The Business Value of Information

IBM System z … platform for today's new applications

Tom Inman
Vice President
IBM Information Management Software

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System z is a Critical Information Management Platform

Continuing Client Investment Underlines Unique Business Value

Continuing Growth

- ***Double digit MIPs growth***
  - DB2: 50% YTY
  - IMS: 22% YTY
- ***Strong revenue growth***
  - DB2: 22 consecutive years YTY growth
  - IMS: 6 years YTY growth

Continuing IBM Deliveries

- **DB2 9 for z/OS Now in Beta**
  - pureXML Data Server
  - Performance, Availability, Security and more
- **Specialized Information Engine**
  - zIIP Now Generally Available
- **IMS**
  - XQuery Preview 1H06
  - SOAP XML Adapters GA 2H06

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Continuing IBM Deliveries

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.

eta

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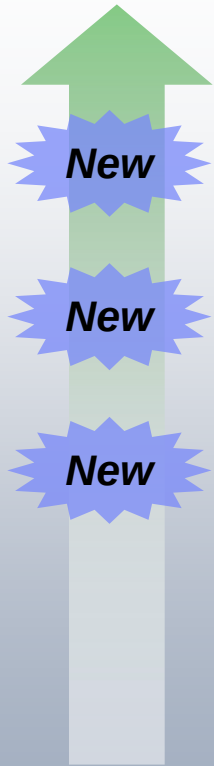
able

2H06



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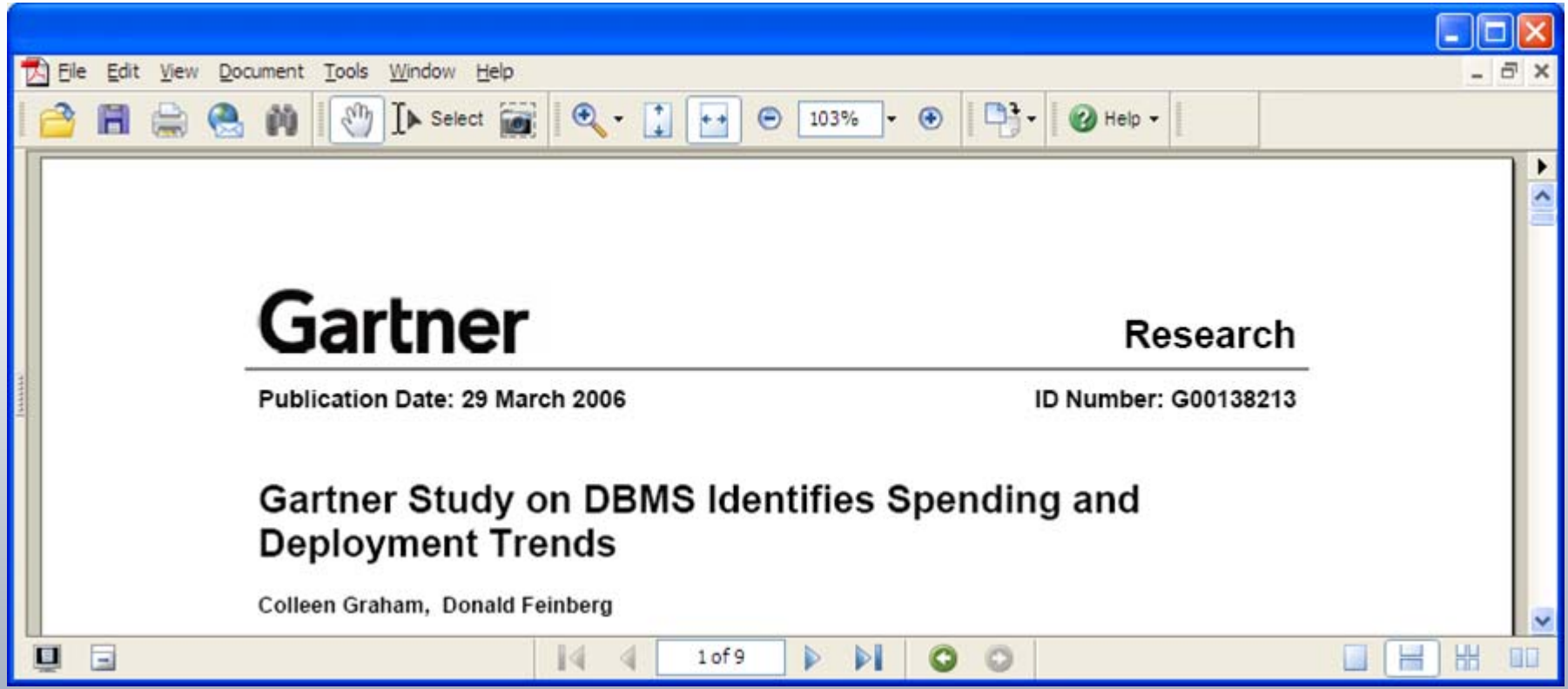

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System z is a Critical Information Management Platform

Continuing Client Investment Underlines Unique Business Value

"…The biggest surprise is DB2 from IBM, with 19 percent planning to install DB2. This is nearly 50 percent higher than the number planning to install Oracle.

…IBM DB2 is at 27 percent planned in the Asia/Pacific region, and Oracle is only at 10 percent…

…Nearly 30 percent intend to transition some of their DBMS workload on to z/OS, a large percentage of whom are moving from Windows to z/OS…

…The overall numbers so strongly in favor of DB2 indicate a pending increase in IBM's market share for DBMS during the next few years…"

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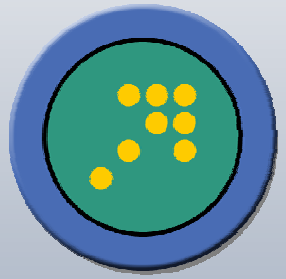
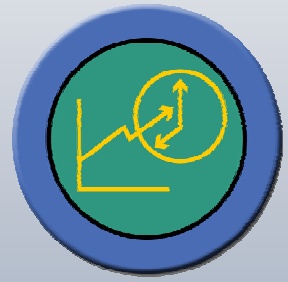
The Business Value of Information on Demand

Information Led Business Innovation



Meeting Demanding Service Levels



Optimizing TCO

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Optimize Infrastructure, Skills & Cost

System z Excellence

System z in Action

Agencia Tributaria

Principal Contactar Novedades Enlaces Ayuda Buscador

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

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

Online Services for Citizen Care

Operational Consolidation

Infrastructure Virtualization

Cost Effective Service & Compliance

UPMC | University of Pittsburgh Medical Center

…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%...

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...

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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

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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

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DB2 9 for z/OS: Raising the Bar

Addressing Business and Infrastructure Goals

Now in Beta

Faster, Lower Cost Development and Porting	▪ 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
Decrease Complexity and Cost	▪ Enhanced Compression and Optimization ▪ Fast table replacement and append ▪ Partition, range, multi dimensional clustering & hashing ▪ Volume-based COPY/RECOVER using FlashCopy ▪ Optimization Service Center ▪ DB2 managed optimistic locking
Streamline Compliance Efforts	▪ Network trusted security context & database roles ▪ Instead of Triggers ▪ Improved auditing capabilities ▪ SSL ▪ New encryption of key DB2 resources
Information Led Business Innovation	▪ Support for both relational & integrated pureXML data ▪ WebSphere integration ▪ Data Warehousing on System z ▪ SAP optimized with 40+ specific features

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IMS is Seeing Exploding Growth as SOA Serving Takes Hold

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

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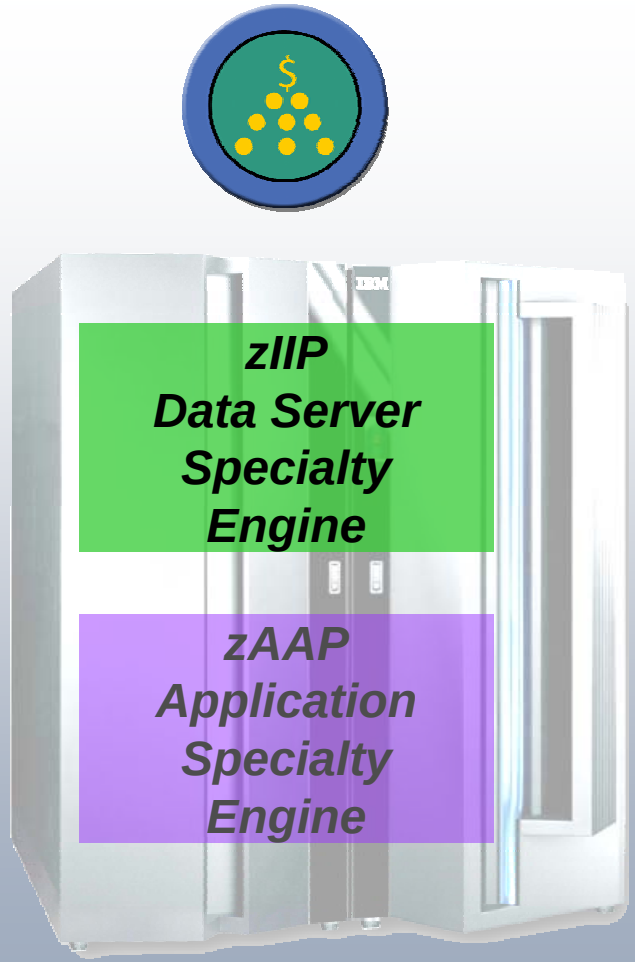
DB2 zIIP Exploitation

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*



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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

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Ray Jones
Day 2

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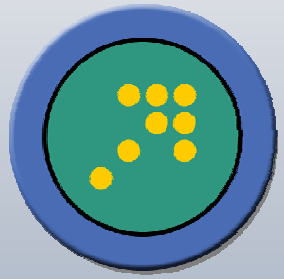
The Business Value of Information on Demand

Information Led Business Innovation



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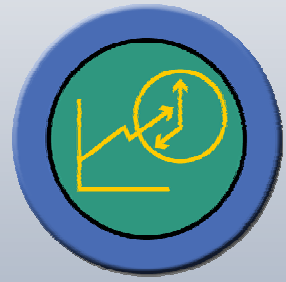

