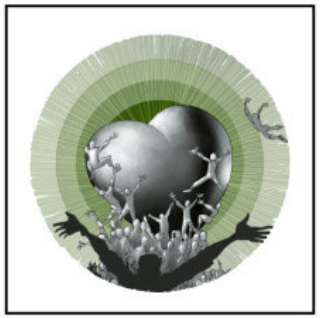
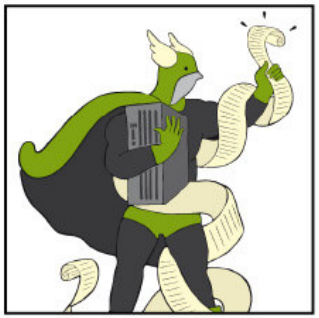
IBM SOFTWARELAND 2009.
SOLUZIONI INTELLIGENTI
PER PROSPETTIVE
CHE CAMBIANO.



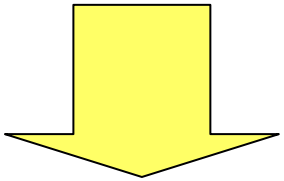

Sessione Speciale

Ripresa annunci IBM Information Infrastructure: nuove soluzioni per indirizzare la crescita esplosiva delle informazioni aziendali garantendo la massima sicurezza al minore dei costi

Sergio Resch - System Storage Platform Advocate - IBM Systems & Technology Group

Why we need a smarter planet:

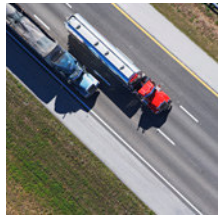
- 1/3 of the world's population **on the Web by 2011**
- 200 million users on MySpace**: the 5th largest "country" in the world**
- 4B mobile subscribers **globally at the end of 2008**
- 30 billion **embedded RFID tags by 2010**
- 50% of all sensors **in transportation, facilities & production equipment are smart sensors**
- 64B **credit card transactions/annum**; up 35%



- 4 Exabytes of information was created in 2008: **more than was created in the past 5000 years, combined**
- 37K cyber attacks in the US in 2007**: 158% increase since 2006**

Toward a smarter planet: the infrastructure need to propel us forward, not hold us back.

Mobility Infrastructure



+

Facilities Infrastructure

+

Production Infrastructure

+

Technology Infrastructure

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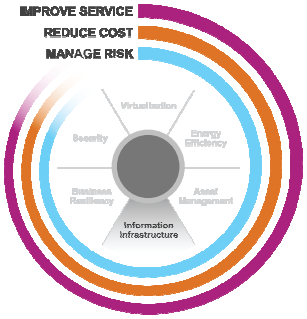
Communications Infrastructure

Infrastructure that is instrumented, interconnected and intelligent.

Infrastructure that brings together business and IT to create new possibilities.

IBM Dynamic Infrastructure initiative.

IBM Dynamic Infrastructure benefits



Improve Service

Not only ensuring high availability and quality of existing services, but also meeting customer expectations for real-time, dynamic access to innovative new services.

