



IBM Software Group

# Information Integration

*Improve your Competitive Edge with System z9 Information*



*St. Petersburg February 20, 2006*

**Jeanette Horan**

*VP, WW Information Management Development*



**ON DEMAND BUSINESS™** = *Make it happen now*

# Today's Business Challenges

*Information Availability Has Become the Most Anticipated Impact*



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

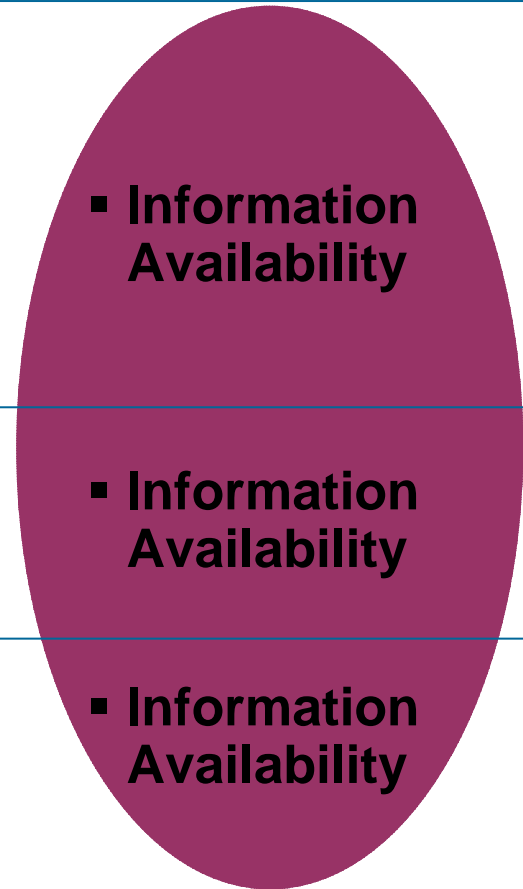
- Introduce new apps and systems into existing IT infrastructure
- Standardize, automate and integrate business processes, apps
- Align business models, processes and apps to business goals

- **Better understand and meet customer expectations**

- Analyze and use information to make better business decisions

- **Increase employee productivity**

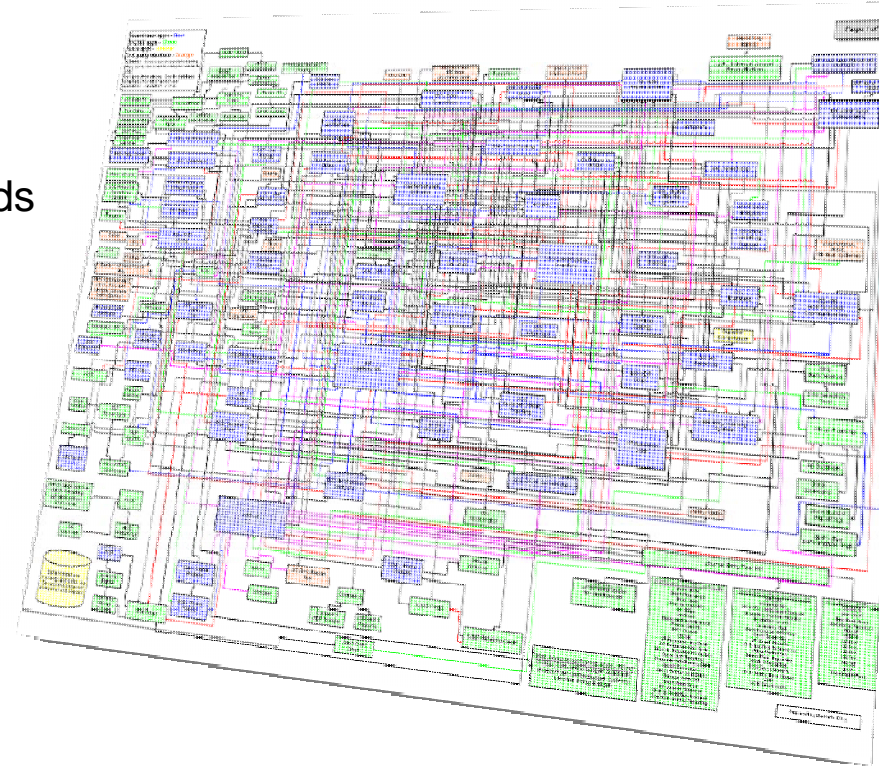
- Enhance employees' skills and expertise continuously
- Empower employees with tools and info for decision-making



Source: IBM Attributes & Capabilities Study, 2005

# What are the biggest challenges and inhibitors?

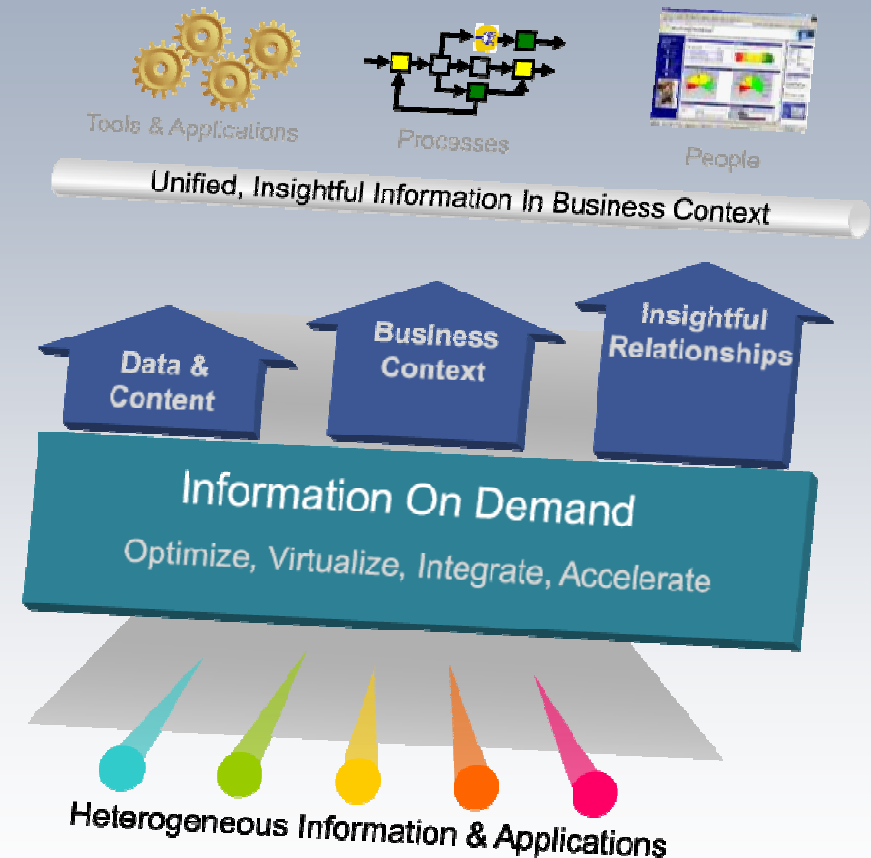
- **Volume**: Amount of data & content is growing
- **Variety**: It's not just the transaction data, it's e-mails, document libraries, etc.
- **Velocity**: The pace of business and business users who need information now, in real time for their business needs
- **Complexity**:
  - Lack of business process standards
  - Point application buys to support redundant LOB needs
  - Limited architectural policies
  - Infrastructure built with no roadmap
  - Mergers & Acquisitions
  - Disparate information



# Information On Demand

## Key Value Proposition for System z Customers

- Enhanced capabilities in DB2 for z/OS, IMS, and Tools
  - Mission critical databases and applications platform
  - Optimize IT infrastructure
  - Lower total cost of Ownership
  - Streamline Compliance and Auditability
  
- Open Connectivity and Information On Demand
  - Leverage your data and applications with Information integration and Virtualization
  - Leverage unstructured content
  - Achieve ROI with solution accelerators





# *Enhanced Capabilities*

*DB2 for z/OS*



# Where you put your Data Matters....

## Confidence in System z, z/OS and DB2 for z/OS

- **Integrity**
  - ▶ z/OS System Integrity Programming Standard – in writing
  - ▶ System z integrity features that help protect data
- **High availability**
  - ▶ Designed with a ‘Never go down’ philosophy as opposed to a ‘rapid reboot’ philosophy
  - ▶ Capability of providing concurrent HW maintenance and upgrades and rolling changes to DB2 for z/OS (in a Parallel Sysplex) can mean fewer database outages
- **Security**
  - ▶ Encryption, encryption, encryption – comprehensive solution
  - ▶ MLS – merge data into single server and helps preserve data isolation.
  - ▶ Helping address regulatory compliance with ability to establish centralized policies and procedures for privacy, security and audit
- **Systems and database management**

### **DB2 for z/OS in:**

- ▶ 25 of the top 25 WW banks\*
- ▶ 23 of the top 25 US retailers\*\*
- ▶ 9 of the top 10 global life/ health insurance providers\*\*\*



# DB2 - Baldor Electric Company



## Challenge

Core SAP R/3 Enterprise Resource Planning (ERP) software was spread across multiple systems, creating an environment that was increasingly complex and expensive to support.

## Solution

- Baldor selected IBM DB2 UDB for z/OS V8 and DB2 Connect Application Server Edition V8.2. They were able to consolidate their SAP servers to a single machine, allowing them to quickly assign and reassign resources to support user demand.
- Weighing heavily in the decision: no mainframe downtime since 1997

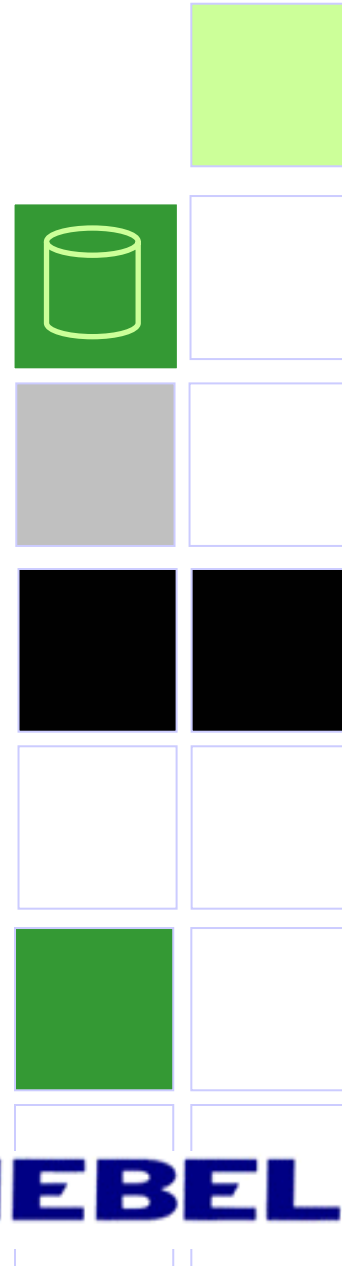
## Value

- Near continuous availability
- Perform regular systems management activities with server still in production
- Reduced cost & complexity
- IT spending reduced from 1.7% to 1.2% of sales



## DB2 for z/OS V8: At a glance

- Improved IT Infrastructure In Support of Compliance Efforts
  - ▶ Greater encryption capabilities (incl. DB2 data encryption tool)
  - ▶ Common Criteria security certification currently in evaluation stage
  - ▶ Multi-level & row-level security
  - ▶ HW cryptographic features
- Simplify development and porting
  - ▶ Online Schema Evolution
  - ▶ Rolling maintenance & upgrades
  - ▶ DB2 SQL family improvements
  - ▶ Dramatically increase limits throughout system
- Decrease Complexity and Reduce Cost
  - ▶ 64-bit virtual addressing
  - ▶ Built in data compression
  - ▶ Autonomic capabilities
  - ▶ Multi-row insert and fetch
  - ▶ Increased optimization and query performance
- Evolve Your Environment & SOA
  - ▶ Improved XML capabilities
  - ▶ WAS and Java integration





