Leveraging System z and Information on Demand to Achieve New Levels of Business Optimization

Steve Mink

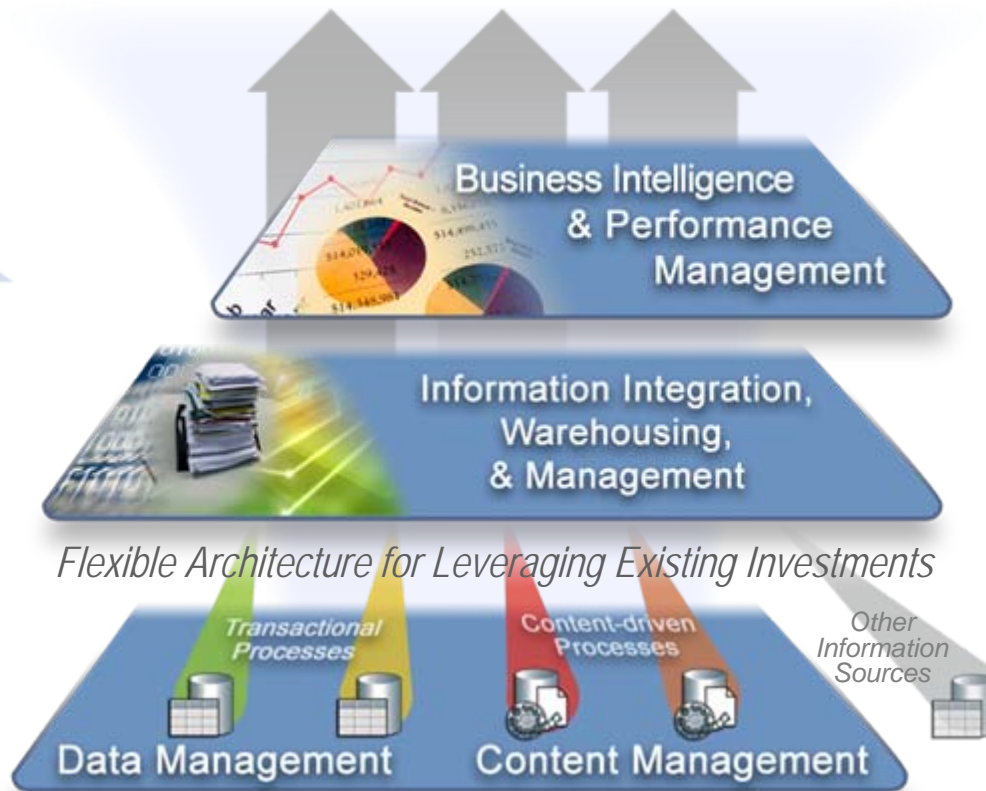**Manager, Information Management Mainframe Software Marketing and Strategy, Software Group**

Information On Demand
Unlocking the Business Value of Information for Competitive Advantage

Financial Risk Insight

Workforce Optimization

Dynamic Supply Chain

Customer & Product Profitability

Multi-Channel Marketing

Business Optimization

Better Business Outcomes

End-to-End Capabilities

Business Intelligence & Performance Management

Plan, understand and optimize business performance

Information Integration, Warehousing, & Management

Establish, Govern, and Deliver Trusted Information

Flexible Architecture for Leveraging Existing Investments

Transactional Processes

Content-driven Processes

Other Information Sources

Data Management

Content Management

Manage information over its lifetime and Optimize content-based processes
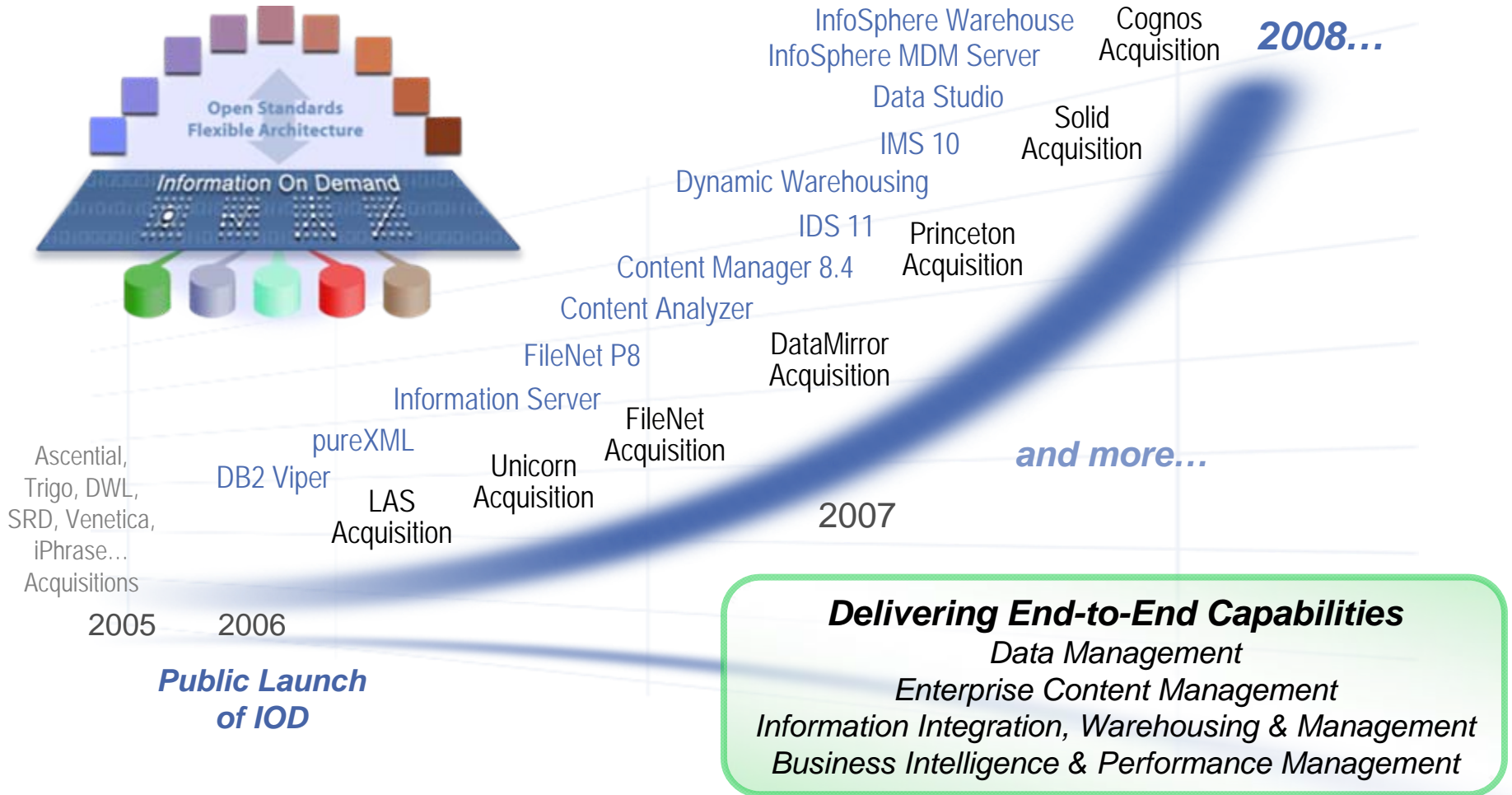
Information On Demand
Investment, Innovation and Deliveries Drive New Capabilities for System z

