

Faire Ann Co
Market Manager, ASEAN
IBM information Management Software
cofa@ph.ibm.com



Building and Information Infrastructure

Why build one?



You and IBM Can Help Build a Smarter Planet

IBM's smarter planet vision



let's build a smarter planet

The world has become flatter and smaller. Now it must become smarter.

Four major IBM initiatives

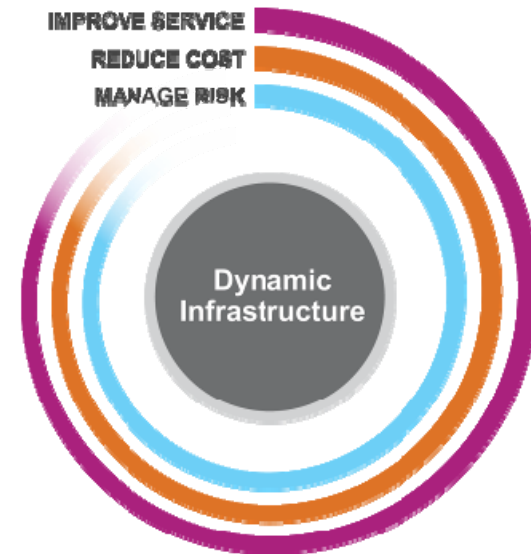
Dynamic Infrastructure

New Intelligence

Green Solutions

Smart Work

Dynamic Infrastructure



*How do I create an infrastructure that **drives down cost, delivers new intelligence, mitigates information risks, and is as dynamic as today's business climate** ?*

