



Information Management Executive Briefing Event

Information Governance and System z Your key to Business Optimization

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*Date : June 4/5 2012
Dolce Palisades, New York*



Agenda

- **The challenges and pressure on business data today**
- **Information Governance and the Market place**
- **Entry points to address your most pressing Information Governance needs**
- **Call to action Summary**

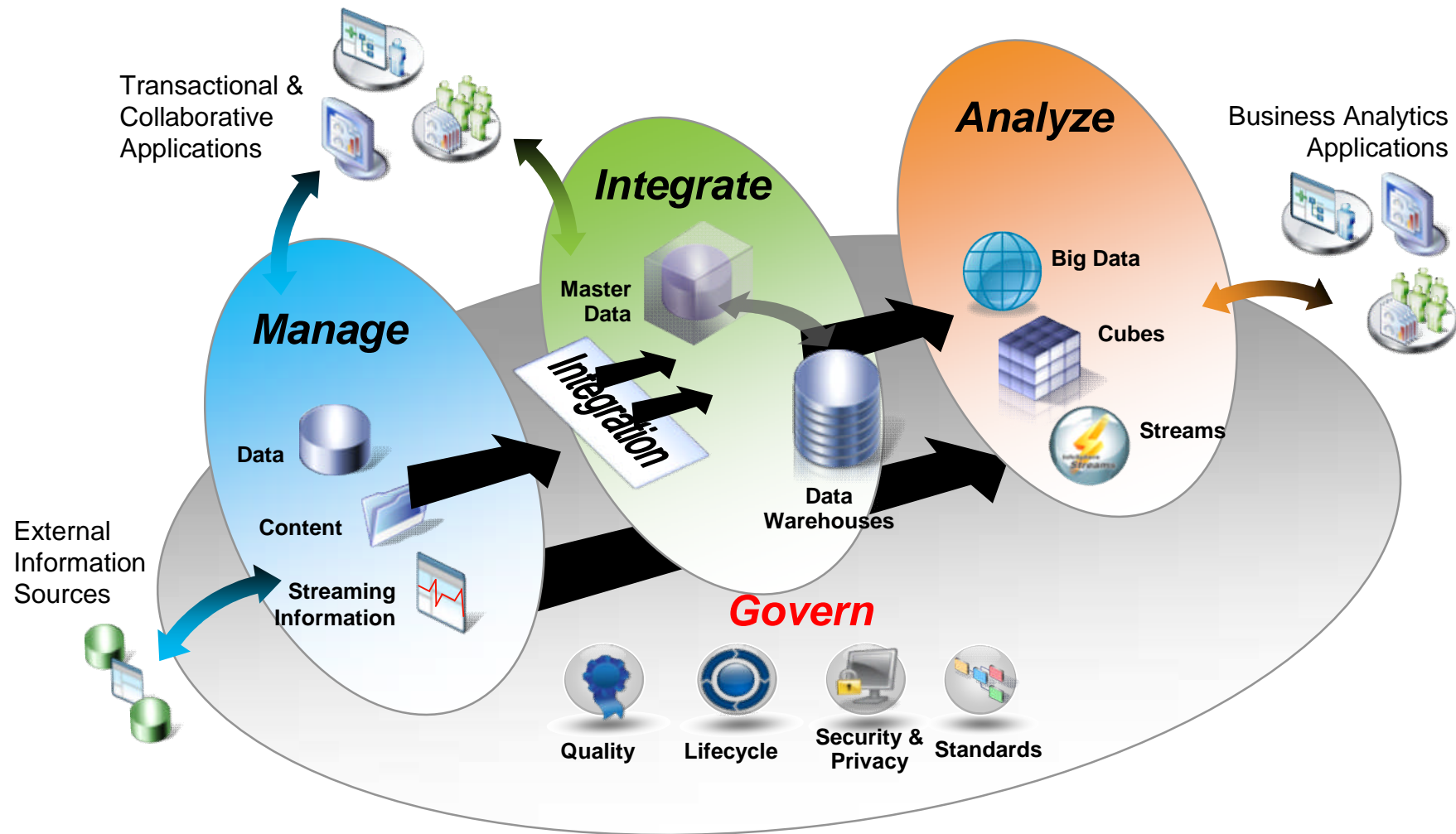
Living in the Information Age – we are swamped with information



Your challenge :

- (1) make sense of it and decide how best to act**
- (2) manage and control the data you are responsible for**

Dynamics of an Information Ecosystem



What happens when you're NOT in control of your business data...

Healthcare – “Dozens of women were told wrongly that their smear test had revealed a separate infection after a hospital error, an independent inquiry has found....”

Confusion arose because the hospital decided to use a code number to signify “no infections”, not realizing that it was already in use at the health authority where it meant “multiple infections”....

Retail – “Hackers have stolen 4.2 million credit and debit card details from a US supermarket chain by swiping the data during payment authorization transmissions in stores..”



Banking – “A major US bank has lost computer data tapes containing personal information on up to 1.2 million federal employees, including some members of the U.S. Senate....”

The lost data includes Social Security numbers and account information that could make customers of a federal government charge card program vulnerable to identity theft....”

Banking – “A rogue trader accused of the world’s biggest banking fraud was on the run last night after fake accounts with losses of £3.7 billion were uncovered....”

The trader used his inside knowledge of the bank’s control procedures to hack into its computers and erase all traces of his alleged fraud. Mr Leeson said “Rogue trading is probably a daily occurrence within the financial markets. What shocked me was the size. I never believed it would get to this degree of loss.”

Public Sector – “Two computer discs holding the personal details of all families in the UK with a child under 16 have gone missing....”

The Child Benefit data on then includes name, address, date of birth, National Insurance number and, where relevant, bank details of 25million people...”

WASHINGTON – “The FINRA announced today it has censured and fined a financial services company \$370,000 for making hundreds of late disclosure to FINRA’s Central Registration Depository (CRD) of information about its brokers, including customer complaints, regulatory actions and criminal disclosures. Investors, regulators and others rely heavily on the accuracy and completeness of the information in the CRD public reporting system – and, in turn, the integrity of that system depends on timely and accurate reporting by firms.”

.... Resulting in a broad range of potentially life threatening consequences

Healthcare – Dozens of women were told wrongly that their smear test had revealed a separate infection

Incorrect classification..
Life threatening consequences

infections”....

Ineffective Security..

Brand damage
Financial loss

Banking – A major US bank has lost computer data tapes containing personal information on 1.2 million federal employees. The number of employees that could be affected is not known. The bank's charge card program was vulnerable to identity theft....”

Physical Data Loss..
Identity Theft



Banking – Rogue trader accused of the world's biggest banking fraud was on the run last night after fake accounts with losses of £3.7 billion were uncovered....

Poor Internal Controls..
Bankruptcy, Financial ruin, penalties

Physical unprotected Data Loss..
Fraud on a massive scale

WASHINGTON – The FINRA announced today it has censured and fined a financial services company \$370,000 for making hundreds of late disclosures to FINRA's Central Registration Depository (CRD). The company, which provides regulatory services to other financial institutions, was fined for failing to complete public disclosures of the integrity and accuracy of its data.

Late Disclosures..
Inaccurate data
Heavy Fines, Legal implications and resignations

Usage, sharing and processing of electronic data continues to rapidly increase

Increasing Requirements

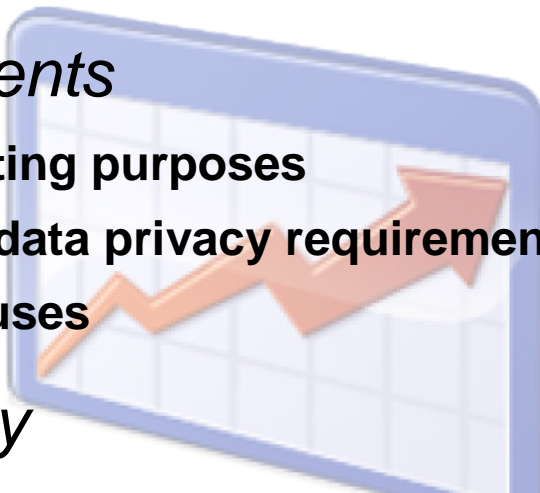
- Retention of data for auditing purposes
- Growing compliance and data privacy requirements
- High growth data warehouses

Increasing Complexity

- Disparate applications and infrastructure – “virtual enterprise”
- Auditing of both “live” and “historical” data
- Aligned IT and business compliance is required

Increasing Cost

- Data maintenance and storage costs
- Inactive data degrades data server performance
- Security breaches or compliance failures can have enormous costs to the business



The top challenge for 43% of CFOs is improving governance, controls, and risk management

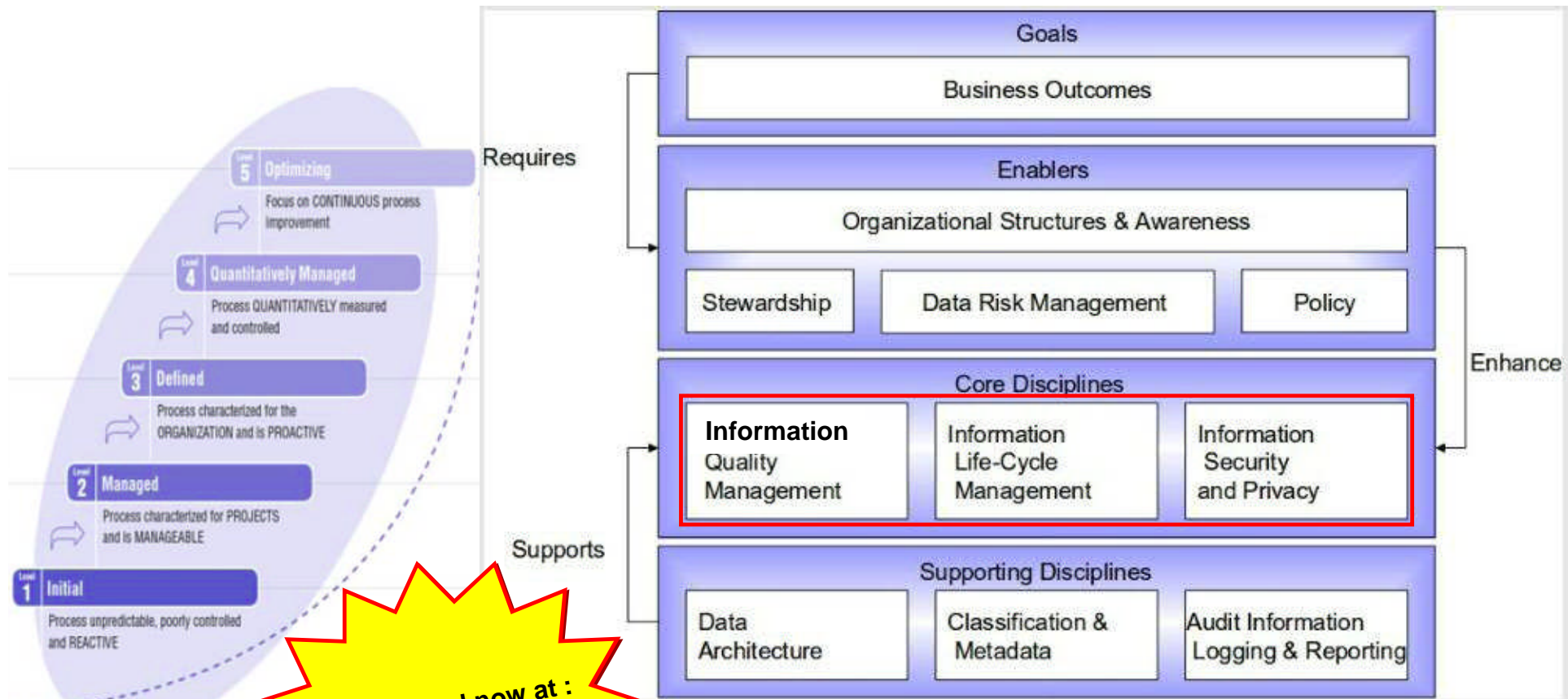
*CFO Survey:
Current state & future direction,
IBM Business Consulting Services*



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- The challenges and pressure on business data today
- **Information Governance and the Market place**
- Entry points to address your most pressing Information Governance needs
- Call to action Summary

Core disciplines need to be in place to achieve benefits



Get involved now at :
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Information Governance Maturity : on-line Assessments

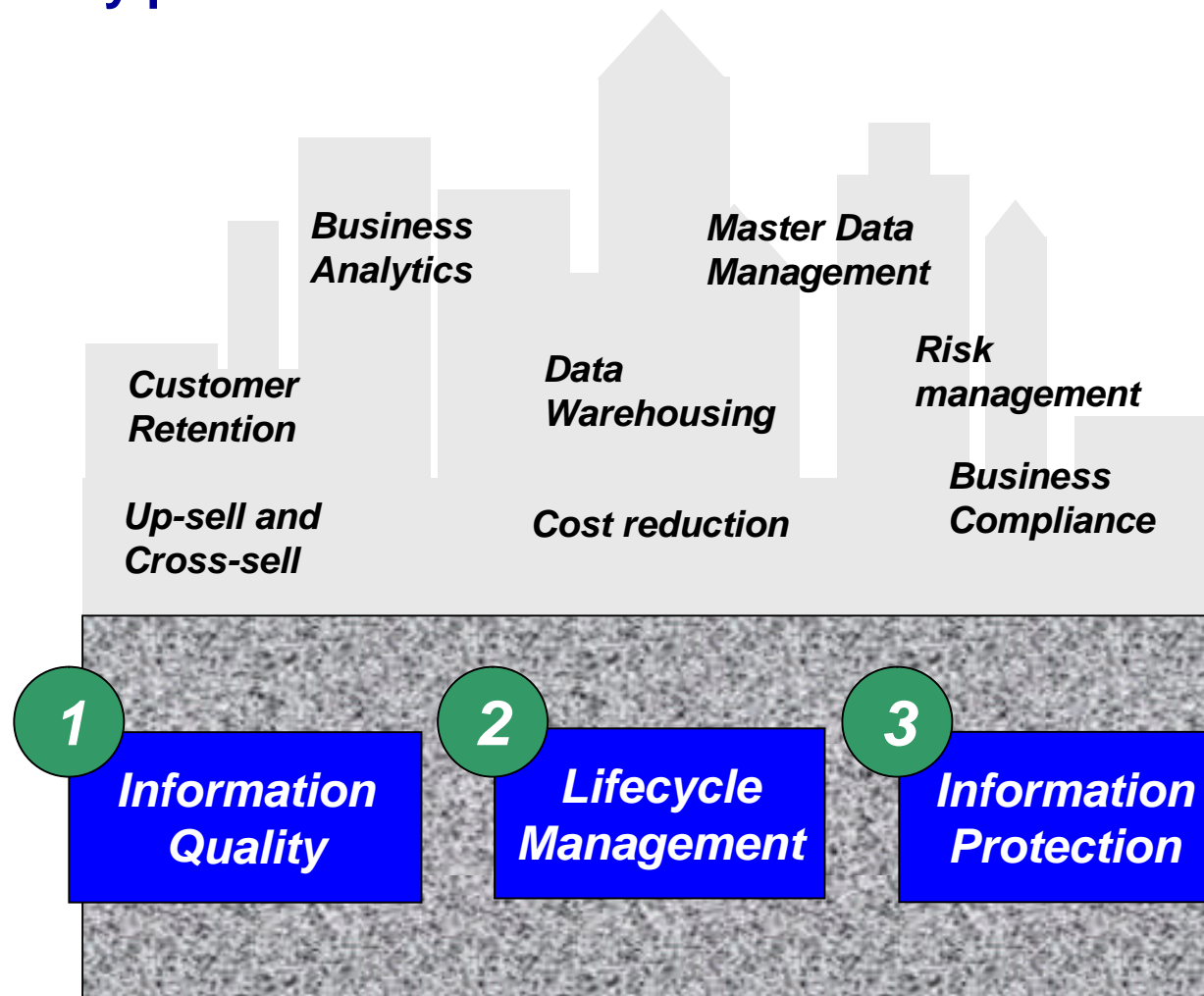
www.infogovcommunity.com/self_assessment/first

Your data is saved after you complete each section so feel free to take your time. **You can re-take a section at anytime.**

	Section	Your Score	# Taken By Community	Community Average	Community Median
<input type="button" value="Take"/>	Data Architecture	—	92	2.5	2.3
<input type="button" value="Take"/>	Audit	—	50	2.1	1.8
<input type="button" value="Take"/>	Data Risk Management	—	42	2.2	2.3
<input type="button" value="Take"/>	ILM	—	34	2.1	2
<input type="button" value="Take"/>	Metadata	—	47	1.8	1.5
<input type="button" value="Take"/>	Org Awareness & Structure	—	48	1.5	1.4
<input type="button" value="Take"/>	Security	—	31	2.4	2.4
<input type="button" value="Take"/>	Stewardship	—	42	1.9	1.8
<input type="button" value="Take"/>	Data Quality	—	51	2	2
<input type="button" value="Take"/>	Value Creation	—	37	1.9	1.6
<input type="button" value="Take"/>	Policy	—	39	1.6	1.3

