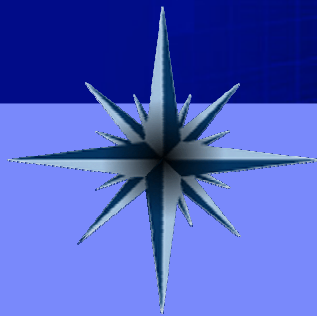




# Leveraging the Value of your Mainframe to Deliver Information on Demand

*Dan Wardman*

*VP, IM Mainframe Software*

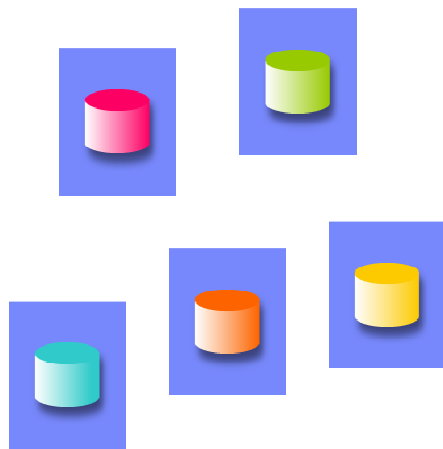


# Agenda

- **Information Management Strategy**
- **Data**
- **Content**
- **Information**
- **Solutions**
- **Summary**

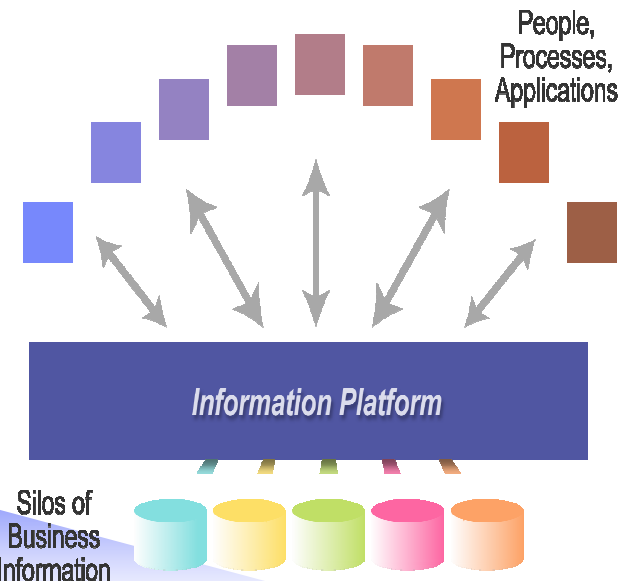
# Information Management is Evolving

Disconnected Silos of Information



**Rich Standards,  
Flexible  
Architecture**

*Dynamically Deliver  
Information*



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

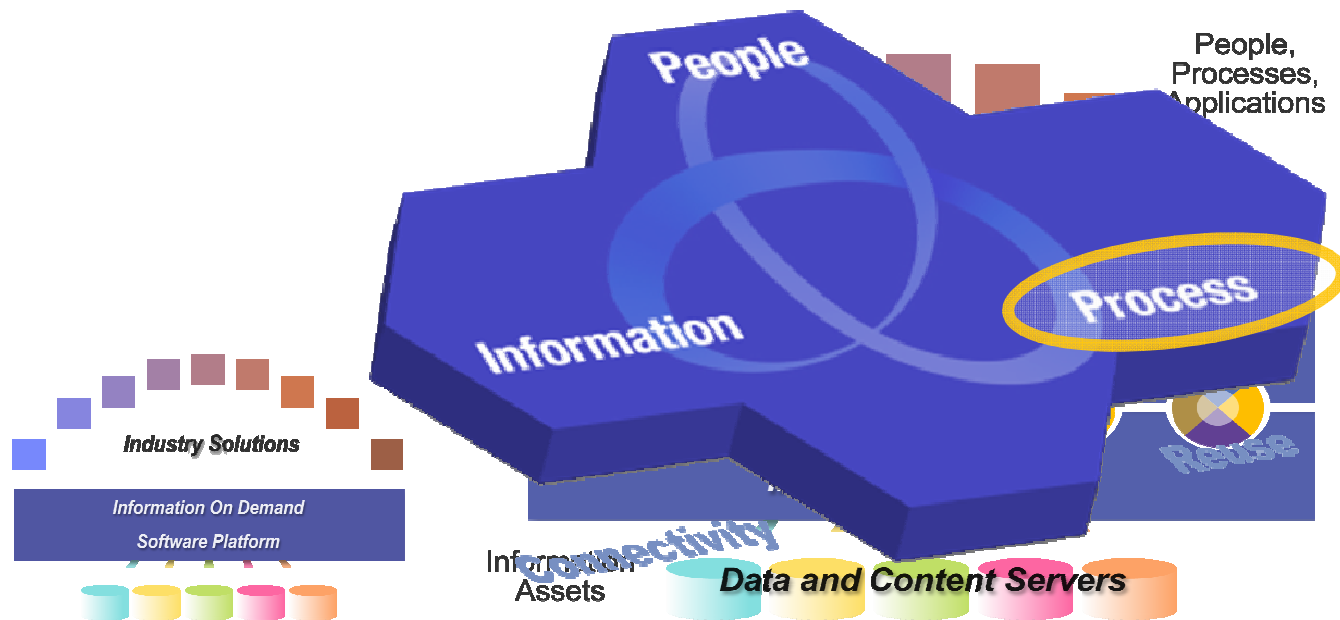
**60%+** of CEOs say they need to do a better job leveraging information

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

**Delivering information in context to optimize business processes, applications and productivity**

# Information Needs to be Provided On Demand

Information is Key to Service Oriented Architectures



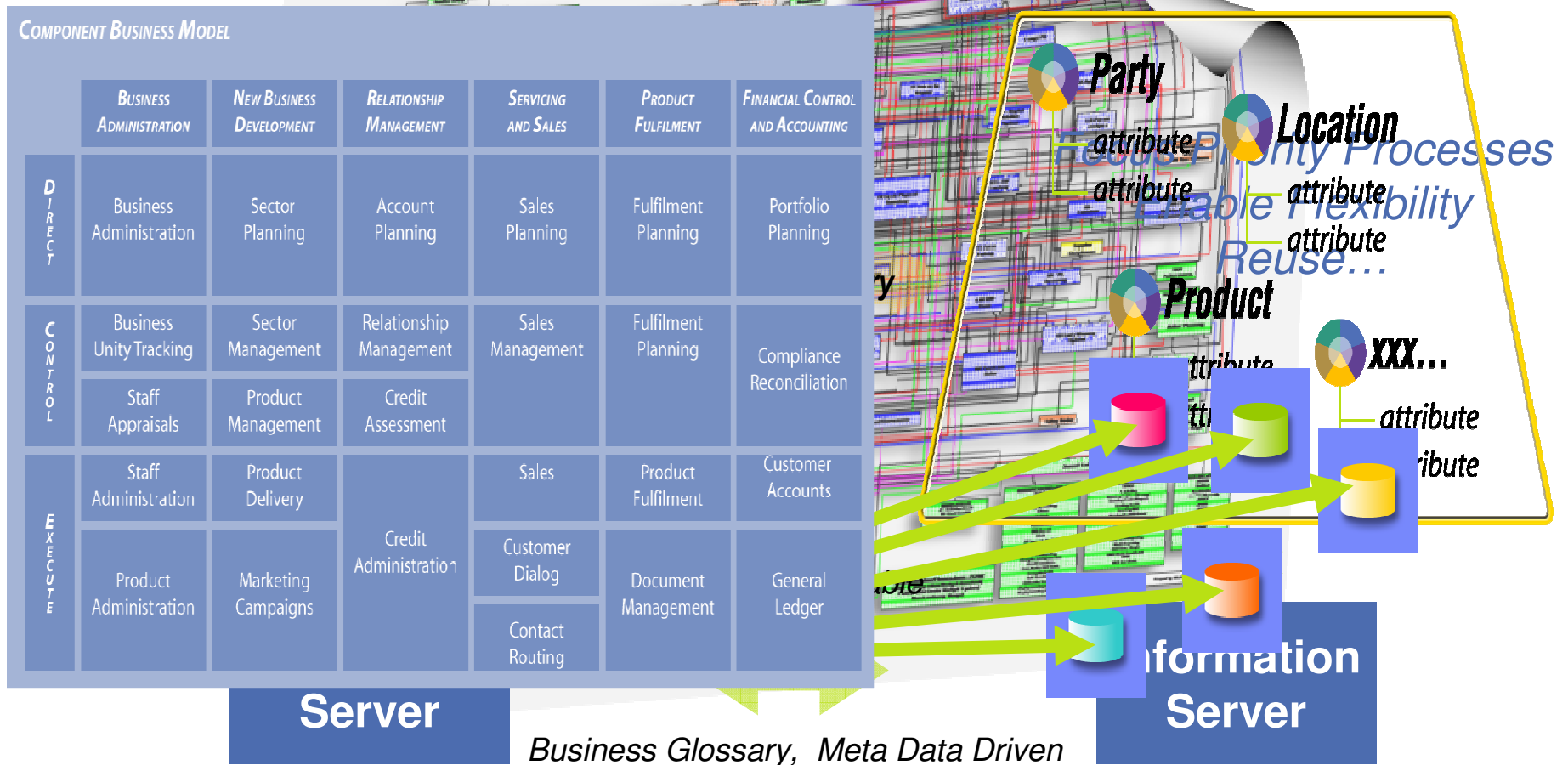
## Delivering Information as a Service

# The Challenges of Complexity

## Where Do "Core Processes" Go to Get Information?

Core Processes

Core Information Entities



# IBM Information Server

## *The Gearbox for Master Information*

- *A New Kind of Platform*
  - Delivers trusted information to processes, and applications
  - Foundation for SOA
  - Dramatically Simplifies Integration
- *Innovative Technology*
  - Metadata-driven integration
  - Breakthrough productivity
  - Industry-leading scalability
  - Rich, bi-directional connectivity
- *Based on Experience*
  - 5,000+ Integration Clients
  - 75 Clients in Beta Program
  - 35+ Partners Enabled...



**IBM Information Server**  
Understand, Cleanse, Transform, Deliver



# Data: DB2 and IMS Update

# DB2 & IBM zIIP add value to database work

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 use parallel queries, including star schema

3 - DB2 Utilities LOAD, REORG & REBUILD\*

- DB2 utility functions used to maintain index structures

4 - DB2 9 for z/OS Remote native SQL procedures

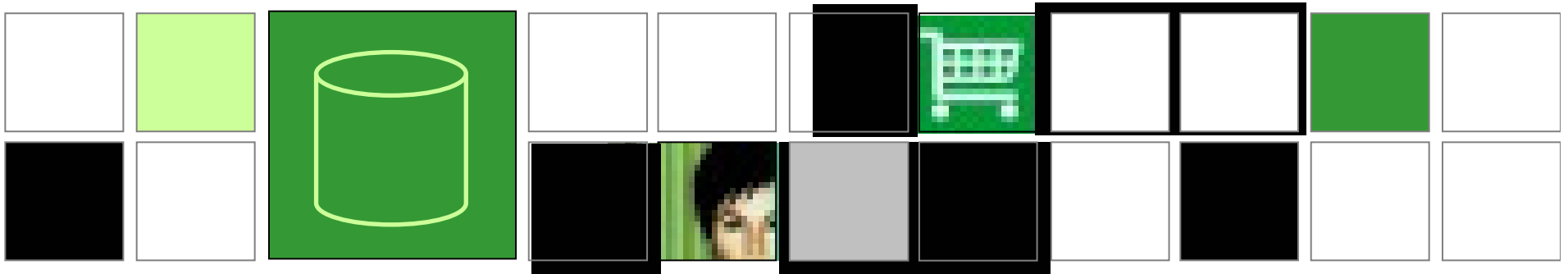
5 - DB2 9 XML parsing via DRDA to fully utilize zIIP (statement of direction)

\* zIIP allows a program working with z/OS to have all or a portion of its enclave Service Request Block (SRB) work directed to zIIP. Above types of DB2 work are those running in enclave SRBs, of which portions can be sent to zIIP.