Optimizing TCO

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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…

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

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Today's Business Challenges

Information Availability is the Top Priority

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

Business Challenges *Top Tiers by Importance*	Capabilities *Top Tier by External Spending*	Key Need
▪ ***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**

Source: IBM Attributes & Capabilities Study, 2005

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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

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Information On Demand Business Drivers

Where Business and IT Initiatives Meet

Initiative	*Example Projects*	*Proof Points*	*Client Value*
Insight from Information Analysis	*Demand-driven Supply*	Scotts.	Enterprise warehouse around SAP BW **reduced inventory by 30%**. Order fill rate improving to 98%.
Master Data Integration	*Product Information Management*	UK Ministry of Defence	Consolidated inventory across branches in 9 months..2.5% inventory reduction…**£18 million savings**.
Infrastructure Rationalization	*M&As, Consolidations*	EDF ENERGY	Consolidated disparate systems from merger…**£1M per week savings**. Reduced time to deliver by 45%.
Risk and Compliance	*Basel II Compliance*	BANQUE POPULAIRE	**Basel II compliance without disruption** across 23 systems, 2,500 branches.
Business Transformation	*Customer Service Innovation*	i'm lovin' it	Consistent global metrics of 30,000+ stores **enables one-on-one CRM to 47M daily customers.**

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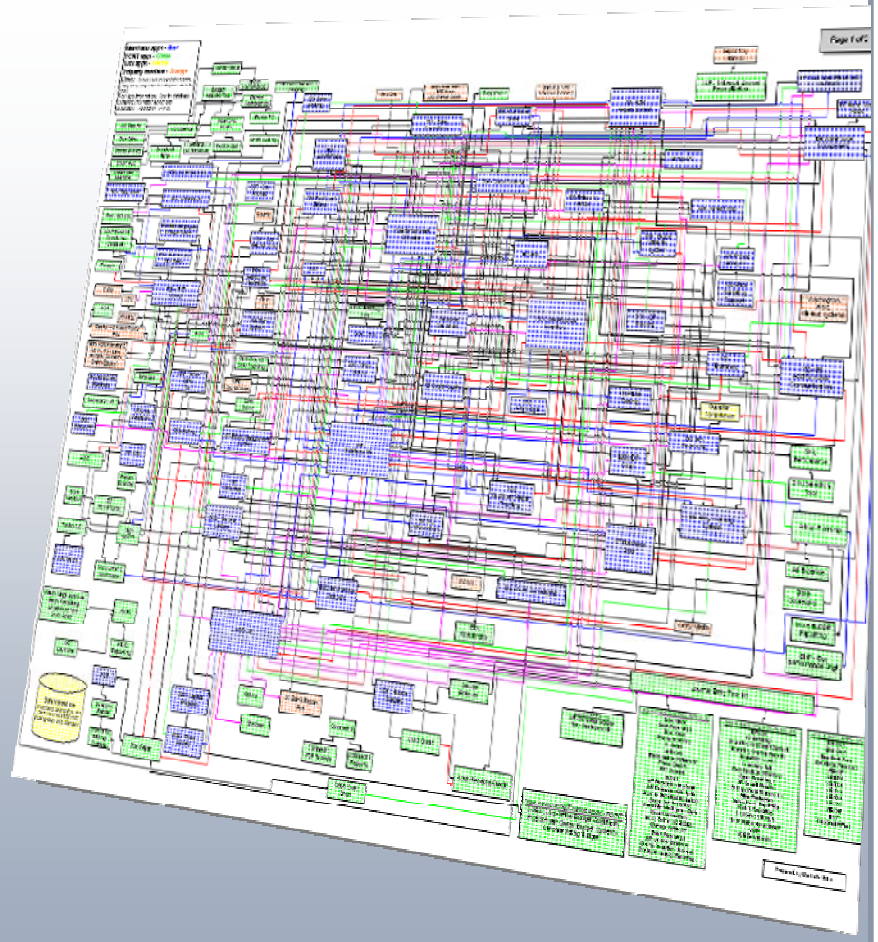
What are the Barriers?

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



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Change And Improvement Have Been Daunting

Can Information Become a Service?

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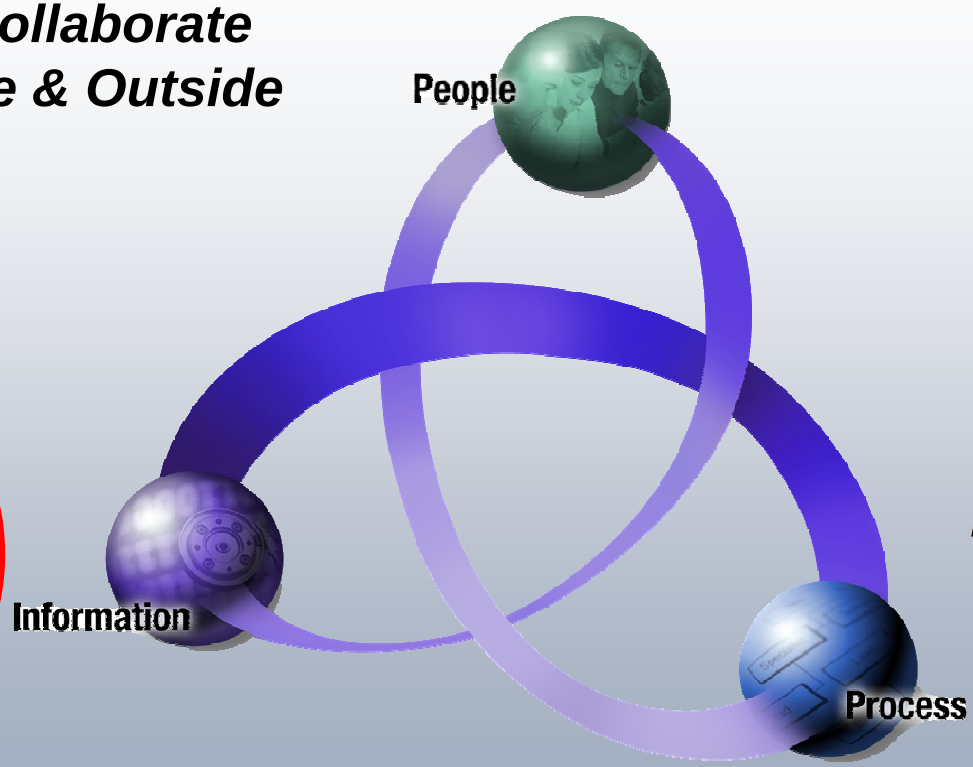
Connecting People, Process, and Information through SOA Helps Overcome the Barriers.

Extend the Ability to Collaborate Inside & Outside



Deliver Trusted Information in Business Context

Business Model & Process Innovation

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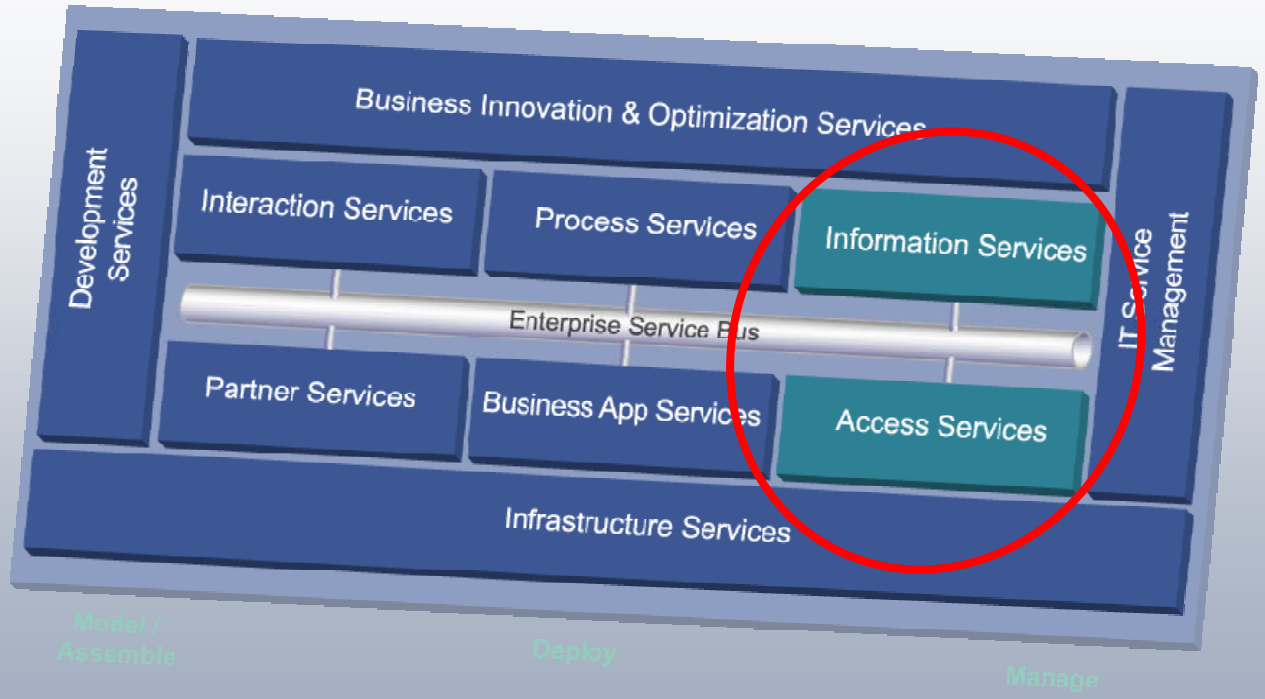
Services Oriented Architecture

