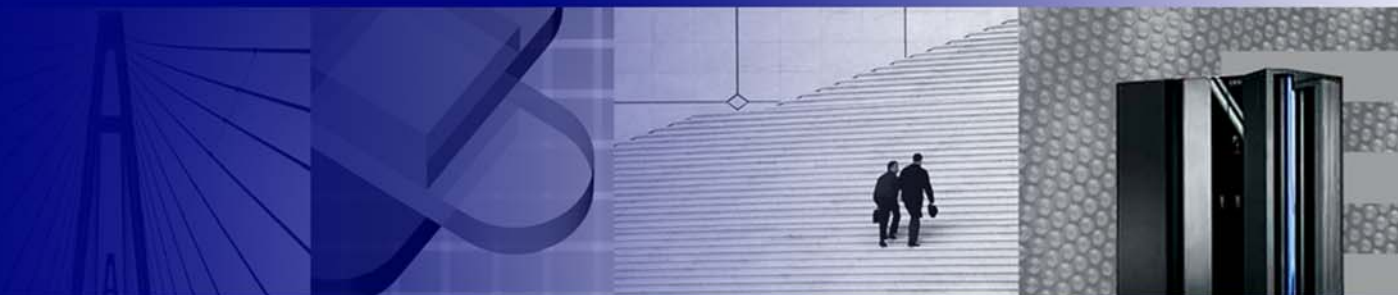




# Information on Demand – Maximizing the Capabilities of System z



*Steve Mink,  
Business Executive, Information Management Software*



# System z is a Critical Information Management Platform

*Continuing Client Investment Underlines Unique Business Value*

## Continuing IBM Deliveries

### Continuing Growth

- Double digit M
  - ▶ DB2: 50% YTD
  - ▶ IMS: 22% YTD
- Strong revenue
  - ▶ DB2: 22 consecutive years YTD growth
  - ▶ IMS: 6 years growth

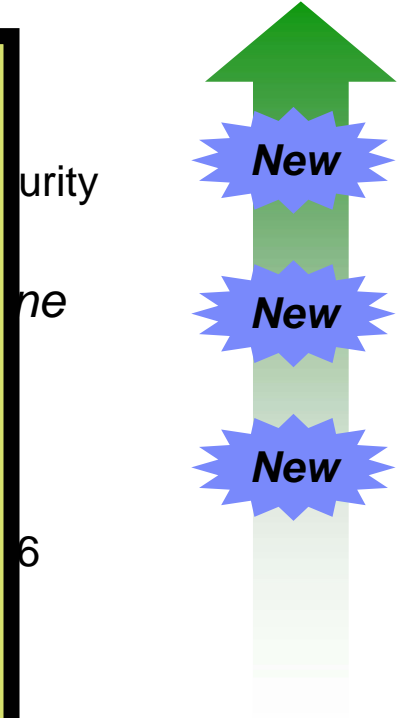
**Recent News: August 8, 2006**

**SAP and DB2 for z/OS**

**IBM investment of up to \$40 million over the next 5 years**

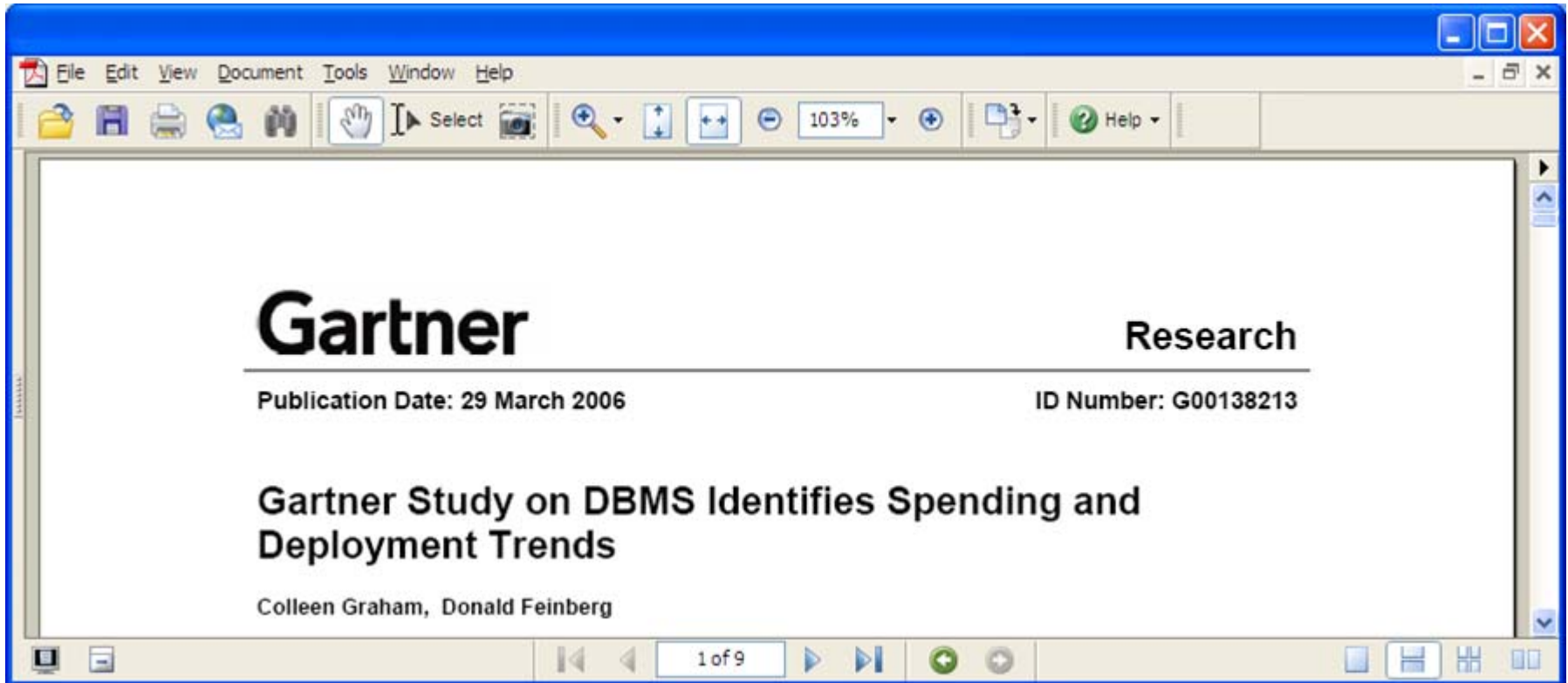
Test, enable and support SAP applications on System z solutions

Enhance existing SAP technical centers.



