



## Introducing IBM Information Server for System z

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**TAKE BACK CONTROL**

# Agenda

- The changing face of Information Integration
- IBM Information Server for System z components
- IBM Information Server for System z ... a "platform"
- Architecture and System z
- Wrap-up and Additional Q&A



# Changing Corporate View of Information Architecture

- **Information is the key to Business Innovation**
  - Organizations highly effective at driving information integration are five times more likely to drive value creation
  - Information architecture can't exist in a vacuum – it needs to be tied to enterprise architecture



*87% of CEOs believe fundamental **change** is required in next two years to drive innovation*

*Over 60% of CEOs believe their organizations need to do a better job leveraging information*

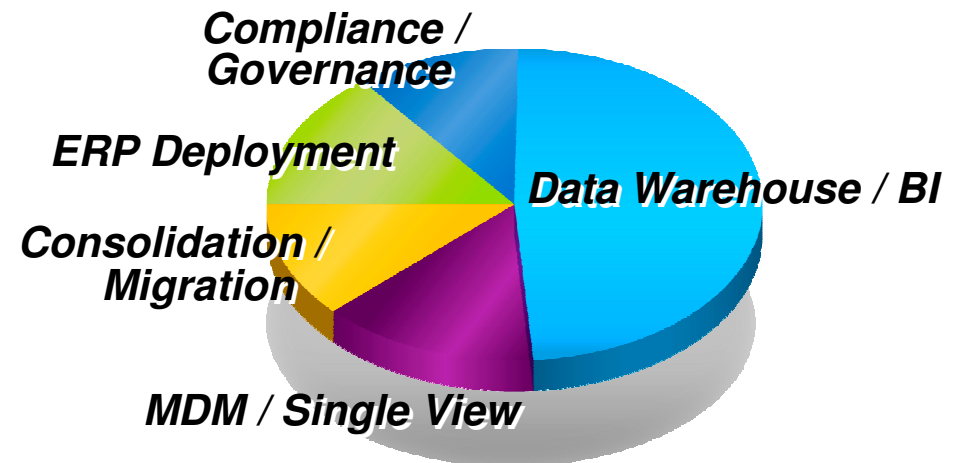
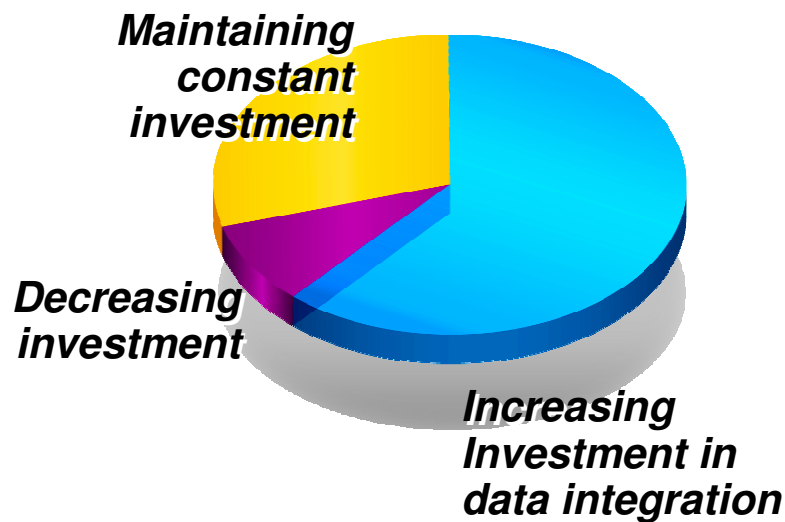
*Source: 2006 IBM Global CEO Survey*



# Spending and IT Investment are Following

*Investments in data integration are increasing*

*Driven by strategic initiatives*



**BI applications are the #1 technology priority  
Business process improvement is the #1 concern**

Source: Gartner 2006

Source: IBM 2006  
IBM Survey of 1,600 CIOs

"Gartner Study on Data Integration Identifies Key Usage Trends"



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# Information Issues and Business Challenges



## ■ **Too much information, not knowing what's important**

- Not using demand signals to drive supply chain
- Not using customer analysis to tailor marketing and sales
- Not leveraging valuable unstructured information



## ■ **Multiple versions of the truth**

- Problems managing customer, product and partner interactions
- Regulatory compliance inhibited by poor transparency



## ■ **Lack of trusted information**

- Incomplete, out-of-date, inaccurate, misinterpreted data
- Difficult to understand or control how information is used



## ■ **Lack of agility**

- Inability to take advantage of opportunities for innovation
- Escalating costs due to inflexible systems and changing needs

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# Agenda

- The changing face of Information Integration
- ***IBM Information Server for System z***
- IBM Information Server for System z ... a "platform"
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# IBM Information Server for System z

*Delivering information you can trust*

Understand your data and the terms that describe it to ensure consistency, trust and effective communication between the business user and the technology user

### Understand



Discover, model, and govern information structure and content

### Cleanse



Standardize, merge, and correct information

### Transform



Combine and restructure information for new uses

### Deliver



Synchronize, virtualize and move information for in-line delivery

### Unified Metadata Management

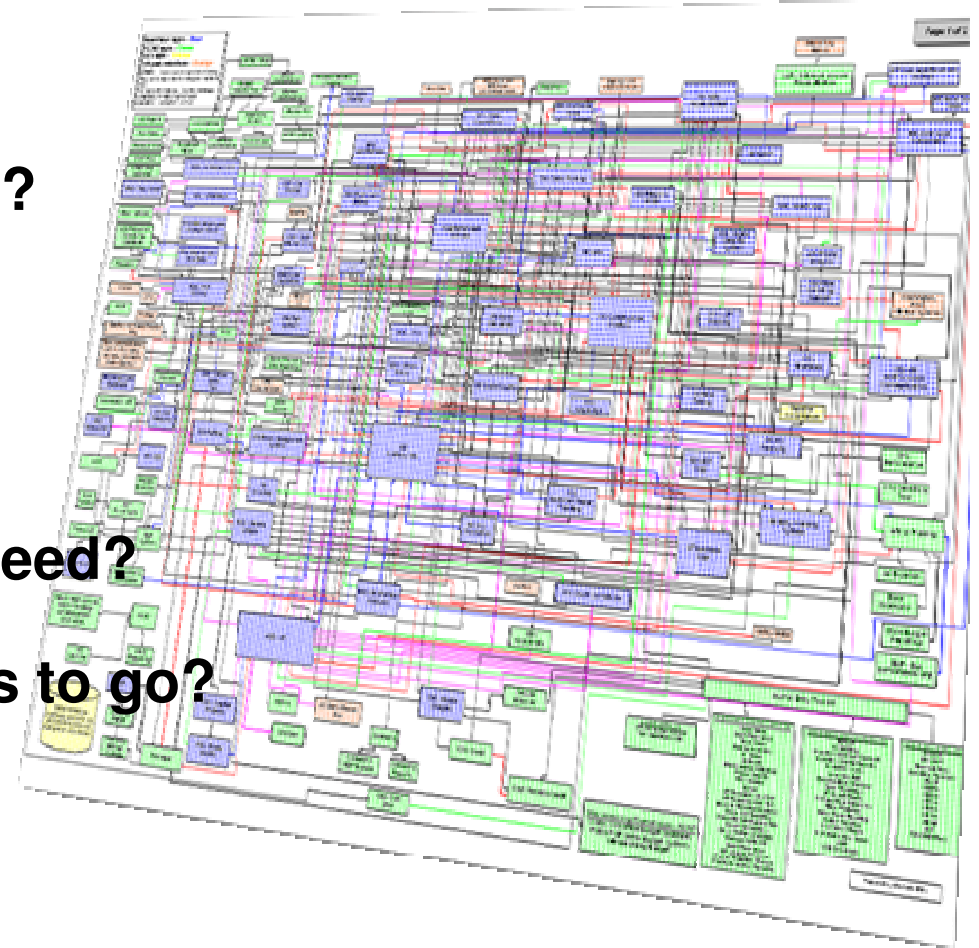
Parallel Processing

Rich Connectivity to Applications, Data, and Content



# The Role of Understanding Technology

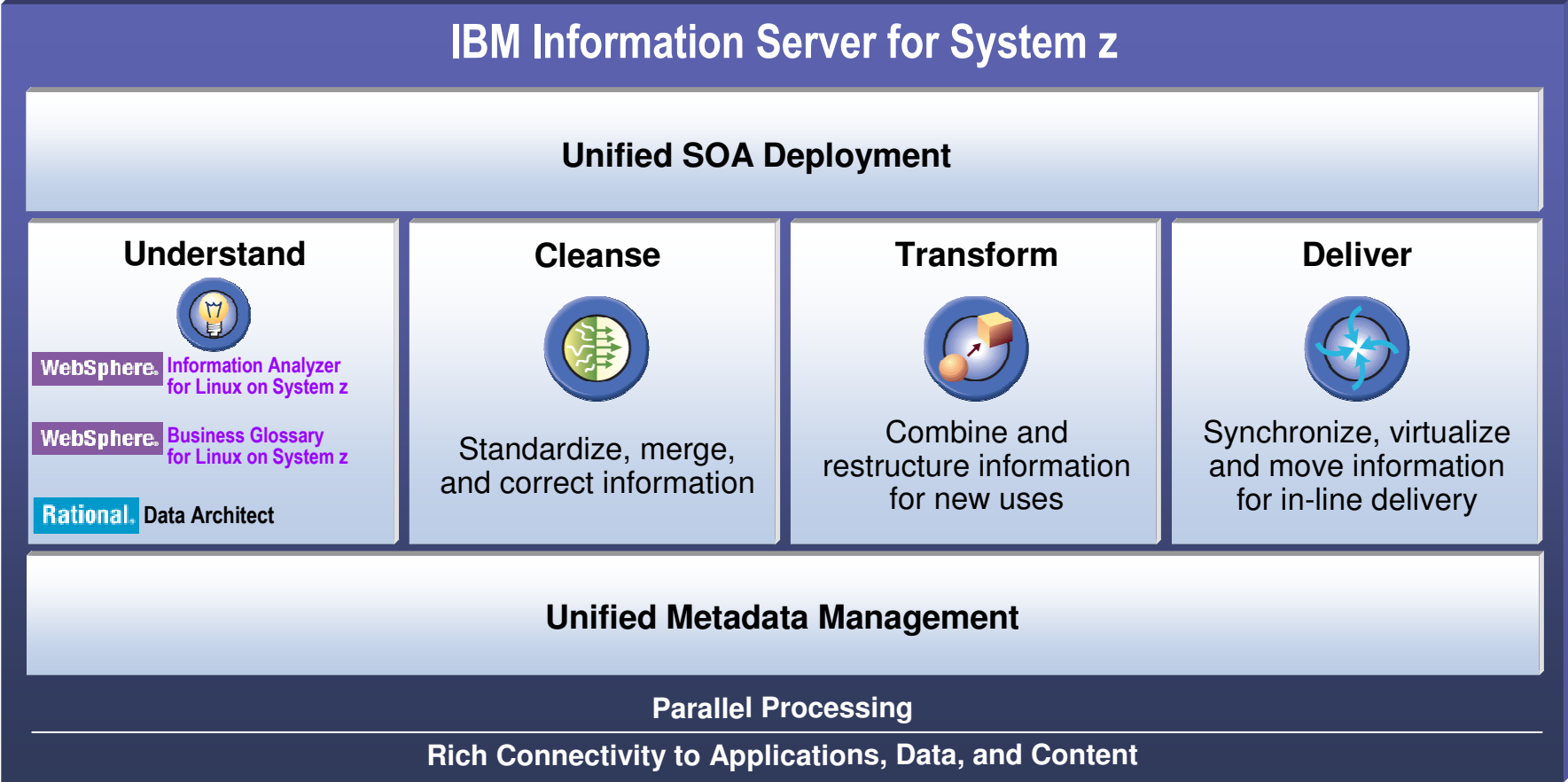
- Where is my information?
- How do I get it when I need it?
- What does it mean?
- Can I trust it?
- How do I get it in the form I need?
- How do I get it where it needs to go?
- How do I control it?





