JBoss SOA Platform

(jBPM, Drools, ESB)

MetaMatrix Data Services Platform

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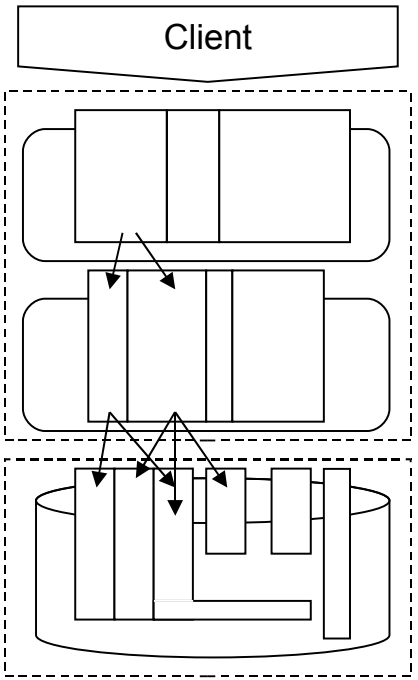
Today's Agenda

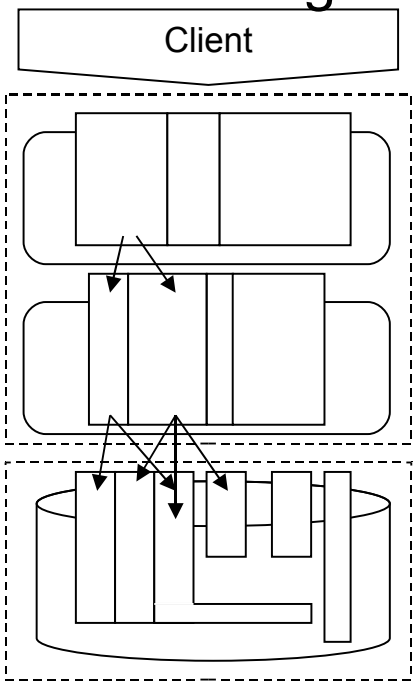
- Understanding the "Big Picture" for JBoss SOA Technology
- SOA Platform Packaging, Containers & Capabilities
    - Demo 1: BPM and ESB for Service & Human Orchestration
- MetaMatrix Overview
    - Demo 2: MetaMatrix Data Services
- Roadmap & Futures
- Summary
- Q&A

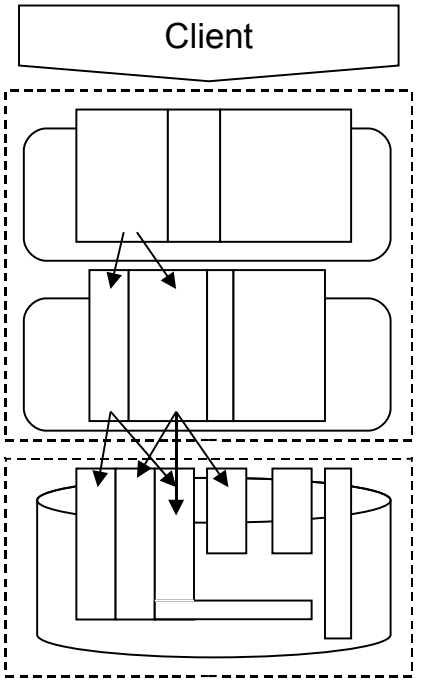
Silos Across the Enterprise



CRM
Ordering

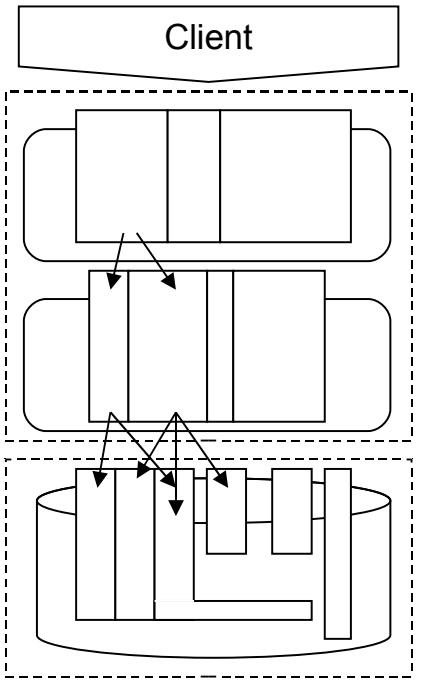
Accounting



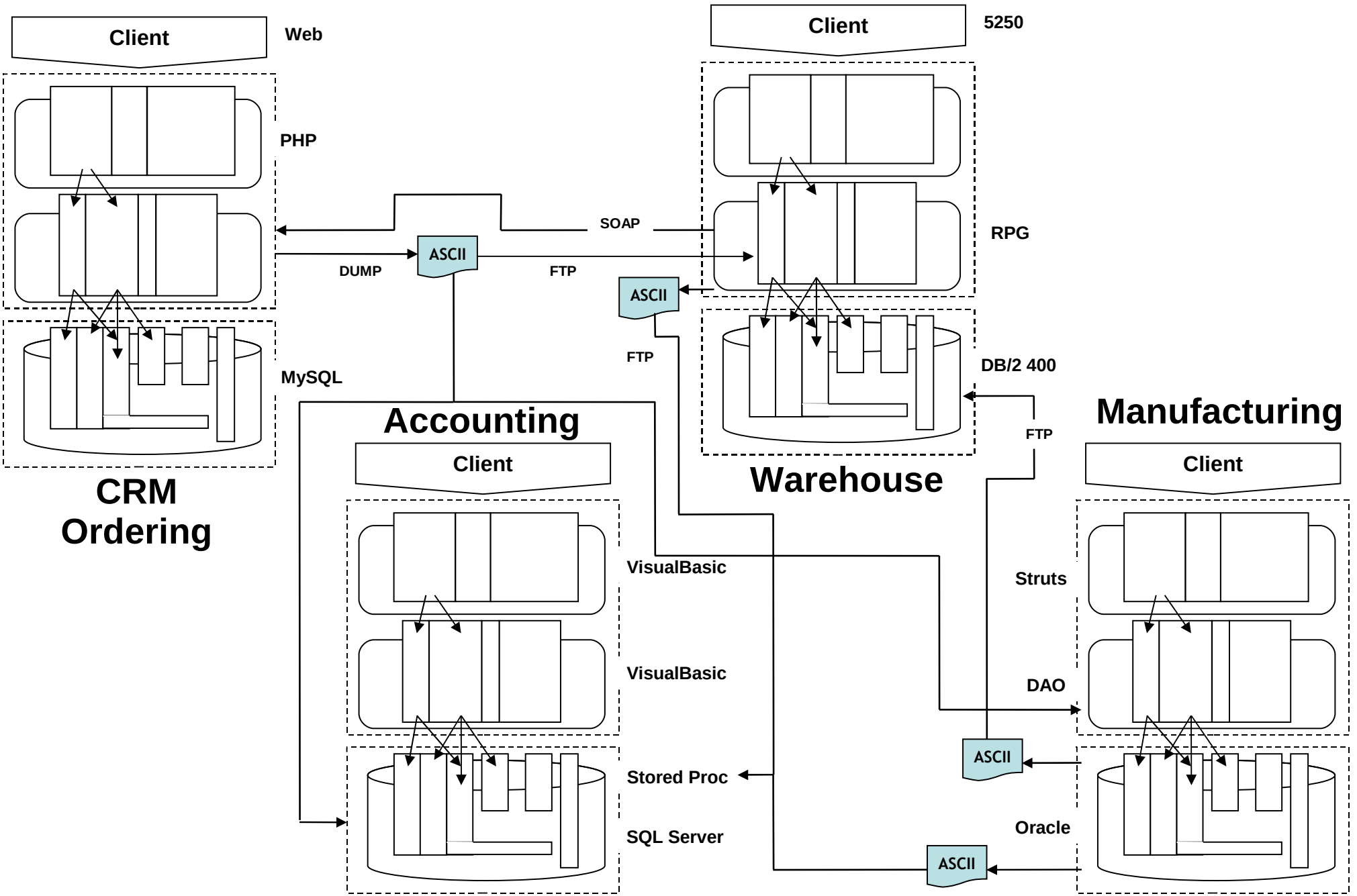


Warehouse

Manufacturing



Silo Purgatory



Swivel Chair Integration

Modern organizations are using FTP and custom socket code
but the last resort is to simply re-key the data!

