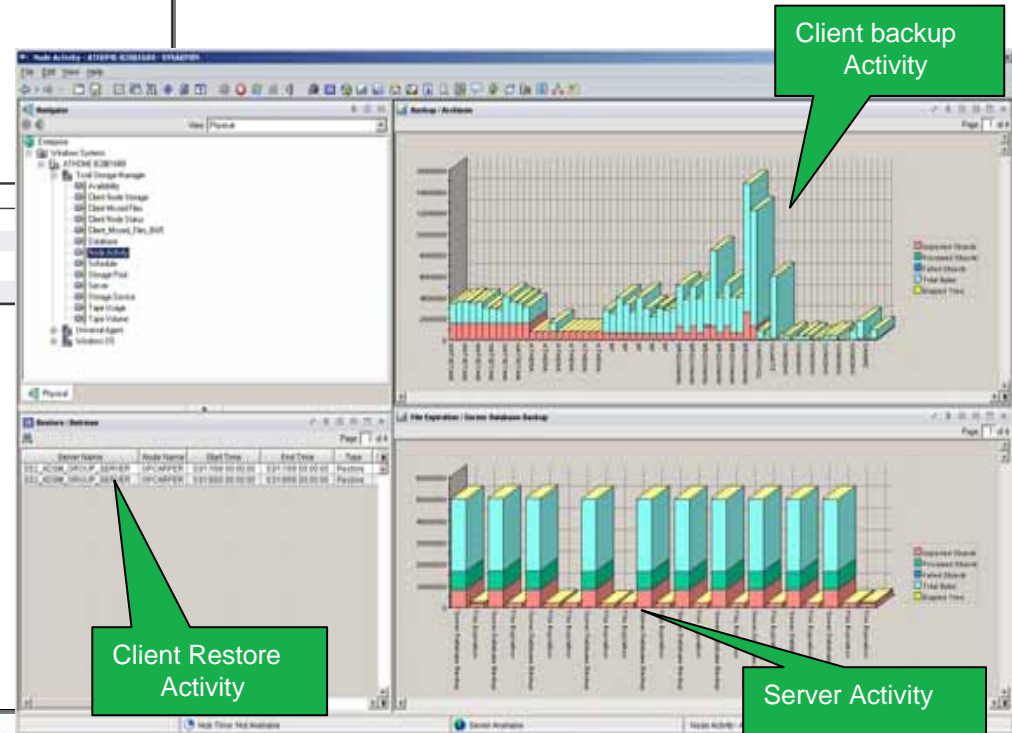
Client backup Activity

Client Restore Activity

Server Activity

Case Study: Stockholm University

Background:

– Founded in 1878, Stockholm University is a premier higher education facility
– Over 50,000 undergraduate and master's students, 1,800 doctoral students and 6,000 employees

Business Need:

– Recently merged with the Teachers Education Office in Stockholm, adding a large number of employees and users to its IT systems
– This placed a higher burden on the institution's backup systems and processes, including the e-mail and catalog needs of more than 180,000 users

Solution: IBM Tivoli Storage Manager software

– With TSM, the university can take backup only the information that was changed from the last backup
– At the same time, a traditional backup is continuously running to store university information on tape

Benefits:

– The demands for backup administration have decreased and the staff can now focus on other tasks; overall costs have been reduced
– The solution also offered a versatile recovery platform that was easily integrated with the university's multiple operating environments
– Additionally, the Tivoli solution is designed to scale from small to large systems, offering Stockholm University plenty of room for growth.

Case Study: Banco ABC Brasil

Background:

– Specializes in credit to medium to large companies.

– The Bank has one of the most diversified client portfolios among medium sized banks for individuals and medium and large companies.

– 50% annual growth rate since 2005

Business Need:

– Modernize aging IT infrastructure

– Scale data storage and management to meet growth challenges

– Improve the performance of customer services

– Meet stringent new regulatory compliance requirements

Solution:

– IBM Tivoli Storage Manager software + IBM N series storage + IBM BladeCenter

– With TSM, the can meet its data growth and retention challenges

Benefits:

– Improves administration, performance, scalability and security, as well as retention of critical business data

– Meets regulatory compliance requirements for Brazilian financial institutions

– Achieves cost savings from space, cooling and energy reductions in a "greener" IT environment

"The bank's exponential growth rate made it difficult to secure and manage our critical business data. The new infrastructure and storage solution from IBM helped solve our problem."

