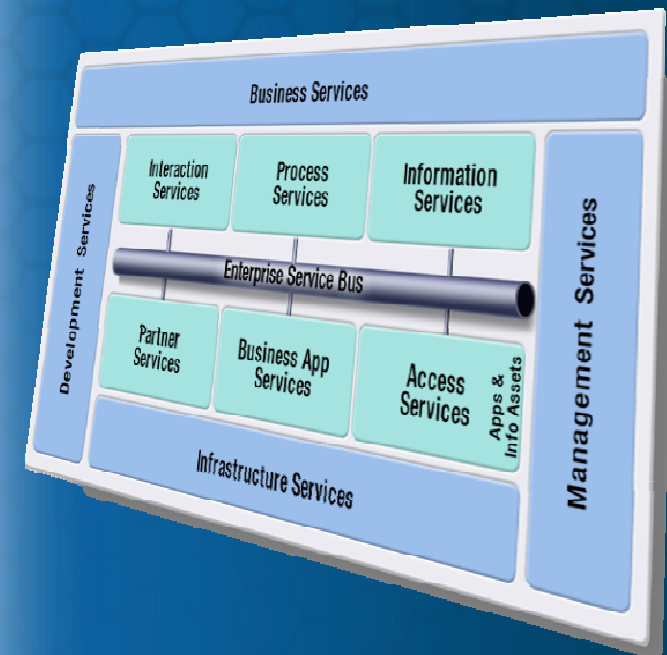


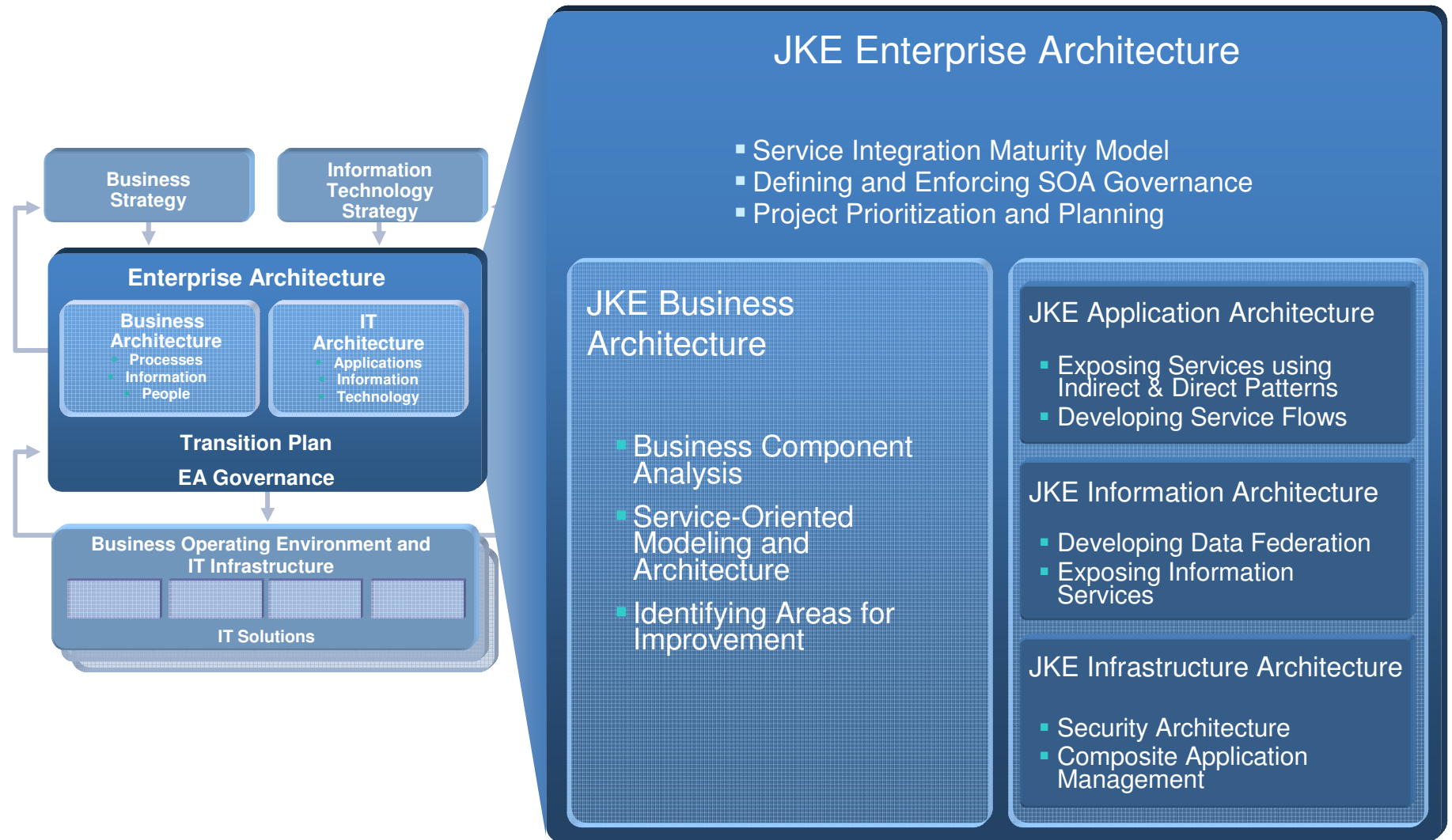


IBM SOA Architect Summit

SOA Case Study: A Practical Guide to SOA



JK Enterprises (JKE) Case Study



JK Enterprises



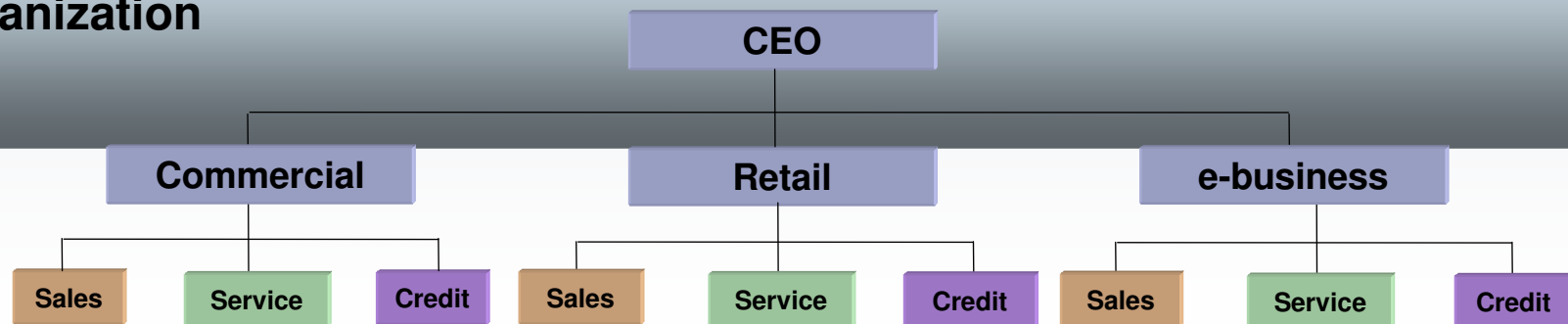
Corporate Overview

- JK Enterprises is a premier supplier to retail channel, small business channel, and corporate customers
- Founded in 1935, now a well liked brand image
- High-touch approach to our customers
- Customers of all types can interact with us in a way that suits their individual needs
- Best service at the lowest cost
- Now with customer centers around the world
- Acquired Jensen Incorporated in 2000, which strengthened our corporate customer base
- Corporate customers are true business partners

Corporate Attributes

- 900 Offices, 6 Countries
 - Corporate Headquarters (2)
 - 350 Customer Centers
 - 500 Remote Sales Offices
 - 6 Call Centers
 - 8 Data Centers
- 11,000 employees
 - 1500 Corporate
 - 1000 Sales and Sales Support
 - ~15 per Customer Center
 - 150 per Call Center
 - 2000 in IT