Integration Prior to SOA

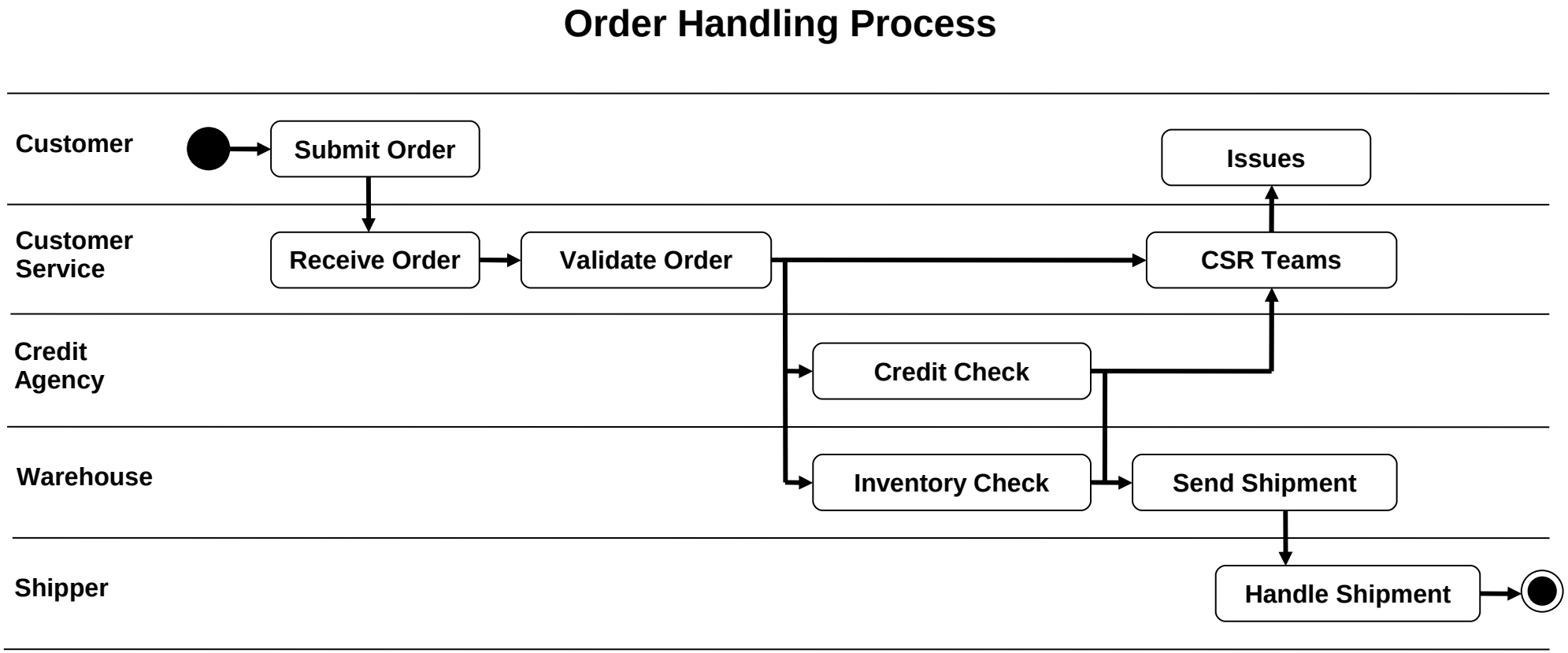
1. File Transfer (FTP)
   - Send the same file, changed records multiple times
2. Shared Database
   - Triggers and/or Stored Procedures
3. Remote Procedure Invocation/Call
   - RMI, CORBA
4. Various Messaging platforms
   - MQ Series
5. EAI Brokers

SOA Stages of Adoption

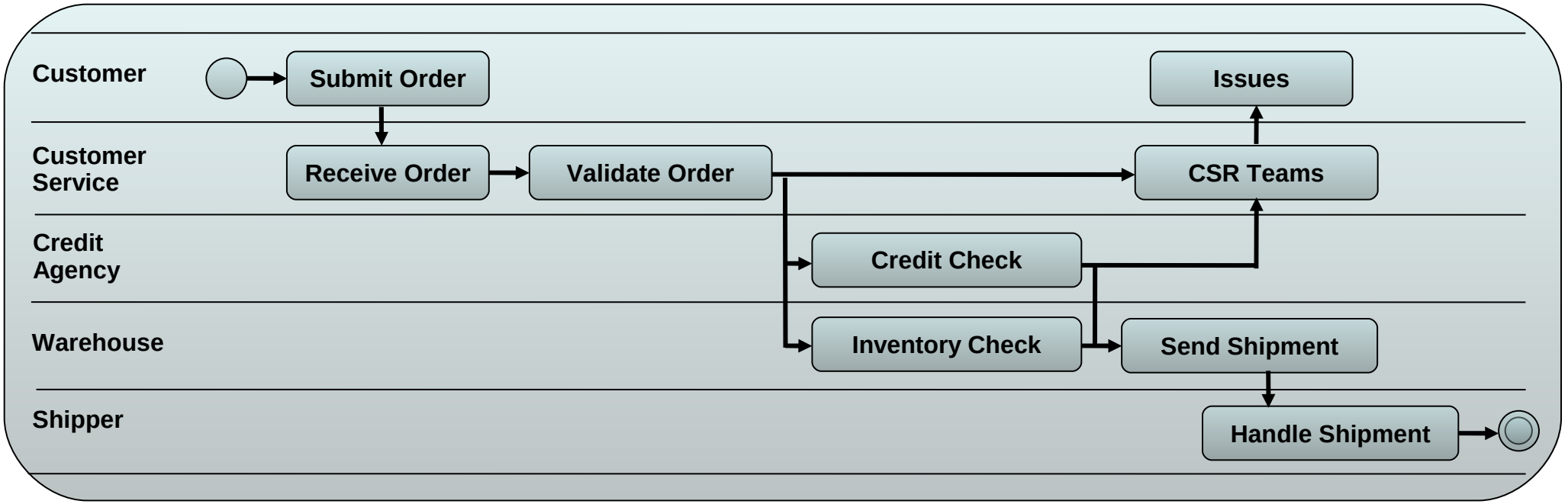
1. Design/Determination
   - Should everything be a service?
- Enablement (Java EE, .NET, various)
- Infrastructure (Registry, Management, ESB)
- Orchestration/Composition
  - BPEL
  - Transformation
  - Routing
  - Integration: Data, Application, Process
- Dynamic Discovery and Real-Time Governance
- Event-Driven (EDA)

Self-aware software components that dynamically orchestrate themselves into composite applications that meet all policies and SLAs automatically