—Banco ABC Brasil

ABC BRASIL
ARAB BANKING CORPORATION

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Tivoli Storage Manager v6.2

Tivoli Storage Manager has been a leader in helping organizations protect, retain and assure availability of their most important asset

Comprehensive Solution

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

Proof Points

- 1st disk-to-disk backup solution
- 1st to provide support for both disk and tape
- 1st to use hierarchical storage management for offline storage
- 1st to offer a fully incremental approach for backup window management
- 20,000+ loyal customers
- Industry's broadest range of OS and HW platforms *from laptop to mainframe*
- *Emphasizing data reduction since 1993*

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Tivoli Storage Manager Family

TSM Server Products
✓ Tivoli Storage Manager 6
  • Backup/Recovery
  • Archive/Retrieve
✓ TSM 6 Extended Edition (Basic plus..)
  • Tivoli Disaster Recovery Manager (DRM)
  • Backup via NDMP for NAS
  • Large Libraries (additional tape support)
  • Built-in Data Deduplication
✓ TSM FastBack

Bare Machine Recovery
✓ TSM for System Backup and Recovery (AIX)
✓ Cristie Bare Machine Recovery (reseller)
✓ Cristie TBMR (reseller)
✓ TSM FastBack for Bare Machine Recovery

Desktop / Laptop
✓ TSM FastBack for Workstations
✓ Tivoli Continuous Data Protection for Files

Application Protection
✓ TSM for Mail
✓ TSM for Databases
✓ TSM for Enterprise Resource Planning (ERP)
✓ TSM for Microsoft SharePoint
✓ TSM FastBack for Microsoft Exchange
✓ Tivoli Storage FlashCopy Manager

Space Management, Archiving
✓ TSM for Space Management
✓ TSM HSM for Windows
✓ TSM for Storage Area Networks (SAN)
✓ System Storage Archive Manager
✓ IBM Information Archive

z/OS
✓ TSM –z/OS
✓ TSM EE – z/OS
✓ TSM for z/OS for Data Retention
✓ TSM for z/OS for Mail

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Near-Instant Restore for Windows & Linux:
Tivoli Storage Manager FastBack

FastBack Mount

- Recovers individual files and folders, from any point-in-time

- Opens an Explorer-like view into the FastBack repository

- Simple 'drag-and-drop' operation

Virtual Recovery

- Mounts an entire volume to be recovered

- Select any previous point-in-time (Recovery Point)

- New volume becomes available within seconds

- Read-write requests serviced by FastBack

- Data is restored in the background to target disk

TSM FastBack for Bare Machine Recovery

- **Restore the Operating System volume in less than 1 hour**
  - Recover to similar, dissimilar or virtual hardware

- **Full access within minutes (virtual recovery)**
  - Data volumes are made available as soon as the data recovery process starts

- **Great tool for cost-effective Business Continuity**
  - "N-to-1" standby server ratio: one standby server can provide cover for many production servers

- **Can be used to quickly perform server migrations**
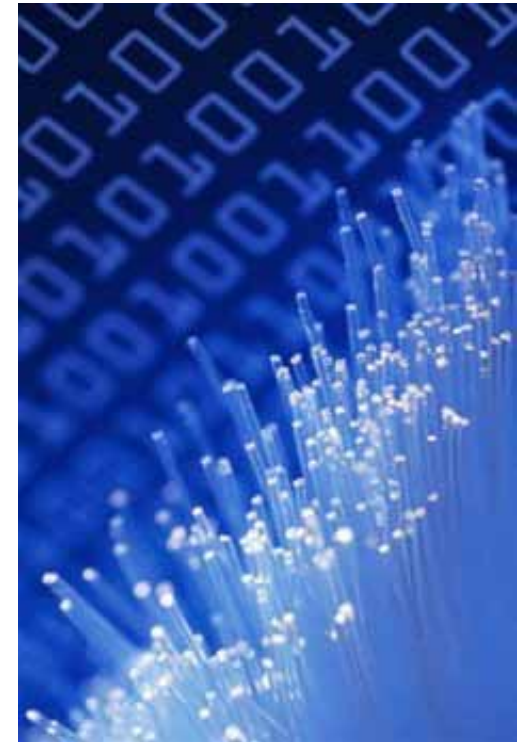
Other BMR solutions: TSM for System Backup and Recovery, and Cristie CBMR/TBMR

