



# ***Data Governance and System z Your key to Business Optimization***

**Information Management** software



# ***Agenda***

- **The challenges and pressure on business data today**
- The IBM Data Governance Council and DG Framework
- Entry points to address your most pressing Data Governance needs
- Call to action Summary



# Living in the Information Age – we are swamped with information



Your challenge : make sense of it – manage and control the data you are responsible for



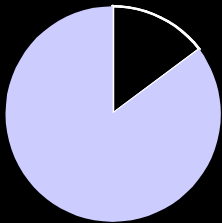
# Survey: CIO's want to strengthen competitive advantage by better managing enterprise data



78% of CIO's want to improve the way they use and manage their data.



75% of CIO's believe they can strengthen their competitive advantage by better using and managing enterprise data.



...but only 15% believe that their data is currently comprehensively well managed.

95 percent of Fortune 1000 companies store their business data on IBM System z.

*“The Truth is out there...somewhere”*





## 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

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

**Incorrect classification..**  
**Life threatening consequences**

**Ineffective Security..**  
**Brand damage**  
**Financial loss**

Banking – A major US bank has lost computer data tapes containing personal information on up to 1.2 million federal employees. The number of employees that could be affected is not known. The bank is making a charge card program 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**



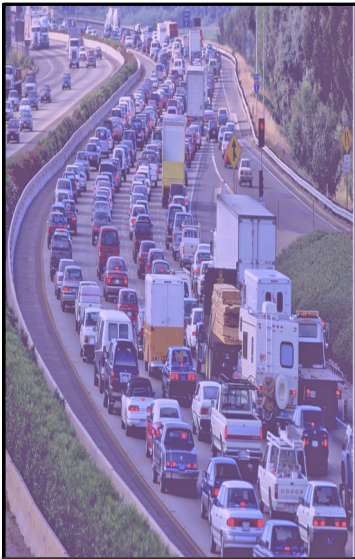
**Physical unprotected Data Loss..**  
**Fraud on a massive scale**

WASHINGTON – The FINRA announced today it has censured and fined a financial services company \$370,000 for making hundreds of late disclosure to FINRA’s Central Registration Depository (CRD) system. The company, which provides regulatory services to other financial services companies, is also being fined for failing to disclose to the CRD the names of its employees, including those who had been terminated. The company is also being fined for failing to disclose to the CRD the names of its former employees, including those who had been terminated. The company is also being fined for failing to disclose to the CRD the names of its former employees, including those who had been terminated.

**Late Disclosures..**  
**Heavy Fines,**  
**Legal implications**  
**and resignations**

## ***Is your information a Liability or an Asset?***

- Business success or failure is dependent on how you manage your data.
- Does your management have 100% confidence in the quality of its information?
- In an audit could you prove that your information is being handled correctly?



Ever wonder where and who your data is going to, whether you are meeting your service level agreements?



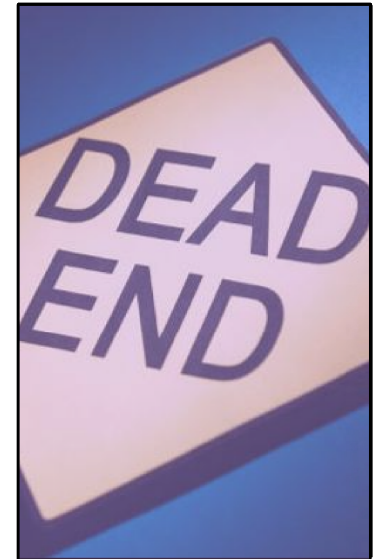
Sometimes you're not really sure what your data and information is really telling you –"data rich" but "information poor" Where's the value?



Lack of data privacy and protection controls during testing can compromise the security of sensitive information.



Ensuring only the right IT systems, applications and people can access your data reduces business risk and potential law suits.



Making decisions based on partial or inaccurate information can lead you down the wrong path and potentially damage your business.

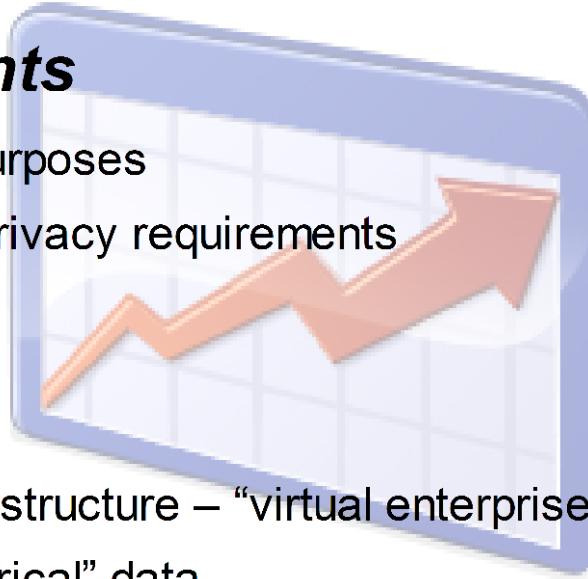




## ***Usage, sharing and processing of electronic data continues to rapidly increase***

### ***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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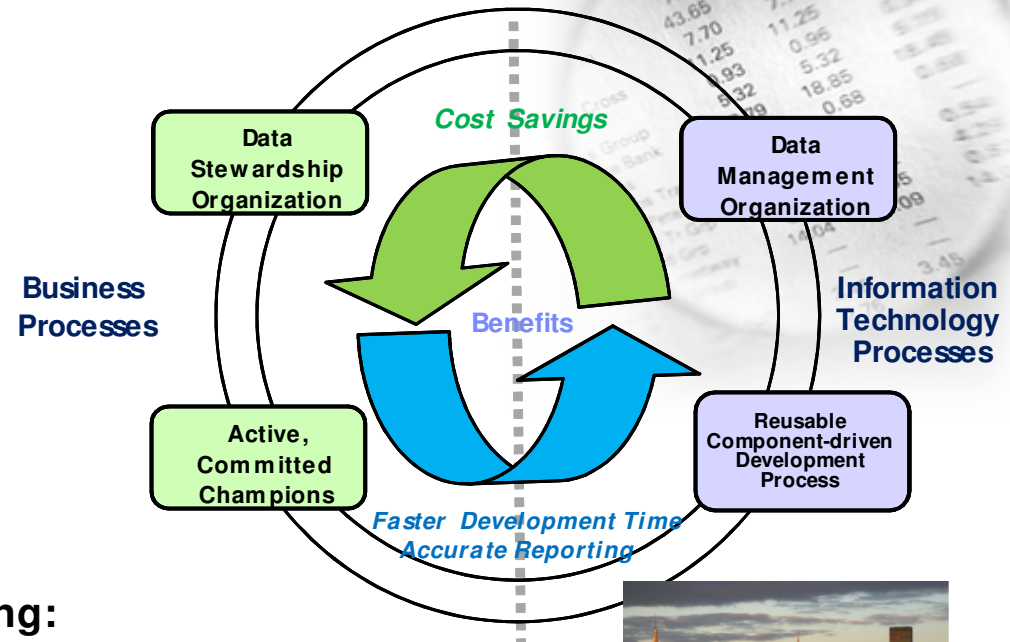