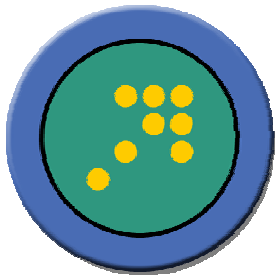
# System z is a Critical Information Management Platform

*Continuing Client Investment Underlines Unique Business Value*

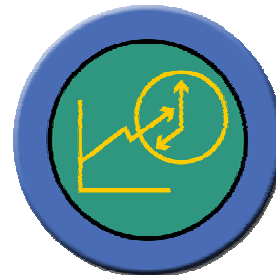


# *The Business Value of Information on Demand*

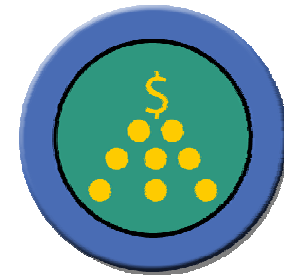
***Information Led  
Business Innovation***



***Meeting Demanding  
Service Levels***



***Optimizing  
TCO***



# Optimize Infrastructure, Skills & Cost

*System z Excellence*



*...We can adapt more quickly to change and build a more reliable infrastructure...*

**Online Services for Citizen Care**

**Infrastructure Virtualization**



*...We are combining IBM's infrastructure knowledge with our medical knowledge. At the end of our transformation project, we expect to see cost savings of 15 to 20%...*



*...5% reduction in overall IT costs in each of the past four years resulting from consolidated systems and processes...*

**Operational Consolidation**

**Cost Effective Service & Compliance**



**CRÉDIT AGRICOLE**

*...By centralizing our global operations, we expect to achieve a 30% reduction in costs and gain the ability to provide highly-secure services to other banks...*

# Optimize Infrastructure, Skills & Cost

## System z Excellence



**System z in  
Action**



*Enables growth of System z9 SAP workloads through resource optimization*



***“Enhancements in DB2 for z/OS, along with the new zIIP processor, will increase total value for our System z clients.***

***We look forward to certifying DB2 for z/OS as it becomes available so our clients may benefit from these new values and the unique System z qualities of service.”***

Dr. Torsten Wittkugel, Vice President  
DB/OS Platform Development, SAP AG

# Optimize Infrastructure, Skills & Cost

*System z Excellence*



**System z in  
Action**



*charles* **SCHWAB**

▶ Needed to Rapidly Develop Solutions to Clients Requiring Current, Authoritative Data on a High QOS

▶ Needed to Reduce Operating Costs, Operational and Architectural Complexity, Reduce Replication

## ***Approach***

- DB2 for z/OS - for high QOS data serving
- DB2 Connect - for connectivity
- Java Stored Procedures – for data access

## ***Result***

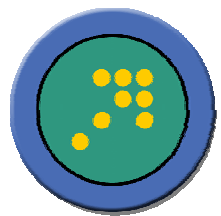
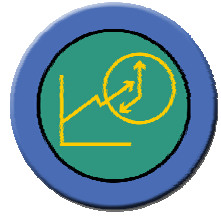
- Minimized the Cost of New Workload by using Java Stored Procedures
- > 50% Saving on CPU per API by Re-engineering and Converting Traditional CICS/Cobol APIs to Java Stored Procedures

# DB2 9 for z/OS: Raising the Bar

## Addressing Business and Infrastructure Goals



<p>Faster, Lower Cost Development and Porting</p>	<p>pureXML simplifies access to XML data          SQL improvements that simplify porting          Native SQL procedural language          Default databases and table spaces          Automatic unique indexes to support primary keys</p>
<p>Decrease Complexity and Cost</p>	<p>Enhanced Compression and Optimization          Fast table replacement and append          Partition, range, multi dimensional clustering &amp; hashing          Volume-based COPY/RECOVER using FlashCopy          Optimization Service Center          DB2 managed optimistic locking</p>
<p>Streamline Compliance Efforts</p>	<p>Network trusted security context &amp; database roles          Instead of Triggers          Improved auditing capabilities          SSL          New encryption of key DB2 resources</p>
<p>Information Led Business Innovation</p>	<p>Support for both relational &amp; integrated pureXML data          WebSphere integration          Data Warehousing on System z          SAP optimized with 40+ specific features</p>





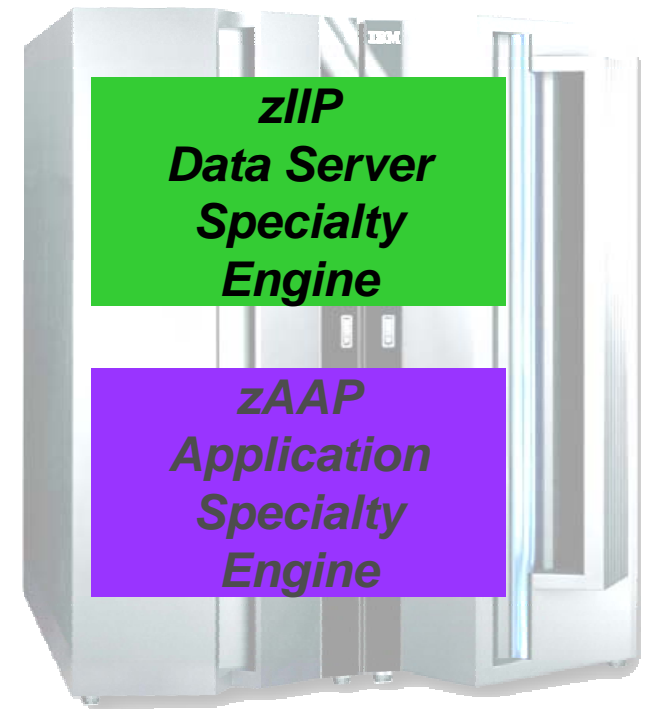
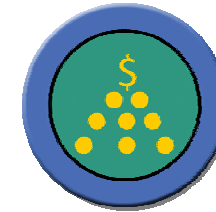
# IMS is Seeing Exploding Growth as SOA Serving Takes Hold

<p>IMS V9 Currently Available</p>	<p>XML Database Support Publish Transactions/Data as Web Services Performance and Availability Enhancements Tooling to easily develop/deploy/manage applications at low cost</p>	
<p>2006 Deliveries</p>	<p>SOA Enhanced Integration and Transformation SOAP Gateway, XML Adapter, XQuery Preview, +++ Further Enhancements for Integration, Manageability, Scalability</p>	
<p>IMS V10 QPP Jan. '07 Just Announced</p>	<p>SOA Support Enhancements Continued Focus on Availability Continued Focus to Simplify Skill Requirements</p>	

# DB2 zIIP Exploitation

## Optimizing Costs with New Specialty Engines

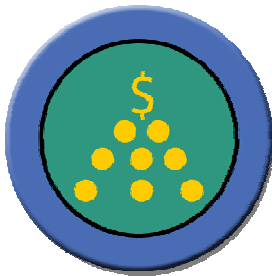
- **Significant Value, Available Now**
  - Improved Response Times
  - Improved TCO
  - Flexible Configuration
    - Multiple LPARs, Applications across Systems and Platforms, DRDA Support
- **Tests Show Multiple Workloads Can Benefit**
  - SAP OLTP
    - 40% better response time
    - Regular CP time reduced
    - 49.8% LPAR redirected
  - BI Batch Workloads
    - Better response times
    - CPU time reduced
  - SAP Business Warehouse
    - 43% better response time
    - 50.1% LPAR redirected
  - Utilities
    - Up to 60% of workload redirected



# For DBAs Time = Money

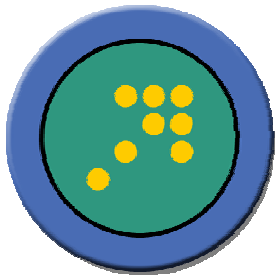
*New Tools add to an Extensive Portfolio to Improve TCO*