Building the information infrastructure for a Smarter Planet



Compliance

Reduce reputation risks and audit deficiencies



Availability

Deliver continuous and reliable access to information



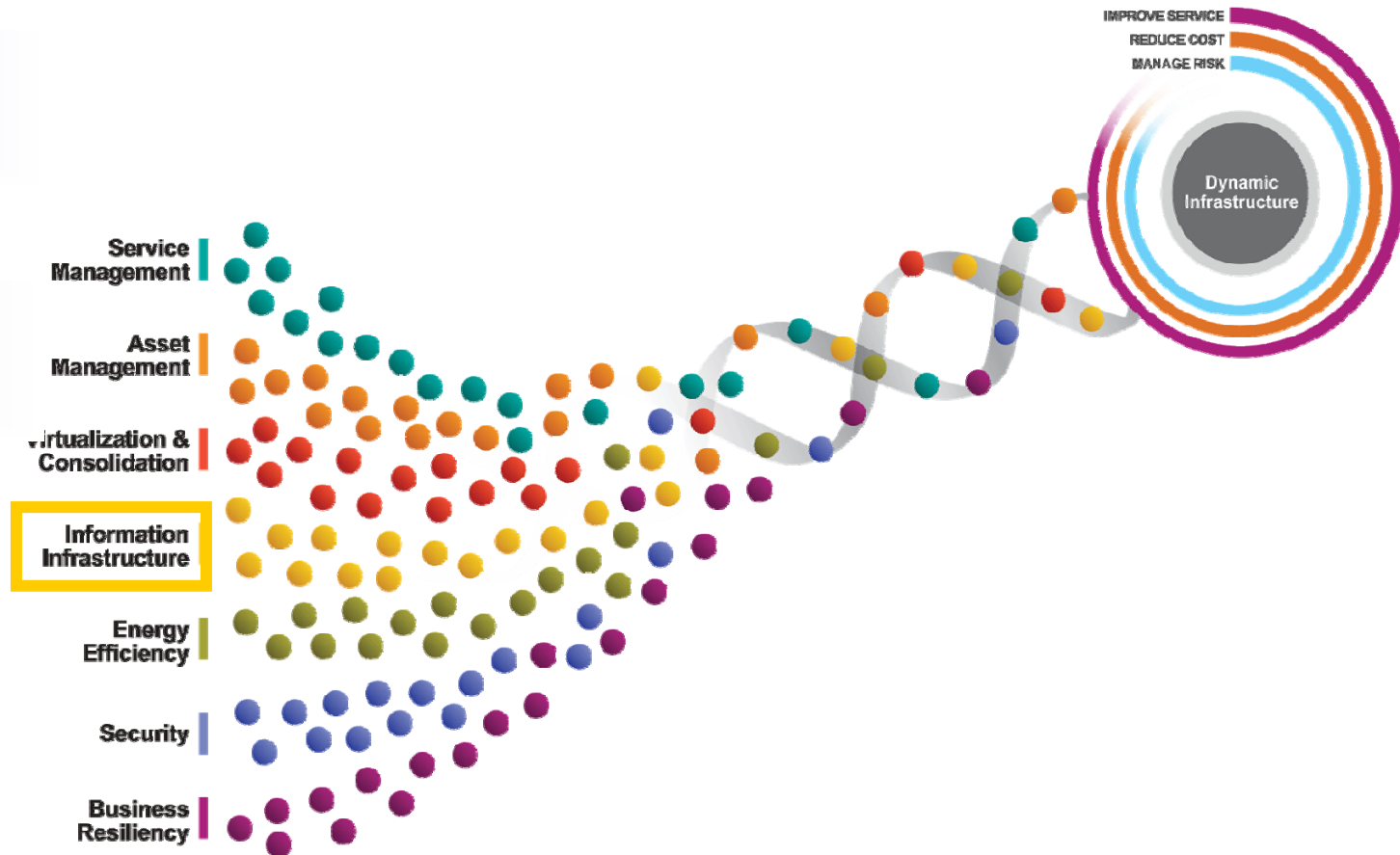
Retention

Support your information retention policies



Security

Protect and enable secure sharing of information



Are You Managing Information Growth Effectively?

Are you ready for the next wave?

Legal discovery can cost \$150k to \$250k (US)

- *Reduce reputation risks and audit deficiencies*



Information
Compliance

59% of managers miss data they should have used

- *Continuous, reliable information*



Information
Availability

37% of data is expired or inactive

- *Policy-based data retention*



Information
Retention

84% of security breaches are internal

- *Secure sharing of information*



Information
Security



Information Compliance

Addressing Compliance, Reducing Cost & Risk

What is Compliance?

Compliance ensures that information is handled with all the laws and regulations that apply to an organization, and that it can be demonstrated when called on to do so.

Industry definition



Providing the right information to the right people within the right time frame ... at the right cost

Why is it important?

Over 22,000 laws and regulations worldwide

▪ Risks

- Lost revenue
 - Critical information exposure if lost/stolen
 - Retention/disposition policies not enforced
- Audit
 - Fines/penalties if non-compliance
- Reputation
 - Lost brand equity, loyalty and trust if exposed
 - Imprisonment for high-level executives if guilty

▪ Costs

- Legal
 - 75% of litigation costs are for discovery
- Operational
 - Management of records across enterprise
 - Monitor and ensure compliance with different laws in all countries they are active