# Data Governance – holistic management of data.

## Data Governance

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

Data 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 Data 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



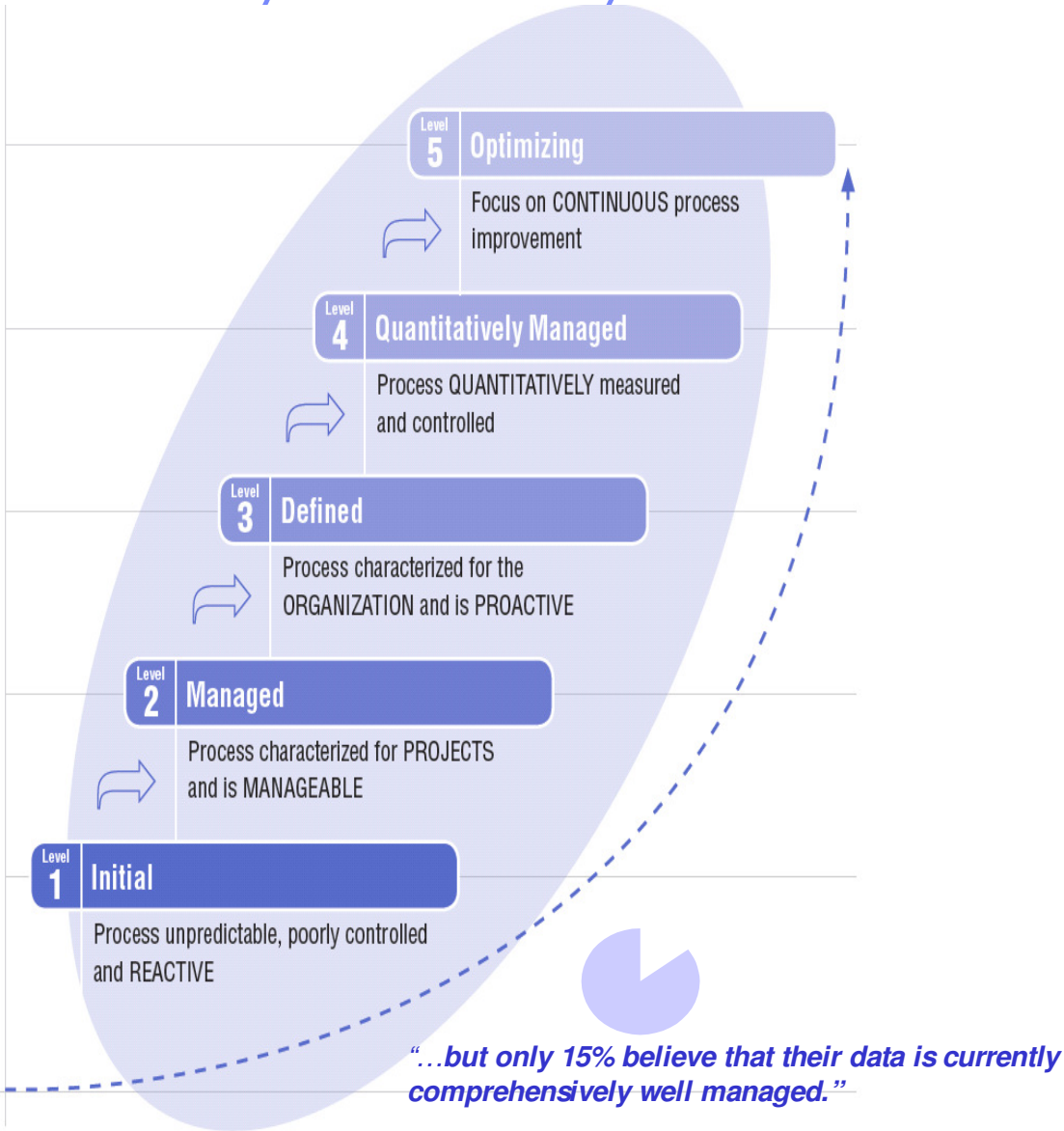
**Data Governance embraces People, Process AND Technology ...spans both Business and Information Technology – Puts information at the top of the Agenda**

...which spans both Business and Information Technology in order to successfully manage data