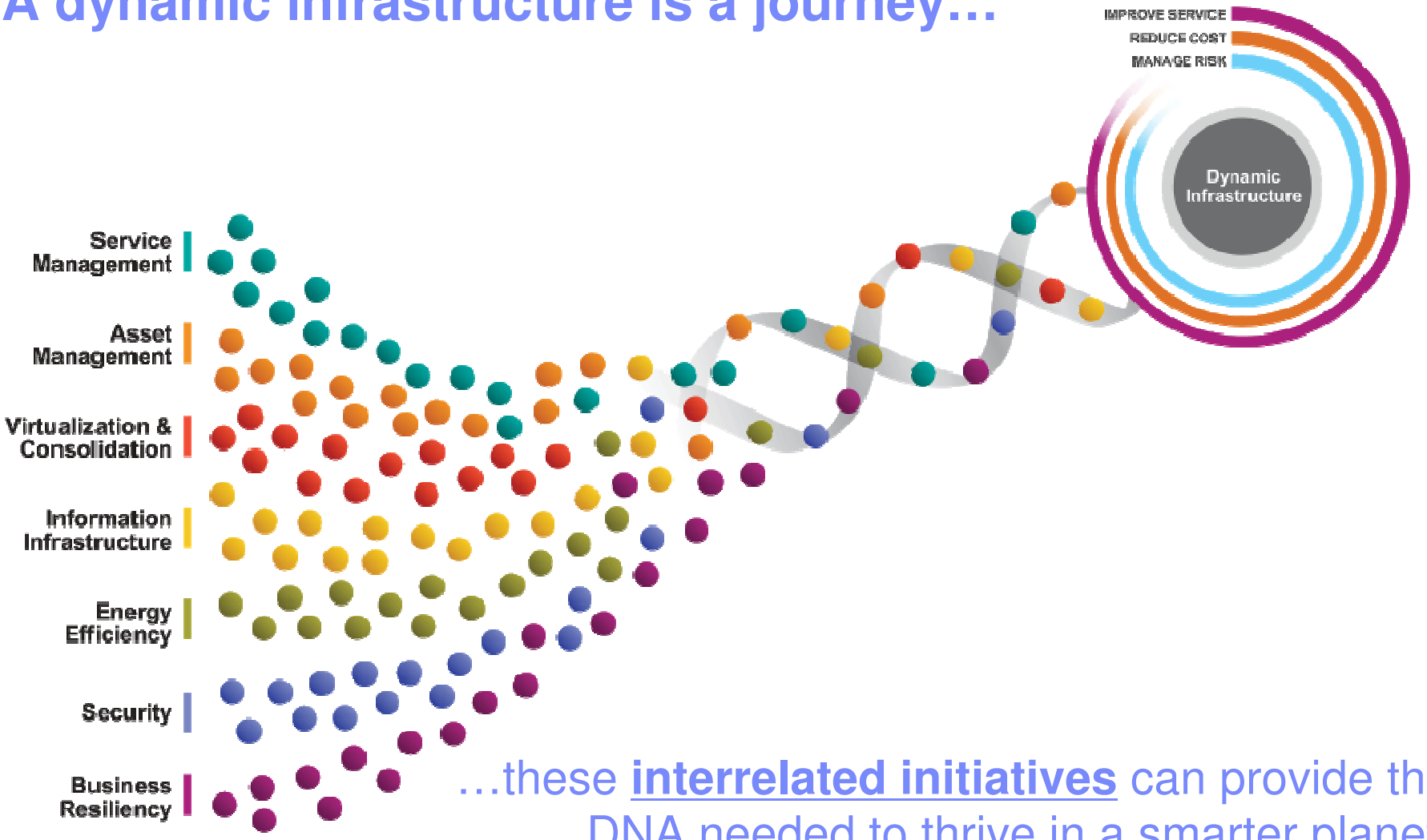
Reduce cost

Not just containing operational cost and complexity, but achieving *breakthrough* productivity gains through virtualization, optimization, energy stewardship and flexible sourcing.

Manage Risk

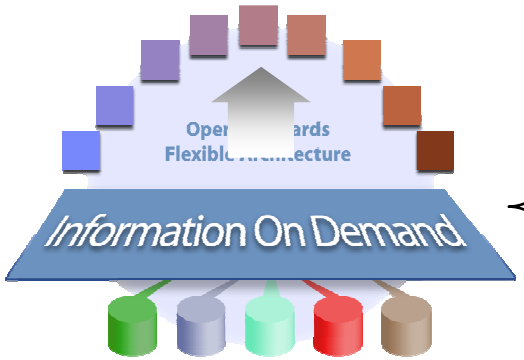
Addressing today's security, resiliency and compliance challenges while preparing for the new risks posed by an even more connected and collaborative world.

A dynamic infrastructure is a journey…

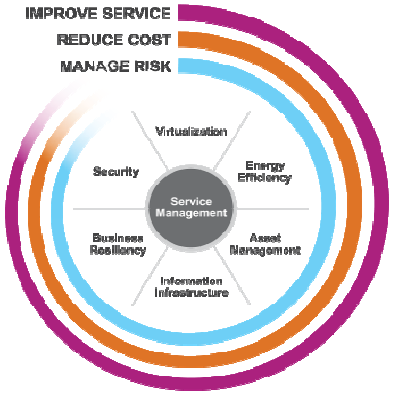


…these **interrelated initiatives** can provide the DNA needed to thrive in a smarter planet.

An information infrastructure integrated and optimized to securely deliver information to the business



- ***Business Intelligence & Performance Management***
- ***Information Integration, Warehousing, and Master Data Management***
- ***Data and Content Mgmt***
- ***Information Compliance***
- ***Information Availability***
- ***Information Retention***
- ***Information Security***



A key initiative In IBM's Dynamic Infrastructure

IBM Information Infrastructure

IBM Information Infrastructure Solutions: what's new

Data Deduplication

Innovative ProtecTIER data deduplication appliances can **reduce 25TB of data into 1TB of storage capacity,** 9x faster than any other solution in the market

Storage Management

Tivoli's storage suite includes capabilities such as **near instant recovery of Microsoft applications, onboard data deduplication** and integrated DB2 databases

Next Gen Storage Systems

Next-generation XIV disk storage is self-tuning and self-healing, simplifies capacity deployment, supports infinite snapshots and can **reduce power, space and cooling costs up to 80%**

Disk Encryption

IBM is the **first vendor to deliver onboard disk encryption** with DS8000, tape encryption to simplify information security and Tivoli encryption key management software

Integrated Solutions

Pre-integrated solutions help **simplify deployment and speed time to value:**

Grid Medical Archiving

Scale Out File Services

Compliance Warehouse

Storage Virtualization

Fastest, most proven storage virtualization solution, SVC, supports multi-vendor systems, can **increase utilization by more than 30% and enables you to save up to 50%** in administration and management costs

Solid State (Flash) Architecture

Lightning fast solid-state drives (SSDs) **deliver up to 800% improvement in drive response times**, plus online migration of hot DB2 data enables cost-effective use of SSD with unique DB2, z/OS and DS8000 integration

Data Security and Storage Services

Industry leading GTS Novus storage optimization and Softek data mobility services.