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

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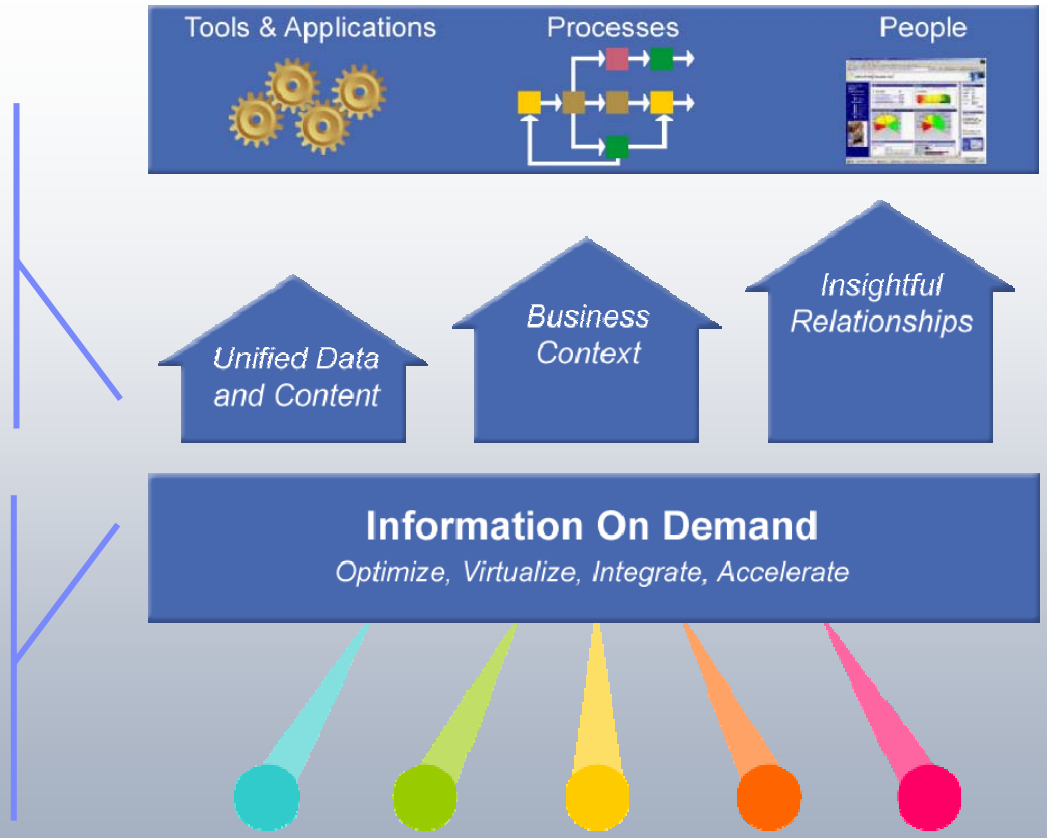
Information On Demand

Moving From a Project-Based to a Flexible Architecture

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



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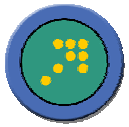
Information On Demand

Moving From a Project-Based to a Flexible Architecture



- ***Accelerate B… Value***
  - Master … anagement
  - E… alytics
  - …rmation Warehousing
  - Industry Models
- ***Integrate D… ontent***
  - Quali… ices
  - …rmation Services
  - Federation Service…
  - Metadata Ser…
- ***Manage … t***
  - C… Mgmt. & Integration
  - Discovery Services…
- ***Optimize Data … s***
  - Data Se… Warehouses, To…

1,000+ Clients

5,000+ Clients

13,000+ Clients

450,000+ Clients

No Other Vendor Delivers the Breadth and Depth of Capabilities

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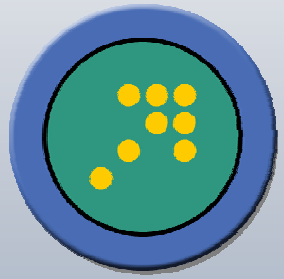
The Business Value of Information on Demand

Information Led Business Innovation



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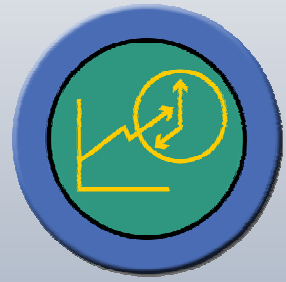

Optimizing TCO

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

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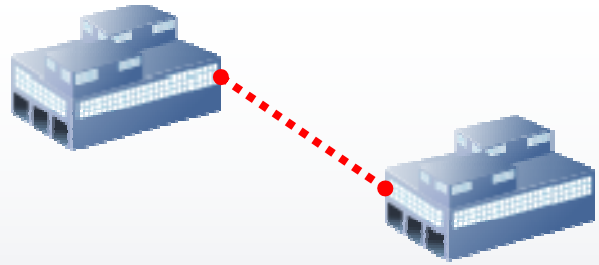
XML Solves Business Problems Today

Effectively Serving XML Data is Essential

- ***Business to Business Integration***
  - Platform independent transport mechanism

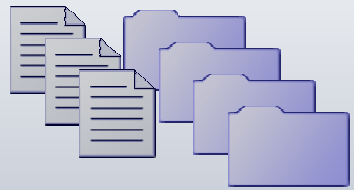
  Purchase order triggers transactions flowing over a service oriented architecture



- ***Document Management***
  - Government and legal industry require digital signature

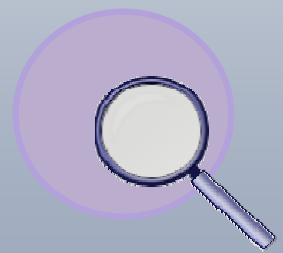
  Tax forms require signature & change year to year
  - Documents often contain sub-documents

  Literary materials contain books, chapters, and sub-chapters



- ***Business Intelligence***
  - Universal representation from multiple sources

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



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Effectively Serving XML Data is Essential

IBM pureXML Provides the Best of All Worlds

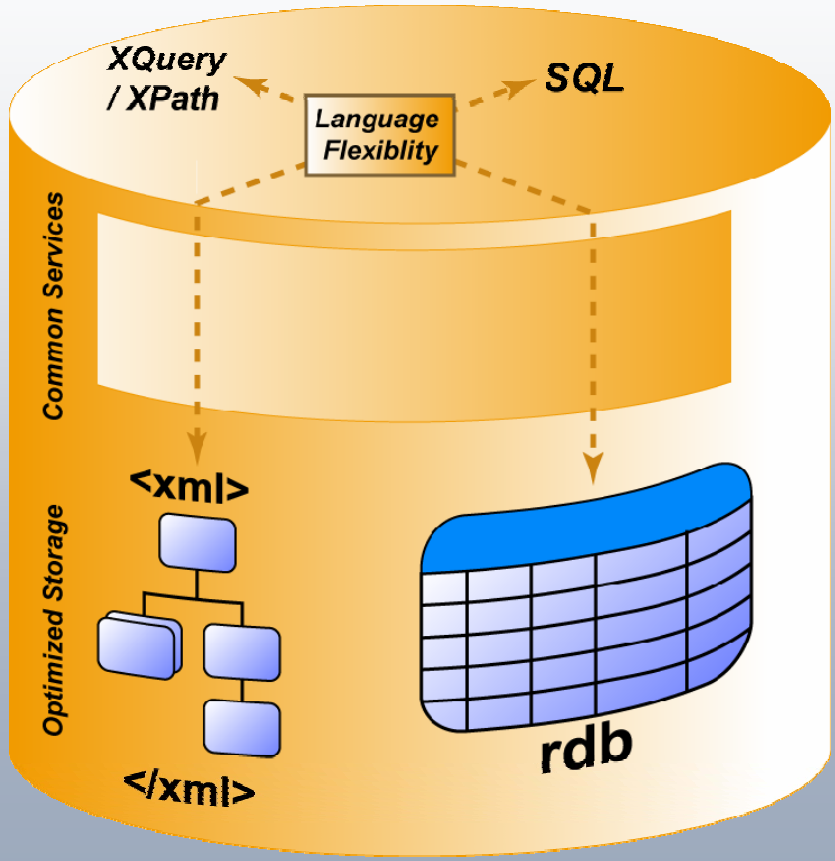
XML Developer

"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

Now in Beta On System z

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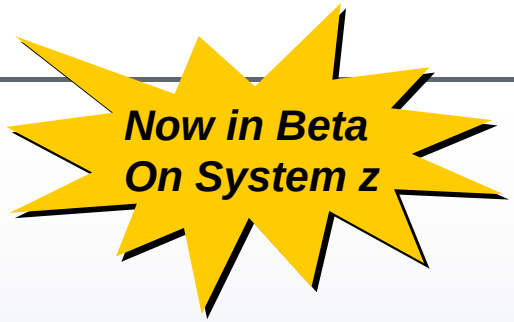
Proto-type Results Using DB2 9 Based SOA



	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

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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

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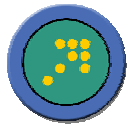
Innovation Demands Leverage of Existing & Emerging Developer Communities



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

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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

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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