# IBM Information Server for System z

*Delivering information you can trust*



# Understand what you have:

## IBM WebSphere Information Analyzer for Linux on System z

### Physical Meta Data

- Data-centric analysis of application, database and file-based sources
- Secure, detailed profiling of fields, across fields and across sources
- Creation of metadata from profiling results
- Results instantly promotable across IBM Information Server



Subject Matter Experts



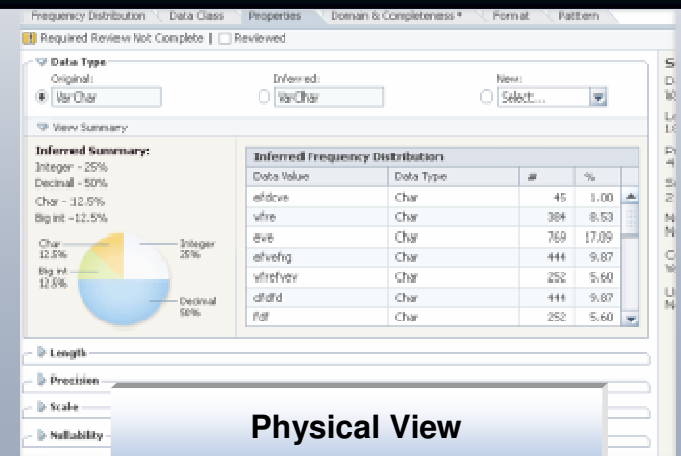
Data Analysts

Understand



WebSphere Information Analyzer  
for Linux on System z

Analyze source data structures, and  
monitor adherence to integration and  
quality rules



Physical View



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# Create a Consistent Terminology

## IBM WebSphere Business Glossary for Linux on System z

### Business Meta Data

- Web-based authoring, managing & sharing of business metadata
- Aligns the efforts of IT with the goals of the business
- Provides business context to information technology assets
- Establishes responsibility and accountability

Database = DB2

Schema =  
NAACCT

Table =  
DLYTRANS

Column =  
ACCT\_NO

data type =  
char(11)



Technical



Business

GL Account  
Number

The ten digit  
account number.  
Sometimes  
referred to as  
the account ID.  
This value is of  
the form L-  
FIIIIIVVVV.

**Subject Matter Experts**

**Business Users**

**Understand**

**WebSphere Business Glossary for Linux on System z**

Create and manage business vocabulary and relationships, while linking to physical sources

reporting Help | Log Out

Overview Manage Custom Attributes Manage Business Terms

Overview

Welcome to WebSphere Business Glossary

International Business Machines (NYSE:IBM) is the leader in enterprise data integration. Customers and partners worldwide use its information integration tools to confidently transform data into accurate, reliable and complete business information to improve operational performance and decision-making across every critical business dimension. Our comprehensive end-to-end solutions provide on-demand data integration complemented by our professional services, industry expertise, and methodologies.

USA Finance Manufacturing Customer Relationship

Europe Finance Manufacturing Customer Relationship

Data Model Top-level category, which groups all the elements by type

Asia Finance Manufacturing Customer Relationship

See All Categories

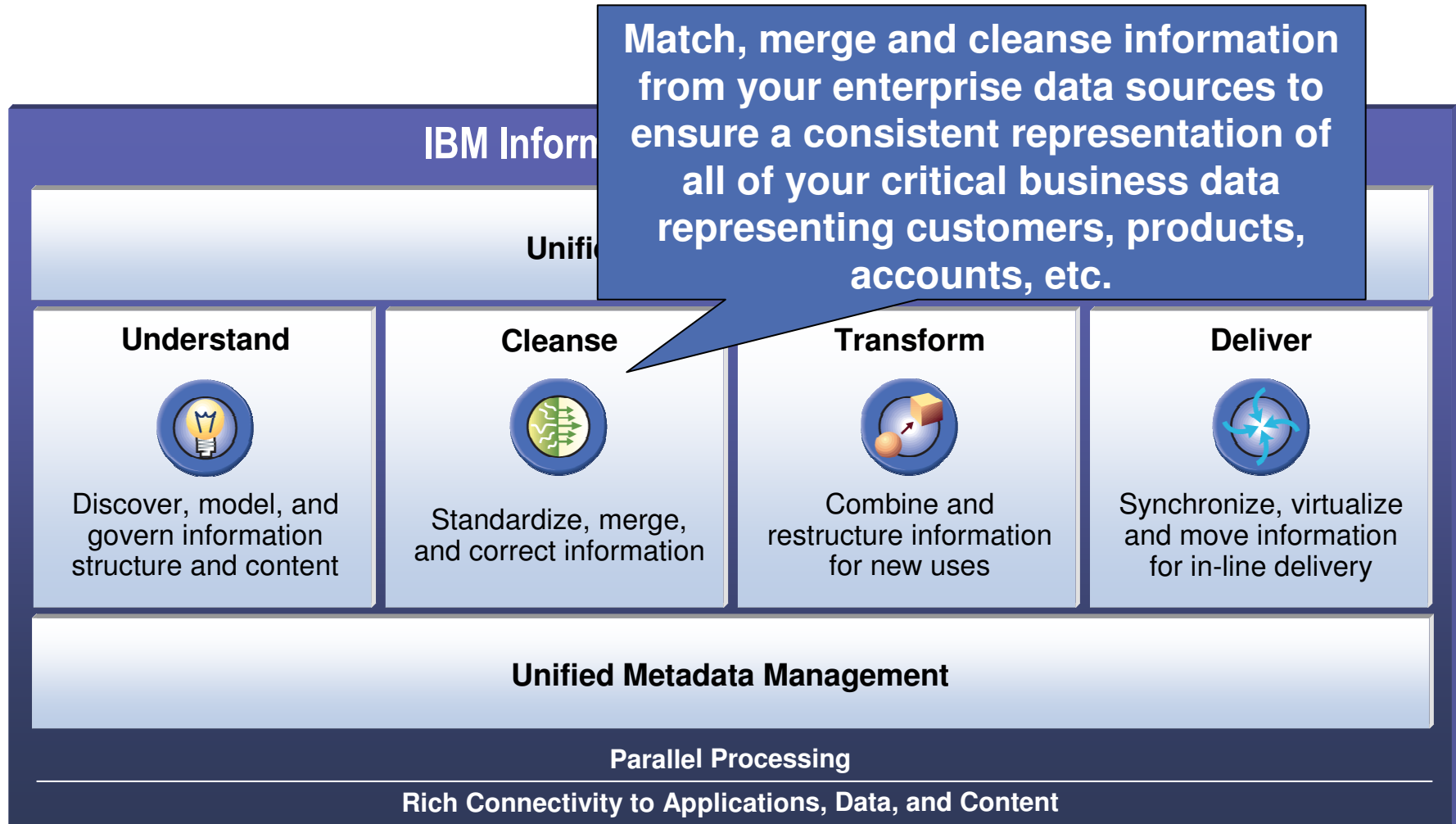
**Business View**



**TAKE BACK CONTROL**

# IBM Information Server for System z

*Delivering information you can trust*



# Cleansing Technology Neutralizes Quality Challenges

- **Lack of information standards**

- Different formats & structures across different systems

- **Data surprises in fields**

- Data misplaced in the database

- **Information is buried**

- Free-form fields

- **Data myopia**

- Lack of consistent identifiers inhibit a single view

- **The redundancy nightmare**

- Duplicate records with a lack of standards

Kate A. Roberts 416 Columbus Ave #2, Boston, Mass 02116

Catherine Roberts Four sixteen Columbus APT2, Boston, MA 02116

Mrs. K. Roberts 416 Columbus Suite #2, Suffolk County 02116

Name	Tax ID	Telephone
J Smith DBA Lime Cons.	228-02-1975	6173380300
Williams & Co. C/O Bill	025-37-1888	415-392-2000
1st Natl Provident	34-2671434	3380321
HP 15 State St.	508-466-1200	Orlando

WING ASSY DRILL 4 HOLE USE 5J868A HEXBOLT 1/4 INCH  
 WING ASSEMBY, USE 5J868-A HEX BOLT .25" - DRILL FOUR HOLES  
 USE 4 5J868A BOLTS (HEX .25) - DRILL HOLES FOR EA ON WING ASSEM  
 RUDER, TAP 6 WHOLES, SECURE W/KL2301 RIVETS (10 CM)

19-84-103 RS232 Cable 6' M-F Cands

CS-89641 6 ft. Cable Male-F, RS232 #87951

C&SUCH6 Male/Female 25 PIN 6 Foot Cable

90328574	IBM	187 N.Pk. Str. Salem NH 01456
90328575	I.B.M. Inc.	187 N.Pk. St. Salem NH 01456
90238495	Int. Bus. Machines	187 No. Park St Salem NH 04156
90233479	International Bus. M.	187 Park Ave Salem NH 04156
90233489	Inter-Nation Consults	15 Main Street Andover MA 02341
90345672	I.B. Manufacturing	Park Blvd. Bostno MA 041062



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# Because Bad Data Can be Costly

83% of data integration projects either overrun or fail



Inaccurate or incomplete data is a leading cause of failure in business-intelligence and CRM projects



25% of time is spent clarifying bad data



Scrap and rework  
Increased costs

Lack of consumer confidence

Lost opportunities

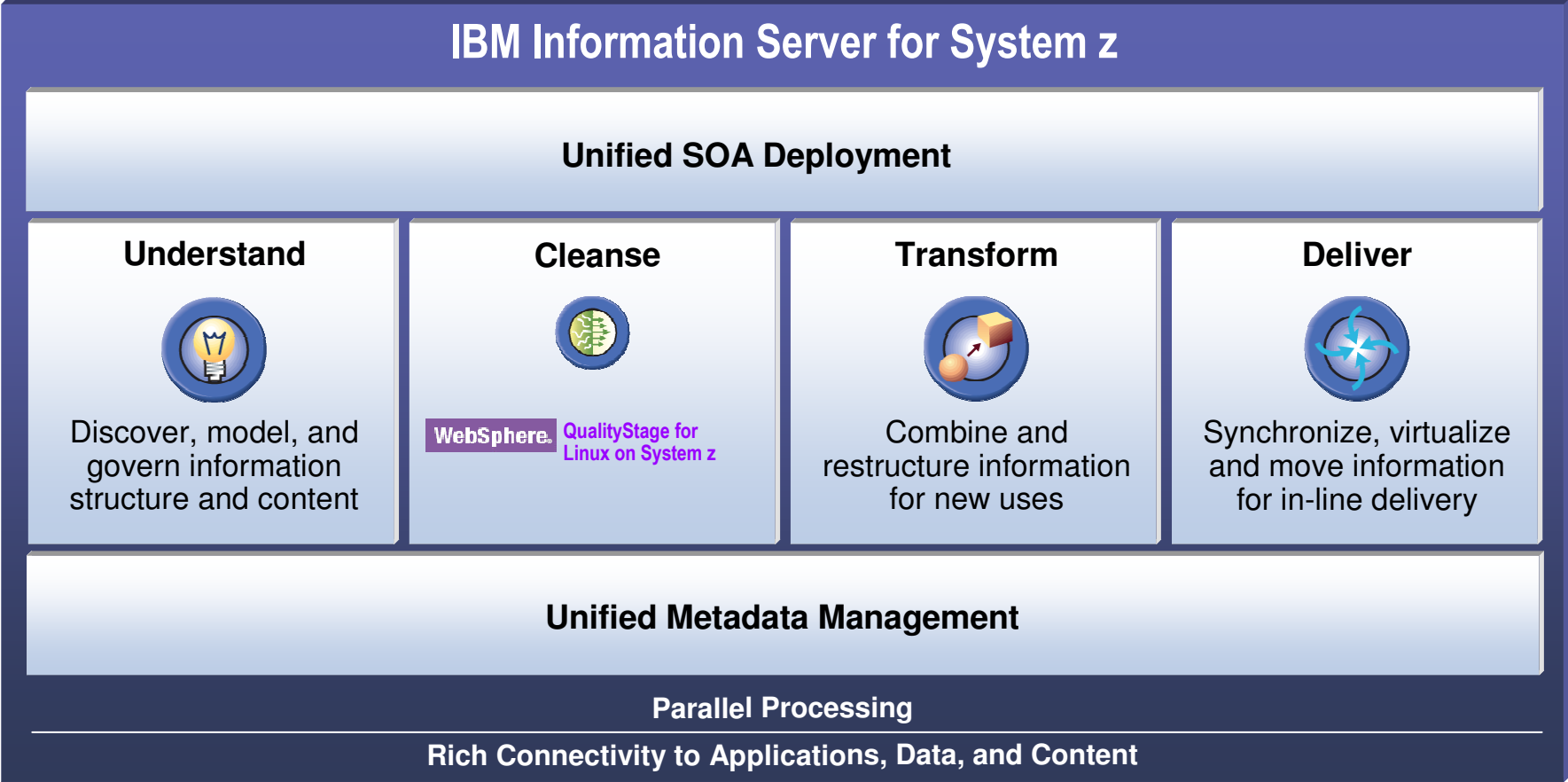
Low data quality costs companies \$611 billion annually