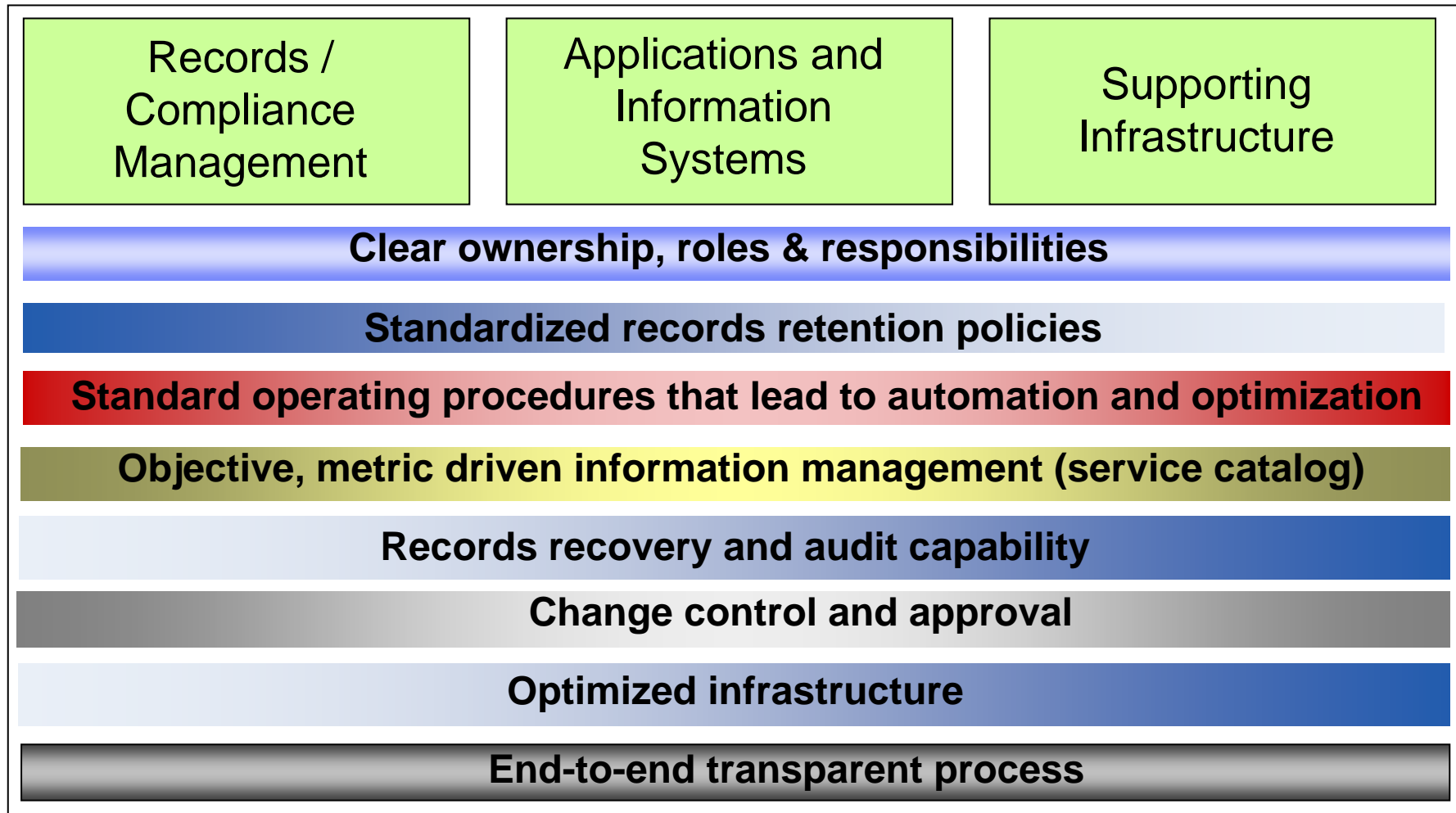
What are the Business Impacts and Risk Associated with This?

Information Compliance requirements impose obligations around:

- Records management & retention
- Protection of business & personal data
- Data confidentiality, integrity and authenticity

Information compliance can either assist businesses develop better practices or cause severe costs and problems.

Antidotes to the Impact and Risks



IBM Provides Comprehensive Strategy to Achieve Compliant Information Management

- Content Collection & Archiving
- Advanced Classification
- Records Management & Federation
- eDiscovery Search & Analytics
- Information Infrastructure



...offering a simplified prescriptive integrated trusted lifecycle solution model and methodology that is part of an organization's Information Agenda and delivers a compelling ROI.

Where IBM has made a difference already

Large US Financial Services Company

- Lacked ability to respond rapidly to legal discovery demands for email
- 30,000 mailboxes, 1.2M daily volume, 750M archived
- 3.5B emails in back up storage – no easy way to search/retrieve

Solution:

- Email archiving, retention and retrieval solution for Enterprise message servers
- Total Solution components:
 - Application Software: CommonStore, eMail Search for CommonStore, System Storage Archive Manager
 - Storage Software: Global Mirror, Flash Copy, SnapLock, TotalStorage Productivity Center
 - Hardware: P570/550 servers; DS8300, DS8100, N series storage systems
 - Services: IBM Global Services



Result:

- Ensures compliance with Discovery Orders, avoiding penalties and judgments from inability to produce emails in timely fashion
- Ability to search across mailboxes and apply multiple legal holds to critical emails ensuring retention of email for duration of need
- Single instance store to reduce volume of email and attachments in storage



Information Availability

Managing Information Growth more Effectively

What is Availability?