Crowdsourcing Powered By chaordix

Start to address your most pressing Information Governance needs with the 3 “Entry points”

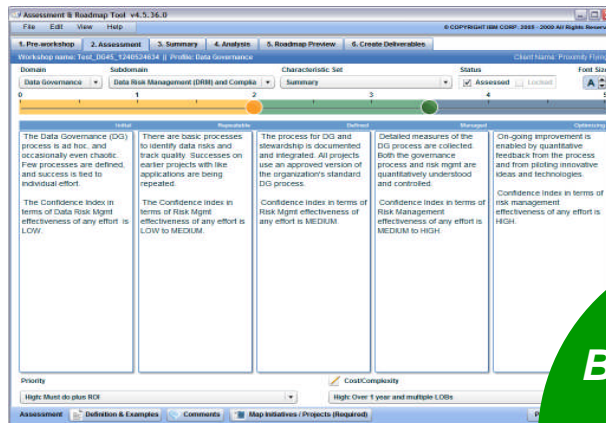


Information Governance underpins and is foundational to your Information Management projects

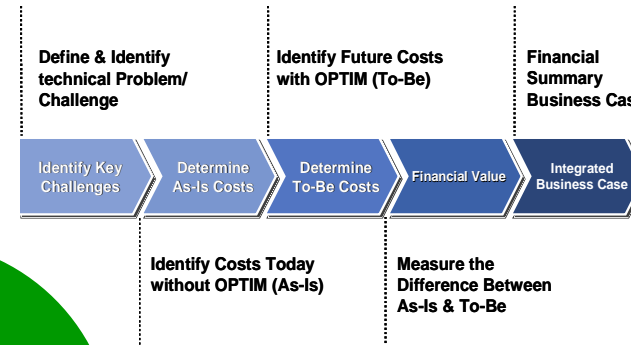
IBM Information Governance Business Value tools

Data Governance backed by proven business cases

– **IBM Information Governance Maturity Model Assessment Workshop**

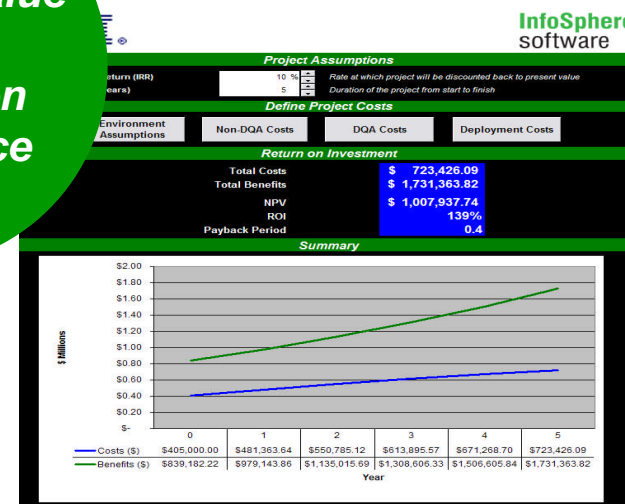


– **Business Value Assessment (Optim and Guardium)**



Business Value Driven Information Governance

COST SAVINGS SUMMARY		
		Total
CPU Savings		\$238,130.00
Labor Cost Savings		\$296,400.00
TOTAL COST SAVINGS in year 1		\$534,559.87
ROI SUMMARY		
Total Savings with product purchase Year 1		\$76,991.87
Total Savings Year 2		\$465,798.87
Total Savings Year 3		\$465,798.87
TOTAL SAVINGS OVER 3 YEARS		\$1,008,589.62
Annual SAVINGS OVER 3 YEARS*		\$336,196.54



– **ROI calculators (DM Tools)**

– **Data Quality Assessment (InfoSphere Information Server)**

Enterprise Information is on System z

Information on Demand for System z Delivers Competitive Advantages

DB2: Top 66 banks in the world

*DB2: 9 of the top 10 global
life/health insurance providers*

*DB2: 24 of the top
25 US retailers*

UPS runs DB2 for z/OS to support the world's largest known peak database workload - 1.1 Billion SQL statements per hour!

*24x7 ATM
Deposits
& Withdrawals*

*Reserves
airline seats*



*Runs the world's
stock exchanges
& banking networks*

*Tracks the world's
packages*

***8 of every 10 of the largest retail banks in Australia, Germany, Japan,
and the United States use IMS for their core banking***

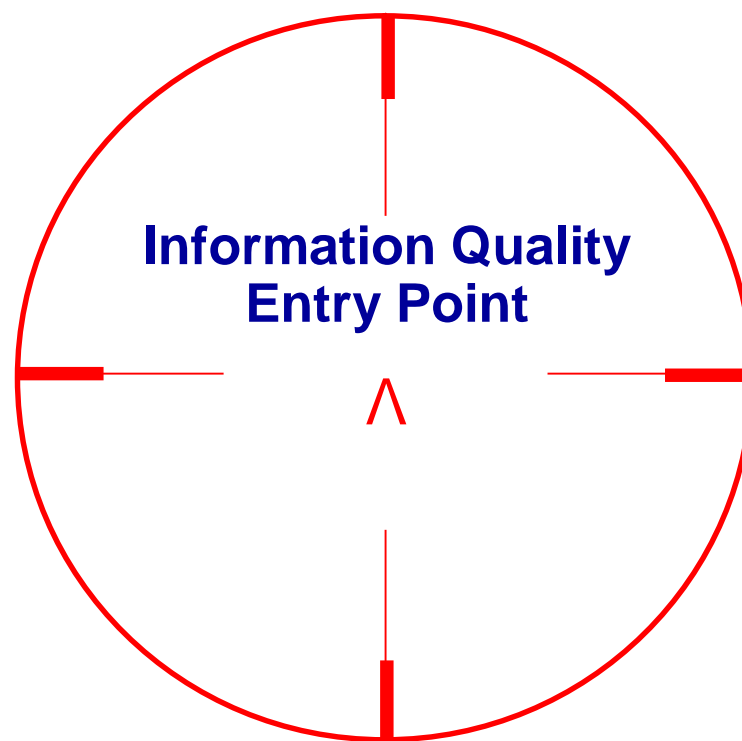
*\$3 trillion/day transferred
through IMS by one customer*

*95% of top Fortune
1000 companies use IMS*

*Over 15 billion GBs of
production data in IMS...*

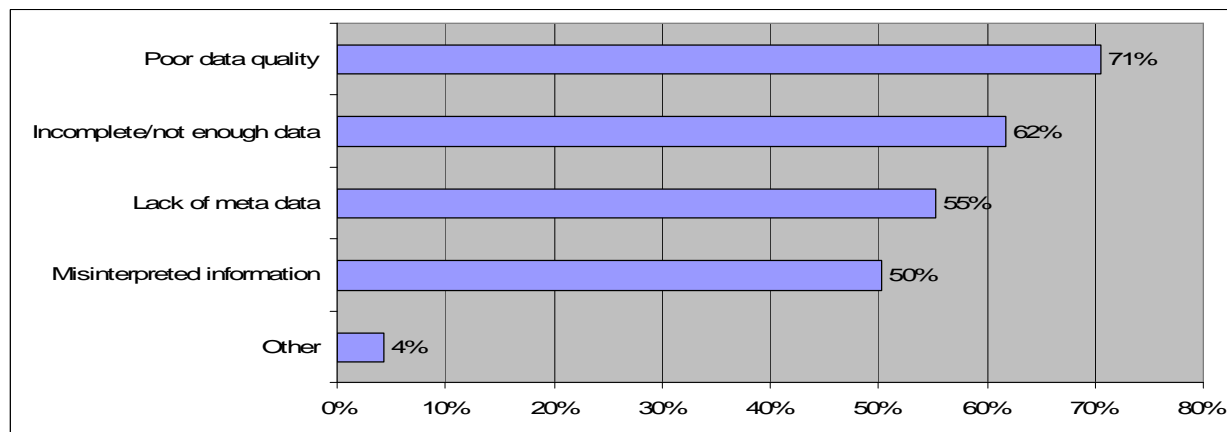
Agenda

- The challenges and pressure on business data today
- Information Governance and the Market place
- **Entry points to address your most pressing Information Governance needs**
 - *Information Quality*
 - *Information Lifecycle Management*
 - *Information Protection*
- Call to action Summary



Survey: Business Drivers for IG

- **Specific business problems experienced over past 3 years**
 - **Data quality issues (69% of all respondents)**
 - Poor data quality (71%)
 - All listed problems were over 50%
 - Why data quality is a major area of concern and IG can help

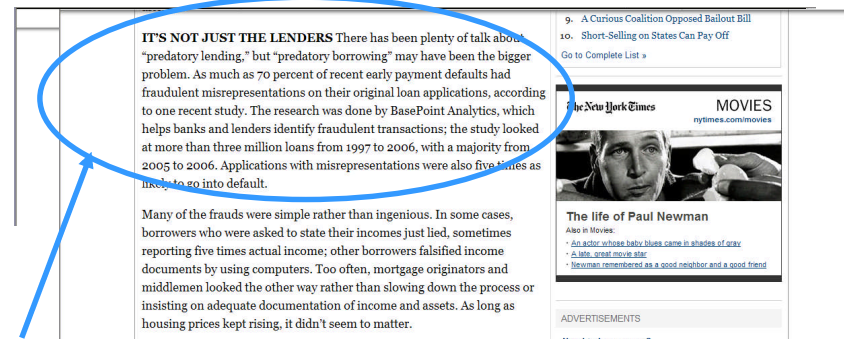


Information Management: It can't be just for the IT staff any more

Bad data is like a 'virus' for the business



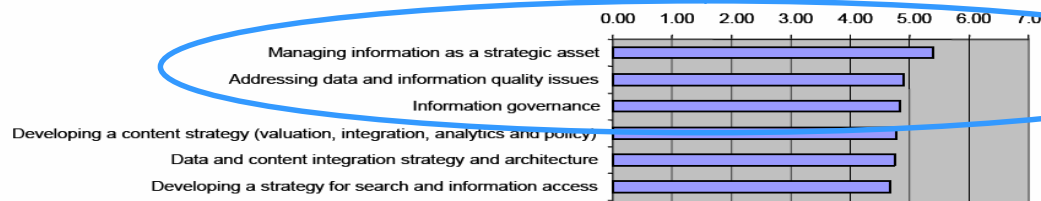
Product prices clearly out of range contribute to lost profits



Missing and invalid data and a lack of oversight contributed to subprime mortgage debacle

84% of large businesses believe that poor data governance can reduce the accuracy of business decisions*

Figure 1. Enterprise Information Management Topics

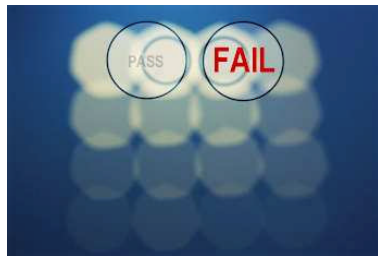


Info governance and data quality go hand in hand

Sources: 2006 IBM Survey – 50 Large Companies and Mar 2007 Gartner Report

Other facts about the impact of data quality.....

83% of data integration projects either overrun or fail



Scrap and rework
Increased costs



Lack of consumer confidence

Inaccurate or incomplete data is a leading cause of failure in business-intelligence and CRM projects



Lost up-sell and cross-sell opportunities

Low data quality costs companies \$611 billion annually

25% of time is spent clarifying bad data

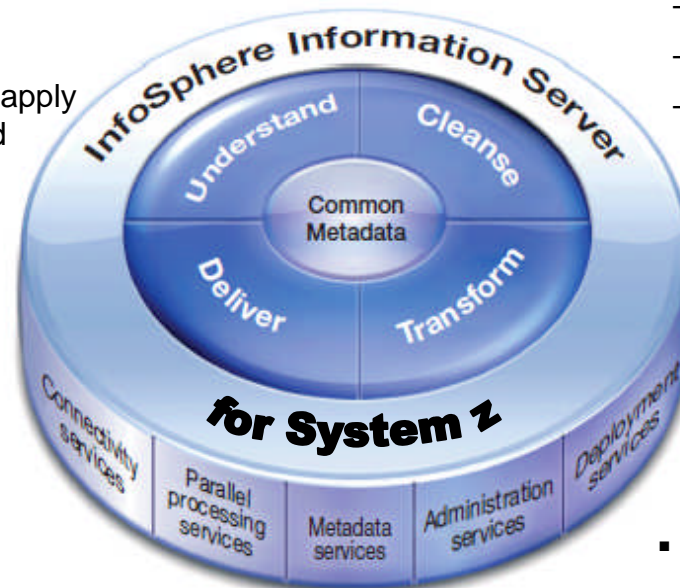
Undetected defects will cost 10 to 100 times as much to fix upstream

The IBM Solution: IBM InfoSphere Information Server on System z

Delivering information you can trust

▪ Understand

- Discover what data exists
- Understand and profile sources of information, relationships and dependencies
- Analyze usage, lineage, begin to apply governance rules to structure and content



▪ Deliver

- Provides connectivity to almost any data or content source
- Package as reusable services
- Ability to deliver information through a variety of mechanisms. SQL, Java, ODBC...

▪ Cleanse

- Apply data quality standards
- Certify and enrich
- Identify false positives / false negatives
- Matching rules
- Apply DQ rules as batch operations or as real-time SOA services, event driven

▪ Transform

- Design data integration data flows that extract, transform, load (ETL) information from heterogeneous source systems
- Transform and combine data to make it more valuable
- Deliver to one or more target databases or applications in a batch, real-time, or event-based triggers

InfoSphere Information Server - components

▪ InfoSphere DataStage

- Integrates data across multiple and high volumes of data sources and target applications.

▪ InfoSphere QualityStage

- Ensures systems deliver accurate, complete information to business users across the enterprise.

▪ InfoSphere Change Data Capture

- Integrates information across heterogeneous data stores in real time.

▪ InfoSphere Business Glossary

- Enables users to create, manage and share an enterprise vocabulary and classification system

▪ InfoSphere Information Analyzer

- Derives more information from enterprise data to accelerate information-centric projects

▪ InfoSphere FastTrack

- Accelerates the translation of business requirements into data integration projects

▪ InfoSphere Information Services Director

- Allows tasks to be published as reusable services in a SOA

▪ InfoSphere Metadata Workbench

- Helps you gain visibility and trust in your information

▪ InfoSphere Federation Server

- Creates a consolidated view of your data to support key business processes and

Information Quality Customer example – Irish Life

Challenge

- Customer information stored across many different systems; policy administration, sales and marketing, customer account mortgage systems following merger.
- Challenging for staff to gain a complete picture of clients' interactions with the company.
- Unable to detect client service problems
- Difficult to determine cross-sell opportunities.
- Customers requiring multiple PIN number per policy when logging on to web site

Solution

- IBM InfoSphere Information Server, Developed a Customer Centric hub built around SOA principles
- Single source of the "Truth"
- Developed the right data governance policies to validate information when it is first captured."

Benefits

- Strengthened customer satisfaction
- increased use of self-service options resulting in reduced costs.
- Staff able to quickly identify opportunities to cross-sell products
- Improved the value and service resulting in better customers retention.

*"We've standardized our customer name and address data using IBM InfoSphere QualityStage. This allows us to identify, match and merge duplicate records so we have a single view of our customers....It also enables us to develop the **right data governance policies** to validate information when it is first captured."* Noel Garry, Executive Manager, Irish Life & Permanent

Data Standards

Industry Data Models

- **Industry best practices**
- **“Fast start” accelerators**
- **Help comply with industry regulations**
- **Helps with interchange of information**

What we offer

First, comprehensive data models containing data warehouse design models, business terminology model and analysis templates to accelerate the development of business intelligence applications. Second, best practice business process models with supportive service definitions for development of a service-oriented architecture (SOA). The result is acceleration of projects and also reduced risk.

IBM Banking Data Warehouse

Data models that focus on solving challenges such as enterprise risk management, single view of customer, product and channel profitability visibility and more.

IBM Banking Process and Service Models

Business process models that focus on solving challenges such as KYC/account opening, lending and syndicated lending, payments, risk and compliance and more.

IBM Insurance Information Warehouse

Data models that focus solving challenges such as claims, intermediary performance, compliance, risk management, customer centricity visibility and more.

IBM Insurance Process and Service Models

Business process models that focus on solving challenges such as claim management, product portfolio management, underwriting and financial transactions and more.

IBM Health Plan Data Model

Data models that focus on solving challenges such as claims management, disbursement analysis, medical utilization, member and provider management visibility and more.

IBM Retail Data Warehouse

Data models that focus on solving challenges such as supply chain, multi-channel, regulatory compliance, Customer management visibility and more.