Improve service initiatives

- **Always on Information Availability:**
  - **Ensure data availability meets** service level agreements
  - Share files **across communities of users**
  - **Gain visibility into capacity** trends and available resources
  - **Automate storage processes to** optimize and balance workload across **virtualized environments**
- **Policy-based Information Retention:**
  - **Cost-effectively store and manage the huge volumes of** data generated by new smart technologies
- **Building Information Security into the infrastructure:**
  - Automate the protection **my of my data and reduce risk**
  - **Avoid a** data security breach
- **Consolidated, easy to audit solutions for Information Compliance:**
  - Comply with regulations **related to storing and protecting data**
  - Efficiently manage information **assets throughout their lifecycle**

Enterprise Disk DS8000 Turbo
Supports uninterrupted operation with concurrent code and hardware upgrade capability, automated internal monitoring. Support mixed workloads ensuring superior scalability.
New **Solid State Disk** option for speeding up critical database transactions

ProtecTIER Data deduplication solution
Squeeze up to 25TBs of data onto 1TB of storage capacity, 9x faster than competitive solutions -> reduce back-up window and faster restore even if data volumes are increasing
New Appliance all-in-one solution.

Scale Out File Services
Enables cost-effective management of over 500 billion files, like e-mail, presentations, CAD/ CAM designs, source code, videos, medical images and more, all in a single NAS cluster.

TPC Unified Storage Management
New Intelligent Performance Optimization
End to end monitoring of infrastructure identifying hot spots and recommended actions.

Improve Service: Smarter Use of Solid State Technology

- **Solid State storage controller sustains over 1 million IOPS**
  - **Requires only 55% of the power and cooling**

  IBM Quicksilver Prototype (SVC based)

- **Solid State aware DB2 table placement improves performance up to 400% on hybrid SSD + disk systems**

  Enhanced! DB2, z/HPF, and DS8000

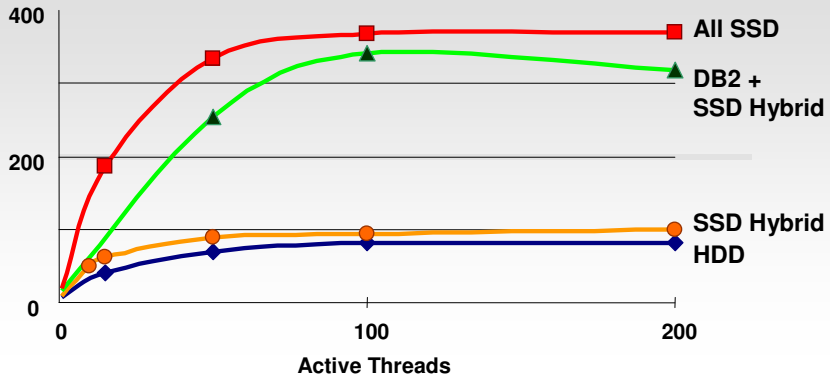
- **Solid State option for enterprise disk delivers up to 50% improvement in SAP end user response time**

  Enhanced! DS8000 Disk System

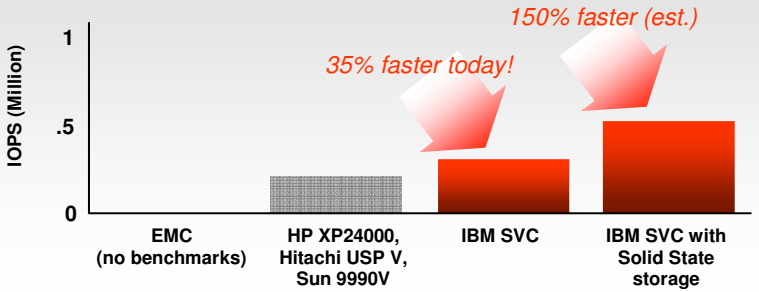
- **Solid State option for SAN Volume Controller is projected to have double the throughput of disk-based models**

  New! SAN Volume Controller with Solid State storage (preview announcement)

DB2 and DS8000 Transaction Throughput (TPS)