Undetected defects will cost 10 to 100 times as much to fix upstream



# IBM Information Server for System z

*Delivering information you can trust*



# Cleanse:

## IBM WebSphere QualityStage for Linux on System z

- Visual tools for defining complex matching and survivorship logic
- Ensures clean, standardized, de-duplicated information
- Enables a single version of the truth
- Specialized data quality functions seamlessly integrated with DataStage



Subject Matter Experts



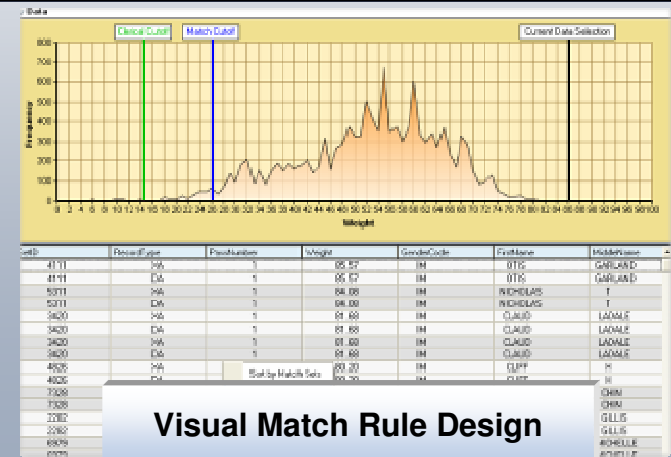
Data Analysts

Cleanse



WebSphere QualityStage™  
for Linux on System z

Standardize and correct source data fields, and match records together across sources to create a single view



Visual Match Rule Design



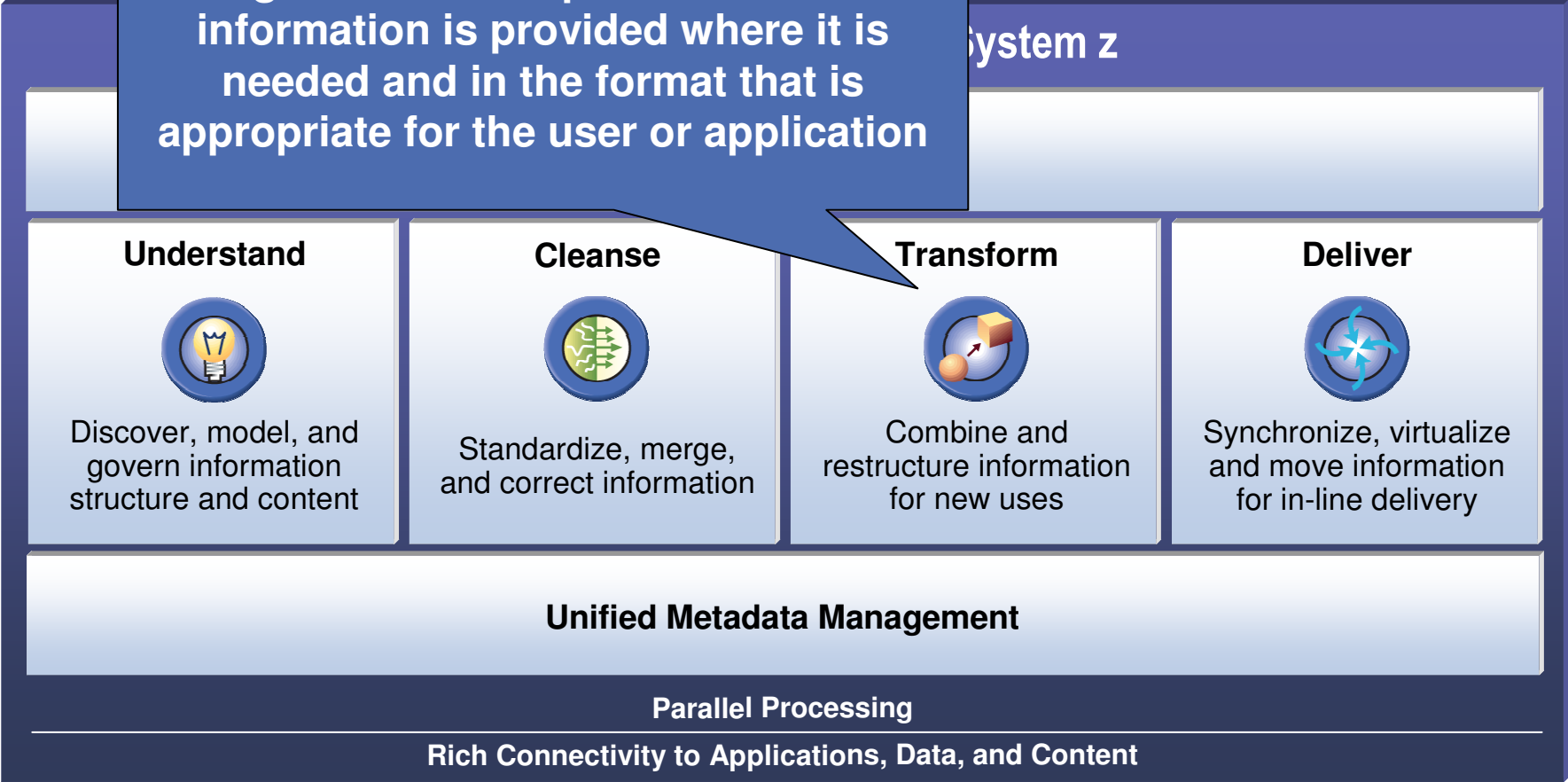
TAKE BACK CONTROL



# IBM Information Server for System z

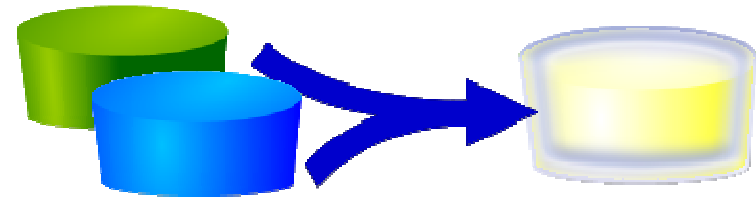
*Delivering information you can trust*

Repackage and repurpose information throughout the enterprise to ensure the information is provided where it is needed and in the format that is appropriate for the user or application

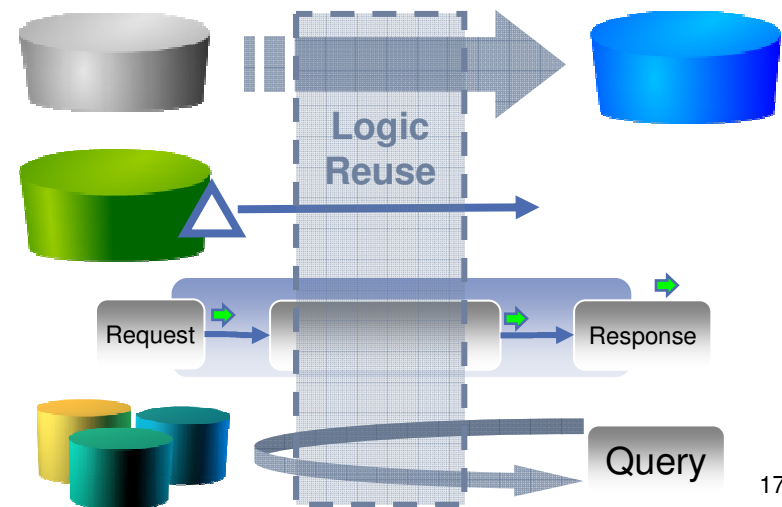


# Transformation & Delivery Ensure Data is:

- where you need it
- when you need it
- the way you need it

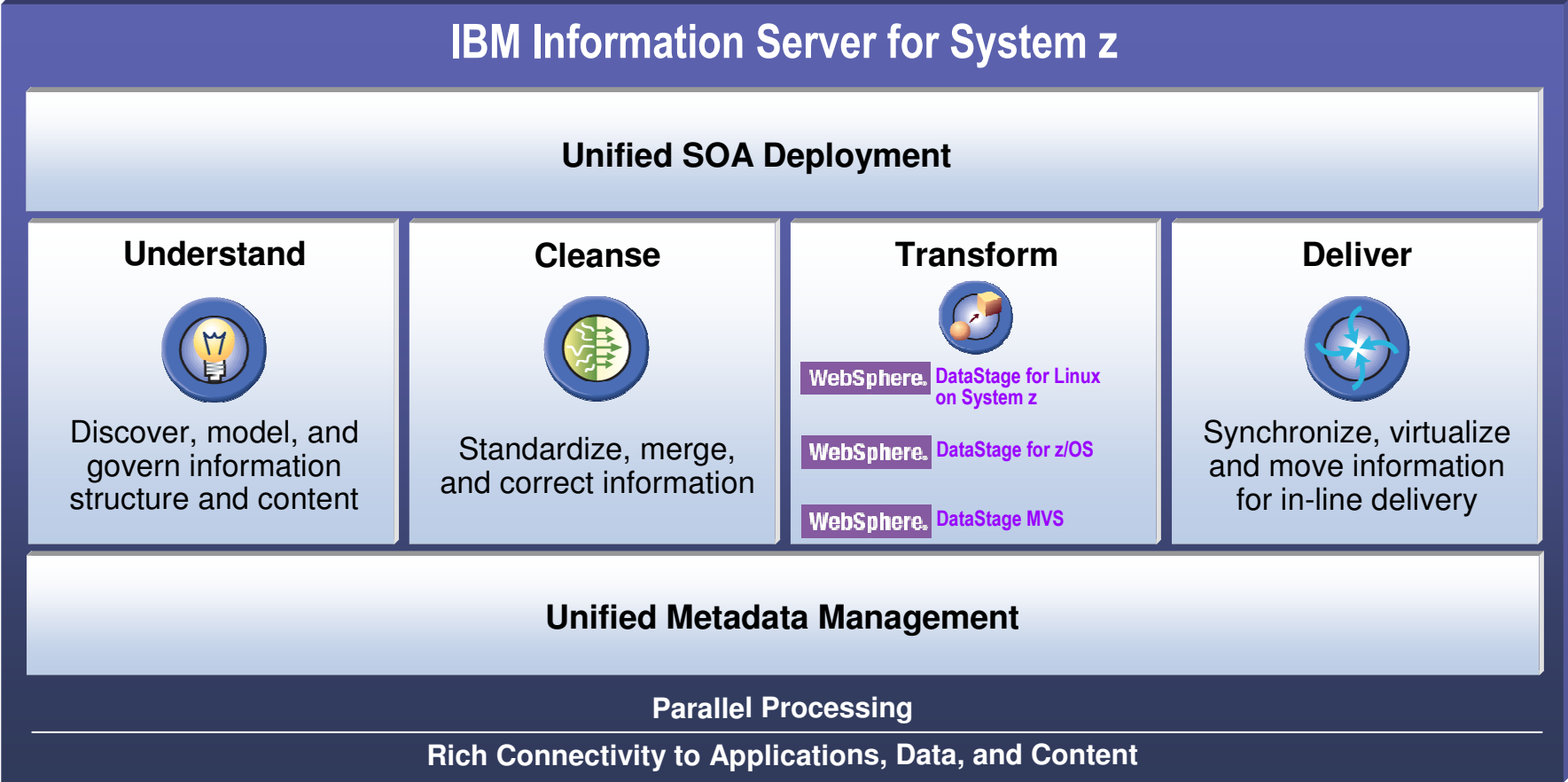


- Transformation is key to enabling information to be used in new business contexts – it needs to be metadata-driven
- Designed for use by information experts using the understanding imparted by the metadata
- Transformation and Delivery can be reused across multiple mechanisms
  - Large volume batch movement
  - Real-time event-driven response
  - Service-oriented architecture
  - Federated query