IBM Telecommunications Data Warehouse

Data models that focus on solving challenges such as network/wireless/wireline usage, customer churn, campaign performance visibility and more.

IBM Financial Markets Data Warehouse

Data models that focus on solving challenges such as risk reviews and task compliance, growth in hedge funds/buy-side firms, regulatory and compliance visibility and more.

IBM Financial Markets Process and Service Models

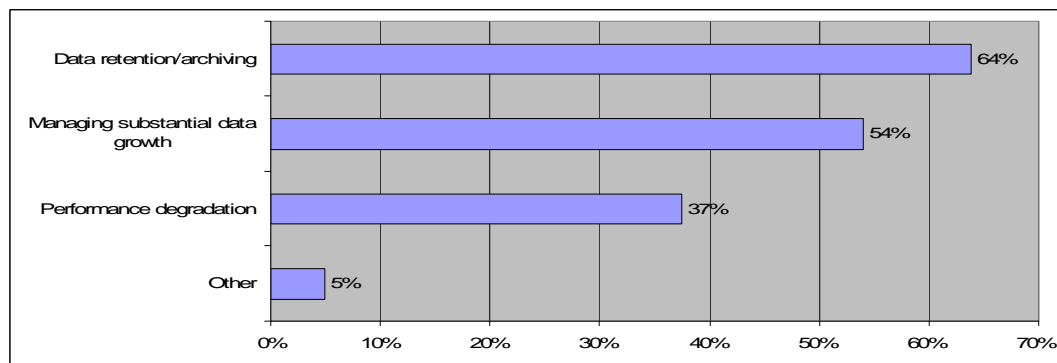
Business process models that focus on solving challenges such as trade processing, best execution (including MiFID), sales and relationship management and more.

Lifecycle Management Entry Point



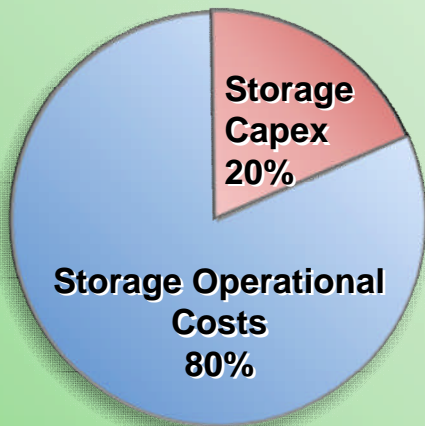
Survey: Business Drivers for IG

- **Specific business problems experienced over past 3 years**
 - **Information life cycle issues (60% of all respondents)**
 - Data retention/archiving problems (almost two-thirds)
 - Managing substantial data growth (over half)



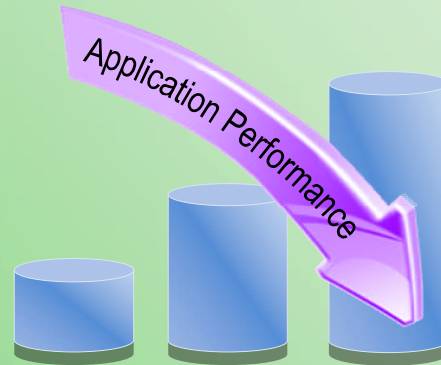
Organizations have been increasingly challenged with successfully managing data growth

Increasing Costs



Buying more storage is not a “cheap” fix when you add the operational burden

Poor Application Performance



Business users & customers wait for application response; DBA's spend majority of time fixing performance issues

Manage Risk & Compliance

The “keep everything” strategy can impact disaster recovery and data retention & disposal compliance

Organizations have been increasingly challenged with successfully managing data growth

Increasing Costs

3-10x

Cost of managing storage over the cost to procure^a

\$1.1 billion

Amount organizations will have spent in 2011 on storage^b

Poor Application Performance

80%

The time DBA's spend weekly on disk capacity issues^c

250 hours

The amount of time needed to run "daily" batch processes^d

Manage Risk & Compliance

50%

of firms retain structured data for 7+ years^e

57%

of firms use Back-up for data retention needs^e

(a) Merv Adrian, "Data Growth Challenges Demand Proactive Data Management", November 2009

(b) IDC Worldwide Archival Storage Solutions 2011–2015 Forecast: Archiving Needs Thrive in an Information-Thirsty World, October 2011

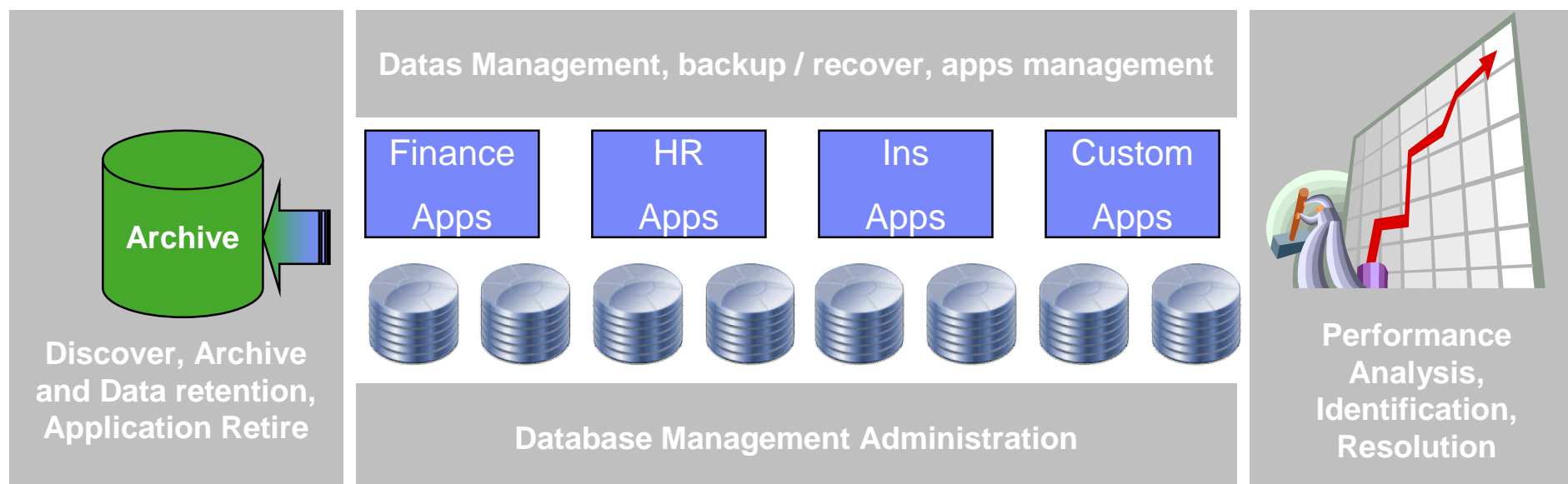
(c) Simple-Talk, "[Managing Data Growth in SQL Server](#)", January 2010

(d) IBM Client Case Study: [Toshiba TEC Europe](#); archiving reduced batch process time by 75%

(e) IDC Quick Poll, 2011

Manage structured data across the Information lifecycle

- A set of run times and integrated tools to discover, store, manage and process structured data across its lifecycle with powerful performance management and optimization tools as part of your data management, records management, data warehouse and OLTP solutions



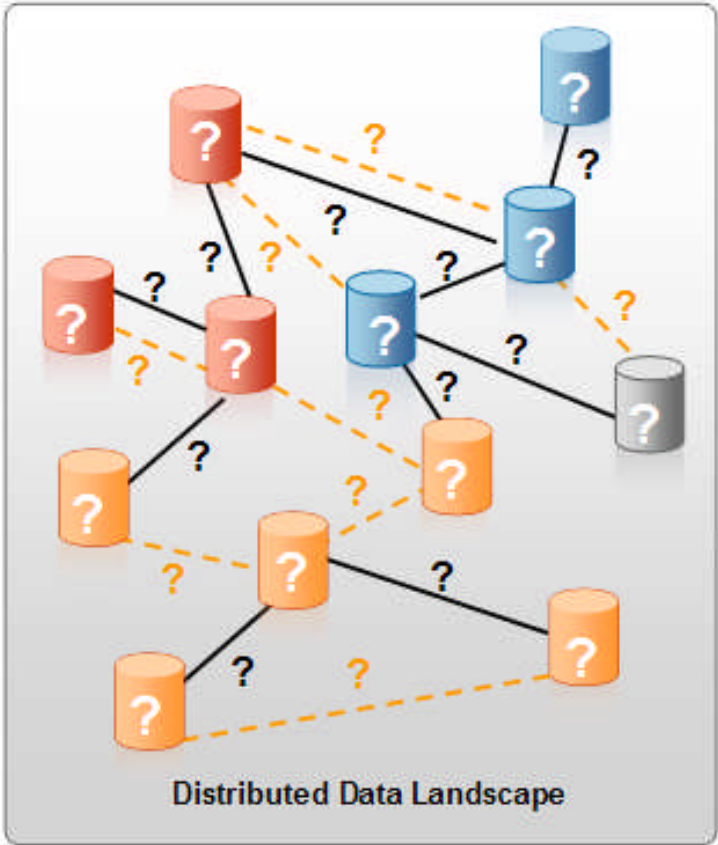
- **The depth and breadth for virtually every business requirement**
 - For information on System z and nearly every other platform
- **Exceed business requirements for the toughest IT challenges such as Compliance, Data Warehousing, Performance Management and more**
- **Deliver increased information availability with improved manageability**

IBM InfoSphere Discovery



Discovery

Accelerate project deployment by automating discovery of your distributed data landscape



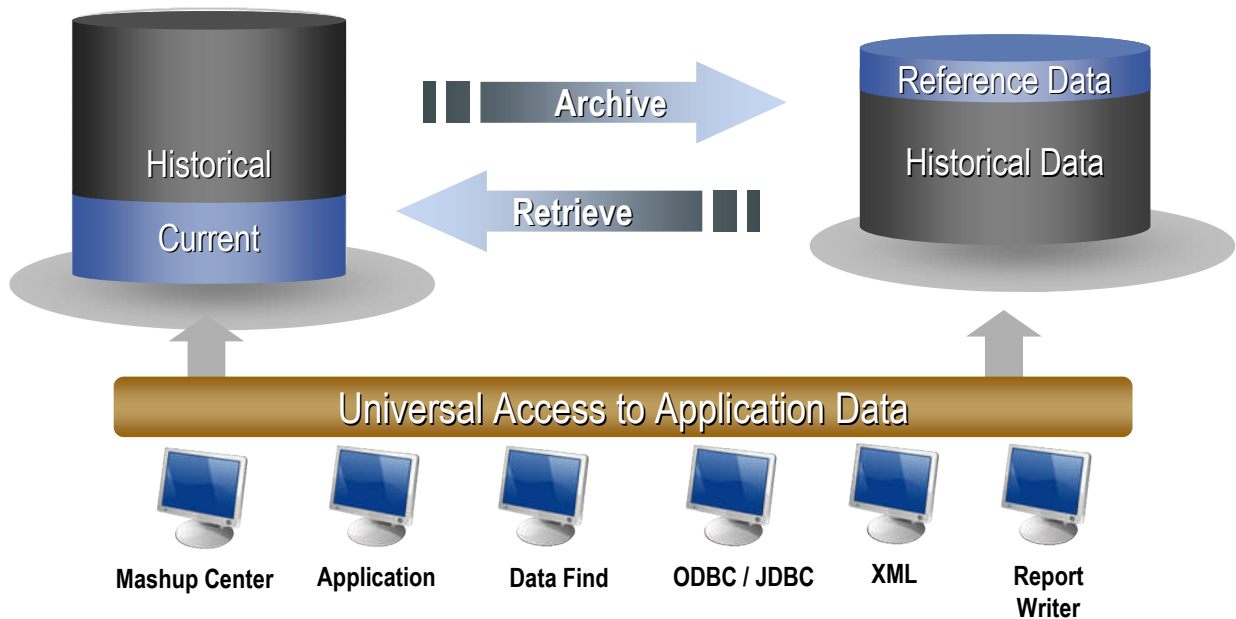
- Requirements
- Define business objects for archival and test data applications
 - Discover data transformation rules and heterogeneous relationships
 - Identify hidden sensitive data for privacy
- Benefits
- Automation of manual activities accelerates time to value
 - Business insight into data relationships reduces project risk
 - Provides consistency across information agenda projects

IBM InfoSphere Optim Data Growth Solution



Data Growth

Manage data growth and improve performance by intelligently archiving historical data



Requirements

- Archive, manage and retain application data according to business policies
- Minimize downtime during application upgrades
- Consolidate application portfolio and retire legacy applications

Benefits

- Reduce hardware, storage and maintenance costs
- Streamline application upgrades and improve application performance
- Safely retire legacy & redundant applications while retaining the data

InfoSphere Optim Data Growth supports data on distributed platforms (LUW) and z/OS.
 Out-of-the-box archiving support for packaged applications available for ERP/CRM solutions:



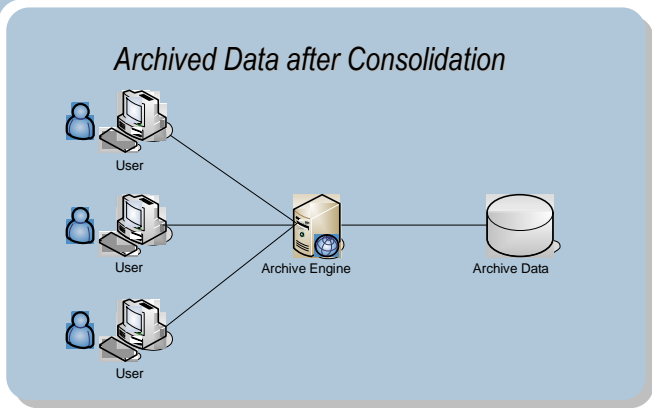
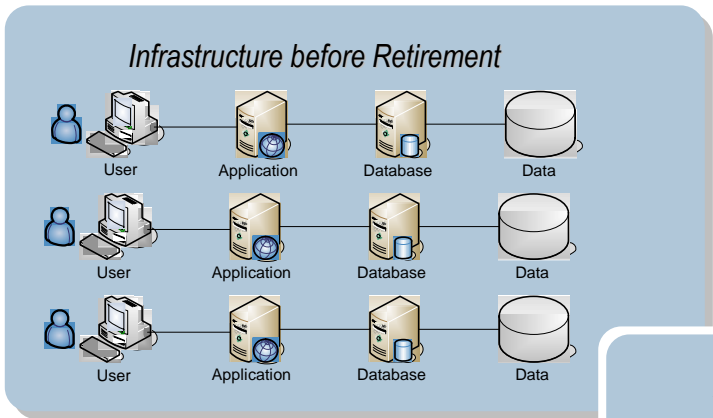


IBM InfoSphere Optim Solution for Application Retirement



Application Retirement

Manage and provide access to application data as part of an application retirement project



Requirements

- Archive, manage and retain application data according to data retention policies
- Provide application independent access to archived data
- Consolidate application portfolio and retire legacy applications

Benefits

- Ensure compliance and access to valuable data
- Safely retire legacy & redundant applications while retaining the data
- Reduce hardware, storage and maintenance costs

Administer and Optimize: DB2 and IMS Tools

Database Administration

- DB2 Administration Tool
- DB2 Object Comparison Tool

- Simplifies complex tasks associated with DB2 objects and schema throughout the lifecycle
- Compare and synchronize different DB2 object while maintaining system availability and object integrity.
- Pulls object definitions from the catalog into a
- Comprehensive set of tools for managing all DB2

Utilities Management

- DB2 Utilities Suite
- DB2 Sort
- DB2 Cloning Tool
- DB2 Recovery Expert

- High-speed sort processing for data stored in DB2
- Quickly automates cloning of DB2 subsystems.
- Self-managing backup and recovery solution that protects mission-critical data
- Recommends options and method to match current situation when time is of the essence.
- Helps disaster recovery - builds assets that can

Performance Management

- OMEGAMON for DB2 Performance Expert (OMPE)
- Query Workload Tuner

- Evaluates efficiency of and optimizes
- Manage and monitor performance of SQL queries and workloads / optimize physical database design and improve performance
- Solve query performance problems by enabling faster and deeper analysis of queries
- Recommendations to maximize application performance, reduce specialized skills, reduce the TCO of DB2 for z/OS® servers

Administration

Comparison Pack
Comparison Pack

Management

Tool Expert

Performance Management

Resolution

Analysis

UGF Assicurazioni

Database query tuning slashes costs and improves performance

The need:

To improve service levels, UGF Assicurazioni wanted to develop best practices for optimizing database queries and workloads. Designing efficient queries and workloads helps deliver high-performance applications, while reducing costs. Query tuning helps to promote new database objects, improve online and batch performance, and validate performance after an application upgrade or extensive modifications.