Solid State Storage Controller



Improve Service: Data Retention and Deduplication

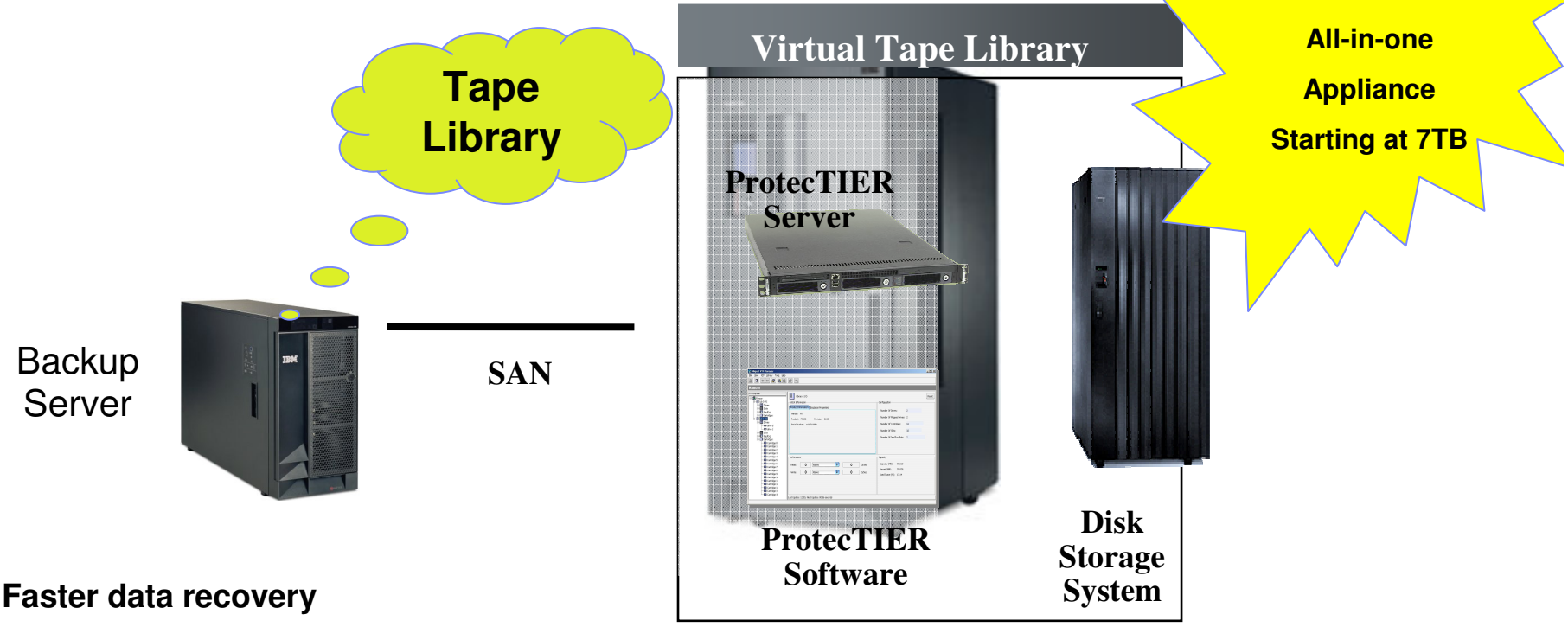
Deduplication Everywhere
- **source** or **target**
- **In-line** or **post**
- **hardware** or **software**
- **disk** or **tape** or **NAS**

CRN emergingtech 2007

NETWORK PRODUCTS GUIDE PRODUCT INNOVATION 2008

• **Revolutionary in-line data deduplication** ▸ **Store 25 TB of backups onto 1 TB of disk** ▸ **Up to 9x faster than competitors**	New! ProtecTier Data Deduplication Appliance
• **Identify "trapped" storage for reuse, free up to 15%** ▸ **Now with integrated storage resource planning and storage resource management**	Enhanced! Storage Enterprise Resource Planning
• **Near-instant Windows recovery: No more backups** ▸ **Now available also as a Cloud-based service and a packaged solution for mid-sized organizations**	Enhanced! Tivoli Storage Manager FastBack
• **Integrated backup and Archive** ▸ **Now with built-in deduplication** ▸ **New DB2-based catalog scales to 1 billion objects**	Enhanced! Tivoli Storage Manager 6