Availability is the ability of a component or service to perform its required function at a stated instant or over a stated period of time.

ITIL definition



Getting the right information to the right people at the right time ... at the right cost

Why is it important?

■ Costs

- Lost revenue and market share
- Service levels
 - Lost productivity

■ Risks

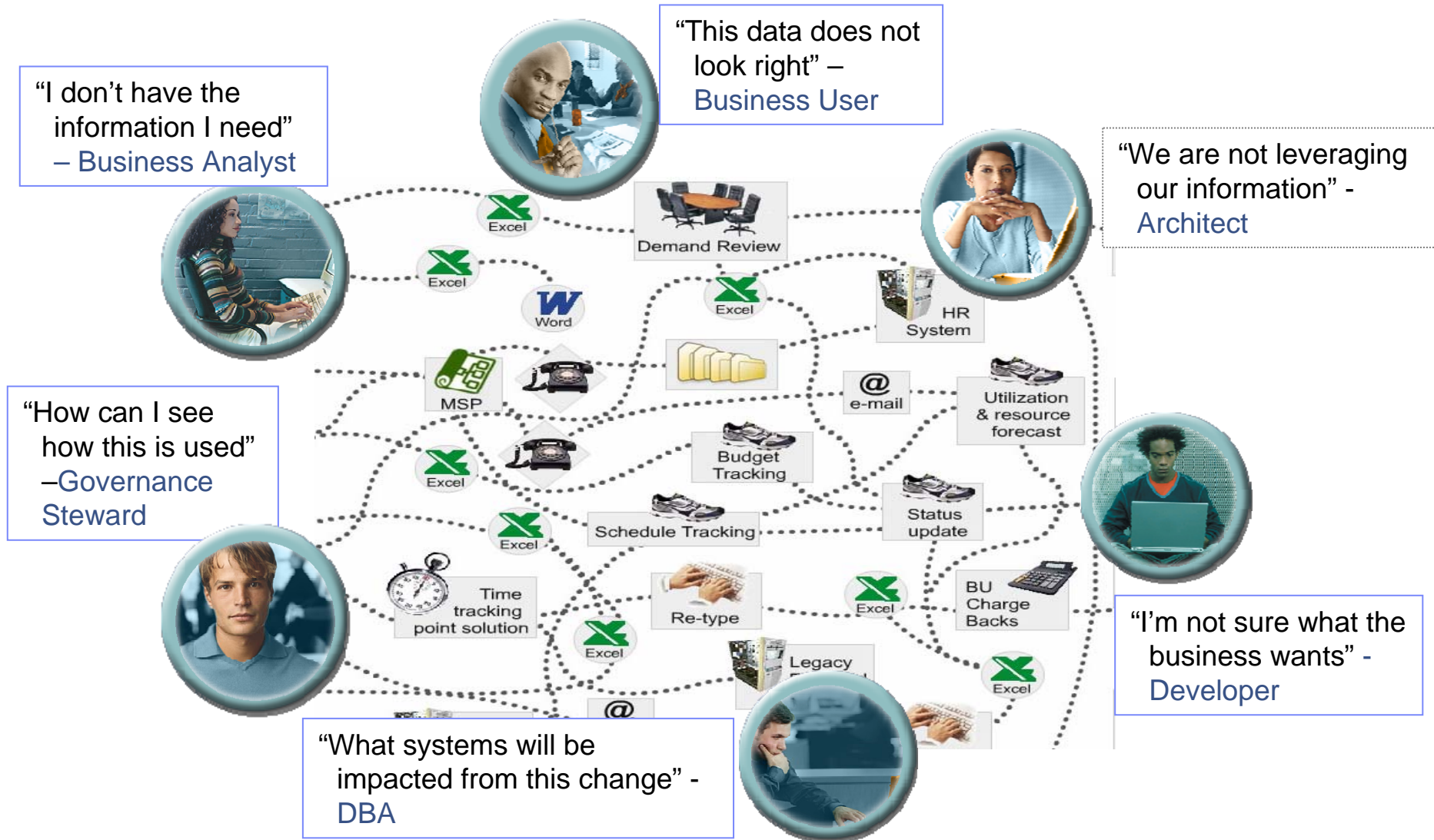
- Lost brand equity
- Loss of goodwill and trust
- Lost loyalty
- Information loss



What are the Business Impacts and Risk Associated with This?