## DB2 9 for z/OS – Addressing corporate data goals

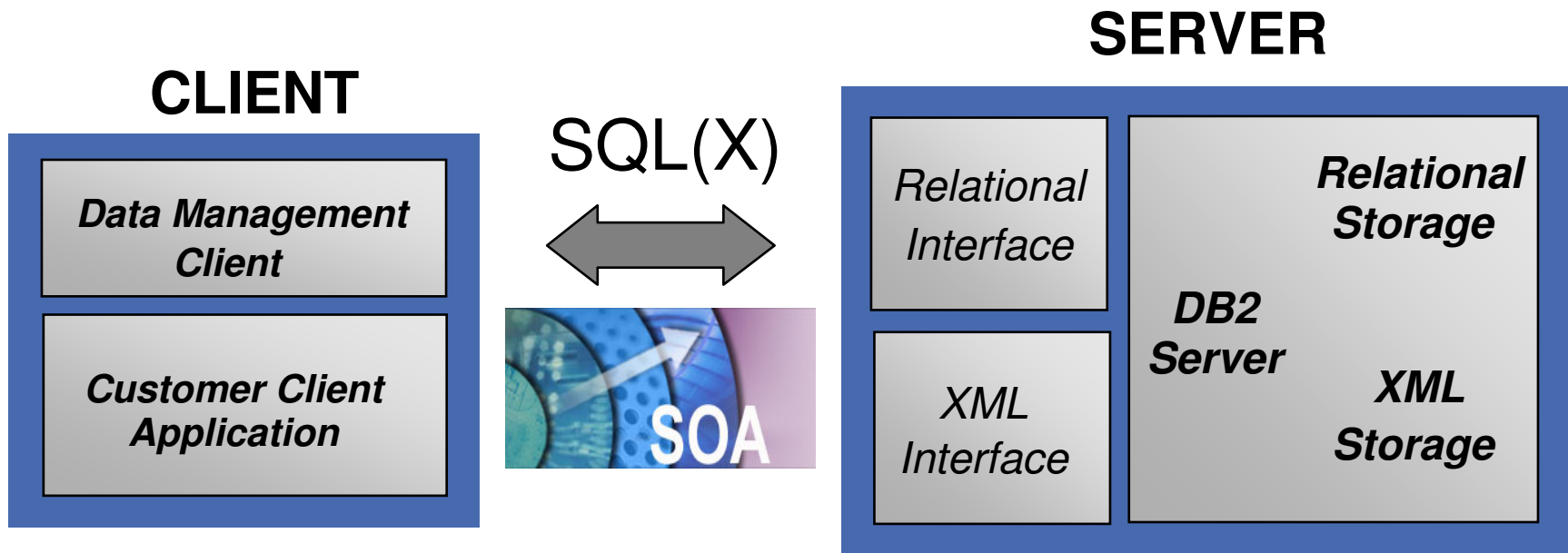
- Improved IT Infrastructure In Support of Compliance Efforts
  - Trusted security context
  - Database roles
  - Auditing capabilities
  - Encryption improved
- Simplify development and porting
  - Many SQL improvements that simplify
  - Native SQL stored procedures
  - Default databases and table spaces
  - Automatic unique indexes to support primary keys
- Decrease Complexity and Cost
  - Fast table replacement
  - Partition by growth
  - Table append
  - Volume-based COPY/RECOVER
  - Optimization Service Center
- Evolve Your Environment & SOA
  - Integrated pureXML
  - WebSphere® integration





# XML Capabilities Inside the Engine pureXML™

**Performance, Performance, Performance**



Native storage    Schema Index Functions Utilities

# XML – a powerful but costly language

## Example: look up IBM stock price

DATA PASSED: IBM 94

5 chars  
Traditional

```
SAMPLE CODE:
<SOAP-ENV:Envelope
xmlns:SOAP-ENV=
"http://www.w3.org/2001/06/soap-envelope"
SOAP-ENV:encodingStyle=
"http://www.w3.org/2001/06/soap-encoding">
<SOAP-ENV:Body>
```

272 chars  
with XML  
and SOAP

```
<Signature Id="MyFirstSignature" xmlns="http://www.w3.org/2000/09/xmldsig#">
<SignedInfo>
<CanonicalizationMethod Algorithm="http://www.w3.org/TR/2000/CR-xml-c14n-20001026"/>
<SignatureMethod Algorithm="http://www.w3.org/2000/09/xmldsig#dsa-sha1"/>
<Reference URI="http://www.w3.org/TR/2000/REC-xhtml1-20000126/">
<Transforms>
<Transform Algorithm="http://www.w3.org/TR/2000/CR-xml-c14n-20001026"/>
</Transforms>
<DigestMethod Algorithm="http://www.w3.org/2000/09/xmldsig#sha1"/>
<DigestValue>YWJjZGxma3NqamRlZmZnaGlvchtkbGZramFzZGw7Cg==</DigestValue>
</Reference>
</SignedInfo>
<SignatureValue>
YWJjZGxma3NqamRlZmZnaGlvchtkbGZramFzZGw7Cg==
</SignatureValue>
<KeyInfo>
```

919 chars  
with XML,  
SOAP and  
digital  
certificate

Many  
chars  
with XML,  
SOAP,  
certificate  
encryption

<And a lot more coding than I can imagine>

## DB2 pureXML Industry Bundles

- **Demonstrations and samples using industry standard XML formats with DB2 pureXML**

- Quick start for customers and partners based on popular industry standard XML:

- ACORD for Insurance (enabled for DB2 for z/OS)
- CDISC for Clinical Data
- FIXML (enabled for DB2 for z/OS) for Banking
- FpML and MISMO for Financial Services



- Data Model with registered XML schemas and XML documents stored in DB2 pureXML database.

- Sample XML queries

- Example services:

- Create, Replace, Update, Delete and Query
- Atom feeds
- XForms



Learn more from alphaworks at:

<http://www.alphaworks.ibm.com/tech/purexml>

## DB2 XML partners

### AgencyPort

AgencyPort is the leading provider of web-based new business, endorsement and renewal solutions designed specifically for property and casualty insurers.



### Altova - XML development tools

Altova is the provider of the world's leading XML development tools, including XMLspy the industry standard XML development environment. **Coral8 - Complex Event Processing**



### Coral8

The Coral8 Engine enables you to build and deploy powerful Complex Event Processing (CEP) applications for any enterprise business function that can benefit from real-time awareness.



### Exegenix - Document Conversion to XML

Exegenix technology converts content into XML quickly, accurately, and cost-effectively, with no re-keying, and no dependency on consistently-formatted input.



### JustSystems - Rapid XML Application Development

The combination of xfy from JustSystem and DB2 9 allows users to quickly assemble XML applications to access and manage a wide range data.



### Napersoft - Customer Communications Management

Napersoft provides Customer Communications Management solutions with its family of WebDemand360 Correspondence Manager for WebSphere offerings and DB2 9.



### Nextance - Contract Performance Management

Nextance offers Contract Performance Management solutions that take full advantage of DB2 9 XML capabilities.



## DB2 XML partners

### The Innovation Group

Innovation Group is a global provider of Policy and Claims solutions for the Property and Casualty Insurance industry.



### SkyNet - Healthcare Management System

With Skynet's solutions built on DB2 9 pureXML technology, hundreds of Chinese customers in healthcare are getting fully new experiences of information management.



### Skytide - Business Analytics

Skytide leverages IBM's DB2 9 to deliver a new breed of business analytics.



### Stradasoft - Strada BPM Suite

Stradasoft develops Business Process Management Solutions that make businesses move faster.



### Syncrosoft - <oXygen/> - XML editor

<oXygen/> XML editor has a large number of features for the editing of the XML related documents.



### UBmatrix

The UBmatrix platform helps organizations structure and define underlying meaning of information, making it portable within your organization and for exchange over the Internet utilizing the power of eXtensible Business Reporting Language (XBRL).



### XAware

XAware provides next-generation software solutions for Financial Services, and State & Federal Government.



Learn more from the DB2 XML Wiki at:

<http://www.ibm.com/developerworks/wikis/display/db2xml/Home>

# Regulatory Compliance in DB2 9 for z/OS

## Key implementations

- **Network Trusted Contexts**
- **Roles**
- **Improved auditing**
- **Instead of triggers**
- **Secure Socket Layer**
- **Data Encryption**



## DB2 9 for z/OS Performance Improvements

- Performance / Scalability Enhancements
  - Especially Insert, Update & Delete
- Query / Access Path Performance Enhancements
- Significant CPU time reduction in most utilities
- Other Performance Enhancements
  - Native SQL procedure, index compression
  - LOBs, Varchar
- Synergy with new hardware: zIIP, MIDAW, DS8000, ...
- Improved virtual storage usage Below 2GB DBM1





## Online Schema Evolution → Definition On Demand

## Database

- Online reorganization with no BUILD2 phase
- Fast replacement of one table with another
- Table space that can add partitions, for growth
- Improve ability to rebuild an index online
- Rename column and index
- Modify early code without requiring an IPL
- Alter table space and index logging
- Create & alter STOGROUP SMS constructs
- Alter column set default



## Optimization Service Center and Optimization Expert

### Index Advisor

- Analyzes a workload and recommends indexes
  - Enabling you to select the best index to optimize query and application performance
- These recommendations can be implemented immediately
- Future: recommends MQTs and partitioning

### Key value areas:

- Lowers Total Cost of Ownership by optimal exploitation of DB2 for z/OS
- Increases Quality of Service by proactively solving problems before they occur
- Decreases reliance on zSeries specific skills through autonomies and open tools

### Optimization Service Center (OSC)

- Visual Explain
- Stats Advisor
- Service SQL
- Visual Plan Hint \*

### Optimization Expert (OE)

- Index Advisor
- Query Advisor
- MQT Advisor \*

\* scheduled for future release

# Today's IBM DB2 Tools Product Portfolio

## Utilities Management

- DB2 Utilities Suite
- DB2 Automation Tool
- DB2 Automation Tool SAP Ed.
- DB2 Cloning Tool
- **DB2 High Performance Unload**

## Database Administration

- DB2 Administration Tool
- DB2 Object Compare Tool
- Data Encryption for DB2 and IMS
- DB2 Thread Expert
- DB2 Storage Management Utility
- DB2 Administration Toolkit SAP Ed.
- DB2 Audit Management Expert
- **DB2 Change Management Expert**

## Performance Management

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

## Information Integration

- WebSphere Classic Data Event Publisher
- WebSphere Classic Federations Server
- WebSphere Classic Replication Server
- **WebSphere Data Event Publisher**
- **WebSphere DataStage**
- **WebSphere Quality Stage**
- **WebSphere Replication Server**

## Recovery Management

- 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**

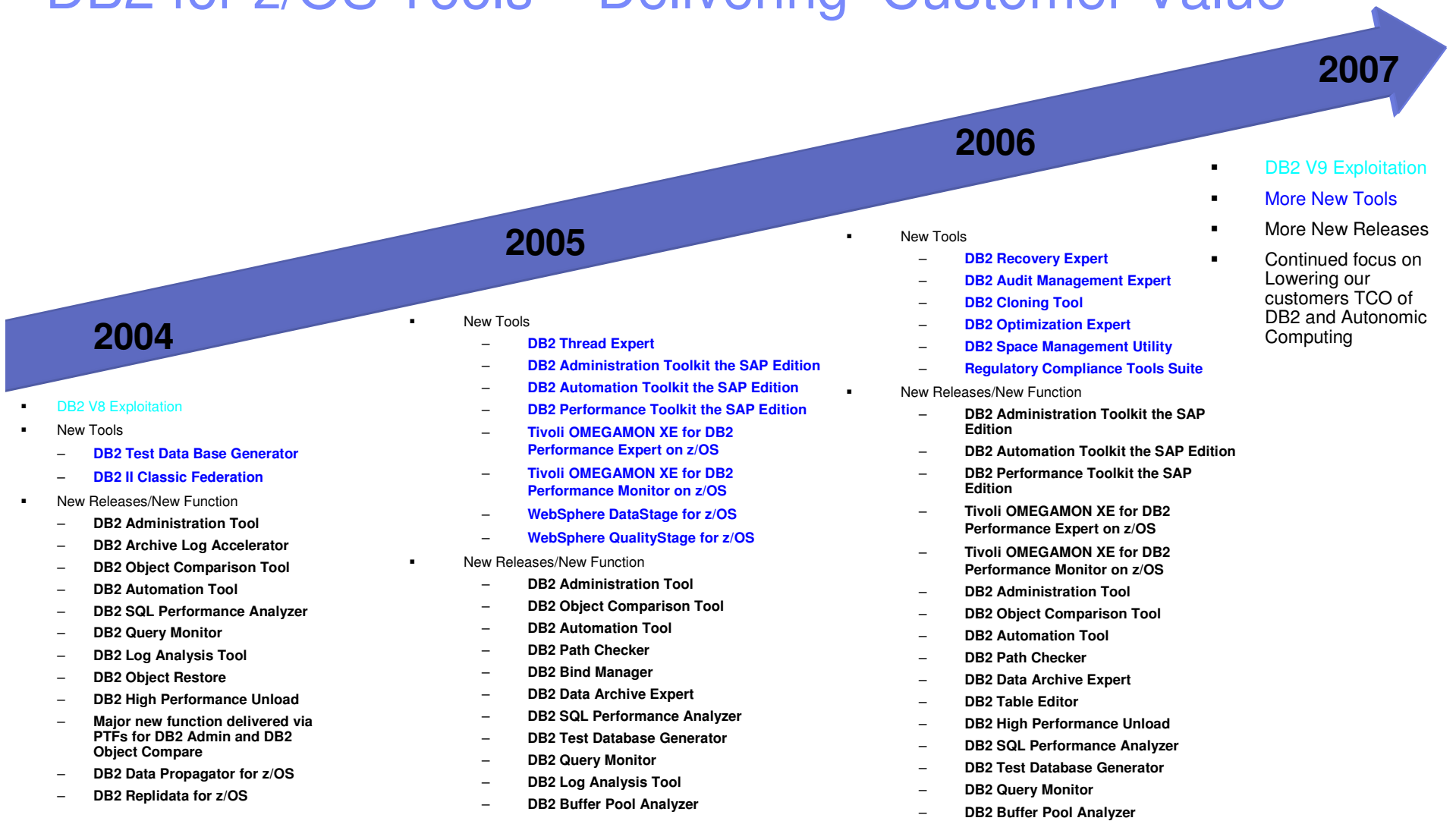
## Application Management

- DB2 Path Checker
- DB2 Bind Manager
- **DB2 Data Archive Expert**
- **DB2 Table Editor**
- **DB2 Web Query Tool**
- **DB2 Test Database Generator**