Unlocking the Business Value of Information
for Competitive Advantage

*Business
Optimization*
Information On Demand
IBM

Cognos 8 BI for System z

Data Studio pureQuery
for z/OS

InfoSphere MDM Server
for System z

Optim/Data Governance
for System z

Information Server
for System z

Content
Manager 8.4
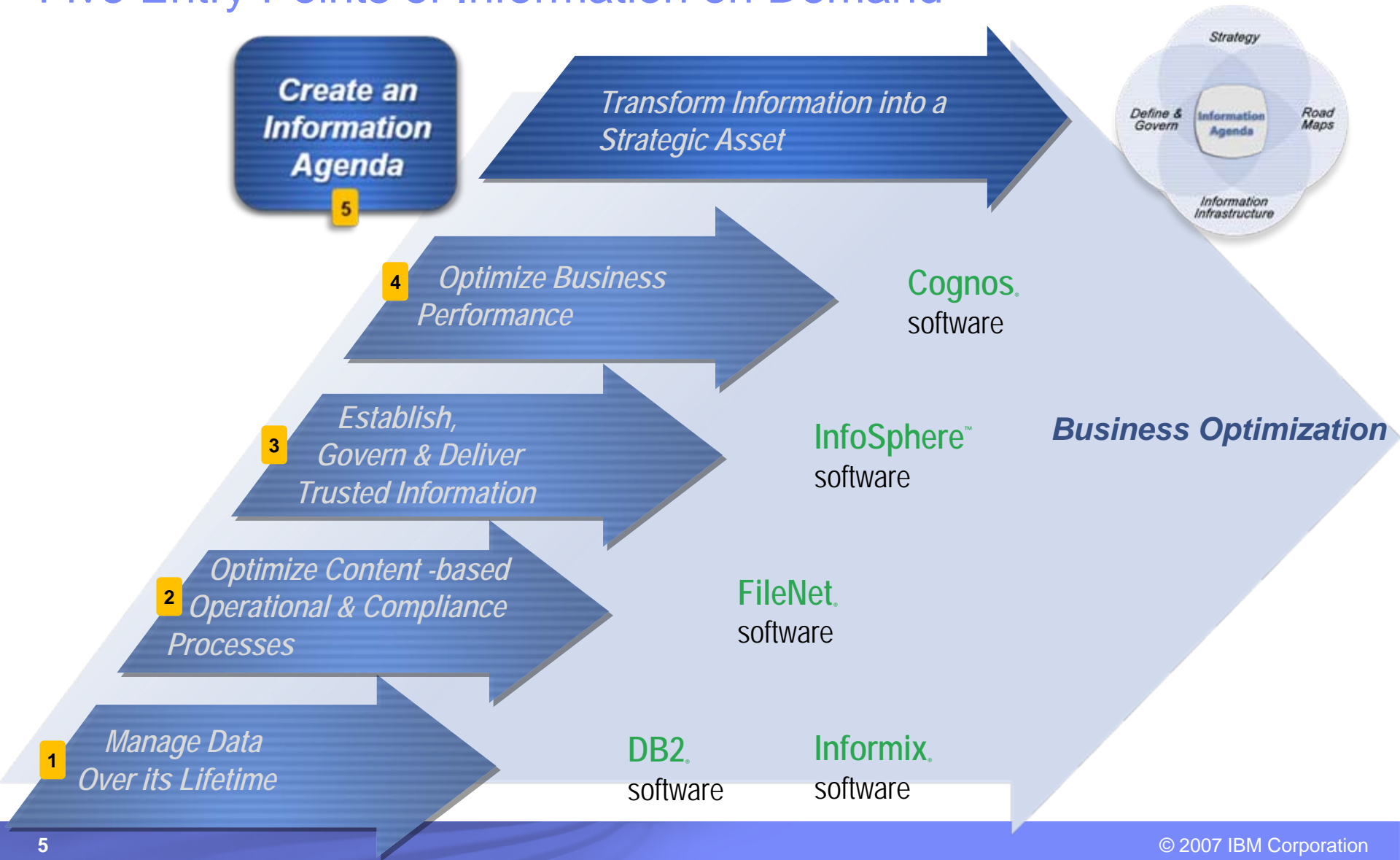
Cognos
Acquisition

2008…

IMS 10

DB2 9
for z/OS

Princeton
Acquisition

2007

and more…

Ascential,
& DWL
Acquisitions
2005

FileNet
Acquisition
2006

Unlocking the Business Value of Information with Five Entry Points of Information on Demand

Create an Information Agenda `5`

Transform Information into a Strategic Asset

Strategy

Define & Govern — Information Agenda — Road Maps

Information Infrastructure

`4` *Optimize Business Performance* — **Cognos** software

`3` *Establish, Govern & Deliver Trusted Information* — **InfoSphere™** software

Business Optimization

`2` *Optimize Content -based Operational & Compliance Processes* — **FileNet** software

`1` *Manage Data Over its Lifetime* — **DB2** software — **Informix** software

Are you effectively managing data over its lifetime?

"…Information is growing like crazy, we need to get control of it…"

- ***Ensure accessibility, retention and compliance***
- ***Reduce cost of deploying and managing data***

Information Management Software

- Database Management servers
- Integrated Data Management tools and solutions

Supporting Capabilities

- Storage Management Solutions
- Systems Management & Security

  Data management consulting & implementation services

IMS 10
Reduce management cost and accelerate use of data

**Accelerate Integration in a Service Oriented Architecture**

- Enable IMS as client and server to participate in SOA environments

- XQuery support and broader XML and Java Tools

- Reusable IMS services for SOA business flexibility

- Easier to expose IMS transactions as web services

- Application Connectivity - Reduced time/cost to integrate applications

Reduce operational costs

- Simplified development reduces time to value

- Enhanced commands ease operations management

- IMS tools suite enhanced and ready for IMS 10

Improve Reliability, Performance, and Security

- New Database Recovery Control - reduces recovery time

- Greater Multiple Systems Coupling bandwidth improves performance

- Fast Path and Utilities enhancements
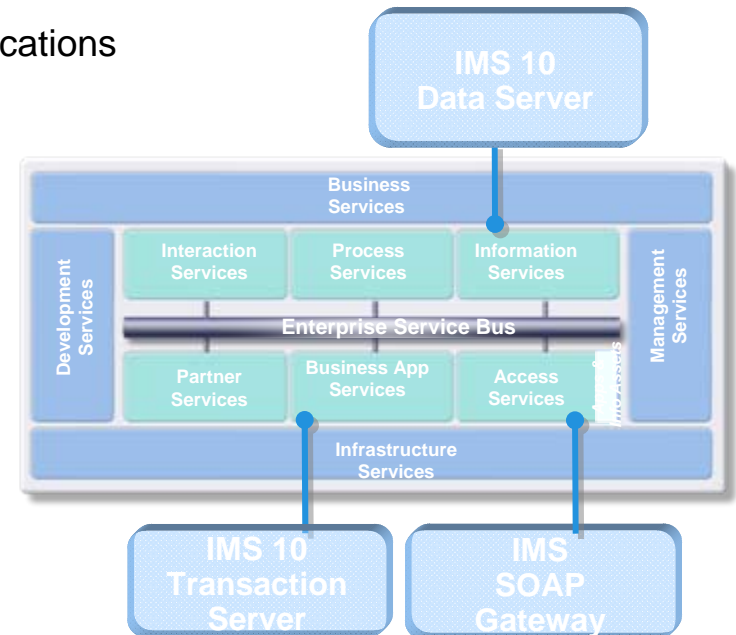
IMS Roadmap

Most new releases every 2-3 years

- IMS 9 GA October 2004, IMS 8 GA October 2002
- IMS 10 QPP started Jan 2007
- IMS 10 GA October 2007
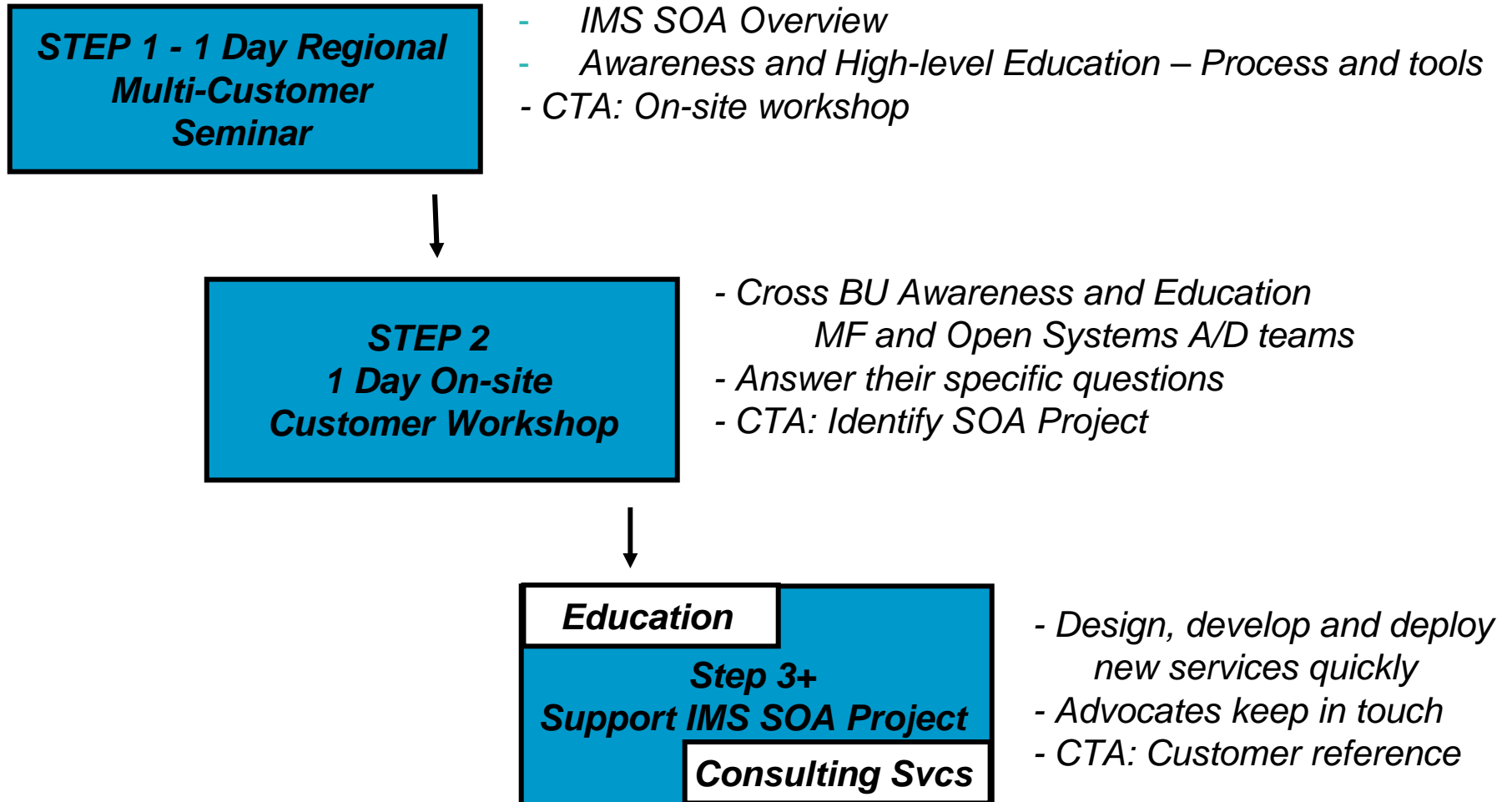- IMS 10+1 development/test well underway
- IMS 10+2 in design phase