TSM FastBack: great for virtual environments

- The TSM FastBack client is installed on individual virtual machines
  - No need for a proxy server
  - TSM FastBack's block-level, incremental-forever backup technology virtually eliminates the backup window and the load on the CPU
  - FastBack uses only about 2% of CPU cycles when running a backup job

- Can do bare machine recoveries of virtual servers to another virtual machine or to a physical machine (P-to-P, P-to-V, V-to-V, V-to-P)
  - Use for loading and migrating test environments and for on-demand disaster recovery

- The TSM FastBack Server component can also be run in a virtual machine

Granular Restore of Microsoft Exchange Objects

Tivoli Storage Manager for Mail, Tivoli Storage FlashCopy Manager, and Tivoli Storage Manager FastBack for Microsoft Exchange

- **Any Exchange e-mail object can be restored quickly:**
  - ✓ Messages & Attachments
  - ✓ Calendar entries
  - ✓ Contacts
  - ✓ Notes & Tasks
  - ✓ Journal entries

- **Supports Shared / Public Folders**

- **Supports Exchange 2003, 2007 & 2010**

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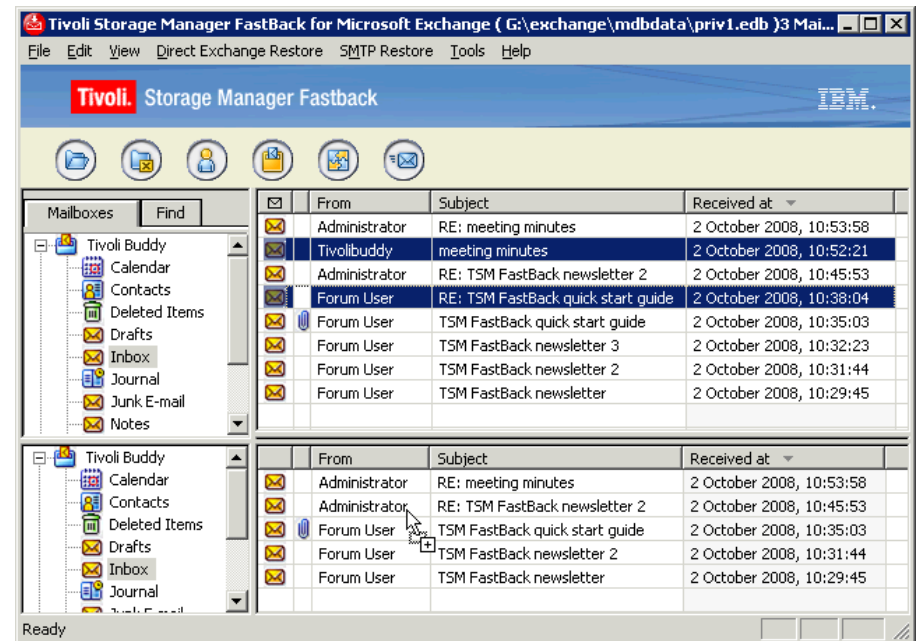
Disaster Recovery Planning and Management
Included in Tivoli Storage Manager Extended Edition

- Automated generation of a customized server disaster recovery plan

- Detailed off-site recovery media management

- Inventory of machine information required to recover the server and its clients