Improve Service: IBM ProtecTIER Architecture Ov



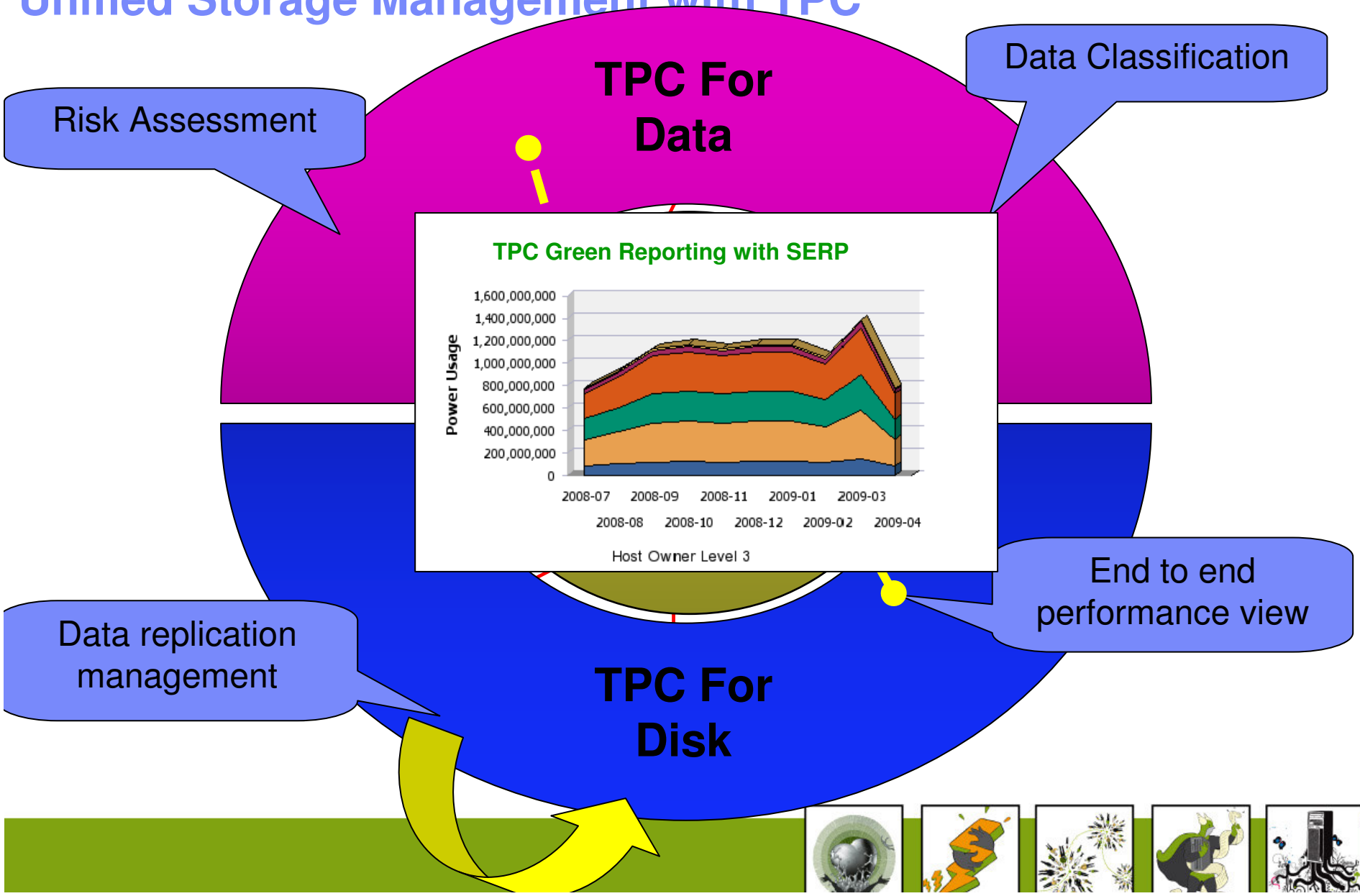
- Faster data recovery
- More frequent checkpoints
- Meet back-up window timeframe
- Highly scalable solution
- Reduced storage resources
- Easy integration in existing infrastructure

Improve service: *IBM Tivoli Storage Productivity Center, v4.1*

New!

- **Enhancements**
  - Greatly expands centralized management capabilities to the industry's most popular storage environments: Hitachi, NetApp, EMC, and IBM XIV, DS, and N series
  - Intelligent performance optimization engine helps improve disk utilization, performance and service levels
  - Customizable reports improves productivity and consistency
  - Single sign-on capabilities provides smooth transitions between management applications during day-to-day operations
- **Business Value**
  - Simplifies management of multi-vendor heterogeneous environments
  - Provides a secure storage administration portal
- **Technical Benefit**
  - Improves administrator efficiency with a single console for multiple storage products

Unified Storage Management with TPC



Reduce cost initiatives

- **Always on Information Availability:**
  - Do more **with my existing storage infrastructure**
  - Reduce the time and cost **associated with outages**
- **Policy-based Information Retention:**
  - **Retain business information more** cost effectively
  - **Move data throughout its lifecycle to the most** cost-efficient storage
  - **Reduce the** cost of archiving **large amounts of infrequently accessed data**
- **Building Information Security into the infrastructure:**
  - Extend the life **of my critical information storage assets**
  - Lower the cost **of securing and protecting data**
- **Consolidated, easy to audit solutions for Information Compliance:**
  - Lower the cost **of supporting regulatory and industry compliance**
  - Reduce energy consumption **across my storage infrastructure**

XIV Storage System
Consolidating open systems storage on **XIV** can save up to 70% in power, space and cooling costs per TB + self-managing capabilities. **New XIV entry model.**

Storage Virtualization
SVC can help increase utilization by more than 30% and save up to 50% in administration and management costs. **SVC Entry Edition**

Tivoli Storage Manager
now includes data deduplication capability and built-in DB2 database for improved scalability. **TSM v6**

Storage Optimization Services
NovusCG solutions, quickly and efficiently analyzes your interconnected IT and storage environments for cost inefficiencies and opportunities for optimization.