The solution:

IBM® InfoSphere Optim™ Query Workload Tuner helps reduce costs by automatically targeting problem application queries and recommending ways to address performance issues. UGF Assicurazioni makes extended use of the Workload and the Query Environment Capture functions; the Query, Statistics and Index Advisors; the Dynamic Statements Trace; the Access Plan Graph; Query Annotations; and What-if Analysis.

The benefits:

- Improves online response times and shortens batch processing windows
- Saved 400 processing minutes per hour for one dynamic program and reduced mainframe CPU consumption by 38 percent for a highly used transaction processing (TP) program, resulting in significant cost savings
- Provides a robust repeatable process and expert guidance for tuning database SQL queries and workloads to reduce reliance on special technical skills

“With IBM Optim Query Workload Tuner, we were able to reduce mainframe CPU consumption by 38 percent for a highly used transaction processing (TP) program, resulting in significant cost savings.”

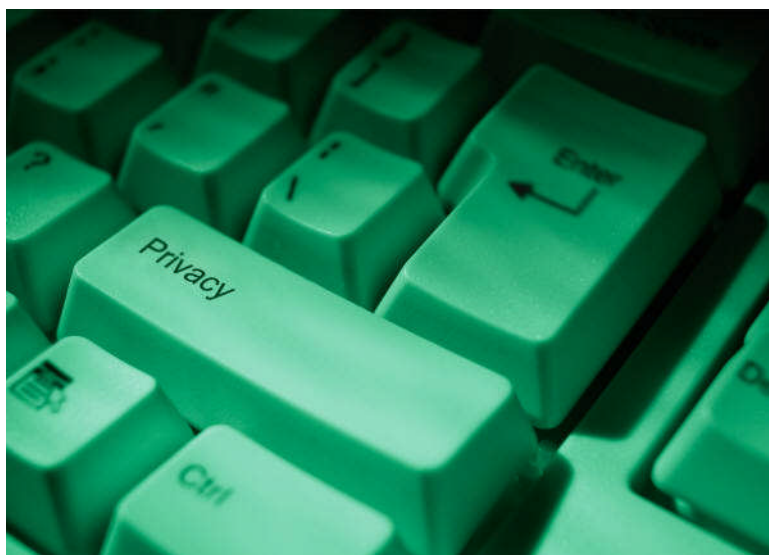
—Roberta Barnabè,
DB2 Specialist, UGF Assicurazioni

Solution components:

- IBM InfoSphere Optim Query Workload Tuner for DB2 for z/OS

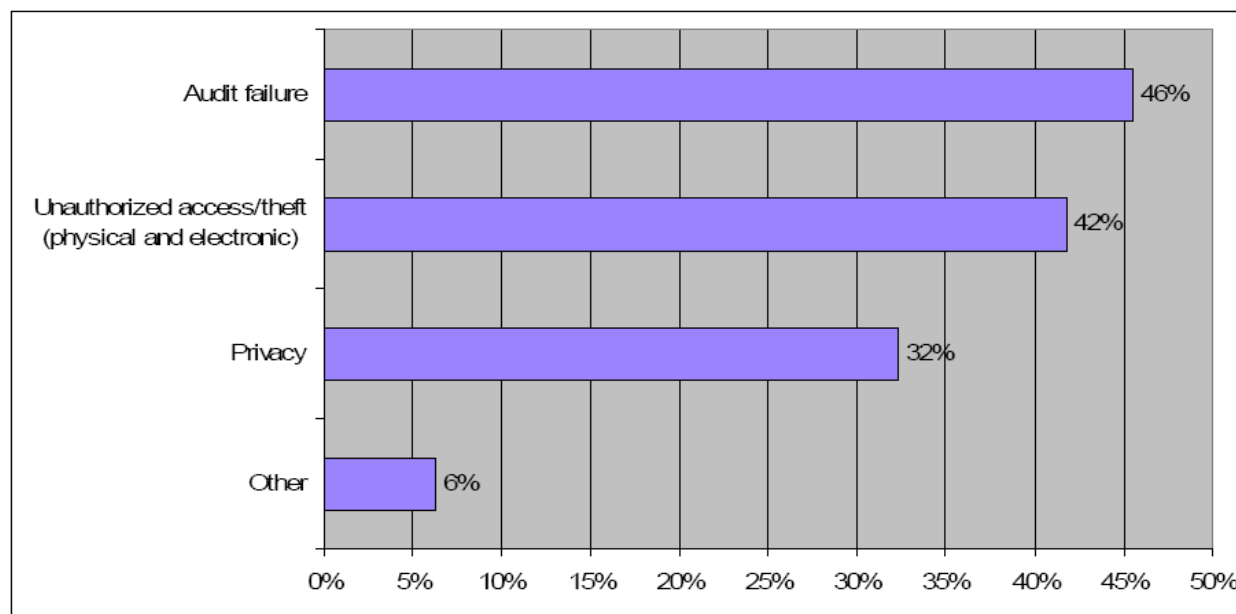


Information Protection Entry Point



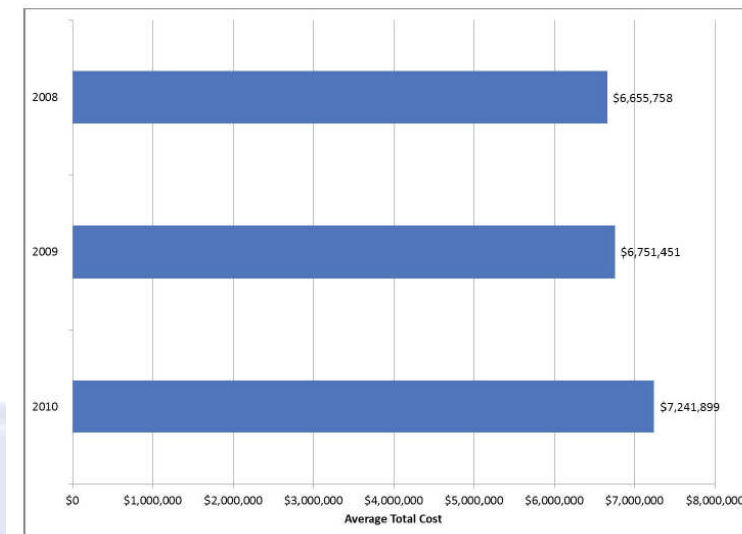
2010 Information Governance Survey

- Specific business problems experienced over past 3 years
 - **Information breaches** (40% of all respondents)
 - Audit failure (almost half)
 - Unauthorized access/theft (42%)
 - Privacy issues (almost one-third)



Data Breaches continuing to increase

- Most expensive data breach event from 2010 study cost a company US\$35.3 million to resolve - least expensive was US\$780,000
- Breach costs avg of \$214 per compromised record - \$141 pertains to indirect cost including abnormal turnover or churn of existing and future customers. Direct costs continue to rise.
- 39% of all cases involved 3rd party mistakes / flubs. Outsourced data to 3rd parties, particularly when offshore were most costly.
- Malicious attacks most expensive \$318 per compromised record a rise for 40% in 2010
- Recommendation : “**Organizations should consider a holistic approach to protecting data wherever it is - at rest, in motion and in use. Manual and policy approaches may come to mind first but are not as effective as a multi-pronged approach that includes automated IT security solutions.**”



Average cost of a data breach in 2010 rises to US\$7.2M

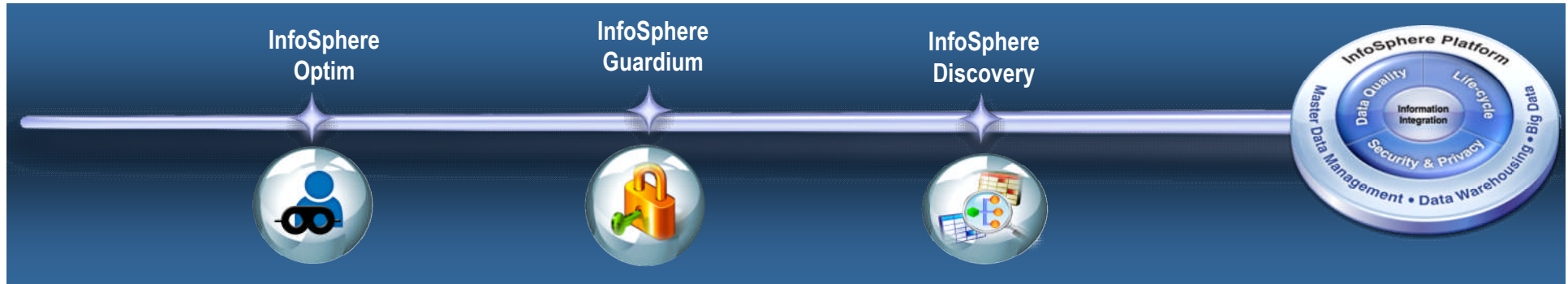
59% increase in cost from 2005 - 2010

Source Ponemon Institute: Sixth Annual US Cost of Data Breach Study - 2010

“Today, database security is a lot more challenging than it was a decade ago largely because compliance requirements are more pressing and more complex. Enterprises are dealing with tougher regulatory compliance requirements such as the Health Insurance Portability and Accountability Act (HIPAA), the Gramm-Leach-Bliley Act (GLBA), the Sarbanes-Oxley (SOX) Act, and the Payment Card Industry Data Security Standard (PCI DSS). In addition, since compliance requirements do not offer guidelines, confusion exists around what needs to be done to make databases more secure in order to comply.”

- Forrester Research, “A New Role Is Emerging Within IT: Database Security Analyst (DSA)”, Noel Yuhanna, 4 April 2008

InfoSphere Platform for Data Security and Compliance



Holistic

Allows you to ...

- ➔ Reduce the cost of compliance
- ➔ Prevent data breaches
- ➔ Ensure data integrity

Scalable

- Customer streamlines testing and protects test data **saving \$240K/year** in administrative costs
- Organizations complete audits **20% faster** saving about **\$50,000** per year
- Monitoring database activity protects data and provides **239% ROI**

Integrated

The Difference

- Completely protects across diverse data types and environments
- Scales across small and large heterogeneous enterprises
- Delivers both processes and technologies

IBM InfoSphere portfolio for data security & compliance



Security & Privacy

<p>Discover Location of Sensitive Data</p> <p><i>Automating the detection of sensitive data and enterprise data relationships</i></p> <p>Strengths:</p> <ul style="list-style-type: none"> ✓ Discover hidden data relationships to define business groupings of data ✓ Automate detection of sensitive data ✓ Reverse engineer transformation logic and prototype data consolidation rules 	<p>Select & mask data in non-production environments</p> <p><i>Right-size test data & Protect sensitive structured data in non-production environments (for dev, testing, offshore dev)</i></p> <p>Strengths:</p> <ul style="list-style-type: none"> ✓ Best practice for selecting & protecting sensitive data and supporting the testing process ✓ Mask information in 1 or many places using realistic values ✓ Reduce impact of internal and external data breaches 	<p>Monitor database activity & assess vulnerabilities</p> <p><i>Provide essential safeguards to protect high value databases across heterogeneous environments</i></p> <p>Strengths:</p> <ul style="list-style-type: none"> ✓ Continuous, real-time database access and activity monitoring ✓ Policy-based controls to detect unauthorized or suspicious activity ✓ Vulnerability assessment, change auditing & blocking 	<p>Encrypt files in database environments</p> <p><i>High performance encryption across structured and unstructured data</i></p> <p>Strengths:</p> <ul style="list-style-type: none"> ✓ Encrypt files with minimal application impact ✓ Separation of duties for role efficiency – DBA vs IT Security ✓ Unified policy and key management for central administration 	<p>Redact unstructured data in documents</p> <p><i>Protect stand-alone or embedded unstructured sensitive data in forms and documents</i></p> <p>Strengths:</p> <ul style="list-style-type: none"> ✓ Support redaction of textual, graphical, and form based data ✓ Increase efficiency via automation and reduce cost of manual redaction ✓ Control the data viewed by each user with policy rules
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Satisfy compliance and regulatory mandates

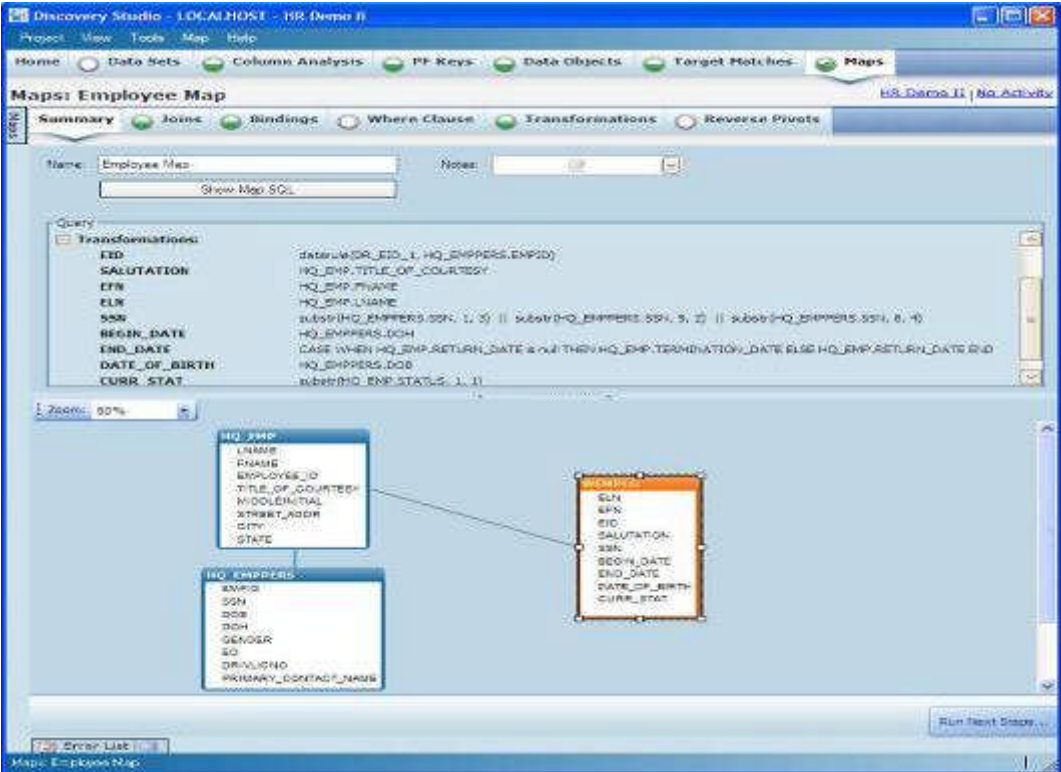
<p>InfoSphere Discovery & InfoSphere Guardium</p>	<p>InfoSphere Optim Data Masking/TDM</p>	<p>InfoSphere Guardium DAM & VA Solution</p>	<p>InfoSphere Guardium Encryption Expert</p>	<p>InfoSphere Guardium Data Redaction</p>
<p>Link to Product Sales Enablement</p>	<p>Link to Product Sales Enablement</p>	<p>Link to Product Sales Enablement</p>	<p>Link to Product Sales Enablement</p>	<p>Link to Product Sales Enablement</p>

IBM InfoSphere Discovery



Discovery

Accelerate project deployment by automating discovery of your distributed data landscape



Requirements

- Define business objects for archival and test data applications
- Discover data transformation rules and heterogeneous relationships
- Identify hidden sensitive data for privacy

Benefits

- Automation of manual activities accelerates time to value
- Business insight into data relationships reduces project risk
- Provides consistency across information agenda projects

IBM InfoSphere Optim Data Masking Solution



Data Masking

De-identify sensitive information with realistic *but fictional* data for testing & development purposes



Personal identifiable information is masked with realistic but fictional data for testing & development purposes.

