



Liberate Your Data With MetaMatrix

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AGENDA

- Company Background
- What it Does
- Where it Fits
- Customer Use Cases
- How it Works
- Demo
- ESB/JBoss Interoperability
- Open Source Roadmap
- Summary & Q/A

METAMATRIX BACKGROUND

- Founded 1998
 - Vision: Universal bridge between information-consuming applications and enterprise information resources
 - First to coin the term Enterprise Information Integration (EII)
- Shipping version 5.x – highly mature, stable, feature-rich
- Market – Global 5000 Organizations
 - Government Intelligence Agencies, Department of Defense
 - Financial Services
 - Pharmaceutical, Life Sciences
 - Manufacturing, Telecommunications, ISVs
- Focus has shifted from EII to data services/SOA
- Acquired by Red Hat April 2007

METAMATRIX VALUE PROPOSITION

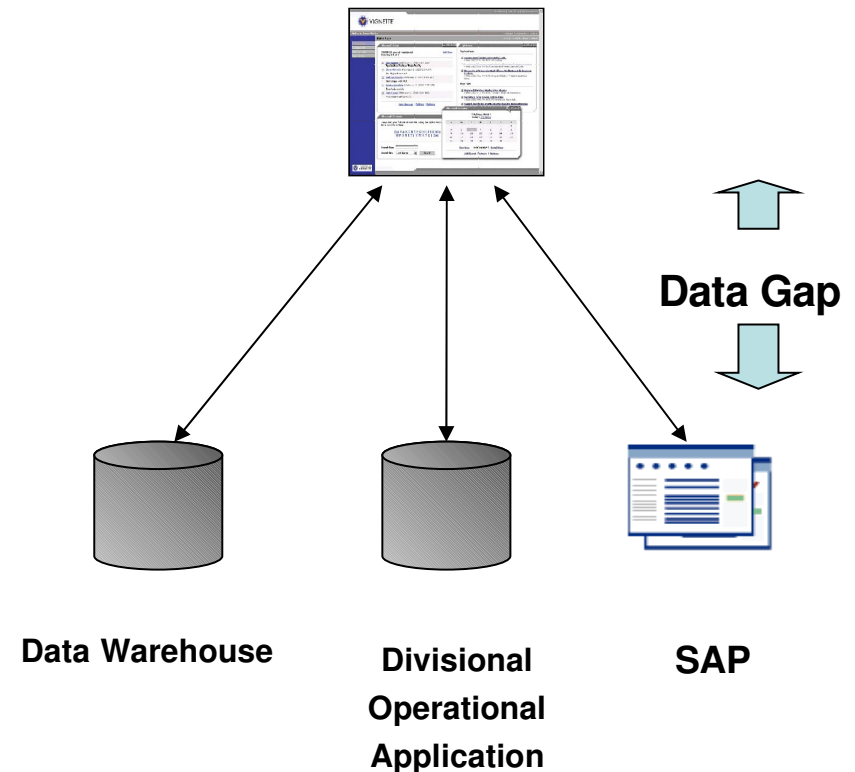
- MetaMatrix is a set of development productivity tools that helps solve one of the most difficult problems in development: *accessing* and *integrating* the vast stores of legacy data in the enterprise
- It does this by creating data services (*building blocks*) from which to build applications, services, and service-oriented architectures
- This is done in an industry-unique way: with *models*, instead of code
- This approach provides for a level of agility unprecedented in enterprise architectures



THE DATA CHALLENGE

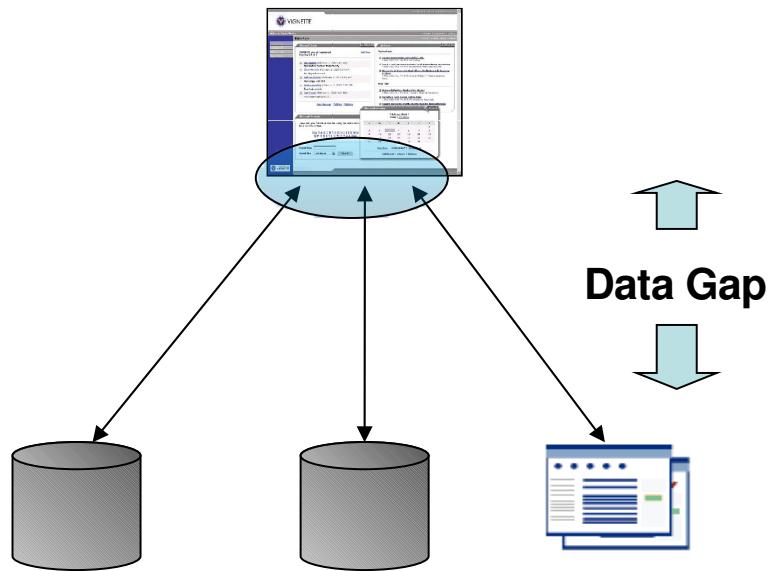
*Too long to implement new applications
Developer must code data access & transformation*

- Different physical structures
- Different interfaces
- Different semantics (vocabularies)
- Often need to federate/integrate
- Often “locked-in” to database
- Have to ensure performance
- Have to ensure security



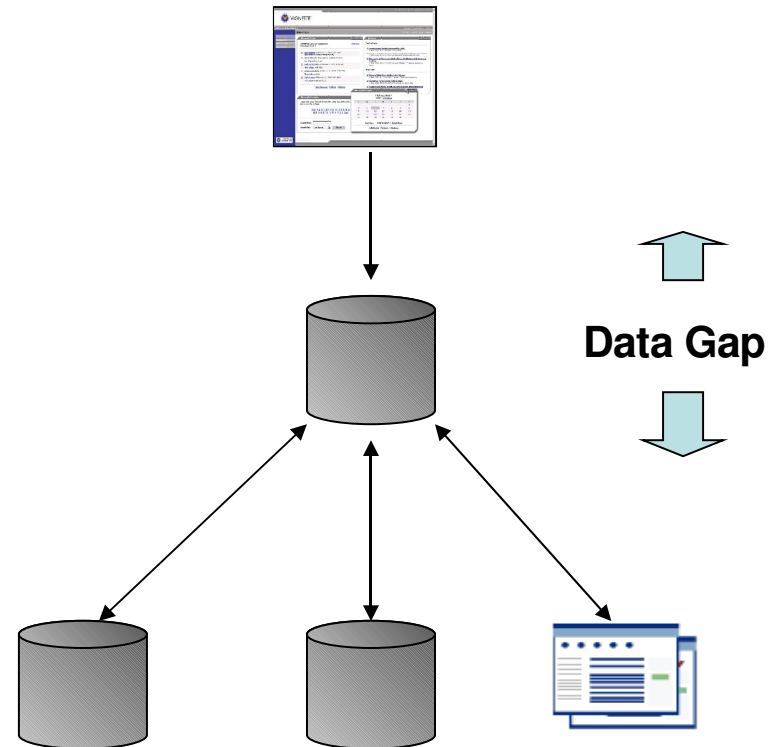
HISTORICAL APPROACHES

Hard Code



- Time consuming, difficult, costly
- No re-use of data logic
- Any changes break the application