# DB2 Family SQL

**z z/OS V7**

**common**

**LUW Linux, Unix & Windows V8.2**



- z** {
- c** { Inner and Outer Joins, Table Expressions, Subqueries, GROUP BY, Complex Correlation, Global Temporary Tables, CASE, 100+ Built-in Functions, Limited Fetch, Insensitive Scroll
- o** { Cursors, UNION Everywhere, MIN/MAX Single Index Support, Self Referencing Updates with
- m** { Subqueries, Sort Avoidance for ORDER BY, and Row Expressions, Call from trigger,
- n** { statement isolation
- L** { Updateable UNION in Views, ORDER BY/FETCH FIRST in subselects & table expressions,
- U** { GROUPING SETS, ROLLUP, CUBE, INSTEAD OF TRIGGER, EXCEPT, INTERSECT, 16
- W** { Built-in Functions, MERGE, Native SQL Procedure Language, SET CURRENT ISOLATION, BIGINT data type, file reference variables, SELECT FROM UPDATE, DELETE & MERGE, multi-site join, 2M Statement Length, GROUP BY Expression, Sequences, Scalar Fullselect, Materialized Query Tables, Common Table Expressions, Recursive SQL, CURRENT PACKAGE PATH, VOLATILE Tables, Star Join Sparse Index, Qualified Column names, Multiple DISTINCT clauses, ON COMMIT DROP, Transparent ROWID Column, FOR READ ONLY KEEP UPDATE LOCKS, SET CURRENT SCHEMA, Client special registers, long SQL object names, SELECT from INSERT



# DB2 Family SQL

**z z/OS V8**

**common**

**LUW Linux, Unix & Windows V8.2**



- z** { Multi-row INSERT, FETCH & multi-row cursor UPDATE, Dynamic Scrollable Cursors, GET DIAGNOSTICS, Enhanced UNICODE for SQL, join across encoding schemes, IS NOT DISTINCT FROM, Session variables
- c** { Inner and Outer Joins, Table Expressions, Subqueries, GROUP BY, Complex Correlation, Global Temporary Tables, CASE, 100+ Built-in Functions including SQL/XML, Limited Fetch, Insensitive Scroll Cursors, UNION Everywhere, MIN/MAX Single Index Support, Self Referencing Updates with Subqueries, Sort Avoidance for ORDER BY, and Row Expressions, 2M Statement Length, GROUP BY Expression, Sequences, Scalar Fullselect, Materialized Query Tables, Common Table Expressions, Recursive SQL, CURRENT PACKAGE PATH, VOLATILE Tables, Star Join Sparse Index, Qualified Column names, Multiple DISTINCT clauses, ON COMMIT DROP, Transparent ROWID Column, Call from trigger, statement isolation, FOR READ ONLY KEEP UPDATE LOCKS, SET CURRENT SCHEMA, Client special registers, long SQL object names, SELECT from INSERT
- l** { Updateable UNION in Views, ORDER BY/FETCH FIRST in subselects & table expressions, GROUPING SETS, ROLLUP, CUBE, INSTEAD OF TRIGGER, EXCEPT, INTERSECT, 16 Built-in Functions, MERGE, Native SQL Procedure Language, SET CURRENT ISOLATION, BIGINT data type, file reference variables, SELECT FROM UPDATE, DELETE & MERGE, multi-site join



# DB2 Family SQL

**z z/OS V8 vNext**

**common**

**LUW Linux, Unix & Windows V8.2**



**Z**

Multi-row INSERT, FETCH & multi-row cursor UPDATE, Dynamic Scrollable Cursors, GET DIAGNOSTICS, Enhanced UNICODE for SQL, join across encoding schemes, IS NOT DISTINCT FROM, Session variables, TRUNCATE, DECIMAL FLOAT, VARBINARY, optimistic locking, FETCH CONTINUE, ROLE, MERGE

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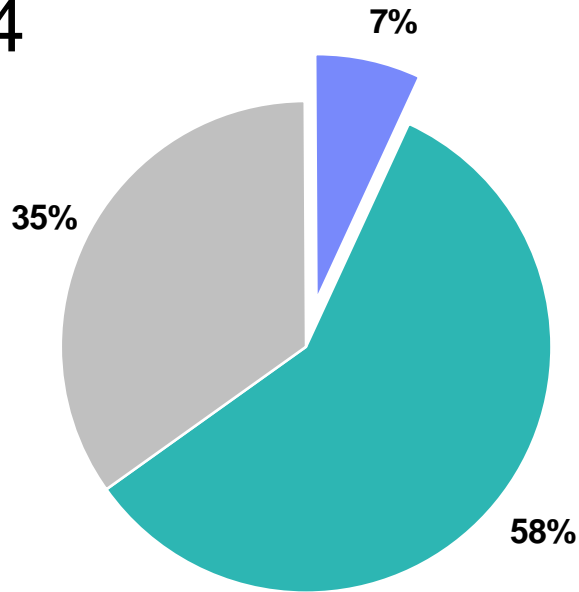
Inner and Outer Joins, Table Expressions, Subqueries, GROUP BY, Complex Correlation, Global Temporary Tables, CASE, 100+ Built-in Functions including SQL/XML, Limited Fetch, Insensitive Scroll Cursors, UNION Everywhere, MIN/MAX Single Index Support, Self Referencing Updates with Subqueries, Sort Avoidance for ORDER BY, and Row Expressions, 2M Statement Length, GROUP BY Expression, Sequences, Scalar Fullselect, Materialized Query Tables, Common Table Expressions, Recursive SQL, CURRENT PACKAGE PATH, VOLATILE Tables, Star Join Sparse Index, Qualified Column names, Multiple DISTINCT clauses, ON COMMIT DROP, Transparent ROWID Column, Call from trigger, statement isolation, FOR READ ONLY KEEP UPDATE LOCKS, SET CURRENT SCHEMA, Client special registers, long SQL object names, SELECT from INSERT, UPDATE, DELETE & MERGE, INSTEAD OF TRIGGER, Native SQL Procedure Language, BIGINT, file reference variables, XML, FETCH FIRST & ORDER BY in subselect and fullselect, caseless comparisons, INTERSECT, EXCEPT, not logged tables

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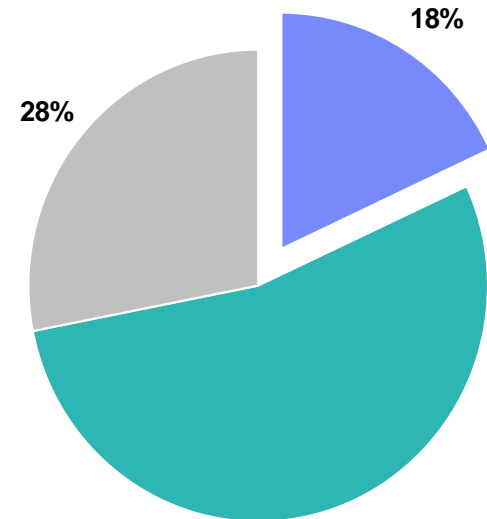
Updateable UNION in Views, GROUPING SETS, ROLLUP, CUBE, 16 Built-in Functions, SET CURRENT ISOLATION, multi-site join, MERGE

# DB2 for z/OS Migration to V8

2004

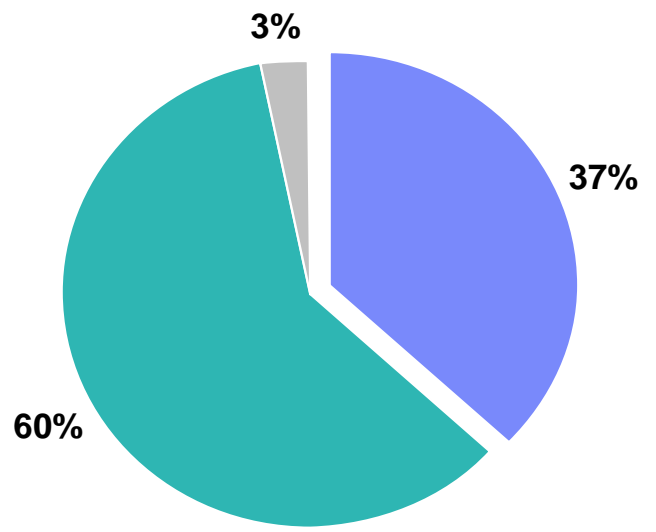
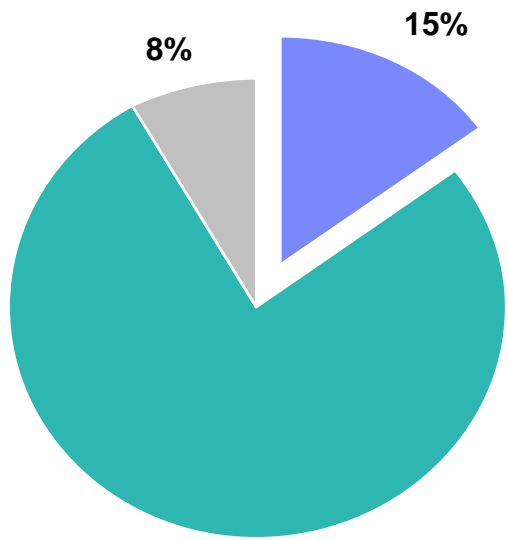


2005



■ V8  
■ V7  
■ V2-V6

customers



■ V8  
■ V7  
■ V2-V6

MIPS





# HVBInfo -- HypoVereinsbank AG

## Challenge:

HVBInfo provides IT services for HypoVereinsbank, one of the three largest banks in Europe and the leading real estate financier. Their 2400 branches serve 8 million customers.

Their challenges were to:

- Deliver a true 24x7 application environment with access to updated, consistent and secure data
- Upgrade database platform to improve stability, availability, and performance
- Exploit 64-bit accessibility and achieve better integration with DB2 software applications

## Business Benefits:

- Increased flexibility in application environment
- Ability to integrate Java applications easily
- 20 to 30% decrease in time to market for new banking applications
- Significant cost savings are projected

## Solution:

HVBInfo upgraded to DB2 for z/OS V8 on an existing eServer zSeries platform and improved availability and data sharing. The solution also includes:

- DB2 Connect Enterprise Edition, V7 and V8
- DB2 QMF, V8
- DB2 Administration Tool for z/OS, V7

## Technology Benefits:

- DB2 for z/OS V8 provides automated resolution of database logical page list and virtual storage constraint relief.
- DB2 Connect accesses data on workstations
- DB2 QMF retrieves specific data stored in a data warehouse
- DB2 Admin Tool manages objects, tables, indexes through online schema evolution



# 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\*:

- ERP, CRM, Business Intelligence or other enterprise applications
  - Via DRDA over a TCP/IP connection



- Data warehousing applications\*
  - Requests that utilize star schema parallel queries
- DB2 for z/OS V8 utilities\*
  - Internal DB2 utility functions used to maintain index maintenance structures

\* The zIIP is designed so that a program can work with z/OS to have all or 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.



# *Enhanced Capabilities*

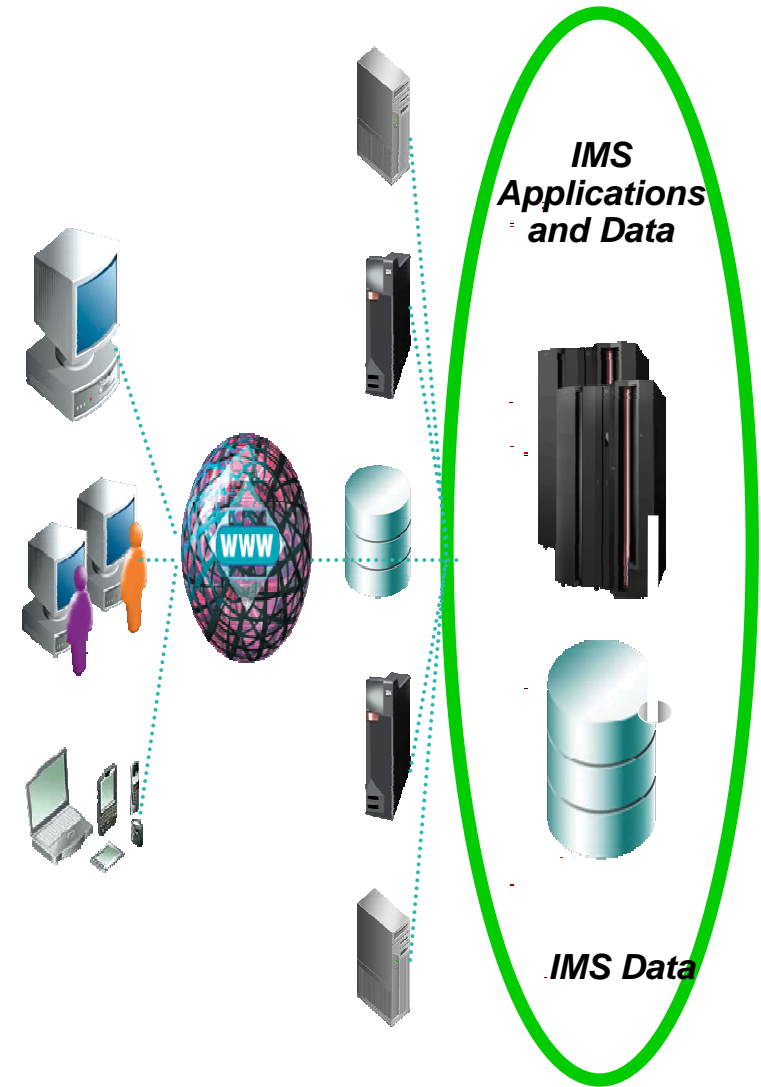
*IMS*





# IMS – 37 Years of Proven Quality, Performance and Commitment

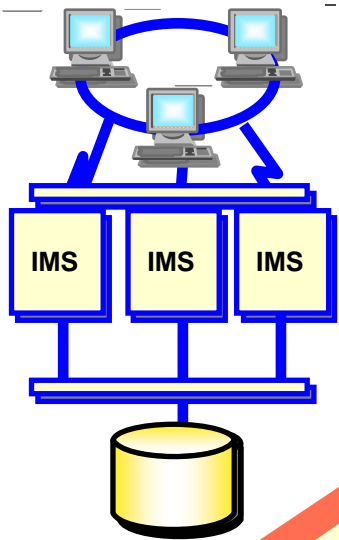
- ✓ Over 95% of Fortune 1000 Companies use IMS
- ✓ Over 50 Billion Transactions with 200 Million Users a Day
- ✓ Manage over 15 TB of production Data
- ✓ Reengineered to provide new programming, tooling and connectivity options such as Java, XML and Web Services