Workflow and Orchestration



Service Oriented Orchestration and Integration



SOA Platform Orchestrates Processes & Integrates Services

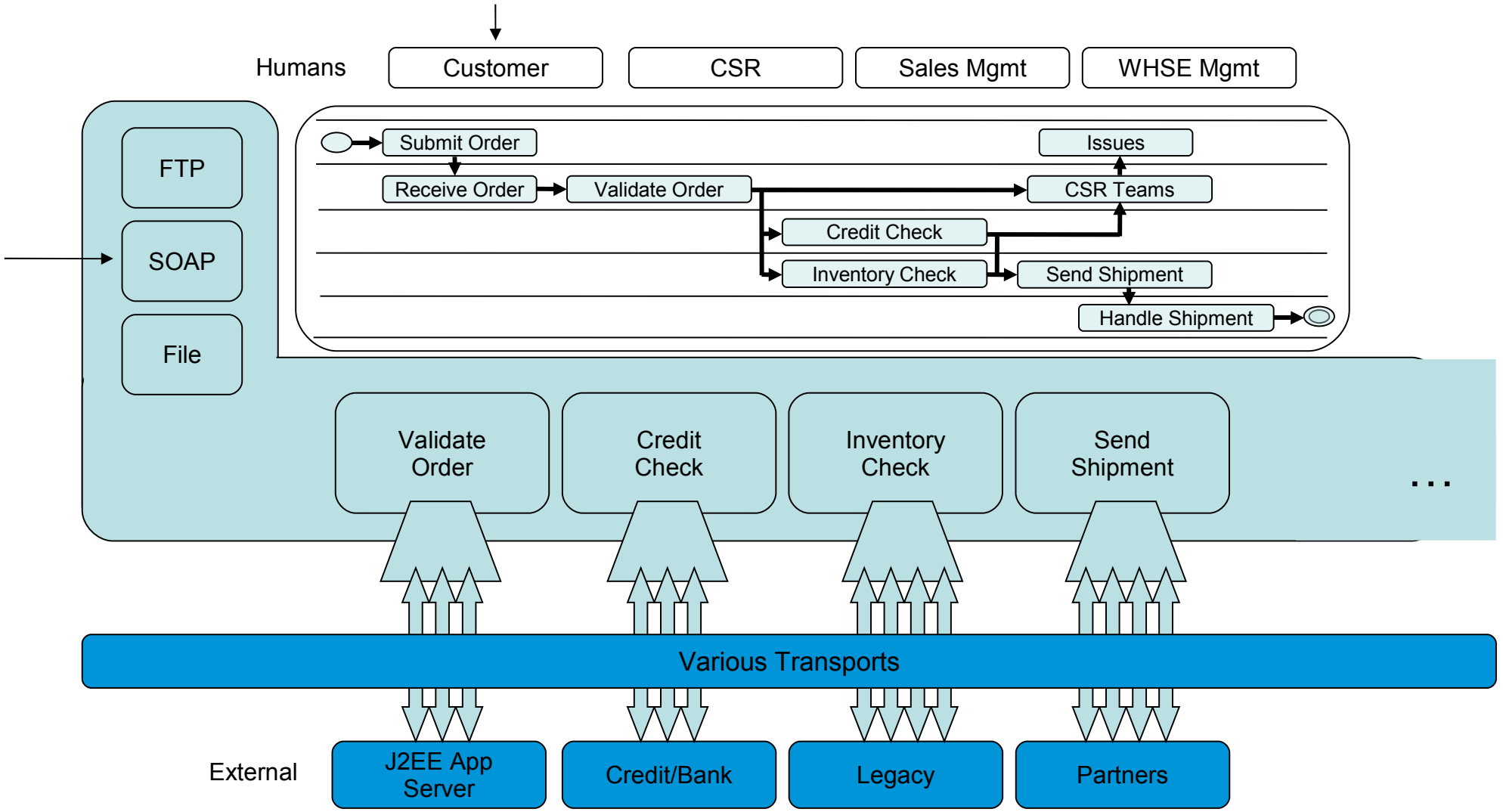
Validate Order
- a Parse XML
- b Transform
- c Apply Business Rules

Credit Check
- a Create Outbound Msg
- b Handle Response
- c Apply Business Rules

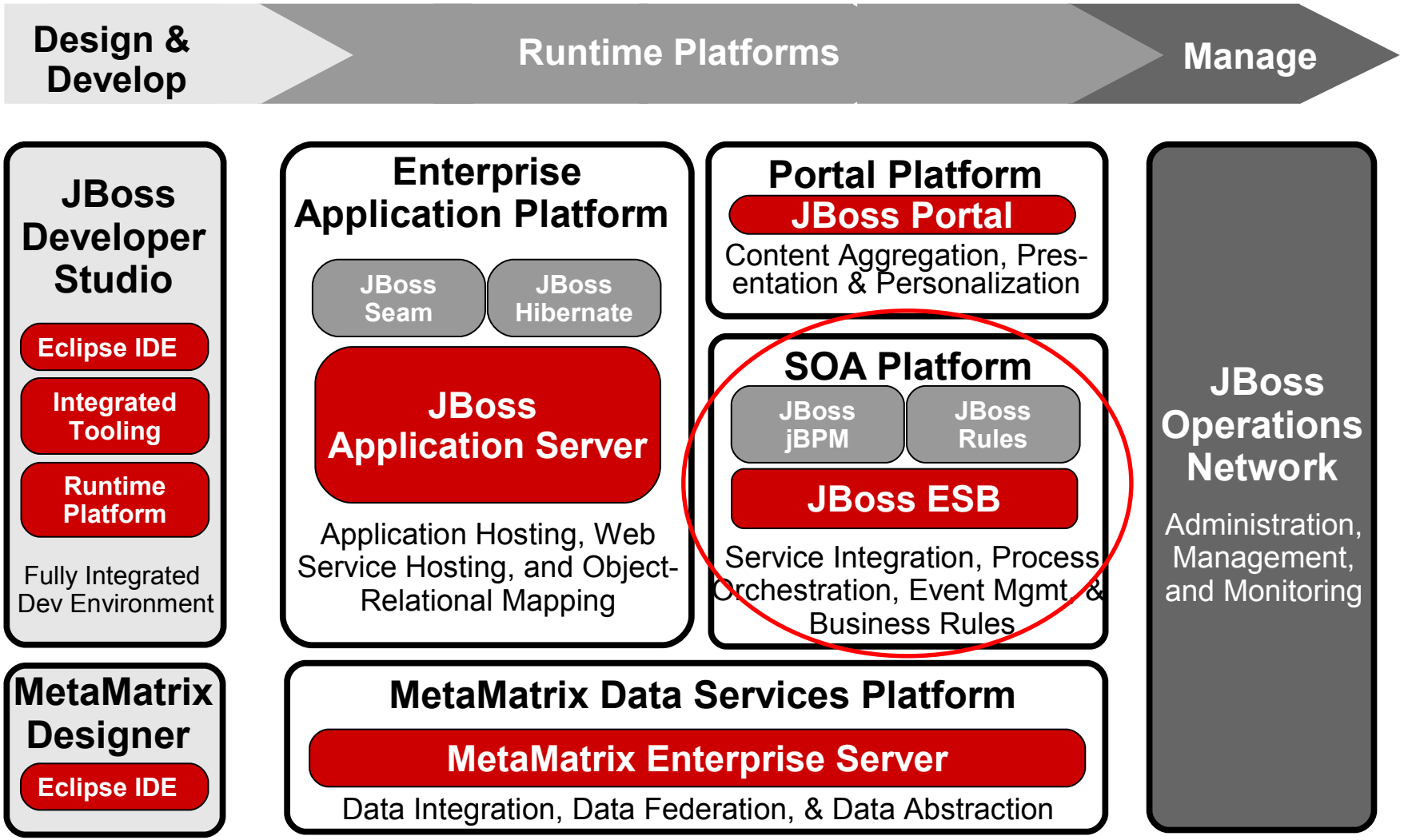
Inventory Check
- a Send to N Warehouses
- b Handle N Responses
- c Determine Best WHSEs
- d Handle Drop-Ships