- DBA Time = Money
  - ▶ Managing application changes
  - ▶ Tuning for performance
  - ▶ Optimizing repetitive tasks
  - ▶ Managing Complexity
  - ▶ Complying with regulations & audit
- Time savers
  - ▶ DB2 Change Management Expert
  - ▶ Omegamon DB2 Performance Expert
  - ▶ DB2 Optimizer Expert
  - ▶ DB2 Utilities enhancements
  - ▶ IMS Sysplex manager
  - ▶ DB2 Thread Expert
  - ▶ DB2 Audit Management Expert & IMS Audit Management Expert
  - ▶ DB2 Regulatory Compliance Suite

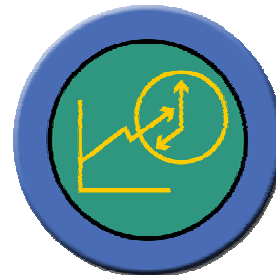


# *The Business Value of Information on Demand*

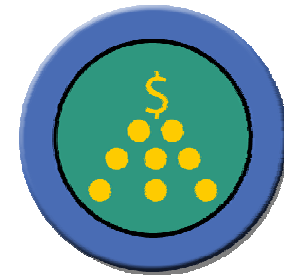
***Information Led  
Business Innovation***



***Meeting Demanding  
Service Levels***



***Optimizing  
TCO***



# Information is in Silos...

*Trusted Information is Not Available*

**Today's business challenges mandate a fresh approach to managing information.**

*Globalization, M&As*

*Risk & Compliance*

*Eroding Customer Loyalty*

*Supply Chain Complexity*

*Industry Transformations*

*Cost Cutting...*

**Information Must  
Become a  
Strategic Asset**

**Managing information in silos has become obsolete.**

*Inaccessible*

*Inconsistent,*

*Inaccurate, Untimely*

*Costly to Manage*

*Incomplete*

*Out of Context...*

**60%+** of CEOs: Need to do a better job leveraging information

**5X More Value** creation by organizations effective at using Information as an Asset

**70%** of people's time can be spent searching for relevant information

Sources: IBM Attributes & Capabilities Study, 2005; Client Interviews 2004; IBM CFO Study, 2006

# Today's Business Challenges

## *Information Availability is the Top Priority*

*The most anticipated impact of business investing in IT has become information availability*