# IBM Data Governance Council Maturity Model

## Where are you / where do you need to be ?

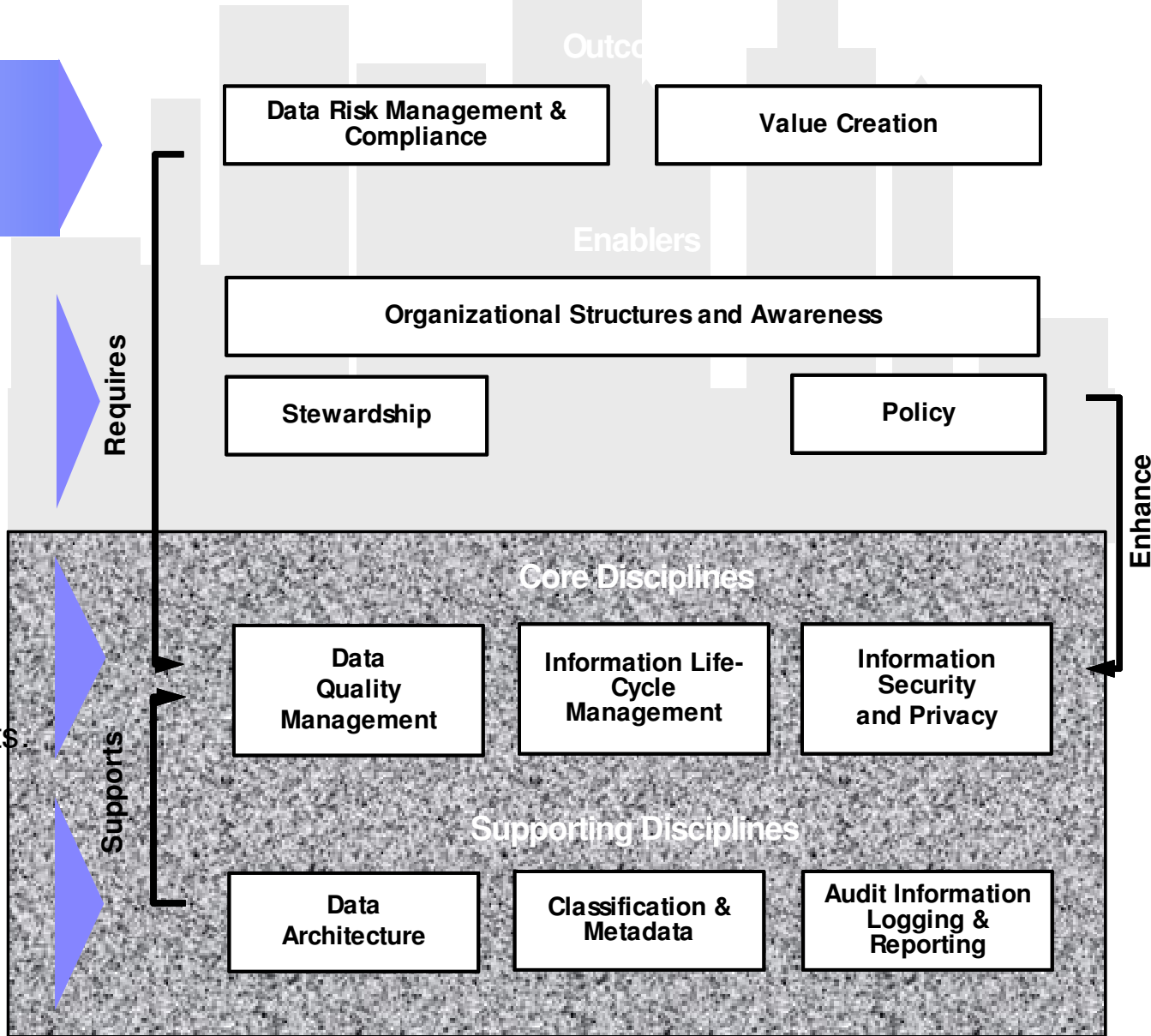


**So most customers are at Level 1**

Category	Description
<b>1 Organizational Structures &amp; Awareness</b>	Describes the level of mutual responsibility between business and IT, and recognition of the fiduciary responsibility to govern data at different levels of management.
<b>2 Stewardship</b>	Stewardship is a quality control discipline designed to ensure custodial care of data for asset enhancement, risk mitigation, and organizational control.
<b>3 Policy</b>	Policy is the written articulation of desired organizational behavior.
<b>4 Value Creation</b>	The process by which data assets are qualified and quantified to enable the business to maximize the value created by data assets.
<b>5 Data Risk Management &amp; Compliance</b>	The methodology by which risks are identified, qualified, quantified, avoided, accepted, mitigated, or transferred out.
<b>6 Information Security &amp; Privacy</b>	Describes the policies, practices and controls used by an organization to mitigate risk and protect data assets.
<b>7 Data Architecture</b>	The architectural design of structured and unstructured data systems and applications that enable data availability and distribution to appropriate users.
<b>8 Data Quality Management</b>	Methods to measure, improve, and certify the quality and integrity of production, test, and archival data.
<b>9 Classification &amp; Metadata</b>	The methods and tools used to create common semantic definitions for business and IT terms, data models, types, and repositories. Metadata that bridge human and computer understanding.
<b>10 Information Lifecycle Management</b>	Management A systemic policy-based approach to information collection, use, retention, and deletion.
<b>11 Audit Information, Logging &amp; Reporting</b>	The organizational processes for monitoring and measuring the data value, risks, and efficacy of governance.

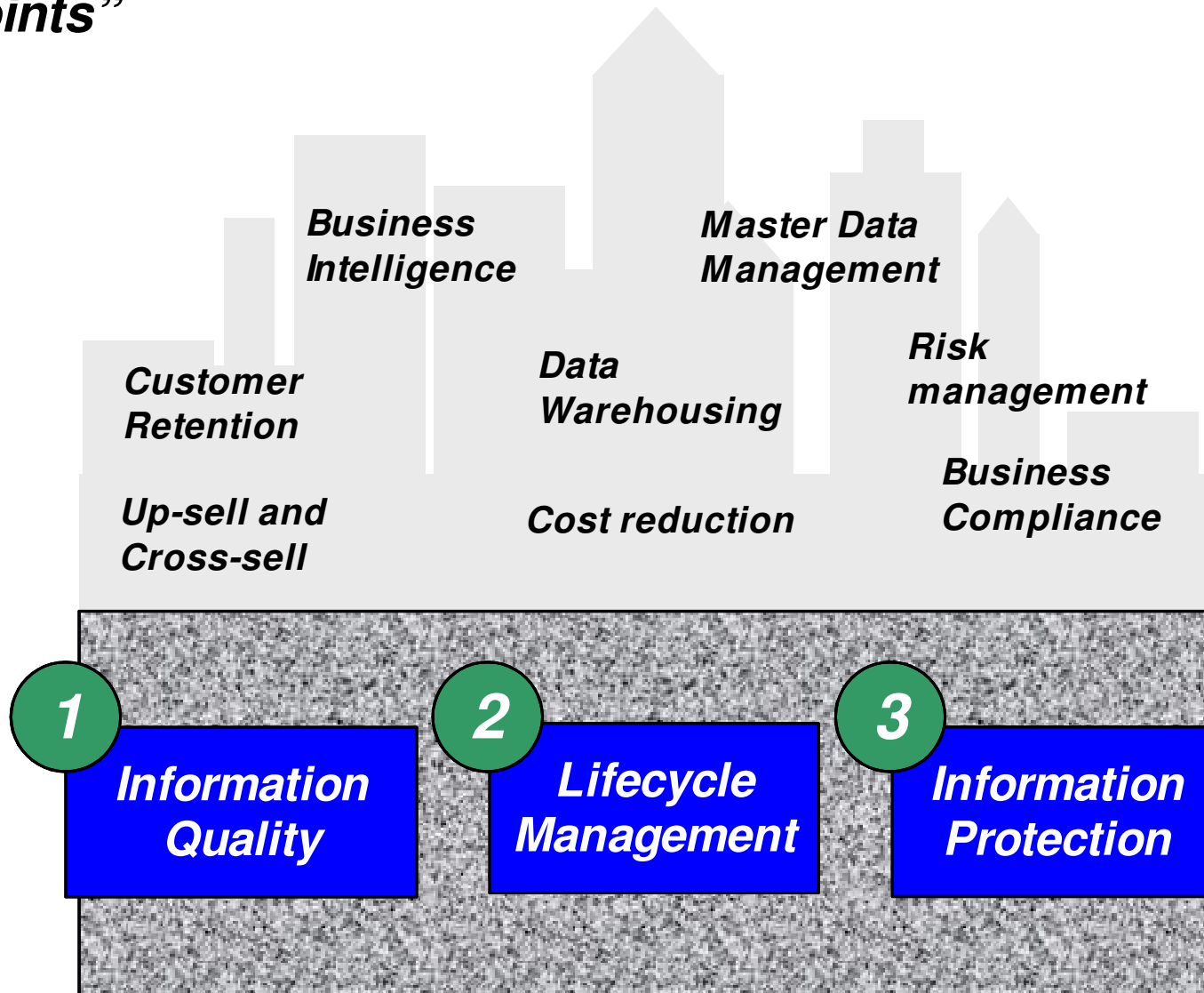
# IBM Data Governance – A model for success

- Lower Risk and Cost
  - Increased profitability
  - Competitive differential
- 
- IT / Business data responsibilities
  - Custodial care of data
  - Organizational behaviour
- 
- Quality and integrity of **all** data
  - Information collection, use, retention, and deletion
  - Mitigate risk and protect data assets
- 
- Architected design for availability and distribution of data
  - Common semantics
  - Monitor / measure data value, risk



*Foundational disciplines of the IBM Data Governance Council's Capabilities Model*