Send Shipment
- a Determine Shipper(s)
- b Print Labels
- c Print Pick Tickets
- d Create & Send ASNs

ESB and BPM Synergy

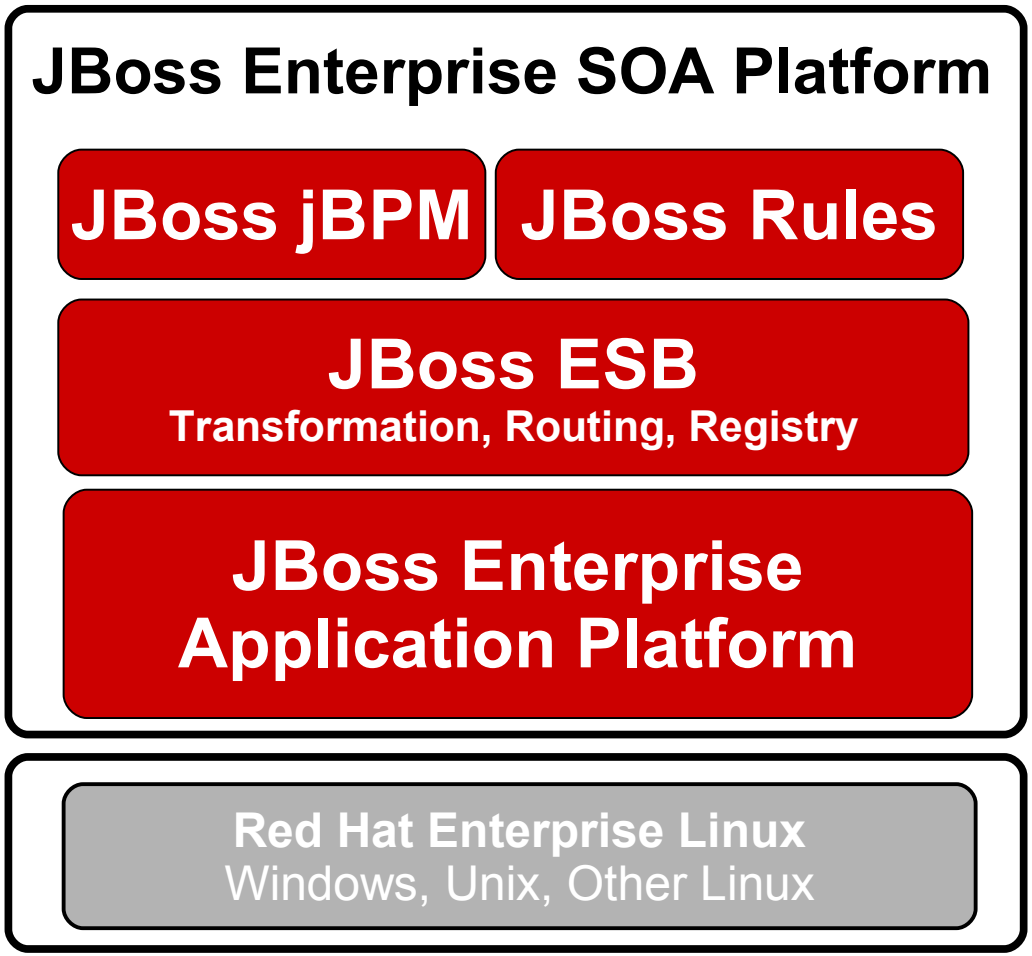


JBoss Enterprise Middleware



JBoss Enterprise SOA Platform

- Enables business execution improvement by integrating and orchestrating application components and services running on JBoss Enterprise Middleware and/or any other standards-based application platform
- Certified Platform for Service Integration & Orchestration
- Simple, Flexible, & Scalable
- Certified updates, Customer Support Portal, JBoss Operations Network, etc...



A flexible, standards-based platform to integrate applications, SOA services, business events and automate business processes

JBoss Enterprise SOA Platform Partners

Now | Future | Partners

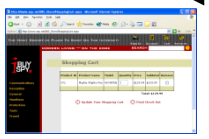
Event Listeners and Actions

Transports

HTTP(S)
(S)FTP
File
JMS
Email
SQL
Hibernate
JCA/Inflow
Socket
SOAP
Seam
EJB
Native

ASCII
XML
Binary

Microsoft Visual Studio
Excel
Browser



ESB Architecture

VITRIA
AMBERPOINT
SOA software™

Transformation | Routing | Security | Governance

JBI
ESB
JBI

Service Registry
UDDI v3
Message Store
Orches-tration Engine
BPEL
jPDL
Process Store
Event Notification
BAM CEP