Availability is not just about having access to information when you need it at the service levels you require...



Typical Results from Working with IBM

- Up to 30% increase in storage utilization
 - Virtualize to maximize storage investment
- Up to 20% of storage capacity reclaimed
 - Uncover underutilized storage
- Up to 70% reduction in enterprise storage acquisition costs
 - Use deduplication to eliminate redundant data
- Between 30 and 60% reduction in overall migration costs
 - Migrate data non-disruptively





Information Retention

**Store, Manage, Protect, Retrieve, Dispose of
Business Records Based on Business Policies**

What is Retention?

Retention is the amount of time, in days, that inactive backed-up or archived files are kept in the storage pool before they are deleted. Copy group attributes and default retention grace periods for the domain define “retention”.

UC Berkley definition



*Keeping the necessary information
for the right length of time
... at the optimum cost*

Why is it important?

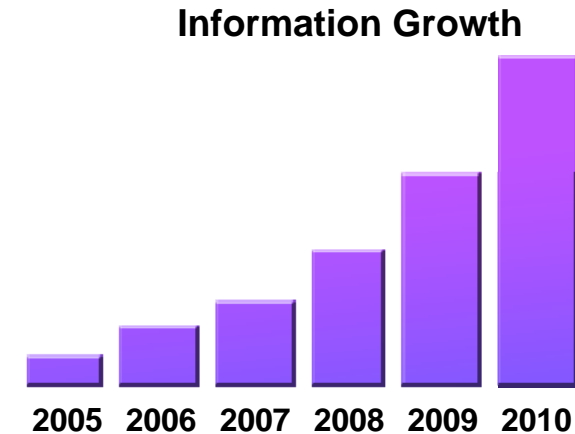
- Support daily activities
- Business value
 - Future business development
- Cultural or heritage needs
 - Preservation
- Regulatory compliance / corporate governance



What are the Business Impacts and Risk Associated with This?

Ever-increasing accumulation of information in the system causes:

- Slower system performance
- More frequent system outages
- Longer system backup/restore windows
- All reducing user productivity
- Increasing infrastructure costs
 - Data life usually longer than media life
 - Increased cost of power & cooling
- Increasing business risk
 - Escalating legal costs around search, and discovery
- Liability if kept longer than needed
- Non-compliance if record retention not enforced



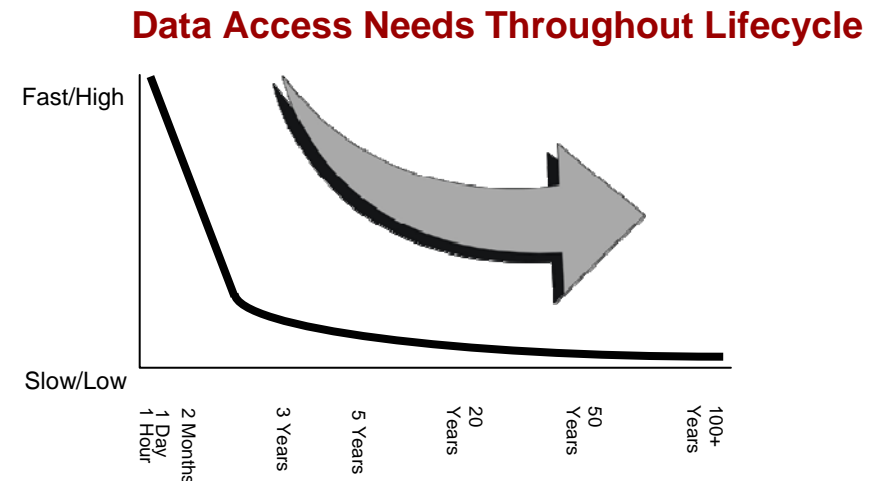
Variety & volume increasing
Multiple copies in multiple locations
Silo-ed, unclassified, kept forever