- Centralized management of the disaster recovery process

- Executable scripts that assist in recovery automation

- Electronic vaulting of storage pool and database backups

Additional Hardware-Based Recovery Choices
For IBM System Storage

IBM Metro Mirror

- Synchronous replication over short distances
- Remote disk is exactly in "lock step" at the write I/O level
- Supports high availability
  - Almost zero data loss
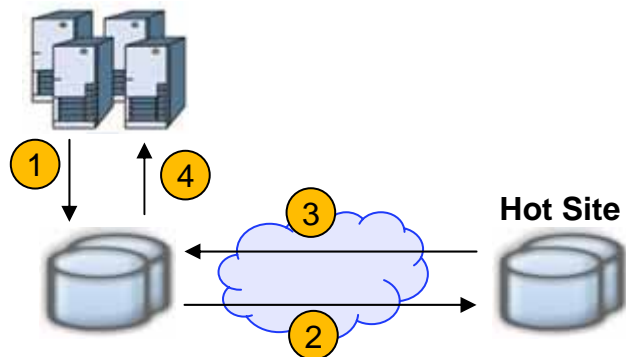
IBM Global Mirror

- Asynchronous replication over long distances
- Minimal data loss risk
- Supports disaster recovery
  - Easy to restart application
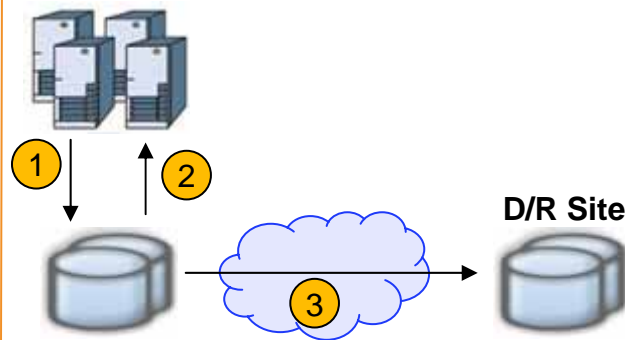
Global/Metro Mirror

- Combination provides 3-site solution
  - Production site
  - Hot Standby site
  - Disaster Recovery site

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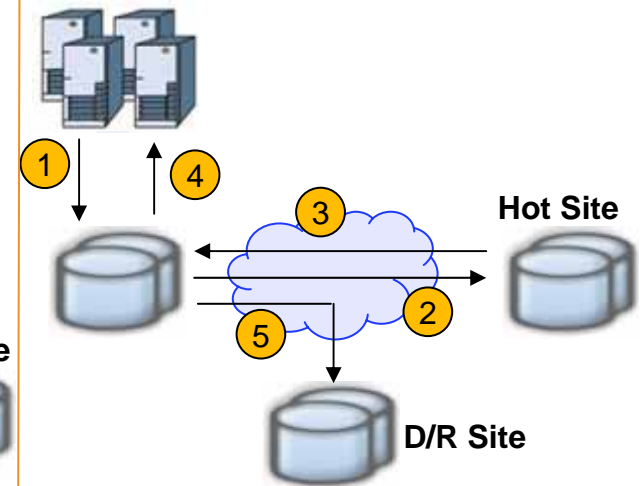
Additional Hardware-Based Recovery Choices
For IBM System Storage

IBM FlashCopy / Snapshot

- Provides an instantaneous, point-in-time copy of a set of data
- Mostly performed at a volume level
  - Mainframe, N series can also copy at the dataset/file level
- Source/target volumes reside in the same disk system (except SVC)
- FlashCopy sets are used for:
  - The source for tape backup programs, forward recovery
  - A clone of an application for QA, development, data mining, reporting
  - Production checkpoints in batch updates

TPC for Replication

- Simplifies Storage Copy Services Management, including:
  - FlashCopy
  - Metro Mirror
  - Global Mirror
- Automates administration and configuration
- Monitoring, fail-over, fall-back and site awareness
- Tools for monitoring and managing copy sessions

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Summary – IBM Unified Recovery Management

Users

FastBack for Workstations

Remote Office(s)