active endpoints
SeeWhy™ INSTANT INSIGHT

Business Services within a container or standalone

Business Service Components

Java EE 5
Web Services
EJB
Seam
JCA
POJOs
Drools
Spring
Groovy

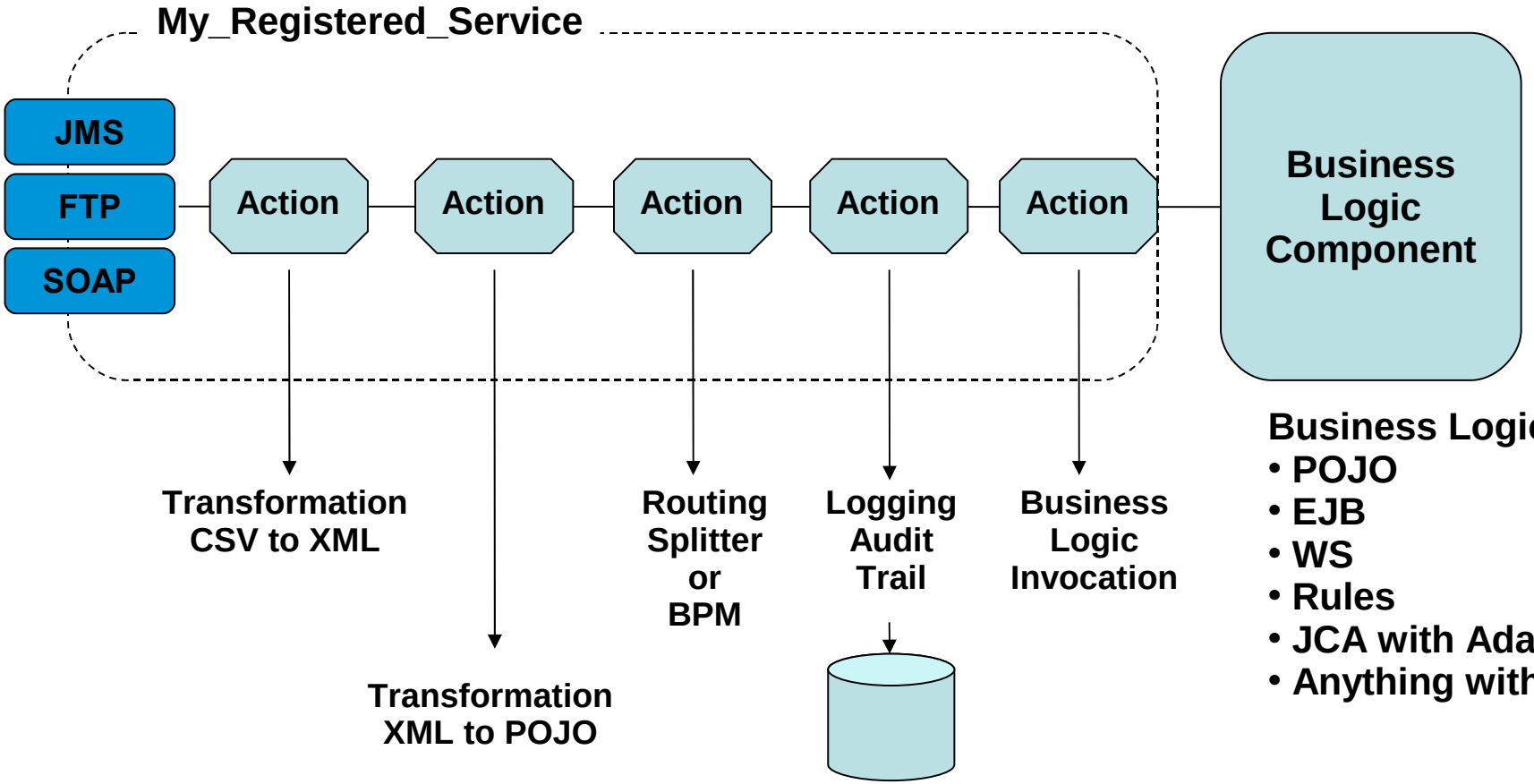
iWay Software

Service Component Architecture
Service Data Object

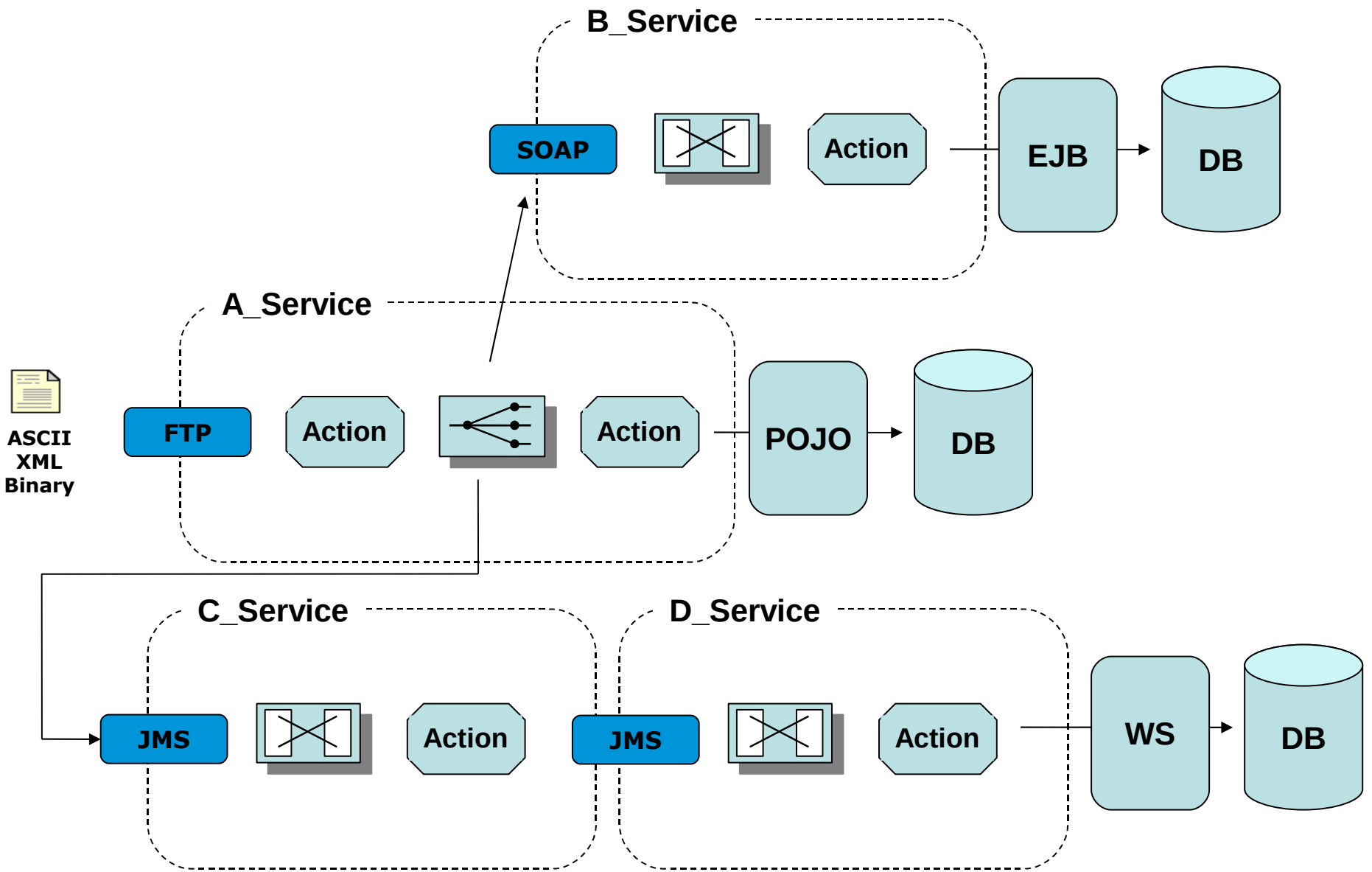
MetaMatrix
Data Sources
Business Data
RDBMS
Legacy
COTS

The Action Chain

Actions are reusable mediation components that can be chained together to form the capabilities of a registered service. Actions can be dynamically added/removed at runtime.



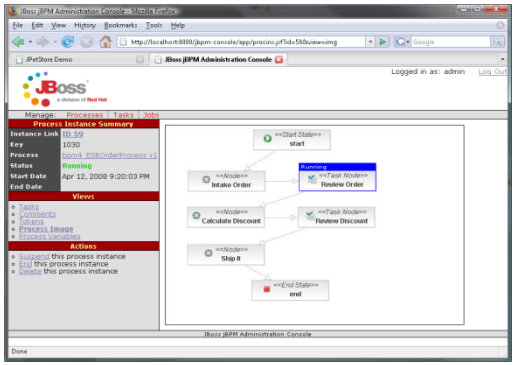
Services & Actions

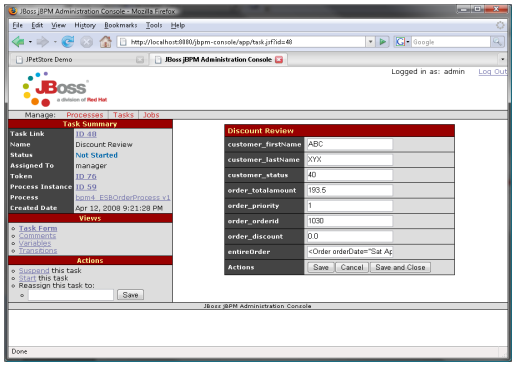


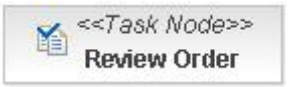
Demo 1

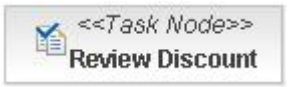
BPM and ESB for Service & Human Orchestration