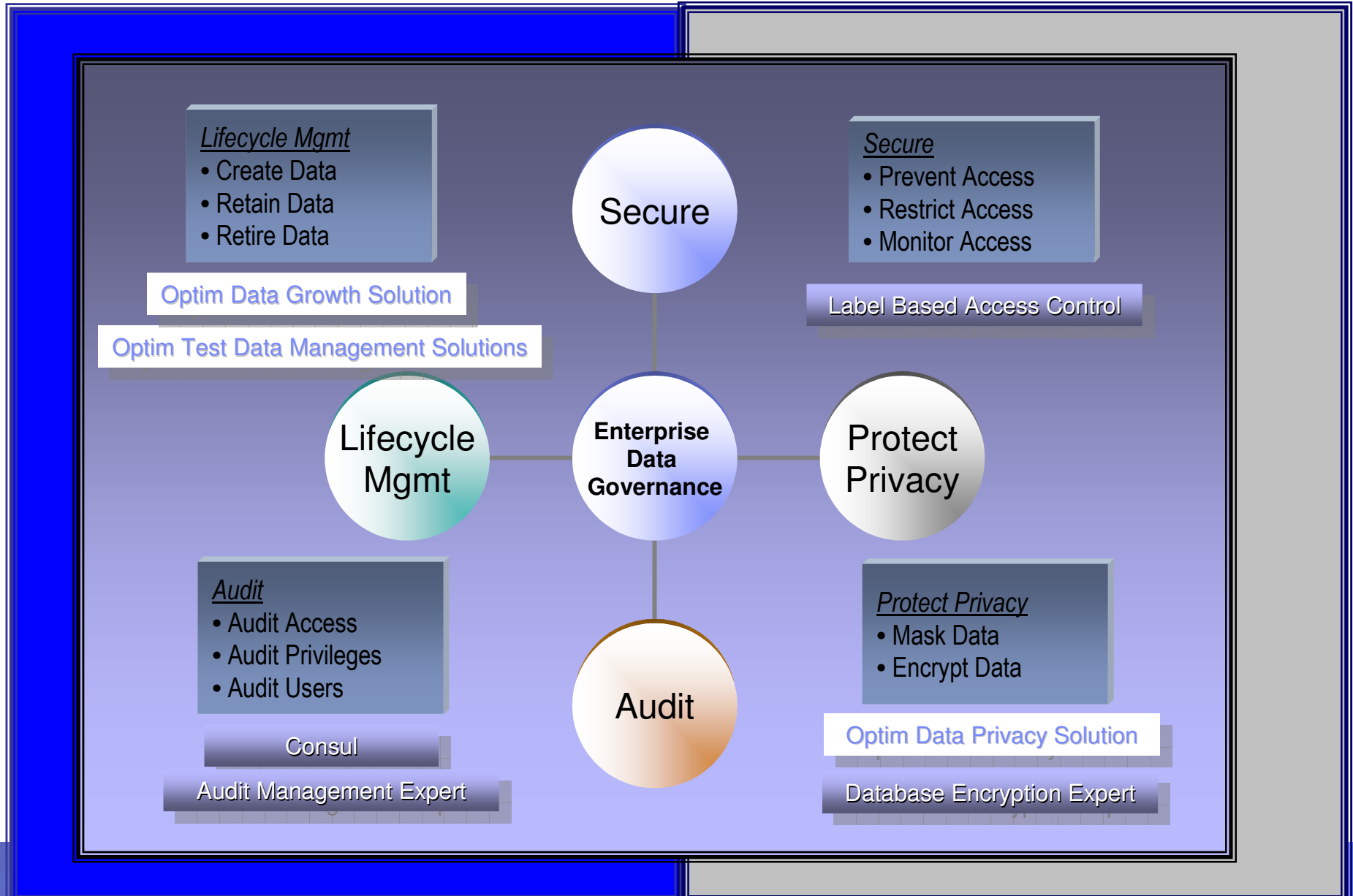
▪ Available on zSeries and multiplatforms (LUW)

▪ Currently available only on multiplatforms (LUW)

# DB2 for z/OS Tools – Delivering Customer Value

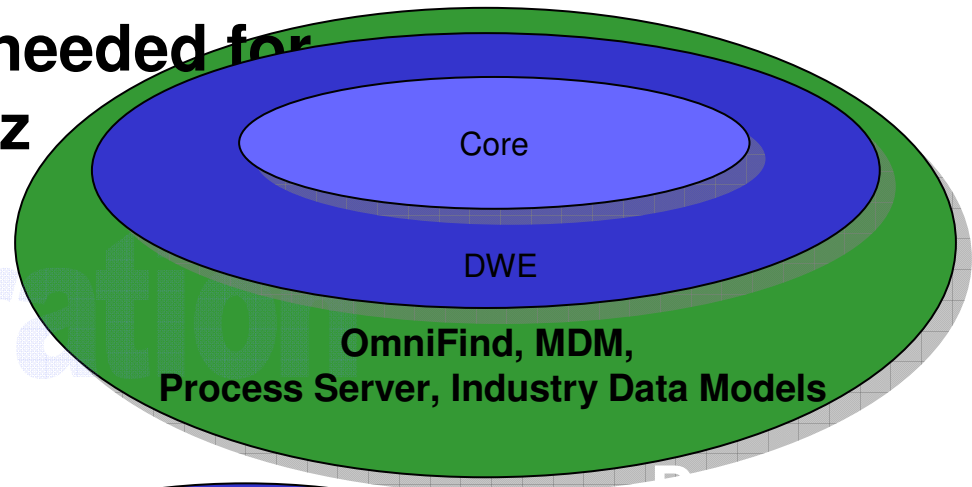


# How Do We Position Princeton Softech within Enterprise Data Governance?

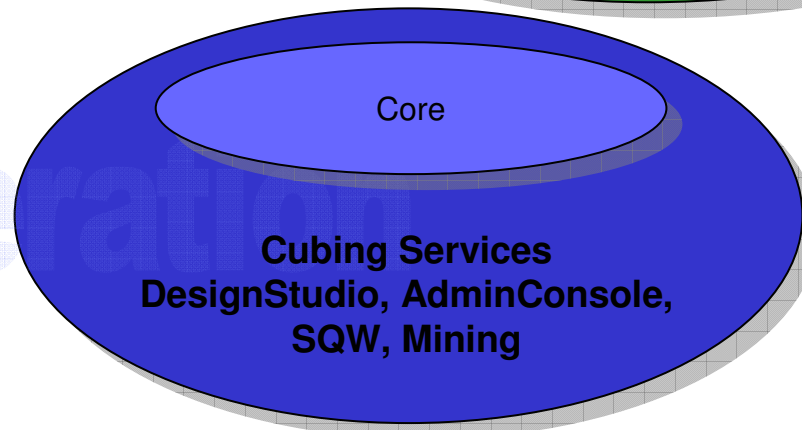


# Products & Technology needed for Dynamic DW on System z

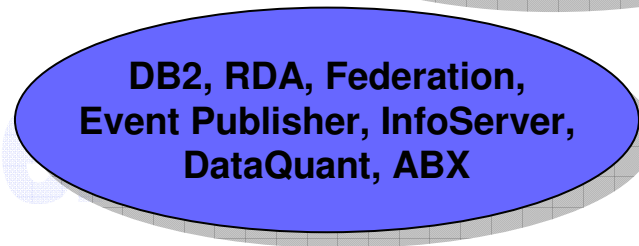
**Information On Demand**  
to Optimize Real-Time Processes



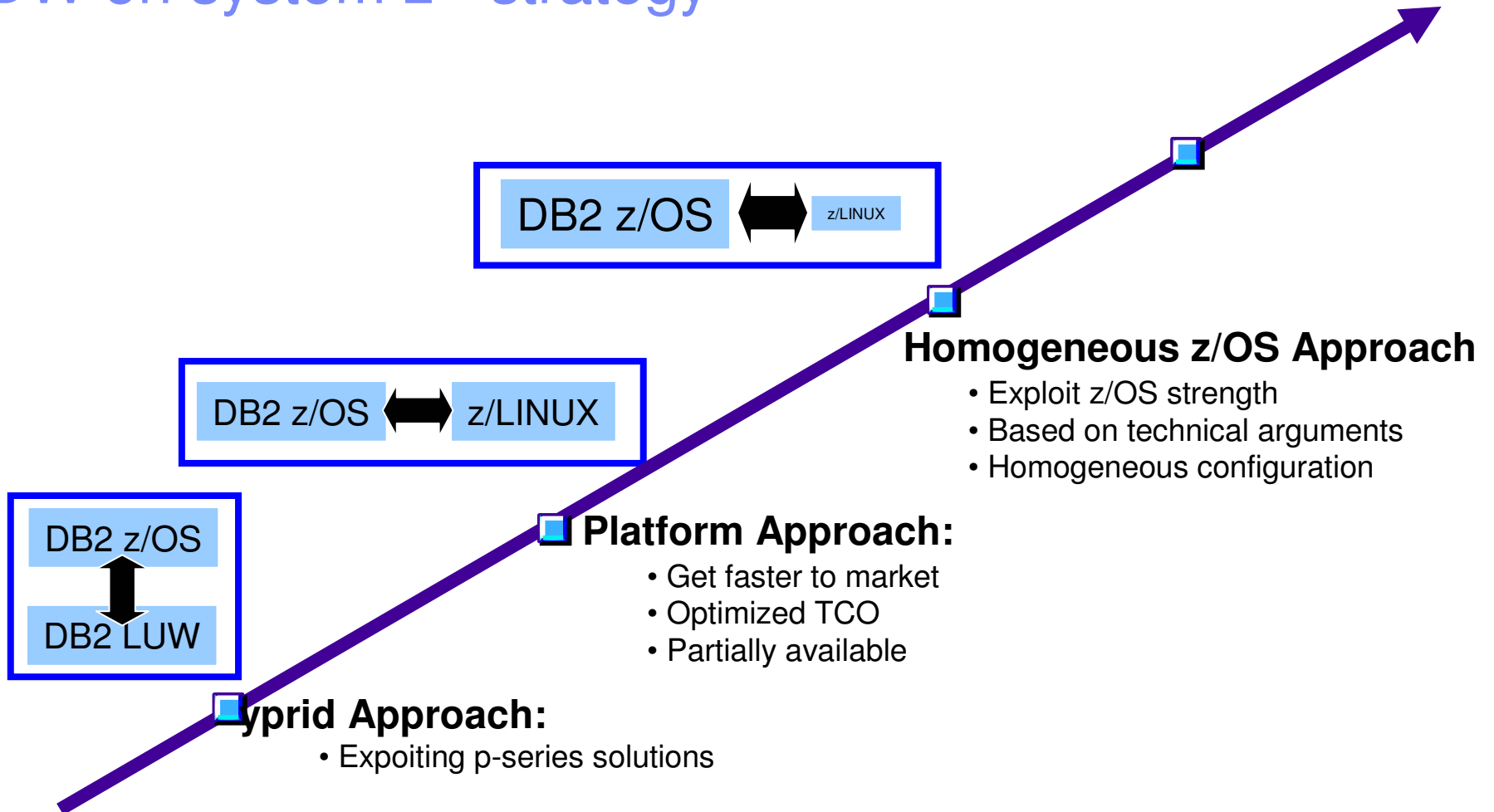
**OLAP & Data Mining**  
to Understand Why and Recommend Future Action



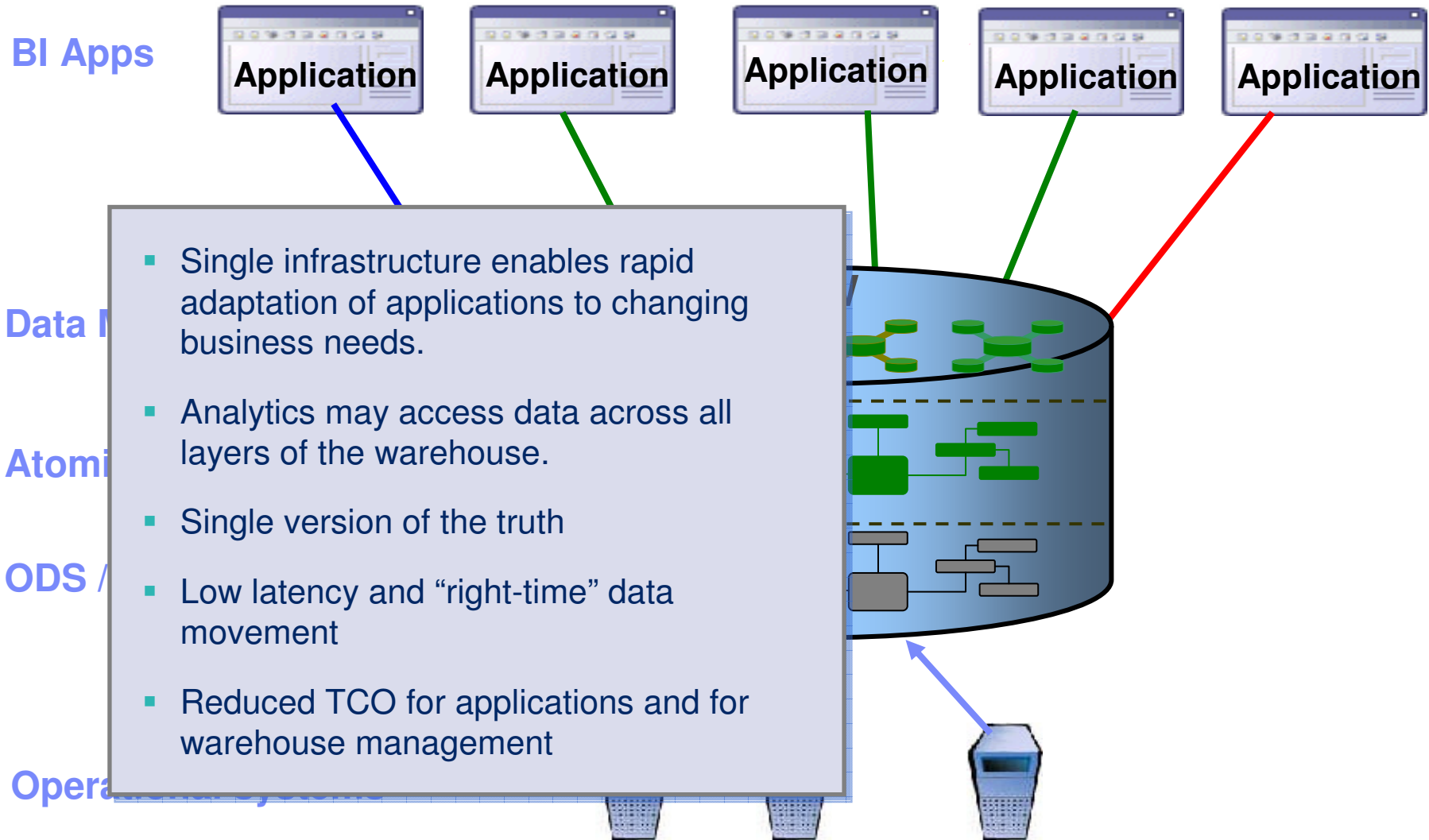
**Query & Reporting**  
to Understand What Happened