# IMS Version 9

## Ideal for Driving On Demand Business

- ✓ Integration with Application Development and Connectivity
- ✓ Manageability
- ✓ Scalability in Performance, Capacity, Availability, Recovery



**Strategic Open Access  
z/OS Enterprise Servers**

### Benefits

- ✓ Enable Customer Growth
- ✓ Enhance Workload Balancing
- ✓ Increase Availability; Ease of Use
- ✓ Preserve Current Application Investment
- ✓ Enable New Applications



### Enhancements

- Integration
  - ▶ Integrated Connect Function
  - ▶ Enhanced Security
  - ▶ XML data in IMS Databases
  - ▶ Broadened Java/XML Tooling
- Manageability
  - ▶ Eased Sysplex Manageability
  - ▶ Eased Serviceability/Usability
  - ▶ Simplified Install/Definition Process
  - ▶ Enh Systems/Data Mgmt Tools
- Scalability
  - ▶ Integrated HALDB Online Reorganization
  - ▶ Enhanced Recovery/Control
  - ▶ System Growth

# IMS - China Construction Bank

## Challenges

Data center consolidation from mostly non-IBM environment

Thousands of stations (sessions)

100+ million, soon to be 150 million savings accounts

Phasing in branches (provinces) throughout 2003/2004/2005 resulting in

- Drastic increases in amount of data

- Exponential increases in transaction volume

High availability essential

## Solution

IBM Parallel Sysplex

- 2 way initial data sharing implementation going to 4-way soon

IMS V8 Data Base Manager

- HALDB for large DB's requiring multiple secondary indexes

- Fast Path DEDB's using >240 Areas support for capacity and efficiency

- Fast Data Base Recovery (FDBR) function used for continuous data availability

Peer to Peer Remote Copy (PPRC)/Geographically dispersed Parallel

Sysplex (GDPS) planned for remote site backup



# Addressing Customer Requirements

## IMS is Ideal for Powering your On Demand Business

- ✓ Integration/Openness with Application Development and Connectivity
- ✓ Manageability with Autonomic Computing
- ✓ Scalability with Virtualization for Ultra-High Availability, Recovery, Performance, and Capacity



### IMS V7

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

### IMS V8

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

### IMS V9

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

### IMS X

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

### IMS Y

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

### IMS Z

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





# *Enhanced Capabilities*

## *DB2 & IMS Tools*



# 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

2005: Reduce your TCO

2004 Autonomic Computing and End to End Monitoring

2003: Integration of products, new capabilities, better performance

2001-2002 Product replacements

2000: Reduce your TCO



# Today's IBM DB2 Tools

## Database Administration

- DB2 Administration Tool
- DB2 Object Comparison Tool
- Data Encryption for DB2 and IMS
- DB2 Thread Expert
- DB2 Administration Toolkit SAP Edition

## Performance Management

- **DB2 Performance Expert**
- DB2 Performance Monitor
- OMEGAMON XE for DB2 on z/OS
- DB2 Buffer Pool Analyzer
- DB2 Query Monitor
- DB2 SQL Performance Analyzer
- DB2 PerformanceToolkit SAP Edition

## Utilities Management

- DB2 Utilities Suite
- DB2 Automation Tool
- **DB2 HP Unload**
- DB2 Automation Toolkit SAP Edition

## Recovery Management

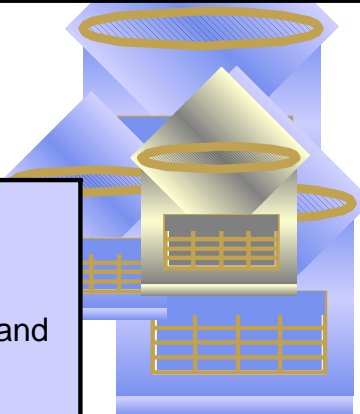
- Application Recovery Tool for IMS and DB2 Databases
- DB2 Archive Log Accelerator
- DB2 Change Accumulation Tool
- DB2 Log Analysis Tool
- DB2 Object Restore Tool
- **DB2 Recovery Expert**

## Application Management

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

## Information Integration

- DB2 DataPropagator
- SQData
- WebSphere II Replication
- WebSphere II Classic Federation
- WebSphere II Event Publisher for z/OS



**Available on zSeries**

**Available on zSeries and multiplatforms**

**Currently only available on multiplatforms**

# Today's IBM IMS Tools Product Portfolio

## Database Administration

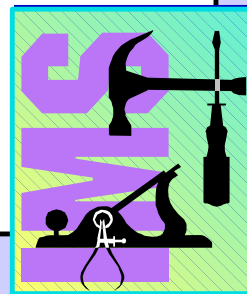
- Data Encryption for IMS and DB2 Databases
- IMS Database Repair Facility
- IMS HALDB Conversion and Maintenance Aid
- IMS Hardware Data Compression Extended
- IMS Library Integrity Utilities
- IMS Parameter Manager
- IMS Sequential Randomizer Generator

## Recovery Management

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

## Utilities Management

- IMS Database Control Suite
- 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



## Information Integration

- IMS DataPropagator
- WebSphere II Classic Event Publisher for IMS
- WebSphere II Classic Event Publisher for VSAM
- WebSphere II Classic Event Publisher for CA-IDMS
- WebSphere II Classic Federation for z/OS

## Performance Management

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

## Application Management

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

## TM Management

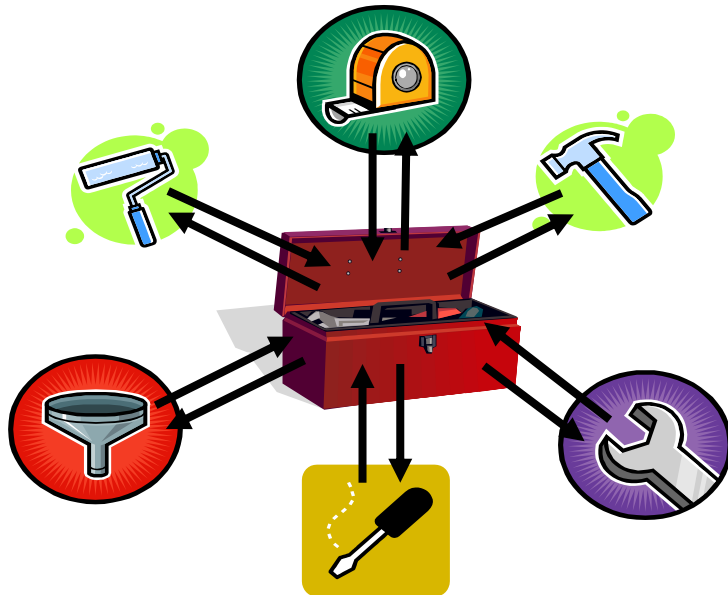
- IMS Command Control Facility
- IMS ETO Support
- IMS High Performance System Generation Tools
- IMS Queue Control Facility



# New Tools to address TCO in 2006

## ■ DBA Time = Money

- ▶ Managing application changes
- ▶ Tuning for performance
- ▶ Optimizing repetitive tasks
- ▶ Managing Complexity
- ▶ Complying with regulations and audit

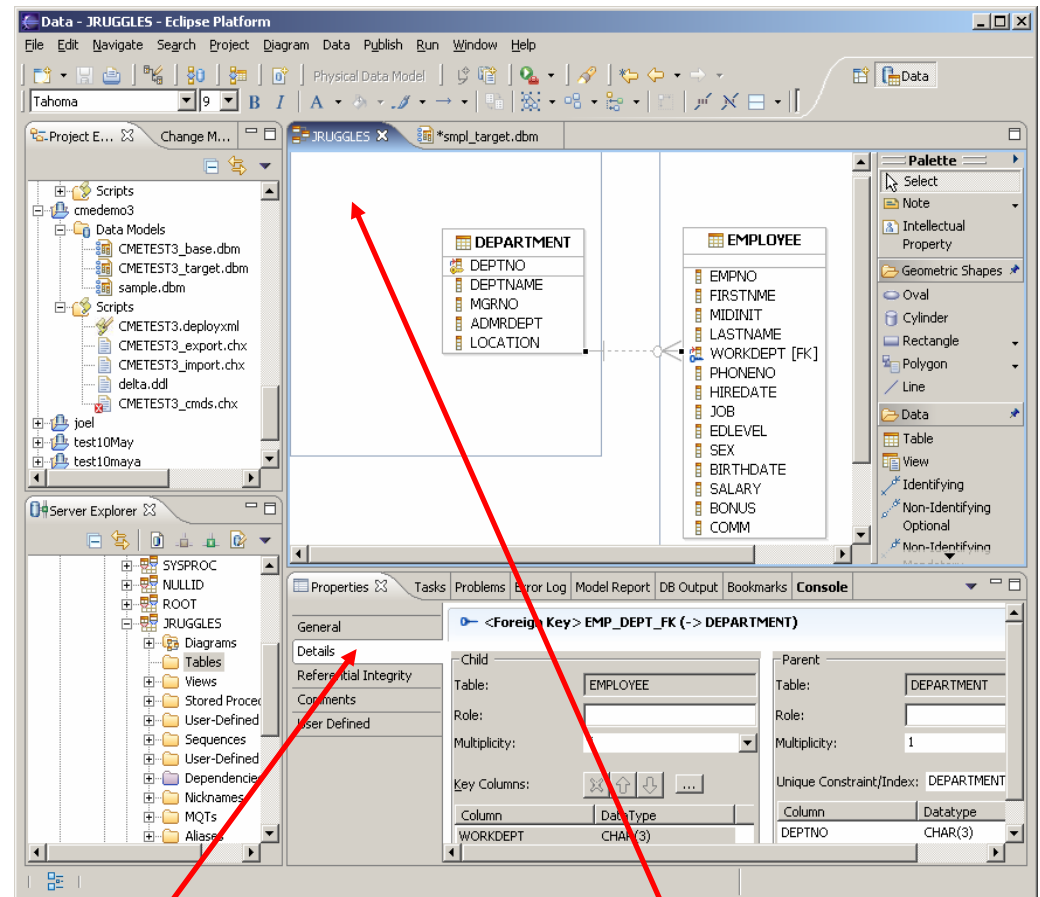


## ■ Time savers

- ▶ DB2 Change Management Expert
  - Automates and simplifies the most time consuming DBA task
- ▶ Omegamon DB2 Performance Expert
  - Tunes DB2 systems
  - Finds performance problems
  - Eliminates bottlenecks
- ▶ DB2 Optimizer Expert
  - Optimizes query performance
- ▶ DB2 Utilities enhancements
  - V8 zIIP exploitation
  - V9 volume based utilities
- ▶ IMS Sysplex manager
  - Simplifies complex IMS sysplex management
- ▶ DB2 Thread Expert
  - Manages DB2 Threads
- ▶ DB2 Audit Management Expert & IMS Audit Management Expert
  - Enables fast auditing of DB2 and IMS users and data
- ▶ DB2 Regulatory Compliance Suite
  - Combines 4 tools, including Audit Expert into a single compliance offering