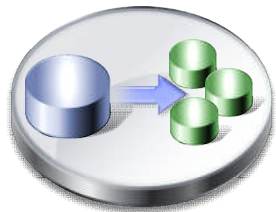
Requirements

- Protect confidential data used in test, training & development systems
- Implement proven data masking techniques
- Support compliance with privacy regulations
- Solution supports custom & packaged ERP applications

Benefits

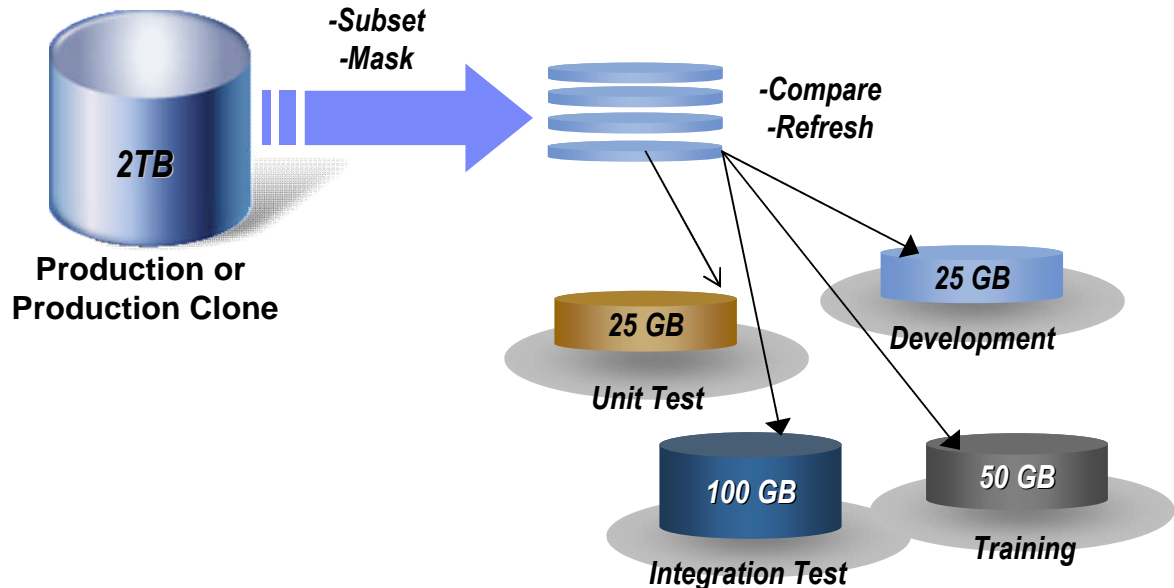
- Protect sensitive information from misuse and fraud
- Prevent data breaches and associated fines
- Achieve better data governance

IBM InfoSphere Optim Test Data Management Solution Integrates with IBM InfoSphere Optim Data Masking



Test Data Management

**Create “right-size”
production-like environments
for application testing**



Requirements

- Create referentially intact, “right-sized” test databases
- Automate test result comparisons to identify hidden errors
- Protect confidential data used in test, training & development
- Shorten iterative testing cycles and accelerate time to market

Benefits

- Deploy new functionality more quickly and with improved quality
- Easily refresh & maintain test environments
- Protect sensitive information from misuse & fraud with data masking
- Accelerate delivery of test data via self service center

InfoSphere Optim TDM supports data on distributed platforms (LUW) and z/OS.

Out-of-the-box subset support for packaged applications ERP/CRM solutions as well as :

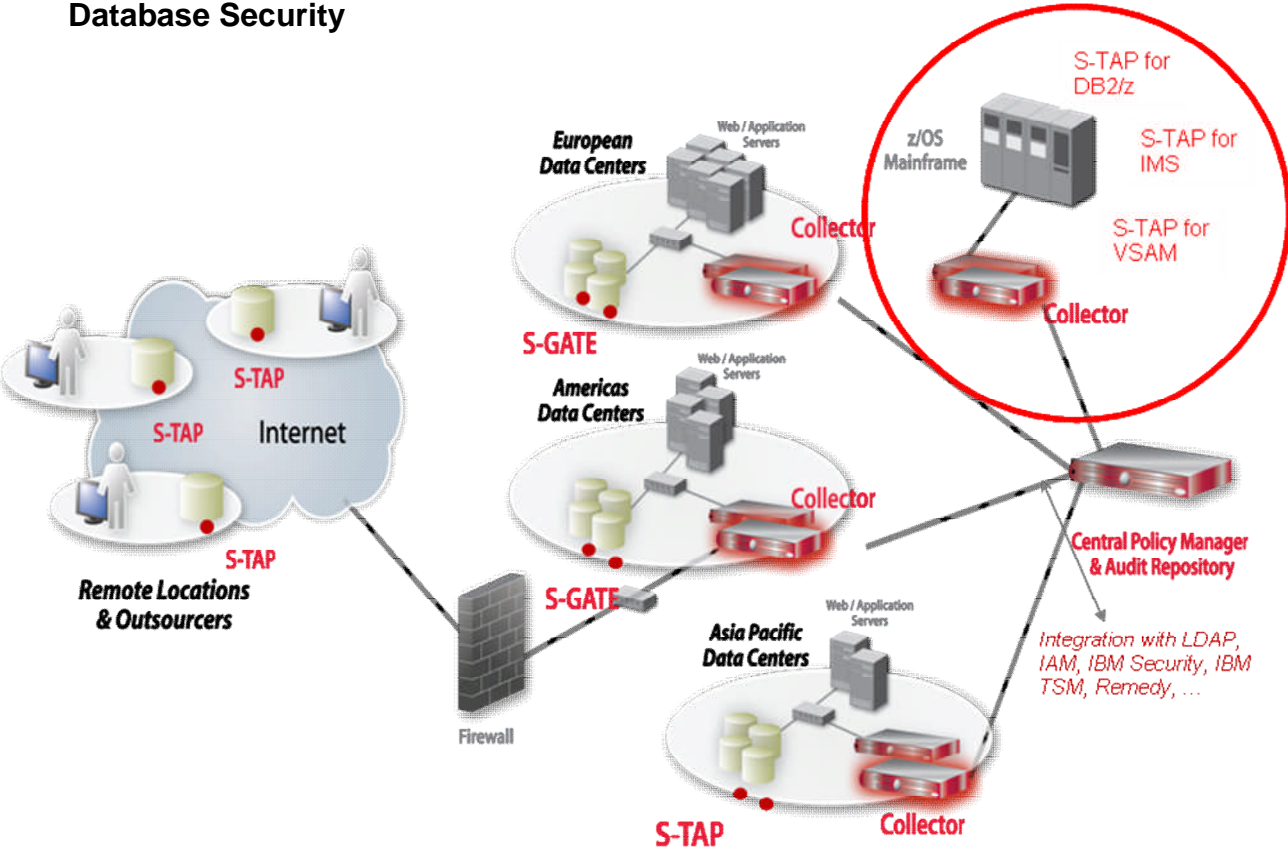


IBM InfoSphere Guardium Database Security



Database Security

Database Protection and Compliance Made Simple



Requirements

- Continuous, real-time database access and activity monitoring
- Policy-based controls to detect unauthorized or suspicious activity
- Vulnerability assessment, change auditing and blocking

Benefits

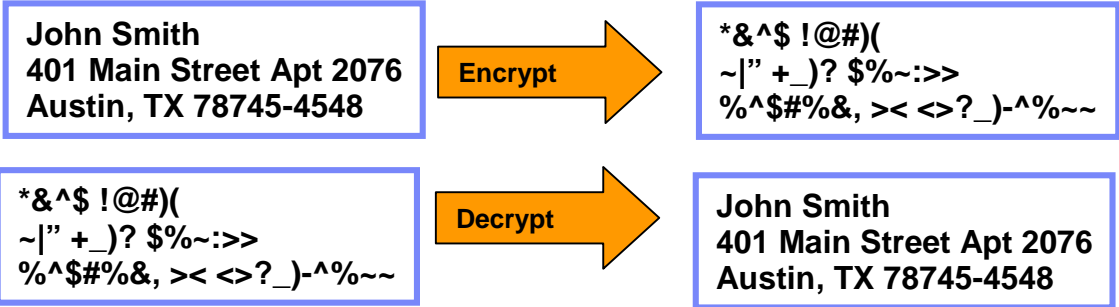
- Assure compliance with regulatory mandates
- Protect against threats from legitimate users and potential hackers
- Minimize operational costs through automated and centralized controls

IBM InfoSphere Guardium Data Encryption



Data Encryption

Ensure compliance and protect enterprise data with encryption



Personal identifiable information is encrypted making it meaningless without a proper key.

Requirements

- Protect sensitive enterprise information and avoid production data breaches
- Minimize impact to applications
- Limit privileged user access to sensitive data

Benefits

- Comply with government and industry regulations (for eg. PCI-DSS)
- Reduce internal and external risk and threat exposure
- Proactively enforce separation of duties

IBM InfoSphere Guardium Data Redaction



Data Redaction

Protect sensitive unstructured data in documents and forms

Finresearch LLC
934 Fifth Ave
New York, NY 00124

September 19, 2008

James McDonald CEO
Financial National Bank
111 Massachusetts Ave
Boston MA 02140

Re: Preliminary Anti-Trust Pre-Acquisition Investigation

Finresearch LLC has conducted research of the market and legal situation in preparation for an acquisition of Northern Investments Inc. by Financial National Bank Inc., scheduled for Jan. 21, 2009. The assignment was to determine the risk of civil and/or criminal action from the Attorney General of the United States under Section 15 of the Lombard Act, 15 U.S.C. § 19 to enjoin the acquisition of Northern Investments. We were asked to assess if such an acquisition would substantially affect competition in the housing

Before

[Organization]
[Address]
[Address]
[Date]

[Person] [Orga...]
[Organization]
[Address]
[Address]

Re: [Organization] Pre-Acquisition Investigation

[Organization] has conducted research of the market and legal situation in preparation for an acquisition of [Organization] [Orga...]
[Person] by [Organization], scheduled for [Date].
The assignment was to determine the risk of civil and/or criminal action from the Attorney General of the [Location] under Section 15 of the Lombard Act, 15 U.S.C. § 19 to enjoin the acquisition of Northern Investments. We were asked to assess if such an acquisition would substantially affect competition in the housing

After

Requirements

- Protect unstructured data in textual, graphical and form based documents
- Control data views with user role policies
- Automate batch workflow process with optional human review

Benefits

- Prevent unintentional data disclosure
- Comply with regulatory and corporate compliance standards
- Increase efficiency and reduce risk via automation

Large WW financial institution addresses compliance

■ Challenge

- Address vulnerabilities in financial applications
- Needed enterprise-wide data security solution / fulfill emerging compliance requirements.
- Immediate focus on Sarbanes-Oxley Compliance (SOX) for critical financial application databases in both mainframe and distributed environments.
- Monitor privileged user activity, alerts on anomalies, generate audit reports to meet compliance

■ Solution

- Roll out of over 200 appliances of IBM InfoSphere Guardium (distributed and z/OS)

■ Benefits

- Support of compliance with SOX and other requirements.
- Proactively identified unauthorized or suspicious activities by continuously tracking all database actions – without impacting performance or modifying application databases.
- Detected / blocked unapproved activity by DBAs, developers and outsourced personnel without relying on native logs, triggers or other DBMS-resident mechanisms.
- Simplified audit with preconfigured reports and automated oversight workflows (electronic sign-offs, escalations, and so on).
- Ensure data governance by preventing unauthorized changes to critical database values or structures.
- BVA identified 5 year pay back period

European Bank

Improves delivery of reliable business applications & supported expanded international operations

Business challenge:

The bank wanted to implement a new testing methodology that focused on improving quality of its applications. Mainly industrializing the creation and management of testing environments, implementing a data masking solution and protecting sensitive data.

Solution:

IBM® provided the set of critical tools, Optim suite for the bank's data management team. It helps the bank migrate data from other systems and to mask data for testing. The main capabilities of the suite is to right-size test databases, refreshing and maintenance of production-like test environments and implementation of pre-defined masking techniques to support privacy regulations. The bank's implementation of IBM Optim automated the process of creating subsets of data for several accounts in minutes rather than hours.

Benefits:

- It enabled the bank to deliver reliable business applications and support its expanding retail, banking and insurance operations across international boundaries.
- It helped optimization of storage requirements, with small but realistic subsets, and the development of off-shoring activities with appropriate data masking.

Solution components:

- Information Management: Optim Data Masking Solution, Optim Data Masking Solution (z/OS)
- Optim Data Masking Solution for Siebel Customer Relationship Management
- Optim Test Data Management Solution, Optim Test Data Management Solution (z/OS)
- Optim Test Data Management Solution for Siebel Customer Relationship Management

Agenda

- **The challenges and pressure on business data today**
- **Information Governance and the Market place**
- **Entry points to address your most pressing Information Governance needs**
- **Call to action Summary**

Summary

- **Take Back Control with IBM Information Governance solutions on System z:**
 - Transform your information from a Liability into your most strategic, valuable Asset
 - Help manage business risk by enforcing security, audit, privacy and policy controls
 - Lower operational costs by optimising data management, retention and archiving
 - Increase profitability by identifying more up-sell and cross-sell opportunities
 - Increase management's confidence through more informed decisions and BI based on quality and more complete data
 - Increase customer satisfaction and retention through better customer profiling
- **Software, Hardware and Expertise.**
 - Information Management - the comprehensive end-to-end Information Governance software solutions
 - System z - the ultimate platform to govern your enterprise data
 - IBM Industry Data Models as a fast-start, best practice and help with industry compliance
 - Business value driven ROI and assessment tools to build strong business case
 - GBS - Expertise and skills from IG readiness assessments to solution implementation

Useful urls

- **The 2010 Information Governance Market report**
 - ftp://public.dhe.ibm.com/software/os/systemz/IBM_Information_Governance_Survey_Report.pdf
- **The 2010 Information Governance Market report webcast highlights**
 - www-01.ibm.com/software/os/systemz/webcast/infogov/
- **Information Governance Community**
 - www.infogovcommunity.com
- **Ponemon Institute reports**
 - <http://www.ponemon.org/data-security>
- **Information Governance Webpage – products, webcasts and papers**
 - www.ibm.com/software/data/db2imstools/solutions/data-governance.html

Thank
YOU

The text 'Thank YOU' is rendered in large, 3D, light blue letters. Each letter contains a different portrait of a diverse individual. The 'T' shows a man in a suit and tie. The 'h' shows a woman in a green top. The 'a' shows a man with a green face. The 'n' shows a man in a blue shirt. The 'k' shows a man with glasses. The 'Y' shows a man in a blue shirt. The 'O' shows a man in an orange shirt. The 'U' shows a woman in a green top. The letters have a slight shadow and are set against a white background.

■ Challenges:

- Building Society initiated its core banking platform transformation project. They needed to:
- Manage data in a secure environment across its SAP core banking platform.
- Automate auditing capabilities across the SAP Core Banking platform environment, replacing the native mainframe auditing capabilities that were no longer practical.

■ Solution:

- InfoSphere Guardium DAM for z/OS
- Tivoli Security Management for z/OS

■ Benefits:

- Risk Mitigation – InfoSphere Guardium for z/OS lowers risk to help ensure that the financial and business data cannot be accessed or used inappropriately.
- Automated and simplified the audit and compliance process by providing a practical approach for monitoring & auditing.
- Ability to prove to authorities that the information is being managed in a secure and cost-effective manner.
- Optimize performance by avoiding database logs & manual generation of compliance reports

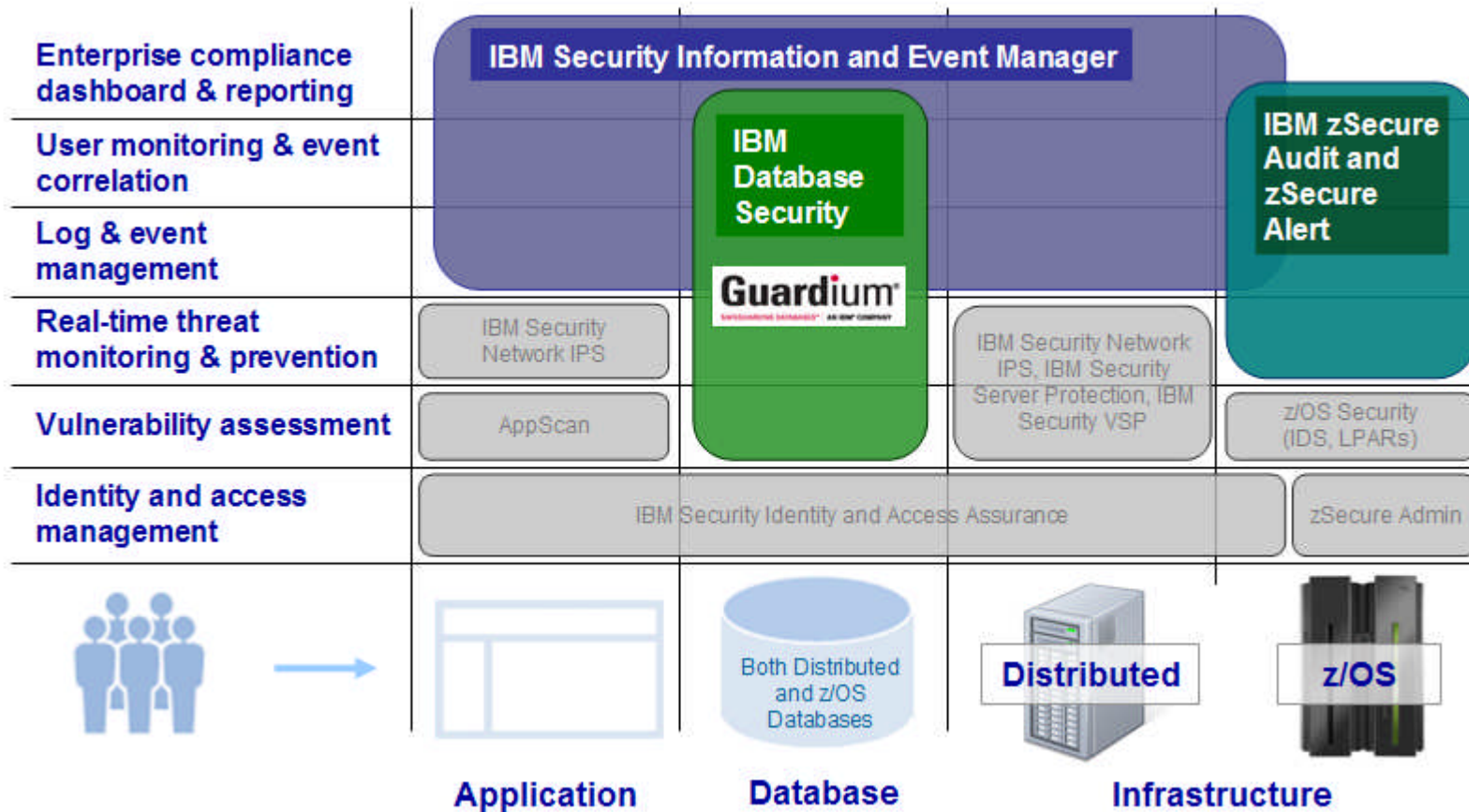
Why IBM:

- *Guardium is fully complementary to other security technologies, such as Tivoli Security Management for z/OS.*
- *Guardium is used to rapidly identify unauthorized activities on DB2 for z/OS such as a SysAdmin or DBA viewing or changing sensitive data.*
- *Guardium is also used to collect and securely store a granular audit trail of all database activities (who, what, when, where, how) for compliance reporting, investigations and forensics.*
- *IBM was the only vendor that could satisfy their requirements for z/OS*
- *A Proof of Technology was an element in proving out the InfoSphere Guardium solution, and the IBM Sales team hosted a technical deep dive.*
- *The Building Society wanted to support security compliance requirements and improve its business operations.*

■ US Laws

- Financial data → Fair and Accurate Credit Transactions Act (FACTA), Federal Financial Institutions Examination Council (FFIEC) standards for online banking
- Data relating to minors → Children's Online Privacy Protection Act (COPPA),
- Health information → the Health Insurance Portability and Accountability Act (HIPAA)
- Health Information Technology for Economic and Clinical Health Act (HITECH)
- State-by-state regulation, e.g., breach disclosure laws

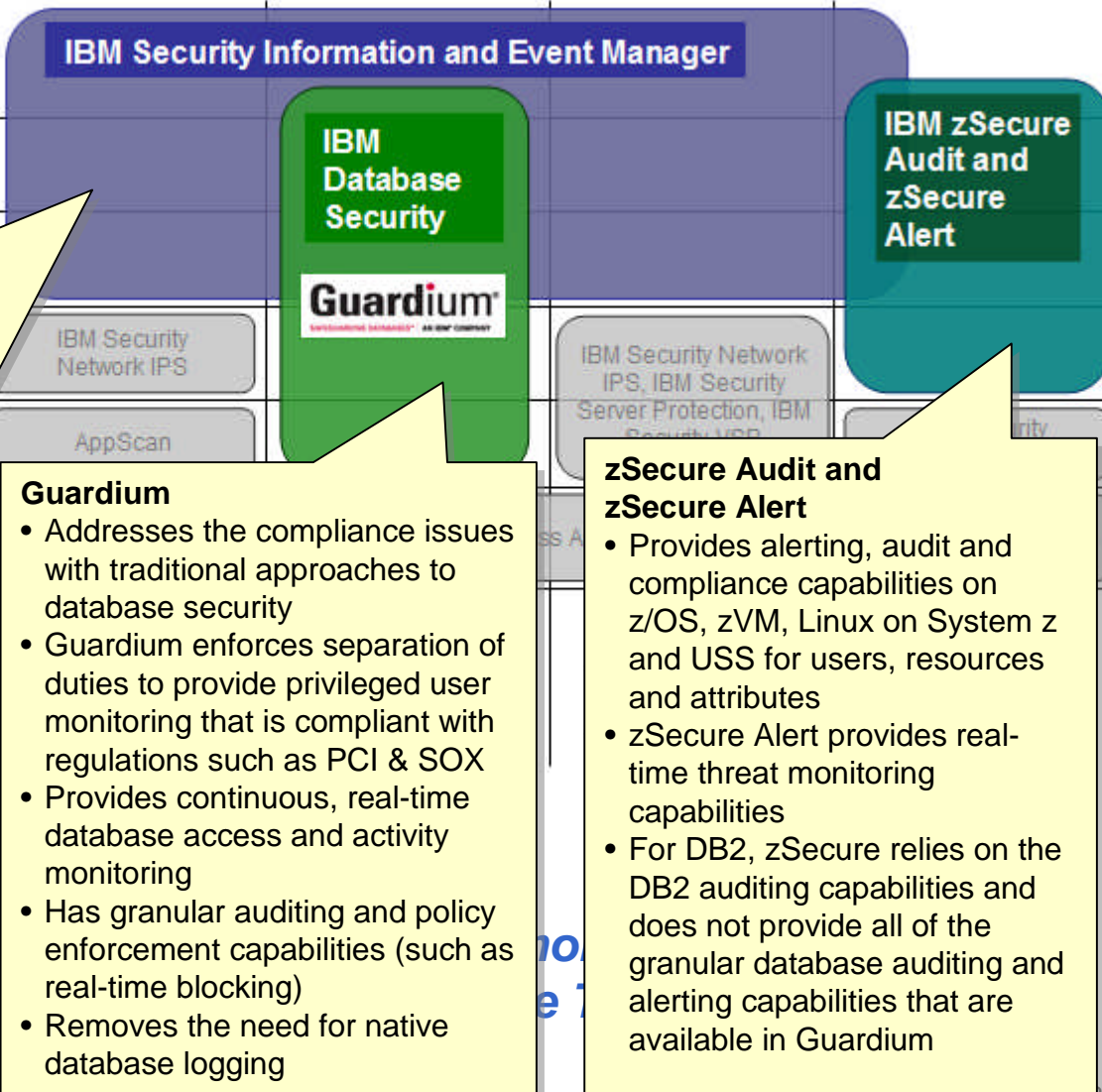
TSIEM, Guardium and zSecure are Complementary Products



Enforce Policy, Demonstrate Compliance, Manage Threats

TSIEM, Guardium and zSecure are Complementary Products

Enterprise compliance dashboard & reporting



TSIEM

- Integrates the audit picture for the entire enterprise (mainframes and distributed systems)
- For databases, it only monitors the database logs
- Integration between TSIEM and Guardium enables TSIEM to provide a single dashboard to monitor the complete enterprise
- Does have some mainframe support, but it doesn't go as deep and is not as detailed as zSecure Audit and zSecure Alert
- Also, there is integration with zSecure to provide support for the event source on z/OS

Guardium

- Addresses the compliance issues with traditional approaches to database security
- Guardium enforces separation of duties to provide privileged user monitoring that is compliant with regulations such as PCI & SOX
- Provides continuous, real-time database access and activity monitoring
- Has granular auditing and policy enforcement capabilities (such as real-time blocking)
- Removes the need for native database logging

zSecure Audit and zSecure Alert

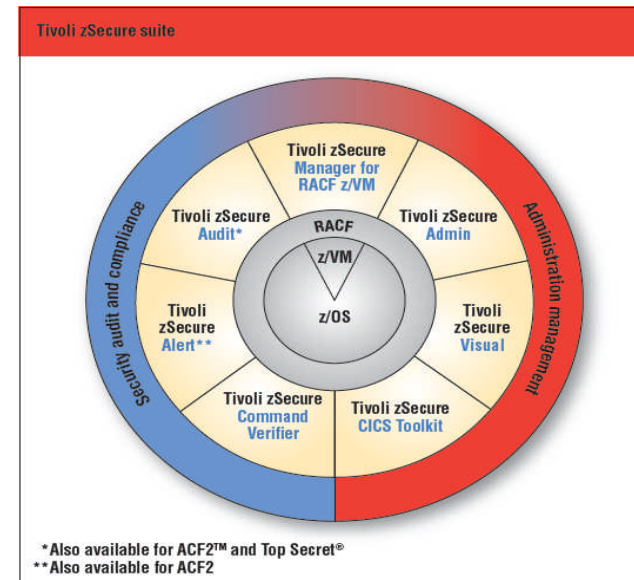
- Provides alerting, audit and compliance capabilities on z/OS, zVM, Linux on System z and USS for users, resources and attributes
- zSecure Alert provides real-time threat monitoring capabilities
- For DB2, zSecure relies on the DB2 auditing capabilities and does not provide all of the granular database auditing and alerting capabilities that are available in Guardium

Tivoli zSecure Suite

The zSecure Suite adds a user-friendly layer onto the mainframe that enables superior administration coupled with audit, alert and monitoring capabilities for z/OS Resource Access Control Facility (RACF)

Key Features

- The zSecure suite improves mainframe security, improves the efficiency of administration and enhances the ability for the mainframe to be the hub of enterprise security.
- Administration and provisioning:
 - **Admin** enhances security administration and user management for RACF
 - **Visual** offers a Windows GUI to RACF
 - **CICS Toolkit** for Extensibility with CICS support
- Audit, monitoring and compliance:
 - **Command Verifier** offers automated security monitoring, protection
 - **Alert** provides intrusion detection and alerting.
 - **Audit** provides event detection, analysis & reporting and system integrity audit & analysis



Benefits Summary

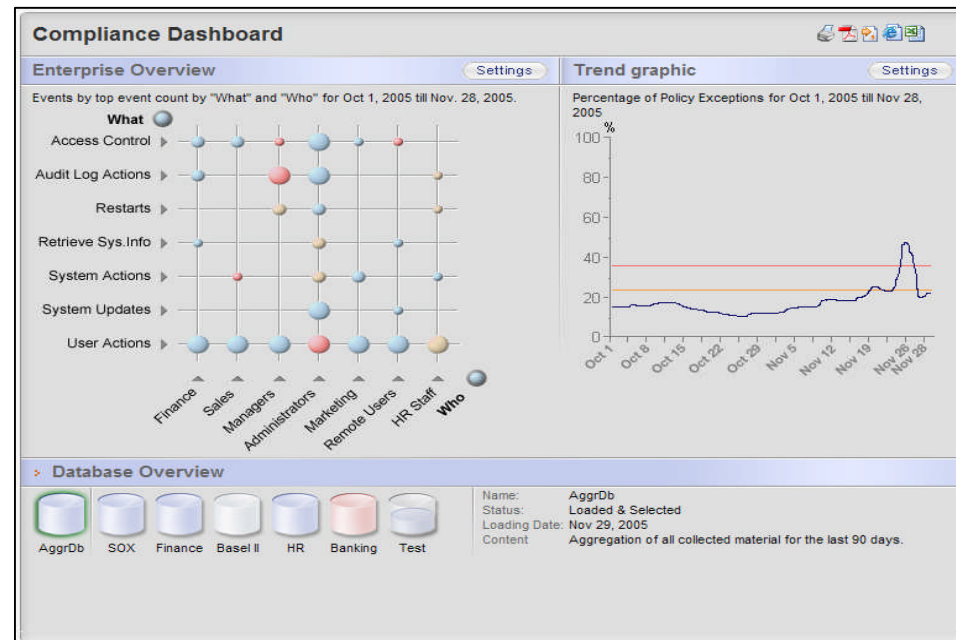
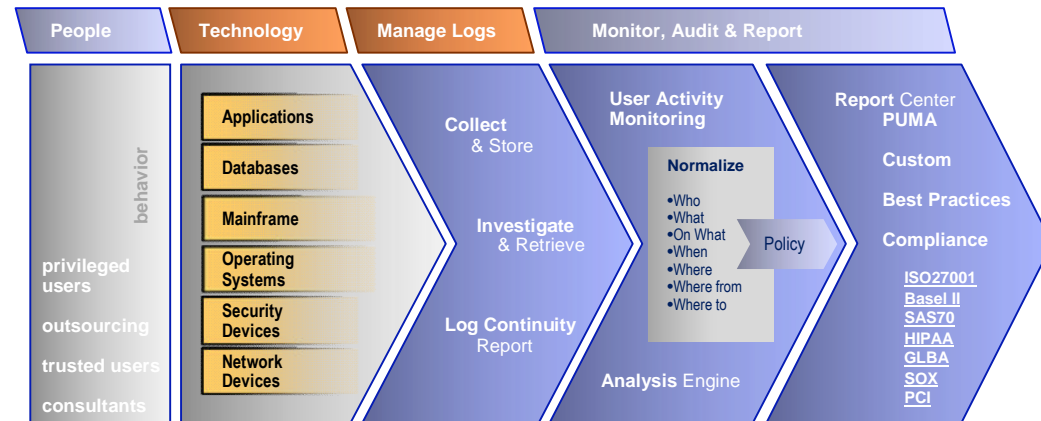
- Administration and provisioning:
 - Reduce administration time, effort and cost
 - Enable de-central administration
 - Quick response time, enabling business
 - Reduce training time needed for new administrators
- Audit, monitoring and compliance:
 - Pass audits more easily, improve security posture
 - Save time and costs through improved security and incident handling
 - Increase operational effectiveness

Tivoli Security Information and Event Manager

Tivoli Security Information and Event Manager provides a single, integrated product that delivers insider threat, audit and compliance.

Key Features

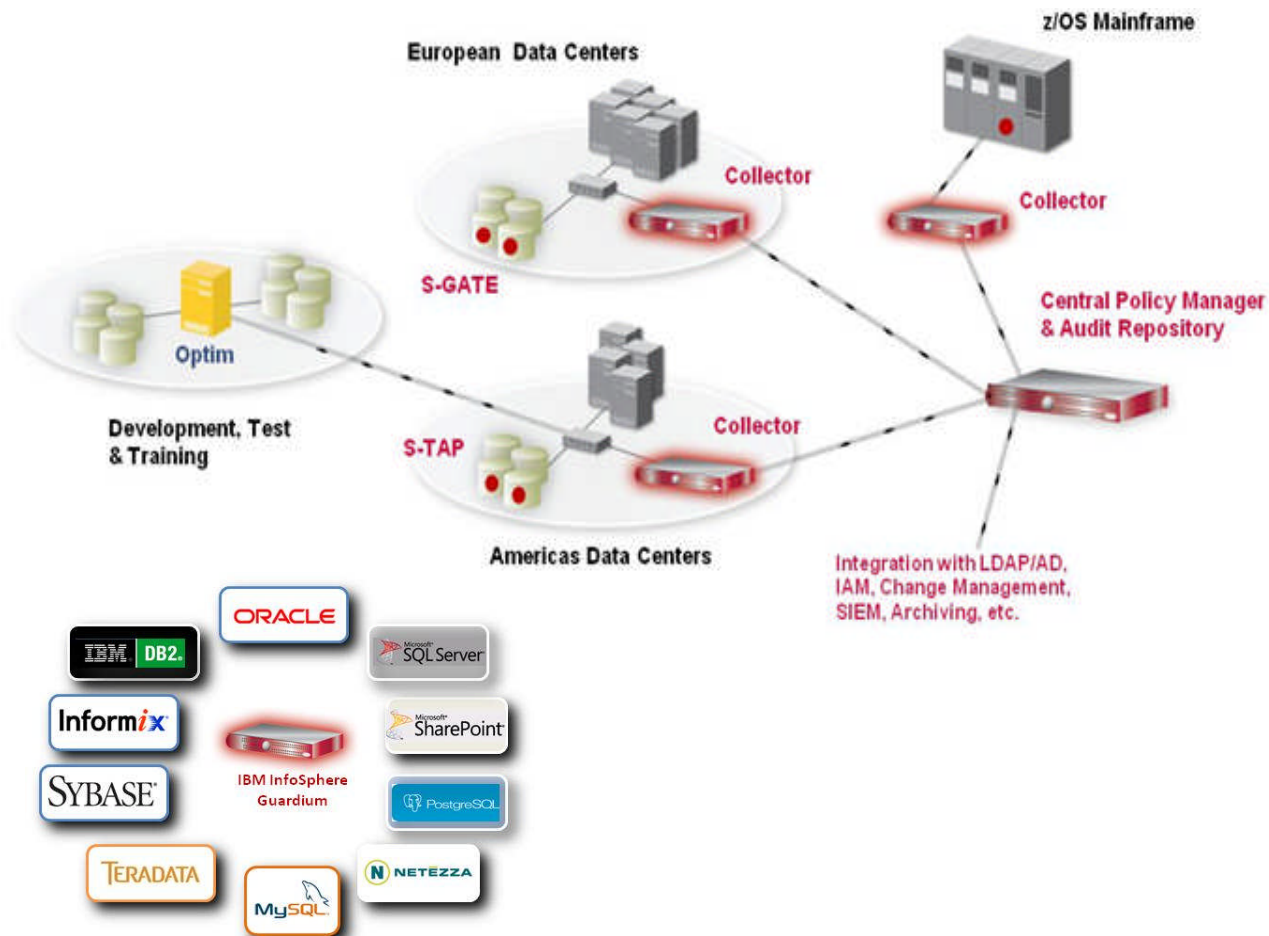
- Single, integrated product
- Log Management Reporting
- Unique ability to monitor user behavior
- Enterprise compliance dashboard
- Compliance management modules and regulation-specific reports
- Broadest, most complete log and audit trail capture capability
- W7 log normalization translates your logs into business terms
- Easy ability to compare behavior to regulatory and company policies
- Multi-tenancy support through scoping