▪ ***Streamline/improve efficiency of business processes***

- Enable new applications
- Standardize & automate
- Align with business goals

▪ **Information Availability**

▪ ***Better understand and meet customer expectations***

- Analyze information to make better business decisions

▪ **Information Availability**

▪ ***Increase employee productivity***

- Enhance employees' skills
- Empower employees

▪ **Information Availability**

# Information Intense Problem Domains

***Manage Risk & Streamline Compliance***

***Gain Insight through Information Analysis***

***Drive Business Transformation Through Optimized Processes***

***Gain Control over Master Data***

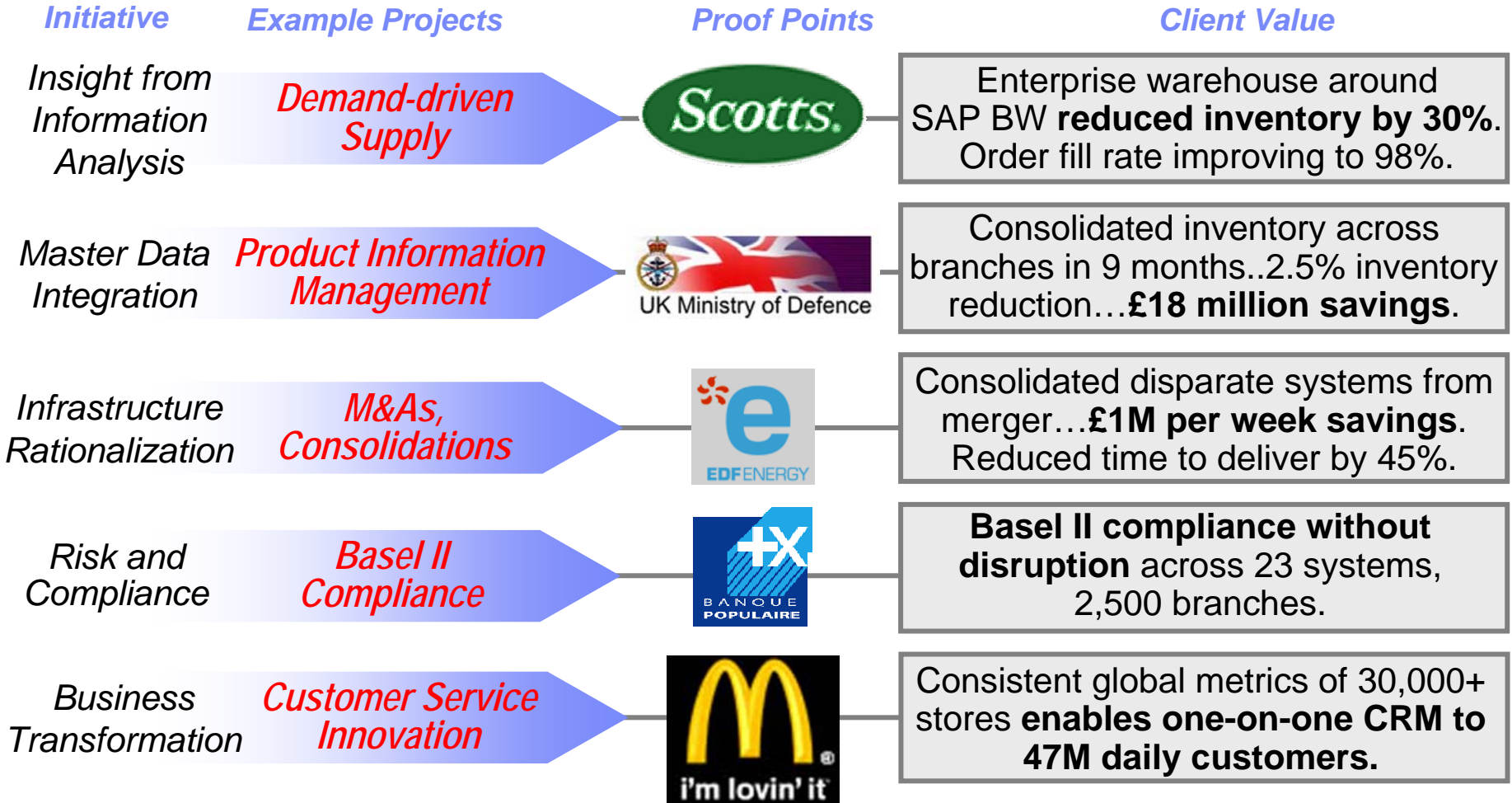
***Manage Information Complexity***

***Lower cost through Optimized Infrastructure***



# Information On Demand Business Drivers

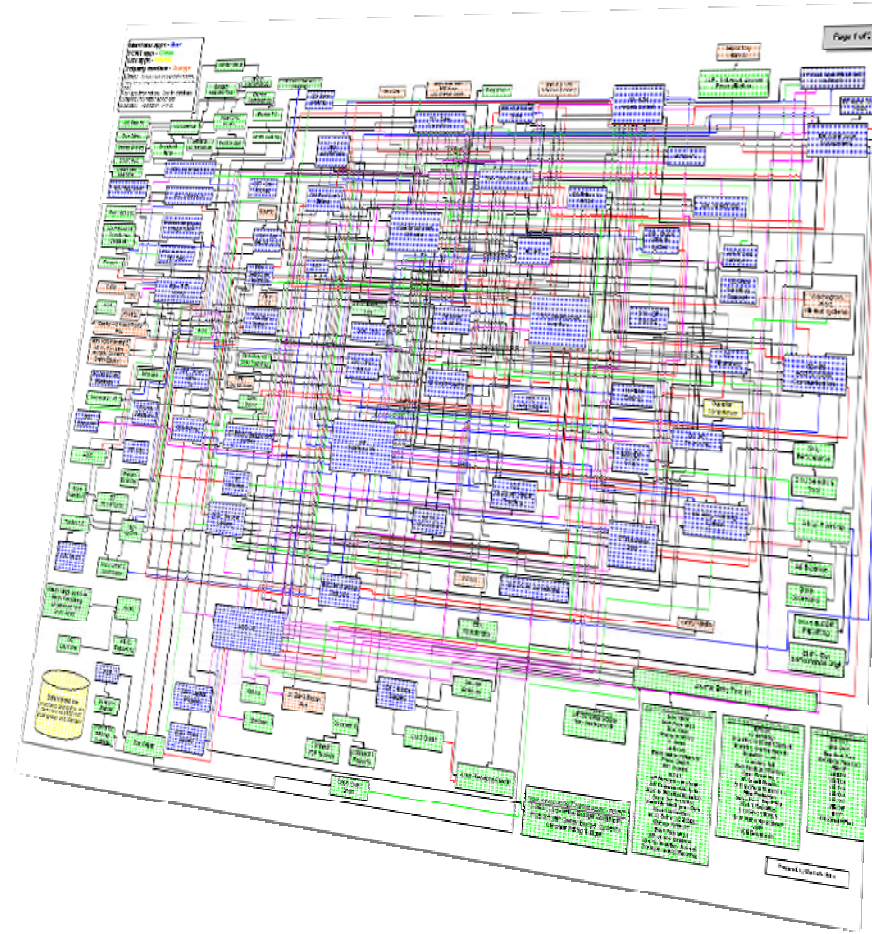
## Where Business and IT Initiatives Meet





# What are the Barriers?

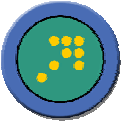
- Point application buys
- A lack of trusted information
- Lack of business process standards
- Architectural policy limited
- Infrastructure with no roadmap



# Change And Improvement Have Been Daunting



*Can Information Become a Service?*



# Connecting People, Process, and Information through SOA Helps Overcome the Barriers.

Extend the Ability  
to Collaborate  
Inside & Outside

People



Information



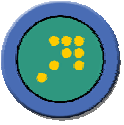
Process



Business Model  
& Process  
Innovation

Deliver Trusted  
Information in  
Business  
Context



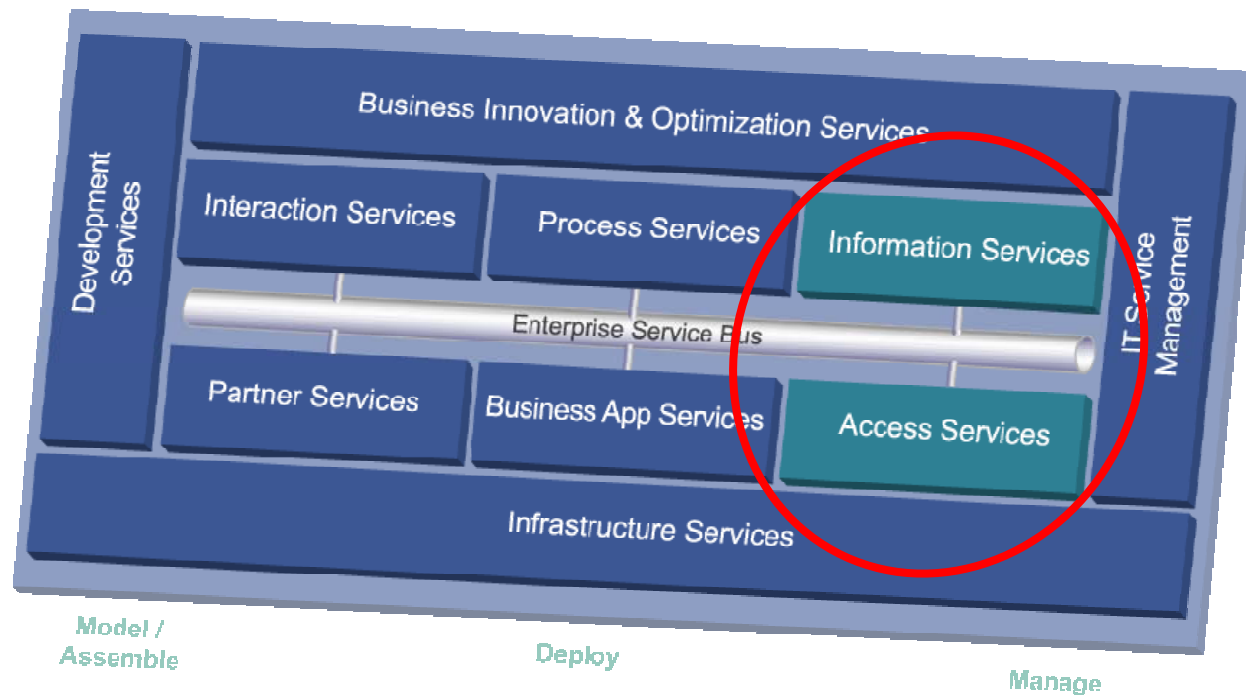


# Services Oriented Architecture

## Information Services are Key

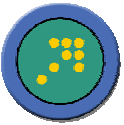
*...at the end of the day information is the lifeblood of the business...*

**Gartner, February 2006**



*... You will waste your investment in SOA unless you have enterprise information that SOA can exploit...*

**Gartner, March 2005**



# Information On Demand

*Moving From a Project-Based to a Flexible Architecture*

- **Accelerate Business Value**
  - Master Data Management
  - Enterprise Analytics
  - Information Warehousing
  - Industry Models
- **Integrate Data Content**
  - Quality Services
  - Information Services
  - Federation Services
  - Metadata Services
- **Manage Content**
  - Content Mgmt. & Integration
  - Discovery Services...
- **Optimize Data Centers**
  - Data Services Warehouses,
  - Tools

**1,000+ Clients**

**5,000+ Clients**

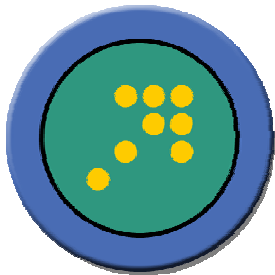
**13,000+ Clients**

**450,000+ Clients**

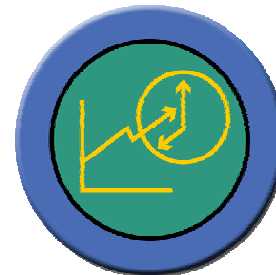


# *The Business Value of Information on Demand*

***Information Led  
Business Innovation***



***Meeting Demanding  
Service Levels***



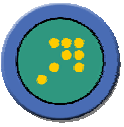
***Optimizing  
TCO***



- ***Data Serving in an SOA Environment***
- ***System z and Data Warehousing***
- ***Master Data Management***