# Change Management Expert

- ❏ Database change management simplified
- ❏ Tool produces the model, you define the final state
- ❏ Tool makes the changes and migrates them
  - ✓ Interactive GUI
  - ✓ Wizards, graphical editors, interactive views
  - ✓ Visualization
  - ✓ Graphical Compare
  - ✓ Graphical Dependency Viewing
  - ✓ SQL Source Text Formatting



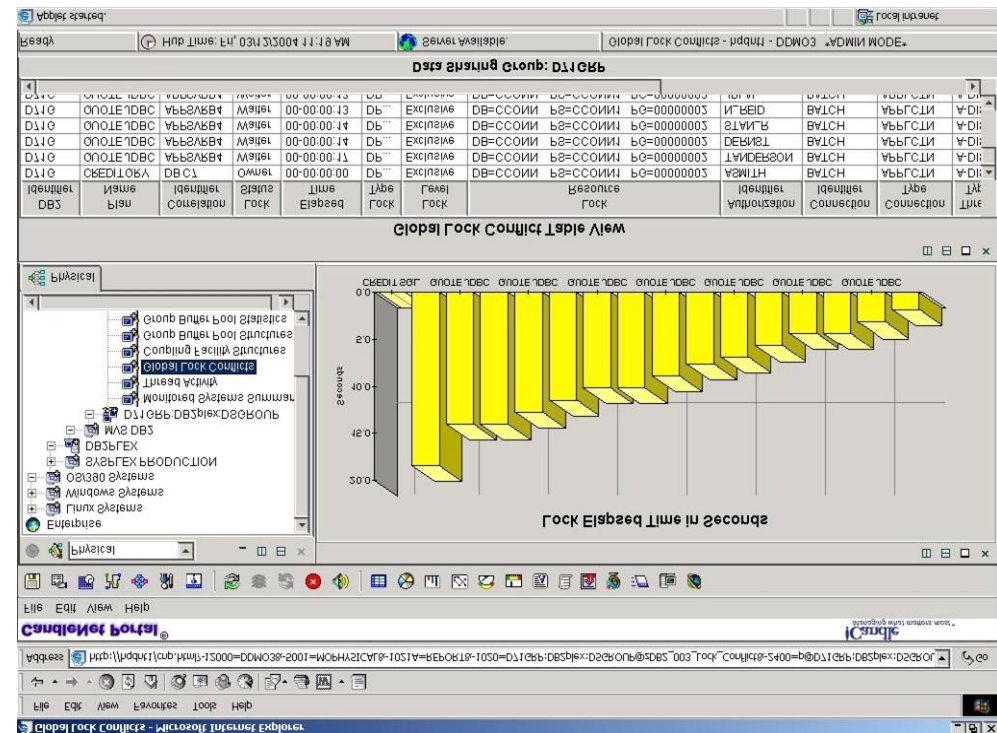
Properties  
View

Physical Data Model  
Editor



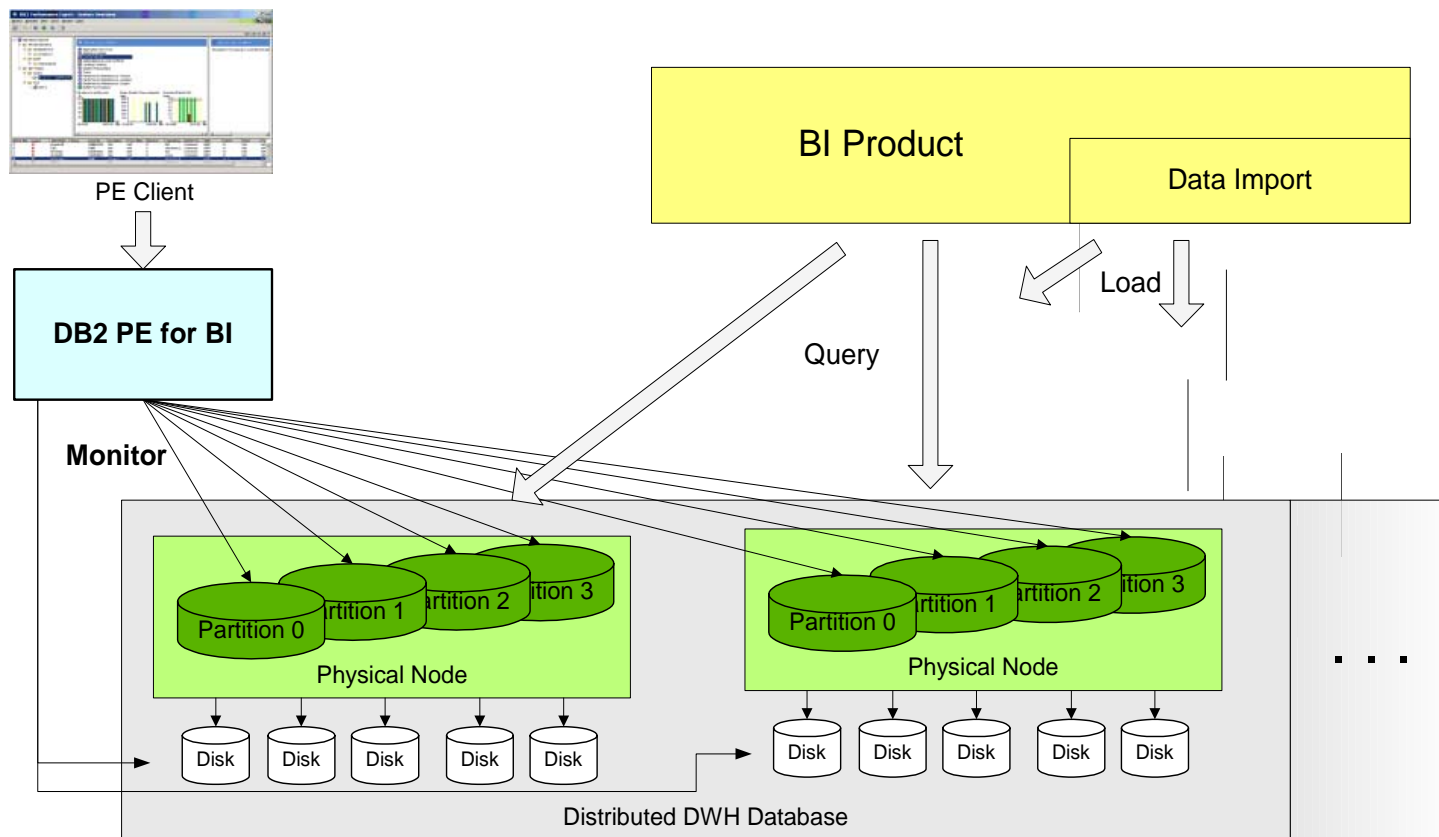
# Tivoli OMEGAMON XE for DB2 PE on z/OS 3.1.0

- Improves the ability to monitor and manage mainframe based applications through a single integrated solution
- Familiar interfaces from DB2 PE and OMEGAMON XE products makes for easy migration
  - ▶ DB2 z/OS v8.1 exploitation
  - ▶ DB2 Connect reporting
  - ▶ SAP & PeopleSoft reporting
  - ▶ DB2 to CICS transaction linking
  - ▶ History management
  - ▶ Event exceptions
  - ▶ Threshold checking



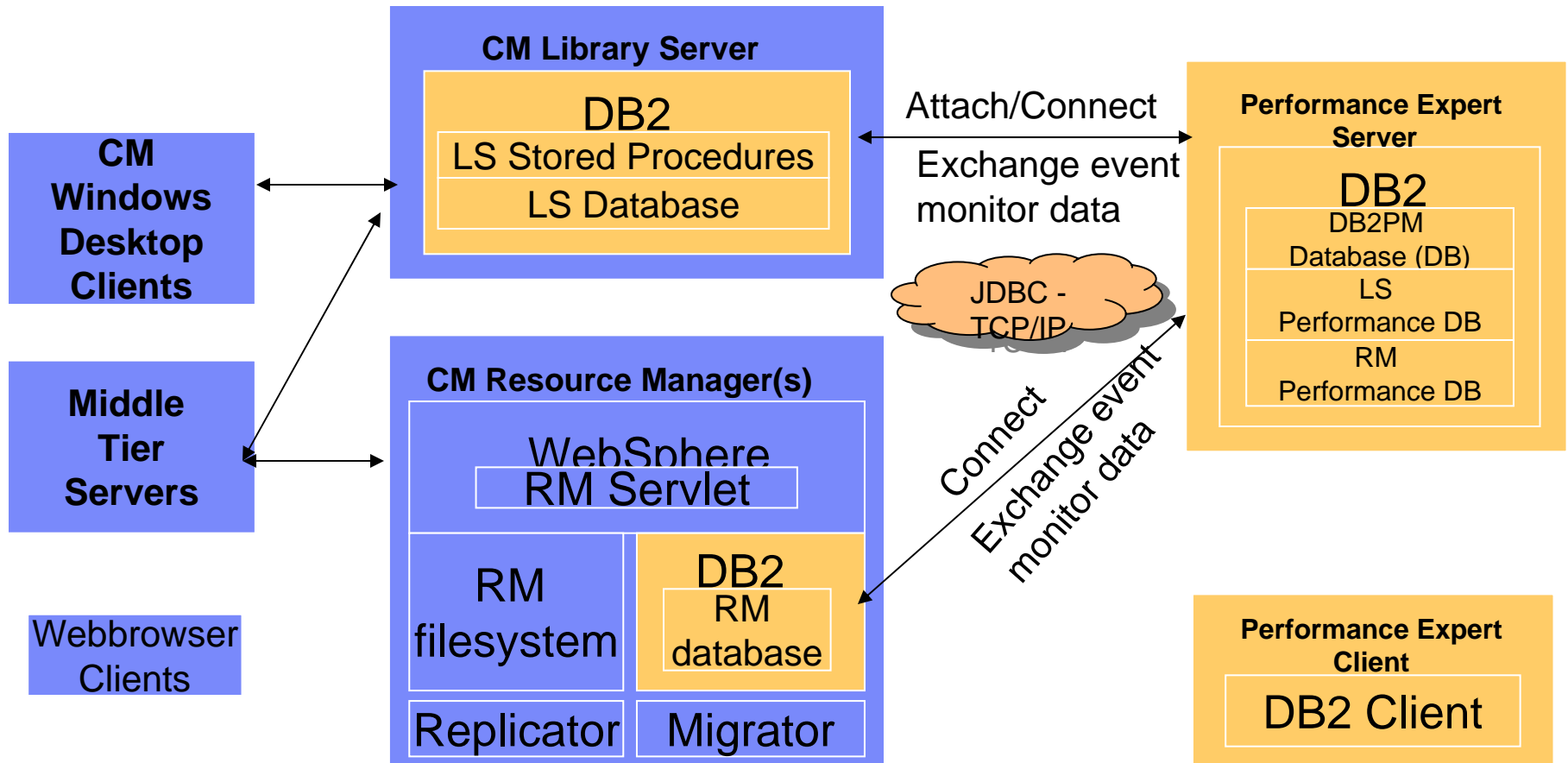
# DB2 Performance Expert for BI

- Performance Expert can be used to tune BI workloads
- Customized dashboards permit for online monitoring of key performance indicators as well as historical browsing.
- The BI dashboard focuses on CPU, memory and disk usage.