Two current supported field releases

- N-2 release out of service 1 year after current release GA

Key focus areas for new versions

- Scalability, performance, throughput, RAS
- Ease of use, automation, lessen skill requirement
- SOA application integration, standards, compliance

IMS SOA Program – 3 Steps

STEP 1 - 1 Day Regional Multi-Customer Seminar

- IMS SOA Overview
- Awareness and High-level Education – Process and tools
- CTA: On-site workshop

STEP 2 1 Day On-site Customer Workshop

- Cross BU Awareness and Education
    MF and Open Systems A/D teams
- Answer their specific questions
- CTA: Identify SOA Project

Education

Step 3+ Support IMS SOA Project

Consulting Svcs

- Design, develop and deploy new services quickly
- Advocates keep in touch
- CTA: Customer reference

Announcing IMS 11
Increased business flexibility for SOA environments

- **Open Database Support**

  - Allows any application on any platform to access IMS data directly and transparently

- **Enhanced Application Development Tooling**

  - Easier application development and modernization

- **Autonomic Computing Capabilities**

  - Relieve skill constraints

- **Raising the Performance Bar Again**

  - Extreme performance with greater than 22,000 tran

DB2 9 for z/OS
Addressing Corporate Data Goals

SOA Enablement	• pureXML • Optimistic locking for WebSphere • LOB performance, usability
Dynamic Warehousing	• Many SQL improvements • Dynamic index ANDing • Histogram statistics • New built-in OLAP expressions • Optimization Service Center
Simplification, Reduced TCO	• Index compression • Partition By Growth tables • Cloned tables • Volume based backup / recovery
Workload Consolidation	• More online schema changes • Online REBUILD INDEX • Trusted context and ROLEs • Parallel Sysplex clustering improvements

DB2 for z/OS with the z10 and z/OS
System z innovation, raising the IT bar and taking System z to the next level of...

... scalability and performance

- z10 CPUs, memory, I/O and network bandwidth means:
  - Significantly improved SQL performance
  - Improved connectivity for remote apps, especially batch inserts for large queries
- Reduced allocation and catalog overhead
- Infiniband CF links, HiperDispatch
- More efficient disk usage minimizes disk constraints
- More efficient XML parsing
  - Up to 30% performance improvement
  - Up to 100% XML parsing on zIIP / zAAP
- Hash DSAB Searches brings faster startup/restart
- Basic HyperSwap
- zIIP assisted XRC

XML Capabilities Inside the Engine pureXMLtm

Performance, Performance, Performance

SERVER

CLIENT

SQL(X)

Data Management Client

Customer Client Application

SOA

Relational Interface	Relational Storage
XML Interface	DB2 Server
	XML Storage
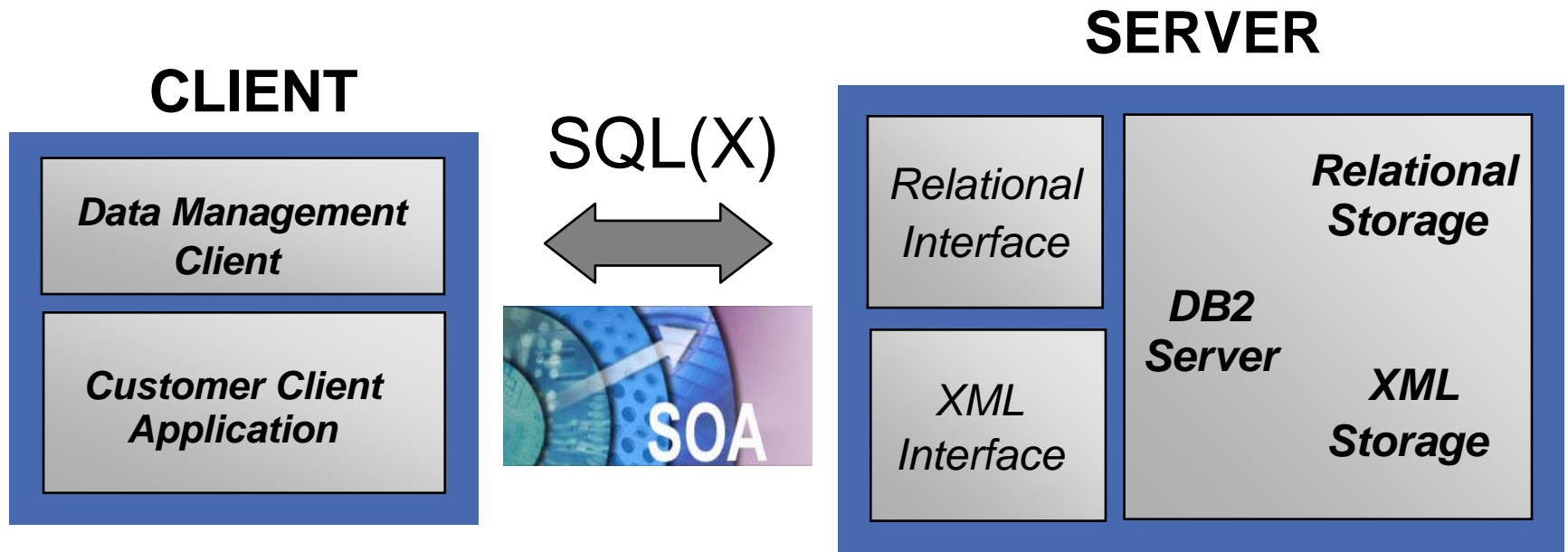
Native storage Schema Index Functions Utilities

DB2 for z/OS Value Unit Edition - OVERVIEW

- **Drive <u>Net New</u> Workload Growth on new and existing DB2 for z/OS**

  - ➤ Offering DB2 for z/OS as OTC for qualified workloads

    - Available today for DB2 V8 and DB2 V9

  - ➤ Net new workloads limited to those that qualify for zNALC

    - For example: commercial packaged applications, data warehouses, and WebSphere applications running in a partition, machine, or sysplex

  - ➤ Available for on a standalone machine or restricted LPAR.

- **Strengthens System z's role as a cornerstone for key business initiatives**

  - ➤ Service-oriented architecture (SOA), Web-based applications, and pureXML; Data warehousing and operational business intelligence (BI); and Commercial (packaged) applications such as SAP, PeopleSoft, and Siebel.

IMS Tools Solution Portfolio

- Data Encryption for IMS and DB2 DBs
- IMS Database Repair Facility
- IMS HALDB Conversion and Maint. Aid
- IMS HD Compression-Extended
- IMS Library Integrity Utilities
- IMS Online Reorganization Facility
- IMS Parameter Manager
- IMS Sequential Randomizer Generator
- IMS Sysplex Manager
- IMS Tools Knowledge Base

- IMS High Performance Fast Path Utilities
- IMS High Performance Load
- IMS High Performance Pointer Checker
- IMS High Performance Prefix Resolution
- IMS High Performance Unload
- IMS Index Builder
- IMS Parallel Reorganization
- IMS Database Control Suite

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

End to End Management

Data Base Administration   **Utility Management**   **Recovery Management**

IMS TOOLS

Performance Management   **TM Management**   **Application Management**

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

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

- IMS Batch Terminal Simulator
- IMS Batch Backout Manager
- IMS Connect Extensions
- IMS MFS Reversal Utilities
- IMS Program Restart Facility

DB2 Tools Solution Portfolio

- DB2 Administration Tooll
- DB2 Object Comparison Tool
- Data Encryption for DB2 and IMS
- DB2 Utilities Enhancement Tool
- DB2 Admin. Toolkit SAP Ed.
- DB2 Audit Management Expert
- DB2 Change Management Expert
- IBM Database Encryption Expert

- DB2 Utilities Suite
- DB2 Automation Tool
- DB2 Automation Toolkit SAP Ed.
- DB2 Cloning Tool
- DB2 Storage Management Utility
- DB2 High Performance Unload

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

End to End Management

Data Base Administration   **Utility Management**   **Recovery Management**

DB2 TOOLS

Performance Management **Information Integration / Business Analysis** **Application Management**