Scale Out File Services
Enables cost-effective management of over 500 billion files, like e-mail, photos, presentations, CAD/ CAM designs, source code, videos, medical images and more, all in a single NAS cluster.

Reduce Cost: New IBM XIV Storage System

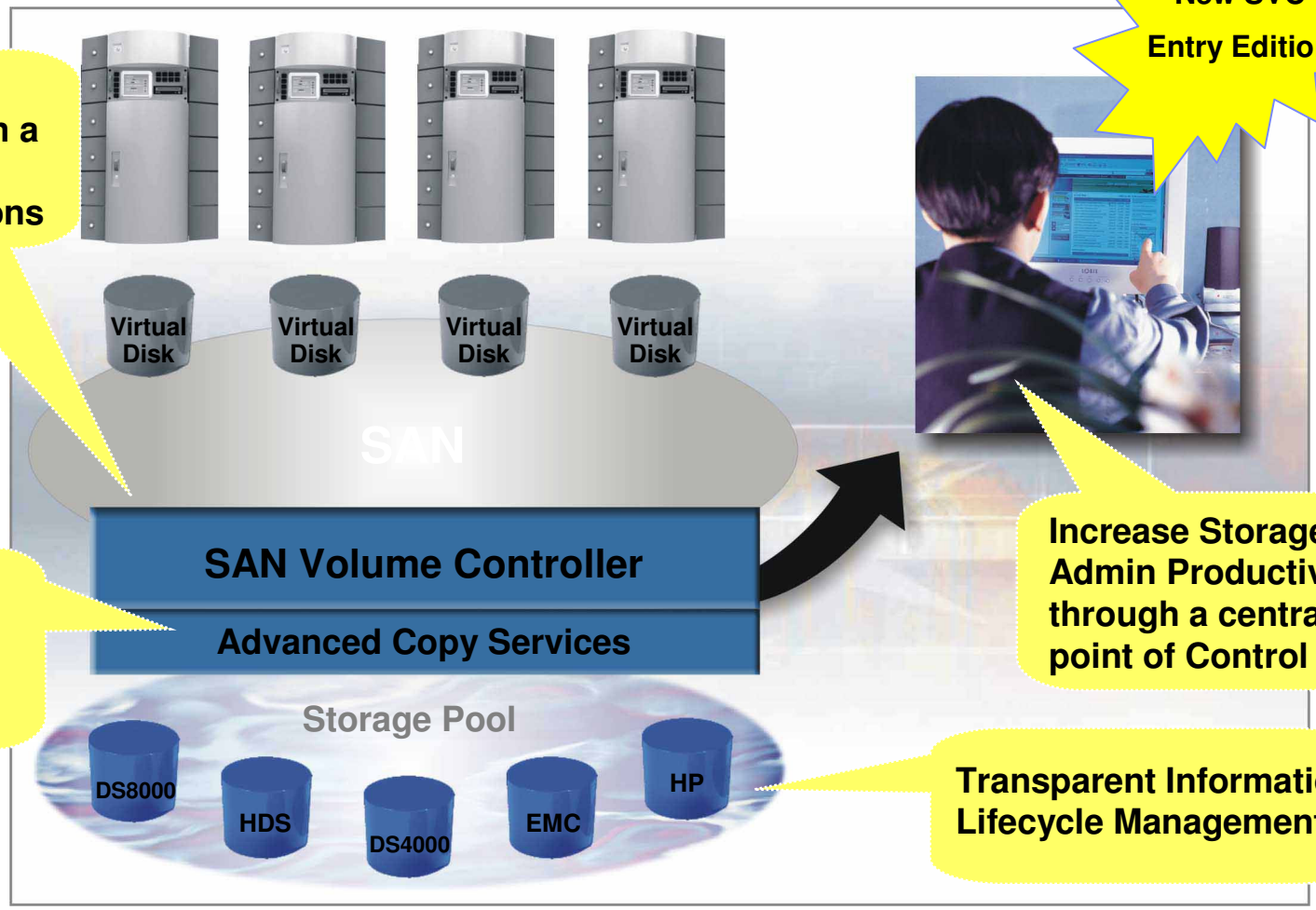
Expanding Enterprise Disk Storage Offering

xiv
Storage Reinvented

- ***Functionality***
  - ***Thin provisioning, data replication, data migration built in***
- ***Performance***
  - ***Self tuning, Massive parallelism, full disk utilization***
- ***Reliability***
  - ***Revolutionary self healing***
- ***Total Cost of Ownership***
  - ***Simple, easy management***
  - ***Storage "de-tiering" new concept***
  - ***No charge additional for software features***