# Content Manager/Performance Expert Architecture

- Performance tuning is critical in CM environments
- DB2 PM can be use to optimize performance and detect bottlenecks
- A CM specific version of DB2 PM is underdevelopment



# Aids to DB2 Optimization, New in DB2 V9

## Optimization Service Center (OSC)

Part of the new DB2 V9 Base offering

- Visual Explain
  - ▶ Easy to use SQL Explain function
- Stats Advisor
  - ▶ Helps you determine when to run Statistics
- Service SQL
  - ▶ Helps to resolve performance bugs
- Visual Plan Hint
  - ▶ Visual building for Plan hints

## Optimization Expert (OE)

A new product complimentary to DB2 V9

- Index Advisor
  - ▶ Enables you to select the best index to optimize query and application performance
  - ▶ Provides advice on what indexes to create
- Query Advisor
  - ▶ Advice for writing queries for best performance
- MQT Advisor
  - ▶ Advice on when to use Materialized Query Tables



# DB2 Utility Enhancements

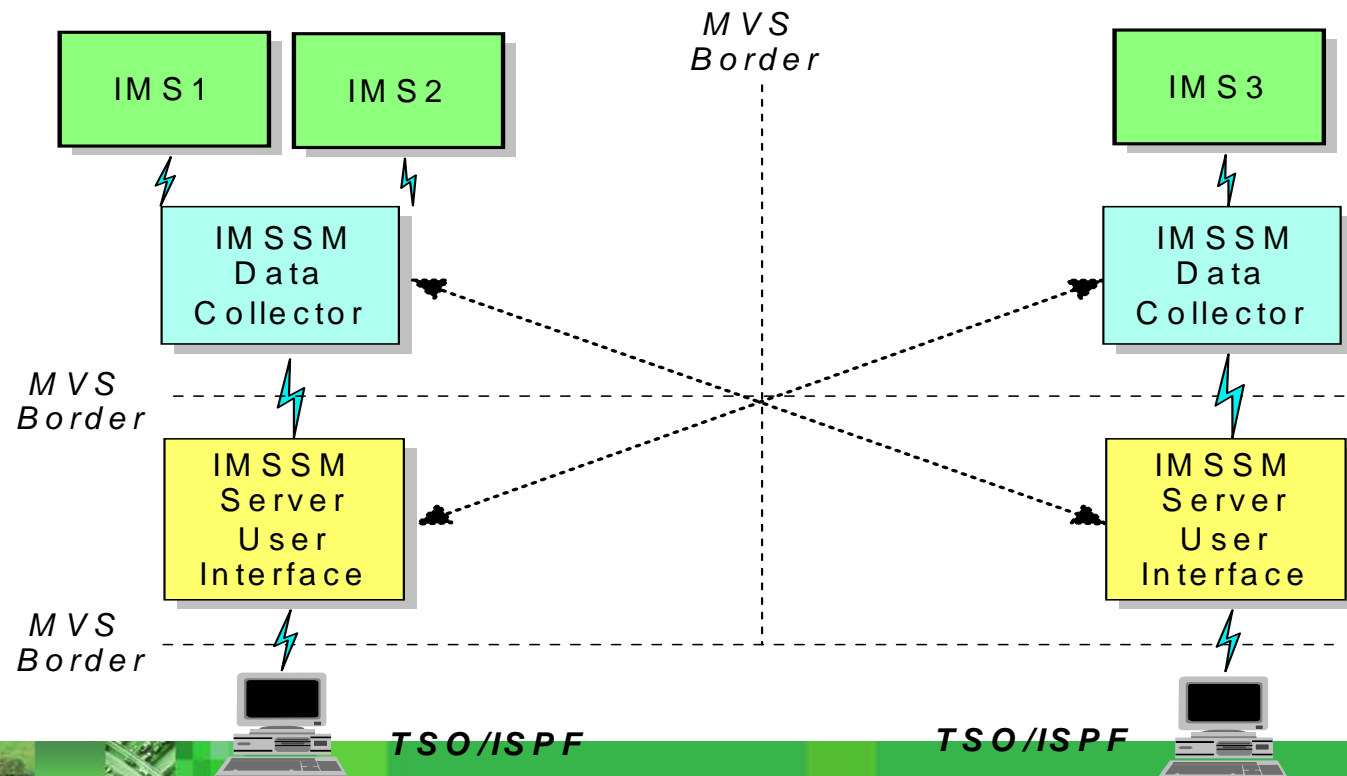
- In DB2 V8 and V9
  - ▶ Use of zIIP engine to offload high CPU consuming utilities operations for lower TCO
- In V9 more online utilities and enhancements
  - ▶ Rebuild Index
  - ▶ On-line REORG availability enhancement: Elimination of BUILD2 Phase
  - ▶ Check Data /Check LOB
  - ▶ Load replace with clone
- More volume-based utilities (recover objects from SYSTEM BACKUP)
- CPU reductions in LOAD, REORG, and REBUILD Utilities



# Managing large IMS complex systems

IMS Sysplex Manager Improves IMS availability and scalability

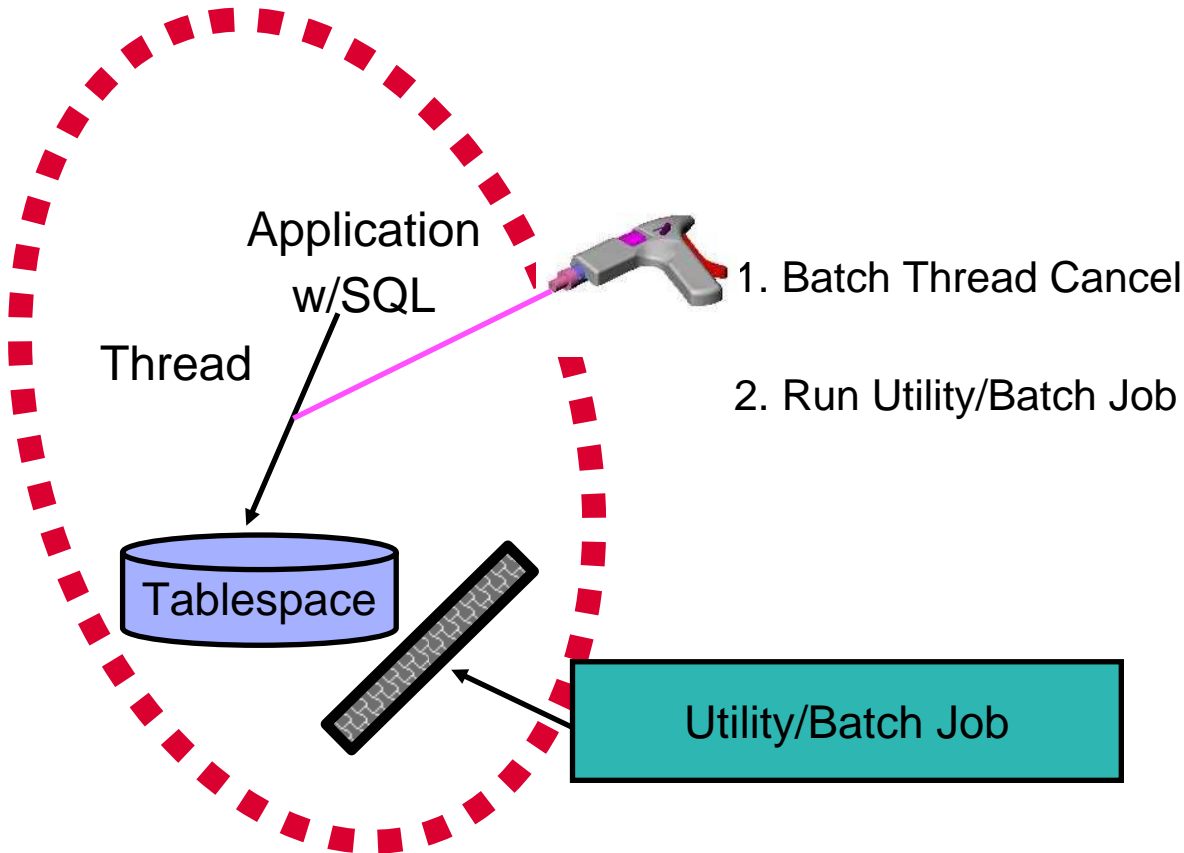
- Real-time management of IMS Sysplex
- Single system image for operation of IMS in Sysplex environment
- Aggregated or local view
- Simplified User Interface to reduce operational complexity
- Structured displays of IMS address spaces, CF structures, & resources
- Recorded System Exceptions and Console alerts
- Supports IMS DB/TM, DBCTL, and DCCTL for IMS V8, V9, ...





# DB2 Thread Expert

*A job-level interface to cancel DB2 threads*



## DB2 Thread Expert

1. Batch Thread Cancel
2. Run Utility/Batch Job

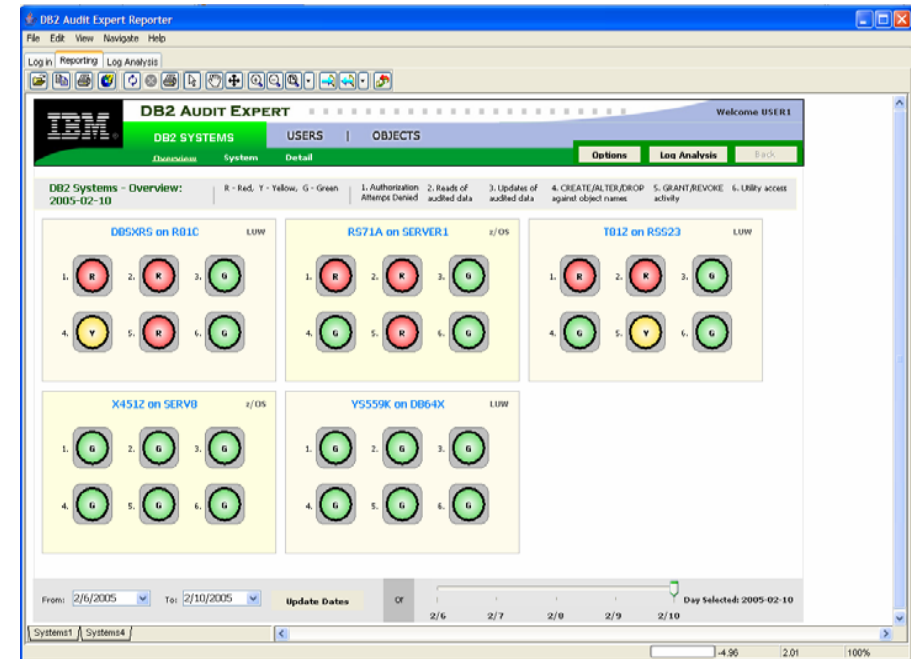
- ▶ Cancel threads at different levels
  - ▶ Database
  - ▶ Tablespace (and optionally indexes)
  - ▶ attach type
- ▶ Supports wildcards for objects
- ▶ Differentiates between readers and writer threads
- ▶ ISPF interface
- ▶ Blocks new threads from starting

# DB2 Audit Management Expert

## ■ New Product –

## ■ Focus on aiding compliance with plethora of regulations

- ▶ Sarbanes – Oxley
- ▶ Basel II
- ▶ HIPAA
- ▶ Japanese "Protecting Personal Freedom" Act
- ▶ Many others...