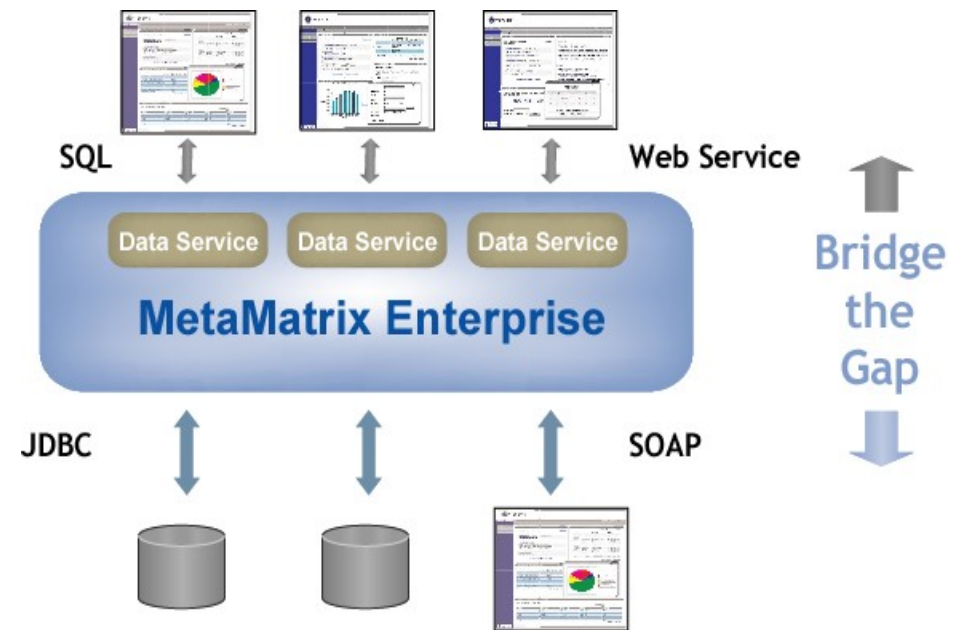
Replicate/Data Mart



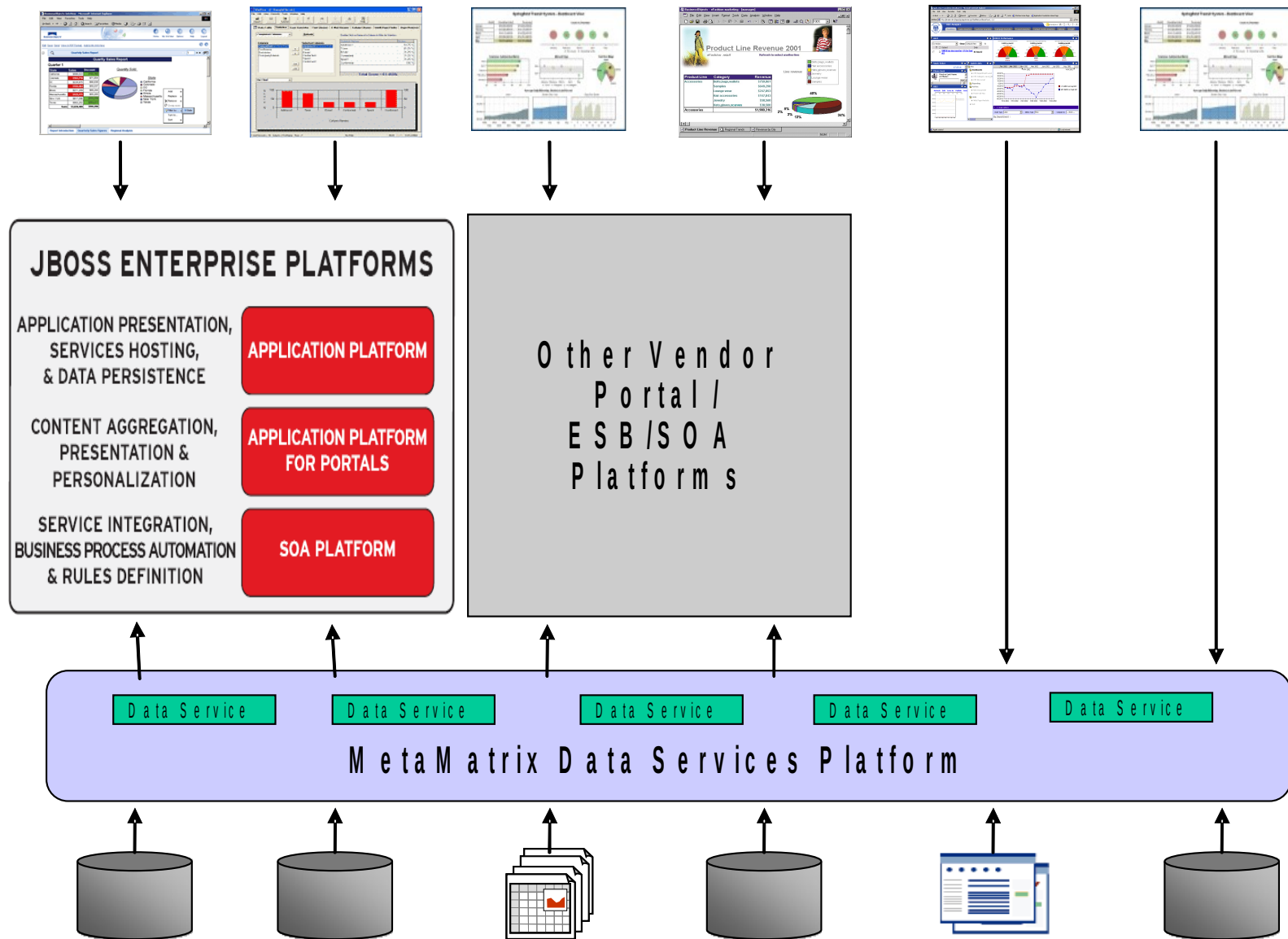
- Data not fresh
- Very expensive
- Many marts difficult to manage
- Data inconsistencies

METAMATRIX: WHAT IT DOES

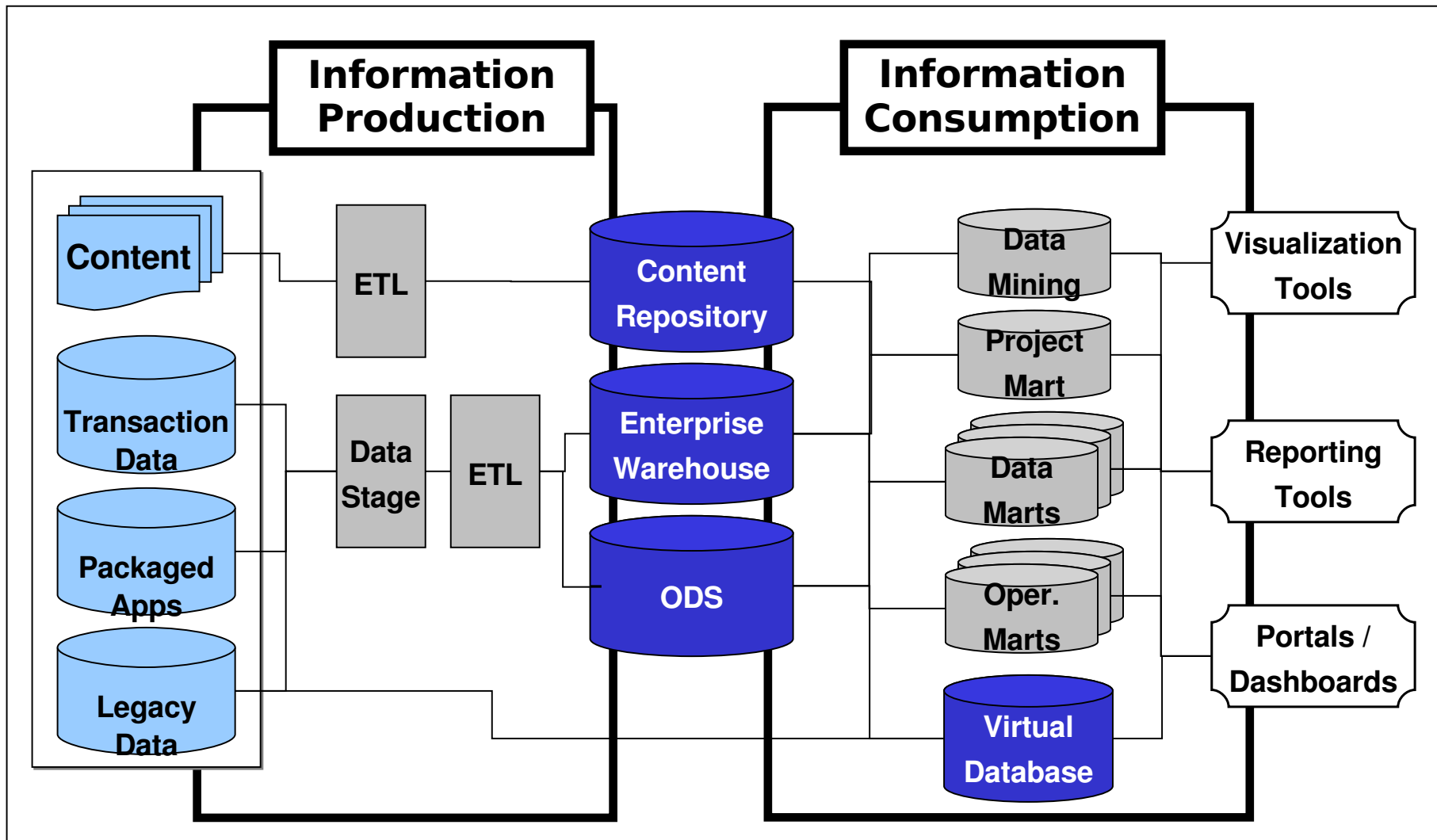
- Turns the data you have into the data you want
- Speeds application development by simplifying access to distributed data sources
- Transforms data format differences
 - Vocabulary difference
 - Schema compliance
- Consolidates (abstracts) sources of data into a “single view” without the need to move data between databases