IBM Guardium – Real-Time Database Security & Compliance



Guardium provides continuous, real-time monitoring of all database activities, including actions by privileged users such as DBAs, developers & outsourced personnel



Key Features

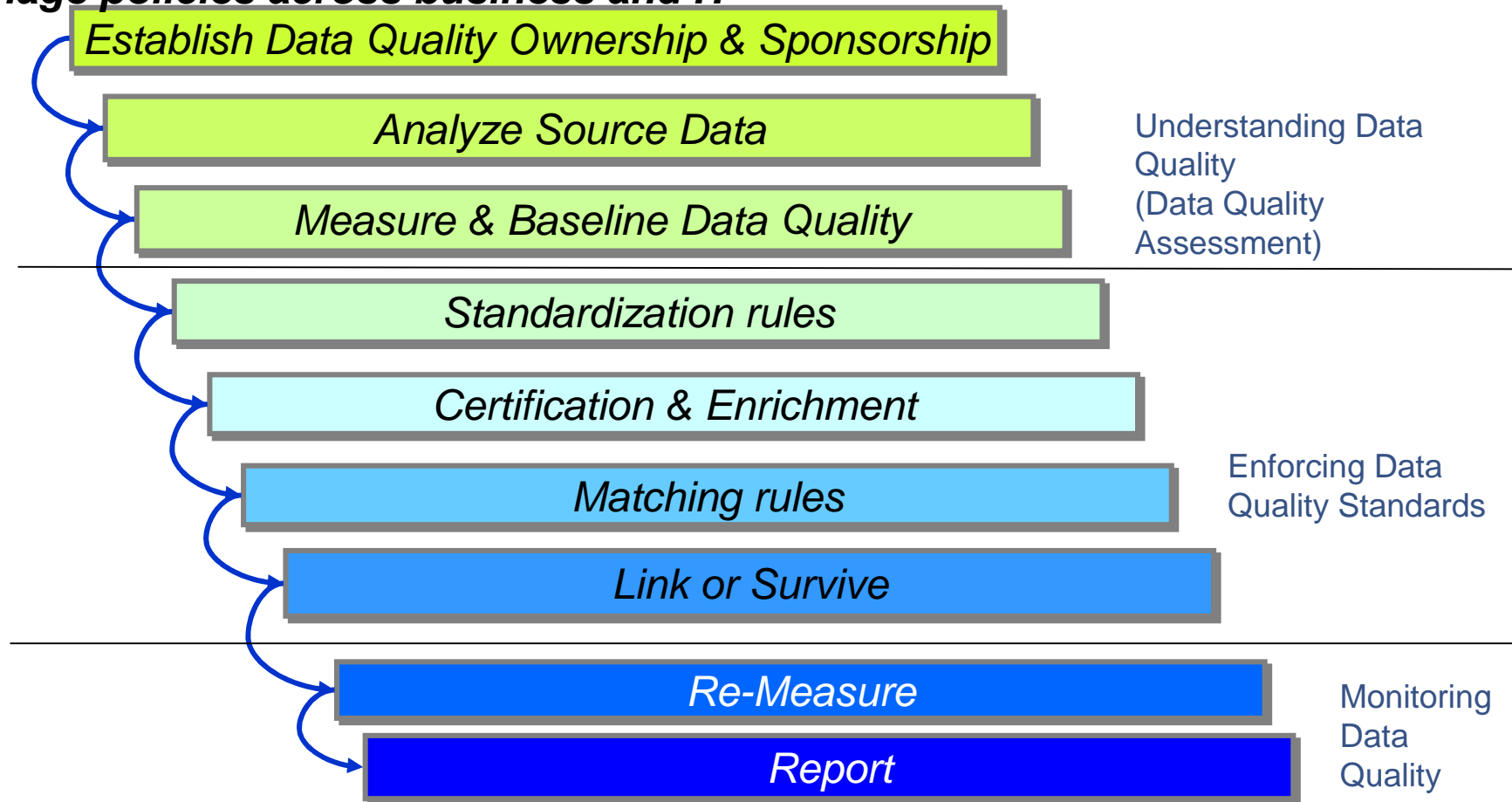
- Non-invasive, cross-platform architecture
- Continuous, real-time monitoring & auditing
- Detect or block unauthorized & suspicious activity
- Identify database vulnerabilities such as misconfigured privileges
- Granular, real-time policies
 - *Who, what, when, how*

Benefits Summary

- Protect against data breaches & fraud; mitigate both insider & external threats
- Assure data governance by preventing unauthorized changes to critical enterprise data (SAP, PeopleSoft, etc.)
- Reduce compliance costs through automated, centralized & standardized controls

Process For Information Quality Management and Stewardship

- **An integrated platform to understand, cleanse, transform and deliver information in a consistent and consumable way across all your business applications. Enables data Stewards to drive and manage policies across business and IT**



Identify Sensitive Data

Why is Sensitive Data Discovery so Data Difficult?

Sensitive Relationship Discovery

System A Table 1		System A Table 15		
Number	Name	Patient	Result	Test
3544600986	AlexFulltheim	3802468	N	53
5728150928	BarneySolo	4182715	N	53
3786736304	BillAlexander	4600986	N	32
6783802468	BobSmith	5061085	N	53
4035567193	EileenKratchman	5567193	N	72
8037409934	FredSimpson	6123913	Y	47
4306123913	George Brett	6736304	N	34
9525061085	JamieSlattery	7409934	N	34
4594182715	JimJohnson	8150928	N	47
1288966020	MartinAston	8966020	N	34

System Z Table 25	
Test	Name
53	Streptococcus pyogenes
72	Pregnancy
32	Alzheimer Disease
47	Hemorrhoids
34	Dermatamycoses

- **Sensitive data can't be found just by a simple data scan.**
 - Must connect tables and lookup tables
 - Hidden within larger fields (substring)
 - Hidden across fields (concatenations)
 - Represented differently (lookup tables and case statements)

- **“Corporate memory” is poor**
 - Documentation is incomplete
 - SME's and Data Analysts are only knowledgeable of one or two systems
 - Proprietary data model with vendor products

- **Hundreds of tables and millions of rows:**
 - Complex
 - Difficult to verify

- **Data quality problems make discovery even more difficult**

Sensitive Data Discovery - InfoSphere Discovery

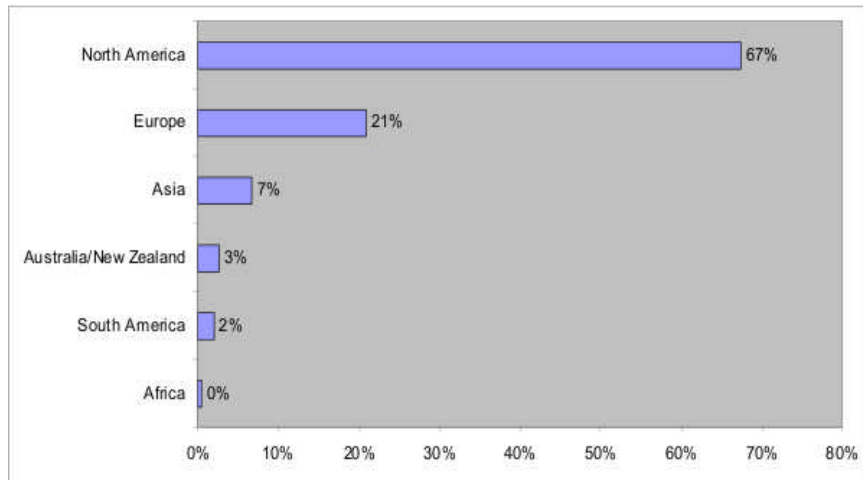
- **Common PII data element discovery**
 - Pre-Defined Scanning
- **Custom sensitive data discovery**
 - Supply Discovery with “descriptions/examples”
 - *Patterns*
 - *Data examples.*
 - Discovery will scan for matching columns
- **Hidden sensitive data discovery**
 - Sensitive data embedded in free text columns
 - Scan by “floating” patterns
 - Sensitive data that is partial or hidden
 - Use Transformation Discovery to find data that are “transformed”

What is the Market Doing?

- **Market intelligence survey :**
 - Understand / validate :
 - market perceptions around information governance
 - customer priorities
 - business and IT value of Information Governance
 - where customers are investing through 2010 and 2011
 - Information Protection, Information Quality, Information Lifecycle
 - barriers to adoption
 - plans to implement and more...
- **Contracted with 3rd party vendor**
 - Hosted the survey between March and May 2010
 - Performed the analysis and produced the market report

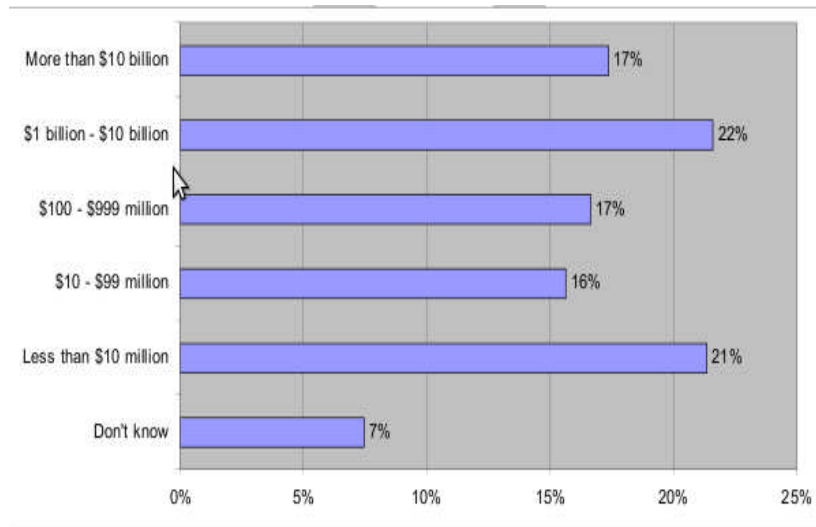
IBM 2010 Information Governance Study

407 Organizations Surveyed Worldwide



Regional break down

- North America 67% (92% of those from the U.S. = 62% of total)
- Europe 21%, Asia 7%
- 3% each from AUS/NZ, South America, and Africa

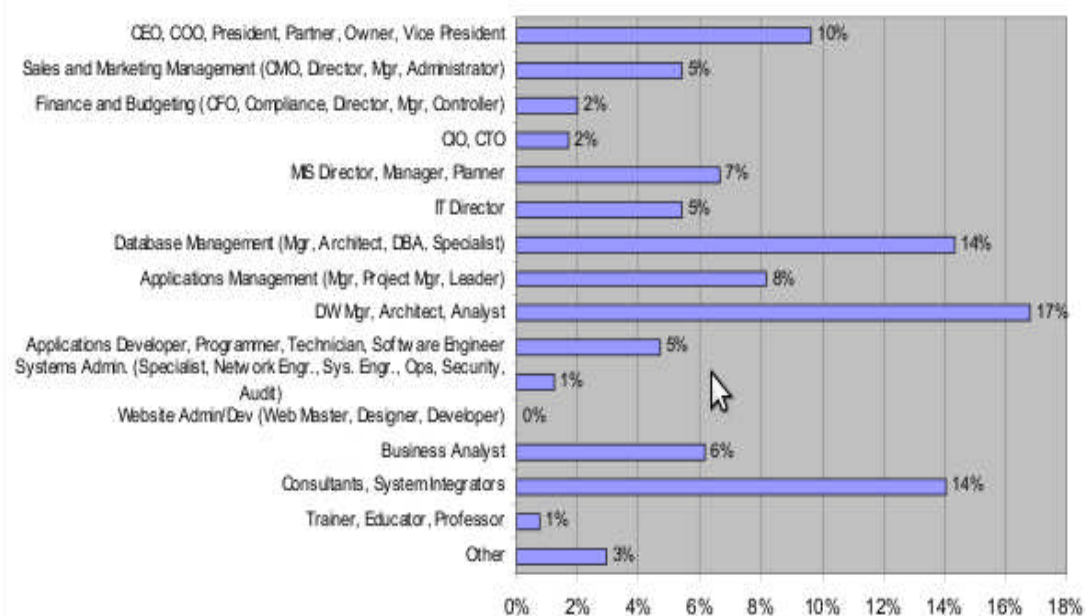
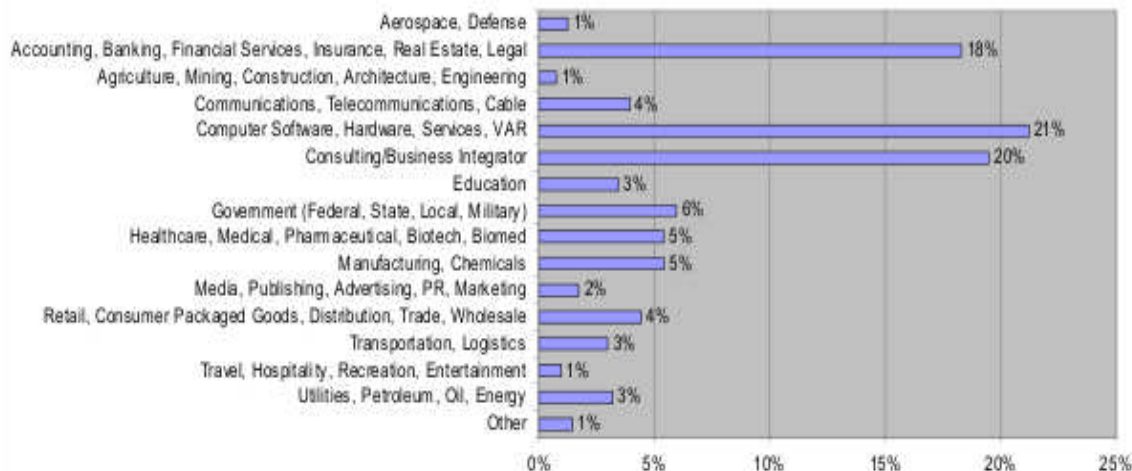


Organization Size (revenue)

- Equal participation of companies
- Information Governance relevant to all

IBM 2010 Information Governance Study

Industries and Roles



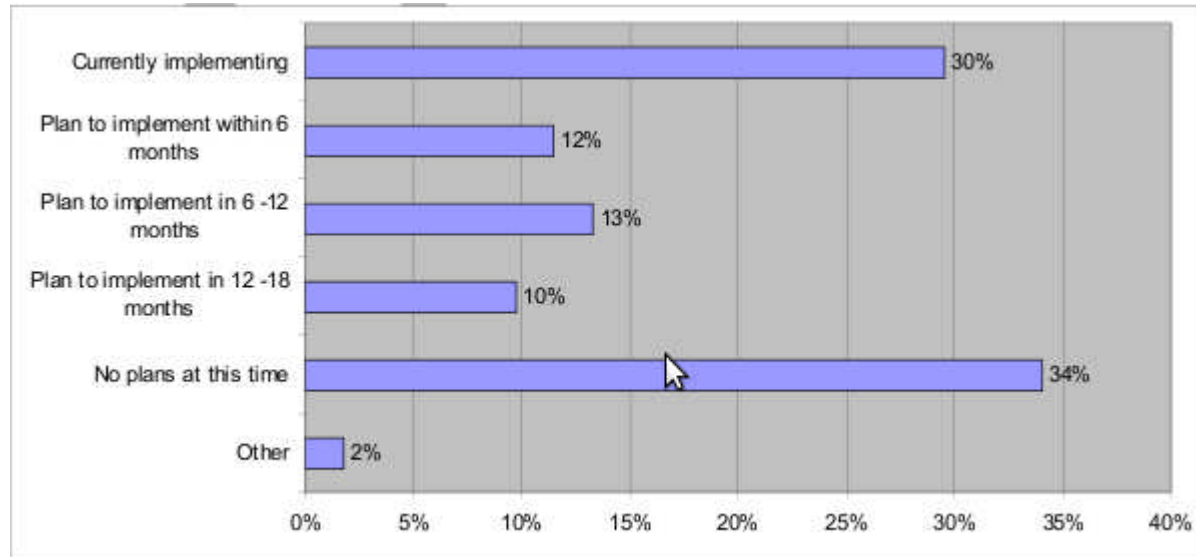
Primary industries

- Computer SW, HW, services/VAR 21%
- Consulting/business integrator 20%
- Accounting, banking, financial services, 18%
- Government, healthcare, mfg, others 6% or less each

Most popular job titles

- Over 60% are in four job areas
 - Top management (Pres, C*, Dir, etc.) >17%
 - Data warehouse positions 17%
 - Database mgt 14%
 - Consultant/integrator 14%

Planning to Implement an Information Governance Program

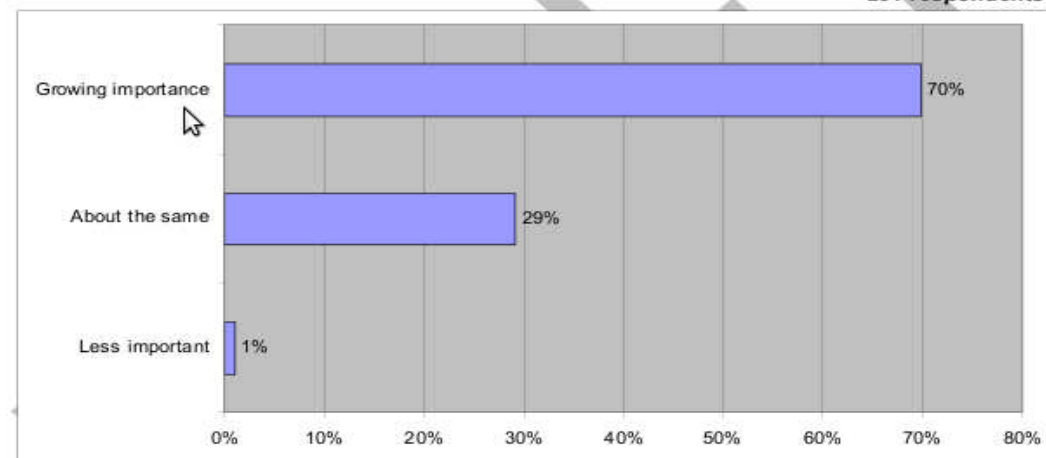


>66% currently implementing or planning to do so in next 18mths

24. How you see the importance of information governance changing over the next 3 to 5 years in relation to business success within your organization?