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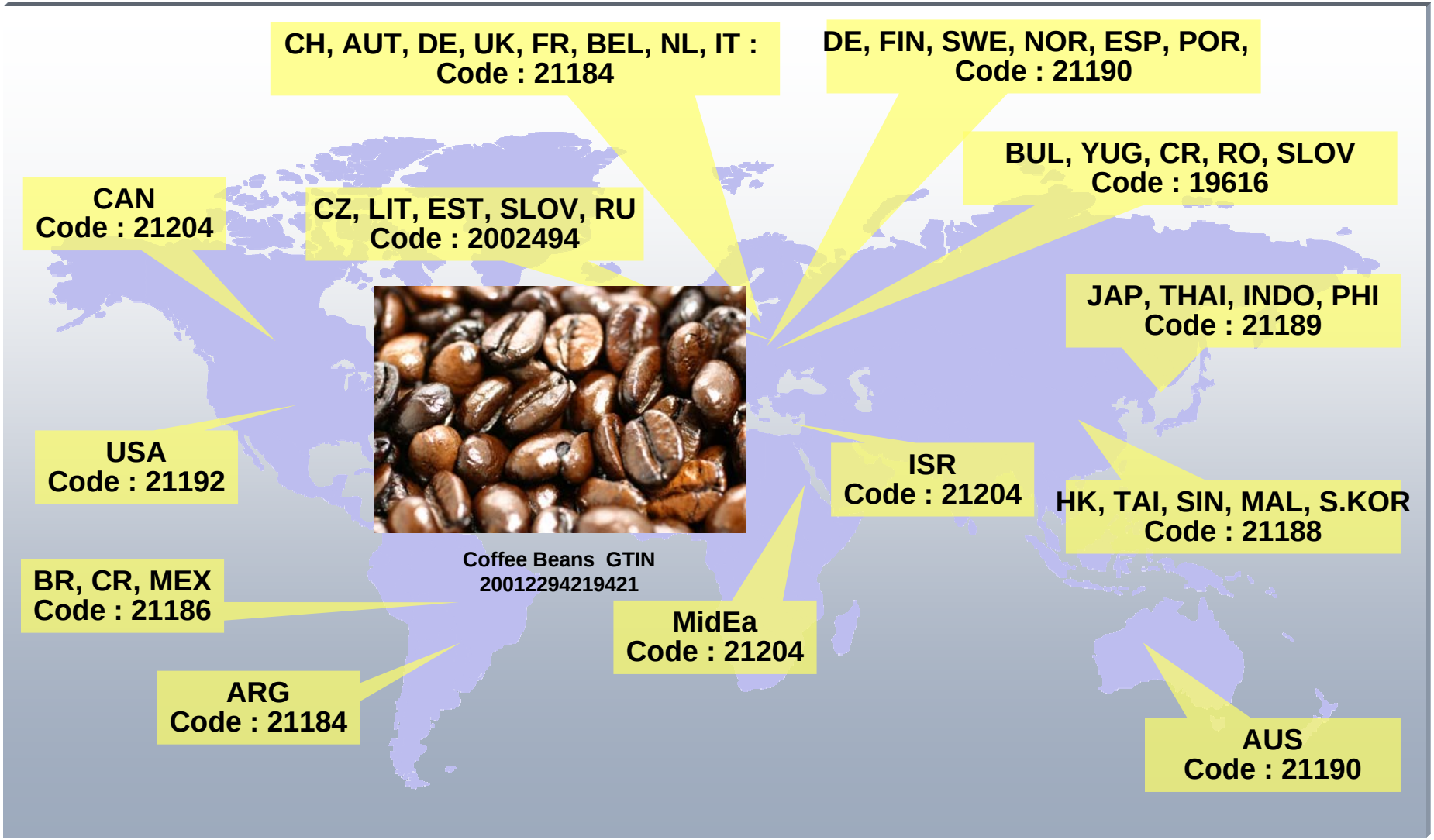
Inconsistent Master Information is a Major Hurdle

Impacts Revenue, Cost, Agility and Compliance



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Inconsistent Master Information is a Major Hurdle

Impacts Revenue, Cost, Agility and Compliance

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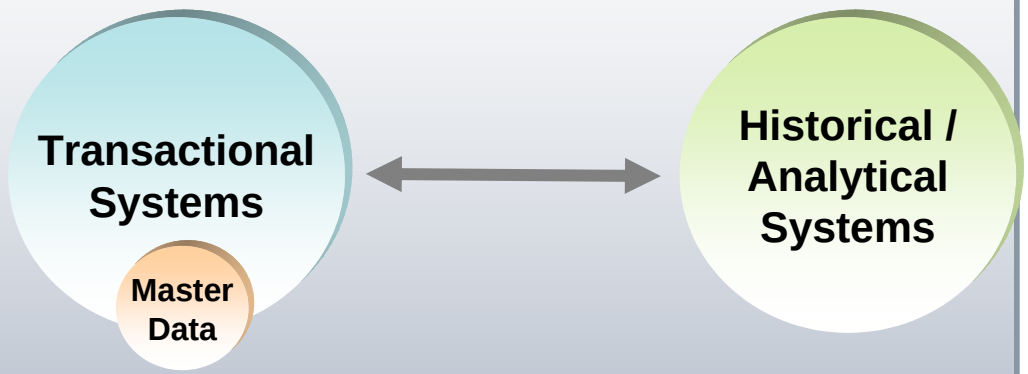
Master Data Management

Critical to Enabling SOA and Business Innovation

Ensure consistent master information across transactional and analytical systems



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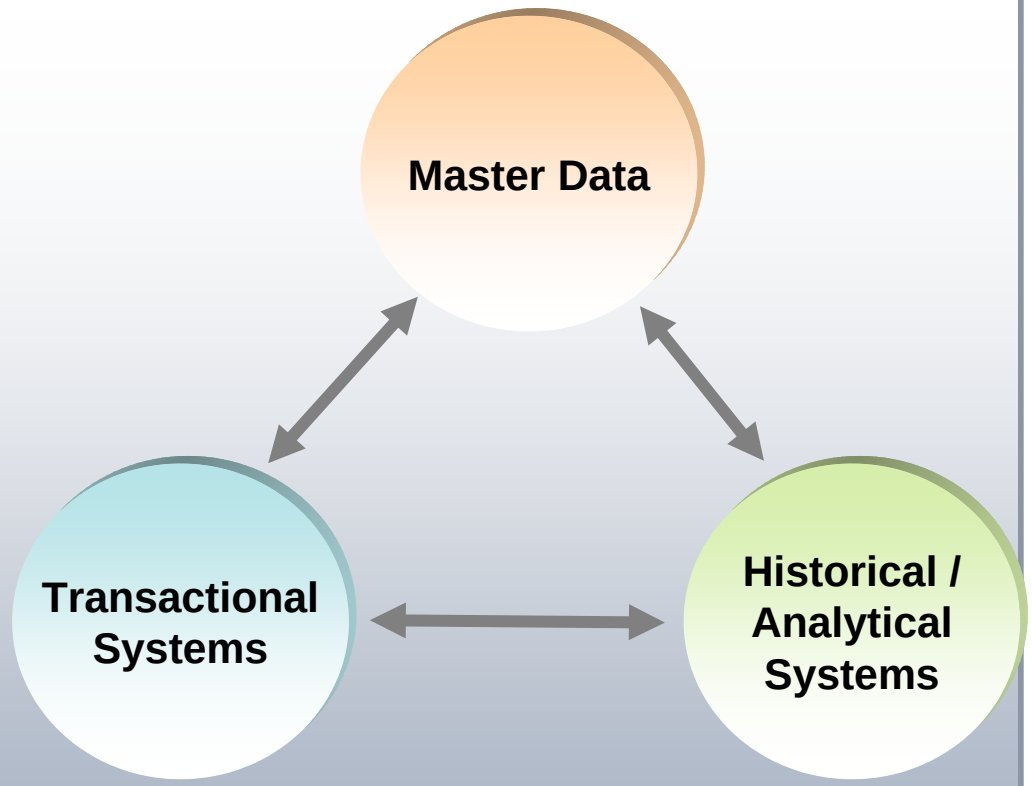
Master Data Management

Critical to Enabling SOA and Business Innovation

Decouple master information from individual transaction applications

Ensure consistent master information across transactional and analytical systems

Address master data issues strategically, not just "after the fact" in the data warehouse



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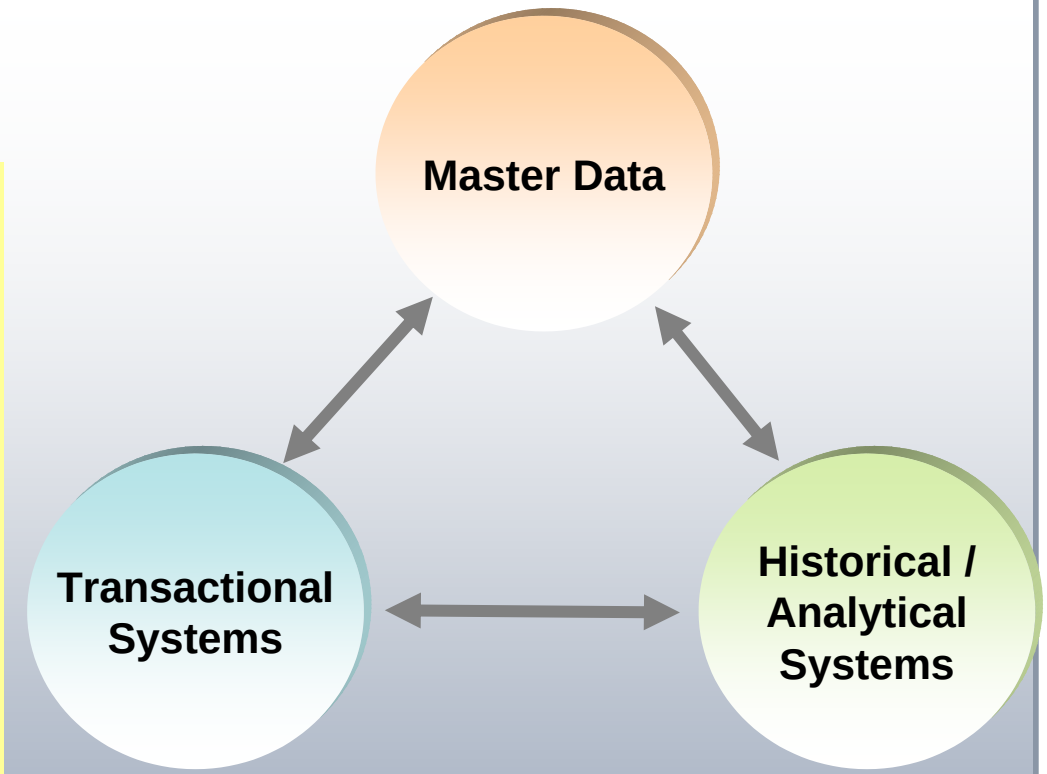
Master Data Management

Critical to Enabling SOA and Business Innovation

- ***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*



For All Types of Master Data

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

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Information Led Business Innovation

Leveraging System z Values for Master Information

Existing Information Assets, Governance, TCO, Service Level Quality…

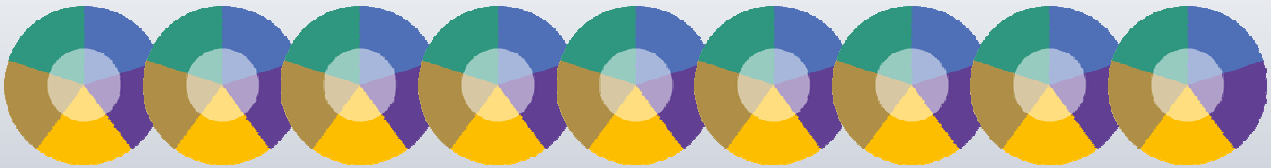
Nationwide On Your Side™ Investments Retirement Insurance

SUNTRUST

the co-operators A Better Place For You™

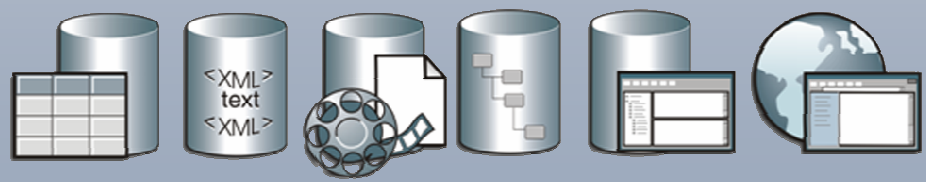
CIGNA A Business of Caring.