- **51% of open systems data is unnecessary, duplicate, or non-business-related**
- **68% of data has not been accessed for 90 days or more**
- **Legal fees can cost \$30,000 to review one GB of records**

Antidotes to the Impact and Risks

Best practices for information retention

- Capture, process, classify and organize information at creation
- Archive and preserve information based on its value with enforced retention policies
- Timely disposition information when no longer needed
- Optimize storage capacity utilization by deduplication, compression
- Lower TCO via tiering with disk and tape
- Improve productivity with automated data migration between tiers
- Secure and protect records

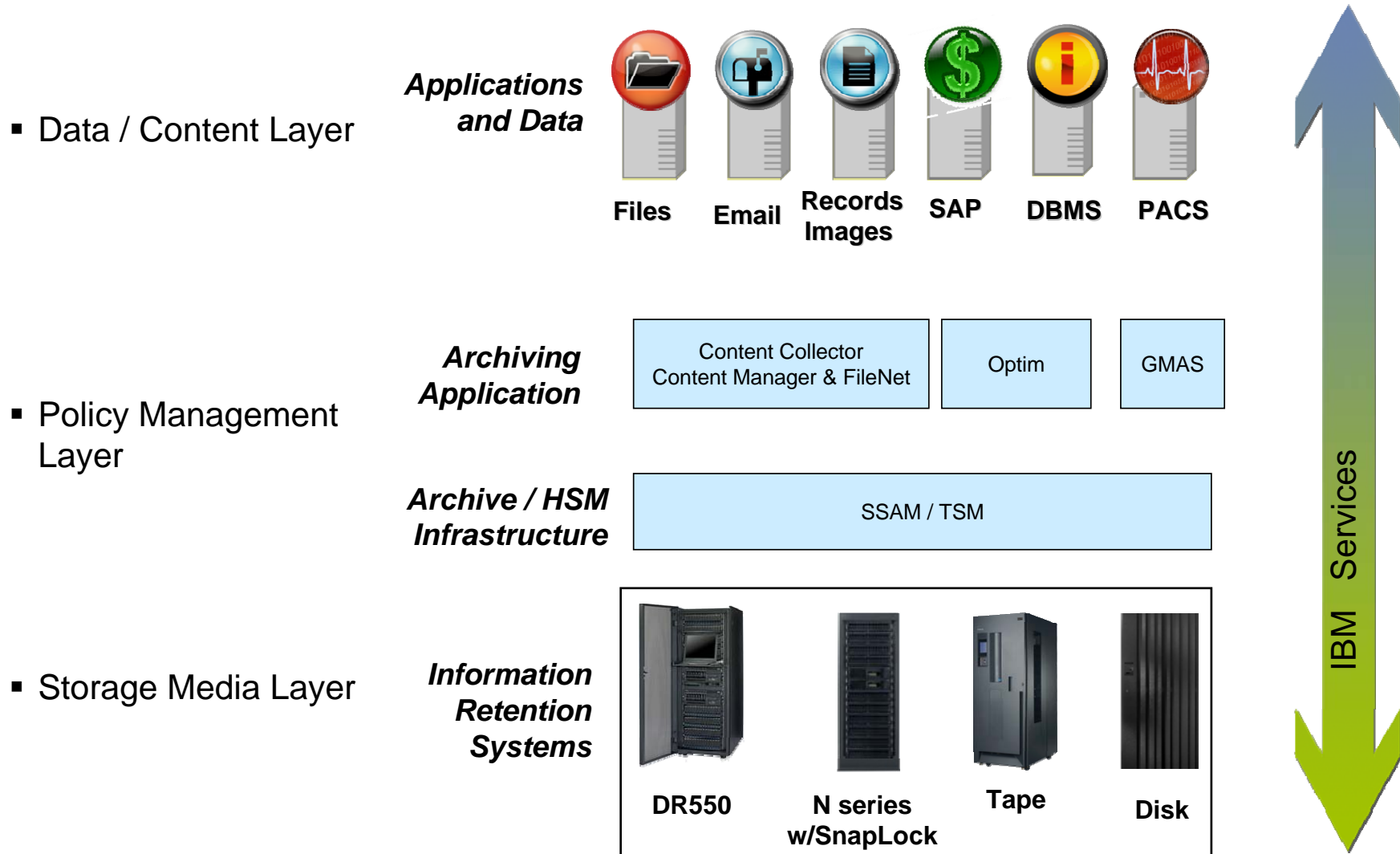


*Align the business value
of information with the
most cost effective
Information
Infrastructure.*

General Recommendations for Clients

- Take a balanced approach to hunting for cost savings
 - A point solution will cost more in the long run and leave you wanting more
 - Get help
- Help your organization tackle the enterprise information management problem
 - Take a service management approach
 - Conduct an ESI Risk Assessment
- Take advantage of some of the easy wins
 - Deletion, deduplication, tiering, compression, virtualization
- Secure, protect and delete!
 - Worth saving, worth protecting and delete ASAP

IBM Strategic Archiving & Retention Offerings



Where IBM has made a difference already

Koninklijke Bibliotheek (National Library of the Netherlands)



- ▶ *Collect, maintain and preserve an archive of all publications (books, papers, periodicals, scientific publications) issued in The Netherlands*