# DW on system z - strategy



# The Enterprise Data Warehouse Environment





# IBM Data Studio

## Integrated data management environment

### **Increases productivity -- throughout data life cycle**

- Slash development time up to 50% with an integrated data management environment for every role - Developers, DBAs, Data Architects
- Promote collaboration between Developers and DBAs to optimize performance
- Accelerate Java development productivity with pureQuery technology
- Simplify development of next generation pureXML applications
- Monitor data server operation & performance anywhere, anytime with a Web browser

### **Shortens the learning curve**

- Learn once, use with all your IBM data servers (DB2 and IDS)
- Easy-to-use and intuitive user interface - compatible with Rational Software Development Platform
- Extensible with Eclipse plug-ins to customize your development environment

### **Accelerates SOA implementation**

- Develop and publish data as a web service without programming
- Mash-up ready – jumpstart for Info 2.0

# Utilizing Application Transformation Tooling for IMS

## Transform User Experience

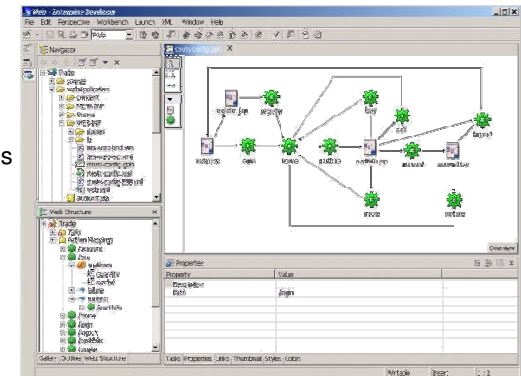
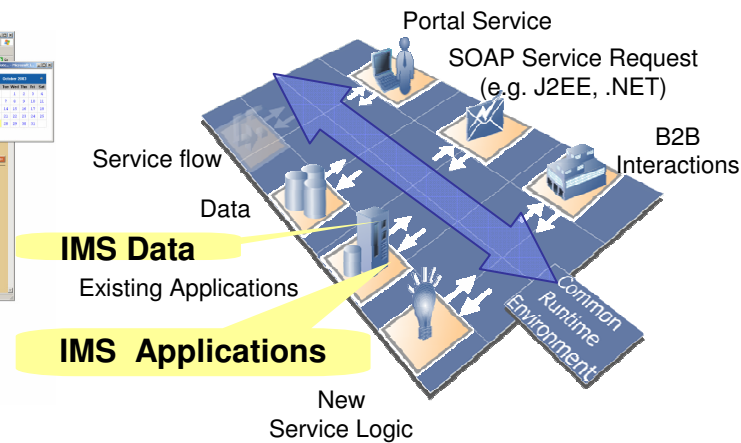
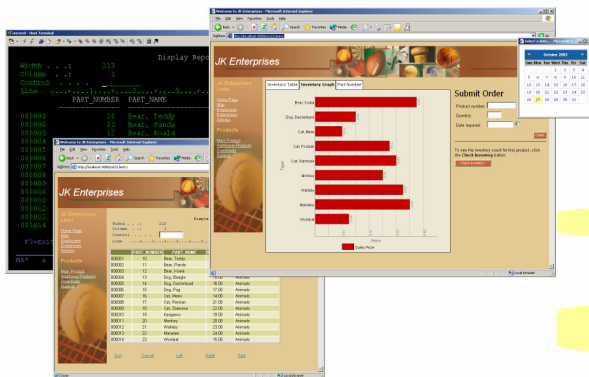
Enhance user interface and workflow for quick return on investment

## Transform Application Connectivity

Improve business processes and develop customer, partner and supplier relationships using Web services and Java connectors

## Transform Application Architecture

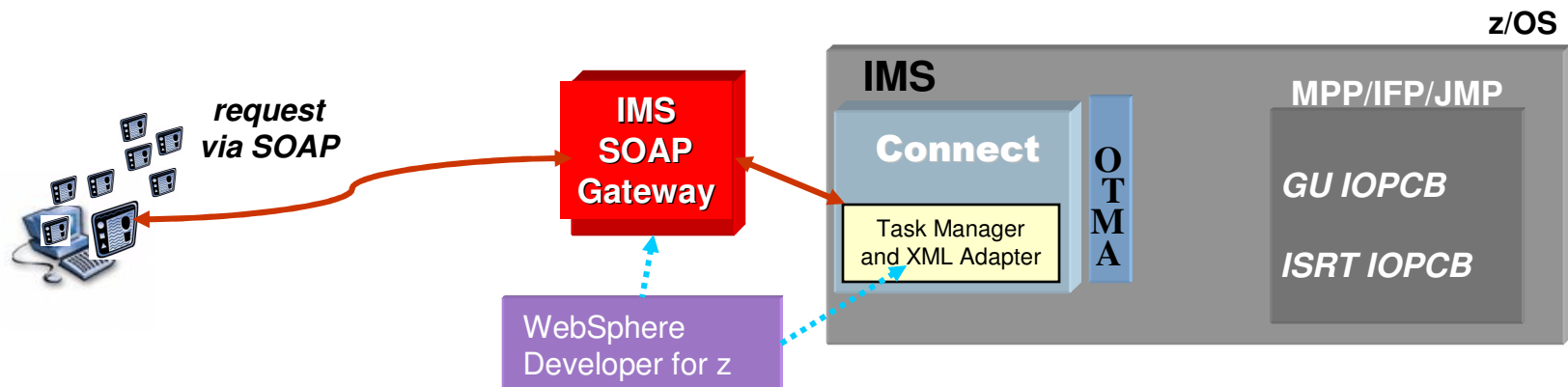
Update and extend mission-critical applications as services, leveraging their core value in new ways



**Single integrated delivery vehicle across application transformation styles**

## Broadened IMS Application Integration with IMS SOAP support

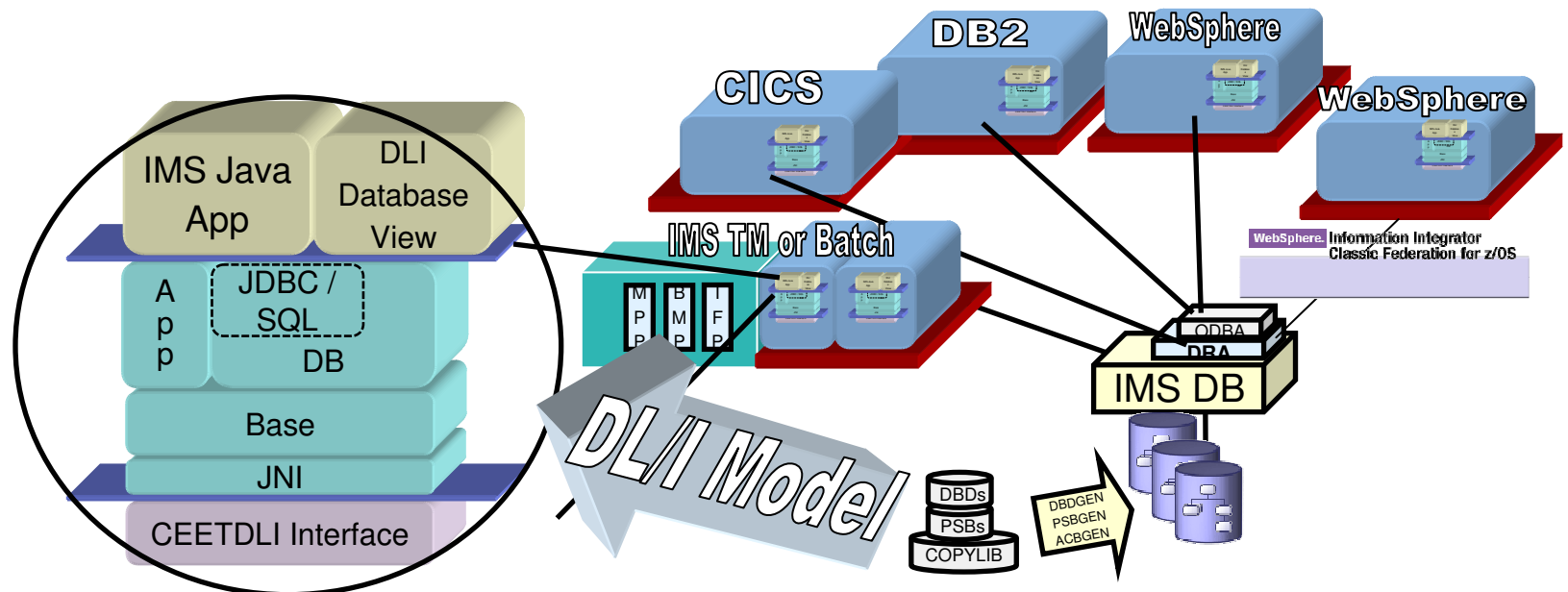
- **Enables Reuse of IMS Applications as Web Services**
  - Support WebService specifications
  - Leverages open standards and utilizes flexible tooling support
- **Provides IMS Transaction Interoperation with Client Applications**
  - Independent of location, programming language, and platform
  - SOAP Clients can be Microsoft .Net, SAP, Java, etc.



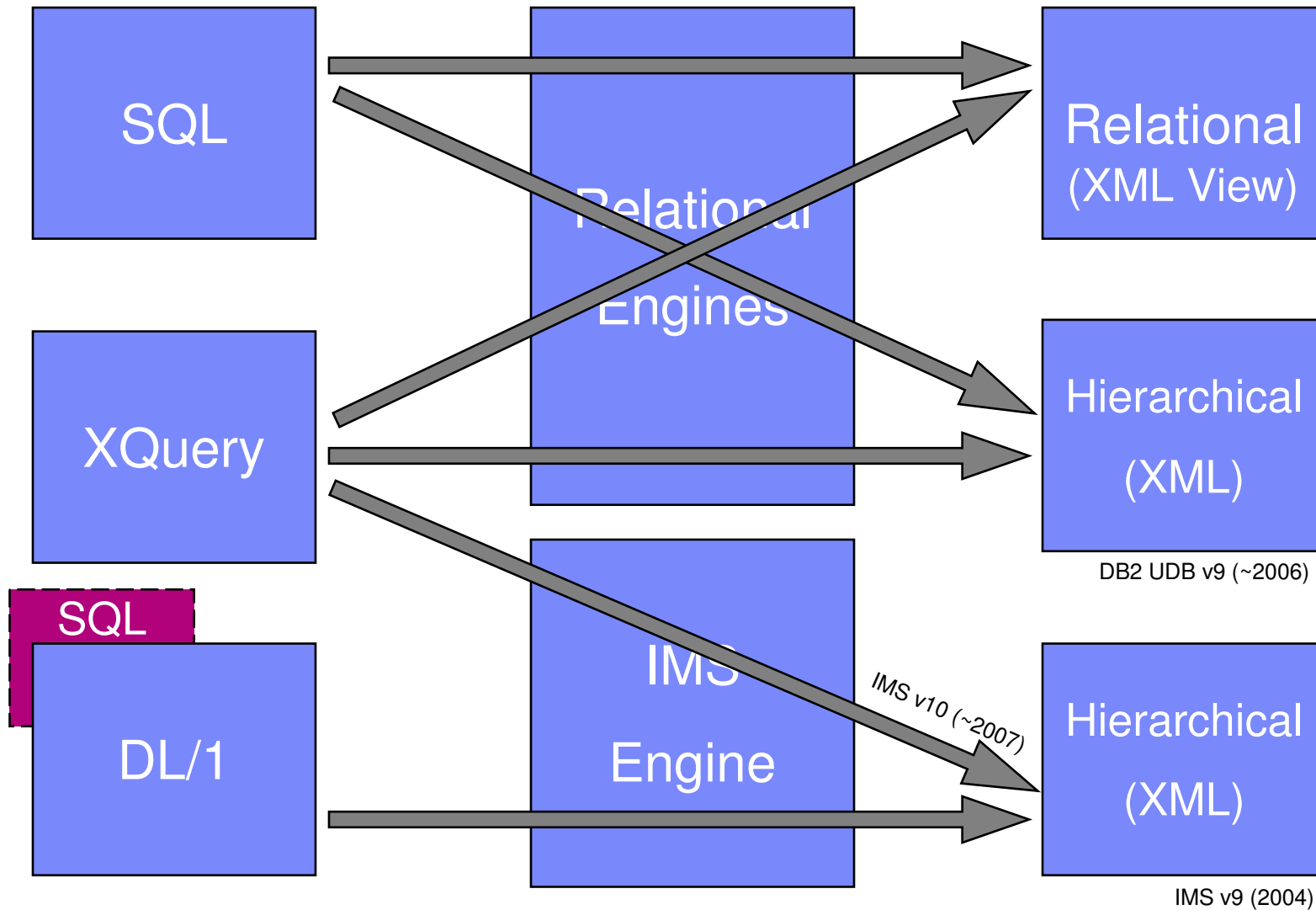
- **IMS SOAP Gateway R9.2 GA August 2006**
  - *Security enhancements*
    - Downloadable at <http://www.ibm.com/ims>
- **Task Manager/XML Adapter available Oct 2006 through IMS V9 service stream**