Morgan Stanley One client at a time.



Product…Customer…Supplier…Location…Employee…Consumer…Asset…Applicant…

Master Information Solutions



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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

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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

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Panasonic

Providing Trusted, Timely, Consistent & Complete Information

Different Product Managers Coordinate Different Products

Different Requirements for Different Markets

Duplicate Activity

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

Inconsistency

- Product Information stored at all customer touch-points
- Mixed levels of information provided to the customer

Information Islands

- Limited integration
- Few standards

Multiple Plants Delivering Information

Products Launching in Different European Markets

Internal Product Catalog

Retail & Distribution Partners

Internal Systems

External Systems

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Panasonic

Providing Trusted, Timely, Consistent & Complete Information

- *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*

Master Data Services
- Integration, Synchronization
- Process Templates

SAP R/3

Internal Product Catalog

Internal Systems

Retail & Distribution Partners

WAL★MART ALWAYS LOW PRICES

External Systems

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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***

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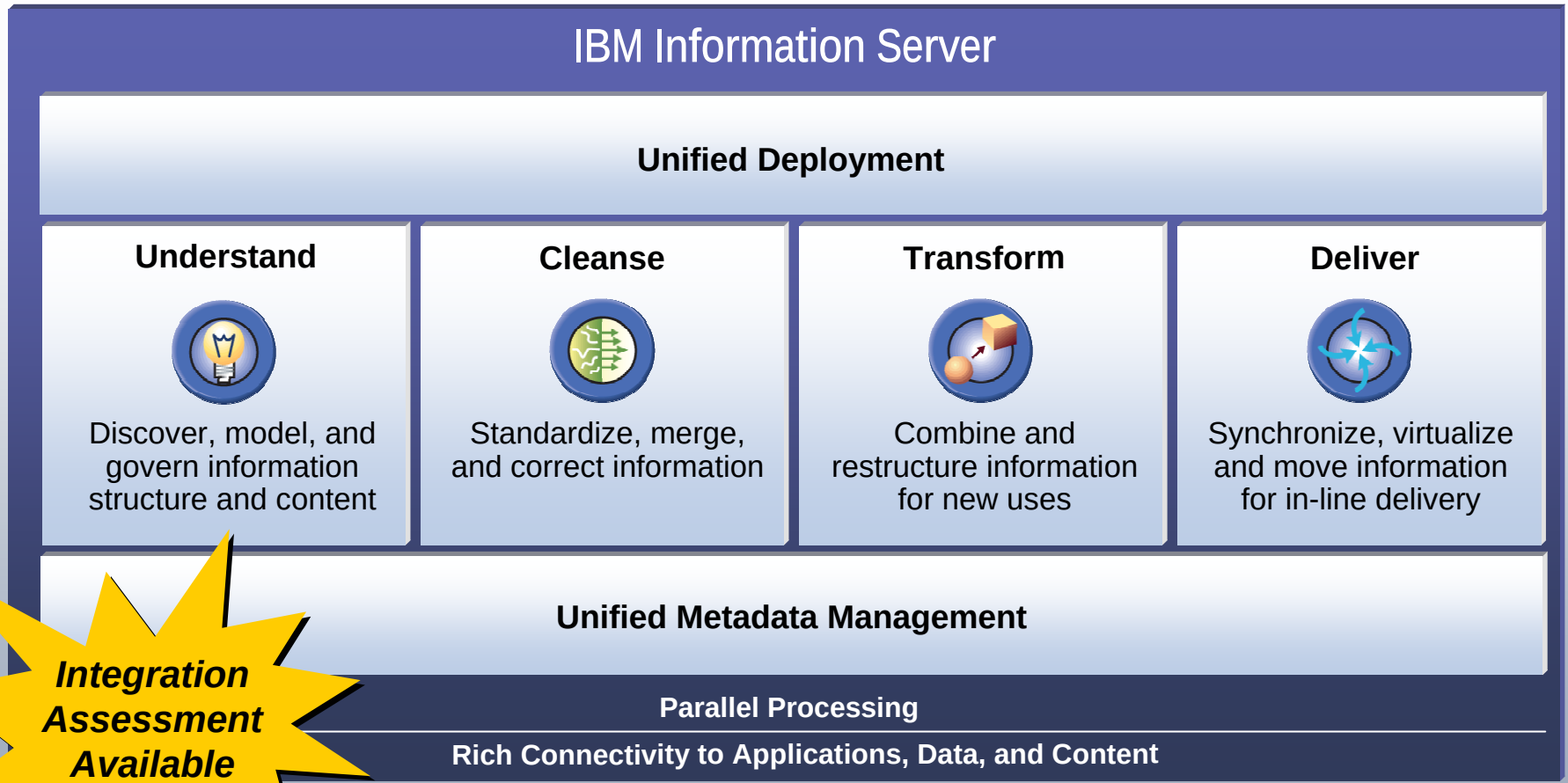
Coming Very Soon: IBM Information Server

Delivering Information You Can Trust

Now in Beta



Integration Assessment Available

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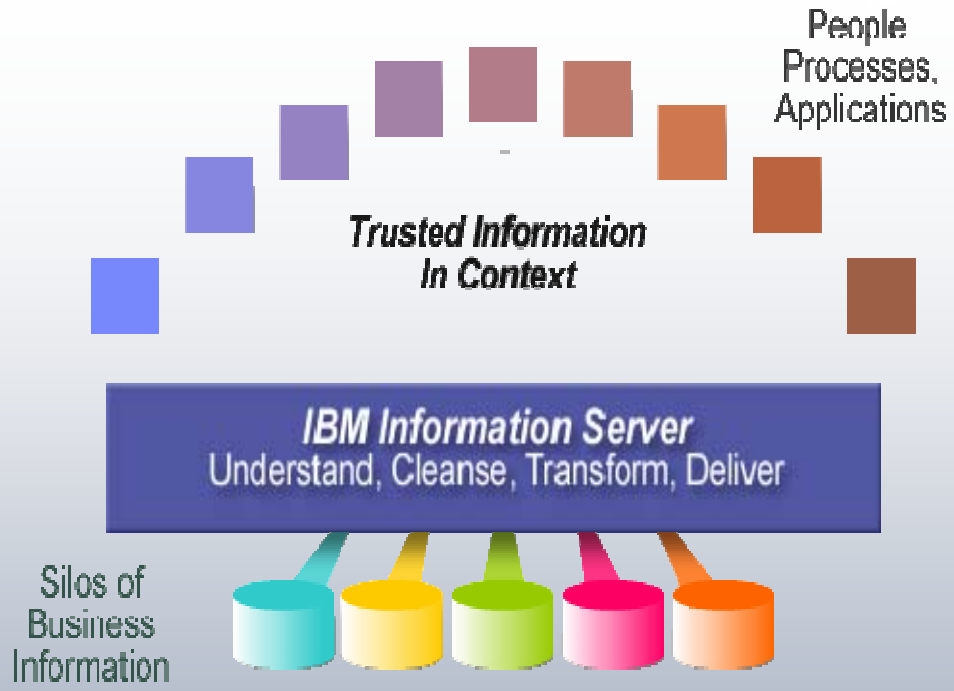
IBM Information Server: Available in November

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***

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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***

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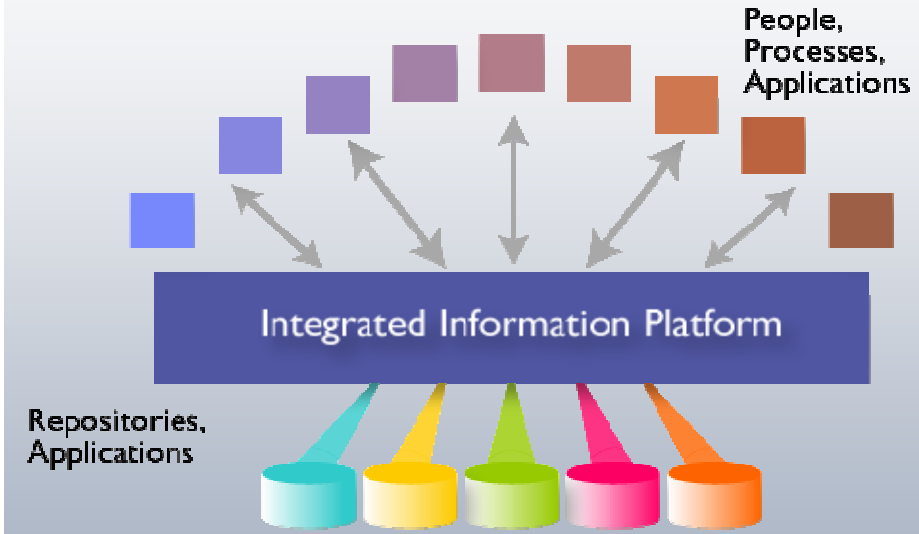
IBM Information Management Leadership