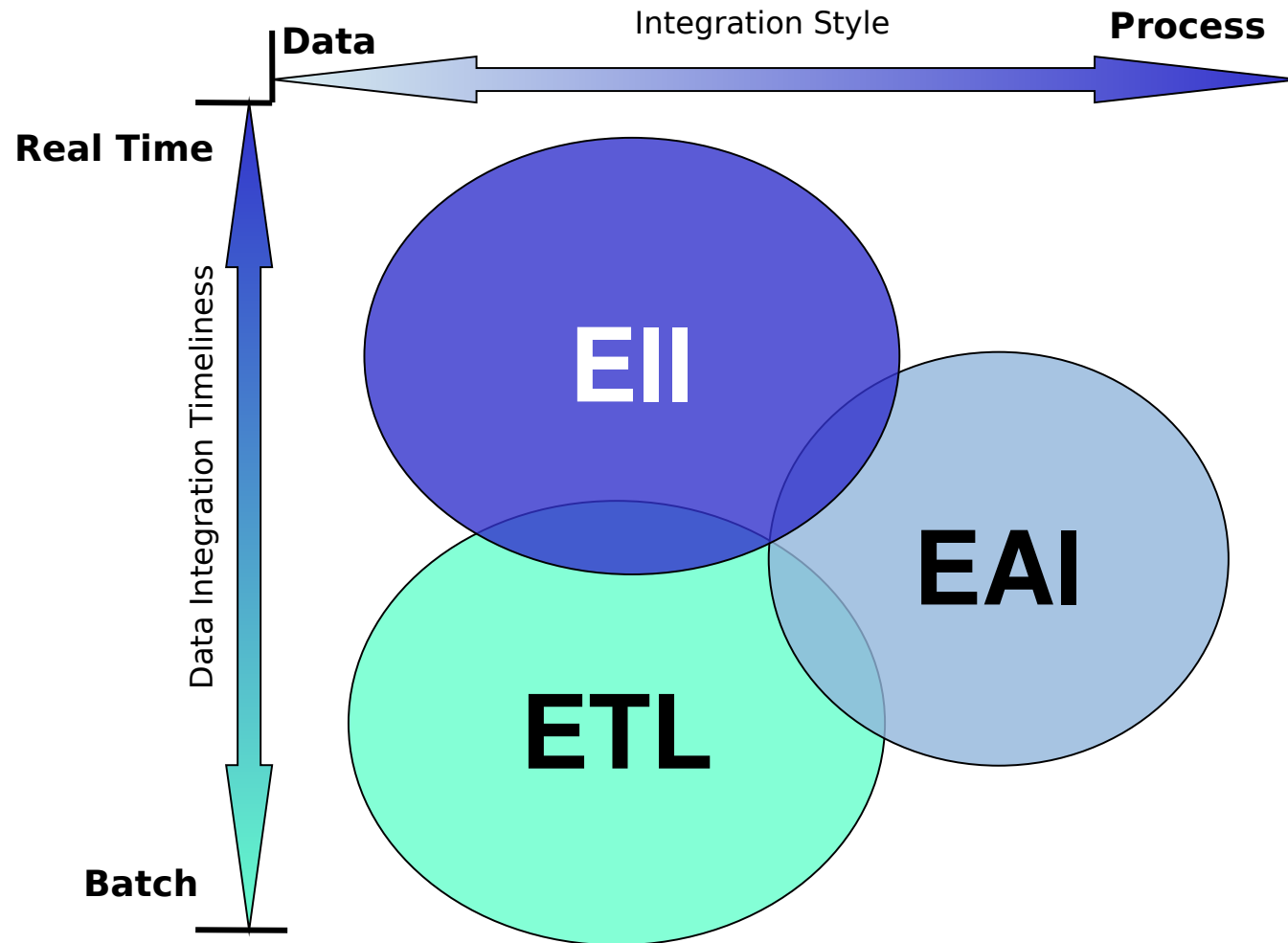
METAMATRIX: WHERE IT FITS



THE CORPORATE INFORMATION FACTORY



INTEGRATION TECHNOLOGIES



METAMATRIX USE CASES

- Reports, Business Intelligence, Portal
 - Consolidated financial reports/dashboards
 - Consolidated sales reports
- Master Data Management
 - Single View of Customer - CRM
 - Single View of Supplier – supply chain
 - Single View of Employee – HR consolidation
- Regulatory Compliance
 - Provide common security and control for data
 - VISA PCI, Basel II, Sarbanes Oxley, Patriot Act
- SOA
 - Make data available to SOA environment

CREDIT SUISSE – DERIVATIVES TRADING DASHBOARD

Challenge

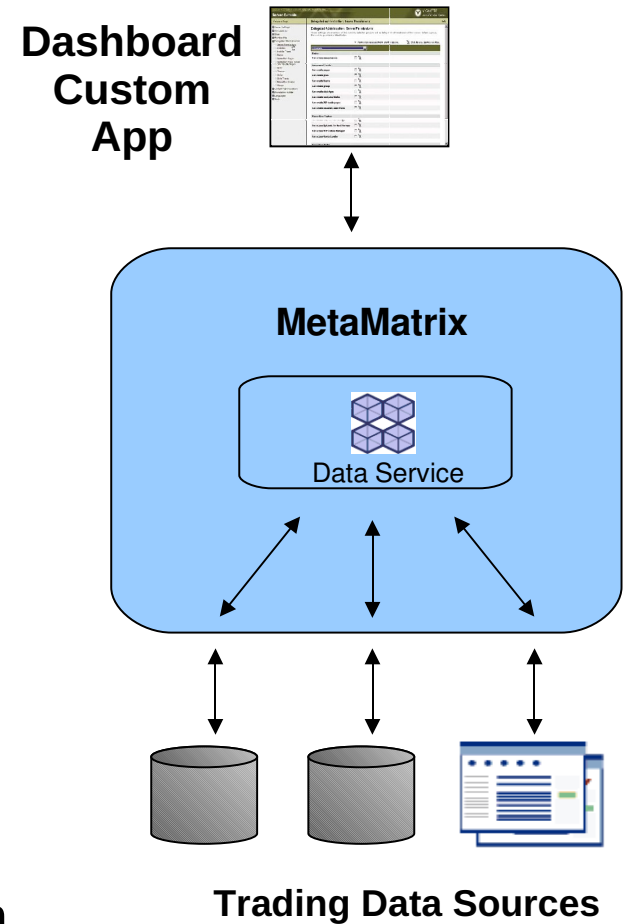
- Monitor derivatives security trades to prevent rogue trades and financial loss
- Trading data spread across many databases/systems

MetaMatrix Solution

- Consolidate all trading data into “single view”
- Real-time access
- Transformation of data differences

Business Benefit

- Prevent financial loss
- Saved time and cost to develop application
- Easier to manage data changes



SMITH BARNEY – SINGLE VIEW OF CUSTOMER

Challenge

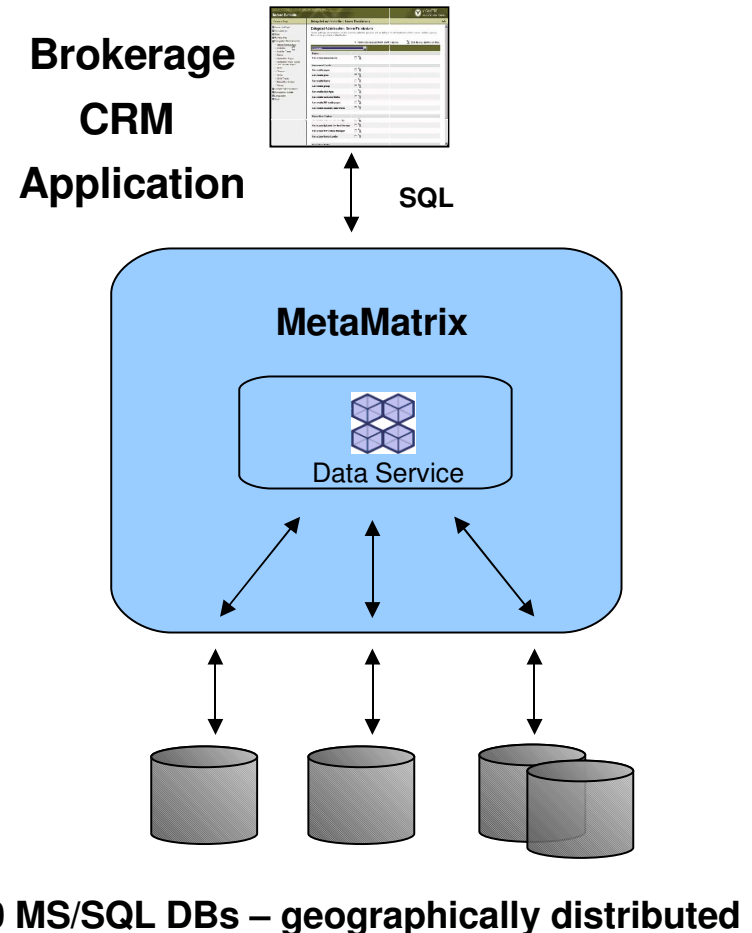
- 600 different brokerage offices – 600 databases
- Can't access account information from other offices
- Can't manage “customer” only individual accounts

MetaMatrix Solution

- Enable a CRM application to “find” customer information with single query – across all databases
- Real-time access