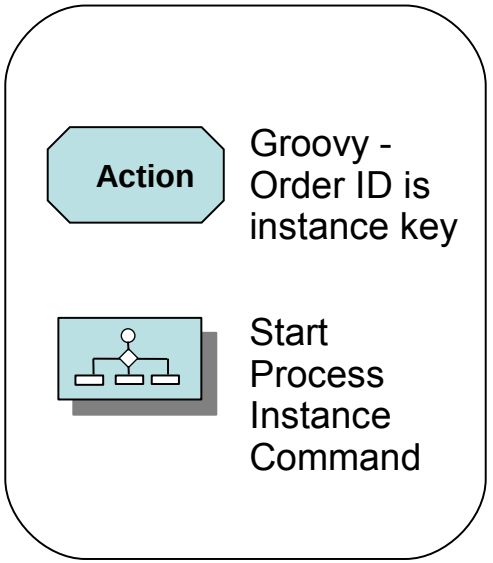
ESB & BPM - Demo Explanation

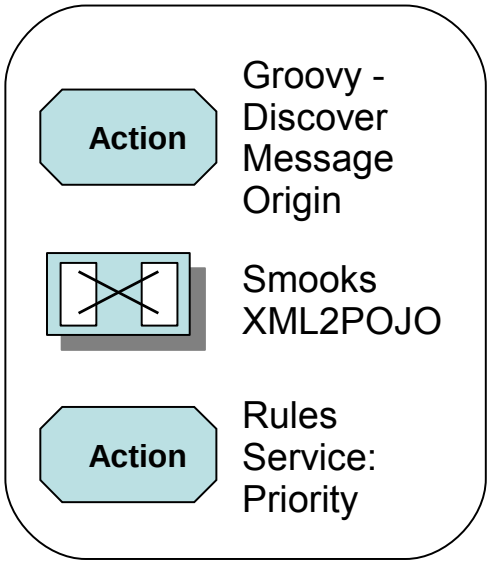


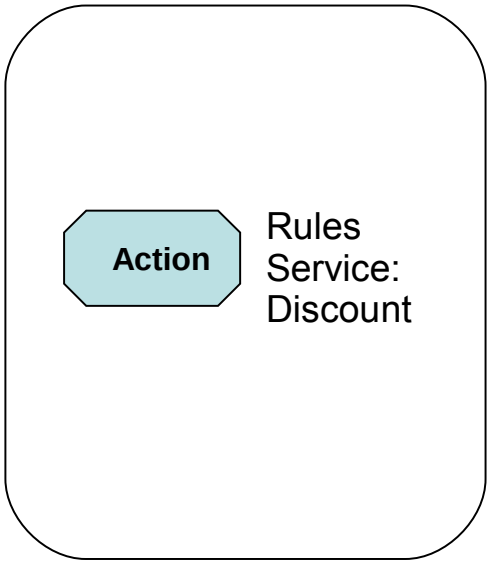


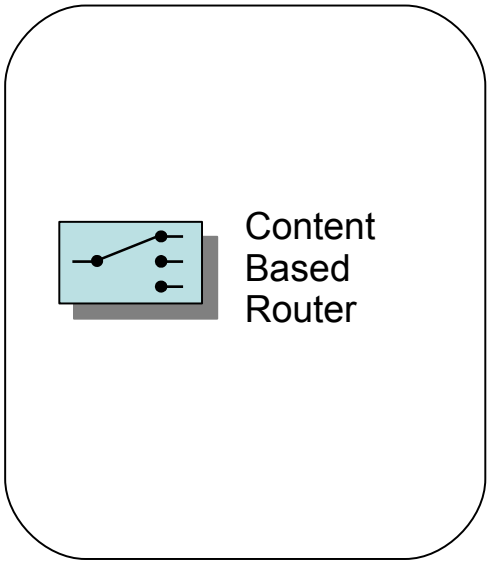








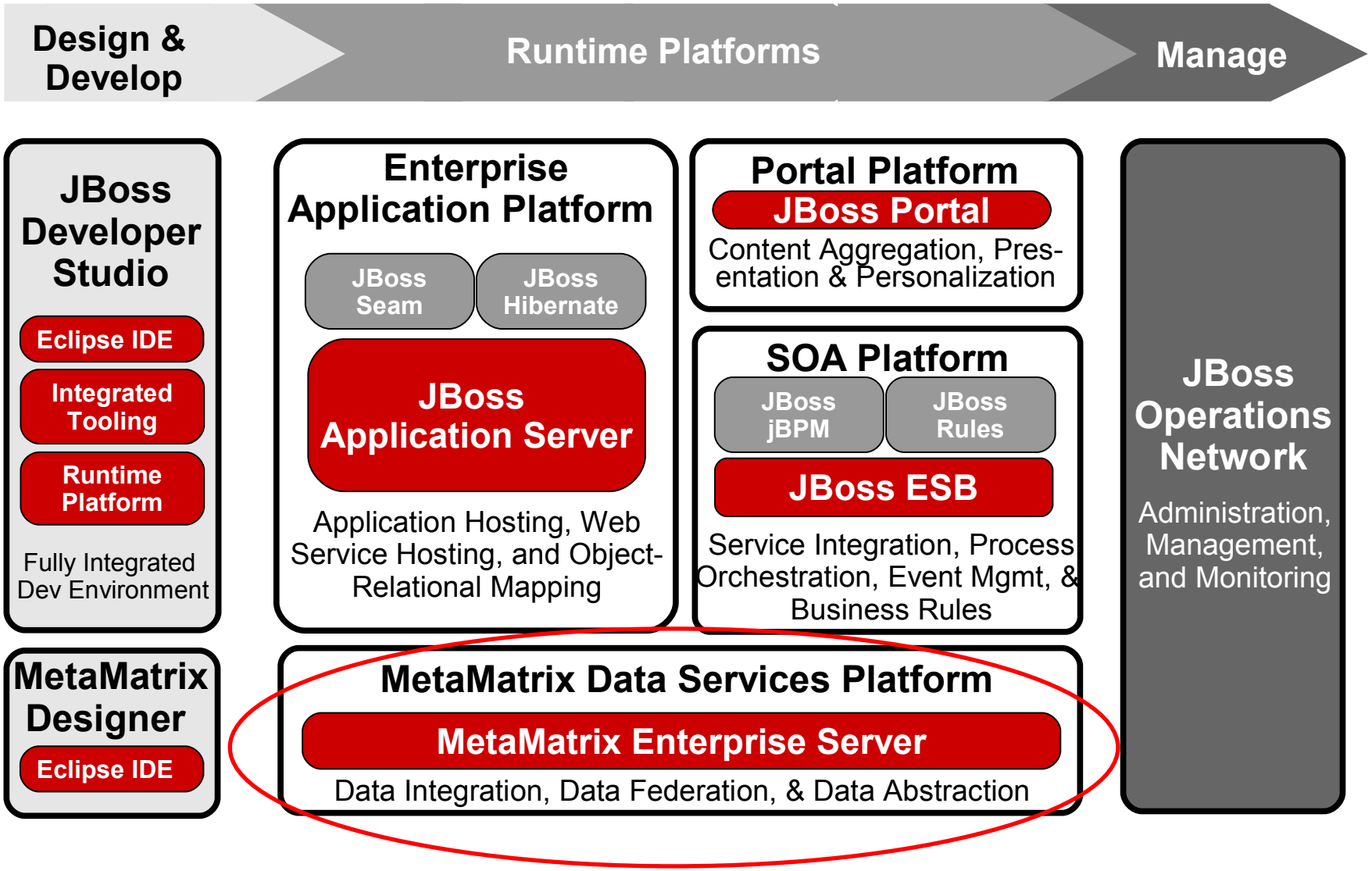




JBoss SOA Platform Summary

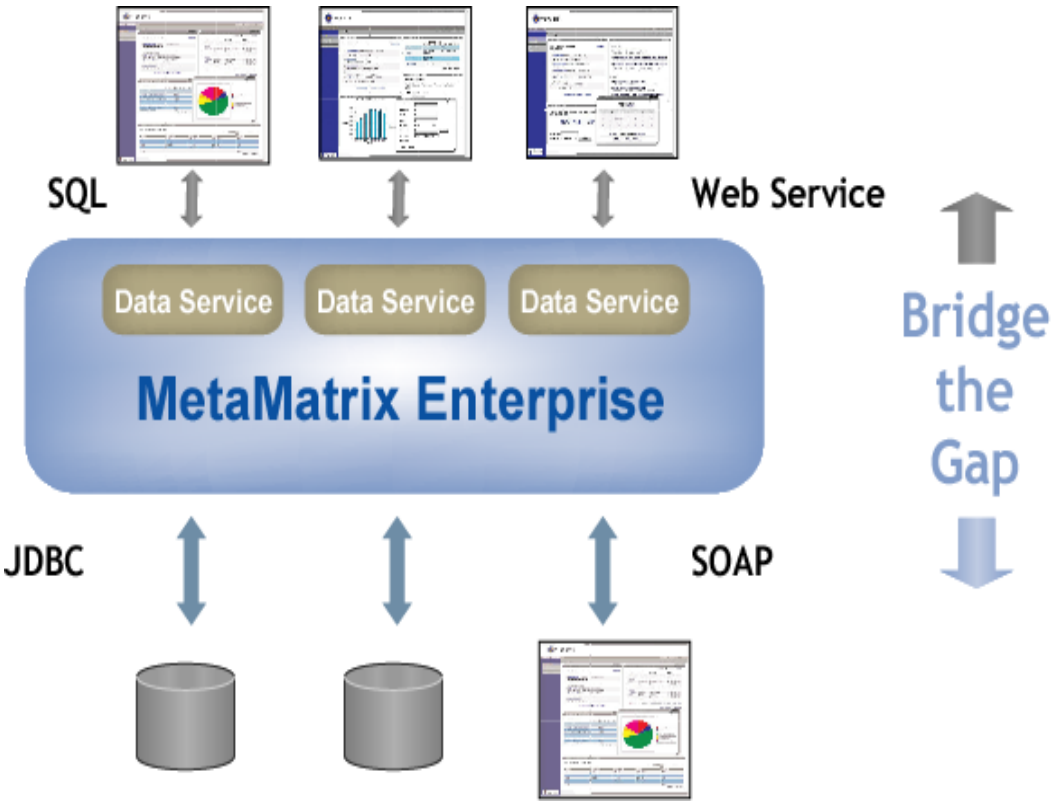
- Orchestration engine for both declarative service flow and human-task management
- RETE-based rules engine for Content Based Routing, Event Filtering and event-based data manipulation in the form of Business Rules Services
- Built-in clustering JMS 1.1 certified broker
- Built-in fragment-based transformation solution
- Built-in UDDI-based registry (with auto-registration)
- Built-in JAX-WS certified web service stack
- Based on the JMX-Microkernel - plug & play of services