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

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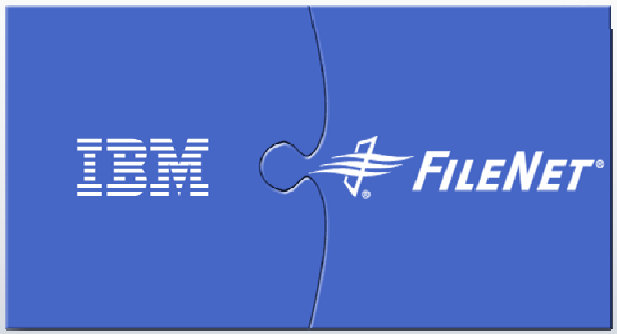
IBM and FileNet Acquisition

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

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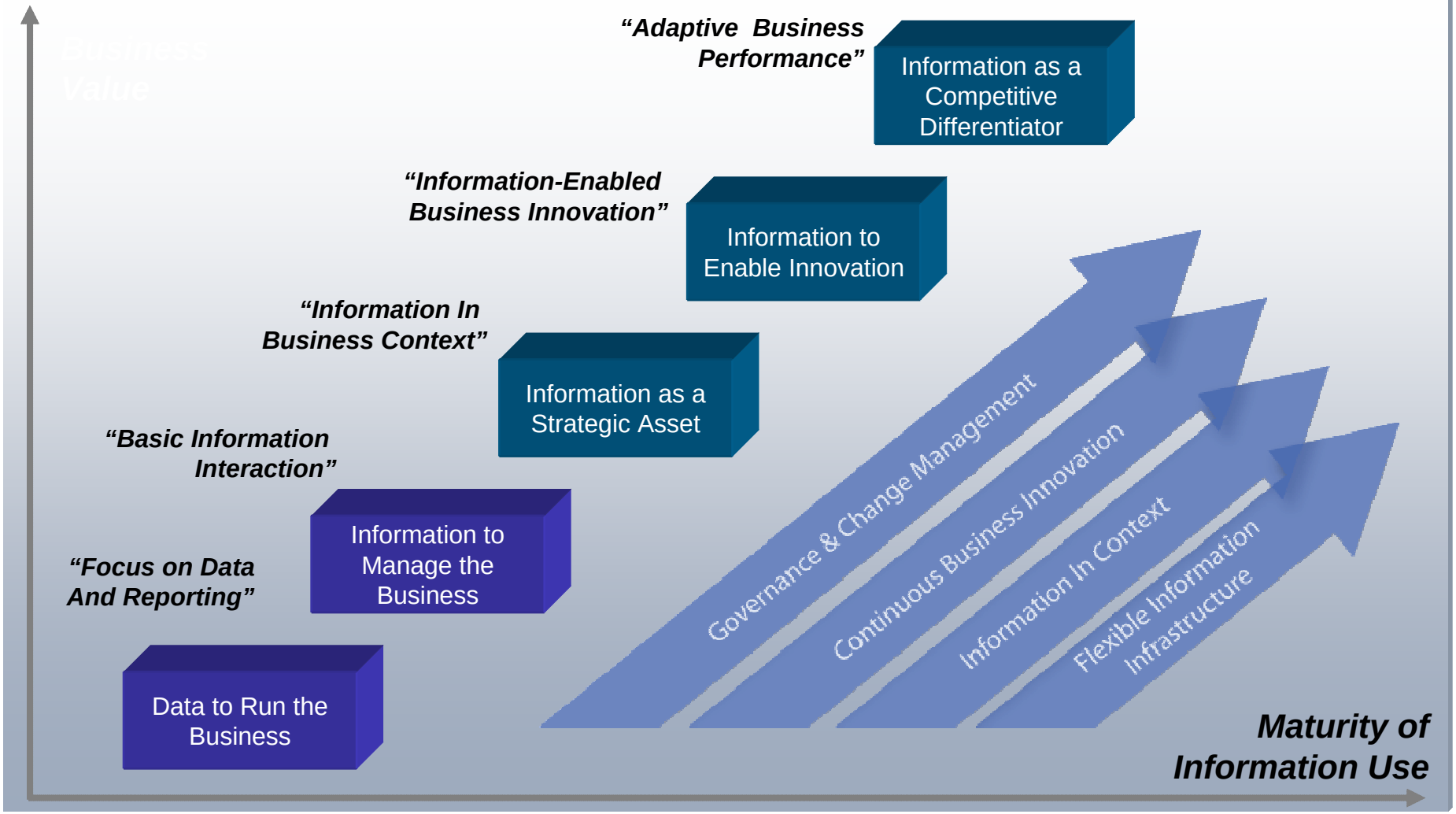
Changing the Game with Information

Maturity Model Provides a Roadmap for Defining New Value



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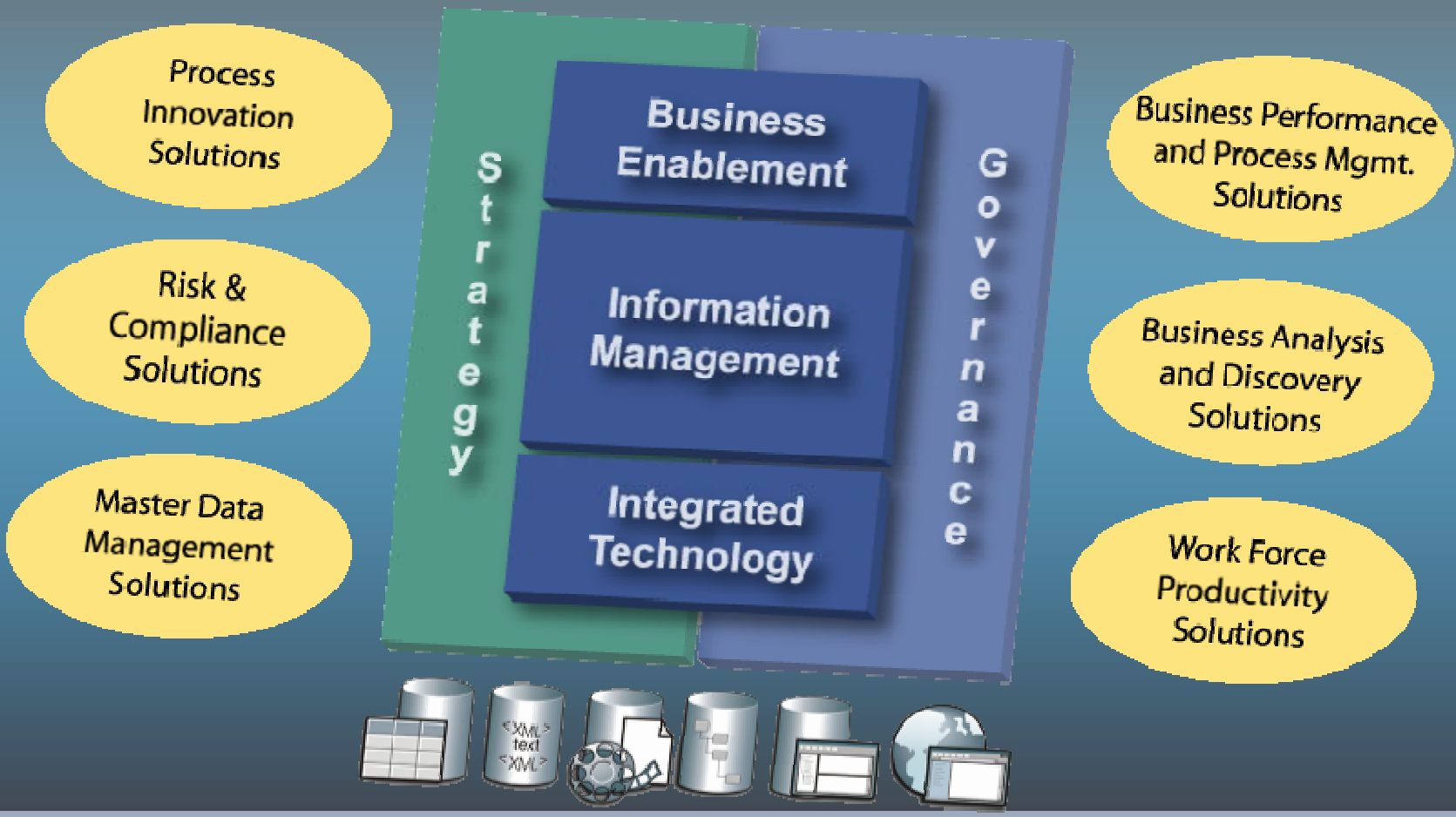
IBM Provides a Complete Portfolio of Offerings

Based on Client & Internal Experiences

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



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Information On Demand 2006

Register Now: www.ibm.com/events/informationondemand

IBM Information On Demand 2006

October 15-20, 2006
Anaheim, California

- Business and IT executives, managers, professionals, DBA's and developers.
- Over 800 sessions
- Strategy and product announcements
- One on ones with executives and specialists
- Birds of a Feather roundtables

Why attend:

- Participate in the PREMIER discussion on ***the future of Information Management***
- Learn how ***Information as a Service*** will help you unlock business value and drive competitive advantage
- Hear how your peers are realizing ***ROI***
- Understand the roadmap to ***long term strategic advantage***
- Learn ***best practices*** in your industry
- Receive the best in ***technical education*** and free certification
- Extensive opportunities for ***networking*** with your ***peers and industry experts***

TAKE BACK CONTROL

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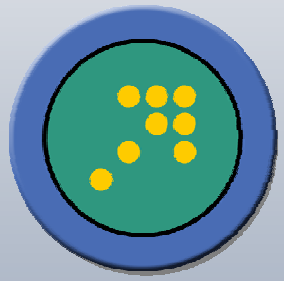
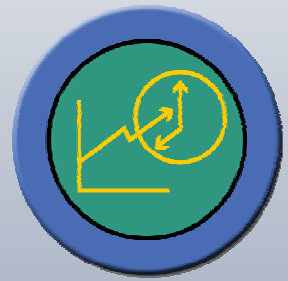
The Business Value of Information on Demand