# IBM Information Server for System z

*Delivering information you can trust*

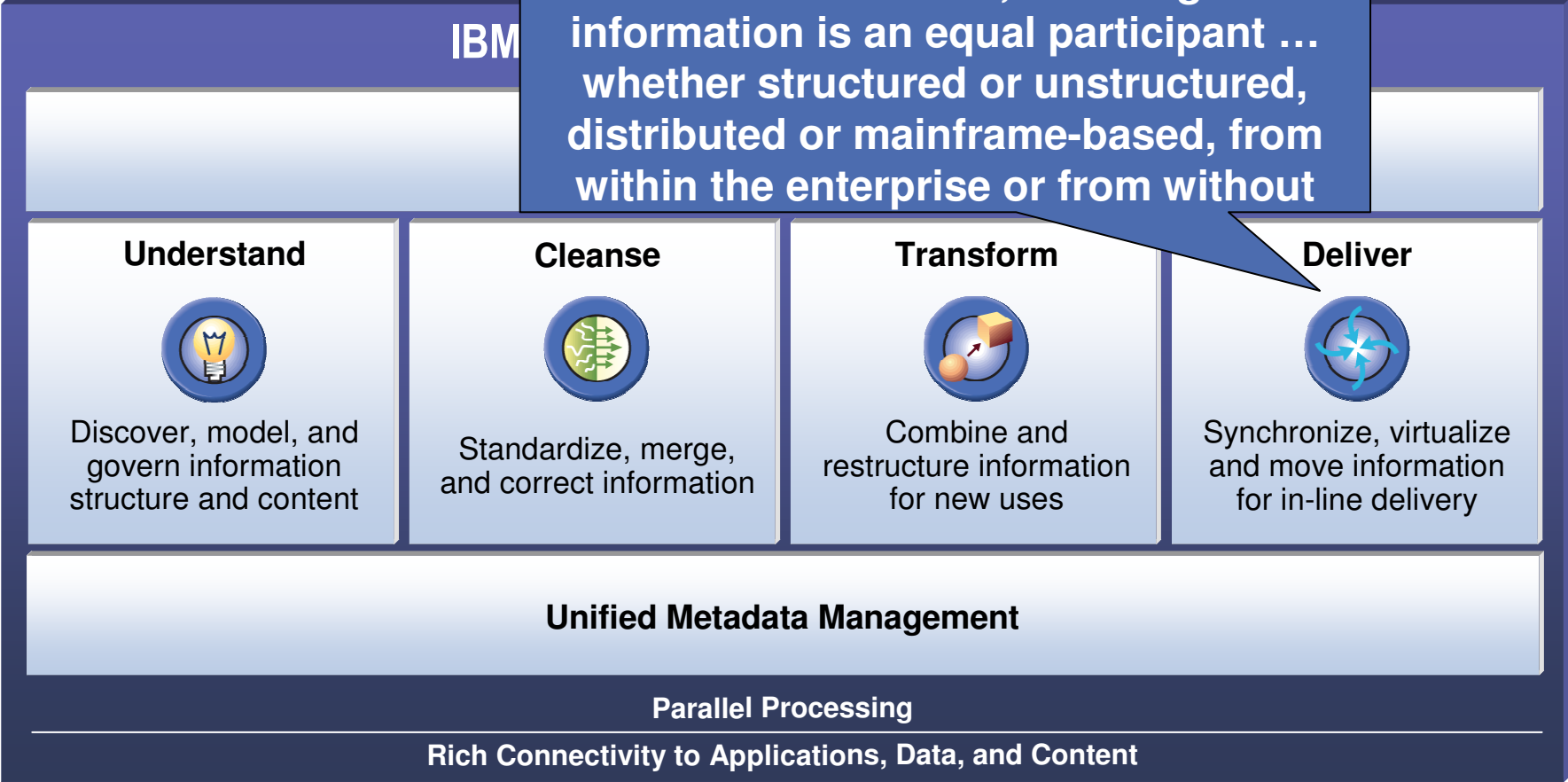




# IBM Information Server for System z

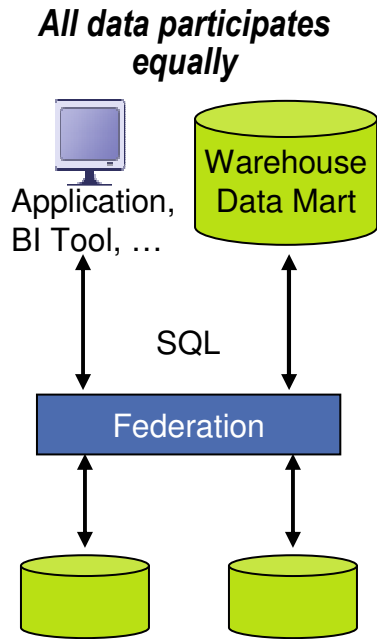
*Delivering information you can trust*

Access and/or deliver information when and where needed, ensuring all information is an equal participant ... whether structured or unstructured, distributed or mainframe-based, from within the enterprise or from without



# Data Delivery Patterns

## Virtualize (pull)

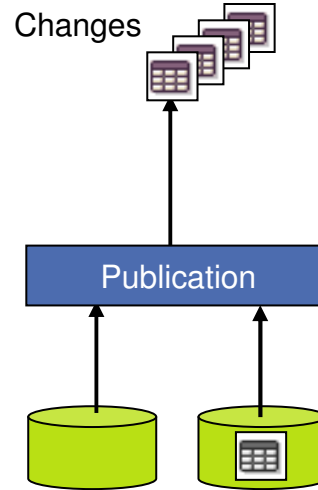


Seamlessly integrate with:

- e-commerce
- Self service
- SOA

## Changed-Data Push

*Data changes (events) drive action*

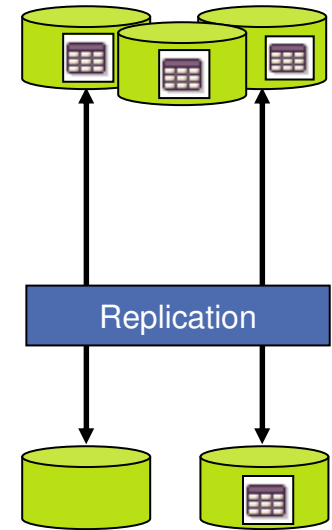


Proactively deliver data to:

- Drive integration
- Enable change only updating to:
  - Reduce batch window dependencies
  - Reduce data latency

## Synchronize

*Like-to-like copies*



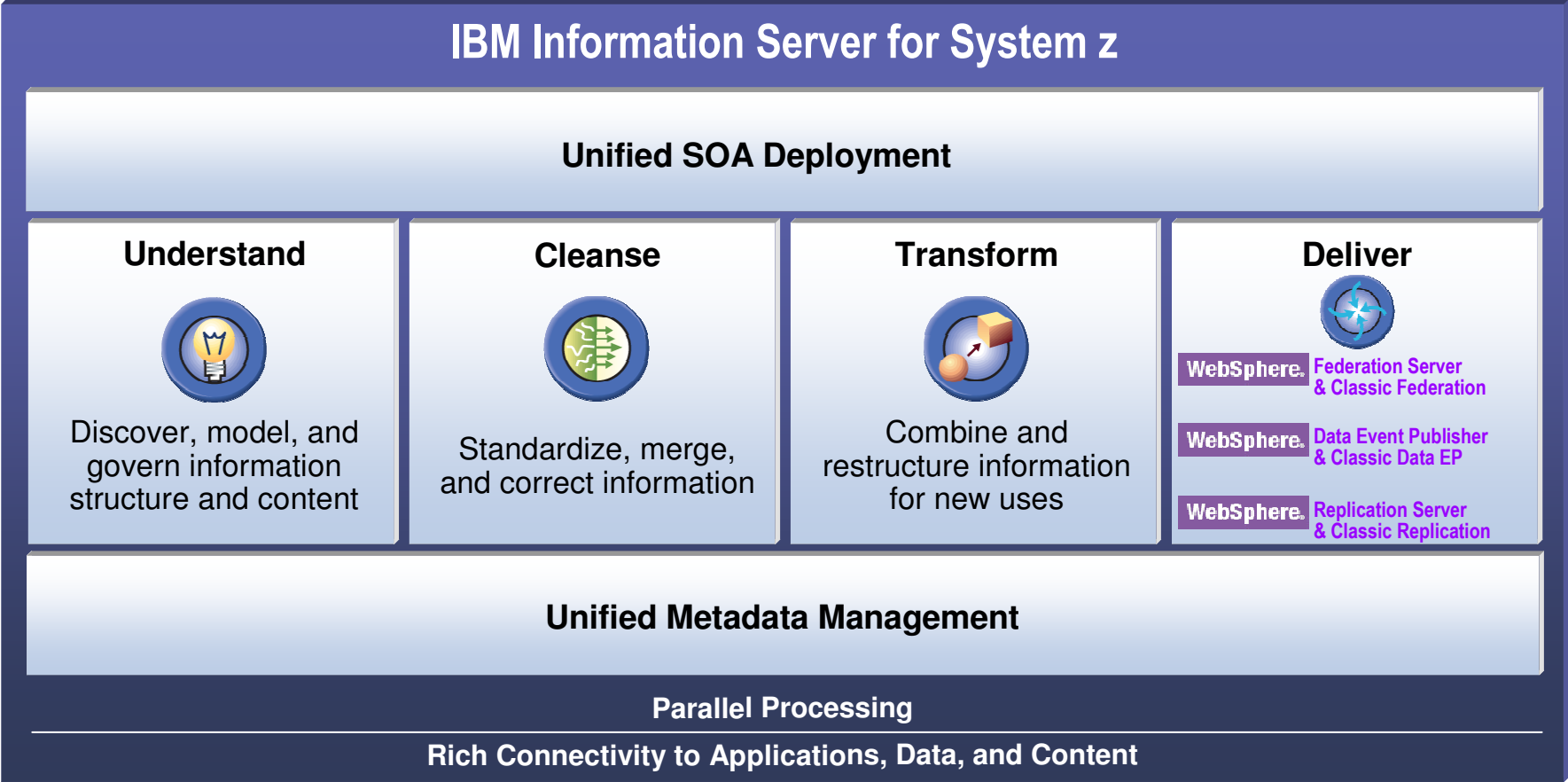
Create & synchronize copies for:

- Distributed operations
- High availability data
- High performance copies
- DBMS migrations



# IBM Information Server for System z

*Delivering information you can trust*



# Delivery:

## IBM WebSphere Federation Server

*Access highly diverse and distributed data*

- Industry leading query optimization with single sign-on, unified views, and function compensation
- Transactional write capabilities across heterogeneous sources
- Visual tools for federated data discovery & data modeling

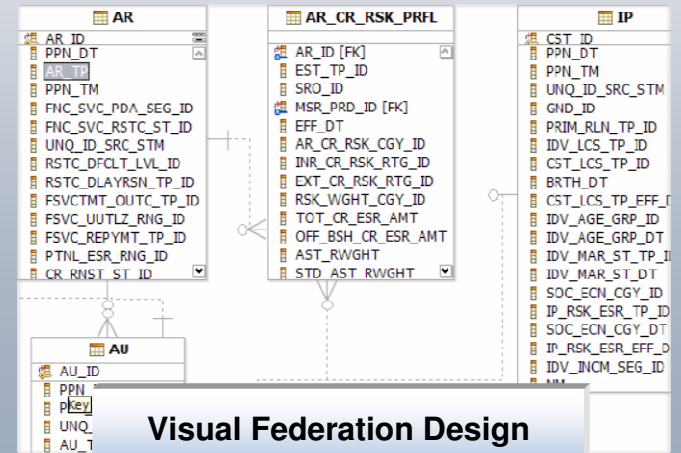
Deliver



### WebSphere Federation Server

Access and integrate heterogeneous information across multiple sources as if they were a single source

Extend value of existing analytical applications by providing real-time access to integrated information



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# Federated Queries: Integration with the Ease of SQL

```
SELECT  parameters_return_billto_key as BILL_TO_KEY,  
        billto_company_name,  
        parameters_return_shipto_key as SHIP_TO_KEY,  
        CASES_SHIPPED,  
        GROSS_SALES,  
        URL  
  
FROM    GETKEYSSOAP_GETKEYSREALTIME_NN,  
  
        GLOBAL_SALES_TRAN_NN,  
  
        BILLTO_DIMENSION,  
  
        URL_INVOICES  
  
WHERE   getkeysrealtime_ship_to_number = '13546'  
        and getkeysrealtime_ship_to_number = URL_INVOICES.shipno  
        and ltrim(rtrim(translate(ship_to_number, ' ', x'0a')))  
            = getkeysrealtime_ship_to_number  
        and parameters_return_billto_key = billto_key  
        and ltrim(rtrim(translate(sales_order_number, ' ', x'0a')))  
            = URL_INVOICES.orderno
```