- Federated monitoring/management architecture
- Service-level Load Balancing & Fail-Over

JBoss Enterprise Middleware



MetaMatrix: What It Does

- Turns the data you have into the data you want
- Speeds application development by simplifying access to distributed data
- 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 Use Cases

Reports, Business Intelligence, Portal

- Consolidated financial reports/dashboards
- Consolidated sales reports

Master/Reference Data Management

- Single View of Customer - CRM
- Single View of Product
- Single View of Employee – HR consolidation

Regulatory Compliance

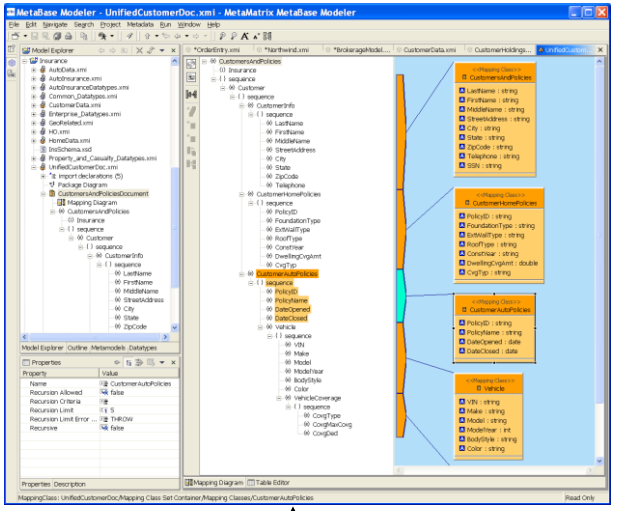
- Provide common security and control for data
- VISA PCI, Basel II, Sarbanes Oxley, Patriot Act