Information Led Business Innovation



Meeting Demanding Service Levels



Optimizing TCO

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Extras

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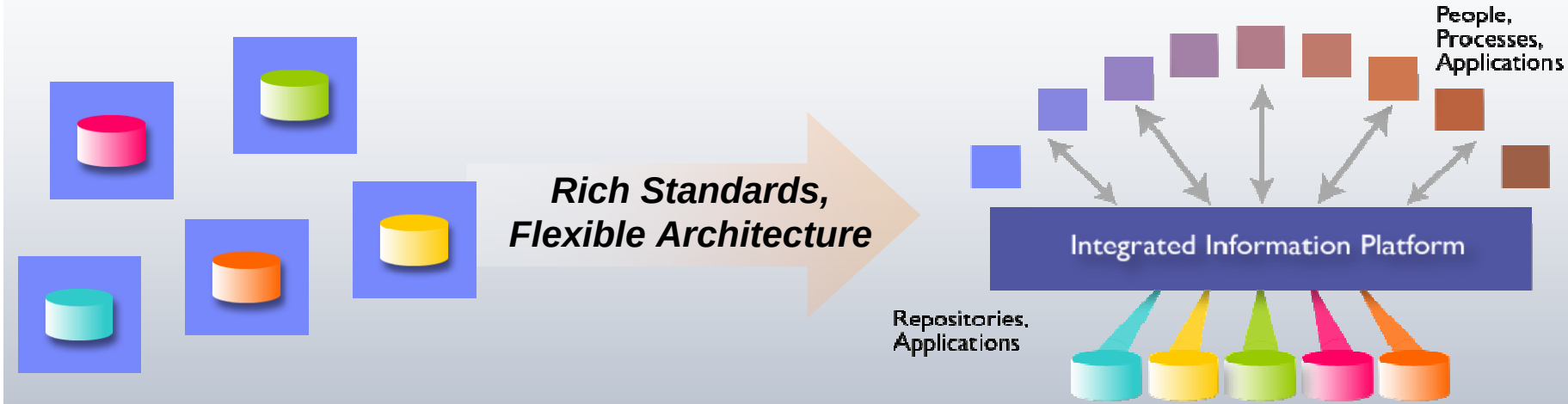
Information Management is evolving based on standards and the need to deliver increasing business value.

Disconnected Silos of Information

Dynamically Deliver Master Information



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

60%+ *of CEOs say they need to do a better job leveraging information*

5X More Value *creation by organizations effective at using information*

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

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Data Warehousing on System z

System z is Foundation for C

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Trying to change this client. Right now none have been identified by the team (z im, and our bi/dw team). Z hasn't been a featured BI/DW BI/DW platform for the most part in recent years. Focusing for that workload is a fairly new strategy, so I'm not surprised we don't have mature, clients ready to be references. This one is very small; 300GB warehouse, 5 concurrent users…

Key to Success

- Company-wide Warehouse on Sys
  - DB2 for System z Warehouse, I
- IBM Partners Sirius Enterprise Sys

Result

- Enabled End-user Drill Down on Information without IT Intervention
- Leveraged Existing System z Skill Set
- Automated Data Quality Processes; Improved Data Quality & Accuracy
- Minimized Data Redundancy

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Optimize Infrastructure, Skills & Cost

System z Excellence

System z in Action

Agencia Tributaria

Principal Contactar Novedades Enlaces Ayuda Buscador

"…We can adapt more quickly to change and build a more reliable infrastructure…"

Benedicto Gallego
IT Service Manager

Online Services for Citizen Care

Endress+Hauser

"…Migrating SAP to System z resulted in what we hoped for: better performance, systems management, security, and reduced costs…"

Werer Hofmann
Mgr. Data Centre & Networks

Operational Consolidation

Swiss Re

Capital & Risk Mgmt. Agents Demand High Availability

"…We have an SLA with a maximum outage per week of ~1 minute. DB2 and System z provides the required availability and excellent performance…"

Erwin Schaefer
Engineer

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..."

Jacques Bourachot
Credit Agricole

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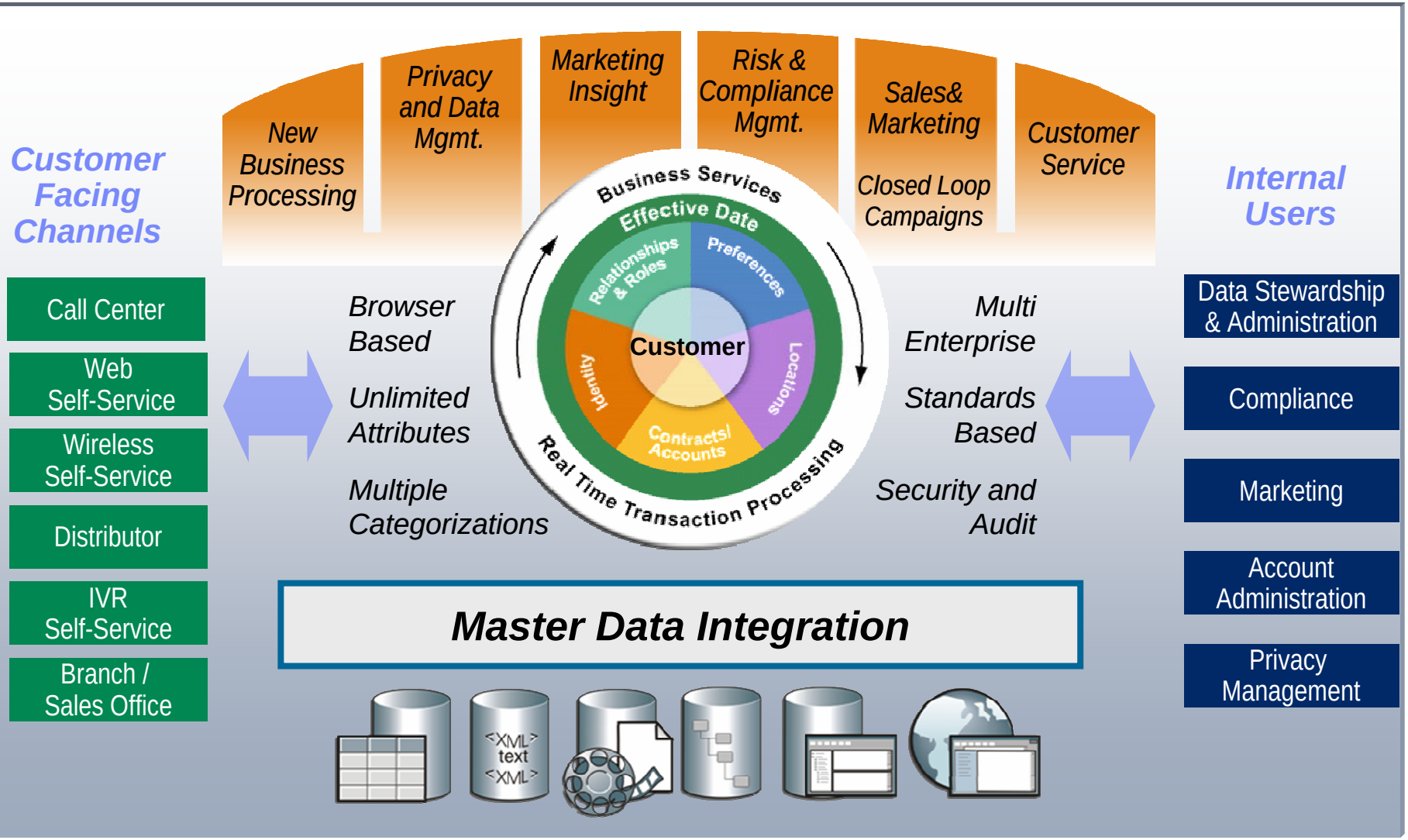
Information Led Business Innovation

Master Data Management is at the Core of SOA



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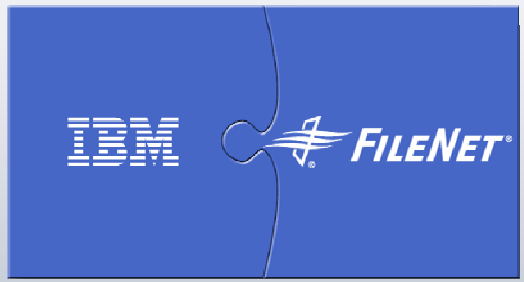
Recent News

IBM & FileNet Extend Leadership in Content Management

- **IBM and FileNet have entered into a definitive agreement for IBM to acquire FileNet**
- **Builds upon IBM's Information On Demand initiative**
  - *Technology from both companies will provide clients and partners with industry-focused, high value solutions to capture and deliver content as part of a business process.*
  - *Client and business partner investments in existing solutions, platforms and products will be preserved and enhanced.*
- Expected closure in the fourth quarter of 2006



Subject to FileNet shareholder approval, regulatory reviews and other customary closing conditions

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XML Today and Tomorrow…

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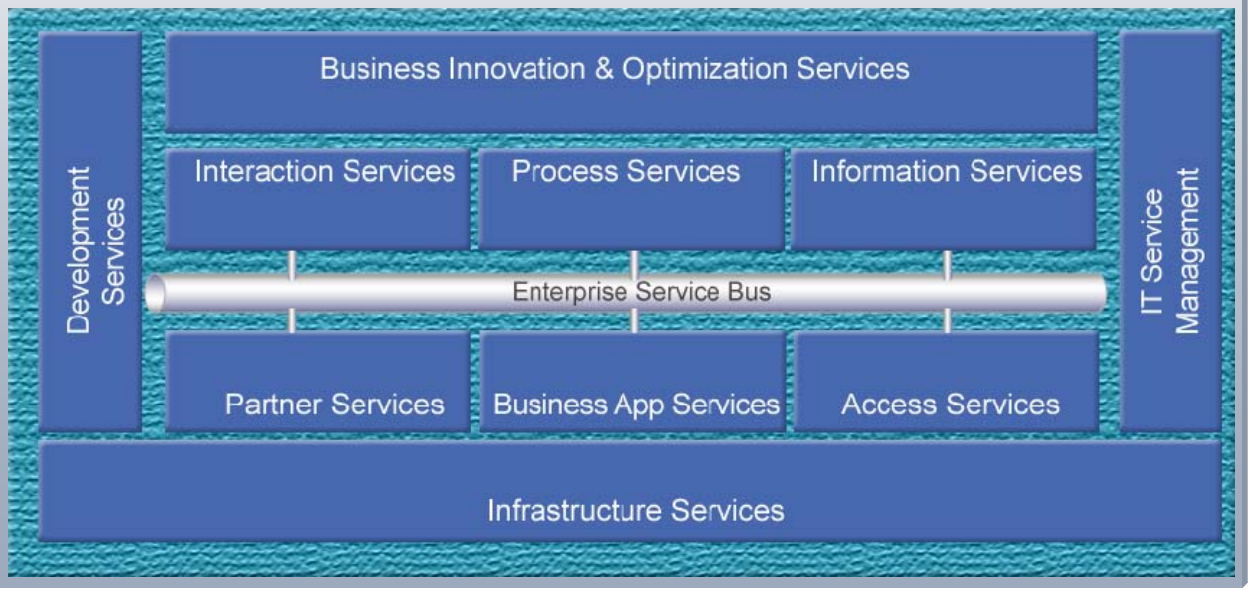
XML Today and Tomorrow…