## ■ Useful for both **DBAs** and Corporate **Auditors**

- ▶ Monitoring and reporting for both Access and Change
- ▶ "After the fact" (log access) reporting
- ▶ Various filtering available - object name, user name, program, etc.
- ▶ Maintain history or access directly
- ▶ Uses DB2 trace records

# DB2 Regulatory Compliance Suite

Key Requirements	Set of Tools
Use encryption to protect your vital information	Encryption Tool for DB2 databases <ul style="list-style-type: none"><li>▶ Supports both secure key and clear key encryption</li><li>▶ Low overhead, high performance</li></ul>
Generate test data while protecting your assets	DB2 Test Database Generator <ul style="list-style-type: none"><li>▶ Protects sensitive data when needed in test environments</li><li>▶ Preserves data relationships</li></ul>
Retaining data to comply with policies	DB2 Data Archive Expert <ul style="list-style-type: none"><li>▶ Simplifies and automates archive of data for retention requirements</li></ul>
Analyze unauthorized usage of your data	DB2 Audit Management Expert <ul style="list-style-type: none"><li>▶ Lets you determine who did what to whom and when.</li></ul>



# Tools - AMICA



## ■ Challenge

- ▶ Need to increase the efficiency of its IT operations
- ▶ Need to reduce total cost of ownership (TCO) of database platform
- ▶ Want to maintain competitive edge

## ■ Solution

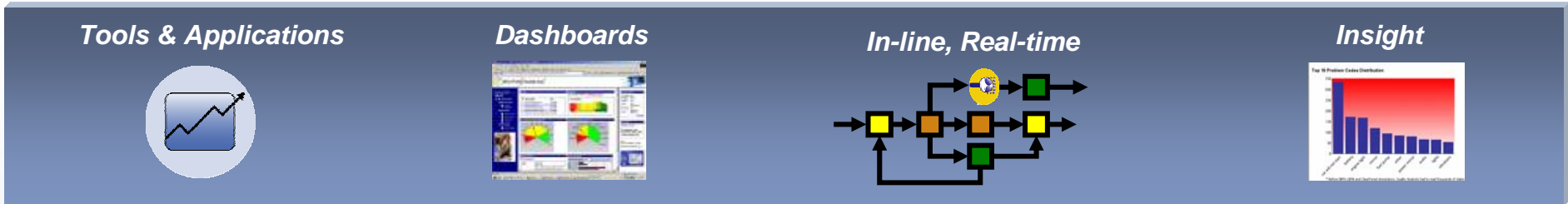
- ▶ Suite of database management tools from IBM helped Amica improve its database administration efforts
- ▶ Respond to its employees' needs for quick and reliable access to information
- ▶ Created an end-to-end solution tailored to business needs providing the power needed at an attractive price

## ■ Business Benefits

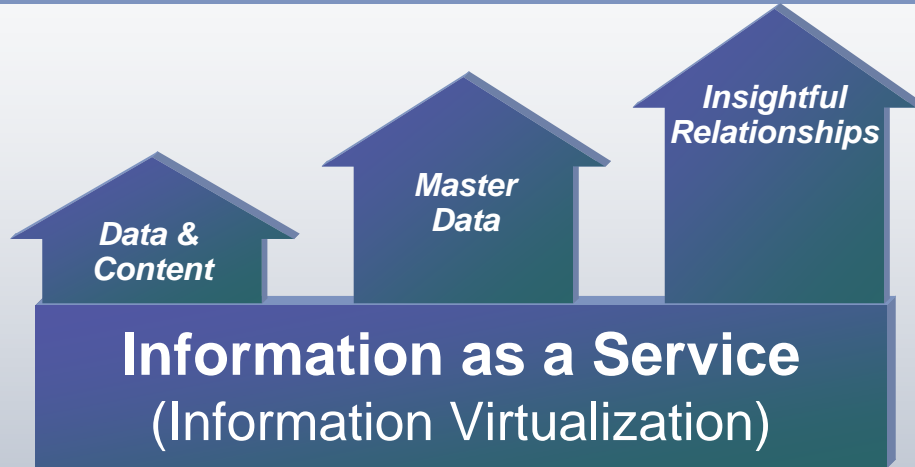
- ▶ Reduced staff training time
- ▶ Enhanced database administrator (DBA) productivity
- ▶ Increased ability to respond to workforce's need for high-performance business applications  
--ability for IT team to institute proactive database maintenance
- ▶ Migration completed three months ahead of schedule

# Information as a Service

*Moving From a Project-Based to a Flexible Architecture (SOA)*



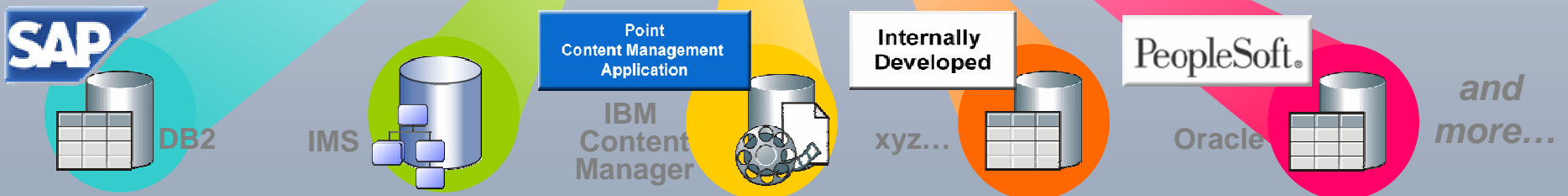
**Standards based: e.g., XQuery, JSR170, JDBC, Web Services...**



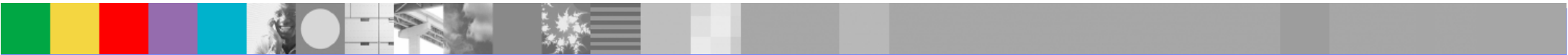
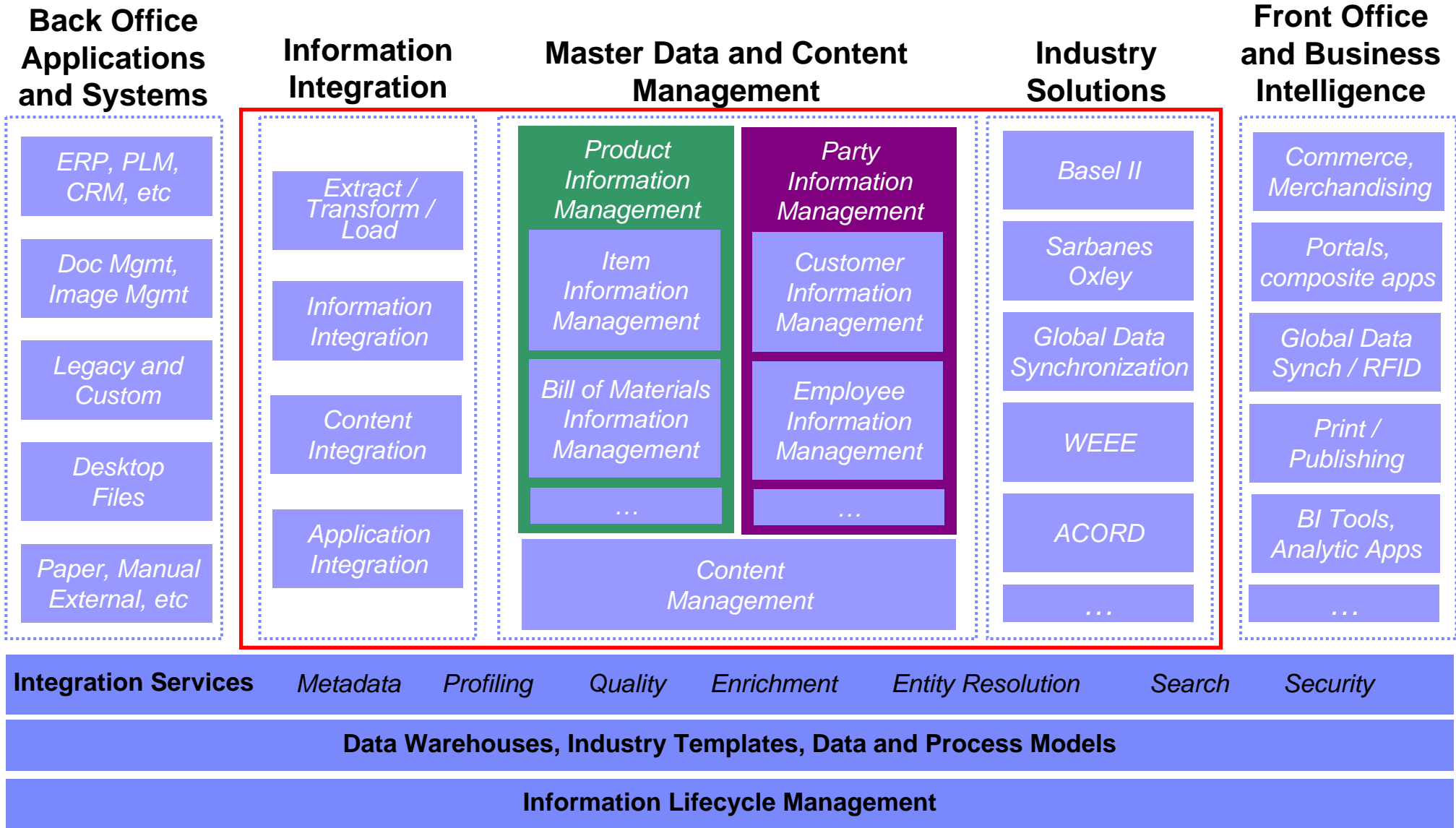
**Master Data, Entity Analytics, Decision Portals, Exec Dashboards, Industry Data Models**