## Easing Tooling for IMS Database Access with DLIModel Utility GUI

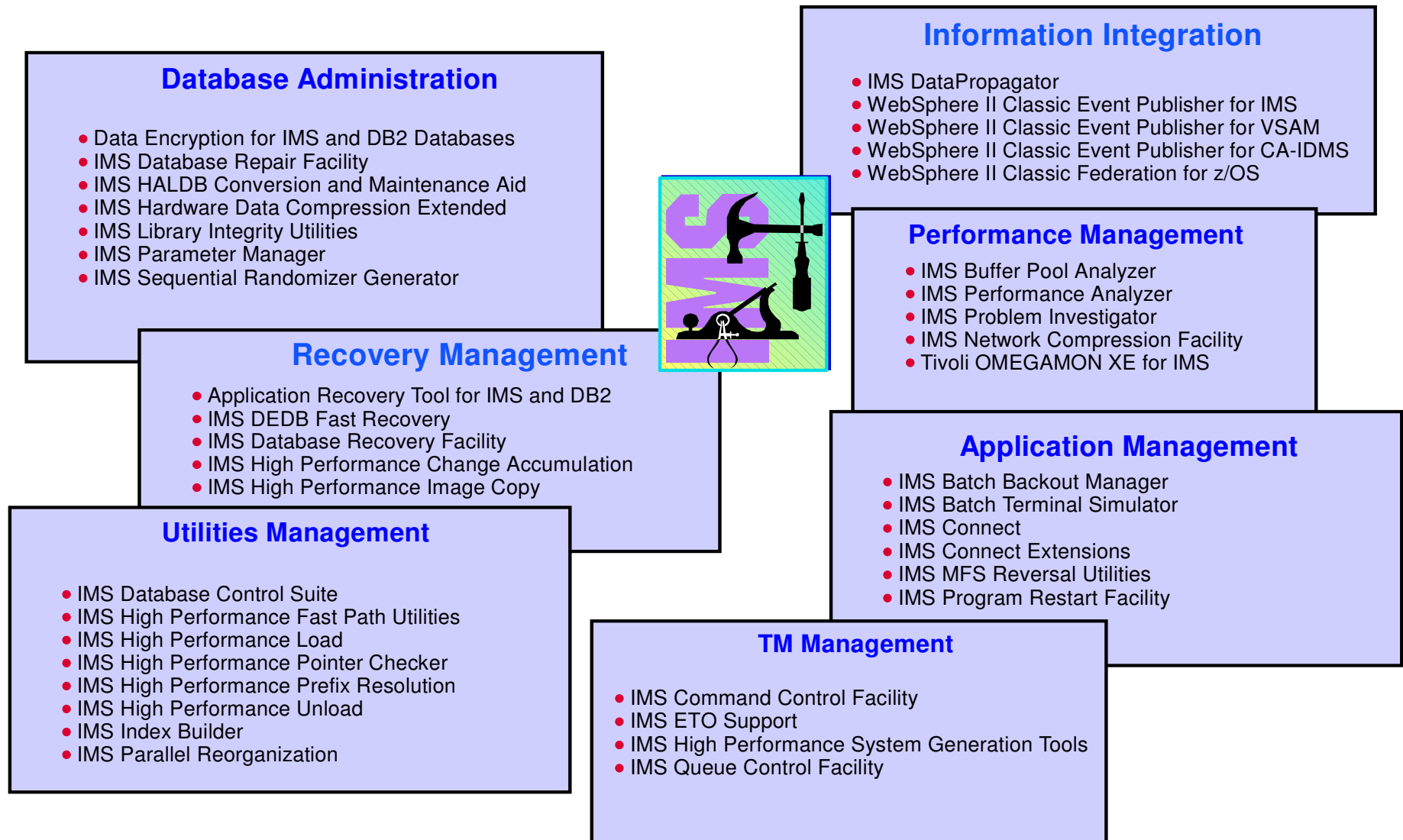
- **DLIModel Utility first shipped with IMS V8**
  - IMS Java tooling support
- **DLIModel Utility GUI initial Technology Preview, Updated 6/06**
  - Simplifies application development, visually representing IMS data
  - Downloadable through <http://www.ibm.com/ims>



# Road to Interoperability through XQuery

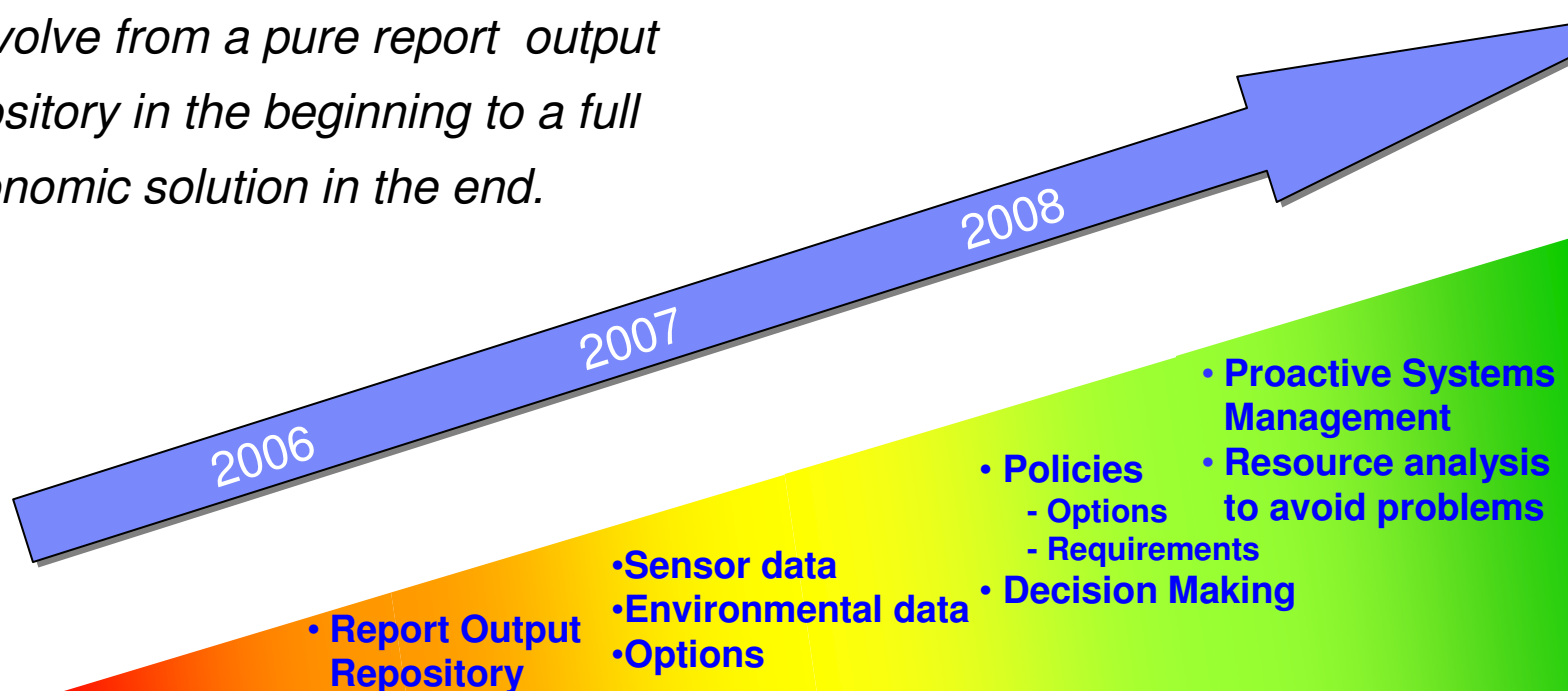


# Today's IBM IMS Tools Product Portfolio



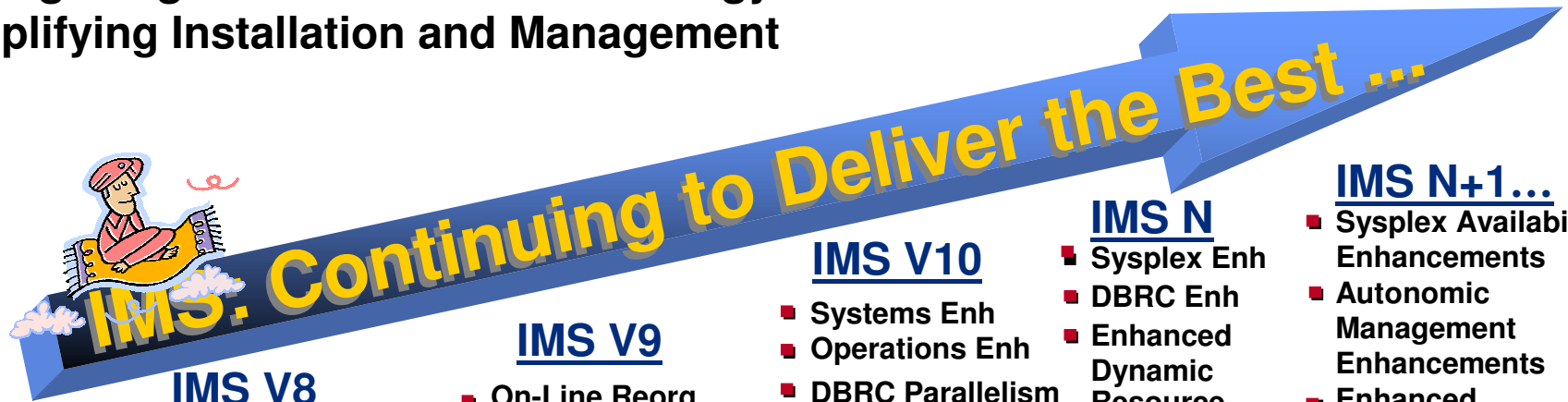
## Looking Forward – Knowledge Base

*The IMS Tools Knowledge Base is going to evolve from a pure report output repository in the beginning to a full autonomic solution in the end.*



# IMS: Providing Information On Demand

- ✓ Providing high performance, scalable, available, reliable and secure solutions
- ✓ Easing Integration with New Technology for a Service Oriented Architecture
- ✓ Simplifying Installation and Management



## IMS V7

- Large DB
- High Avail. DB
- IMS Java
- Rapid Restart

- IMS Connect V1
- New IMS Tools

## IMS V8

- Extend DB Connectivity
- Enhance Sysplex Operations
- Simplify Install Process

- IMS Connect V2
- Enhance IMS Tools

## IMS V9

- On-Line Reorg
- Enh Commands
- Reduced Sysgen Efforts
- Fast Path Enh
- DBRC Enh
- XML DB
- Integ IMS Connect

- Enh IMS Tools

## IMS V10

- Systems Enh
- Operations Enh
- DBRC Parallelism
- MSC Bandwidth
- Incremental Application Dynamic Resource Definition
- Enh Connectivity
- XQUERY
- Enh IMS SOAP

## IMS N

- Sysplex Enh
- DBRC Enh
- Enhanced Dynamic Resource Definition
- HALDB/OLR extensions
- Fast Path extensions
- XML DB enh
- Enh Dist DB Connectivity

## IMS N+1...

- Sysplex Availability Enhancements
- Autonomic Management Enhancements
- Enhanced Dynamic Resource Definition
- Config Mgmt Enh
- Enh Connectivity

Database

Systems

Database

Systems

Database

Systems

Also delivering Service and Enhancements, with periodic Service Update (SUP) refreshed deliverables, and New/Enhanced Tooling.