…You will waste your investment in SOA unless you have enterprise information that SOA can exploit…
Gartner Research

XML is the Fabric of Services Oriented Architectures



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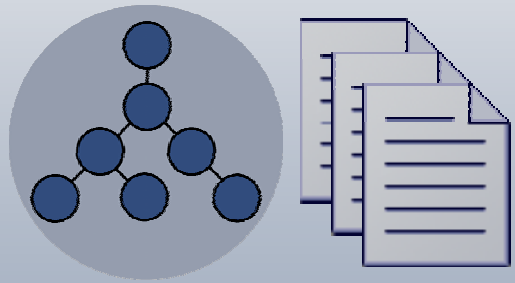
Investing in XML Data

Over $20B Annual Customer Technology Investment in RDB Alone…



XML Database Investments Growing Twice as Fast as Total Database Investment…

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DB2 V8 and zIIP

- DB2 was the first to exploit zIIPs
  - June 2006 : DRDA; Star Schema Queries; DB2 Utility Functions for Index Maintenance
  - July 2006 : Expanded to All Long Running Parallel Queries
- Internal measurements show significant benefits
  - SAP OLTP:
    - 40% better response time
    - Regular CP time reduced
    - 49.8% LPAR redirected
  - BI Batch:
    - Slightly better response time
    - Regular CP time reduced
    - 49% LPAR redirected
  - SAP BW:
    - 43% better response time
    - 50.1% LPAR redirected
  - Utilities range from 5-60% workload redirected
- Customers confirm the value
  - No measurable CPU overhead
  - Many workloads exceeded expected benefit
    - Some DRDA workloads approached 50%
    - Close to 50% reduction in DB2 CPU time
  - Decrease in regular CPU time and elapsed time

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DB2 V8 exploitation of IBM zIIP can add value to database workloads

- Portions of the following DB2 for z/OS V8 workloads may benefit from zIIP*
  1. **ERP, CRM, Business Intelligence or other enterprise applications**
     - Via DRDA over a TCP/IP connection (enclave SRBs, not stored procedures or UDFs)

  2. **Data warehousing applications***
     - **Requests that utilize parallel queries, including star schema**
  3. **DB2 for z/OS V8 utilities***
     - **DB2 utility functions used to maintain index maintenance structures**

- Utilization of the zIIP is expected to be transparent to the application.
  - **No anticipated changes to applications that access DB2 for z/OS V8 data**

* The zIIP is designed so that a program can work with z/OS to have a portion of its enclave Service Request Block (SRB) work directed to the zIIP. The above types of DB2 V8 work are those executing in enclave SRBs, of which portions can be sent to the zIIP. Stored procedures and user-defined functions do not use SRBs and so are not eligible.

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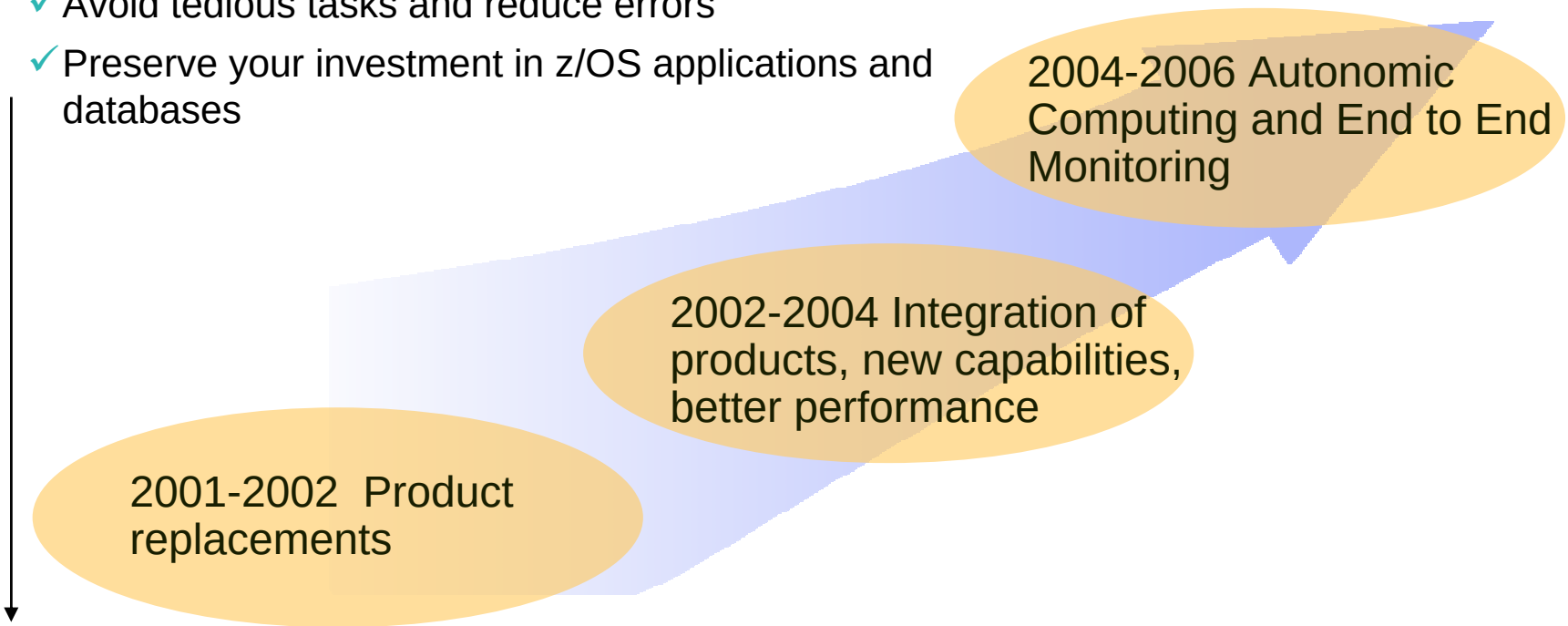
DB2 and IMS Tools

Reducing TCO is our first focus

- ✓Provide autonomic features to add capability and simplify operations
- ✓Avoid tedious tasks and reduce errors
- ✓Preserve your investment in z/OS applications and databases



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DB2 Tools Product Portfolio

Change Management

- DB2 Administration Tool
- DB2 Administration Toolkit SAP Edition
- DB2 Audit Management Expert
- DB2 Change Management Expert
- DB2 Object Comparison Tool
- DB2 Thread Expert

Application Management

- DB2 Bind Manager
- DB2 Path Checker
- DB2 Data Archive Expert
- DB2 Test Database Generator
- DB2 Table Editor
- DB2 Web Query Tool
- Data Encryption for IMS and DB2

Performance Management

- DB2 Performance Expert
- DB2 Performance Toolkit SAP Edition
- DB2 Buffer Pool Analyzer
- DB2 Query Monitor
- DB2 SQL Performance Analyzer
- Tivoli OMEGAMON XE for DB2 Performance Expert/Manager

Utilities

- DB2 Automation Tool
- DB2 Automation Tool SAP Edition
- DB2 Cloning Tool
- DB2 High Performance Unload
- DB2 Utilities Suite

Recovery

- Application Recovery Tool for IMS and DB2 Databases
- DB2 Archive Log Accelerator
- DB2 Change Accumulation Tool
- DB2 Log Analysis Tool
- DB2 Object Restore Tool
- DB2 Recovery Expert

Replication

- DB2 Data Propagator
- DB2 Replidata
- Websphere Replication Server
- Websphere II Classic Federation
- Websphere II Event Publishers

Also on LUW. Only on LUW.

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IMS Tools Product Portfolio

Performance Management
- IMS Buffer Pool Analyzer
- IMS Performance Analyzer
- IMS Problem Investigator
- IMS Network Compression Facility
- IMS Parameter Manager
- Tivoli OMEGAMON XE for IMS

Database Administration
- IMS HALDB Conversion and Maintenance Aid
- IMS Hardware Data Compression- Extended
- IMS Library Integrity Utilities
- IMS Online Reorganization Facility
- IMS Sequential Randomizer Generator
- IMS Sysplex Manager
- IMS Database Repair Facility

Recovery Management
- Application Recovery Tool for IMS and DB2 Databases
- IMS DEDB Fast Recovery
- IMS Database Recovery Facility
- IMS HP Change Accumulation
- IMS HP Image Copy

Utilities Management
- IMS Database Control Suite
- IMS HP Fast Path Utilities
- IMS HP Load
- IMS HP Pointer Checker
- IMS HP Prefix Resolution
- IMS HP Unload
- IMS Index Builder
- IMS Parallel Reorg

TM Management
- IMS Command Control Facility
- IMS ETO Support
- IMS HP Sysgen Tools
- IMS Queue Control Facility

Application Management
- IMS Batch Backout Manager
- IMS Batch Terminal Simulator
- IMS Connect
- IMS Connect Extensions
- IMS MFS Reversal Utilities
- IMS Program Restart Facility
- Data Encryption for IMS and DB2

Replication Management
- IMS DataPropagator
- Websphere II Classic Federation
- Websphere II Event Publishers

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