- ▶ *Store & retrieve electronic publications on a large scale*
- ▶ *Required Long Term Preservation*

Solution

- IBM Content Manager, Tivoli Storage Manager, WebSphere Application Server, DB2, AIX
- IBM p570 system, IBM DS6800 storage system, IBM 358494 Tape Libraries, Plasmon G638 Optical Library
- IBM Global Services and Almaden Research Laboratory

Result

- Estimated savings of \$5m (USD) per year by avoiding manual cataloging and storing
- Preservation of and improved access to the national cultural heritage of The Netherlands
- Better, easier and faster access to information



Information Security

Protect and enable secure sharing of information

What is Security?

Computer security includes protection of information and property from theft, corruption, or natural disaster, while allowing the information and property to remain accessible and productive to its intended users.

Industry definition



*Allowing access to the right information
by the right people
for the right period of time
... at the right cost*

The Bigger Picture – The *Real* Cost of Faulty Security

- Loss of customer information
- Loss of customer confidence
- Loss of intellectual property
- Legal and regulatory exposures
- Loss of brand equity
- Cost of remediation
- Business disruption
- Your job



Lost business now accounts for 69 percent of data breach costs, up from 65 percent in 2007 and 54 percent in the 2006 study.

** 2008 Annual Study: Cost of a Data Breach, Ponemon Institute*

The Bigger Picture – The *Real* Cost of Faulty Security (continued)

Actual Costs

- Loss of customer information
- Loss of customer confidence
- Loss of intellectual property