- OMEGAMON XE DB2 Perf. Expert
- OMEGAMON XE DB2 Perf. Monitor
- DB2 Buffer Pool Analyzer
- DB2 Optimization Expert
- DB2 Query Monitor
- DB2 SQL Performance Analyzer
- DB2 Performance Toolkit SAP Ed.
- DB2 Performance Expert

- IBM DataQuant
- IBM QMF
- DB2 Web Query Tool
- WebSphere Classic Data Event Pub.
- WebSphere Classic Federation Server
- WebSphere Classic Replication Server
- WebSphere Data Event Publisher
- WebSphere DataStage
- WebSphere QualityStage
- WebSphere Replication Server

- DB2 Path Checker
- DB2 Bind Manager
- DB2 Table Editor
- DB2 Test Database Generator

- Available on zSeries Linux/UNIX/Windows   **- Available on zSeries and Linux/UNIX/Windows**   **- Only available on**
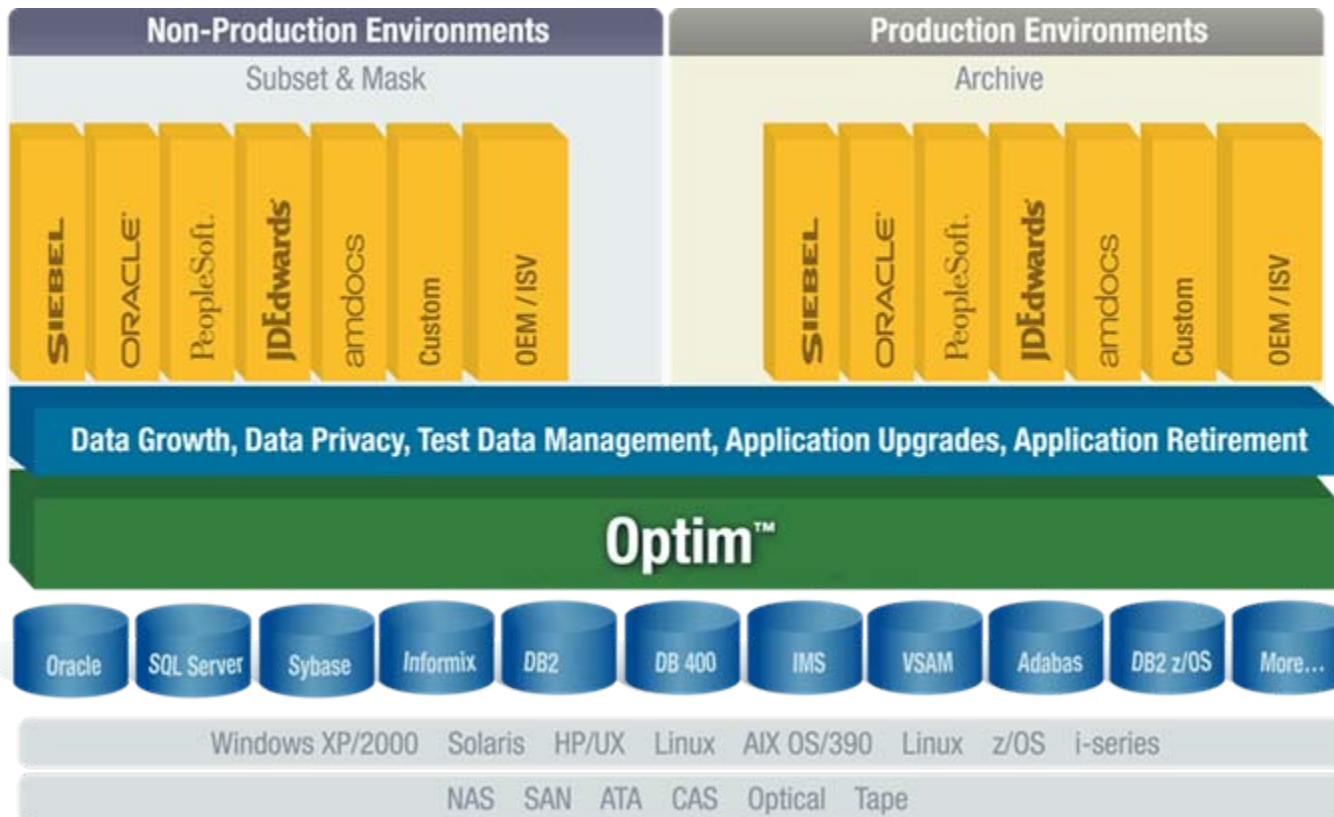
IBM Optim™
Innovation to manage the lifecycle of data

> **Scalable solution provides a central point to deploy policies and to extract, store, port, and protect application data**

IBM Data Governance Software

Lifecycle Mgmt
- Data Retention
- Data Retirement

- **Optim Data Growth**

Secure
- Prevent Access
- Restrict Access
- Monitor Access

Secure

Lifecycle Mgmt

Data Governance

Protect Privacy

Audit
- Audit Access
- Audit Privileges
- Audit Users

- **DB2 Audit Management Expert**

Audit

Protect Privacy
- Mask Data
- Encrypt Data

- **Optim Data Privacy / Optim Test Data Management**
- **Data Encryption for IMS and DB2**

IBM Data Studio
Improved Java data access

pureQuery for z/OS provides high-performance Java data access and simplifies development and management of applications that access data

Optimizing Java application database development and deployment

➢ Unrivaled monitoring and insight of executing SQL statements

➢ Integrated tools, APIs, and runtime

➢ Flexible deployment options with Static SQL support

➢ Speeds the development of high-quality applications by 25 to 50 percent

➢ Reduces developments costs by 50 percent

"pureQuery encourages developers to explore how workload is being executed without the performance and usability challenges with other tools."

Kevin Campbell, Application Architect, Univar USA

Manage data across the lifespan - from design to delete

Design

Optimize

Govern
Standards Models Policies

Develop

Operate

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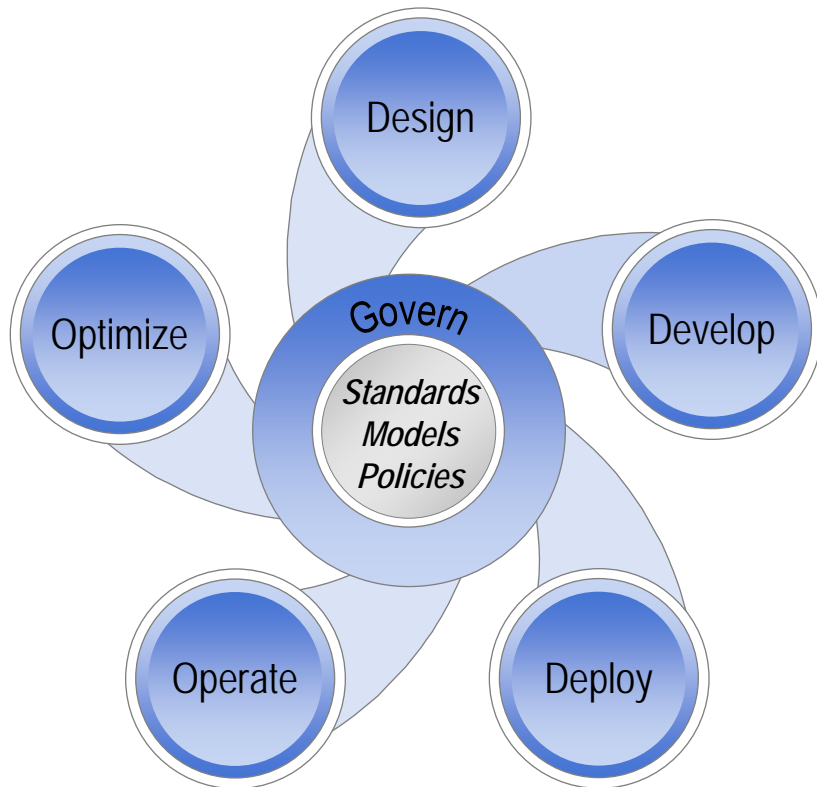
- The depth and breadth for virtually every business requirement
  - For information on System z and nearly every other platform
- Exceed business requirements for the toughest IT challenges such as Data Governance, Data Warehousing, Performance Management and more
- Deliver increased information availability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

American Family Insurance leveraged IBM's integrated System z solutions to surpass internal and external audit and compliance requirements – while decreasing IT costs 20%.

AMERICAN FAMILY INSURANCE
All your protection under one roof

Can you Optimize Content-based Operational & Compliance Processes

"…We need a better way to incorporate information into our business processes…"

- ***Provide application optimization***
- ***Transform paper-based processes***

Information Management Software

- Content Driven Process Optimization
- Enterprise Content Management
- Records Management & Compliance
- Content Classification & Search

Supporting Capabilities

- SOA Infrastructure
- Transaction Processing
- Portals & Collaboration Tools
- Application Development Tools

IBM ECM Product Strategy & Vision Guiding Principles

1 **Active Content**
Deliver information that is unified, accurate and in context with critical business processes and policy management.

2 **Business Agility**
Provide the right information to the right constituents at the right time in the right context to enable better decisions faster.