# ***Start to address your most pressing Data Governance needs with the 3 “Entry points”***



***Data Governance underpins and is foundational to your Information Management projects***



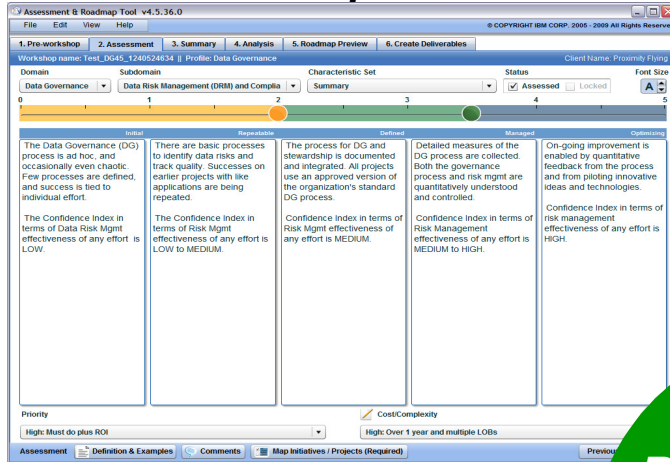




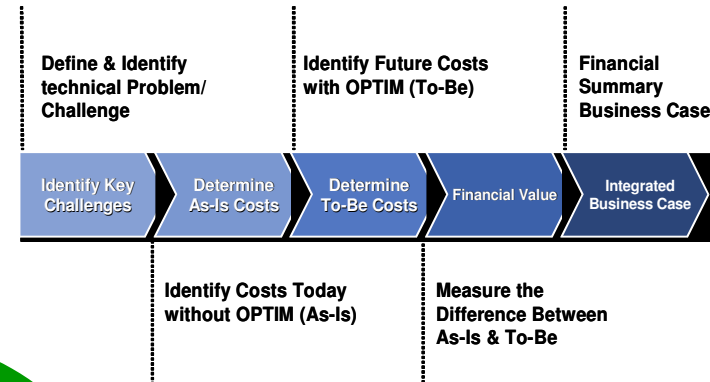
# IBM Data Governance Business Value tools

## Data Governance backed by proven business cases

- IBM Data Governance Maturity Model Assessment Workshop

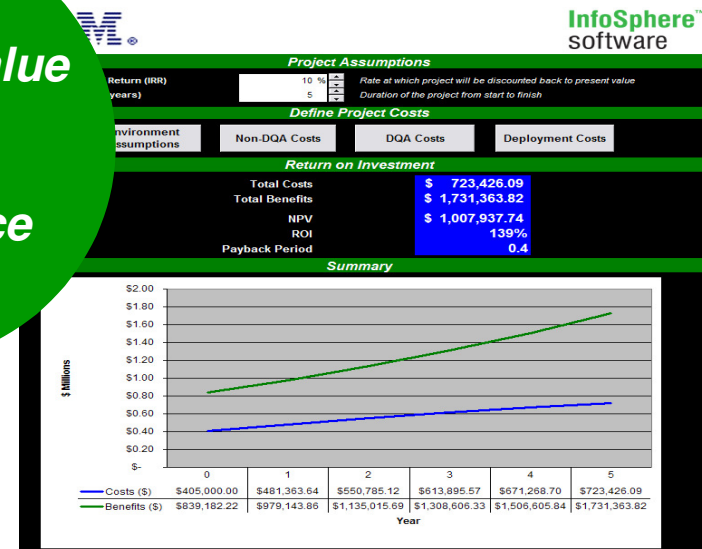


- Business Value Assessment (Optim)



**Business Value  
Driven  
Data  
Governance**

COST SAVINGS SUMMARY		
CPU Savings		\$2,000,000.00
Labor Cost Savings		\$29,000,000.00
<b>TOTAL COST SAVINGS in year 1</b>		<b>\$534,000.00</b>
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
<b>TOTAL SAVINGS OVER 3 YEARS</b>		<b>\$1,008,589.62</b>
<b>Annual SAVINGS OVER 3 YEARS*</b>		<b>\$336,196.54</b>



- 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: 59 out of the top 60 banks in the world*

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

*DB2: 23 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*

*Runs the world's stock exchanges & banking*

**Reserves airline seats**

**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...*



## ***System z the ultimate hardware platform for Data Governance***

- Business Resilience
  - System & Application Integrity
  - z/OS integrity statement
  - Storage protection keys inhibit trojan horses, worms & viruses
  - Business Process Integration
  - Business continuity and high availability
- Business Compartmentalization of work
  - Common Criteria certified partitions and guest isolation
  - Workload management
- Data Confidentiality
  - Row based security for DB2 and multi level security
  - Hardware encryption services
  - Encryption Key Management



**IBM System z™ - Used by 95% of Fortune 1000 Companies / Handling 70% of the World's Corporate Data / 99.999% Availability / Designed to Protect Against Hacks**