## Single SQL Query Joins:

- ← Web Service
- ← XML Documents
- ← Data Warehouse
- ← Unstructured Data



# Delivery:

## IBM WebSphere Classic Federation Server for z/OS

*Mainframe data is an equal participant*

- **Standardized ODBC and JDBC SQL interfaces to VSAM, IMS, CA-IDMS, CA-Datacom, Adabas and sequential data**
- **Metadata-driven, so there's no mainframe programming needed**
- **Works with existing mainframe infrastructure and "modern" applications and tools you need**
- **Deliver mainframe data to**
  - IBM's own data profiling, cleansing and transformation solutions
  - Self-service portals
  - e-commerce solutions
  - Reporting and analytical tools

Deliver



### WebSphere Classic Federation Server for z/OS

Read-from and write-to mainframe data sources using SQL from Unix, Windows, Linux and JVM platforms

Empowers mainframe data integration with Information Server components, your applications as well as IBM and 3<sup>rd</sup> party tools and applications

Line	Key	Value
1		*****
2		*****
3	*	LICENSED MATERIALS - PROPERTY OF IBM
4	*	5697-I82
5	*	5655-M35
6	*	5655-M38
7	*	5655-N56

**Dynamic Visual Metadata Management**



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# Deliver:

## WebSphere Data Event Publisher for z/OS and WebSphere Classic Data Event Publisher for z/OS

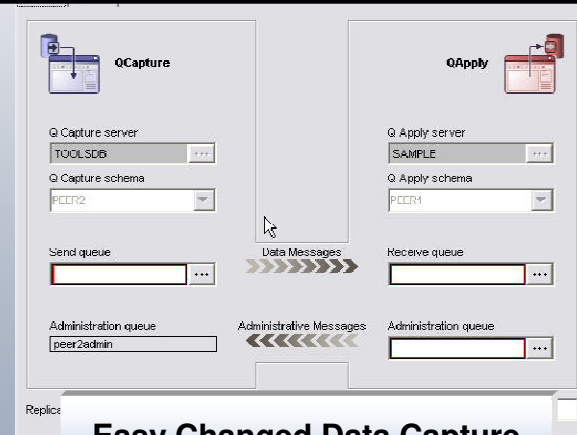
- **Integration using data events rather than application development**
- **Capture data changes in real time, publish as "data events" to drive integration & incremental database updating**
- **Flexible and efficient:**
  - Low-latency or scheduled data capture
  - Multiple publication formats:
    - Consistent relational format for ease of use
    - XML for ease of consumption
    - Delimited values for reduced message size
  - Recoverable
  - Assured delivery
  - Eliminates dependence on batch window!
  - Loosely coupled approach

Deliver



### WebSphere Data Event Publisher WebSphere Classic Data Event Publisher

Detect and respond to data changes in source systems, and publish changes to subscribed systems, to ETL or to other modules for event-based processing



TAKE BACK CONTROL


# Deliver:

## WebSphere Replication Server

*Synchronize like-to-like copies*

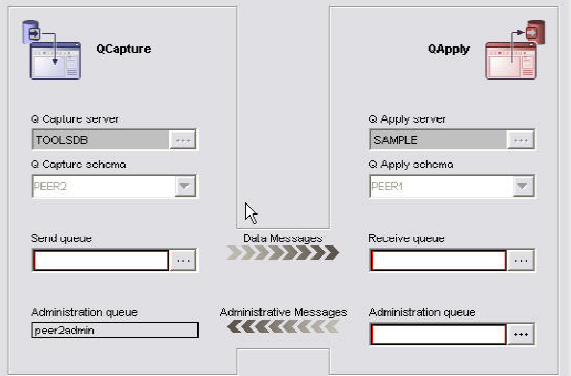
- **Distribution, consolidation or synchronization of information in different databases**
- **Multi-directional delivery**
- **Ease-of-use features:**
  - Integrated monitoring & statistics
  - Changed data histories
  - Configuration options:
    - Wizard-driven GUI
    - Command-line processor
    - Script-driven processor

**Deliver**



**IBM WebSphere Replication Server**

Replicate and synchronize between databases in high-speed based on data events for high availability & disaster recovery, data synchronization, and data distribution



**Easy Replication Wizard**



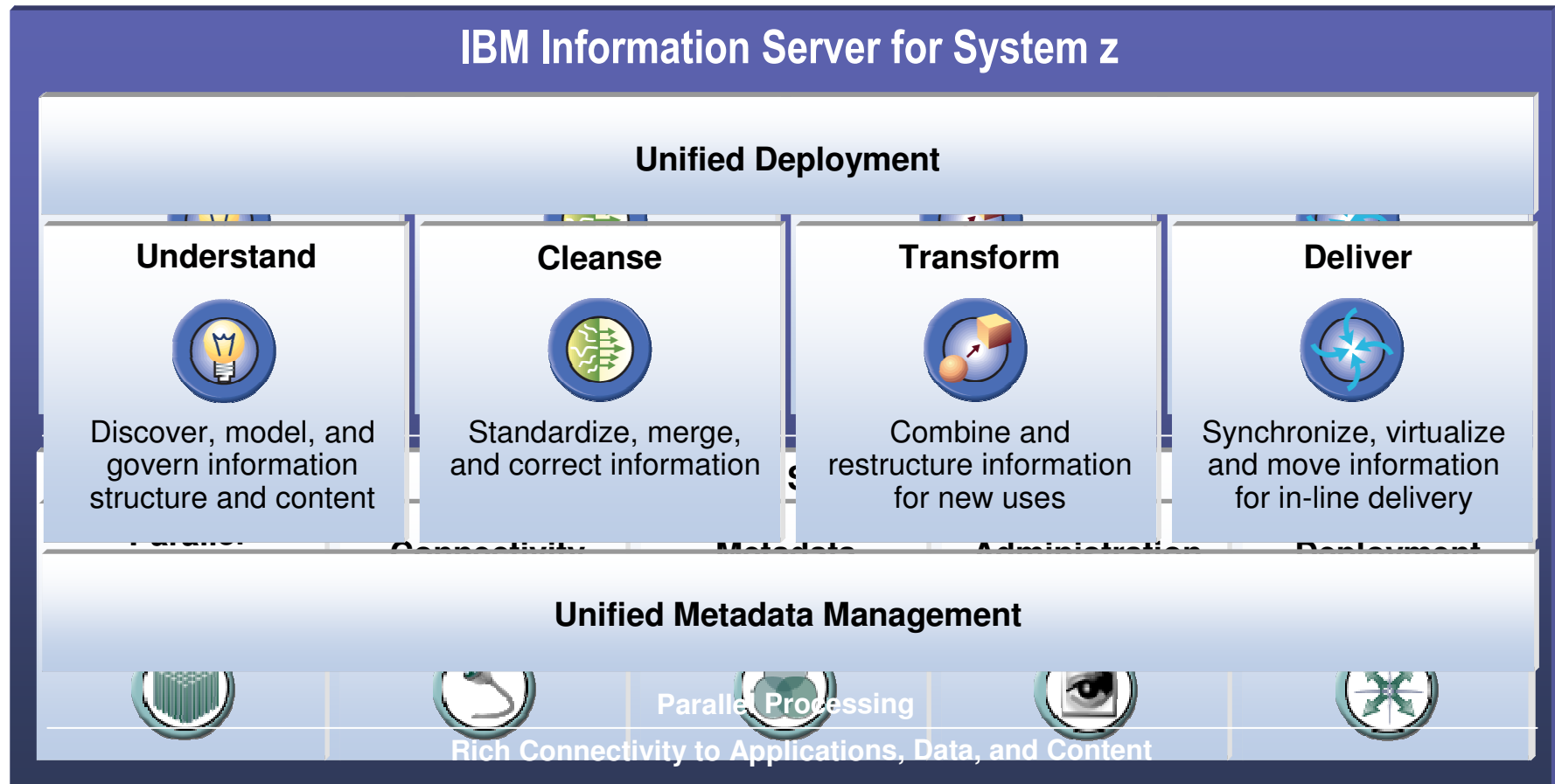
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- IBM Information Server for System z components
- ***IBM Information Server for System z ... a "platform"***
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# The IBM Information Server

*More than a collection of products, a robust platform*



# IBM Information Server

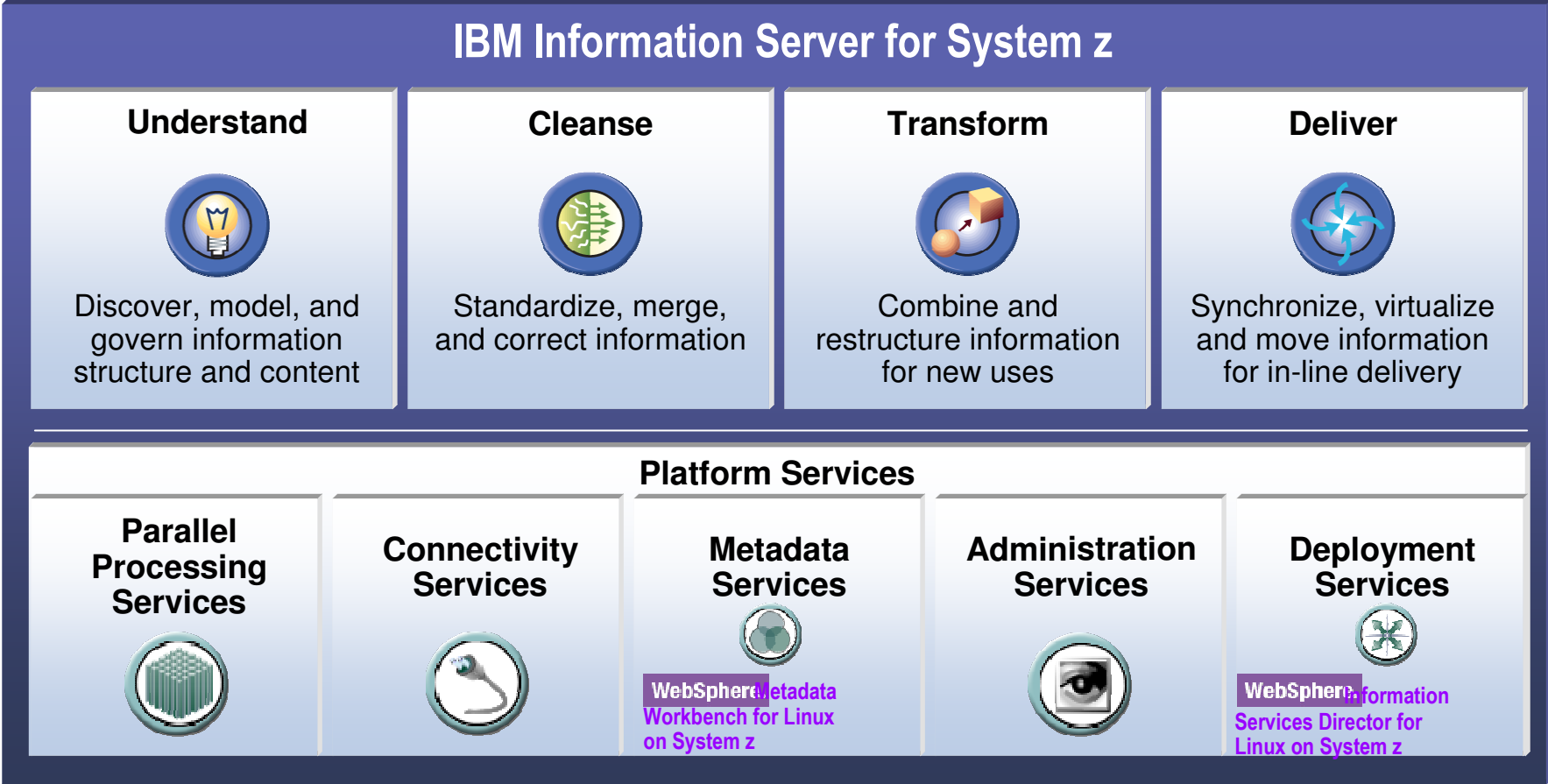
*Think Strategically, Implement for Immediate Impact*