3 **Enterprise Compliance**
Manage risk and automate compliance with records management, legal discovery and intelligent content archiving.

4 **Content Anywhere**
Manage content anywhere without requiring content migration.
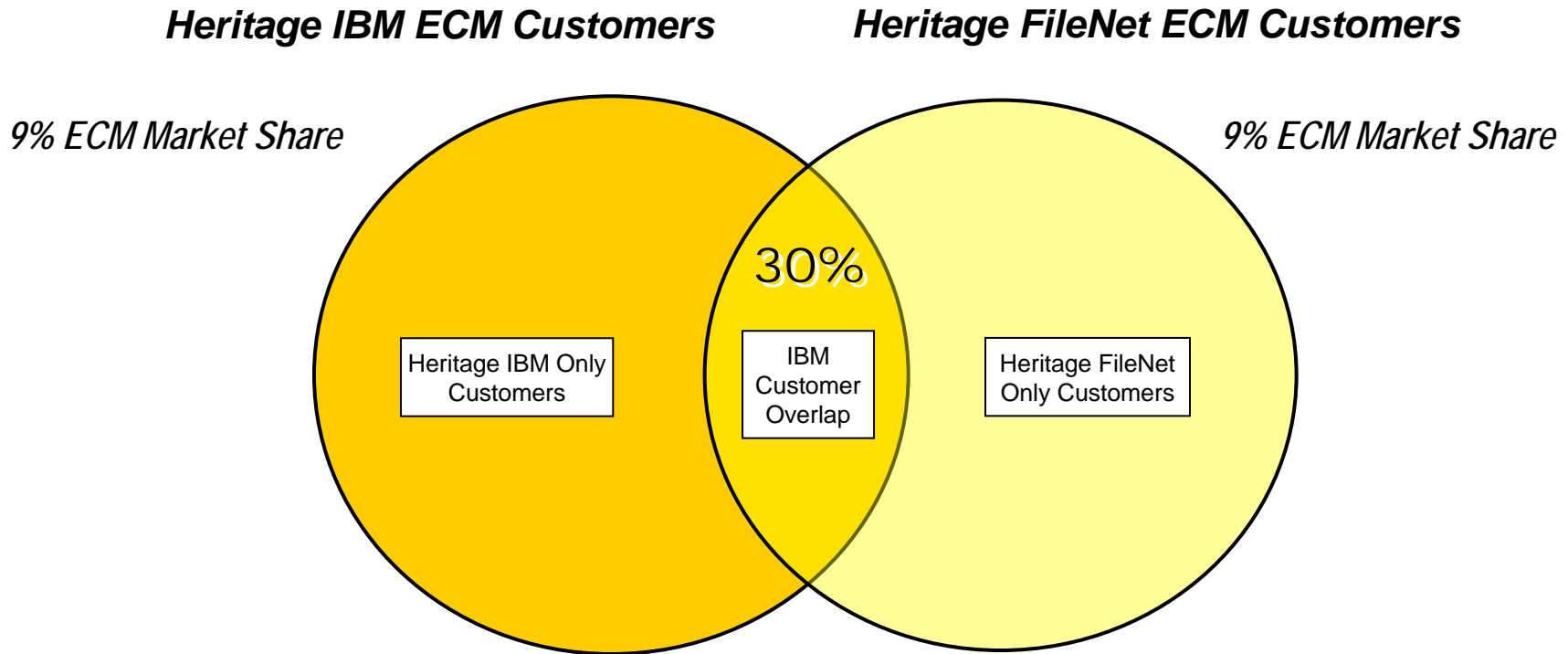
5 **Pervasive and Persuasive**
Access, collaborate, and influence business decisions in new ways, making content a first-class source of decision-making insight

Our ECM Strategy supports our Installed Customer Base

- *Significant Installed Customer Base that have both CM v8 and P8*
- *Significant Customer Investments across CM v8 and P8*
- *Existing Customers are critical to IBM ECM's success*
- *Extend Customer Investments by introducing new integrated capability*

Combined ECM Customer Base
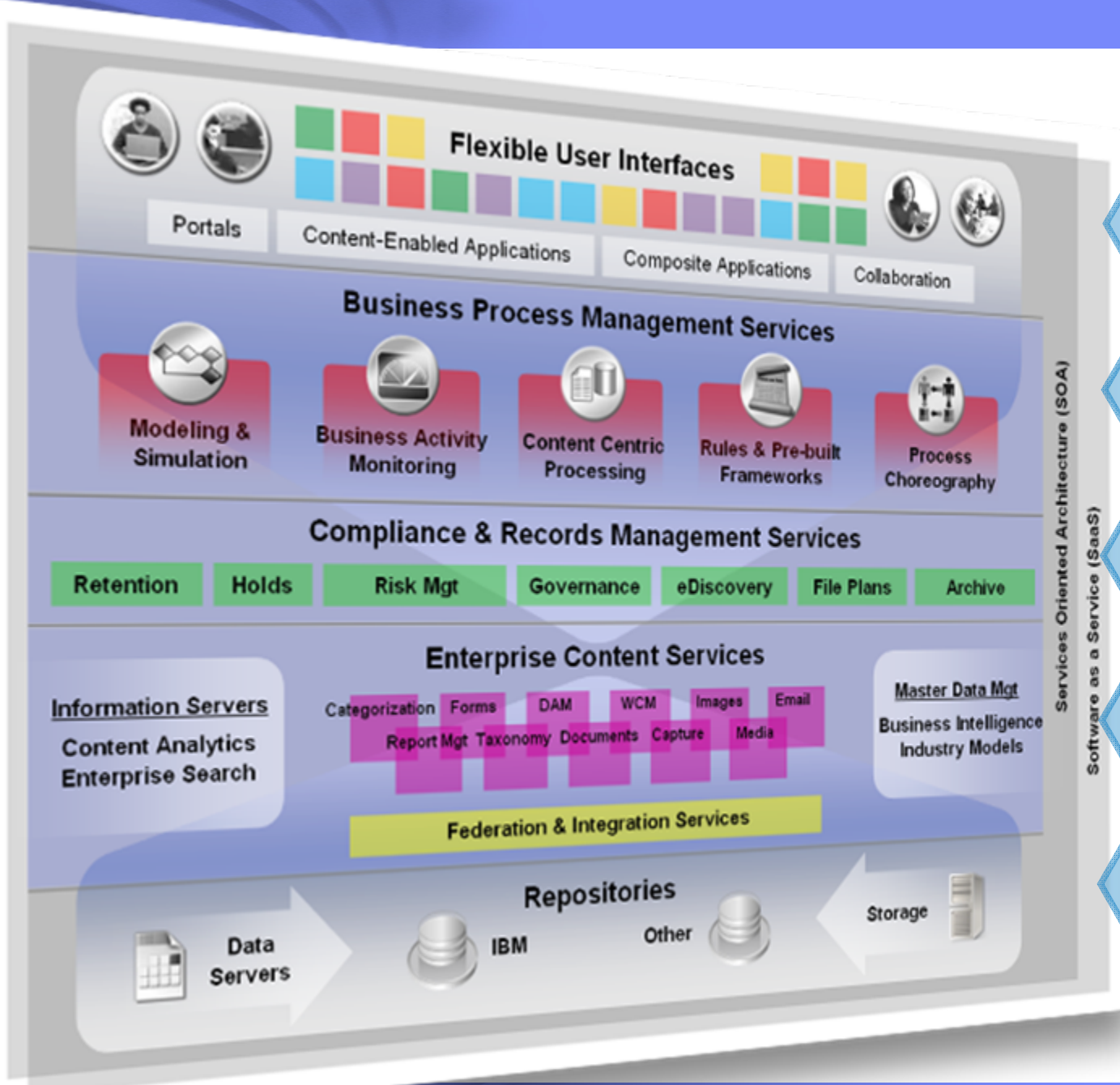
Heritage IBM ECM Customers   *Heritage FileNet ECM Customers*

9% ECM Market Share   *9% ECM Market Share*

30%

Heritage IBM Only Customers

IBM Customer Overlap

Heritage FileNet Only Customers

ECM Portfolio – Support of all Repositories

Clients

Portals & Web Apps   LOB & ISV Solutions   Desktop Apps

- **Preserve and extend existing content investments**

Services   Collaboration   Compliance

- **Scalability to billions of objects**

Enterprise
Content Services   eDiscovery   Classification   Analytics

- **Performance to meet user SLA's**

Document Management   Image Management   Intelligent Content Archiving   Capture

Web Content Management   Forms Management   Report Management   Records Management

- **Reliability for business continuity**

Federation/Content Integration

Repositories

IBM CM   IBM On Demand   IBM FileNet   SharePoint   Other

Can you Establish, Govern & Deliver Trusted Information

"…Information about our clients and products is fragmented and inconsistent across dozens of applications…"

- *Integrate, reconcile, transform and analyze data and content, regardless of type or complexity*
- *Deliver trusted information in context*