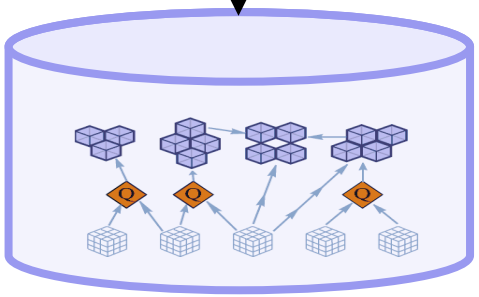
SOA

- Make data available to SOA environment

MetaMatrix: How it Works

MetaMatrix Designer





Metadata Repository

Information Consumers

MetaMatrix Server

Integrated Security

Users

Roles

Entitlements

Access Modes

Views

XML Docs

Services

in proc out

Logical Data Model

VDB

VDB

Query Engine

Optimizer

Processor

MetaMatrix Connector Framework

Packaged Connectors

Siebel, SAP

People soft

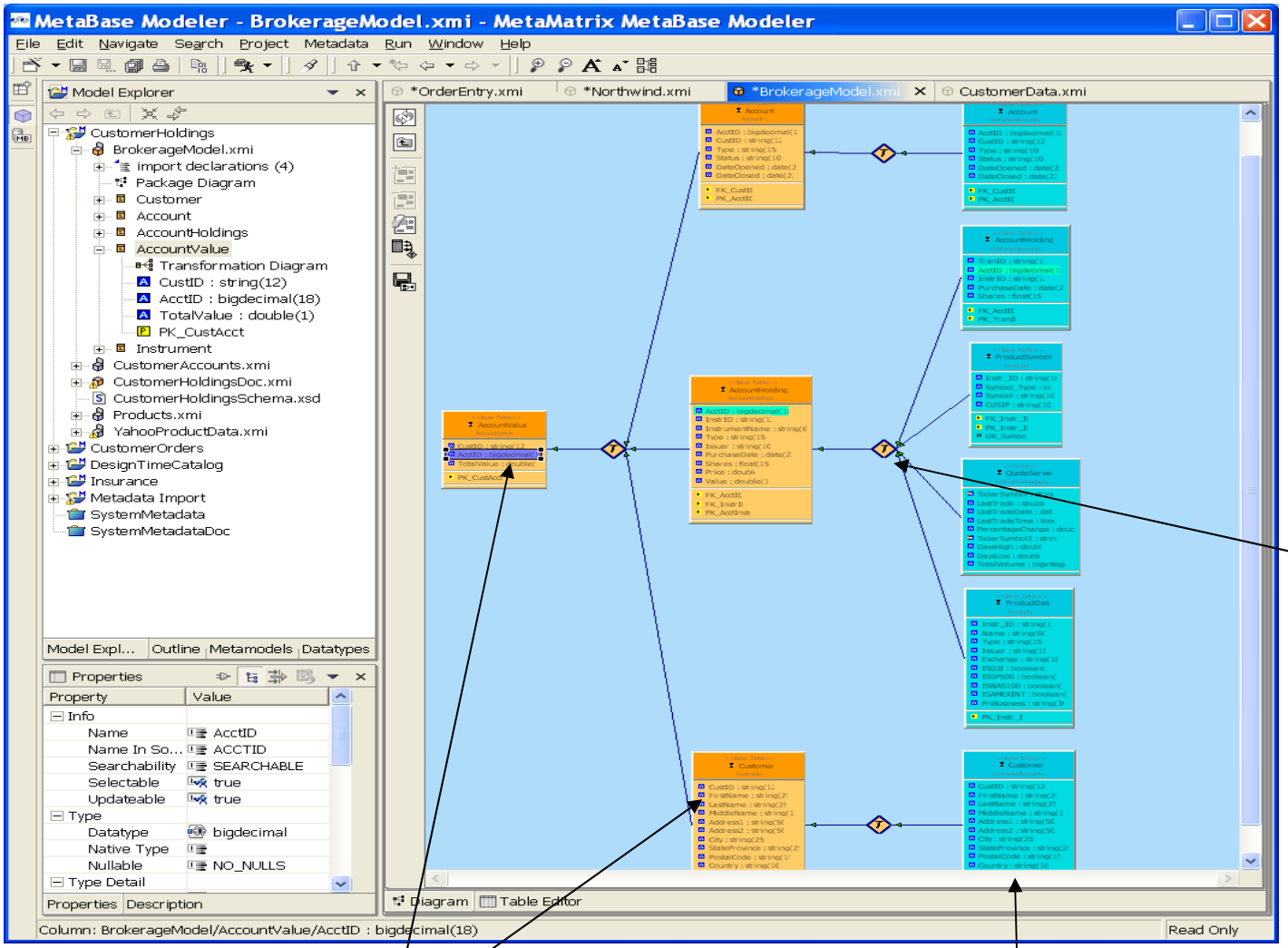
Main frame

Web Svc

XML

RDBMS

Enterprise Designer: How it Works



Defined by Models, not code

Transformations:

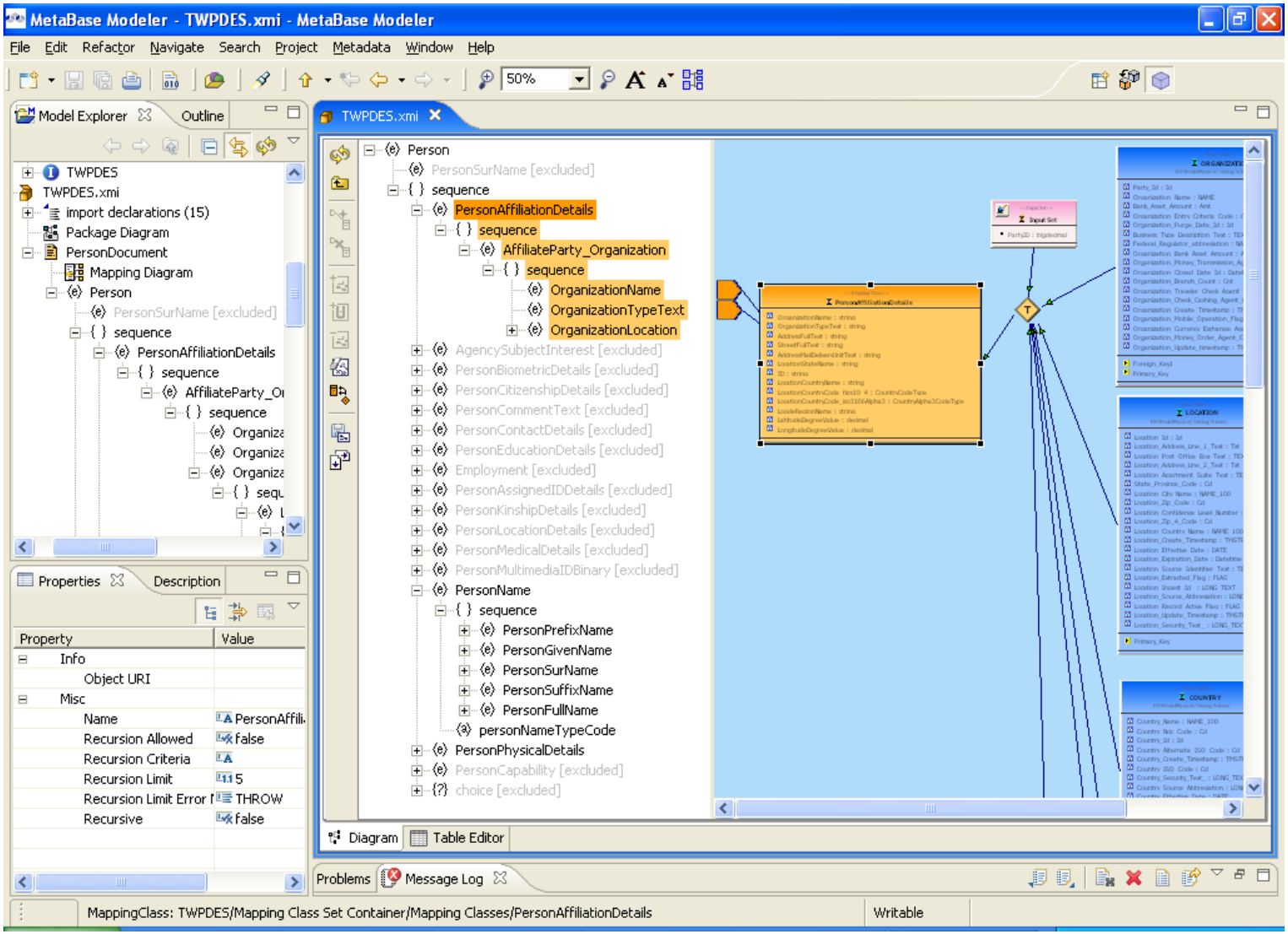
- Select
- Join/Aggregate
- Filter
- Functions
- Text/String
- Numeric
- Decode
- User Defined

Logical Models

Physical Models representing actual data sources

Map Data Sources to XML

MetaMatrix Designer – for XML-centric Data Services



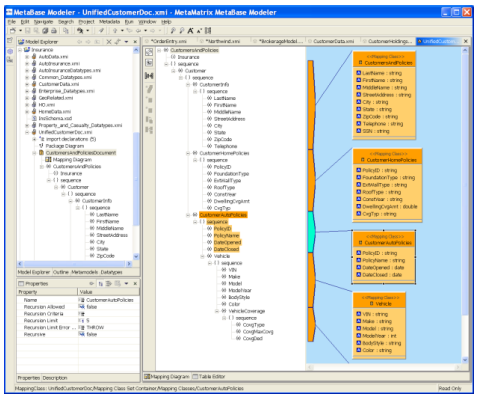
- Model XML Docs, Schemas
- Build XML Doc. models from XML Schemas
- Map XML Doc. models to other data models
- Enable data access via XML

Demo 2

MetaMatrix Data Services

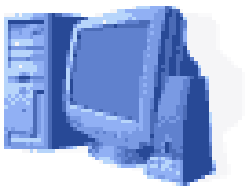
MetaMatrix Demonstration

Multi-source database queries
- Relational views
- XML Views



MetaMatrix Designer

Virtual Database (MetaMatrix Server)



Stock Quotes (Yahoo)

European Customer Accounts (mySQL)

US Customer Accounts (Oracle)

Customer Master (mySQL)

Products (Oracle)

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