# Content: CM and Filenet Update

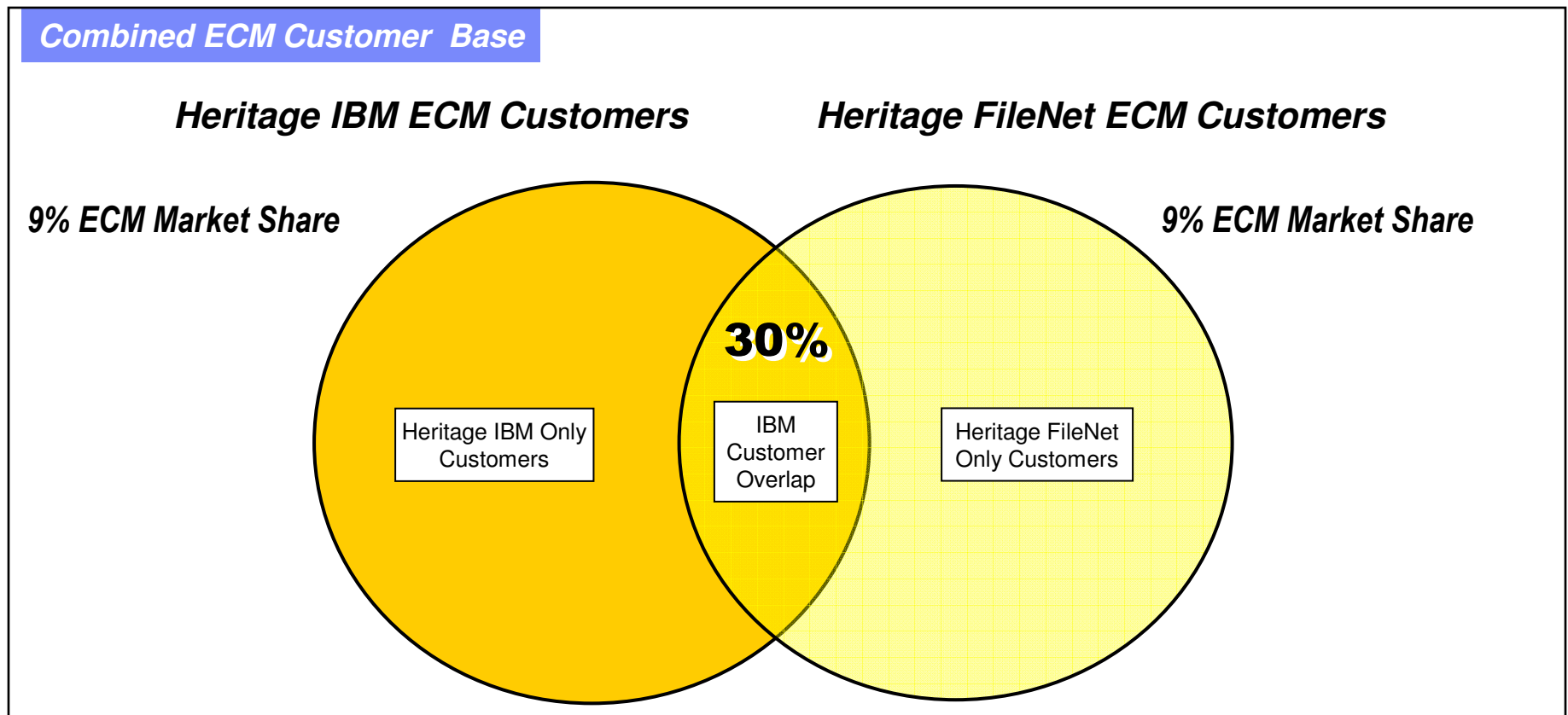
## Executive Summary

- Our customers will see significant benefits from the FileNet acquisition and IBM is now among the ECM Market Leaders across Content, Process, Compliance and Search
- We remain committed to our customers and their investments on existing products
- Our ECM product plans are designed to:
  - Deliver leading Content, Process, Compliance and Search capabilities
  - Continue investments in both heritage IBM and FileNet platforms, and
  - Enhance interoperability across our portfolio
- Planned new capabilities for customers include:
  - Business Process Management (BPM) & Business Process Framework (BPF), Web 2.0 Client, Enhanced Search and Compliance capabilities

Information concerning IBM's product plans and directions are provided for information purposes only. Such plans or directions are subject to change or cancellation without notice. References in this presentation to IBM products or services do not imply that IBM intends to make them available in all countries in which IBM operates. All information being released represents IBM current intent, is subject to change or withdrawal, and represents only goals and objectives.

## 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**

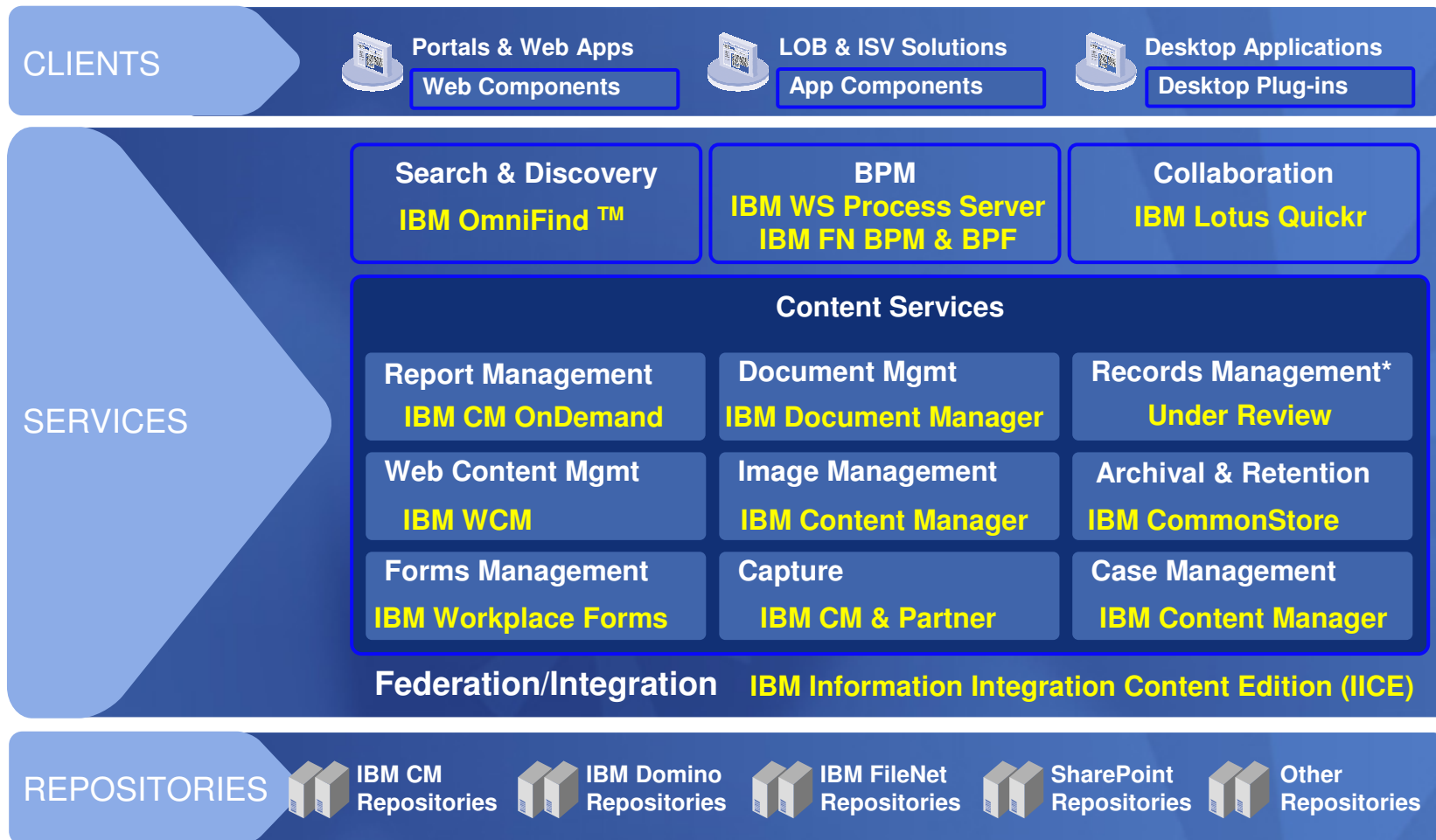


# IBM 2007 ECM strategy

Customer Strategy		Product Strategy
<b>Enable our ECM customers to standardize on IBM for enterprise wide ECM deployments</b>		<ul style="list-style-type: none"> <li>▪ Invest in market leading ECM Solution Portfolio</li> <li>▪ Enhance existing CM8 and P8 products</li> <li>▪ Introduce IBM FileNet P8 BPM to CM8 customers</li> <li>▪ Introduce CM OnDemand to FileNet P8 customers</li> </ul>
<b>Realize greater content value by tight activation with BPM</b>		<ul style="list-style-type: none"> <li>▪ Innovate BPM for the whole ECM portfolio</li> <li>▪ Enhance BPF and partner solutions</li> </ul>
<b>Fulfill strong customer need for compliance capabilities</b>		<ul style="list-style-type: none"> <li>▪ Process driven RM and E-mail archiving</li> </ul>
<b>Increase ECM solutions offerings via partners</b>		<ul style="list-style-type: none"> <li>▪ Grow ECM partner ecosystem</li> </ul>
<b>Enhance ECM integration with other technologies</b>		<ul style="list-style-type: none"> <li>▪ Tighten integration w/ WebSphere, WPLC, MS</li> <li>▪ Expand IBM / SAP Information Mgmt partnership</li> </ul>

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# IBM Content Management Portfolio capabilities

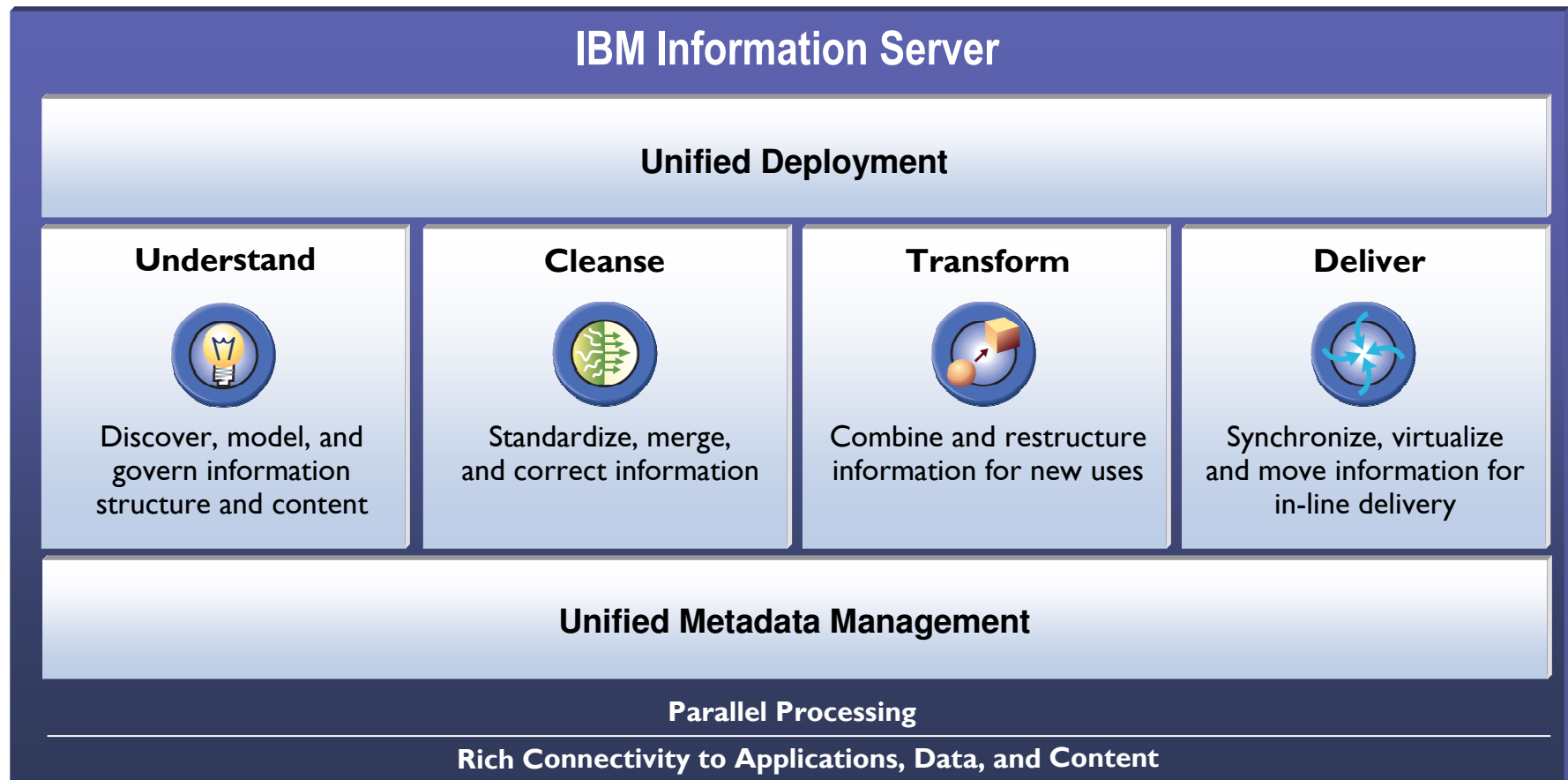


\*Detailed Product Direction and Product Roadmap will be available in May 2007

# Information and Solutions: Information Server and MDM Update

# Delivering IBM Information Server on Native System z

## Phase 3 – Complete the Platform!



## IBM/DataMirror Competitive Differentiators

- *Leading Technology*
  - Optimized log-based capture for fastest end to end performance
  - Least impact on operational systems
  - Less invasive to data sources than alternative solutions
- *Breadth of supported source/targets*
  - Distributed
  - Mainframe
- *Data Delivery Integrity*
  - Fault tolerance
  - High reliability