***95 percent of Fortune 1000 companies store their business data on IBM System z***

**System z - Why put your data anywhere else ?**

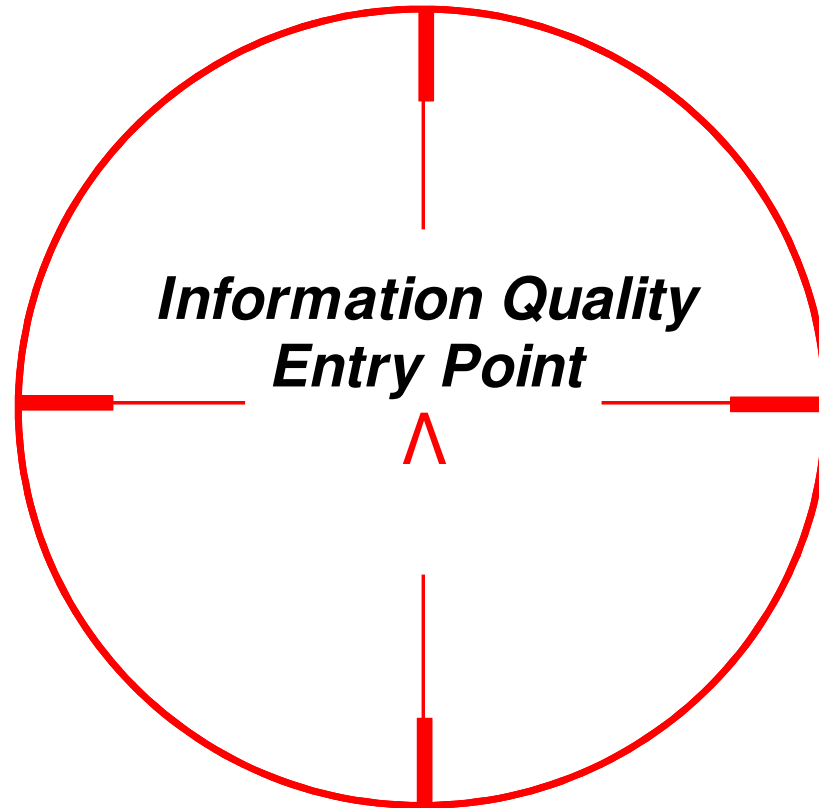


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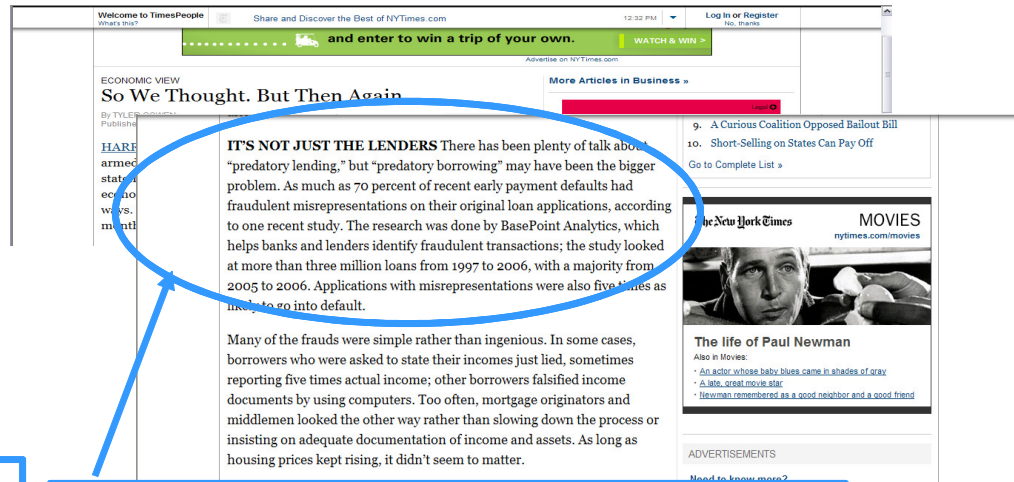


# Information Management: It can't be just for the IT staff any more

## Bad data is bad for business



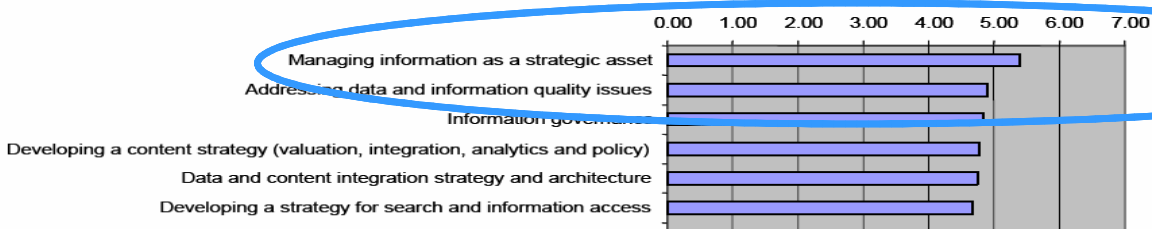
*Product prices clearly out of range contribute to lost profits*



*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



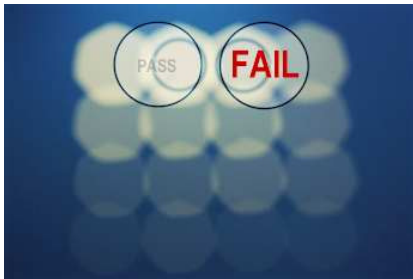
*Data governance and data quality go hand in hand*

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

Lost opportunities

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



Low data quality costs companies \$611 billion annually

25% of time is spent clarifying bad data

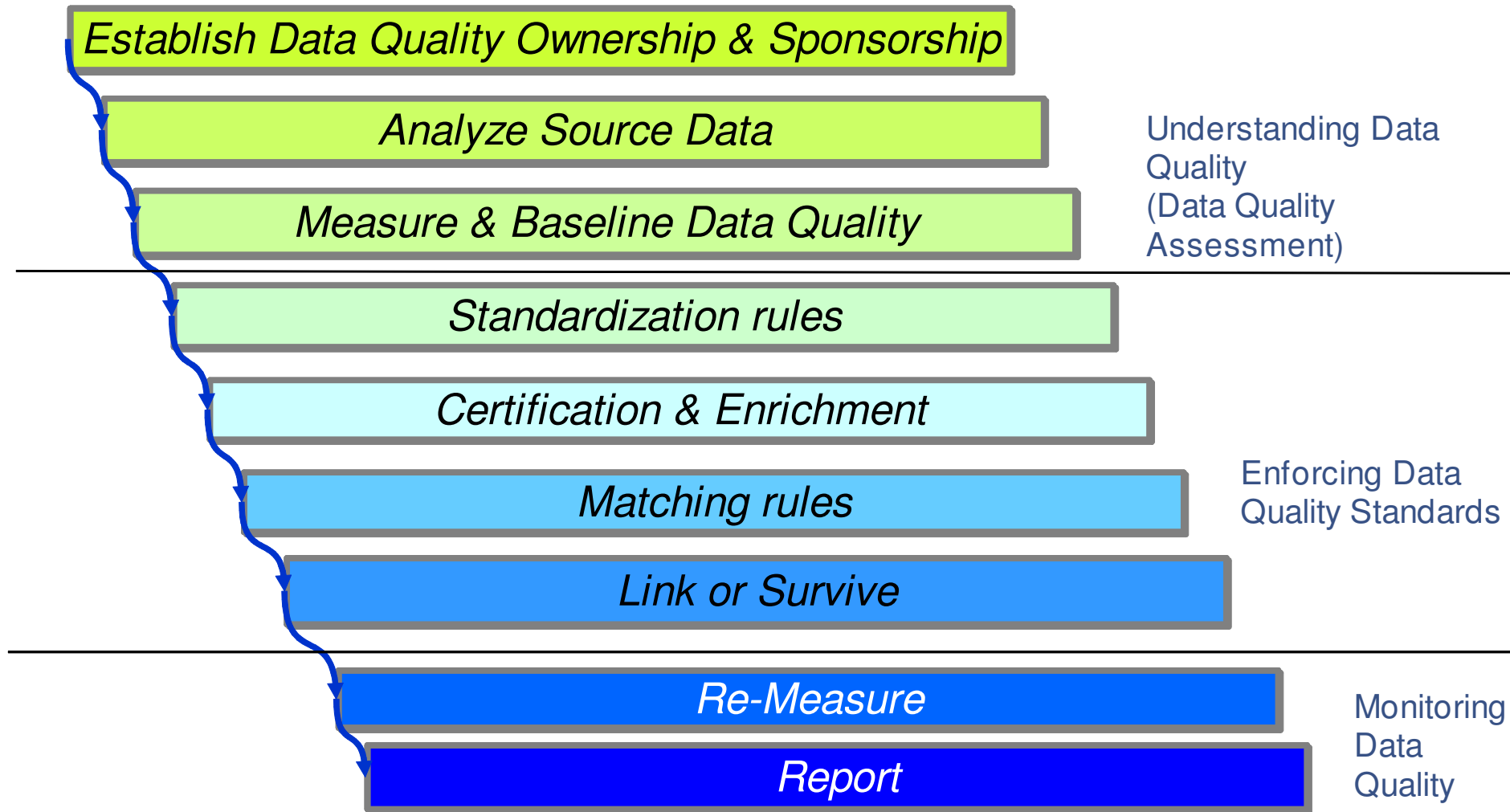
Undetected defects will cost 10 to 100 times as much to fix upstream





## 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



# The IBM Solution: IBM InfoSphere Information Server on System z

Delivering information you can trust

## IBM InfoSphere Information Server on System z

### Unified Deployment

#### Understand



Discover, model, and govern information structure and content

#### Cleanse



Standardize, merge, and correct information

#### Transform



Combine and restructure information for new uses

#### Deliver



Synchronize, virtualize and move information for in-line delivery

### Unified Metadata Management

Parallel Processing

Rich Connectivity to Applications, Data, and Content



*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.