New IBM XIV entry system starting @ 27 TB

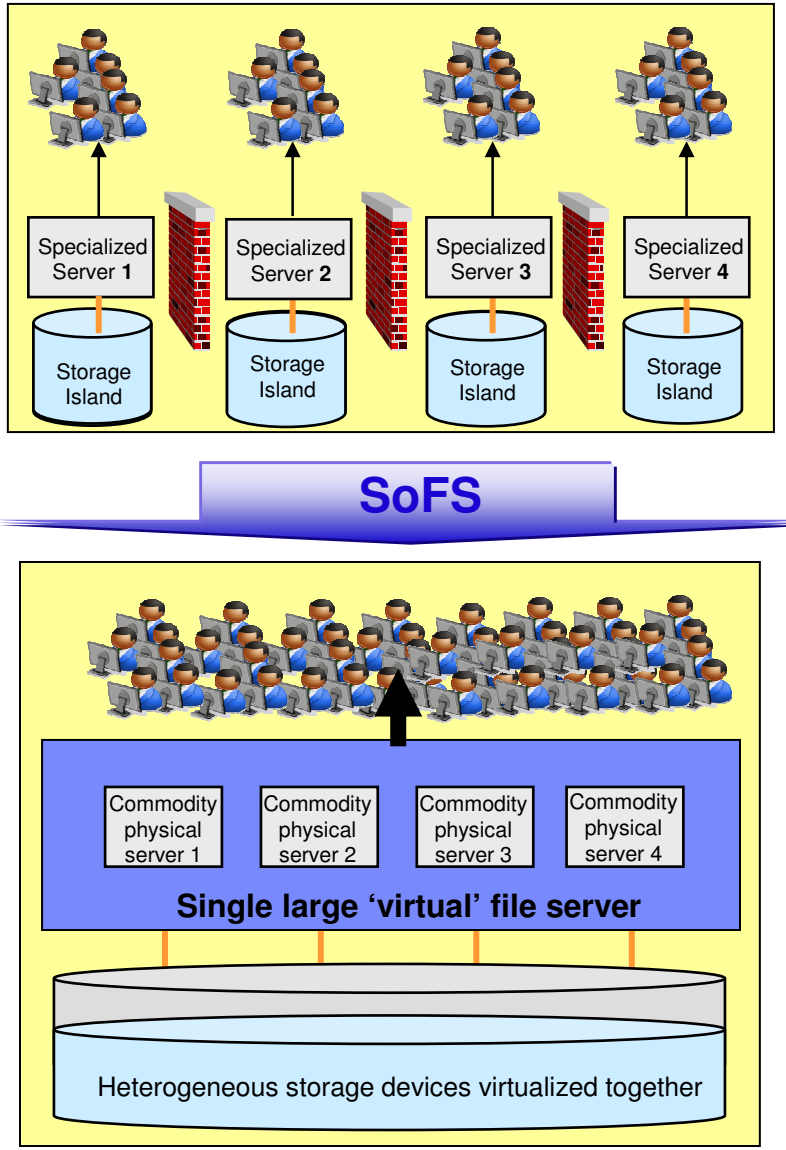
Reduce Cost: Dynamic Storage Infrastructure with IBM SAN Volume Controller



Reduce cost:
IBM SoFS - Enabling Cloud Storage

State-of-the-art cloud storage infrastructure for file based data offering:

- Massive **single global namespace**
- **Multi-site** features
- Scalable **policy driven tiering** (ILM) at the individual file level between storage pools of heterogeneous devices
- Integrated Quotas, QoS, Backup, Windows/Unix/Linux Security, numerous capabilities
- Intelligent load balancing, dynamic thin provisioning
- Extensive performance and availability monitoring for all components
- Single point of contact for support of entire system



Manage risk initiatives

- **Always on Information Availability:**
  - **Ensure that my** data recovery plan **meets my business needs in the face of disruptive events**
  - **Ensure business data is protected,** available and accessible as needed
- **Policy-based Information Retention:**
  - **Improve the up-time of my** critical systems **to meet the demands of new business processes and applications**
- **Building Information Security into the infrastructure:**
  - **Maintain the** integrity **of my critical business information**
- **Consolidated, easy to audit solutions for Information Compliance:**
  - **Evaluate and manage the** business impact **of various types of risks**
  - Prevent data breaches **and protect the privacy of customer and confidential information**

Enterprise Archive Services
strengthened compliance with data retention requirements through policy and event-based services for information retention

Storage Self-Encryption
IBM is the only major vendor to deliver onboard encryption with self-encrypted tape drives and **disk self-encryption on DS8000**. Affordable, transparent to applications and with no performance impact.