Information Management Software

- Information Integration
- Data Warehousing
- Master Data Management

Supporting Capabilities

- SOA Infrastructure
- Storage Management Solutions
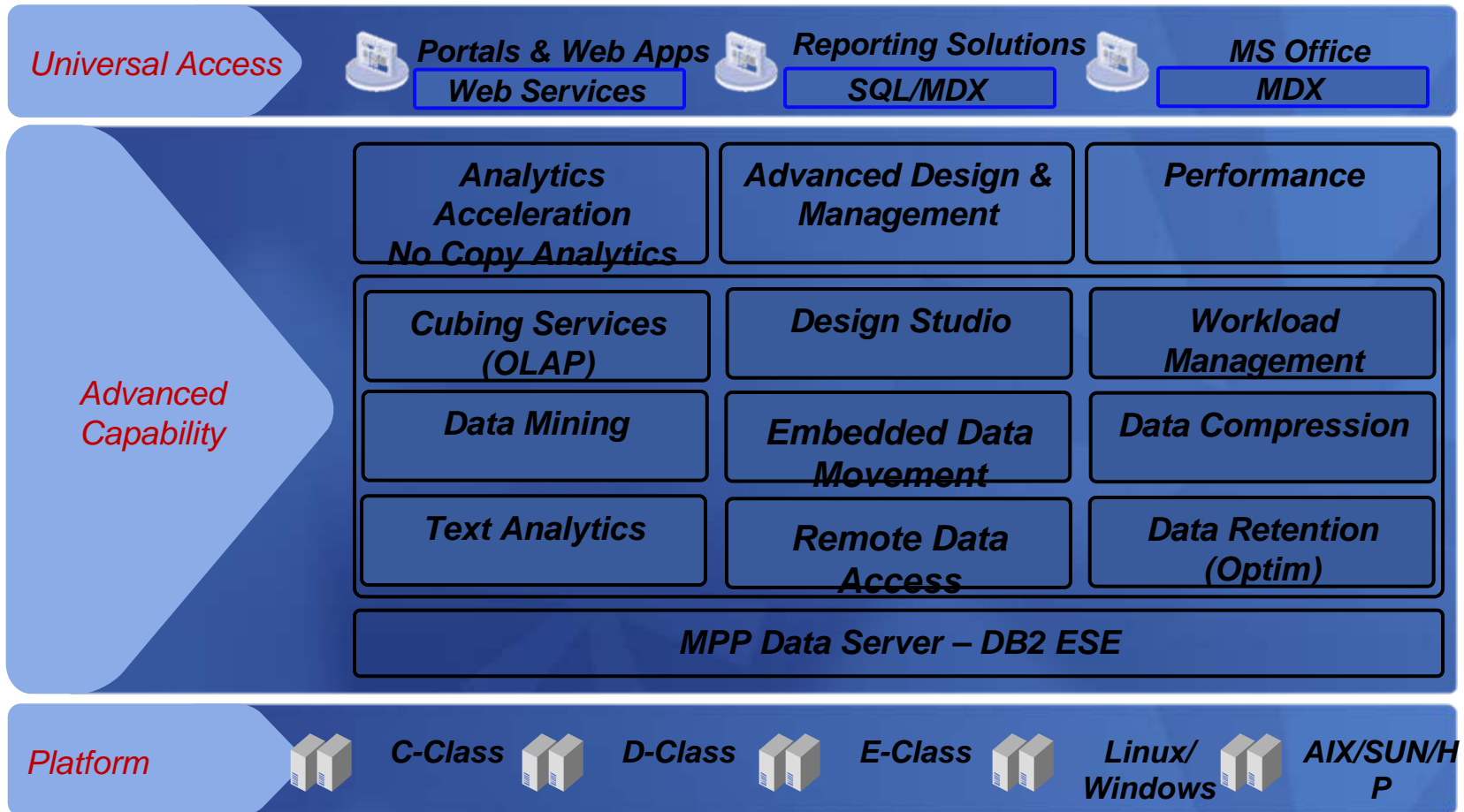- Industry Specific Data and Process Models

Trends in Enterprise Data Warehousing and Business Intelligence (BI)

- **Resurging interest in Data Warehousing and BI on System z due to core strengths**

  - Co-locate with operational information to minimize data duplication & movement

  - Improve control and availability for critical business information

Cognos 8 BI

Information Server

DB2

- **BI platform standardization**

  - Reduce loose collection of individual BI tools

  - BI platform accessed via a browser-based thin client

- **Operational BI (aka: Operational Intelligence)**

- **Information as a service (SOA) initiatives**

InfoSphere Warehouse 9.5 for LUW

Universal Access

Portals & Web Apps	Reporting Solutions	MS Office
Web Services	**SQL/MDX**	**MDX**

Advanced Capability

Analytics Acceleration No Copy Analytics	Advanced Design & Management	Performance
Cubing Services (OLAP)	Design Studio	Workload Management
Data Mining	Embedded Data Movement	Data Compression
Text Analytics	Remote Data Access	Data Retention (Optim)

MPP Data Server – DB2 ESE

Platform

C-Class   D-Class   E-Class   Linux/Windows   AIX/SUN/HP

Complete Solution High Level Component Architecture
InfoSphere Warehouse for System Z

Design Studio

Admin Console

Windows / Linux

Cognos 8 BI for System z   *IBM Alphablox Third Parties / BPs*   *Excel*

Client Layer
- Design and admin client
- BI / Reporting tools and apps

WebSphere App Server

Cubing Services Engine

SQW Runtime

Linux on System Z Partition / IFL

Application Server

DB2 z/OS

Data Warehouse Server

DB2 z/OS   IMS   VSAM   RDBMS
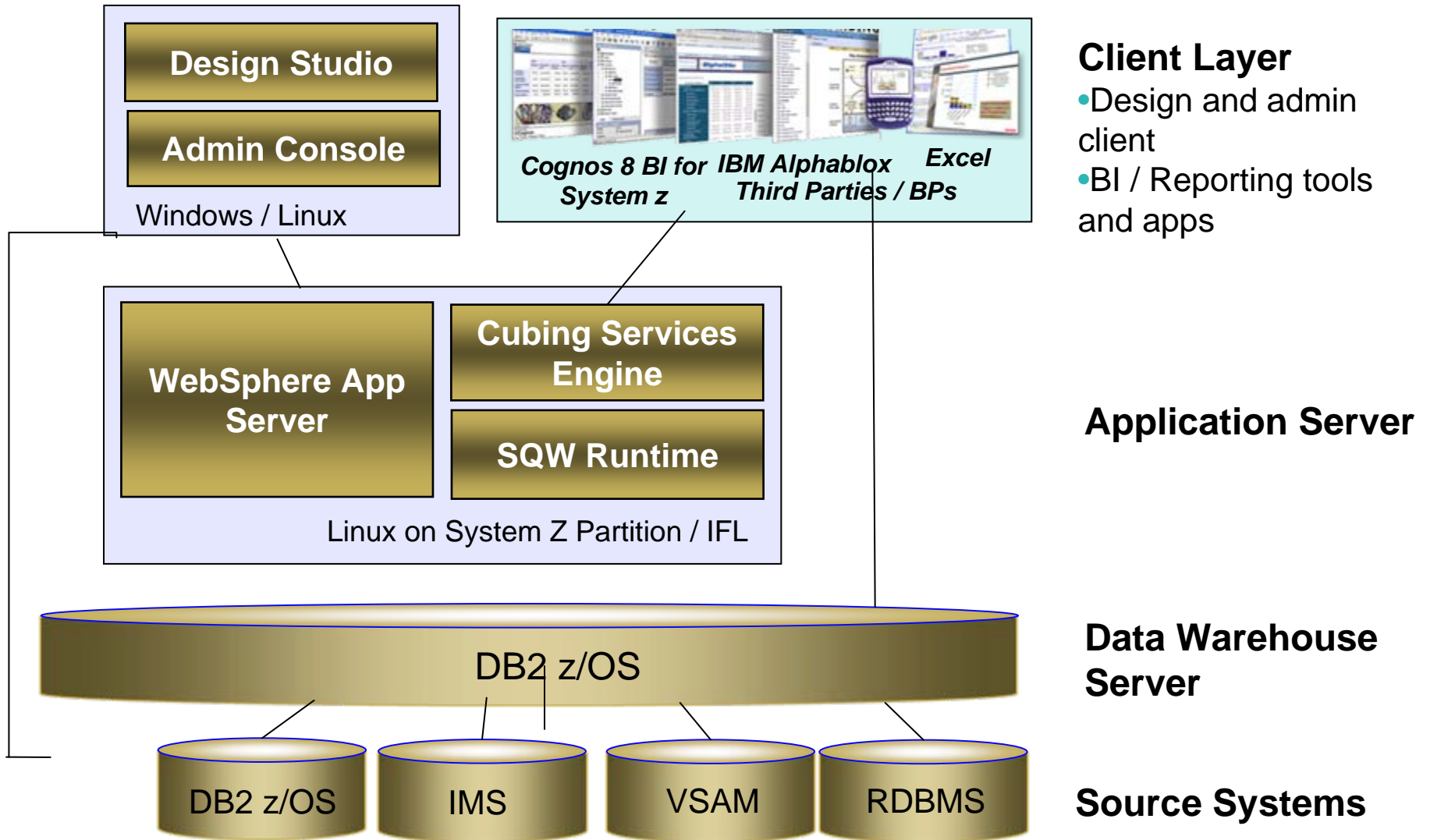
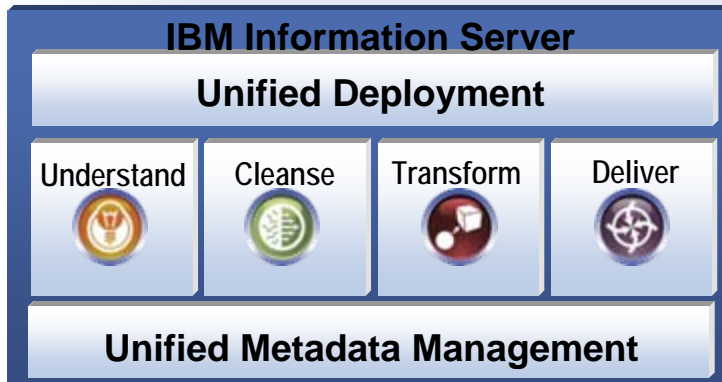**Source Systems**