# 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

## ***Lifecycle Management Entry Point***



## ***Lifecycle Management Entry point***

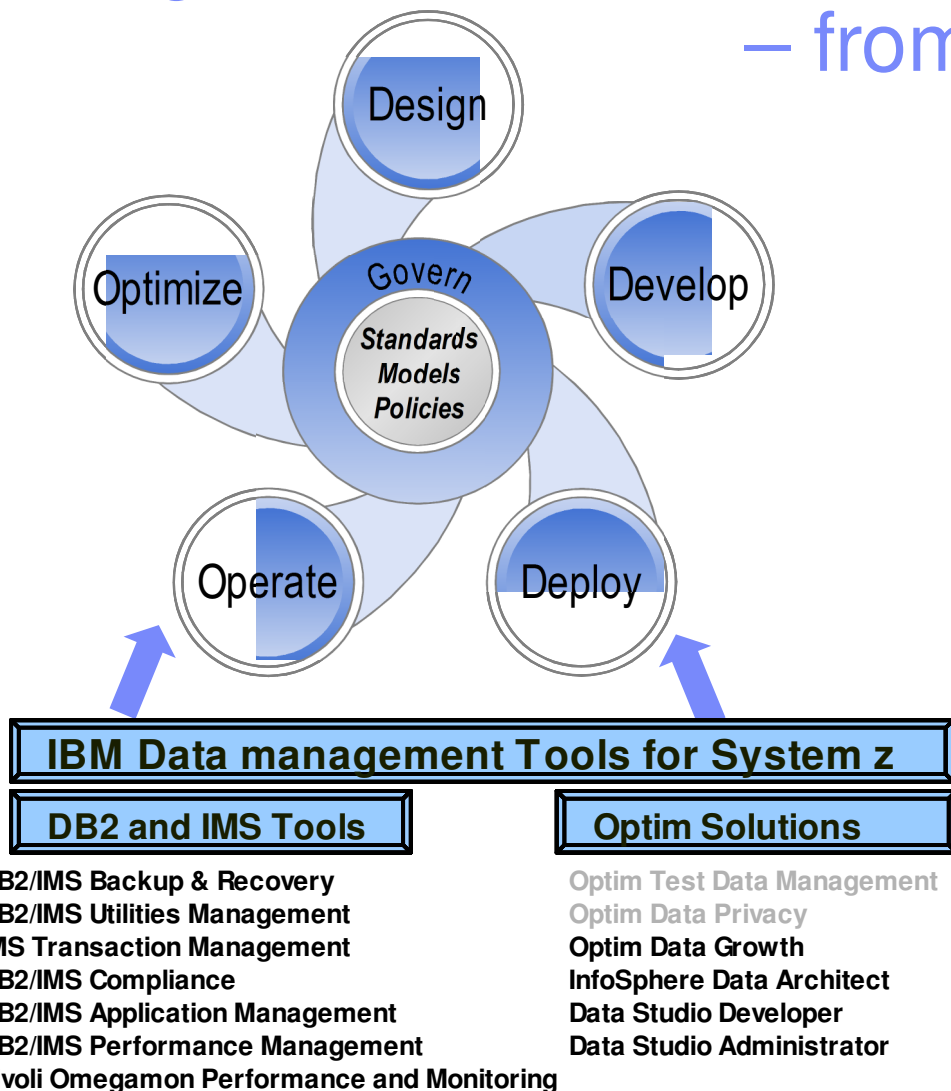
- *A set of run times and integrated tools to store, manage and process structured data and unstructured content across its lifecycle with powerful performance management and optimization tools as part of your data management, records management, data warehouse and OLTP solutions*

### Two sides of the “data coin”

- Structured data
  - *Relational, hierarchical, XML type data...*
- Unstructured content
  - *Paper, emails, spreadsheets, documents...*



# Manage structured data across the lifespan – from design to delete



- 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





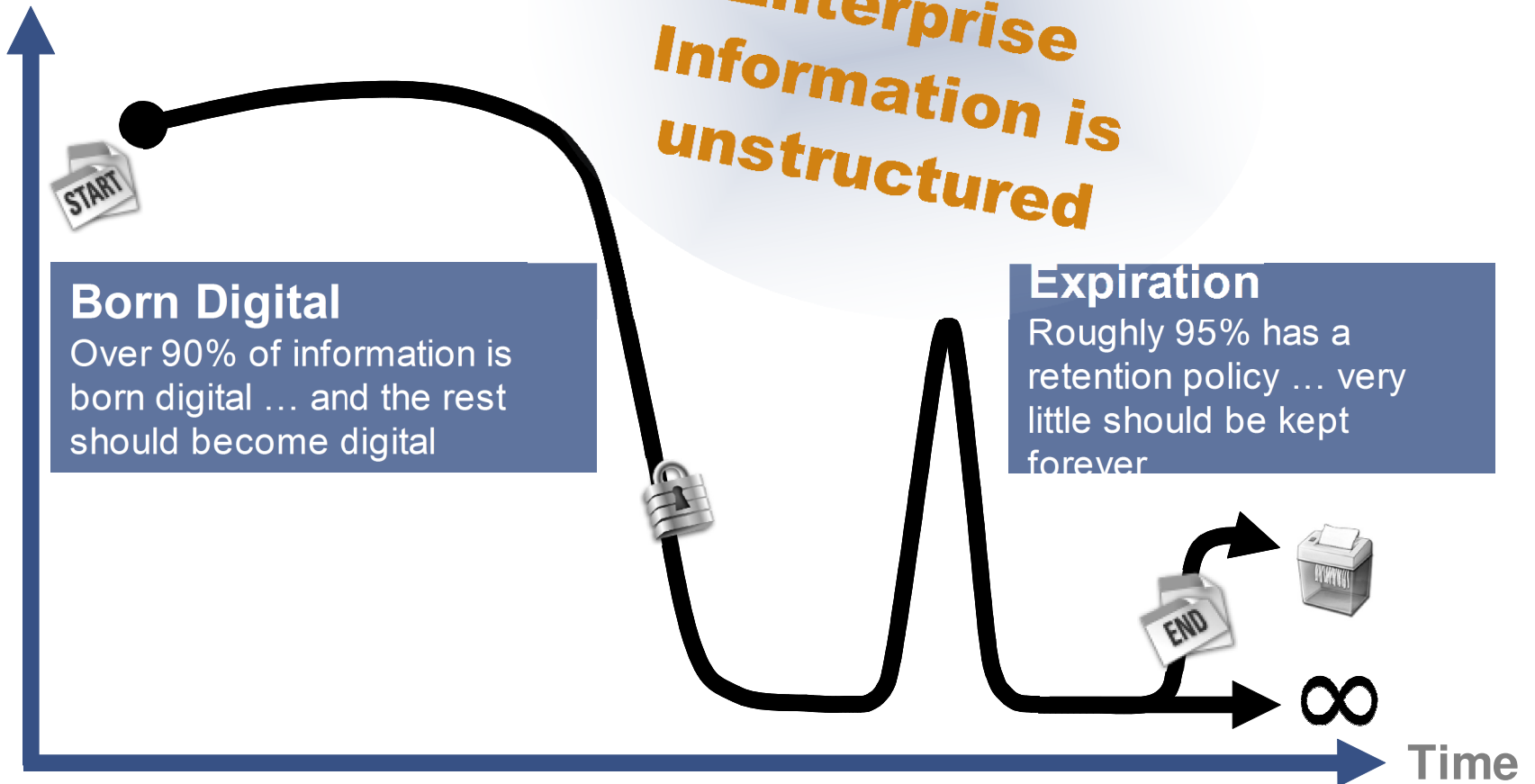
## ***Two sides of the Information Coin***