Tivoli Key Lifecycle Manager
Unified software solution for **managing encryption keys over their lifecycle** across the enterprise.

Tivoli FastBack
Continuous data protection with near instant recovery for critical systems.

Manage Risk: Unified Storage Encryption

Encryption for data at-rest built into the infrastructure

- **Drive-level Enterprise Disk Encryption: First to market** — Enhanced! Disk: DS8000 and DS5000 (Q2)
- **Simplified Key management supports security compliance and protects against data theft** — New! Tivoli Key Lifecycle Manager
- **Drive-level Tape encryption: First to market** — TS1130 and LTO4 Tape

Backed by:

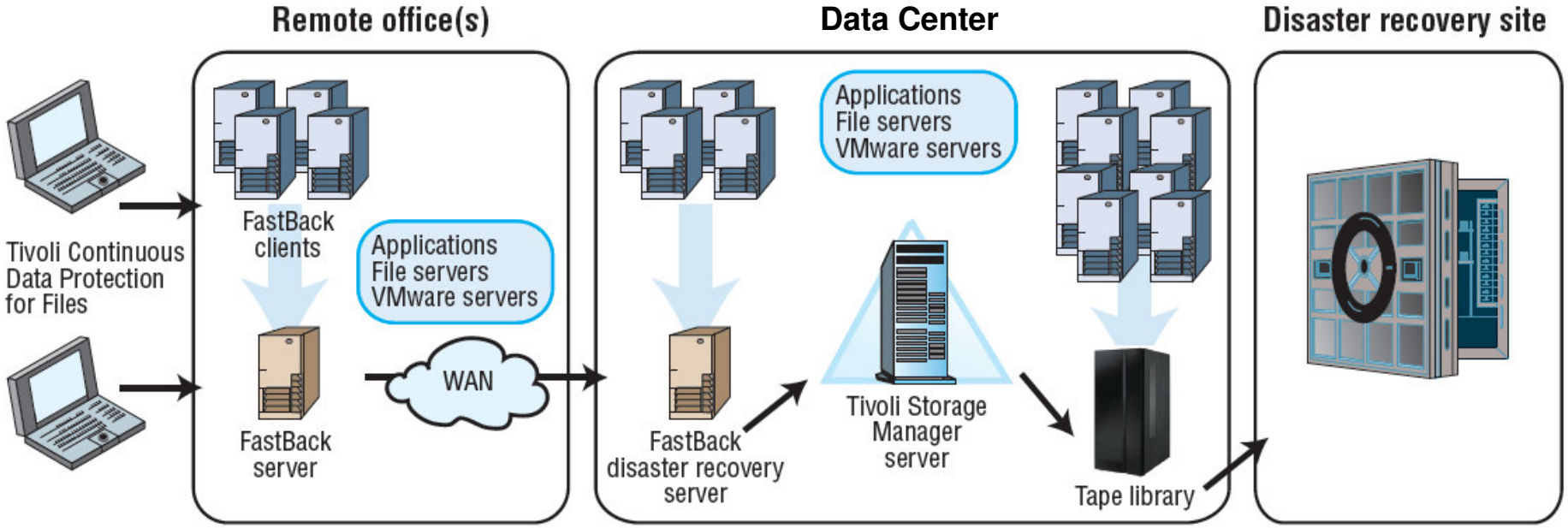
- **Over 3,500 security professionals worldwide**
- **$1.5B investment in security in 2008**

New! Security and Privacy Services

"The best thing about drive level encryption from IBM is: ***Less worry.*** *Disk and tape encryption can become automatic, giving Risk Managers one less exposure to audit."*

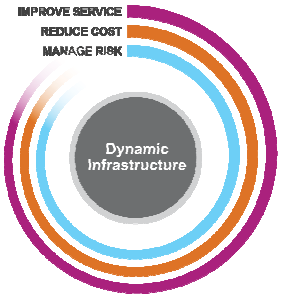
Clay Ryder, The Sageza Group, January, 2009

Manage Risk: 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:
  - ✓Broad OS and HW platform support, application protection
  - ✓ Superior scalability, performance, availability
  - ✓ Industry leading tape support

Summary: IBM Dynamic Infrastructure…



- **Enables visibility, control, and automation across all business and IT assets.**
- **Transforms assets into higher value services.**
- **Is highly optimized to achieve more with less.**
- **Addresses the information challenge.**
- **Leverages flexible sourcing like clouds.**
- **Manages and mitigates risks.**

…delivers superior business and IT services with agility and speed.

Thank You

Questions?

ibm.com/systems/dynamicinfrastructure

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