# DataMirror Adds Depth and Breadth to IBM Information Server

**DataMirror®**

- ✓ Real-Time Changed Data Capture (CDC)
- ✓ Heterogeneous Replication and Synchronization
- ✓ High-Availability / Disaster Recovery (HA/DR)

## IBM Information Server

**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

## Platform Services

**Parallel Processing Services**



**Connectivity Services**



**Metadata Services**



**Administration Services**



**Deployment Services**

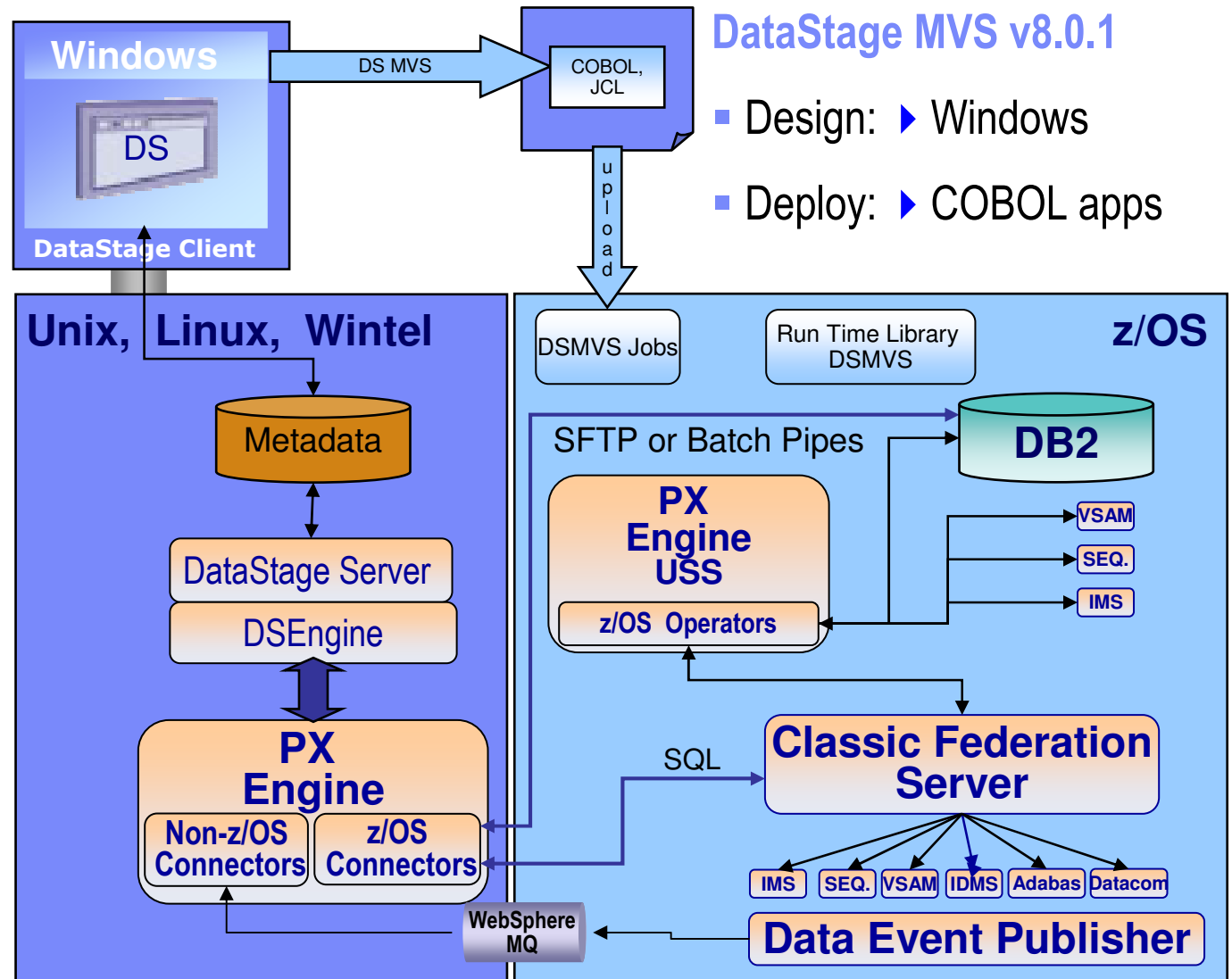


# Today's DataStage z/OS v7.5.2 & DataStage MVS v8

## Multi-platform Solutions

### DataStage z/OS v7.5.2

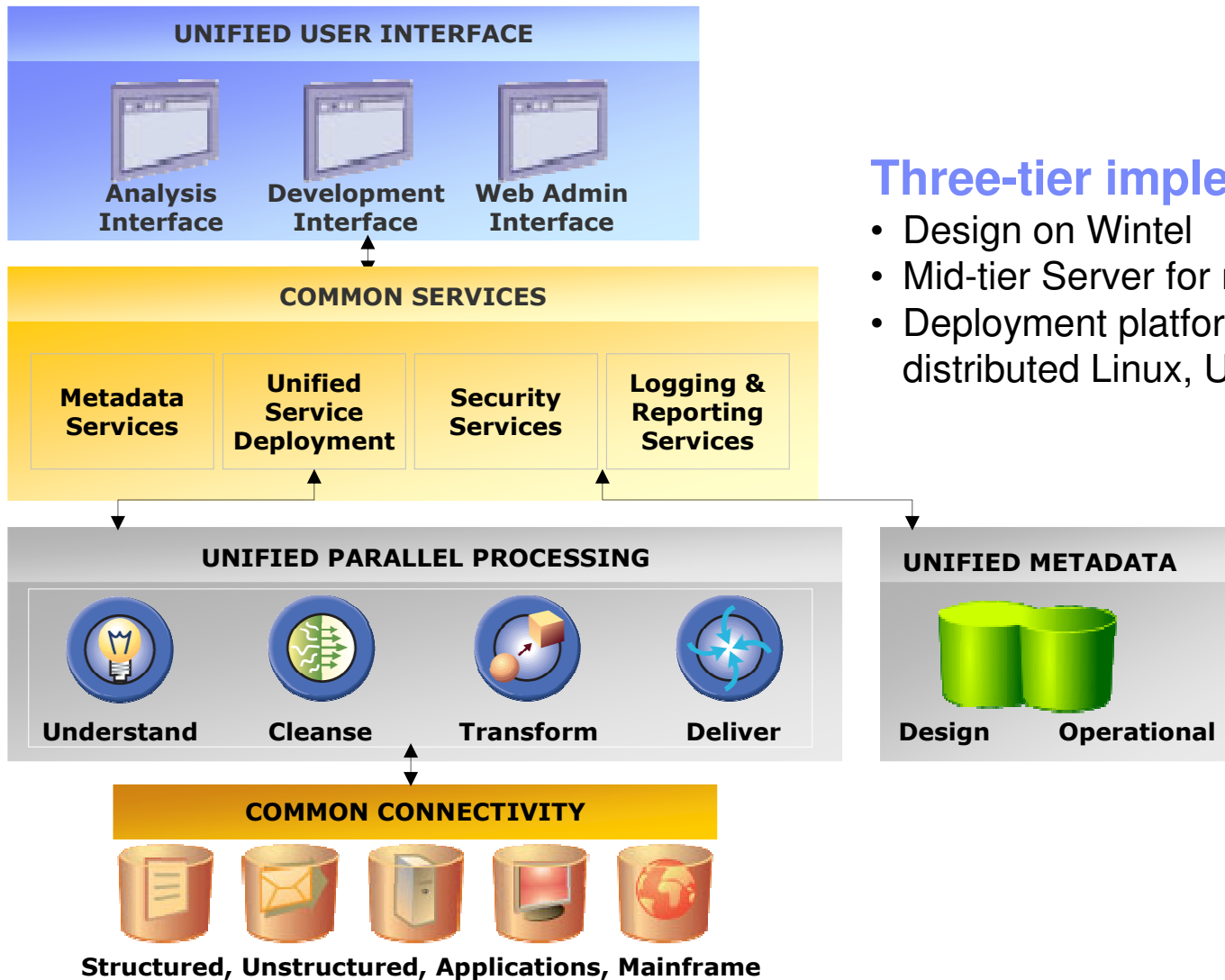
- Design: ▶ Windows
- Server: ▶ Mid-tier
- Deploy: ▶ Mid-tier  
▶ z/OS (USS)



### DataStage MVS v8.0.1

- Design: ▶ Windows
- Deploy: ▶ COBOL apps

# IBM Information Server Architecture

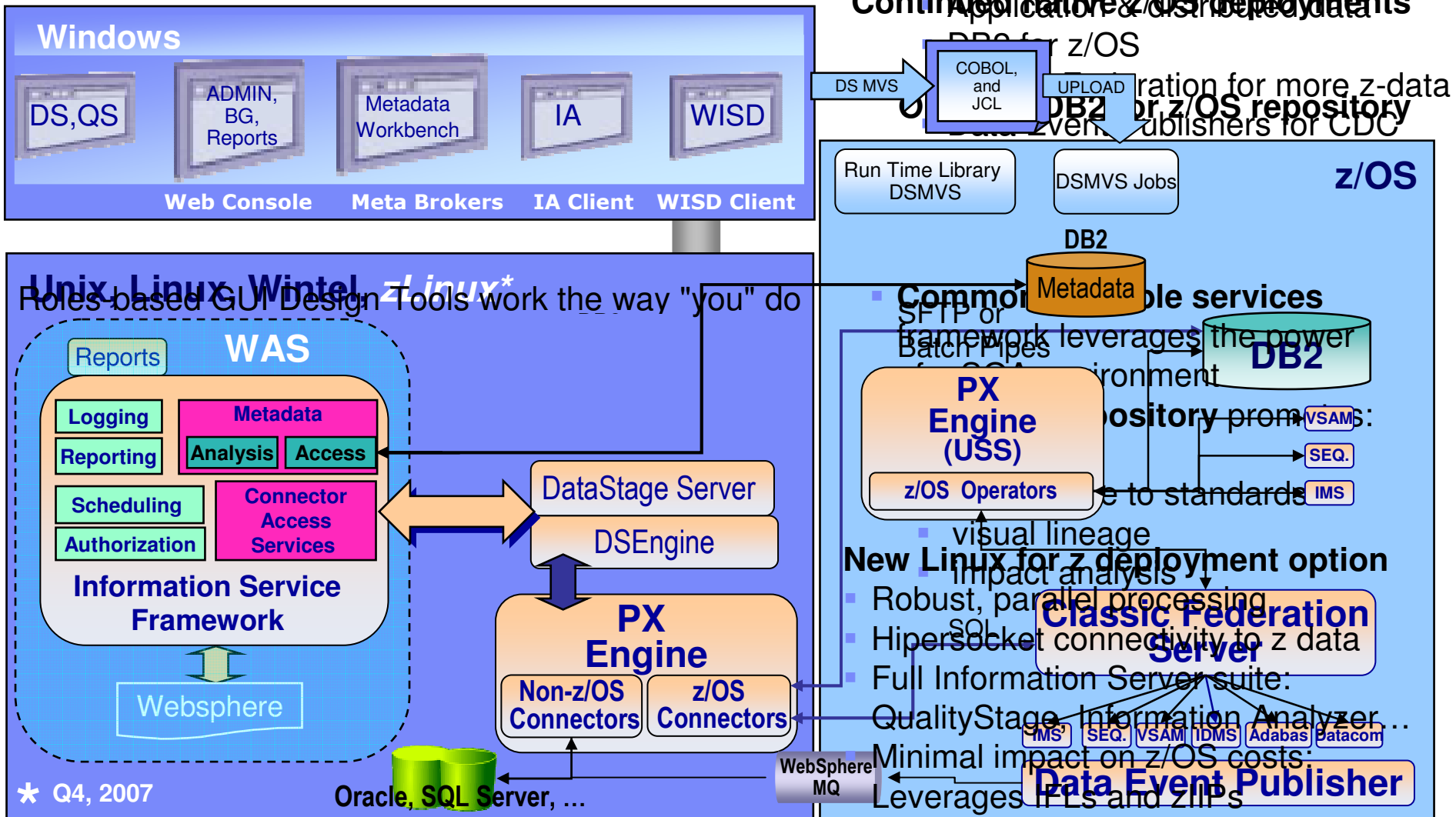


## Three-tier implementation:

- Design on Wintel
- Mid-tier Server for metadata & scheduling
- Deployment platforms are USS and/or distributed Linux, Unix and Windows