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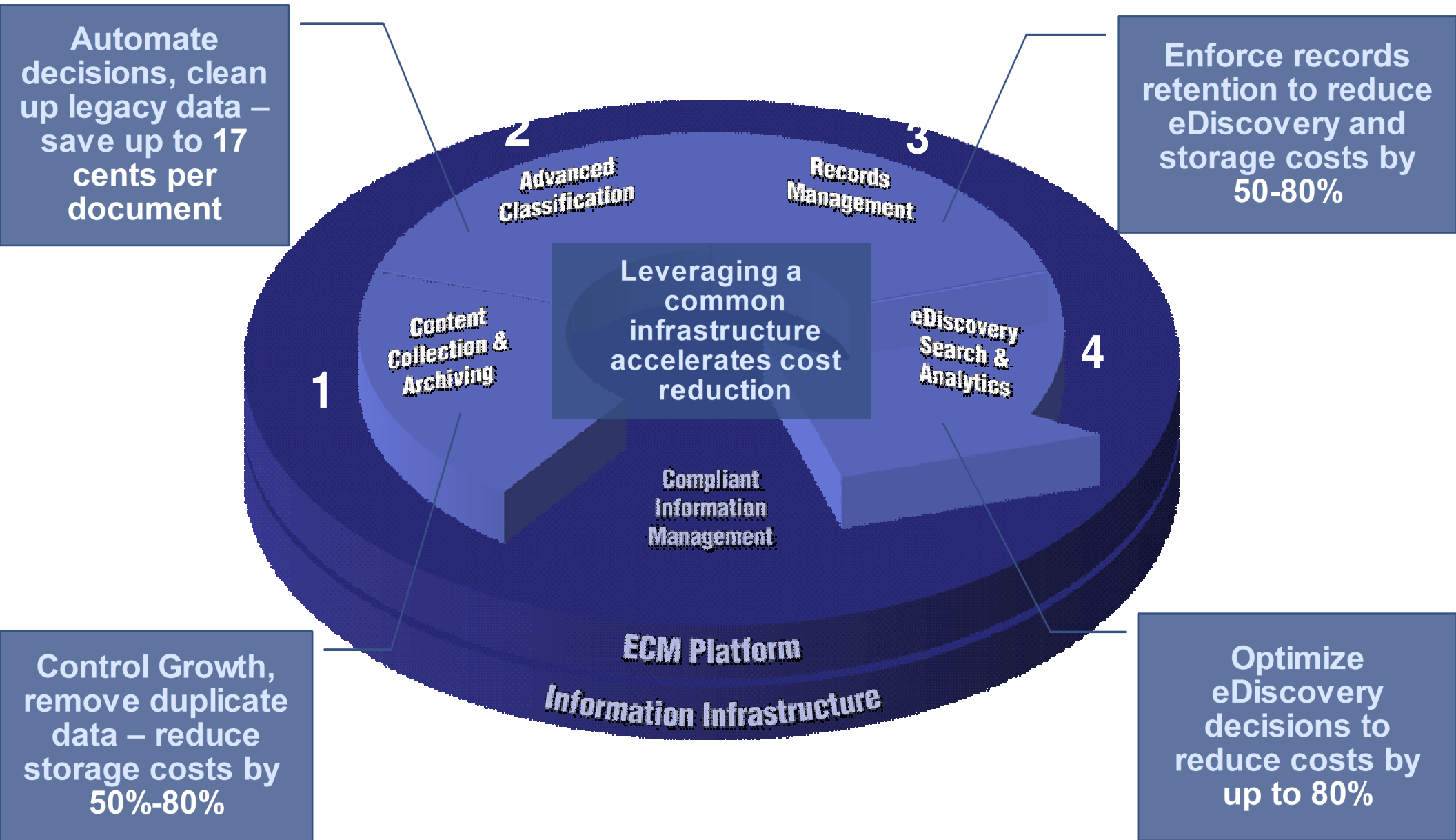


# There is a Common Information Lifecycle Based on the Value of Information, Not only the Storage Technology

Frequency of Access and Use



# ROI of Compliant Information Management



# No Paper Weight – Customer Case Study

Large US Commercial Bank

## Challenge

The bank needed to control challenges from runaway proliferation of paper and physical records:

- reduce the costs of physical record usage, & storage, and improve operational process efficiency
- reduce the risks associated with paper documents in eDiscovery, compliance, security, & privacy matters
- improve visibility and gain new intelligence by leveraging information access and reuse for better decision-making
- enable **Green** initiatives via reduced paper consumption and physical storage requirements

## Solution

The bank expanded its IBM technology investments with strategic Agile ECM facilities:

- IBM Content Collector to capture email, file system and hard drive content to reduce copy printing and storage
- IBM FileNet Image Manager and Capture ADR for document imaging and paper elimination
- IBM FileNet Records Manager
  - for records lifecycle controls for born-digital, scanned, and legacy physical content
  - Leverages IBM FileNet Business Process Manager to optimize business and records processes

## Business Benefits

- Payback period of 4 months
- \$40K: Daily amount lost if solution not implemented
- 196%: Internal Rate of Return in first year
- \$11M: Total savings in first year, including:
  - \$9.1M direct labor cost reduction
  - \$1.2M in productivity improvements from IBM FileNet ZeroClick Records Declaration
- 248: Number of trees saved each day

### Sources:

TechTarget Case Study based on IBM analysis  
Independent analyst validation by Cohasset Associates

Cost Effective Electronic Records Management  
by Cohasset Associates  
No Paper Weight – More information



## Enterprise Content Management solutions on System z

- **Ball State University** – information on demand

- *Expected to reduce production printing costs by 50%*
- *Significant time savings enabling staff to spend more time on student outreach and organizational growth*
- *Innovative learning opportunities that give students a competitive advantage in the job market*
- *“With IBM ECM all of a sudden information is available—as it’s needed and where it’s needed.” -Charles Tuite, Lead Enterprise Content Management Architect, Ball State University*