FastBack Clients

Applications
File Servers
VMware Servers

FastBack Server

WAN

Data Center

FastBack Clients

Applications
File Servers
VMware Servers

FastBack Server

TSM B/A Clients

FlashCopy Manager

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TSM Servers

Tiers of Storage

FastBack for Workstations

Tivoli Storage Manager Admin Center and Tivoli Integrated Portal

- Install/Upgrade
- Reporting
- Monitoring
- Configuration
- Set Policies
- Execute Backup/Restore

Unified Recovery Management
Supporting a Dynamic Infrastructure

- ## Reduce your costs
  - Fewer tools to license & manage, simplified administration

- ## Eliminate risks
  - Fewer 'moving parts' enables faster, more reliable backup & recovery

- ## Improve service levels
  - Cost and time savings enable greater investment in the business
  - Improve competitiveness
  - Meet external & internal customer SLAs

IMPROVE SERVICE
REDUCE COST
MANAGE RISK

Dynamic Infrastructure
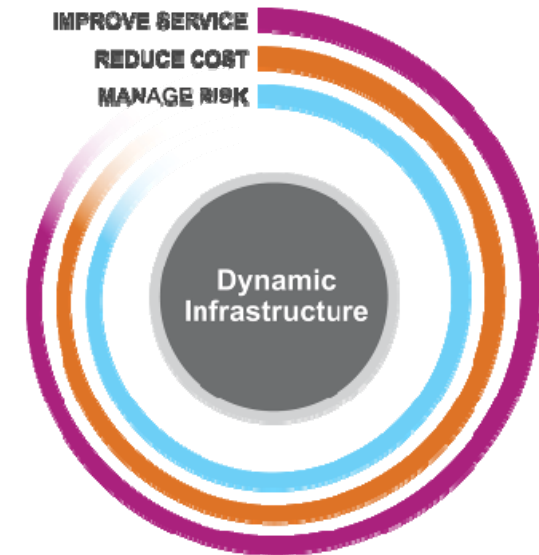
IBM can help you build a dynamic storage infrastructure that will intelligently improve service levels, reduce costs and manage risks

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Next steps

More information

Why IBM

IBM and its Business Partners can:

- Assess what you have and what you need
- Develop automated recovery management policies that meet the needs of the business
  - RPOs, RTOs, Costs
- Implement data reduction throughout the IT environment
- Simplify administration while improving visibility and control
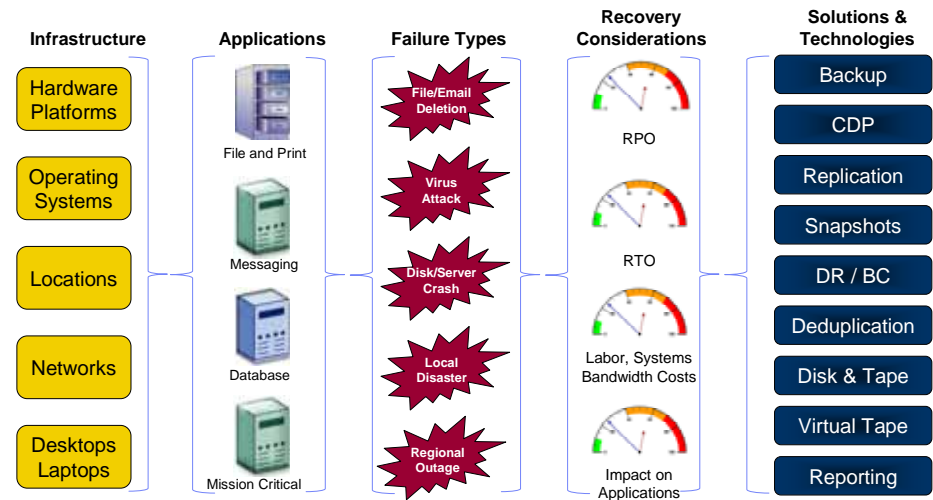
Why IBM

- IBM has the **global resources** to help solve the IT and service management problems of even the largest organizations, almost anywhere they do business

- IBM is on **solid financial footing** and will be here to support our customers for the long term

- IBM continues to **invest heavily in research and development**, providing customers with product roadmaps that will continue to add value to their relationship with IBM

- IBM offers the broadest range of products, services and financing options to help customers **realize significant return on their investment**

Case Study: a Hospital in Asia

Overview:

- Facing growing data volumes, long retention periods and the delivery of new digital services, healthcare organizations like this one are more concerned than ever with data availability and data recovery.