InfoSphere Information Server for System z

Accelerating the delivery of trusted information

Profile, cleanse, and transform information
from heterogeneous data sources
to drive greater business insight

Cognos 8 BI

Information
Server

DB2

IBM Information Server

Unified Deployment

| Understand | Cleanse | Transform | Deliver |

Unified Metadata Management

- Significant cost savings on System z

- Scalable to any volume and processing requirements

- Fully integrated, auditable data quality

- Metadata-driven integration for increased productivity

AIG chose InfoSphere Information Server to modernize their
financial reporting system to create a scalable and extensible solution
that tightly integrates with SAP on System z

AIG

InfoSphere MDM Server for System z
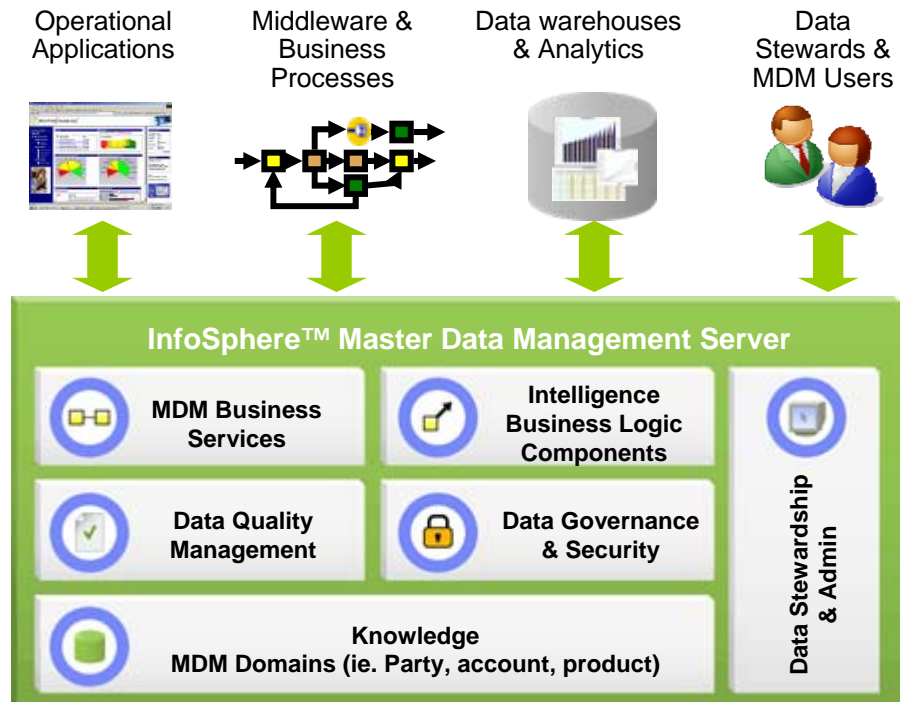*The first multi-domain, multi-function MDM product in the market*

- **Packaged to address all types of MDM implementations**

  – From small "registry" projects to strategic "transaction-hub" deployments

  – Allows clients to grow as required by implementing existing functionality

  – Significantly lowers client risk and time/cost to implement

- **Enables a SOA Library**

  – 800 pre-packaged business services

  – Significant out of the box functionality

  – Reduces total cost of ownership

- **Provides leading performance & scalability**

Operational Applications

Middleware & Business Processes

Data warehouses & Analytics

Data Stewards & MDM Users

InfoSphere™ Master Data Management Server

MDM Business Services

Intelligence Business Logic Components

Data Quality Management

Data Governance & Security

Knowledge MDM Domains (ie. Party, account, product)

Data Stewardship & Admin

Can you optimize business performance?

"…How am I supposed to get ahead of the competition? I don't have a good understanding of where I am, or what I should do differently…"

- *Know how you are doing*
- *Understand why*
- *Determine what you should be doing next*

Information Management Software

- Scorecards & Dashboards
- Reporting & Analytics
- Planning, Budgeting & Forecasting

Supporting Capabilities

- Portals & Collaboration Tools
- Business Process Management

The IBM Cognos 8 platform

PRESENTATION TIER

Broad Range of Capabilities

APPLICATION TIER

SERVICES

Common Set of Services

Common Metadata layer

DATA TIER

Open Data Access
(Transactional, Warehouses or Modern data sources)

Cognos BI for System z

- **Full range of BI capabilities**
  - *All user communities receive relevant information how, when and where it is needed*

- **Open enterprise-class platform**
  - *Flexibility and cost effectively scalability to meet growing user demands across any platform*

- **Frameworks and proven practices**
  - *Projects get off to the right start with expertise to ensure success on the journey to performance management*

Cognos 8 BI

Information Server

DB2

Reporting **Analysis** **Dashboards**

"This provides a single, real-time and consolidated view of business information to support operational processes and disperse information to the right teams across the company for more effective-decision making."

Hemant Kulkarni, Head, BI Technology CoE, Satyam

Satyam

IBM Cognos 8 BI for Linux on System z

Product Capabilities

- Adhoc query, reporting and analysis (Query Studio, Report Studio & Analysis Studio)

- Dashboards and charting (Cognos Connection & Report Viewer)

- Event management (Event Studio)

- Integration with Microsoft Office (Go! Office and CAFÉ)

- Cube building (Transformer)

Initial Conformance

Operating System: • Suse 10 Linux

Database Support: • DB2 z/OS 8 and 9
• DB2 LUW 9.5
• Oracle 10g

Application Server: • Apache Tomcat
• WebSphere 6.109

Content Store: • Derby on Linux for System z
• DB2 9.5 LUW
• Oracle 10g

Directory Server: • Netscape Directory Server 6
• Sun ONE Directory Server 5.1 SP1, 5.2
• IBM Tivoli Directory Server 5.2, 6.0
• Novell e-Directory Server 8.7.3
• LDAP version 3 compliant server

Web Server: • IBM HTTP server 2.0

Not included in this initial release are Scorecards (Metric Studio), ,output delivery to mobile devices (Go! Mobile), and integration with enterprise search (Go! Search)

A Multitude of Information Projects
Each successful in its own right; but limited speed and flexibility…

Large Global Bank
- *5 data warehouse projects in 5 years*
- *Large customer call center deployment*
- *Reengineered CIF System*
- *Millions invested*

"I still can't sleep at night;
I don't have a real time and accurate view into my risk posture" - Chief Risk Officer