Business Benefit

- Better manage “customer”
- Simpler/faster application development



BANKING INSTITUTION – DATA SECURITY/GOVERNANCE

Challenge

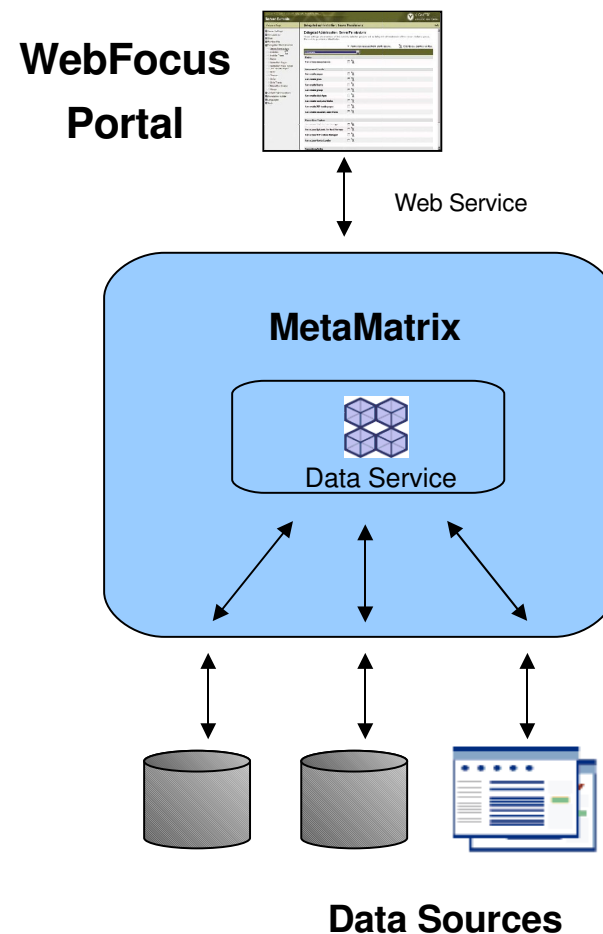
- VISA PCI mandates protection of cardholder info
- Can't maintain common security policy across multiple data stores

MetaMatrix Solution

- Create “data firewall” across many data sources
- Federate rather than replicate
- Common access policy across all sources
- Common data definitions
- Audit trail

Business Benefit

- One set of data security policies
- Can prove to regulators that data is protected



MAJOR INSURER – SOA DATA SERVICES LAYER

Challenge

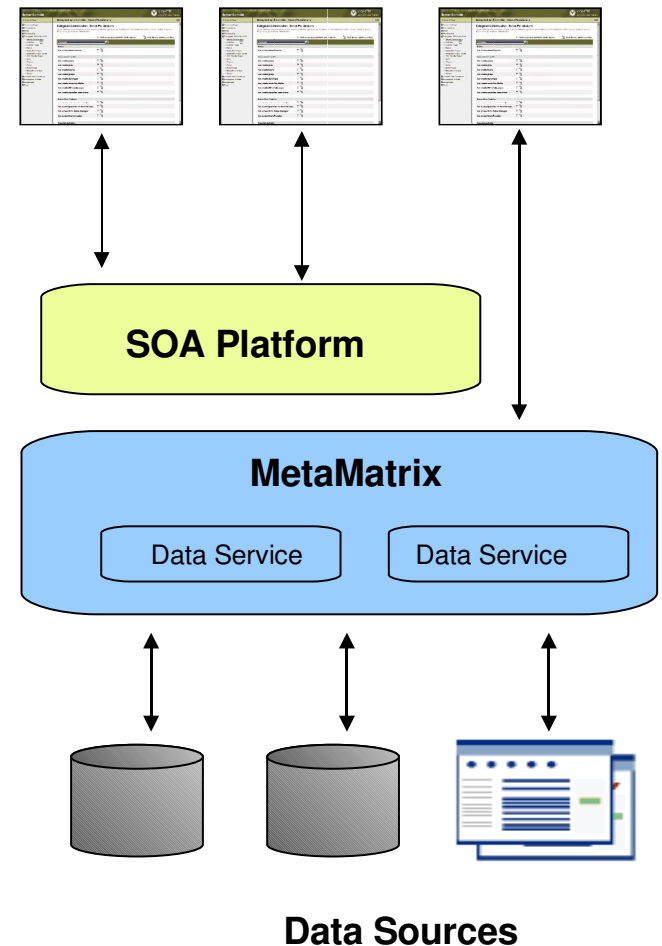
- Deploying SOA reference architecture
- Want common data model across all sources
- Don't want “tight binding” to physical sources
- Ability to change data sources without breaking apps/services

MetaMatrix Solution

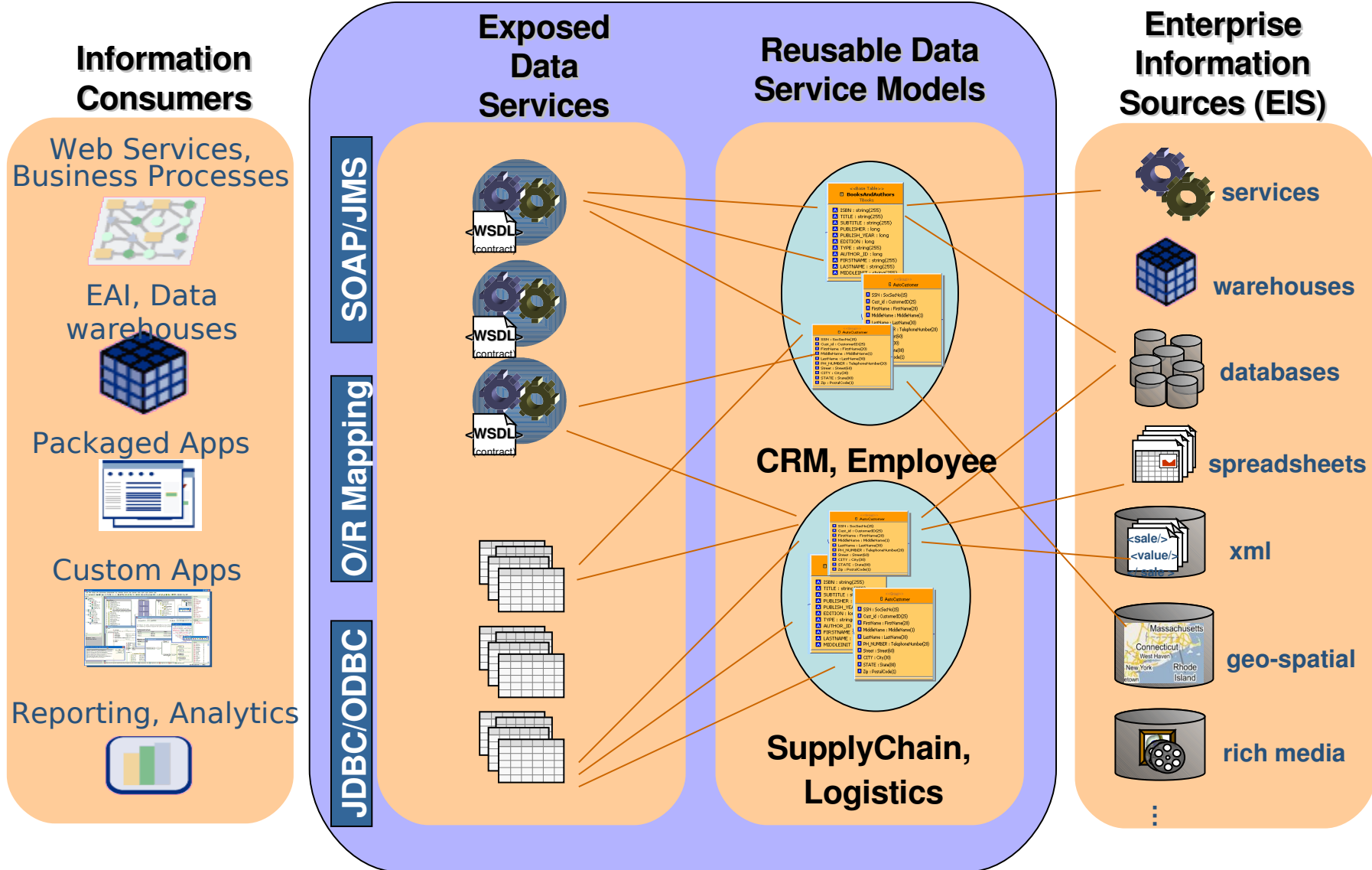
- All data is access via data services
- MetaMatrix provides abstraction – and logical data model for enterprise
- Expose data as Web services and SQL

Business Benefit

- All applications will “get” the same data through use of common model
- Easier to expose data to new applications
- Easier to make changes to data sources

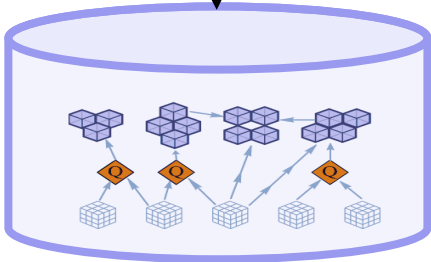
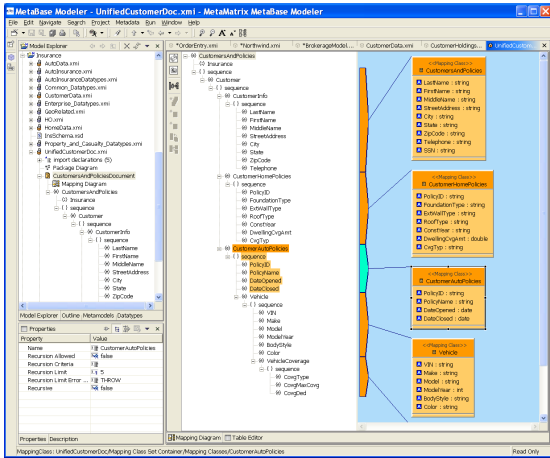