- IBM Information Server is a **platform**
  - Multiple modules that share a consistent foundation of shared platform services
  - The platform approach increases reusability and creates synergy between and across functional modules
- Companies can purchase one or more of the modules
  - Each module inherently includes the platform services
  - Each module addresses a requirement and provides value on its own
- The modules work together seamlessly, increasing project leverage
  - As new modules are added, they “snap-in” to the shared platform services, providing immediately leverage
  - Organizations have a flexible entry point



# IBM Information Server for System z

- **COMPLETE**..... All products
- **CONSISTENT**..... Same functionality in the Linux for System z products
- **COST EFFECTIVE** ..... Can leverage lower-cost IFL MIPs with native z/OS data





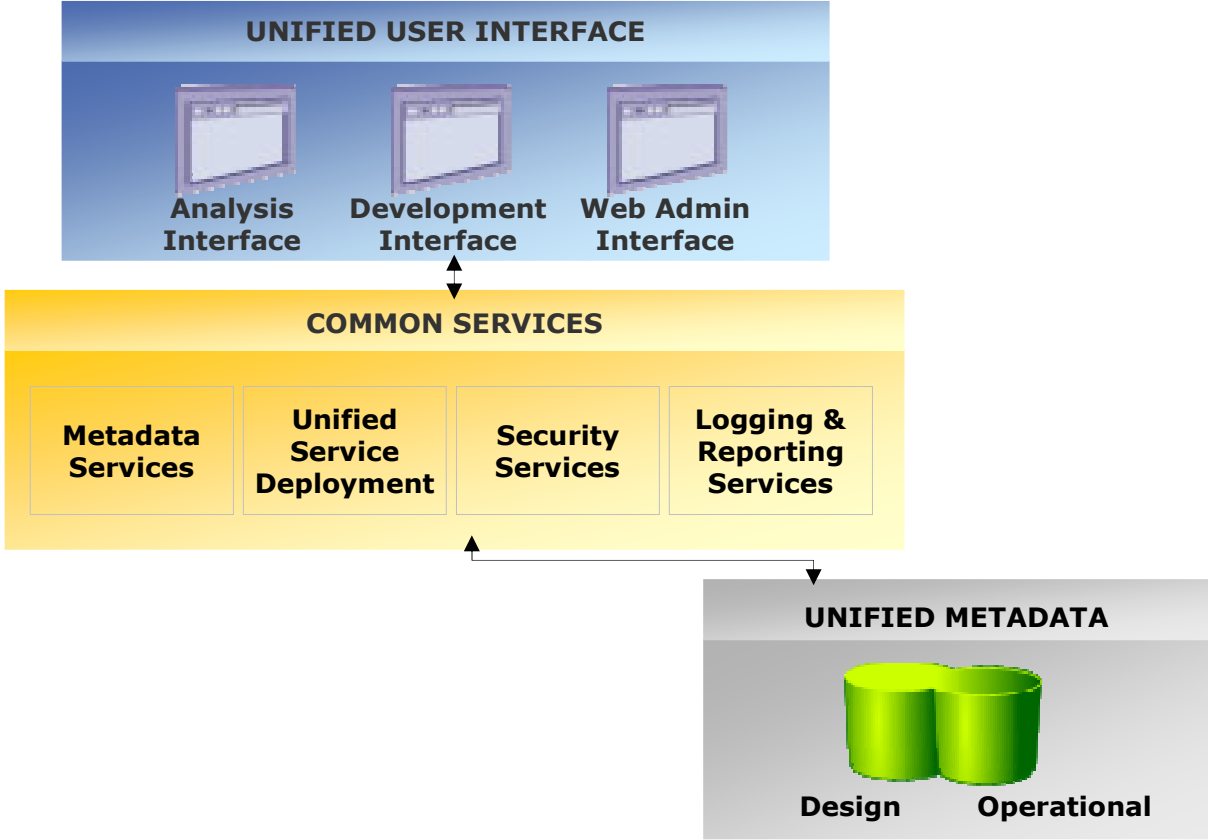
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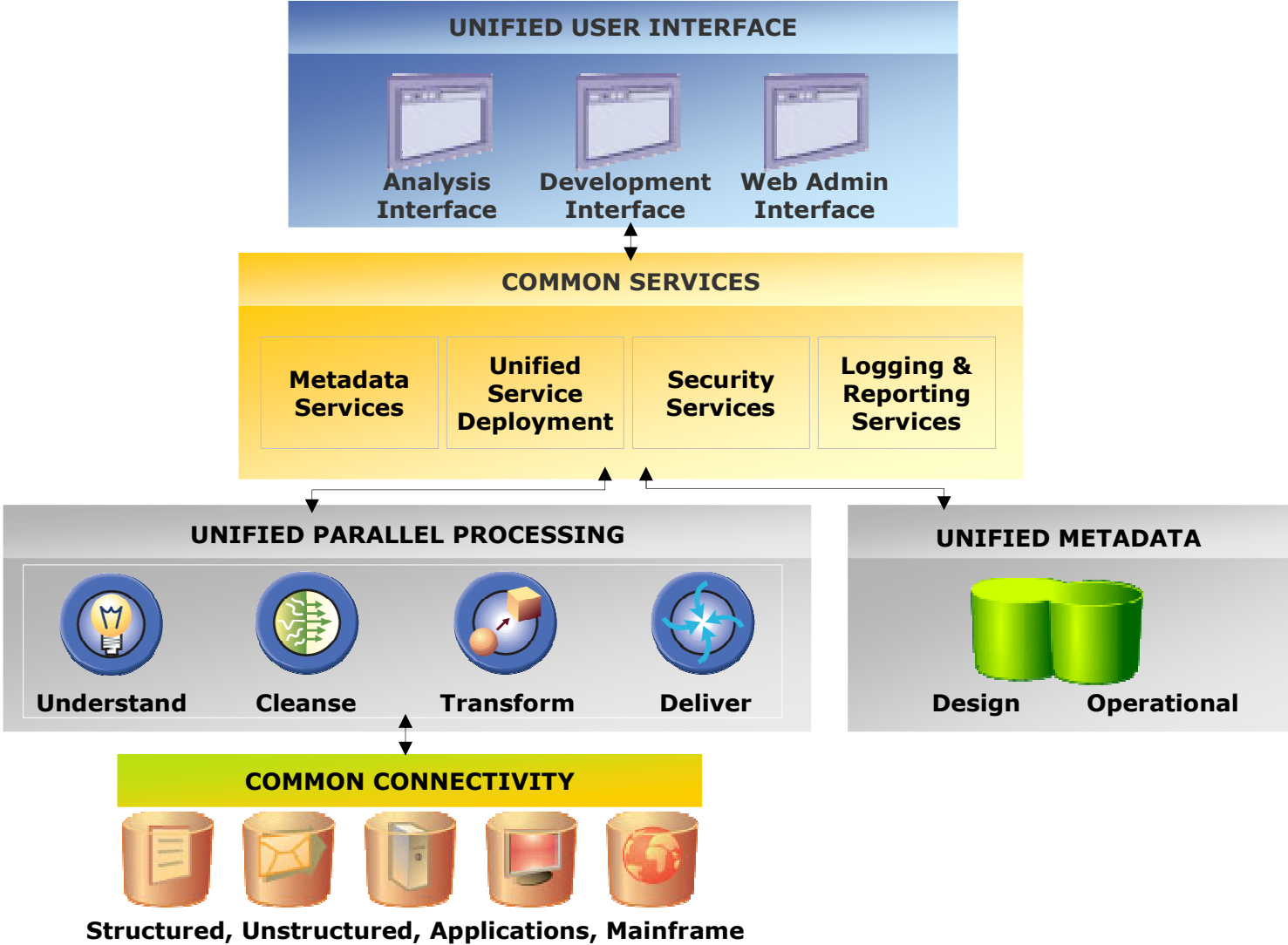
# IBM Information Server for System z Platform