# XML Solves Business Problems Today

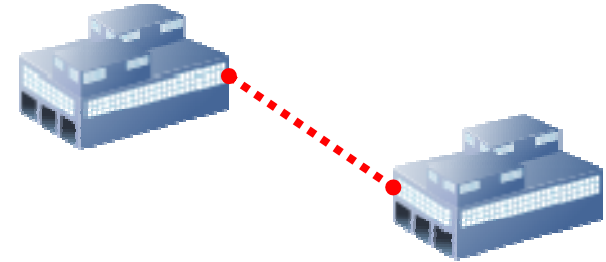
## *Effectively Serving XML Data is Essential*



- Business to Business Integration

- ▶ Platform independent transport mechanism

*Purchase order triggers transactions flowing over a service oriented architecture*



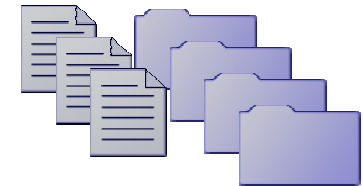
- Document Management

- ▶ Government and legal industry require digital signature

*Tax forms require signature & change year to year*

- ▶ Documents often contain sub-documents

*Literary materials contain books, chapters, sub-chapters*

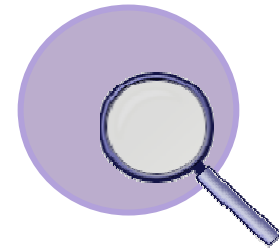


and

- Business Intelligence

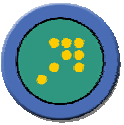
- ▶ Universal representation from multiple sources

*Claims adjustor reviews damage estimates from multiple garages without consideration of original format*



# Effectively Serving XML Data is Essential

## *IBM pureXML Provides the Best of All Worlds*



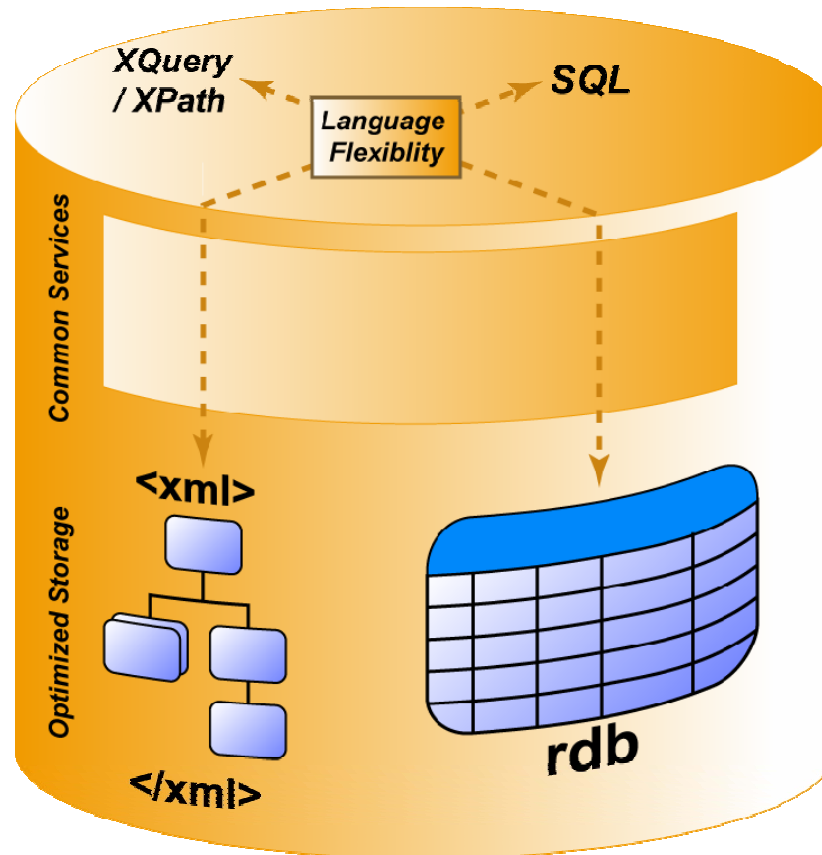
**XML Developer**

***"I see a sophisticated XML repository that also supports SQL."***

***Mature Services***

***Optimized Storage Models***

***Familiar Programming Models***



**SQL Developer**

***"I see a sophisticated RDBMS that also supports XML."***

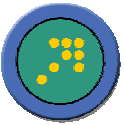
***Familiar Tooling***

***Optimized Performance & Scale***





# Proto-type Results Using DB2 9 Based SOA



**Now in Beta  
On System z**

	Relational	DB2 9
Development Time	CLOB: 8 hrs Shred: 2 hrs	30 min.
Add field to schema	1 week	5 min.
Relative lines of I/O code	100	35
Queries	24 - 36 hrs	20 sec - 10 min
Query non-shredded XML	1 week	½ day



# Information Becomes a Strategic Asset

## *Unified View of Customer Information Builds Customer Service*



- ▶ *Needed integration across different products, IT infrastructures and business processes to respond flexibly to customer requests*
- ▶ *Needed to link products & processes to simplify and expedite orders, increase product customization and speed time-to-market*

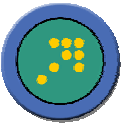
### **Key to Success**

- Separation of Process and Information
- Integrated Management of XML Information; XML Interchange

### **Result**

- Reduced Order Processing Time to Handle 5X Increase in Business
- Enhanced Ability to Customize Product Offerings
- Improved Responsiveness to Customer & Business Inquiries
  - Reduced Development Times; Schema Changes in Minutes not Days
- Queries in Minutes not Hours as with Prior Storage Methods

# Innovation Demands Leverage of Existing & Emerging Developer Communities

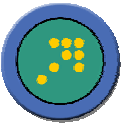


## Commonality across the DB2 Family

- DB2 for z/OS Embraces Traditional and New Developer Communities

- ▶ COBOL, PL/I, REXX, C, C++
- ▶ Java (JDBC / SQLJ)
- ▶ .NET (C#, VB .NET)
- ▶ Open Source
  - PHP
  - Perl
  - Python
  - Ruby on Rails

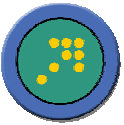




# The Changing Face of Data Warehousing

- Increasing Real-time Orientation
  - ▶ Business Globalization
  - ▶ 24x7 Access
  
- Composite Workloads have Emerged
  - ▶ Analytic workloads are becoming more transactional in nature
    - Streaming inserts/updates
    - High availability, High performance
  - ▶ Transactional workloads need analytic insight
  
- Innovative Applications Demand Insight
  - ▶ Business Performance Management
  - ▶ Web portals and dashboards
  - ▶ Operational apps with built-in insight





# System z Provides Unique Data Warehousing Advantages

- Real-time Operational Data Store (ODS)
  - ▶ Operational data is on System z
  - ▶ Data must virtually be synchronized with operational data
  - ▶ Availability & resiliency
- Existing marts or warehouses are on System z
- System z and SAP Optimization
  - ▶ Using SAP BW when SAP R/3 is on System z
- Major skill set on System z
  
- DB2 V8 has over 50 Data Warehousing Features
  - ▶ Performance & Availability
  - ▶ Ease-of-use, Programming
- Robust Information Integration Software Portfolio
  - ▶ Information Integration Assessment Available



# Inconsistent Master Information is a Major Hurdle

## *Impacts Revenue, Cost, Agility and Compliance*

CH, AUT, DE, UK, FR, BEL, NL, IT :  
Code : 21184

DE, FIN, SWE, NOR, ESP, POR,  
Code : 21190

CAN  
Code : 21204

USA  
Code : 21192

BR, CR, MEX  
Code : 21186

Cod

RO, SLOV  
9616

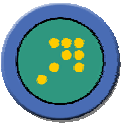
AI, INDO, PHI  
e : 21189

N, MAL, S.KOR  
e : 21188

AUS  
Code : 21190

### Gaining control over product information results:

- 27% improvement in optimized promotions
- 23% improvement in maximizing product and brand management
- 27% reduction in the number of call center questions regarding basic item information
- 20% improvement in employee productivity
- **Industry Drivers:** RFID, Waste Electrical and Electronic Equipment Recycling, Product Information Exchange Standards, Return of Hazardous Substances, Global Data Synchronization, Sarbanes Oxley, etc.