METAMATRIX: HOW IT WORKS



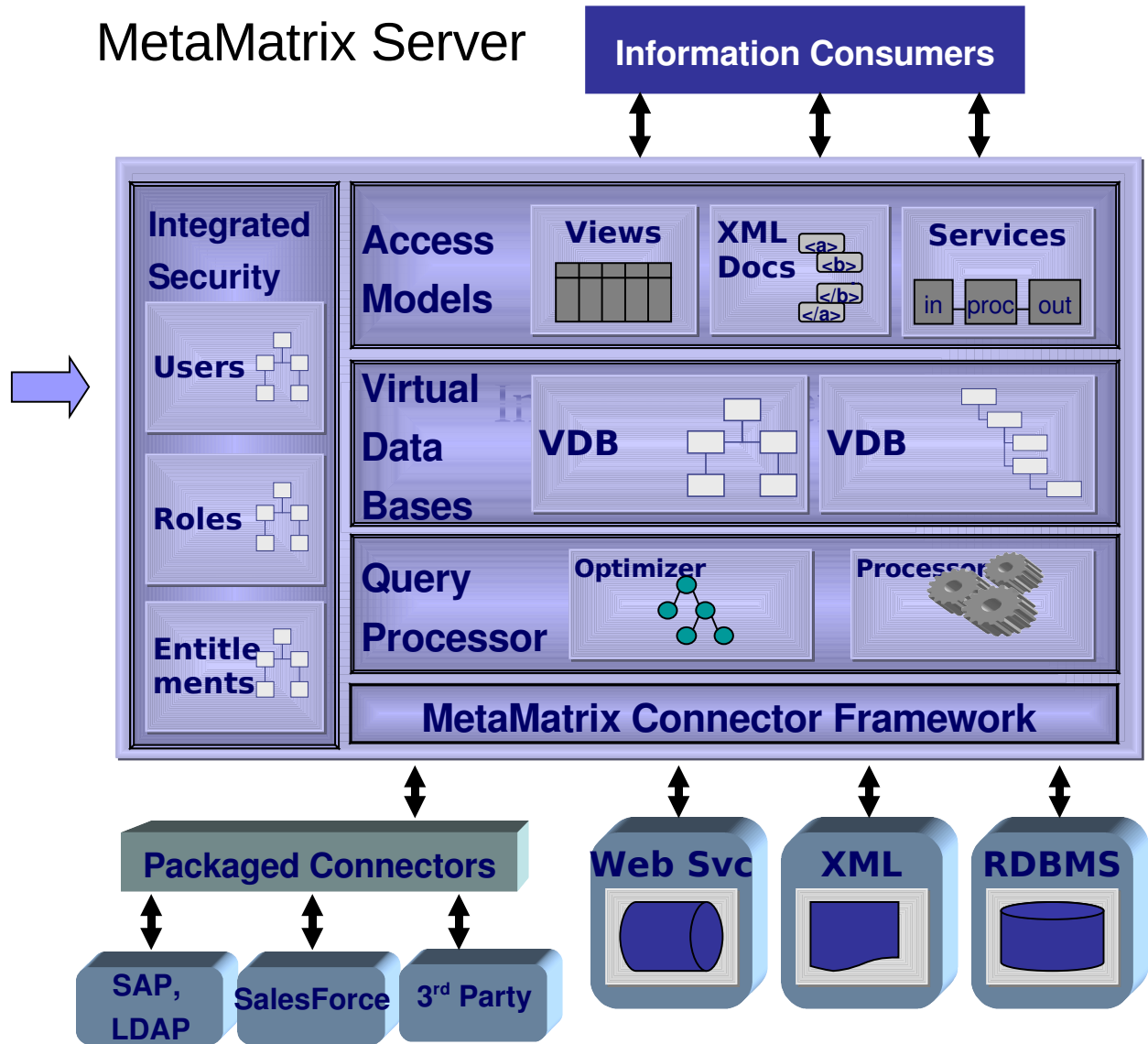
METAMATRIX ARCHITECTURE

MetaMatrix Designer

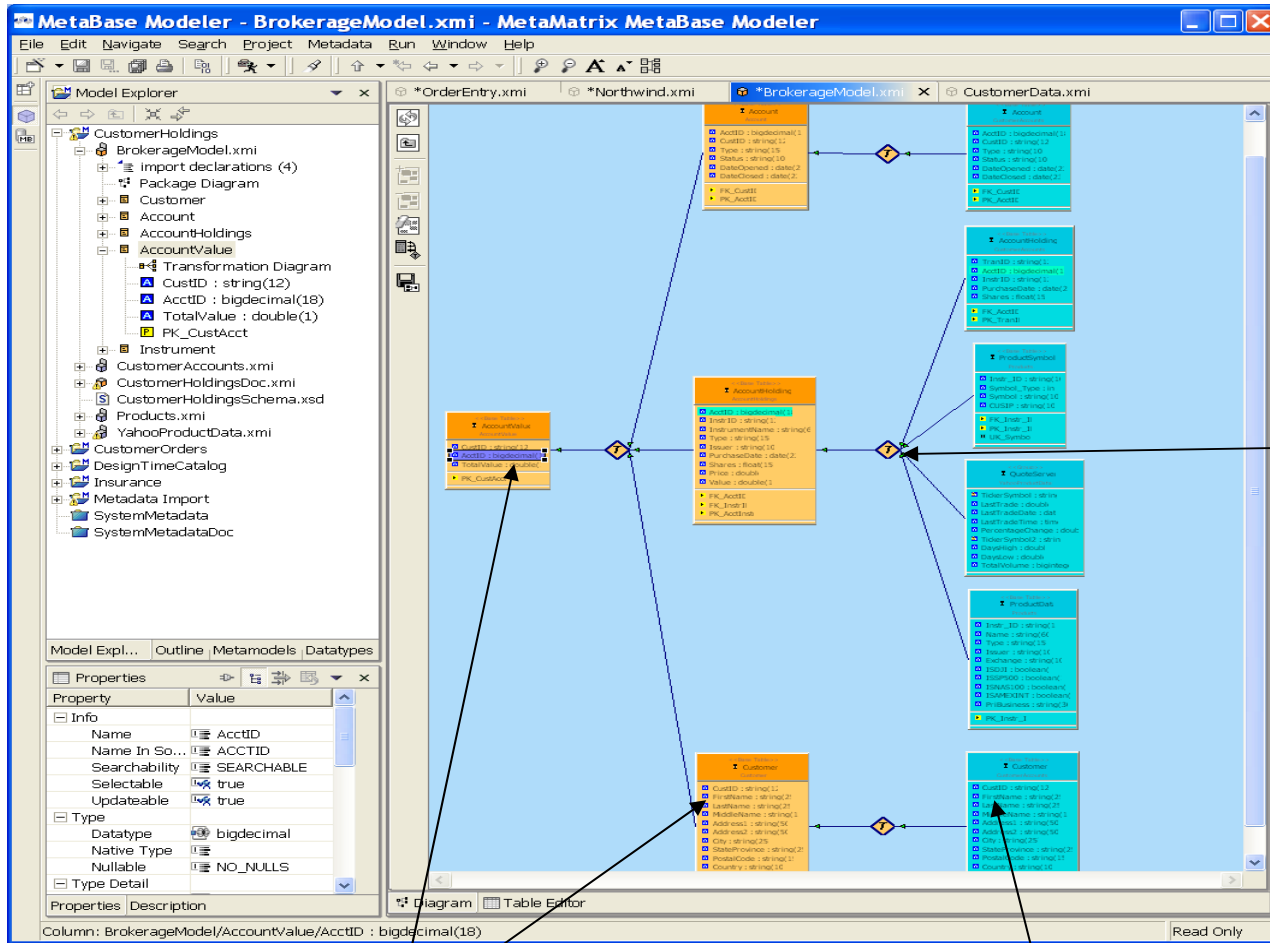


Metadata Repository

MetaMatrix Server



METAMATRIX DESIGNER



Models, not code

Transformations:

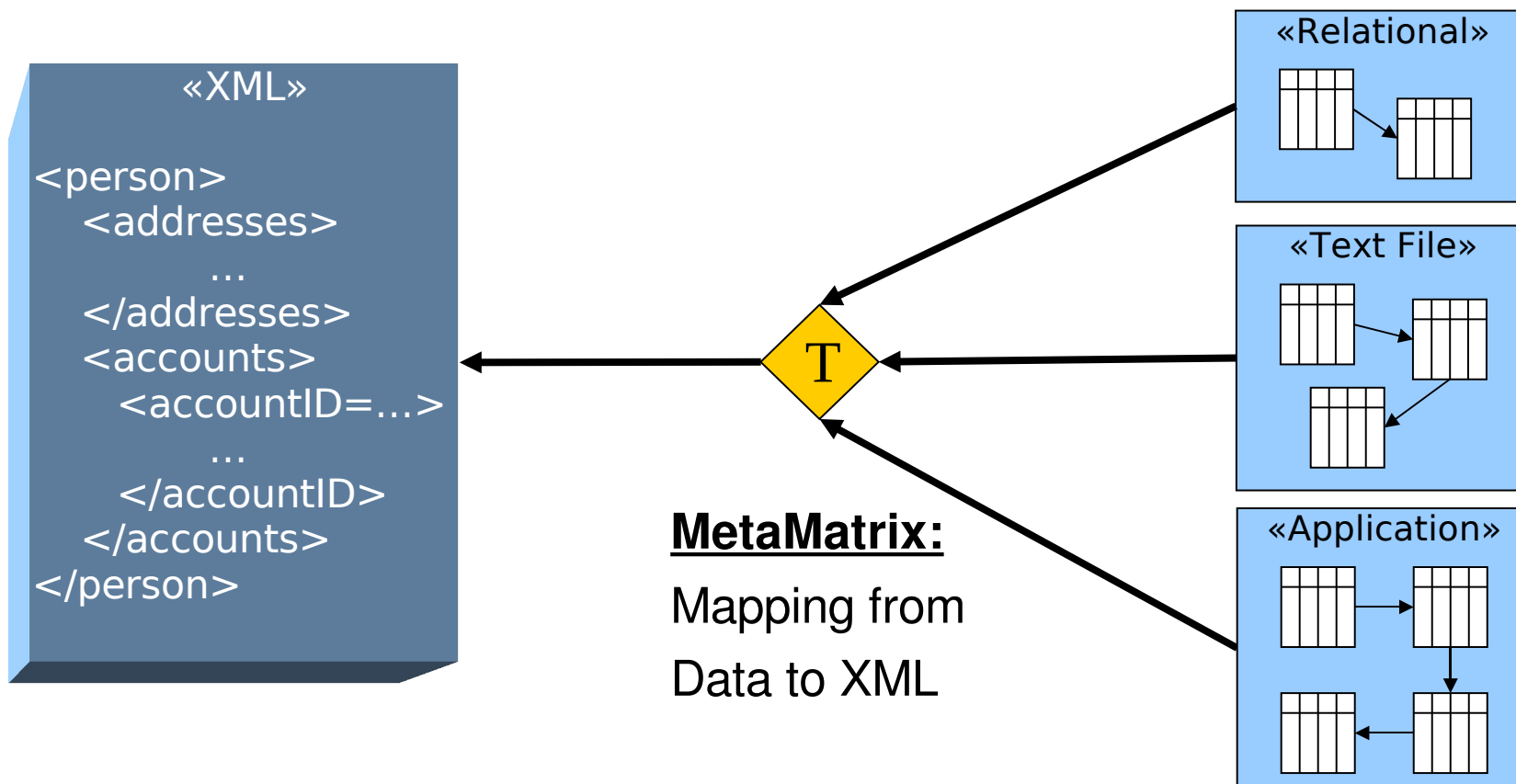
- Selects
- Joins
- Criteria
- Functions
- Unions
- User Defined

Virtual Models

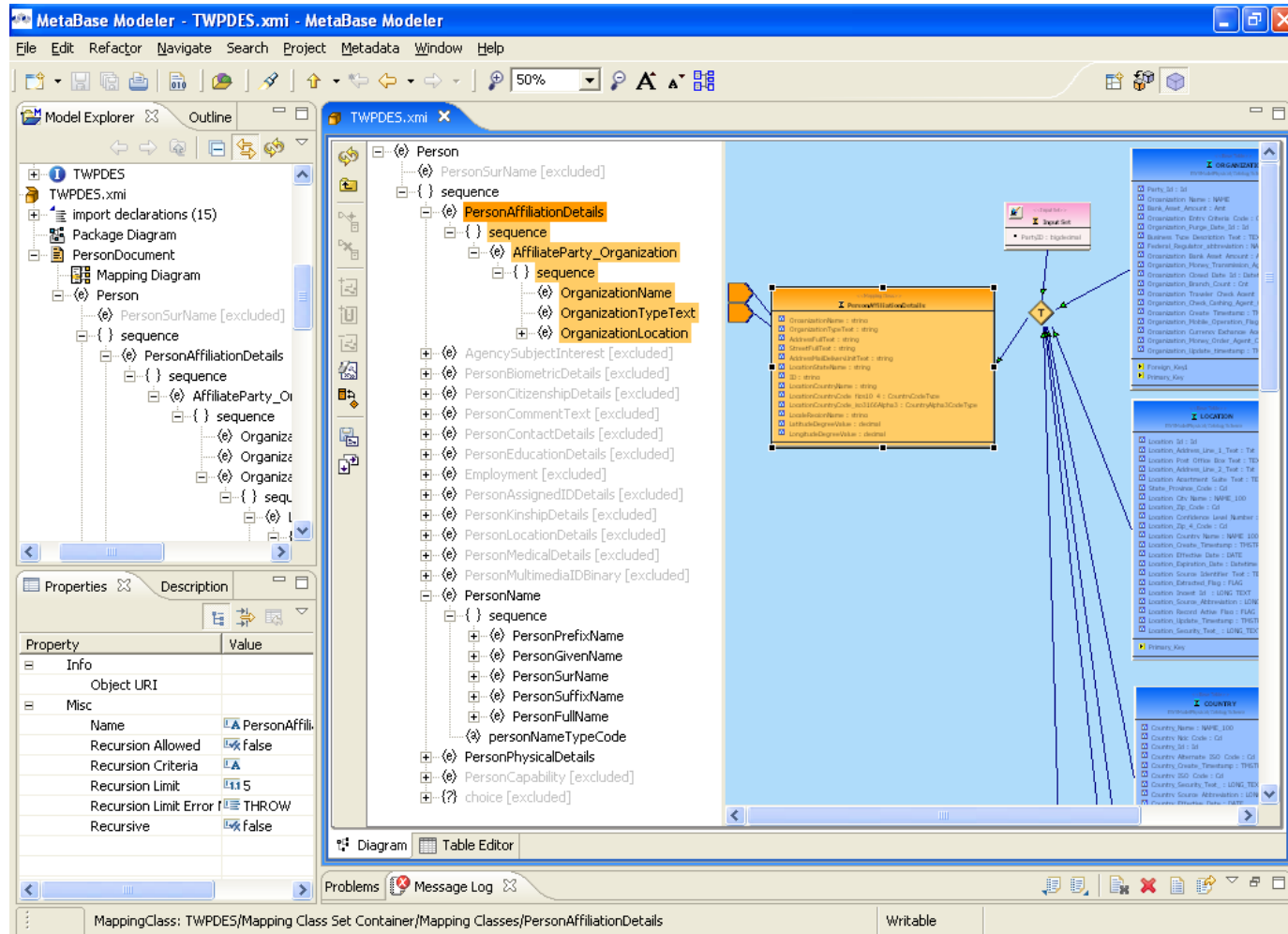
Physical Models Representing
Actual Data Sources

WEB-SERVICE ENABLEMENT OF LEGACY SOURCES

- Target: Fixed, potentially complex XSD
- Data must comply with schema
- Source: Disparate data resources that are typically structured/relational