"I still can't tell you who our most profitable customers are, let alone serve them well across my channels" - Chief Information Officer
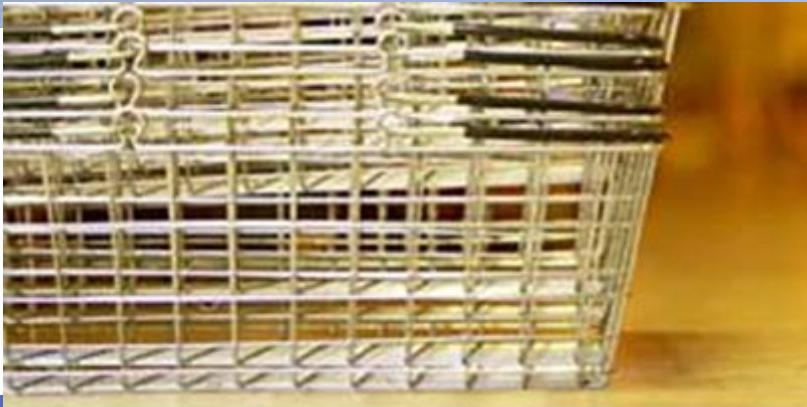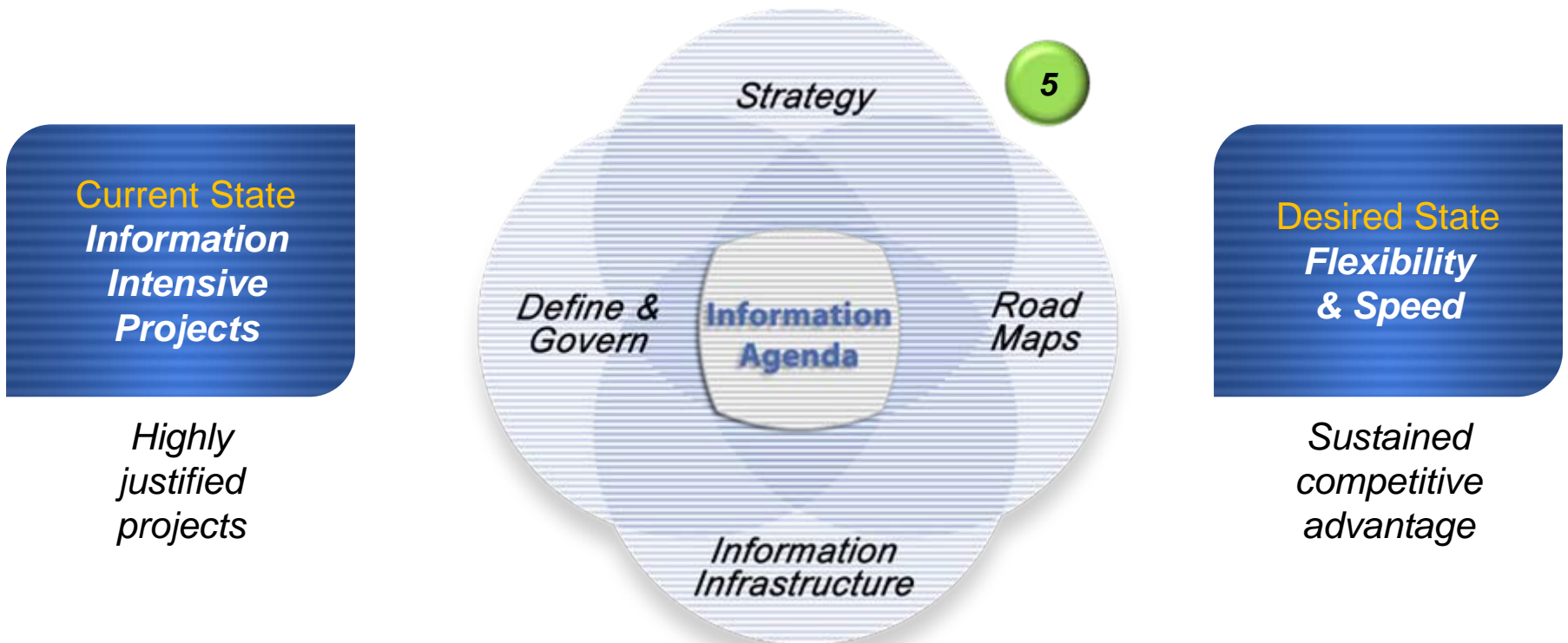
Multi-channel Apparel Retailer
- *3 brick & mortar and 1 web channel*
- *Multiple customer loyalty systems*
- *Multiple call centers*
- *1 credit card*

Becoming an Information Based Enterprise...
Information Agenda: The 5th entry point of Information On Demand

Creating an information agenda helps transform information into a trusted strategic asset that can be rapidly leveraged across applications, processes and decisions for sustained competitive advantage.

Current State
Information Intensive Projects

Highly justified projects

Strategy

Define & Govern

Information Agenda

Road Maps

Information Infrastructure

5

Desired State
Flexibility & Speed

Sustained competitive advantage

Accelerating Your Information Agenda

Recent Announcements result from $1B+ investment & experience from thousands of client projects

New

Foundational Tools

Software to help you convert your information into a trusted strategic asset

New

Information On Demand Competency Centers

Services to help you build information centers of excellence

New

Information Agenda Guides & Workshops

Industry tailored sessions to guide future state design, identification of key information requirements and gap analysis

New

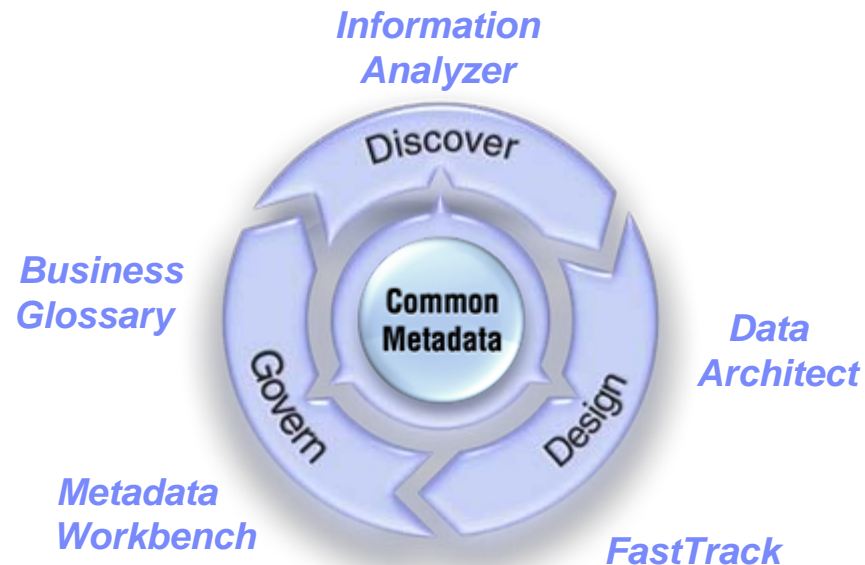### Information Accelerators

Industry specific assets to speed deployment

Foundational Tools
Software to help convert your information into a trusted strategic asset

New

Open tools that provide value to any data integration, business intelligence, or data warehouse projects…

Only IBM has invested to provide the breadth of capabilities to define and govern your information…

Information Analyzer

Business Glossary

Data Architect

Metadata Workbench

FastTrack

Discover

Common Metadata

Govern

Design

- *Discover, understand and relate the data you have to your business*
- *Design your trusted information structure*
- *Govern your information over time*

Information Agenda Guides & Workshops

Industry tailored sessions to guide future state design, identification of key information requirements and gap analysis

Banking, Financial Markets & Insurance Guides
– Banking Information Agenda Guide
– Insurance Information Agenda Guide

Industrial & Manufacturing Guides
– Automobile
– Aerospace
– Electronics
– Industrial Products
– Chemical & Petroleum*

Retail Guide

Consumer Products Guide

Travel & Transportation Guide*

Energy & Utilities Guide*

Healthcare & Life Sciences Guides
– Payer
– Provider
– Pharma

Comm. Service Provider Guide

Media & Entertainment Guide*

Government Guides
– Federal
– State & Local Government

Communications Industry Wheel

Workshops & Guides...
- Workbook and Roadmap Templates
- Information Governance Best Practices
- Led by Subject Matter Experts across IBM

* available in October 2008; Other guides available now

Information Accelerators
140+ Industry-specific Assets to speed deployment

Financial Services
- Risk Adjusted Profitability
- Branch Performance
- Retail Banking Customer Segment Performance
- Corporate Banking Customer Segment Performance...

Insurance
- Product Profitability
- Claims Submission Optimization
- Insurance Self Service
- Insurance Scorecard...

Retail
- Store Development
- Strategic Promotions
- Financial Merchandising
- Financial Workbench & Scorecard...

Industrial
- Sales & Operation Planning
- Allocations Optimization
- Risk Analysis
- Trade Promotion Management
- Asset Management...

Telco
- Customer Service
- Customer Billing
- Compliance
- Simple Order...

Energy & Utilities
- Intelligent Utility Network
- Asset Plant Lifecycle Mgmt.
- Central Engineering
- Rate Case
- Aging Workforce
- Violations...

Government
- Crime Information Warehouse
- Case Management
- Municipal Performance Management
- Court Management
- Fraud Investigation ...

Healthcare
- Enterprise Health Analytics
- Health Plan Industry Models
- Customer Care & Insight for Health Plans
- Risk, Fraud, & Compliance for Health Plans...

Information On Demand Competency Centers
Services to help you build information centers of excellence

New

Enable organizations to establish their own competency center to empower and support their information agenda

- **A virtual or fixed team within an organization**
  - IT & line-of-business professionals
  - Focused on building expertise across the technology, process & skills required to deliver business solutions

- **Provides many services to the business…**
  - Business analysis, information governance, best-practice repositories, and support & education

…Everything organizations need to design, establish & run a competency center…

People

Best Practices

Business Analysis

Process

IBM IOD Competency Center

Technology

Support & Education

Information Governance

Culture

Services	**On-line Community**	**Research & Solutions**
• Expertise matching your Information Agenda. Covering people, process & technology	• Dedicated to sharing best practices.	• Primary and secondary research, best practices, how-to guides, white papers, books
• *Today:* IOD CC Foundation Services. Integrated services across information lifetime.	• *Today:* Now spanning warehousing, data integration, and BI&PM	• *Today:* Expanded to span integration topics

New

New

New

thank you!

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