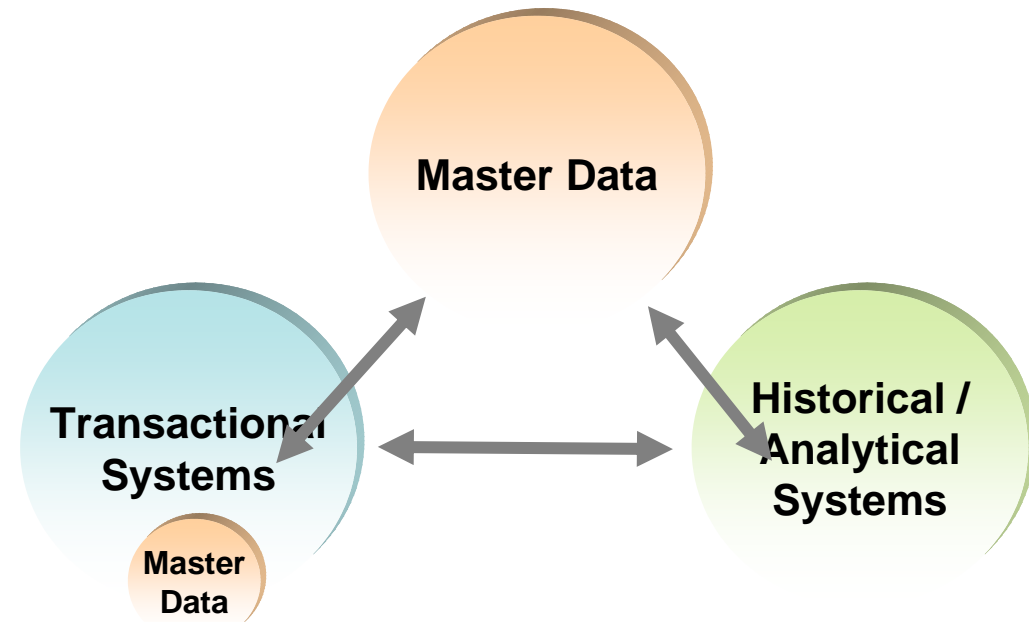
# Master Data Management

*Critical to Enabling SOA and Business Innovation*

## Decouple master

- Master Data Management is a set of disciplines, technologies, and solutions
- ...used to create and maintain consistent, complete, contextual and accurate business data
- ...for all stakeholders (users, and applications) across and beyond the enterprise

just "after the fact" in the data warehouse

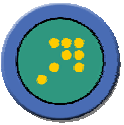


## *For All Types of Master Data*

...products, organizations, locations, trading partners, employees, customers, consumers, citizens, assets, accounts, policies...

# Information Led Business Innovation

## *Leveraging System z Values for Master Information*

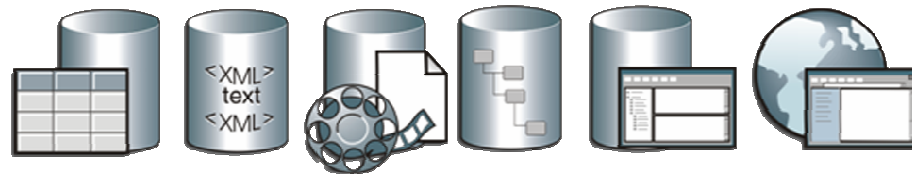


*Existing Information Assets, Governance, TCO, Service Level Quality...*



*Product...Customer...Supplier...Location...Employee...Consumer...Asset...Applicant...*

### **Master Information Solutions**





# Information Becomes a Strategic Asset

## *Separating Information & Process Enables Enterprise-wide Re-use*



- ▶ *Business required an integrated view of customer information across multiple business units within the bank after merger*
- ▶ *Customer information stored across disparate environments - IBM ImagePlus, FileNet Image Services, Mobius....*

### *Key to Success*

- Separation of Information & Process, Federation of Unstructured Information

### *Result*

- 50X increase in requests for content shows customers are being served better
- \$2.3 million savings in 2 years; 64% ROI
- \$1M savings for each new business unit needing a common view of the client

# Information Becomes a Strategic Asset

## *Unified View of Customer Information Builds Customer Service*



- ▶ *Rapid growth into new markets emphasizes need for seamless customer service across business and households*
- ▶ *27 million business and residential connections for local telephone, long distance, wireless, Internet, data, satellite TV & other services*

### *Key to Success*

- Integrated customer information provides single service point across 4 separate billing systems and multiple customer systems

### *Result*

- Unified view of customers improves call center service and productivity
- Streamlined marketing campaigns based on offering bundles
- Phased implementation strategy enables rapid focus business community
- Services Orientation allows reuse of composite information updates

# Panasonic

*Providing Trusted, Timely, Consistent & Complete Information*

*Different Product Managers Coordinate Different Products*

- Savings of €5 million per year anticipated
- 30% increase in product introduction productivity

- 20% increase in accuracy through improved information and support quality to customer and retailer

- Planned expansion to Customer, Supplier and Market Information



*Different Requirements for Different Markets*

## Duplicate Activity

- Time taken from sales and customer focused activities
- No clear maintenance

## Inconsistency

- Product Information stored at all customer touch-points

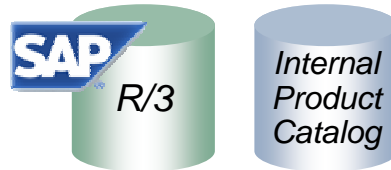
### Master Data Services

- Integration, Synchronization
- Process Templates

- Limited integration
- Few standards



*Products Launching in Different European Markets*



**Internal Systems**



**External Systems**

# Recent News

## *IBM Intensifies Information Management Investments*

*Information is the competitive differentiator in the global economy*

- **IBM announces** new investments **to help clients deliver more business value from innovative uses of information**

- ▶ **\$1 billion in new software investments** over the next 3 years

- ▶ **65% more practitioners** with relevant skills over the next 3 years, adding to a **base of 15,000 practitioners**

- **IBM announces a framework for success**

- ▶ **IBM Information On Demand Center of Excellence**
- ▶ **Information integration assessment available**
- ▶ **New and expanded products & offerings**