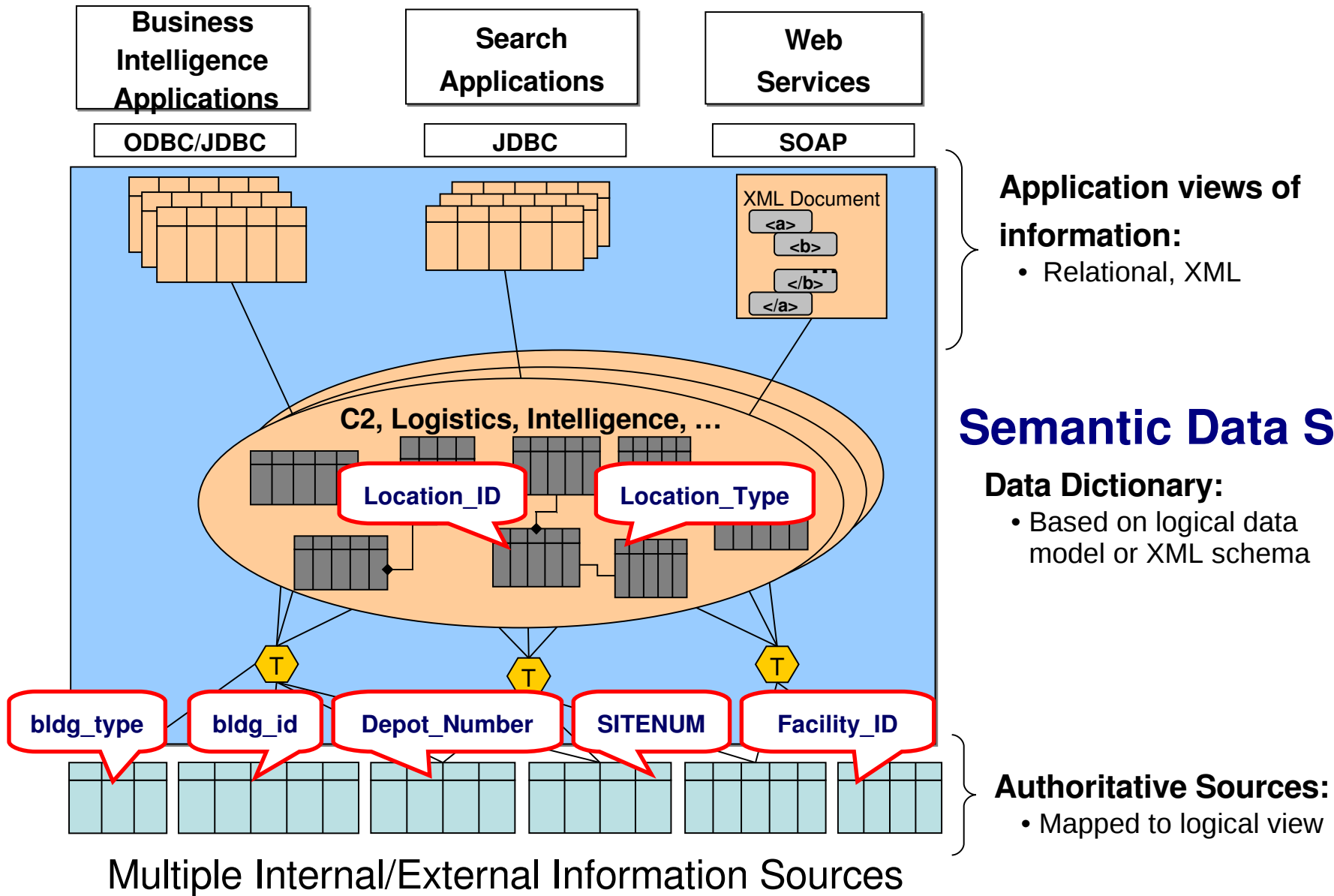


MAP DATA SOURCES TO XML AND DEPLOY



- Model XML docs, schema
- Build XML doc. models from schema
- Map XML doc. model to other data services models
- Enable data access via XML, but leverage the relational backend