**Extracted or Real-Time**

**Heterogeneous Applications & Information**



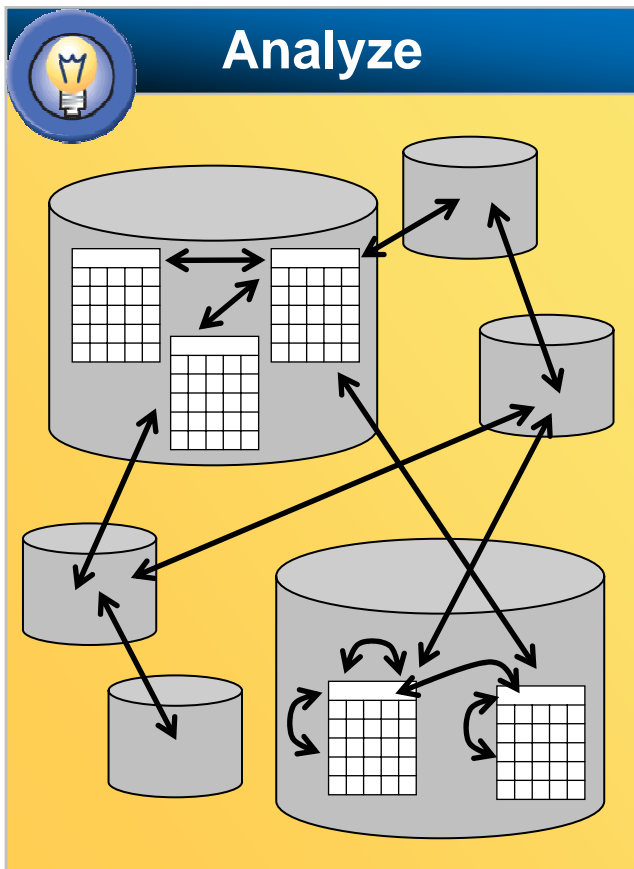
# Reference Architecture



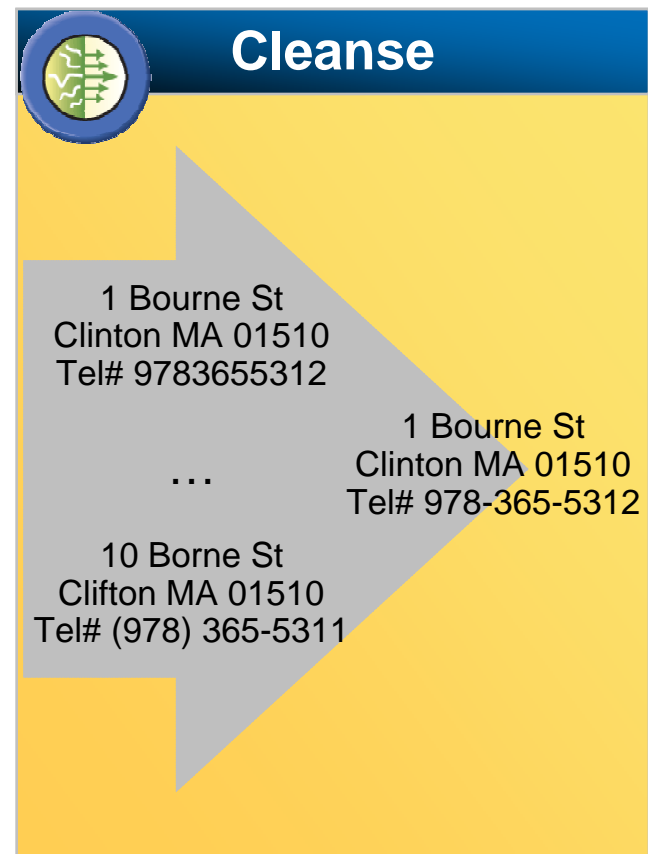


# Information Integration – technology & products

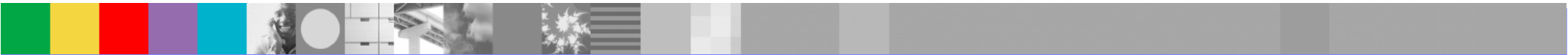
## Information Integration



WebSphere. ProfileStage™  
WebSphere. Information Analyzer

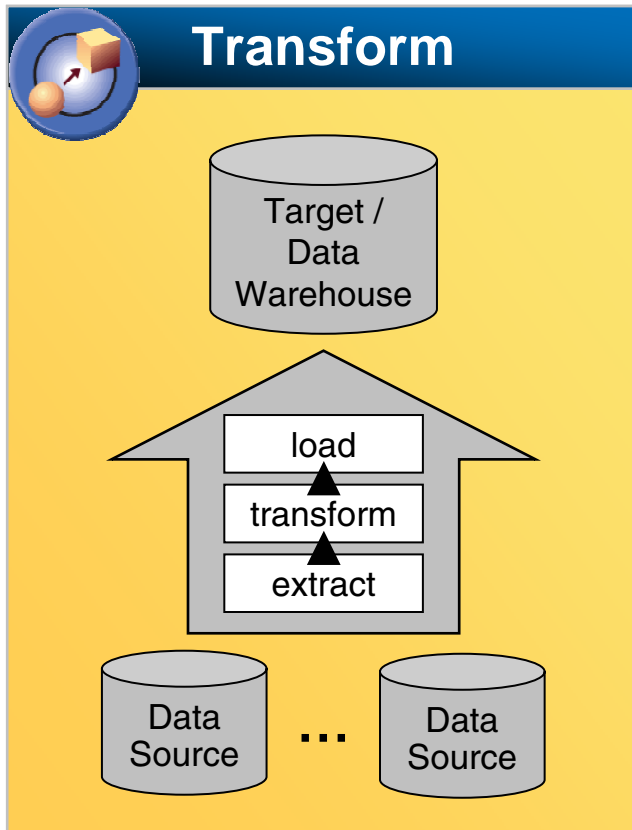


WebSphere. QualityStage™

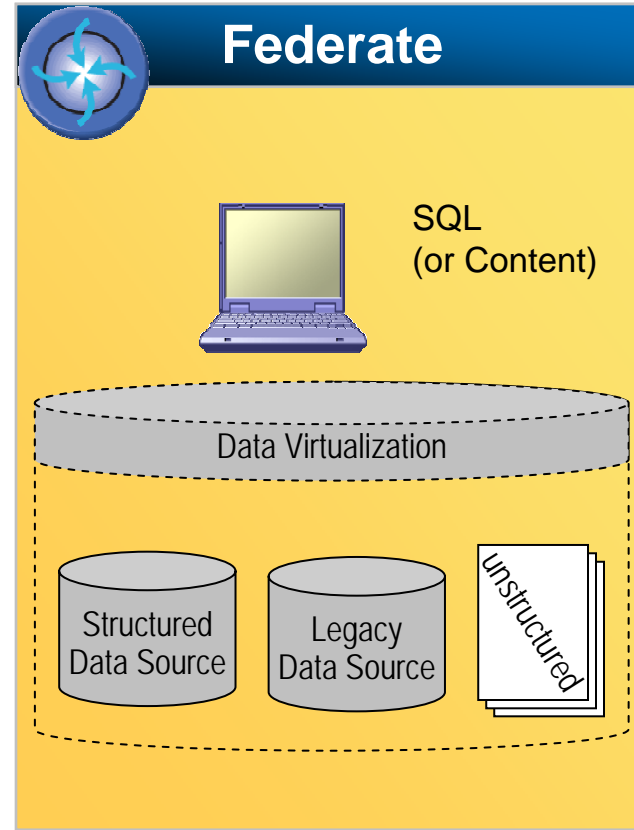


# Information Integration – technology & products (cont'd)

## Information Integration

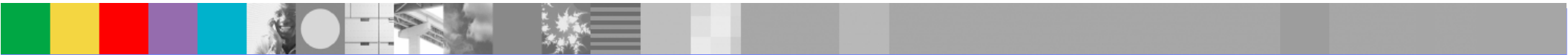


**WebSphere.** DataStage®



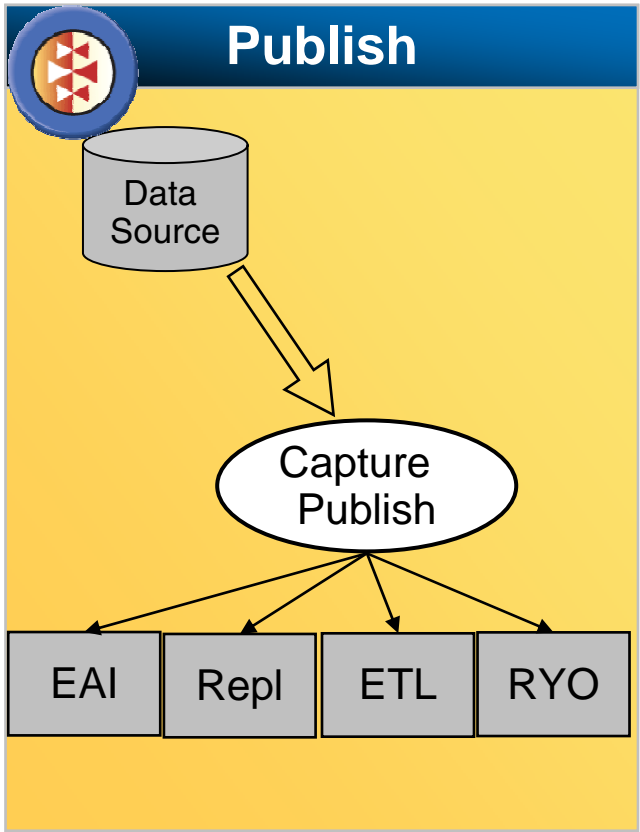
**WebSphere.** Information Integrator Standard Edition

**WebSphere.** Information Integrator Classic Federation



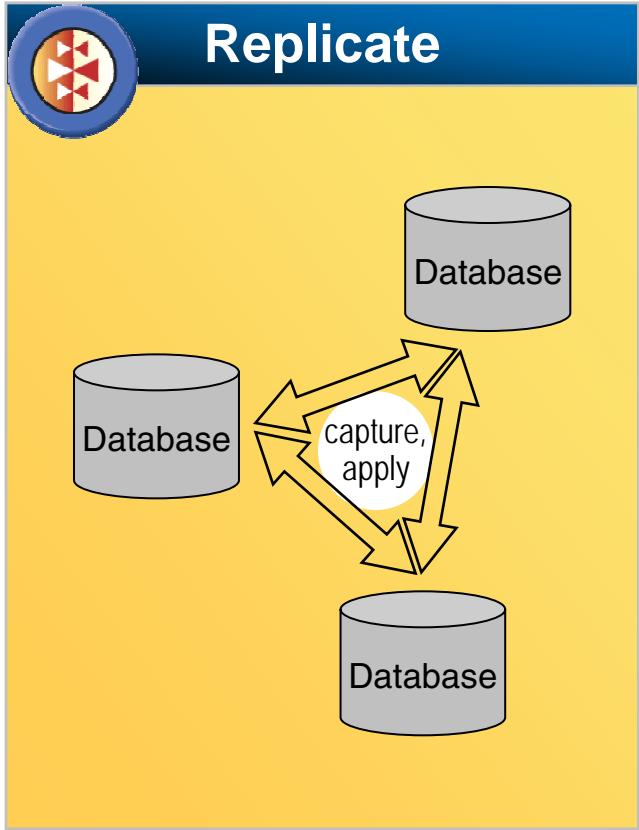
# Information Integration – technology & products (cont'd)

## Information Integration

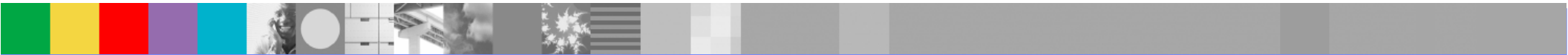


**WebSphere.** Information Integrator  
Event Publisher Edition

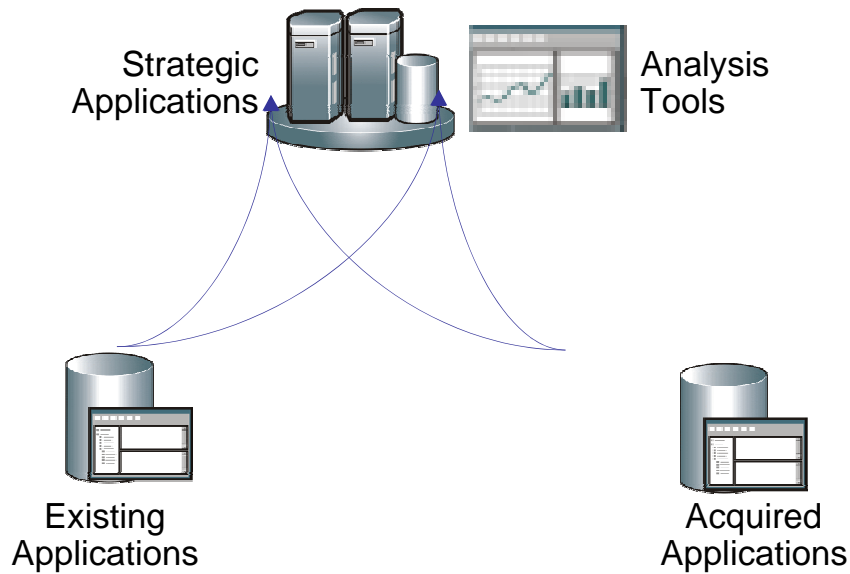
**WebSphere.** Information Integrator  
Classic Event Publisher



**WebSphere.** Information Integrator  
Replication Edition



# Information Integration - Customer Scenarios



**Kawasaki**  
Let the good times roll.™



## “Ascential” technology

- Understand source systems
- Data matching for enterprise modernization and integration
- Data movement and transformation for system consolidation
- Make capabilities available as services

## IBM Enrichment

- Enable SQL access to workhorse mainframe databases and file systems
- Create enterprise-wide views across disparate warehouses
- Create a common interface to different content systems for simplifying business process consolidation