## *Design Platform Architecture*

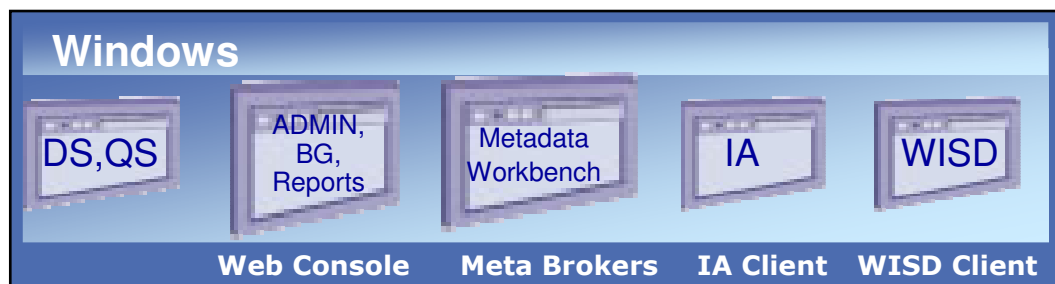


# IBM Information Server for System z Platform

## *Operational Platform Architecture*



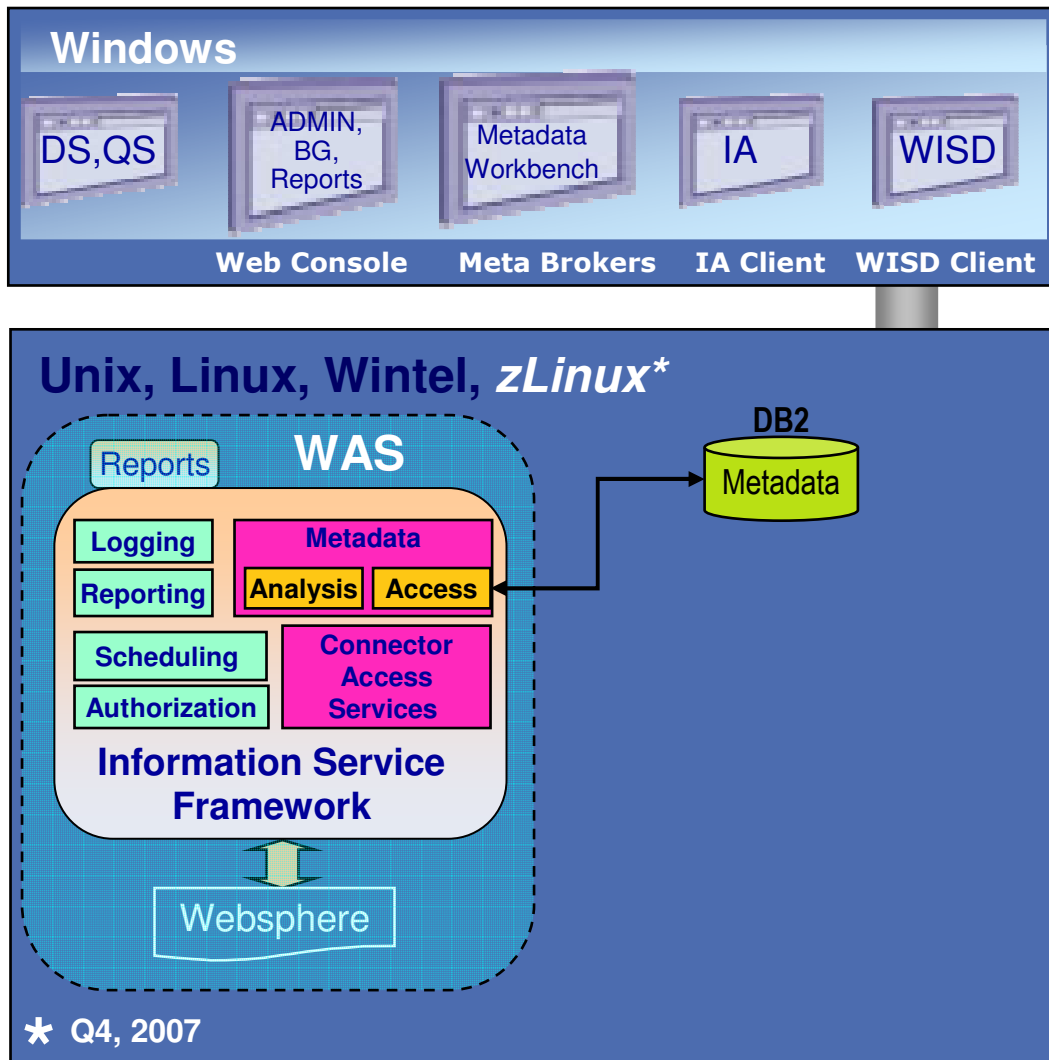
# IBM Information Server Implementation



Roles-based GUI Design Tools work the way "you" do



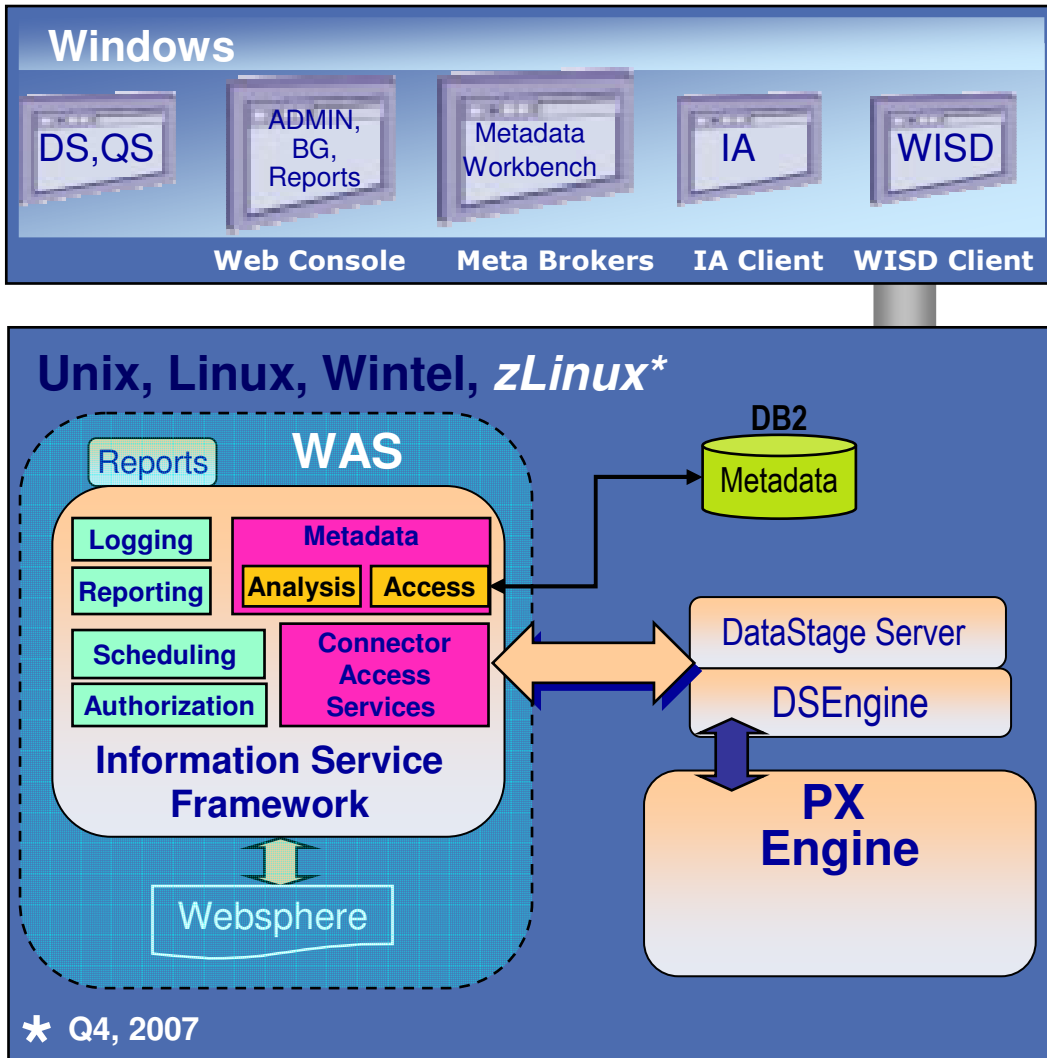
# IBM Information Server Implementation



- **Common reusable services** framework leverages the power of a SOA environment
- **Meta data repository** promotes:
  - reuse
  - compliance to standards
  - visual lineage
  - impact analysis



# IBM Information Server Implementation



## New Linux for z deployment option

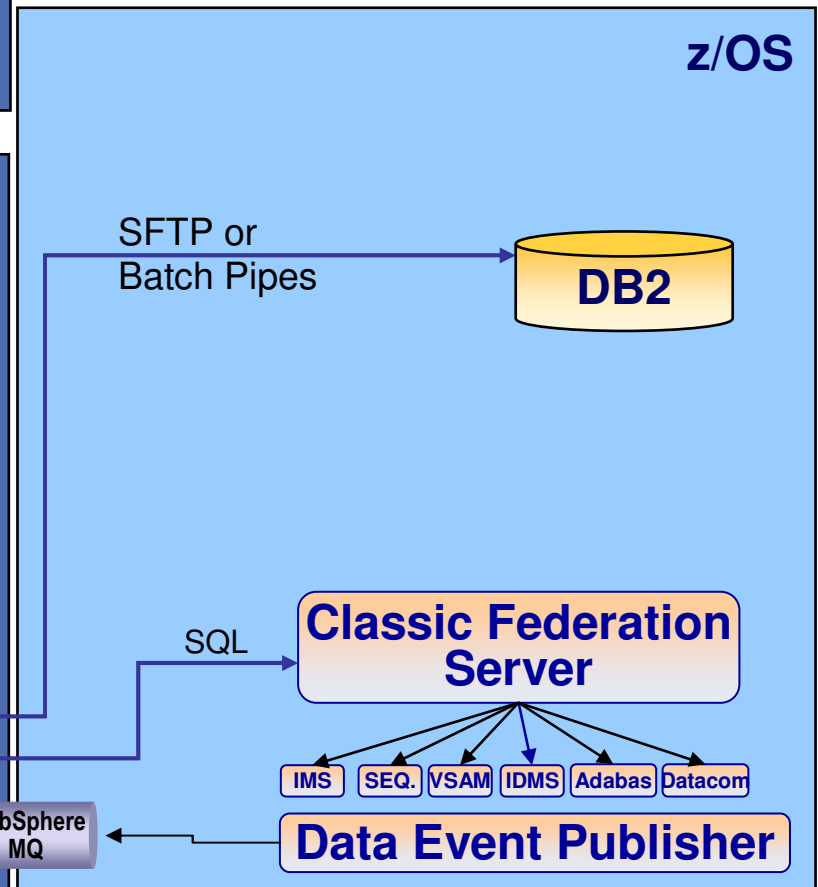
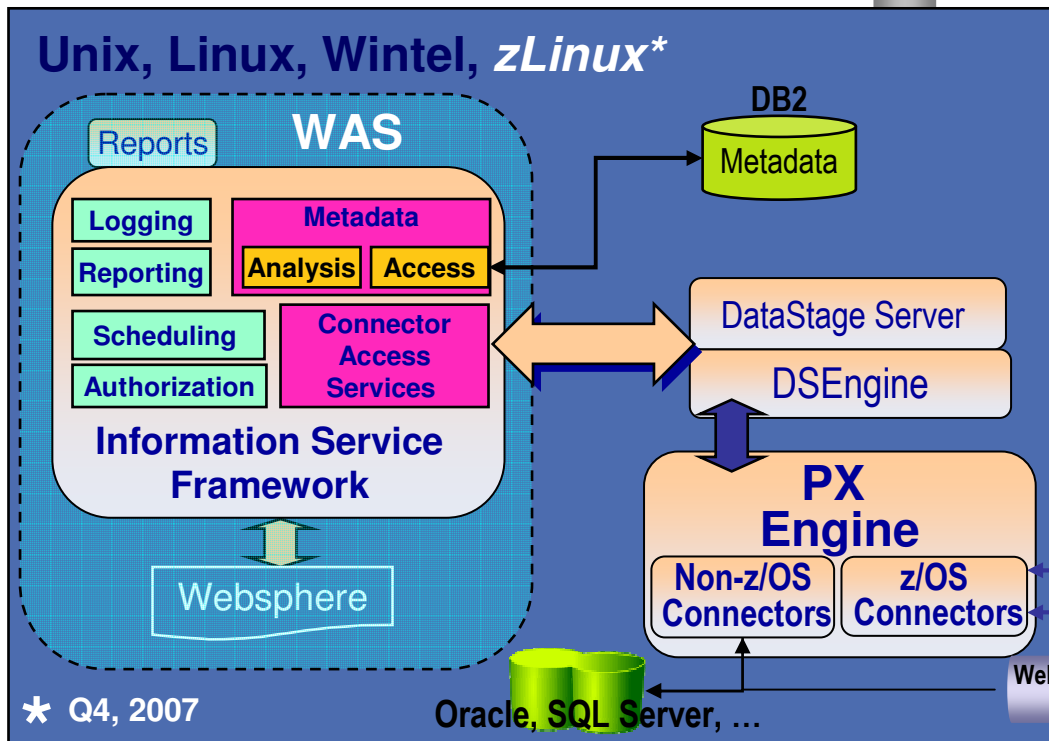
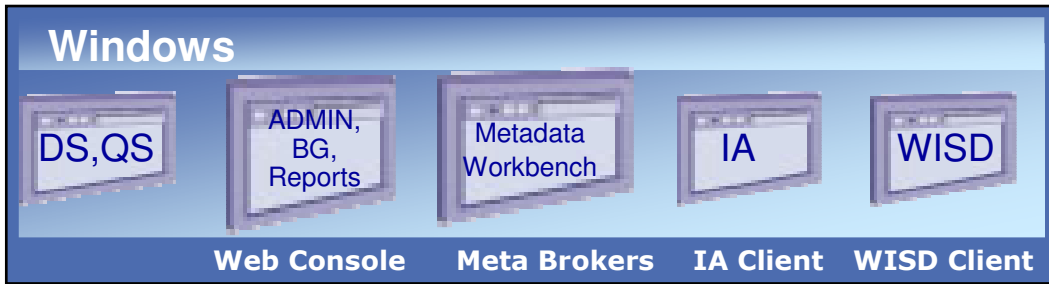
- Robust, parallel processing
- Hipersocket connectivity to z data
- Full Information Server suite: WebSphere QualityStage, WebSphere Information Analyzer...
- Minimal impact on z/OS costs: Leverages IFLs and zIIPs