# Coming Very Soon: IBM Information Server

*Delivering Information You Can Trust*



## IBM Information Server

### 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

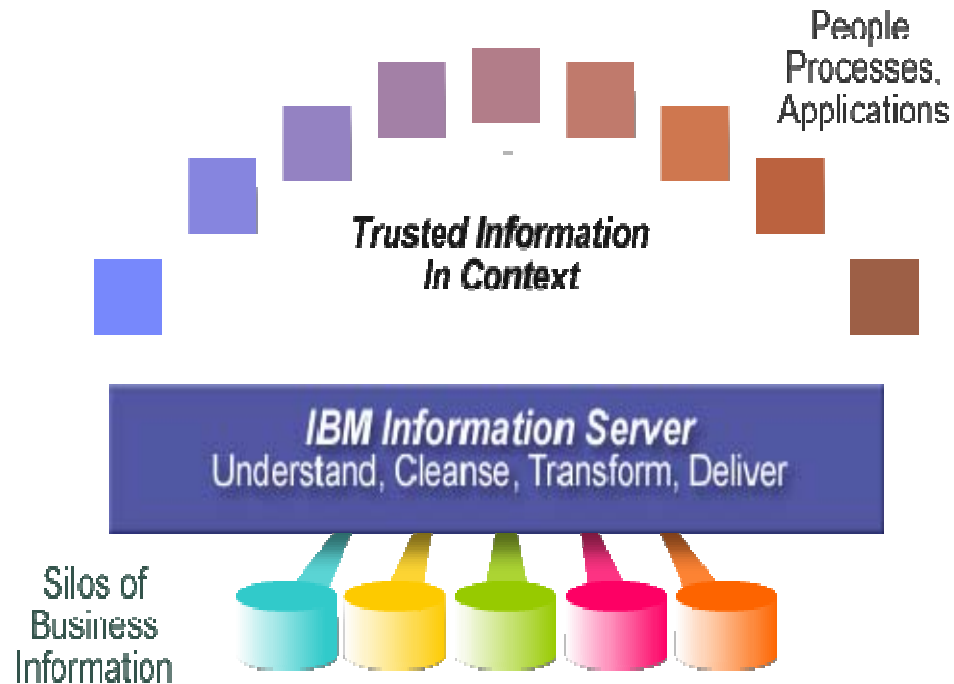
Rich Connectivity to Applications, Data, and Content



# IBM Information Server: Available in November

## *Delivering Information You Can Trust*

Delivers trusted information to people, processes, and applications



- Based on experience with 5,000+ Clients
- 75 Clients in Beta Program; 30 Partners Enabled
- Integrated technology from IBM R&D and acquisitions
- Shared Metadata, Bi-directional, Scalable, Real-time

# Master Information: Optimizing Business Processes

## *Dynamically Delivering Master Information In-context*

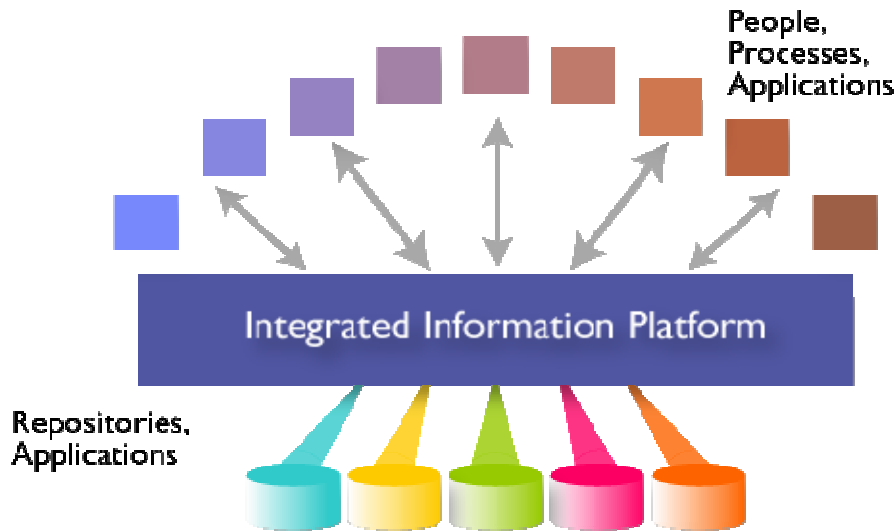
*Industry Specific Solutions Focusing on Customer-centricity, Product and Service Optimization, Risk & Compliance, Threat and Fraud Intelligence*



- Thousands of clients in production
- 3 of the Top 4 Companies in Consumer electronics, consumer packaged goods, retail, financial services...
- Positioned as a leader by Gartner Research

# IBM Information Management Leadership

## IBM Information On Demand



### ■ **Investing to Deliver Value**

- \$1 billion in new software investments over the next 3 years
- Over 15,000 IOD Practitioners
- Expanding Portfolio

### ■ **Technology Leaders**

- Invented Relational DB & pureXML
- Most IM Patents in the Industry
- 284 Patents in 2005 Alone

### ■ **Strong Client Momentum**

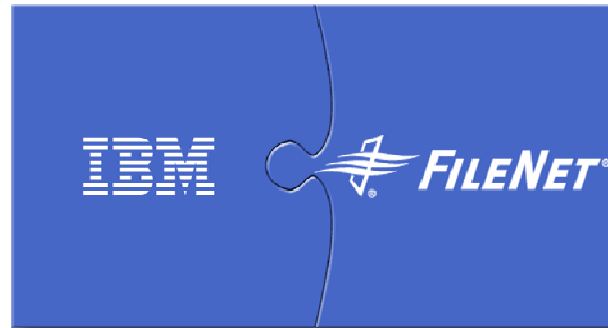
- 1,000+ Master Information Clients
- 5,000+ Integration Clients
- 13,000+ Content Management Clients
- 450,000+ Data Server Clients