## Leveraging

**Classic Federation**

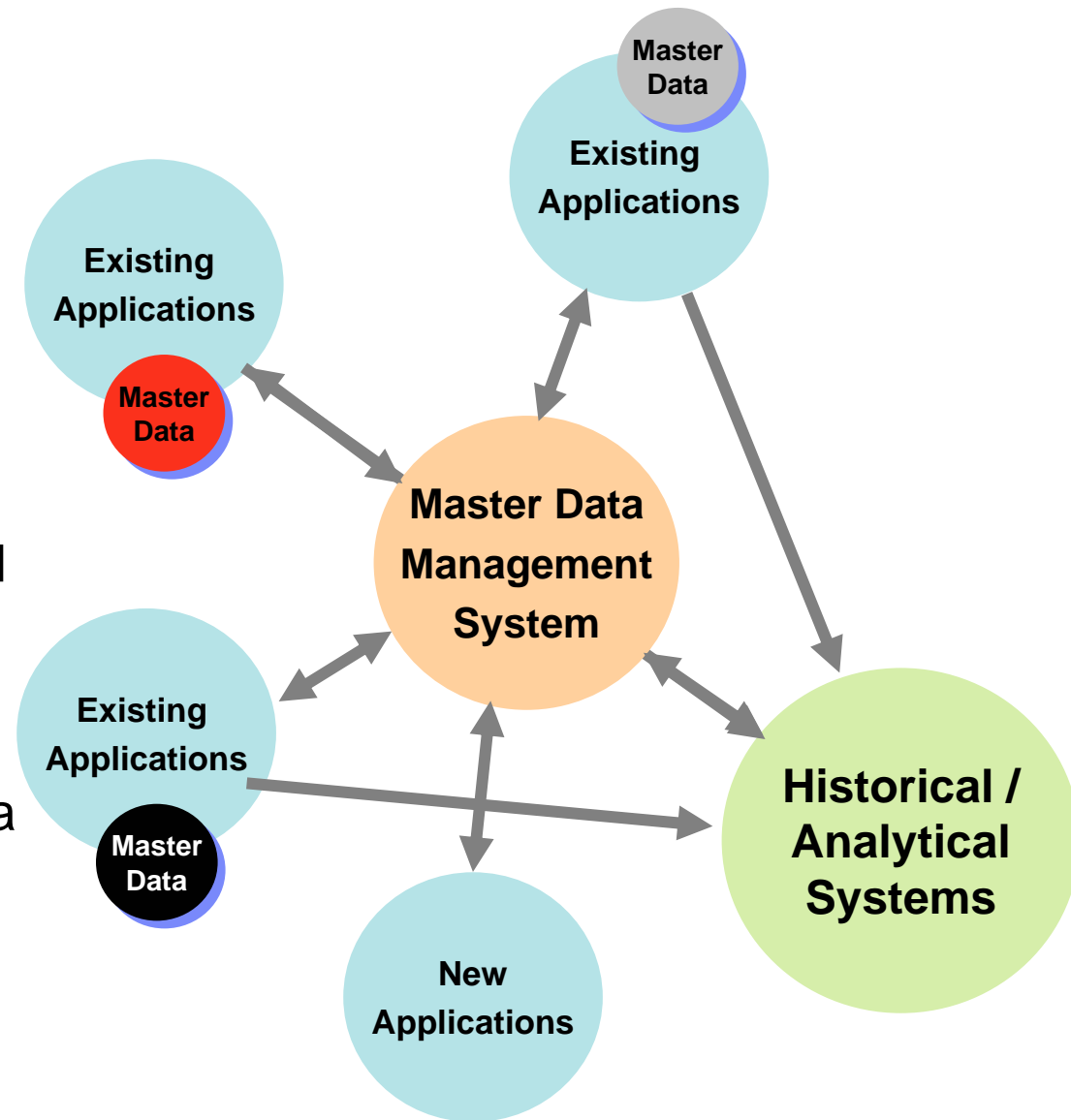
**Federation**

**Content Federation**



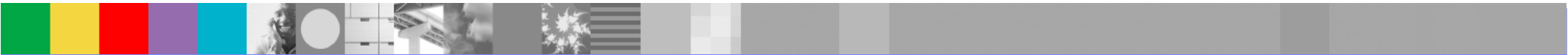
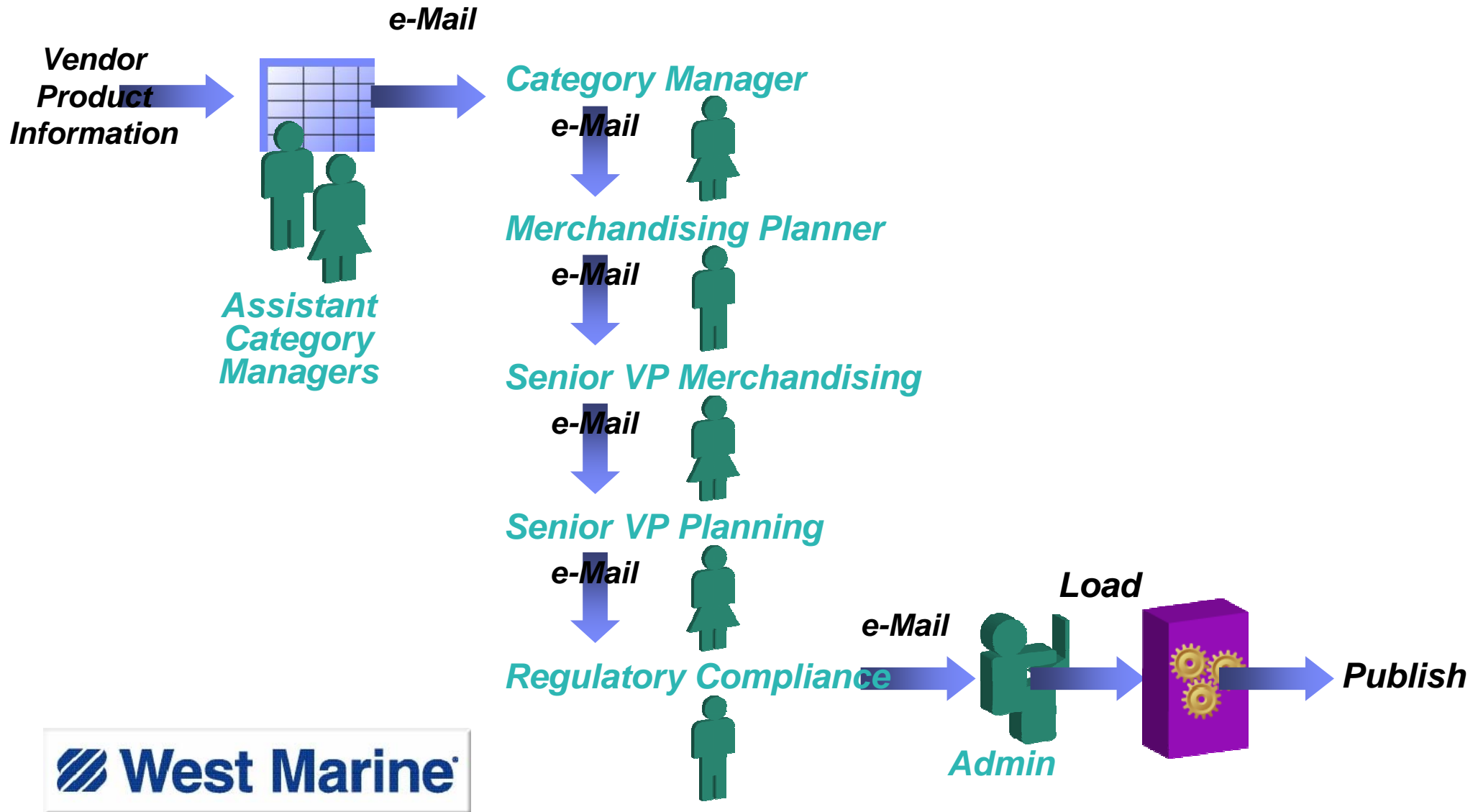
# Master Data Management

- Decouples master information from individual applications
- Becomes a central, application independent resource
- Simplifies ongoing integration tasks and new app development
- Ensure consistent master information across transactional and analytical systems
- Addresses key issues such as data quality and consistency proactively rather than “after the fact” in the data warehouse



# West Marine – New Product Introduction

## Existing Process

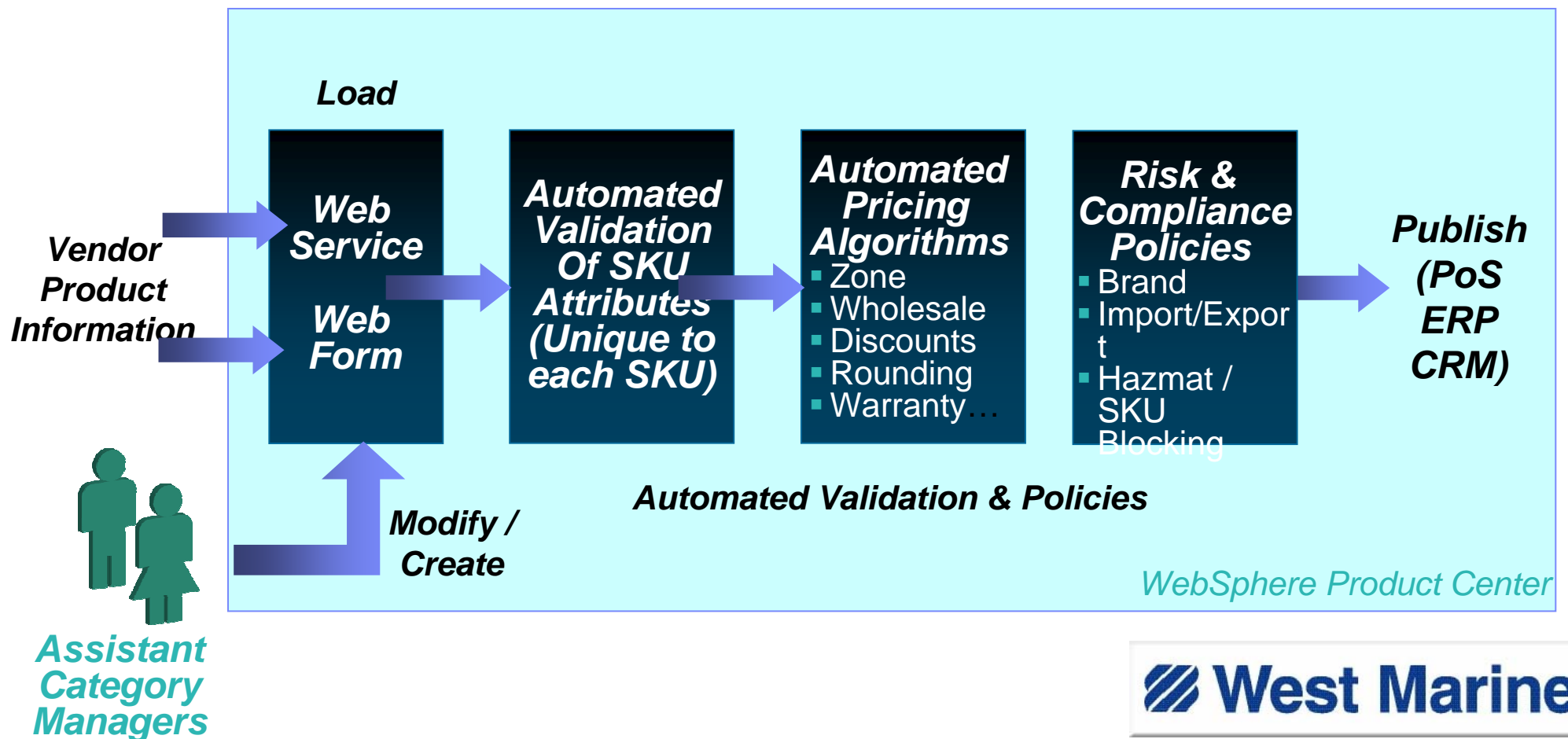




# West Marine – New Product Introduction

## *New Process: Product Introduction Cycle Reduced by 80%*

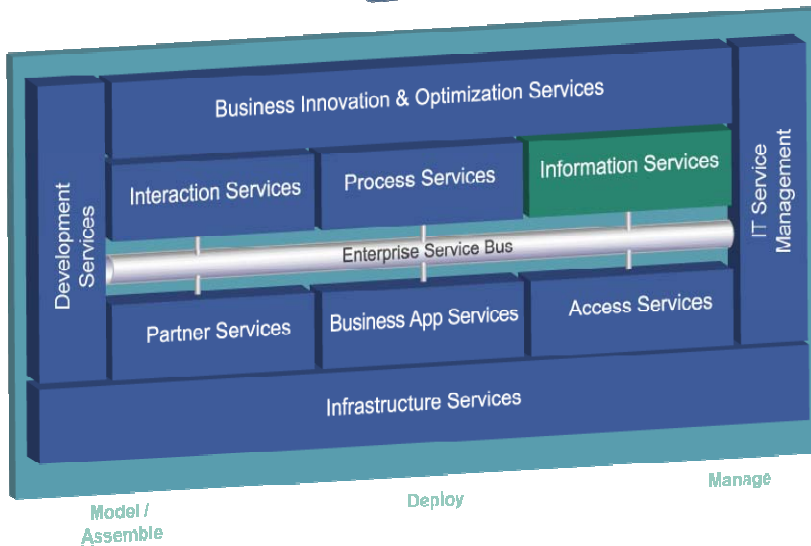
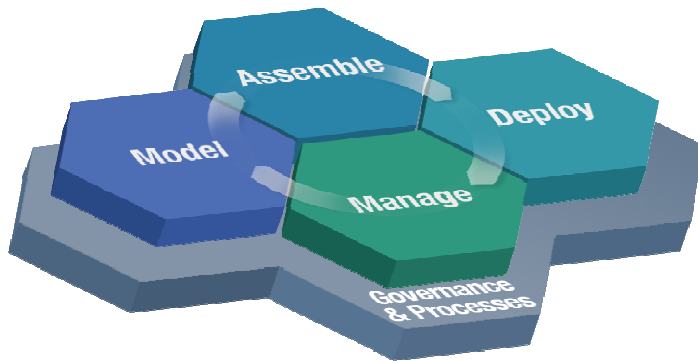
- Streamlined workflows reduce new product introduction cycle by 80%
- less effort and time spent by all departments
- Increased integrity and reduced IT costs maintaining data



# IBM Information Management software

*Unmatched breadth and depth of capabilities*

## **Information Delivered On Demand Based on Services Oriented Architecture**



**#1, #2 in Share  
450,000+ Clients**

- **Data Services**

- Data Servers, Warehouses, Tools...

- **Content & Discovery Services**

- Content Mgmt Svcs
- Discovery Services

**#1 in Share  
13,000+ Clients**

- **Information Integration Services**

- Quality Services
- Transformation Services
- Federation Services
- Metadata Services

**#1 in Share  
5,000+ Clients**

- **Business Information Accelerators**

- Master Data Management
- Entity Analytics
- Information Warehousing
- Industry Models

**Leading Space  
1,000+ Clients**



Thank

YOU