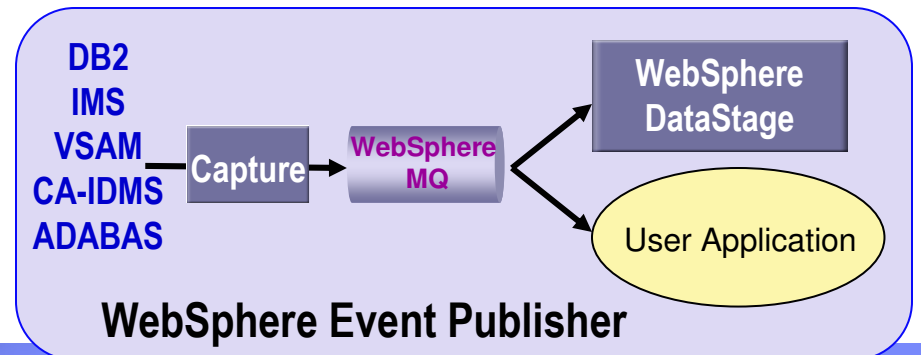
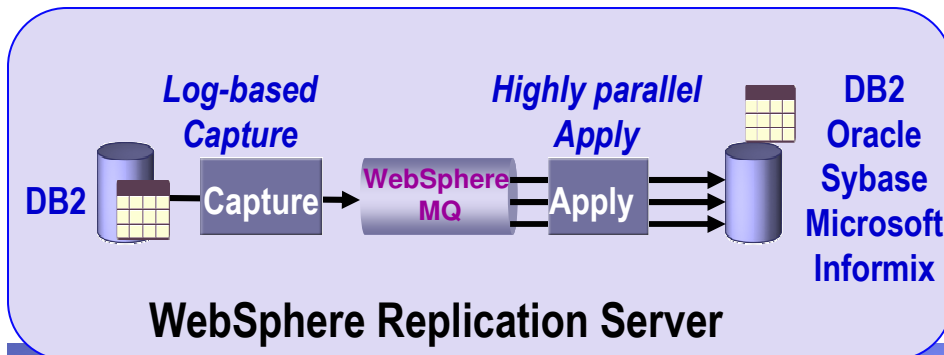
# IBM Information Server Technology Model

A flexible, multi-platform solution



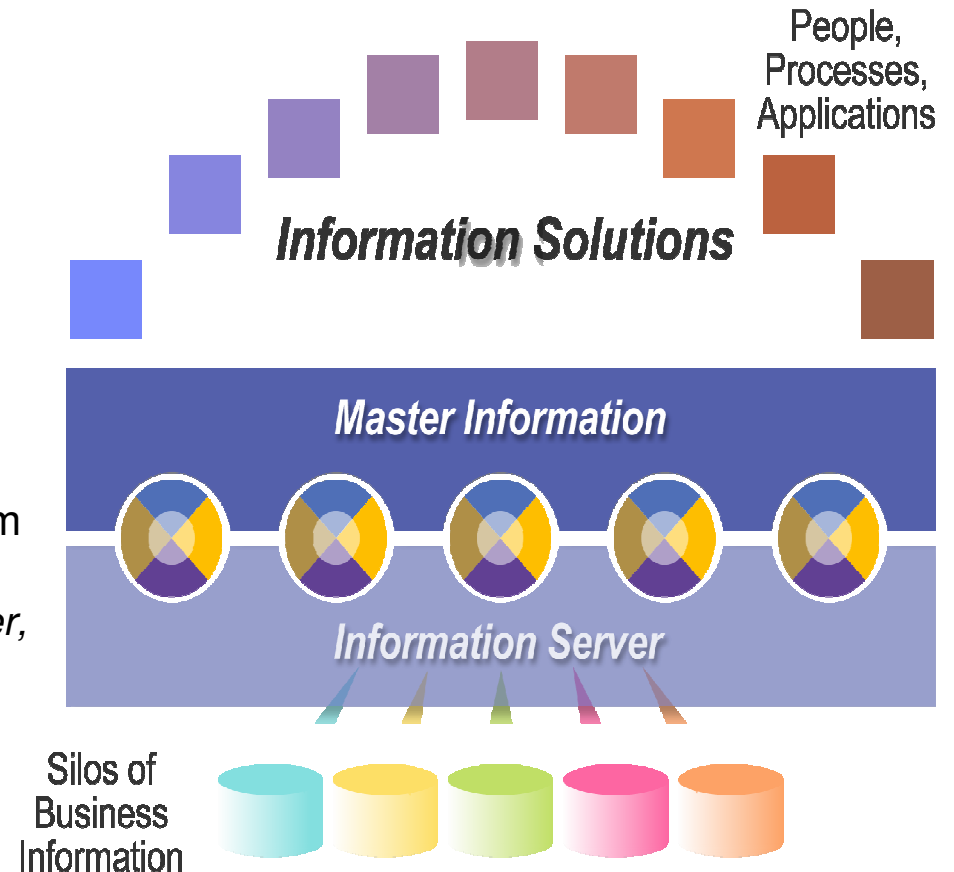
# WebSphere Replication Server and WebSphere Event Publisher

- **WebSphere Replication Server**
  - Provides a solution for: **Continuous Availability, Workload Balancing, Application Integration**
  - **Key Features: extremely low latency, peer to peer support, transformation and filtering of data**
  - **New! MQ bundled on all platforms, SQL expression support, integration with Classic Replication Server**
- **WebSphere Event Publisher**
  - **Near real time sourcing for data warehousing, data driven application messaging**
  - **Publishes data events to a message queue using an XML self describing format**
  - **Individual Event Publishers available for DB2 and Classic sources**

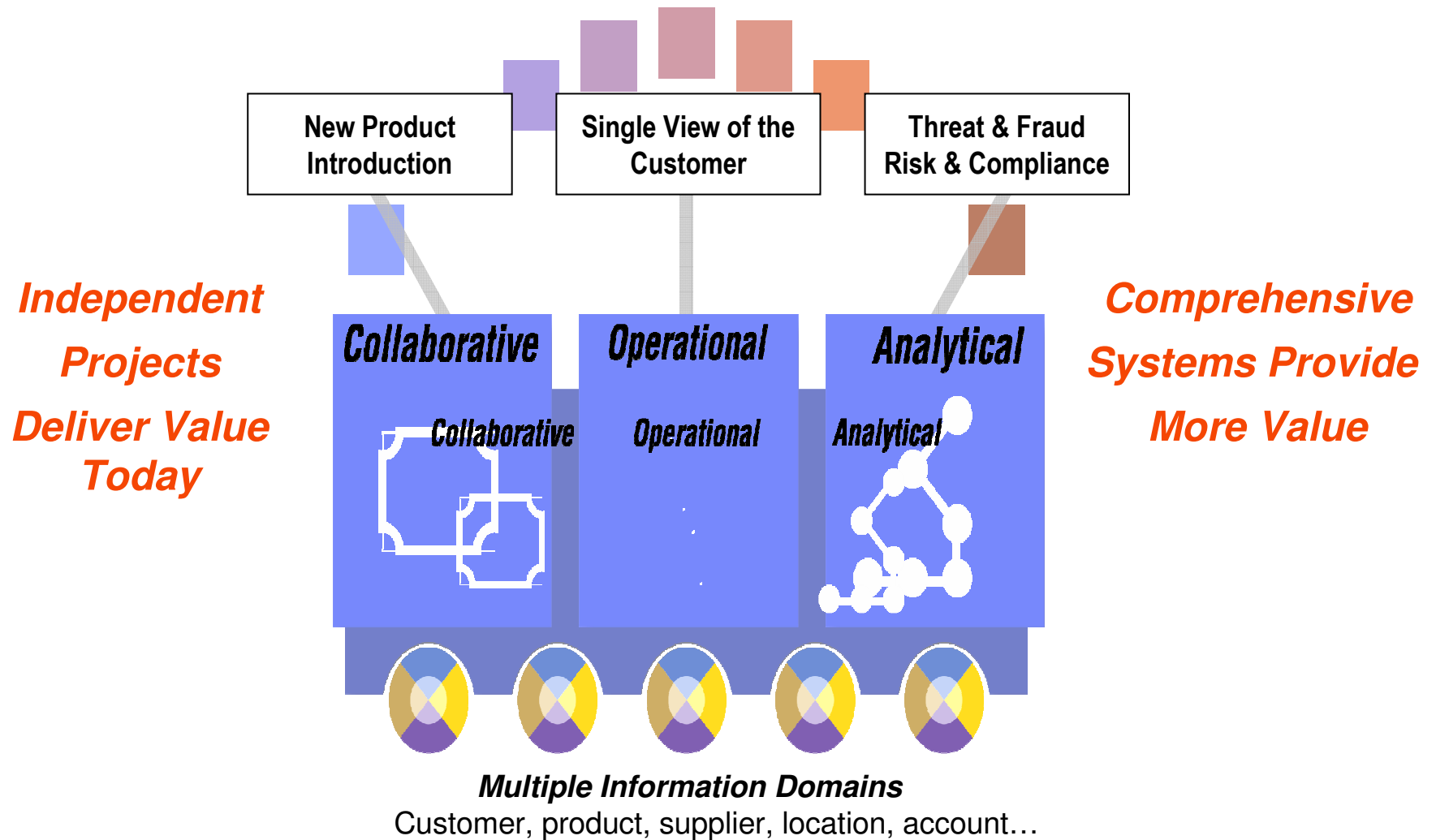


## Information Solutions Delivers Business Innovation

- Configure solutions to address our clients toughest Information Intensive Business Challenges, such as:
  - Customer-centricity
  - Product and service optimization
  - Risk & compliance
  - Threat & fraud intelligence
  
- Built from an integrated system for Multi-form Master Data Management
  - *Multi – Domain ( Partner, Product, Customer, Account, Location*
  - *Multi – Style (Collaborative, Operational , Analytical*
  
- Based on IBM Information Server



# Master Information... Delivering New Business Value



# IBM Multiform Master Data Management

## Multi – Domain

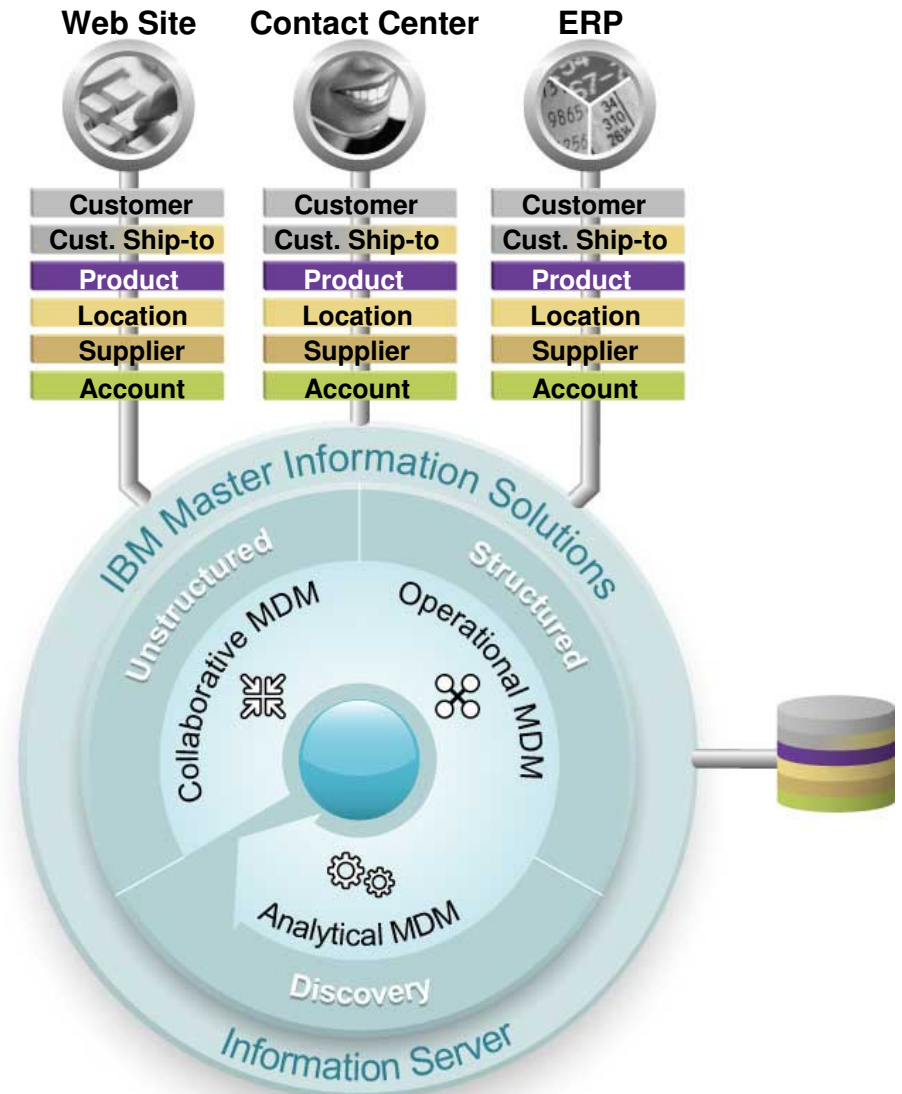
- Partner
- Product
- Customer
- Account
- Location

## Multi – Style

- Collaborative
- Operational
- Analytical

## Multiple Business Processes

- New Product Introduction
- Customer Centricity
- Householding
- ...





## Summary

- IOD – complementary to SOA
- Information in motion for business value
- Sustained and growing investment in z software
- Deep synergy with System z and z/OS for industry leading TCO
- Tools that exploit our data bases as soon as they are available
- Total commitment to your success with z

# IBM Information On Demand 2007

*Business and IT Executives, Managers,  
Professionals, DBA's and Developers*



2-1/2 day business leadership track with 100 sessions  
5 day technical track with 400 sessions

**[ibm.com/events/InformationOnDemand](http://ibm.com/events/InformationOnDemand)**



Thank you.