- **Average cost of a data breach is \$6.7M**

- **Value of information on one lost tape cartridge can be \$16M**

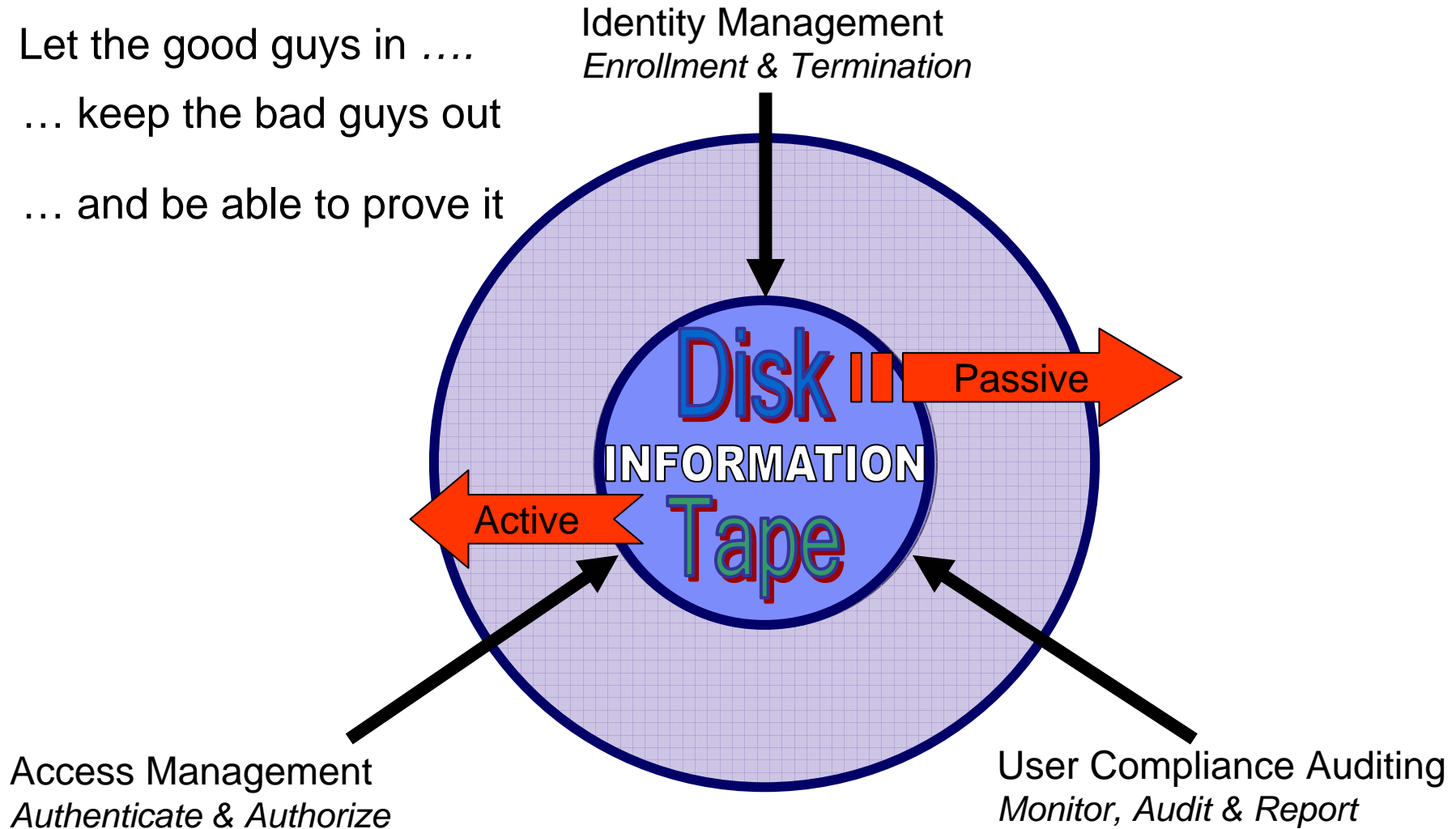
Note: Stolen customer records can be worth up to \$17M each to criminals on the Black Market !!

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** 2008 Annual Study: Cost of a Data Breach, Ponemon Institute*

Pressures On the Business

Let the good guys in
... keep the bad guys out
... and be able to prove it



IBM Information Security Capabilities

Improve Information Risk Management



- **Authentication, Authorization, and Accounting (AAA) + Auditing**
 - Access and Identity Management (TIM, TAM, FIM)
 - Secure Administration (Systems, TPC)
 - Security Reporting and Auditing (Tivoli Security Information and Event Manager, Tivoli Security Operations Manager)

- **Network Security**
 - Web Application Security (Proventia)
 - Data Loss Prevention (Proventia)
 - Threat Management (Internet Security Services, IBM RealSecure)
 - Managed Security Services (Internet Security Services)

- **Information Encryption**
 - Self-encrypting storage media (DS8000, DS5000, LTO, TS1130)
 - Encryption Key Management (TKLM)
 - Application-based encryption (Tivoli Storage Manager, DB2)

- **Services for IBM Information Infrastructure Security**
 - Implementation Services; Expert Consulting; Managed Security Services

So, why build and Information Infrastructure?



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Availability

Deliver continuous and reliable access to information



Retention

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Security

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