291 respondents

99% IG will grow in importance or remain the same



Information Governance – holistic management of data.

Information governance is the orchestration of **people, process and technology** to enable an organization to leverage information as an enterprise asset.

Information Governance safeguards information, keeps auditors and regulators satisfied, uses improved data quality to improve customer satisfaction, lower business risk retain customers and constituents and drive new opportunities

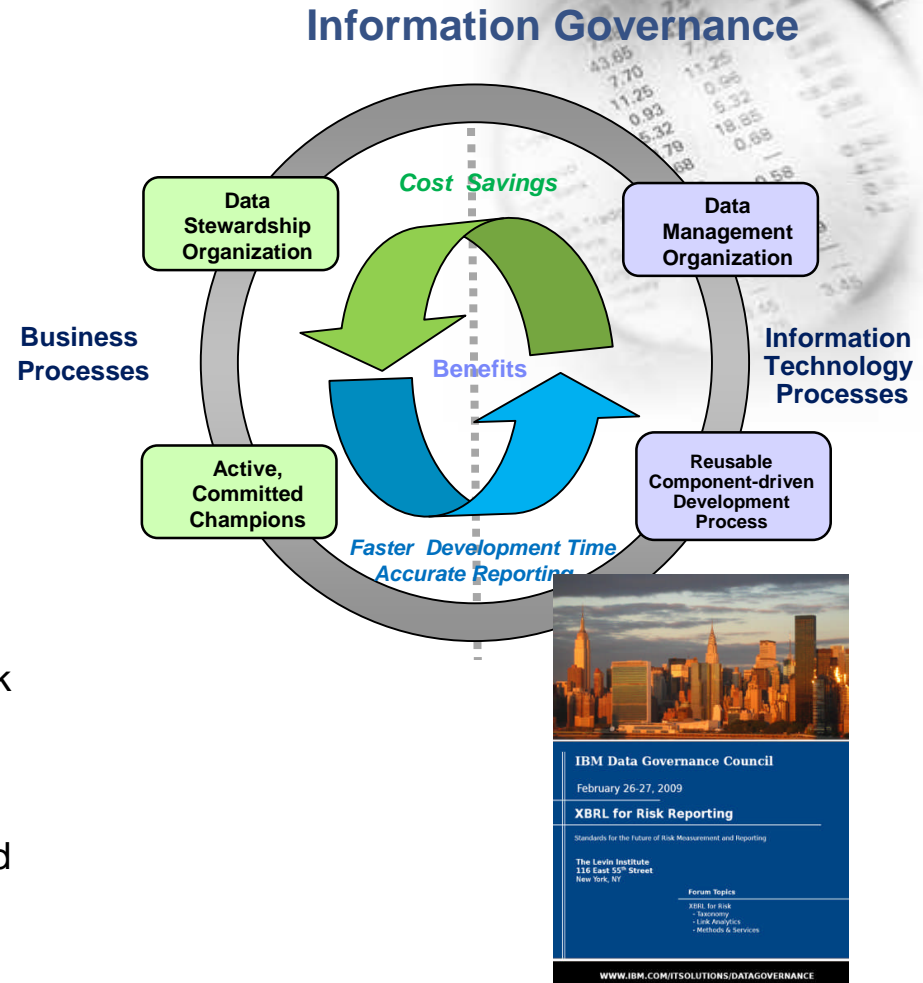
IBM Information Governance Council

Formed in 2004 with 50 Global Companies Including:

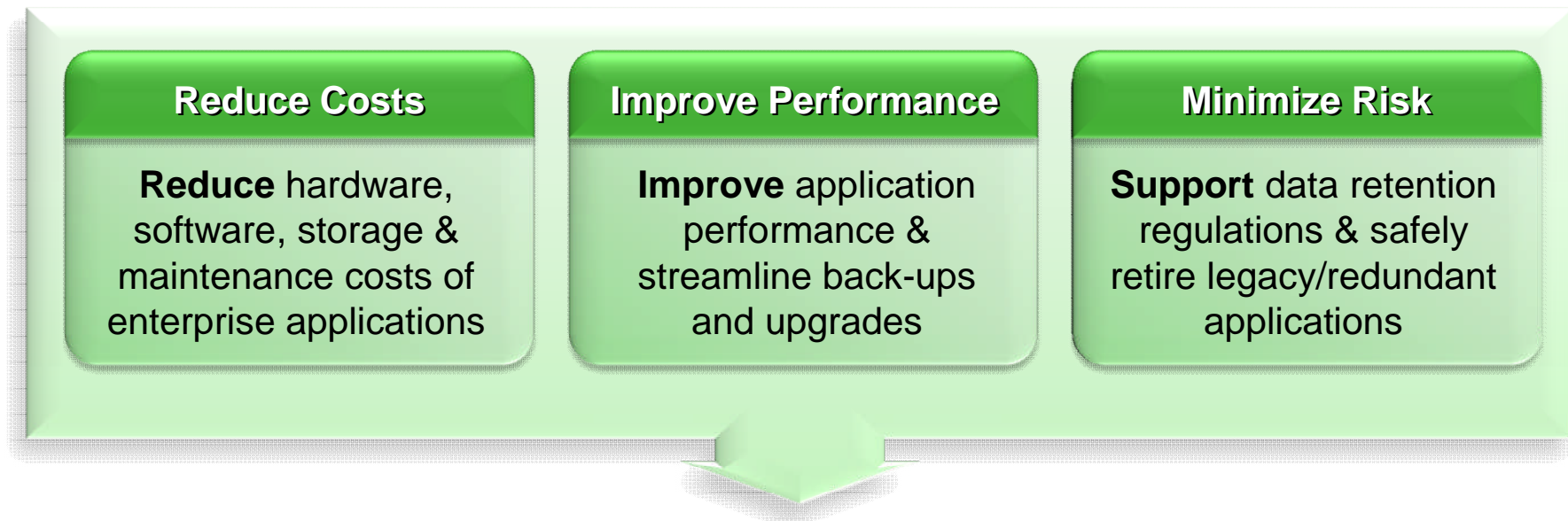
Abbott Labs, American Express, Bank of America, Bank of Tokyo-Mitsubishi UFJ, Ltd, Bank of Montreal, Bell Canada, BMO Financial Group, Citibank, Deutsche Bank, Discover Financial, Kasikornbank, MasterCard, Nordea Bank, Wachovia, Washington Mutual, the World Bank and others...

....and many rely on IBM System z

Information Governance embraces People, Process AND Technology– Puts information at the top of the Agenda...spans both Business and Information Technology in order to successfully manage data

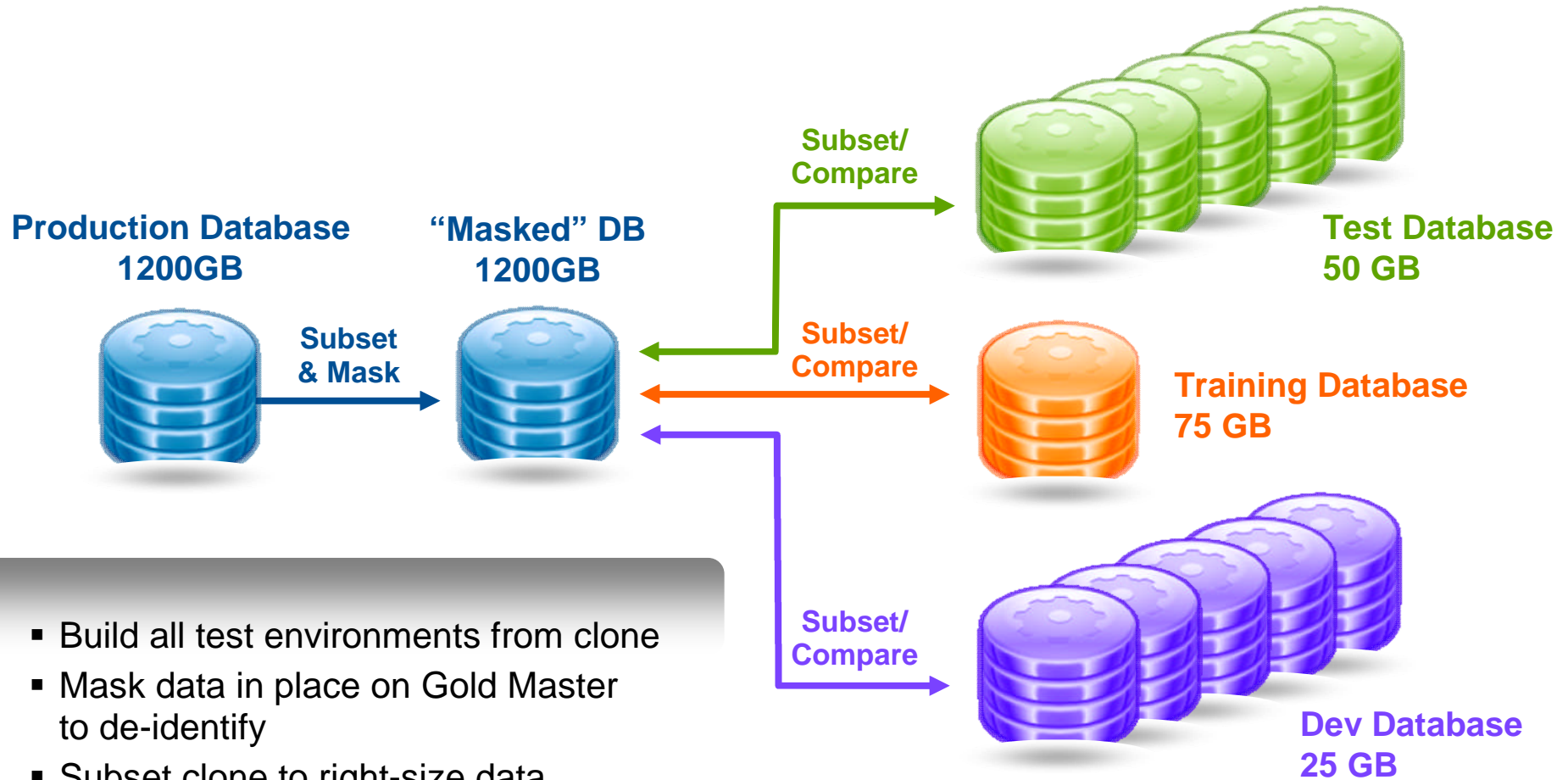


Effectively Archive and Manage Data Growth with InfoSphere Optim



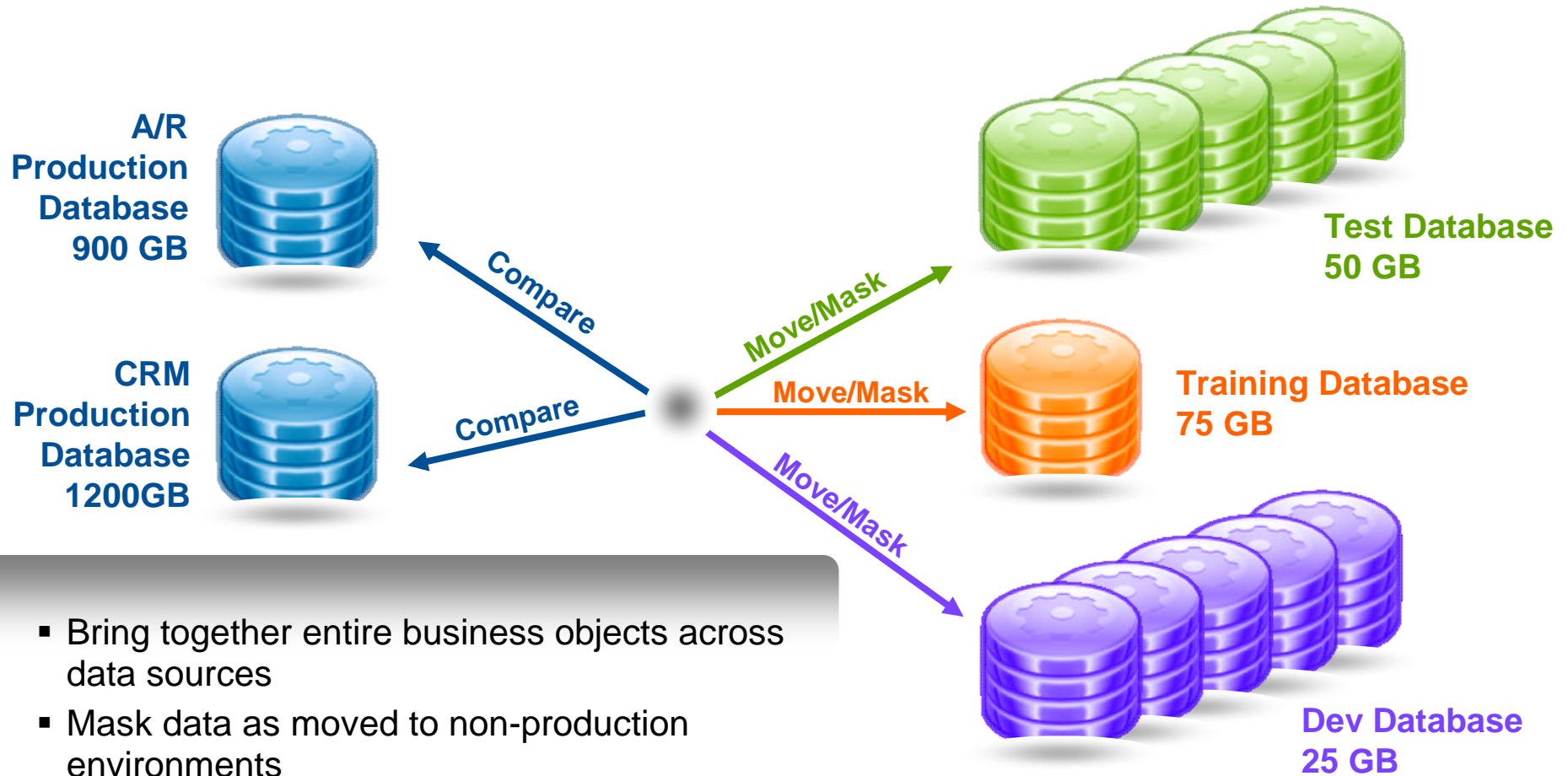
- Discover & identify data record types to archive across heterogeneous environments
- Intelligently archive data to improve application performance and support data retention
- Capture & store historical data in its original business context
- Define & maintain data retention policies consistently across the enterprise
- Ensure long-term, application-independent access of archived data via multiple access methods
- Support for custom & packaged ERP applications in heterogeneous environments

Test Data Management and cloning together



- Build all test environments from clone
- Mask data in place on Gold Master to de-identify
- Subset clone to right-size data
- Compare data with “Gold” to identify defects

Test Data Management without cloning



- Bring together entire business objects across data sources
- Mask data as moved to non-production environments
- Subset to right-size data
- Compare data with original to identify defects