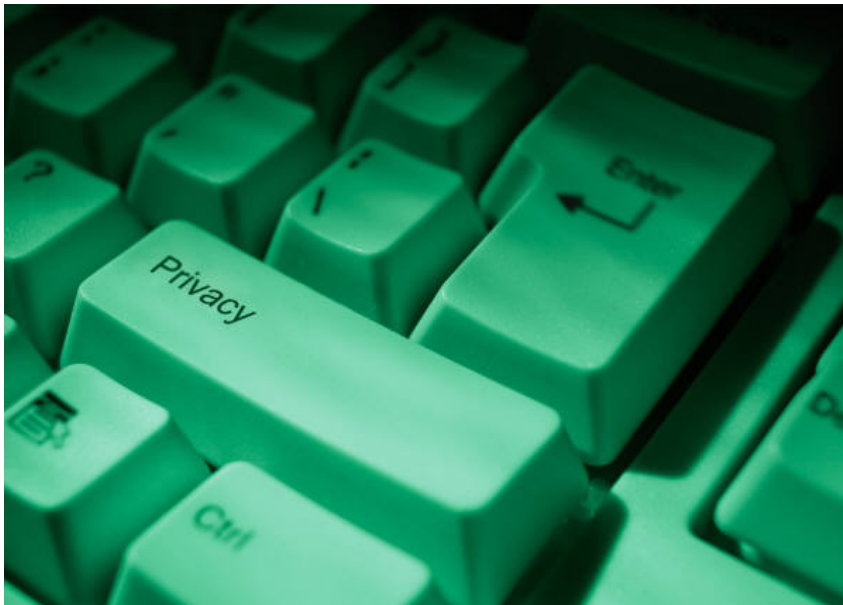


- **Gothaer Group** – underwriting and policy management

- *Faster and easier retrieval of documents; clearly defined and automated document workflow enables a more responsive business; reduced costs through elimination of manual document processing and archival; stable and robust IBM System z™ platform offers optimal support for business-critical document management processes*
- *Supports insurance clerks in routing and archiving documents through typical business processes such as underwriting and policy administration*
- *“IBM DB2 Content Manager enabled us to build a robust solution quickly and on our preferred platform – IBM System z.” Hans-Georg Pusch, Product Manager CMS, Informationsverarbeitung und Dienstleistungen GmbH*



## ***Information Protection Entry Point***



# Information Protection

- A set of tools for Information Protection that secure access, provide encryption of your data, ensure privacy controls are in place, combining powerful but flexible analysis and reporting tools.



## Secure Data

- Prevent Access
- Restrict Access
- Monitor Access

*Ensures that data is secure, available to only those that are authorized and all access monitored*



## Protect Data Privacy

- Mask Data
- Encrypt Data

*De-identification that enables organizations to substitute sensitive data with realistic and fully functional masked data and encryption of online and off line data sources*



## Audit Data

- Audit Access
- Audit Privileges
- Audit Users

*Timely data and flexible reporting for use in internal and external auditing activities – The “who, what, when where, how.”*

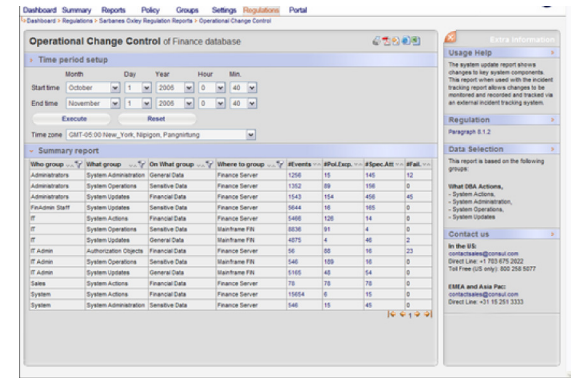
*"A company with at least 10,000 accounts to protect can spend, in the first year, as little as \$6 per customer account for just data encryption, or as much as \$16 per customer account for data encryption, host-based intrusion prevention, and strong security audits combined. Compare [that] with an expenditure of at least \$90 per customer account when data is compromised or exposed during a breach,"*



# Key System z products for Information Protection

## Tivoli Security Management for z/OS

- Facilitate compliance with security requirements and policies
- Reducing administration time, complexity, implementation efforts, and costs
- Monitor and audit for threat incidents,
- Comprehensive enterprise-wide view and sophisticated analysis of audit
- Integrate RACF, mainframe security capabilities for comprehensive identity management, access control, data protection, audit and compliance reporting



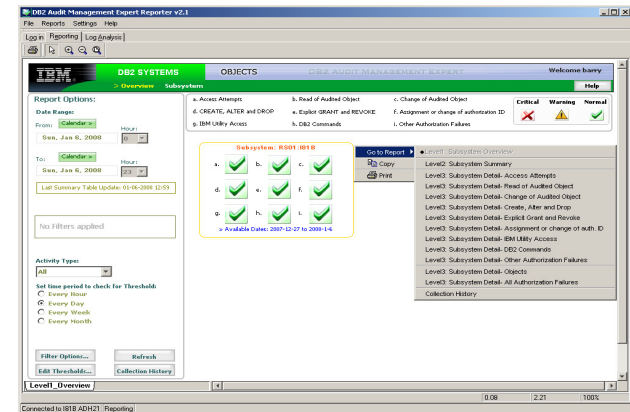
## IBM Optim Data Privacy for z/OS

- Protects sensitive data as it is used for other purposes:
- Removes, masks or transforms elements that could identify an individual
- Masked or transformed data must be appropriate to the context



## IBM DB2 Audit Management Expert for z/OS

- Helps auditors answer Who, What, Where, Why, When, How
- Centralizes audit data
- Automates auditing process
- Creates segregation of duties
- Flexible reporting and analysis





# Information Protection Customer Examples



**Security** - needed improve its system security management and monitoring capabilities.  
**Benefits** - robust audit and compliance reporting that can adapt to evolving requests from auditors and compliance officers - Respond quickly to security events, such as breaches or misconfigurations – Improved efficiencies by replacing home grown solutions with off-the-shelf solution  
*"IBM Tivoli zSecure software gives us a simple, powerful way to comply with identity and access management initiatives, and to assure auditors that preventative, detective and corrective controls are installed. " - —Phil Secker, Security Support Manager, Norwich Union*



**Privacy** - protect its confidential employee salary and pension information in non-production (development, testing and training) environments to satisfy data privacy and meet TyEL compliance requirements. **Benefit** -able to protect confidential data to strengthen public confidence and adhere to TyEL compliance requirements as well.  
*"Optim's data masking capabilities ensure that we can protect privacy in our development and testing environments," Katri Savolainen, Arek Oy.*



**Audit and Compliance** - Needed to guard against compliance failures  
**Benefits** - Details on who made changes to the data, as well as where and when the changes were made - Let auditors participate in data auditing activities with less database administrator involvement - Free up valuable IT staff resources - Eliminate manual auditing processes that can be time-consuming and error-prone  
*American Family Insurance leveraged IBM's integrated System z solutions to surpass internal and external audit and compliance requirements – while decreasing IT costs 20%.*



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## Summary

- **Take Back Control with IBM Data 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 enabling more accurate business intelligence
  - Increase management's confidence in making more informed decisions based on quality and more complete data
  - Increase customer satisfaction and retention through targeted advertising and up/cross selling
- **Software, Hardware and Expertise.**
  - Information Management - the comprehensive end-to-end Data 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
  - GBS - Expertise and skills from DG readiness assessments to solution implementation.
- For more information visit
  - [www.ibm.com/software/os/systemz/iod](http://www.ibm.com/software/os/systemz/iod) and click "Data Governance"



Thank  
YOU