- "Our clinicians depend on our IT systems to deliver patient care," says a network manager with the hospital. "Even e-mail has become a critical application in their daily workflow."

Challenge:

- Maintain data and business continuity in a cost-effective manner

Solution:

- A data protection solution that meets users' data recoverability requirements, scales on demand to support a growing warehouse of patient data and medical images, and simplifies data migration and data recovery tasks
    - Tivoli Storage Manager FastBack
    - Tivoli Storage Manager FastBack for Microsoft Exchange
    - Tivoli Storage Manager
    - Tivoli Storage Manager HSM for Windows

Key Benefits:

- 50% reduction in backup window; restores individual Microsoft Exchange objects in minutes; restores systems in under 10 minutes
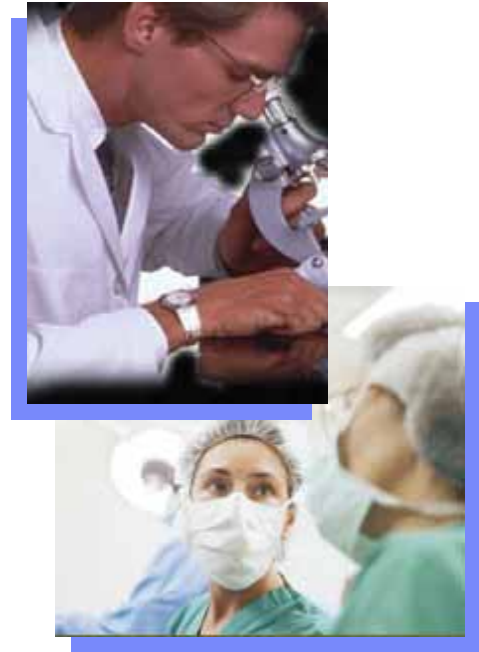
"IBM has provided outstanding leadership and innovation in the area of data protection to give us greater control of our environment. FastBack is excellent for recovering individual Exchange objects quickly."

- *Network Manager, an Asia Pacific Hospital*

Case Study: Eastern National Bank of Florida
Improve Recovery Time and Application Availability

Eastern National Bank

▶ Maintain short recovery time objectives as business grows

▶ Meet governmental security requirements

▶ Ensure that business data will not be exposed if access protection fails.

Solution

- Consolidate storage environment to control costs, improve customer service, and mitigate risks

- Software - Tivoli Storage Manager, TSM Fastback

- Storage - Disk: DS3200; Storage Area Network (SAN): SAN Controller 160; Tape and Optical: 1120 Tape Drive Controller.

- Services - IBM Premier Business Partner Interamerica Data Florida (IDF)

Result

- Reduced recovery time from between 24 and 48 hours to between one and two hours by using TSM Fastback

- Improved application availability by using non-disruptive backup processes

- Helped eliminate fines resulting from security regulation issues by implementing drive-level media encryption

Next steps

- IBM Global Technology Services and IBM Business Partners stand ready to help you assess your current situation and recommend next steps.

- We can help you determine which data protection and recovery techniques will have the most cost-effective impact on your operations.

- Ask for a comprehensive ROI analysis using IBM's comprehensive Business Value Analyst (BVA) tool.

Meet the people who can help advance your infrastructure

For more information
Links active in slideshow mode

- Storage Management Solutions
- Unified Recovery Management
- Backup and Recovery Solutions
- Remote Office Data Protection
- Data Reduction Solutions
- Storage Management in Cloud
- IBM Cloud Computing
- IBM Smart Business Storage Cloud

- Tivoli Storage Manager
- Tivoli Storage Manager FastBack
- Tivoli Storage FlashCopy Manager
- Tivoli Storage Productivity Center
- IBM Information Archive
- SAN Volume Controller
- Information Protection Services
- IBM Storage Blog

Get involved in IBM Storage Social Media

- Getting started and signing up for an ibm.com ID
  - If you do not have an ibm.com ID, you need to register for one
  - Note: Get help if you're not sure if you have an ibm.com ID or forgot your password

- Creating your ibm.com profile in Lotus Connections
  - Once you have your ibm.com ID and password, go to ibm.com profiles and click on the **MyProfile tab**

- Join the IBM Storage community

- Are you on Twitter?
  - Follow IBM Storage on Twitter

- Are you LinkedIn?
  - Join the IBM Storage Group

- Follow our Blog

Questions?