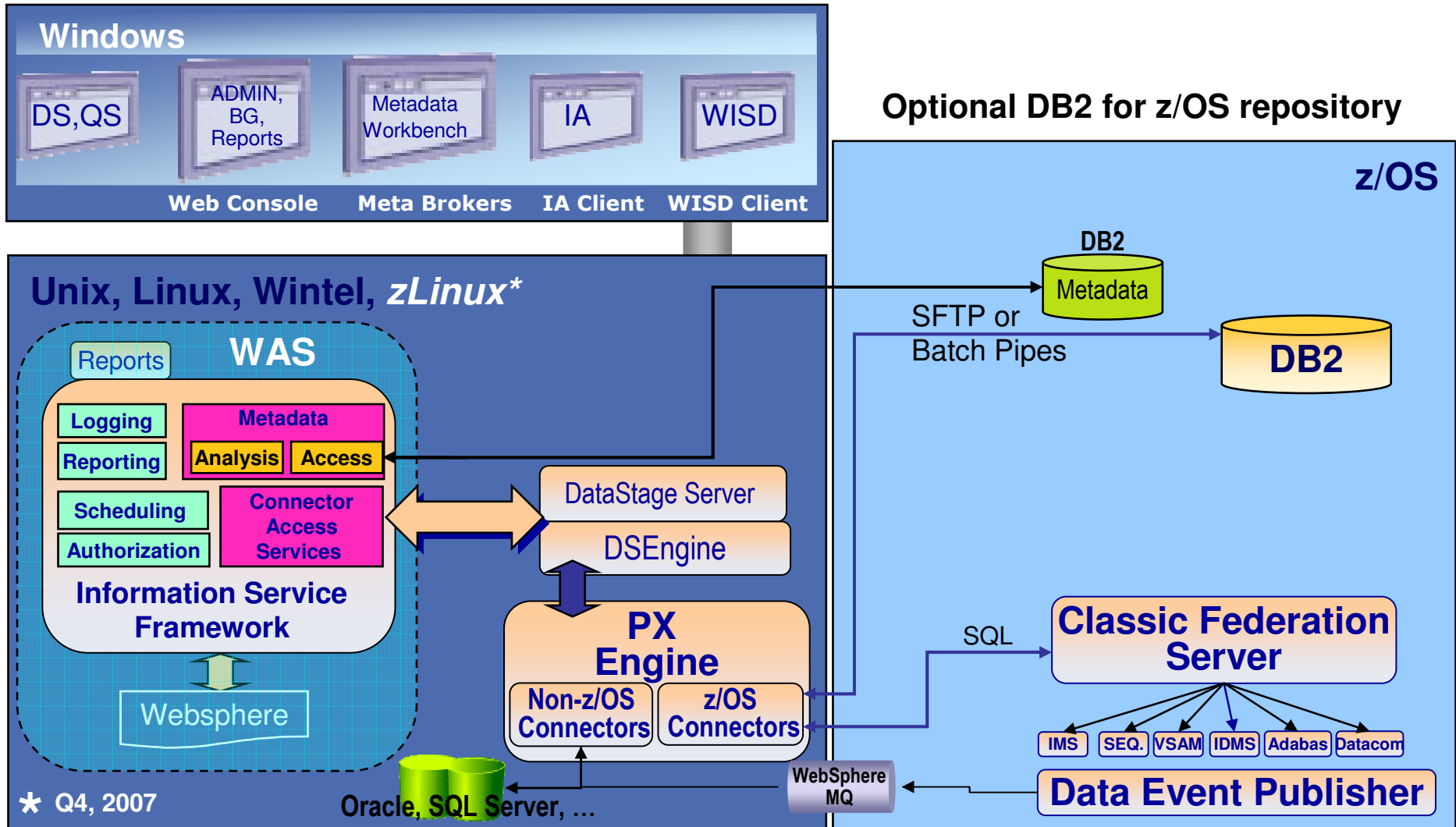
# IBM Information Server Implementation

## Rich connectivity with:

- Application & distributed data
- DB2 for z/OS
- WS Classic Federation for z-data
- WS Data Event Publishers for CDC

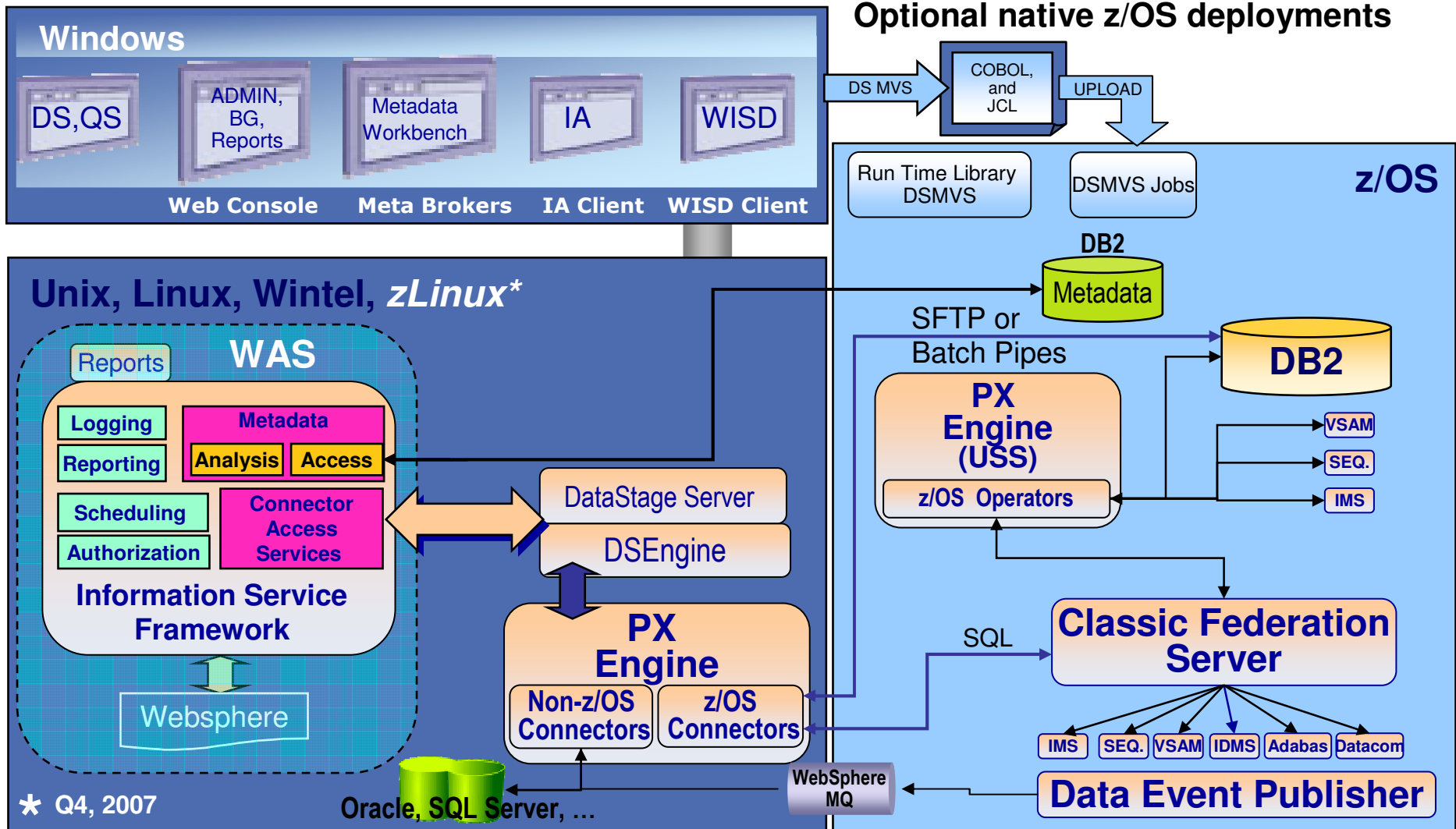


# IBM Information Server Implementation





# IBM Information Server Implementation



TAKE BACK CONTROL

# IBM Information Server for System z

## Benefits of a hybrid architecture that leverages Linux for z

- Significant cost savings:
  - z/OS MIPs consumption dramatically reduced!  
All Job Processing is on zLinux, except the z/OS data access
  - DB2 access qualifies for ZIIP specialty engine
  - MIPs charged at IFL rate ... NOT z/OS rate
  - Reduced z/OS CPU minimizes impact on other z/OS software costs
- High performance z data connectivity:
  - Batch Pipes for DB2 load, DRDA to DB2 over hipersockets
  - SQL to Classic over hipersockets, Integration with Data Event Publishers
- Seamless integration with other Information Server platforms
  - Same operational architecture and meta data Repository
  - Eliminates deployment issues
  - Maintains value of DataStage for z/OS investments

## Continued investment in native z/OS deployment options

- Full function Information Server scheduler
- Expanded Job Footprint: more operators, more jobs, less resource
- More functionality



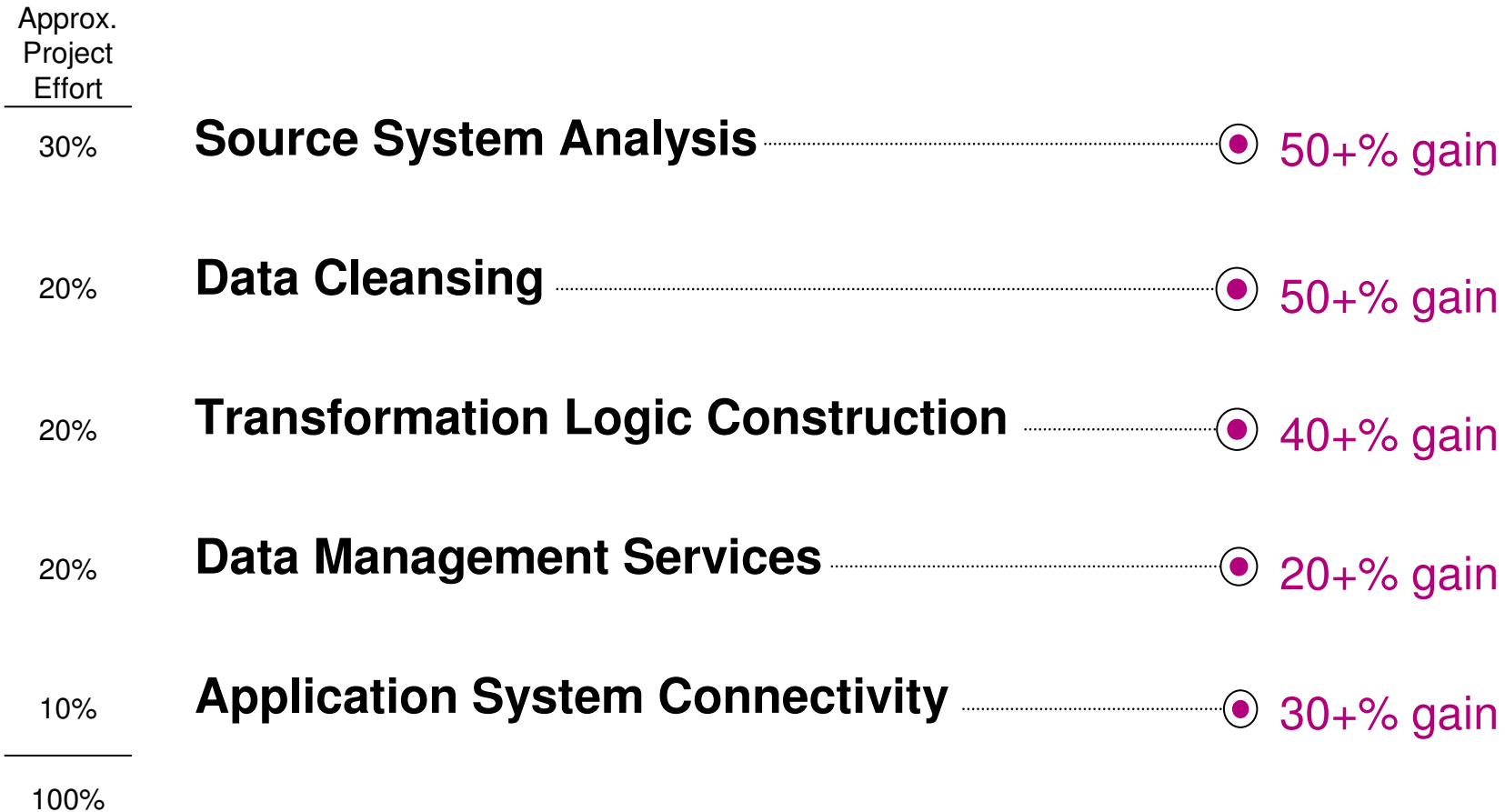
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# Customers Achieve Significant Productivity Benefits<sup>1</sup>

*Example ETL Project*



<sup>1</sup> Compared to hand coding – gathered from IBM project studies



# IBM Information Server for System z Advantage

## *A Complete Information Infrastructure*

- A **comprehensive, unified foundation** for enterprise information architectures, scalable to any volume and processing requirement... that leverages the **scalability, security, manageability and reliability** of the mainframe **without added z/OS operational costs**
- **Fully integrated, auditable data quality** as a foundation for trusted information across the enterprise
- **Metadata-driven integration**, providing breakthrough productivity and flexibility for integrating and enriching information
- **Broadest and deepest connectivity** to information across diverse sources: structured, unstructured, mainframe, and applications to **maximize the value of your IT investments**
- **Simplified scalability** at lower cost to manage current & future data requirements
- Data governance capabilities to ensure **consistent and accurate compliance** with information-centric regulations and requirements



# Join the *Leverage*Information Community

- A “community of communities” to support, educate and drive collaboration around Information Server and Solutions
  - Local user groups
  - Virtual regional groups
  - Virtual special interest groups
- Delivering value to our ecosystem:

## **Users/Architects/Bus. Analysts**

- Forums on key topics
- Peer-to-peer collaboration
- Valuable IBM and community generated content
- Rewards program

## **Solution Providers / Partners**

- On-line solutions catalog
- Partner promotional services
- Partner news
- Go-to-market services

*Leverage*Information

The business of information

[www.leverageinformation.info](http://www.leverageinformation.info)

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**TAKE BACK CONTROL**

# Thank You for Joining Us today!

Go to [www.ibm.com/software/systemz](http://www.ibm.com/software/systemz) to:

- ▶ Replay this teleconference
- ▶ Replay previously broadcast teleconferences
- ▶ Register for upcoming events