# IBM and FileNet Acquisition

## *Extending IBM Content Management Leadership*

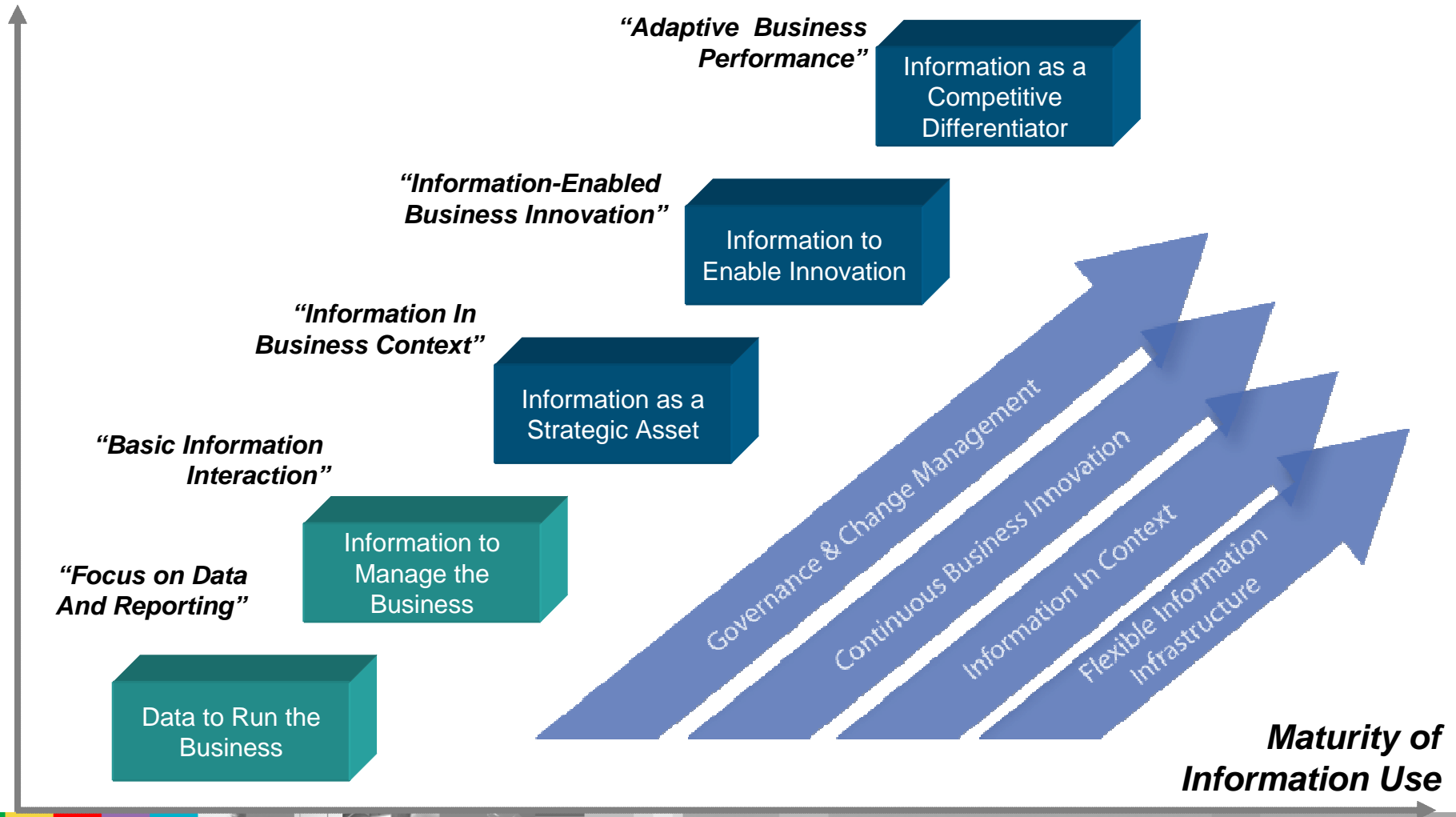
*Industry Solutions Optimizing Activities and Business Processes  
Centered Around Content*



- Doubles IBM Market Share Leadership
- Client & Partner Investments Preserved and Enhanced
- Content-driven Business Process Management
- Federated Records Management
- e-Mail Archiving / Compliance Solutions

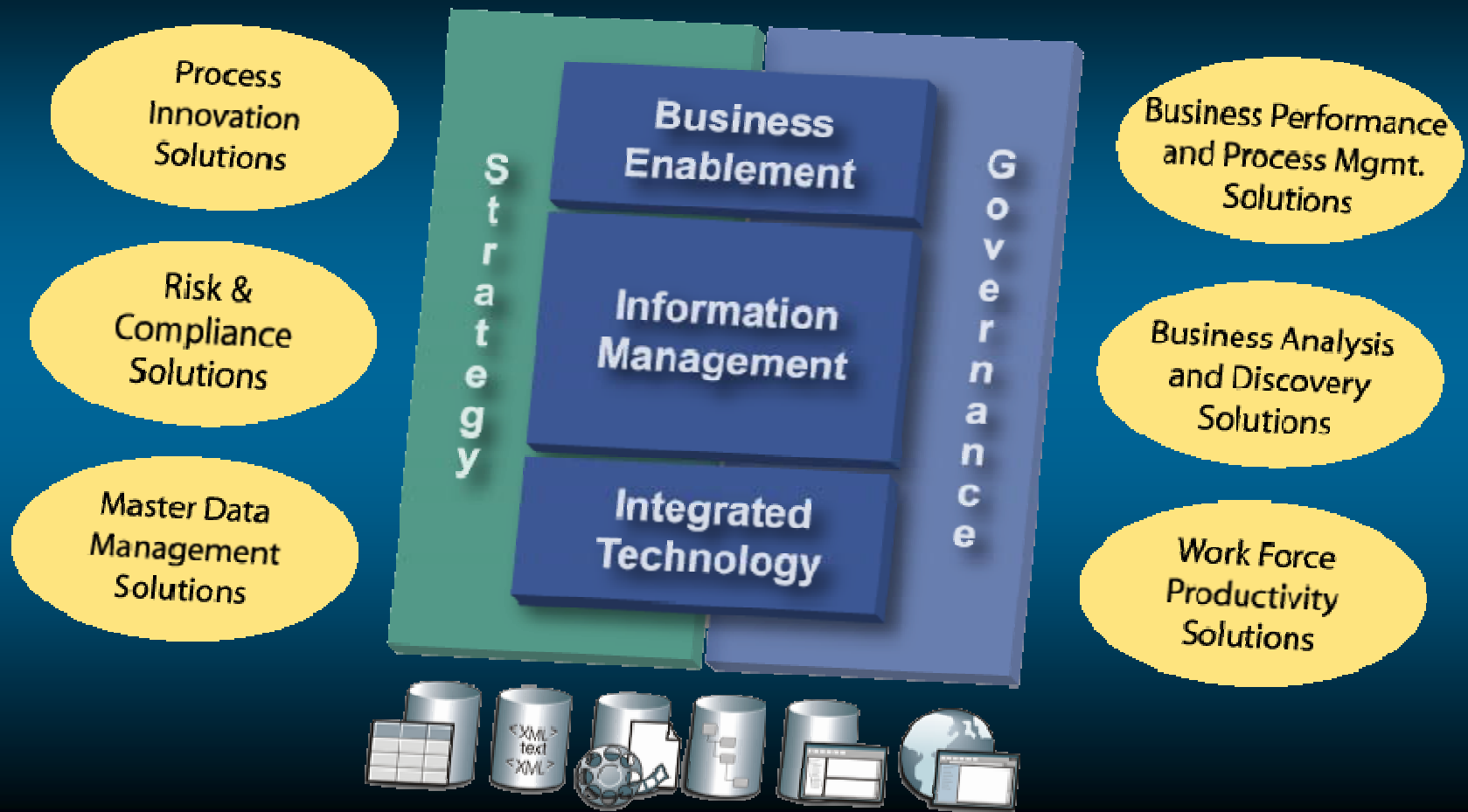
# Changing the Game with Information

*Maturity Model Provides a Roadmap for Defining New Value*



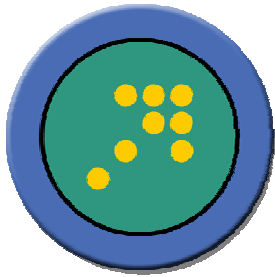
# IBM Provides a Complete Portfolio of Offerings Based on Client & Internal Experiences

**65% more practitioners...adding to a base of 15,000 practitioners with relevant skills**

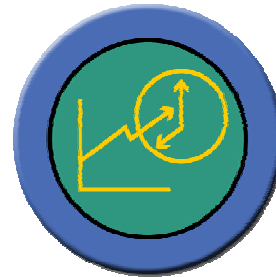


# *The Business Value of Information on Demand*

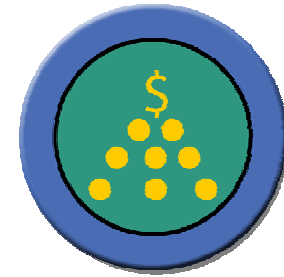
***Information Led  
Business Innovation***



***Meeting Demanding  
Service Levels***



***Optimizing  
TCO***



Thank  
YOU