SEMANTIC MEDIATION AND INTEGRATION



RED HAT :: BOSTON :: 2008

SUMMIT



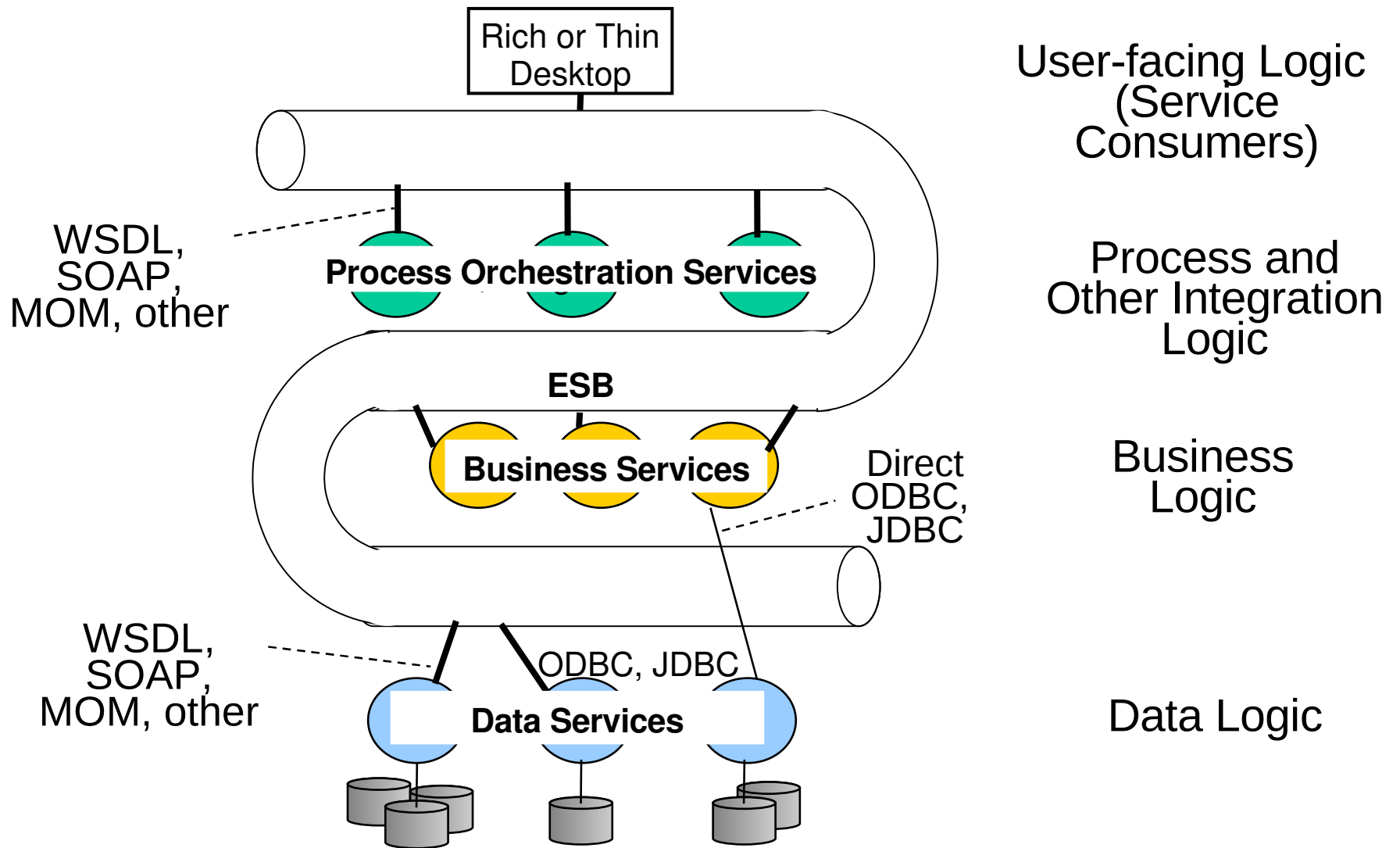
JUNE 18-20, 2008

DEMO

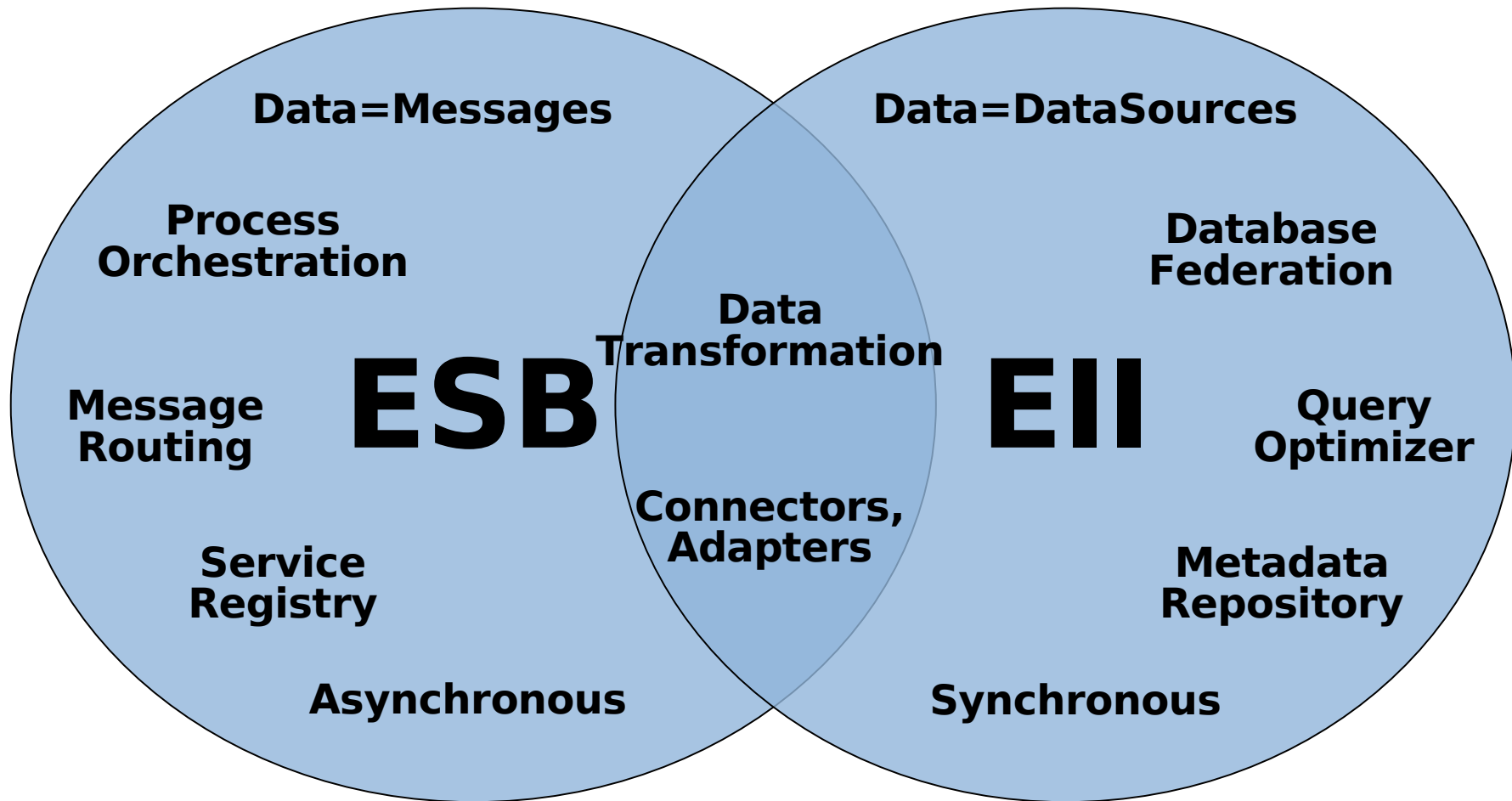
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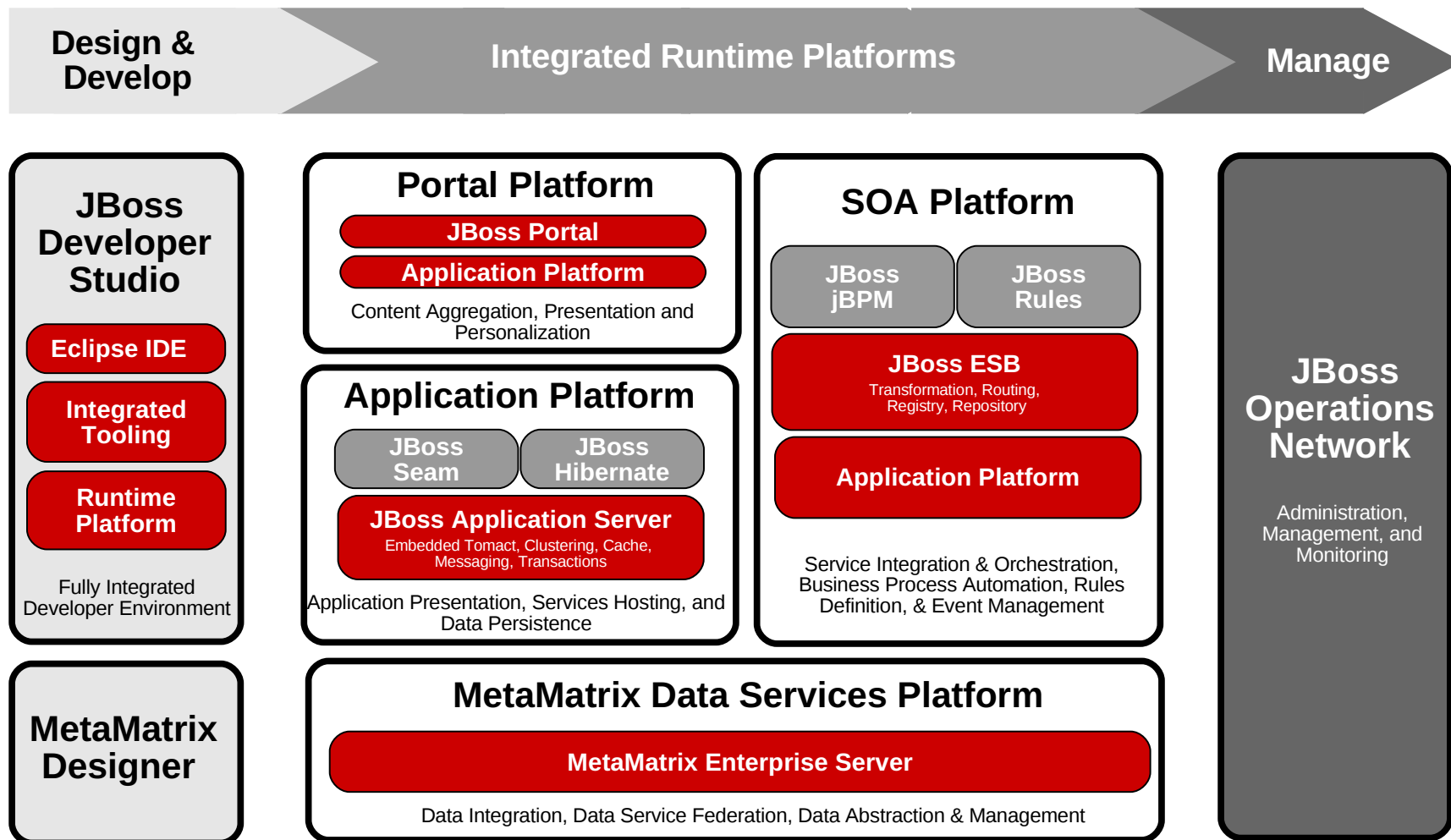
DATA SERVICES AND AN ESB



ESB – EII (DATA SERVICE) COMPARISON

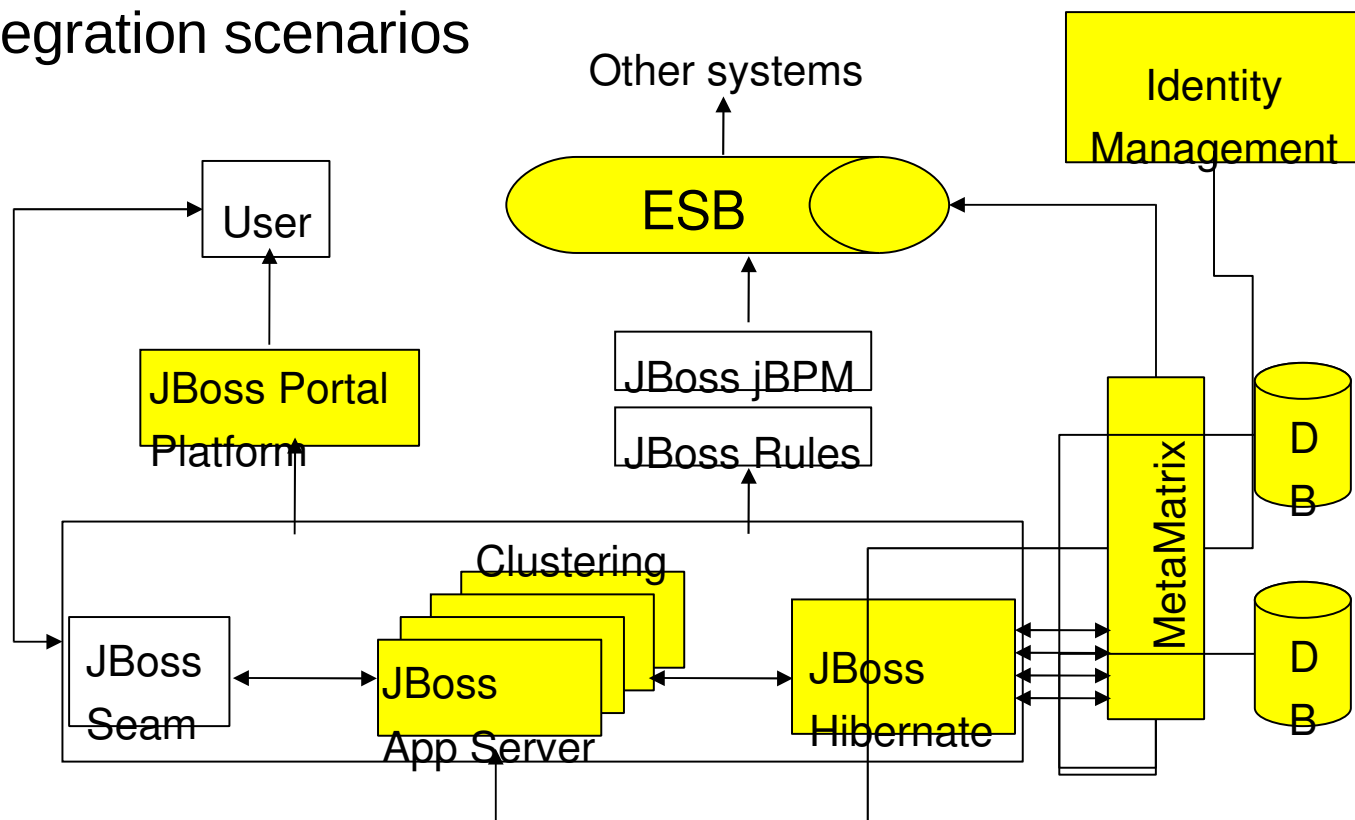


JBOSS ENTERPRISE MIDDLEWARE



METAMATRIX/JOSS FIT

- Makes it easier for Portal, Seam, Hibernate to talk to multiple DB's as if there were just a single DB
- Interface with Identity Management products to provide access control solution for distributed databases (“data firewall”)
- Interface with ESB, BPM, Rules to provide process-driven, event-driven data integration scenarios



OPEN SOURCE ROADMAP

- Next-generation version of MetaMatrix Repository already underway at jboss.org/dna
- The rest of the components (modeler, query engine, server) are scheduled to go open by end of CY08
- Pricing/support will not change during this transition
- Enterprise version will always have greater integration/functionality than open source bits
 - Third party add-ons
 - Extensive integration, testing, certification
 - World-class support

SUMMARY

- On-demand access to distributed information
 - Real time integration of diverse data assets
 - Avoid unnecessary data duplication, data owners retain control
- Reduced application lifecycle costs
 - Metadata-driven means data integration in days, weeks
 - Metadata models reduce “long tail” of application maintenance
- Improved agility for enterprise data assets
 - Abstraction of physical data sources enables database migration/consolidation
- Enabling SOA in an evolving world
 - Consume and produce Web services
 - And still provide full support for ODBC, JDBC, and legacy