PulseANZ 2010

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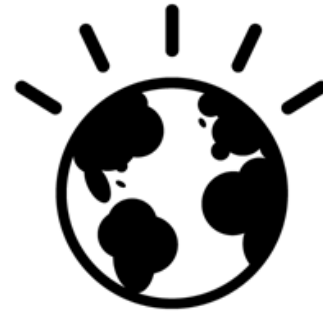
Trademarks and disclaimers

Backup Slides

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Vision: Tiered Recovery with Unified Management

Recovery technologies aligned with business priorities

Mobile Office Laptops
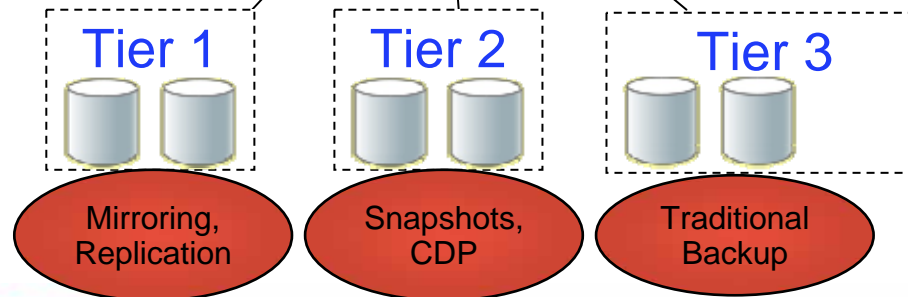*TSM FastBack for Workstations*

Remote Office Branch Office
TSM FastBack

Enterprise Data Center
TSM, TPC-R, FlashCopy Manager

Data Recovery Service Levels
(RTO, RPO, Application Synchronization, etc.)

Recovery Management

WAN LAN SAN

Tier 1

Tier 2

Tier 3

Mirroring, Replication

Snapshots, CDP

Traditional Backup

Tivoli Unified Recovery Management Offerings

- Tivoli Storage Manager
  - The leader in enterprise-wide data protection, unified recovery management and effective data reduction; supporting hundreds of devices and operating platforms with many application-specific connectors

- Tivoli Storage Manager FastBack
  - Advanced continuous data protection and **near-instant recovery** software solution for business-critical Windows and Linux servers, remote offices and small- to mid-sized enterprises

- Tivoli Storage Manager FastBack for Workstations
  - Automated, continuous data protection and recovery software solution for desktop and laptop computers, with central management for thousands of systems

- Tivoli Storage FlashCopy Manager
  - Performs and manage frequent, near-instant, non-disruptive, application-aware backups and restores, leveraging advanced FlashCopy snapshot technologies in IBM storage systems

Tivoli Storage Manager Admin Console

Integrated with Tivoli Integrated Portal (TIP)

Faster Installation < 30 Min

Reduced Footprint

- Improved Performance
  - Reduced time for initial page load and page switches
  - Enhanced processing of large queries
  - Progress indicators
  - Improvements in overall response time
- Easier UI navigation of backup sets, client nodes, and client node groups
- Easier configuration of server actions with a consolidated, central local location for managing server actions

Reporting and monitoring leverage proven IBM components

- IBM Tivoli Monitoring
  - IBM Tivoli Enterprise Portal
  - IBM Tivoli Enterprise Management Server
  - Tivoli Data Warehouse
- TSM monitoring agent
  - Queries and formats data to be presented
- IBM DB2
  - Stores historical data obtained from TSM servers that are monitored using IBM Tivoli Monitoring
- Use Business Intelligence and Reporting Tools (BIRT) to create custom reports

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