Line of Business Organization



JK Enterprises



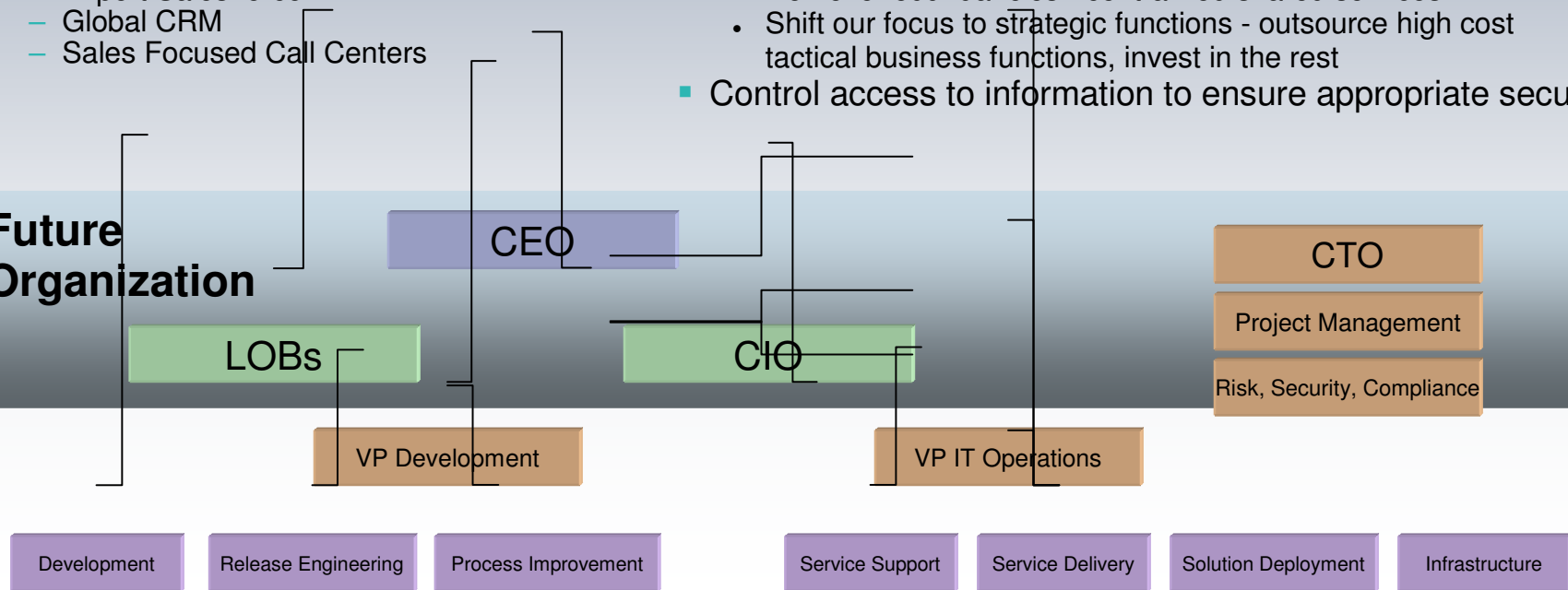
Envisioned Future State

- The most profitable high-touch company in the industry
- Aggressive growth with minimal risk
- Optimized responsive corporate organization
- A company that leverages it's strategic investments
 - Best Web Site in the industry
 - Expert Sales force
 - Global CRM
 - Sales Focused Call Centers

Key Initiatives

- Grow organically and leverage our size
 - 100,000 new customers this year
 - Increase cross-sell ratio to over 2.0 in 24 months
- Multi channel integration
 - Access any service from any channel with consistent experience
 - Then move customers toward lower cost channels
- Business transformation and optimization
 - Optimize then grow - organization and processes
 - Remove redundancies - centralized shared services
 - Shift our focus to strategic functions - outsource high cost tactical business functions, invest in the rest
- Control access to information to ensure appropriate security

Future Organization

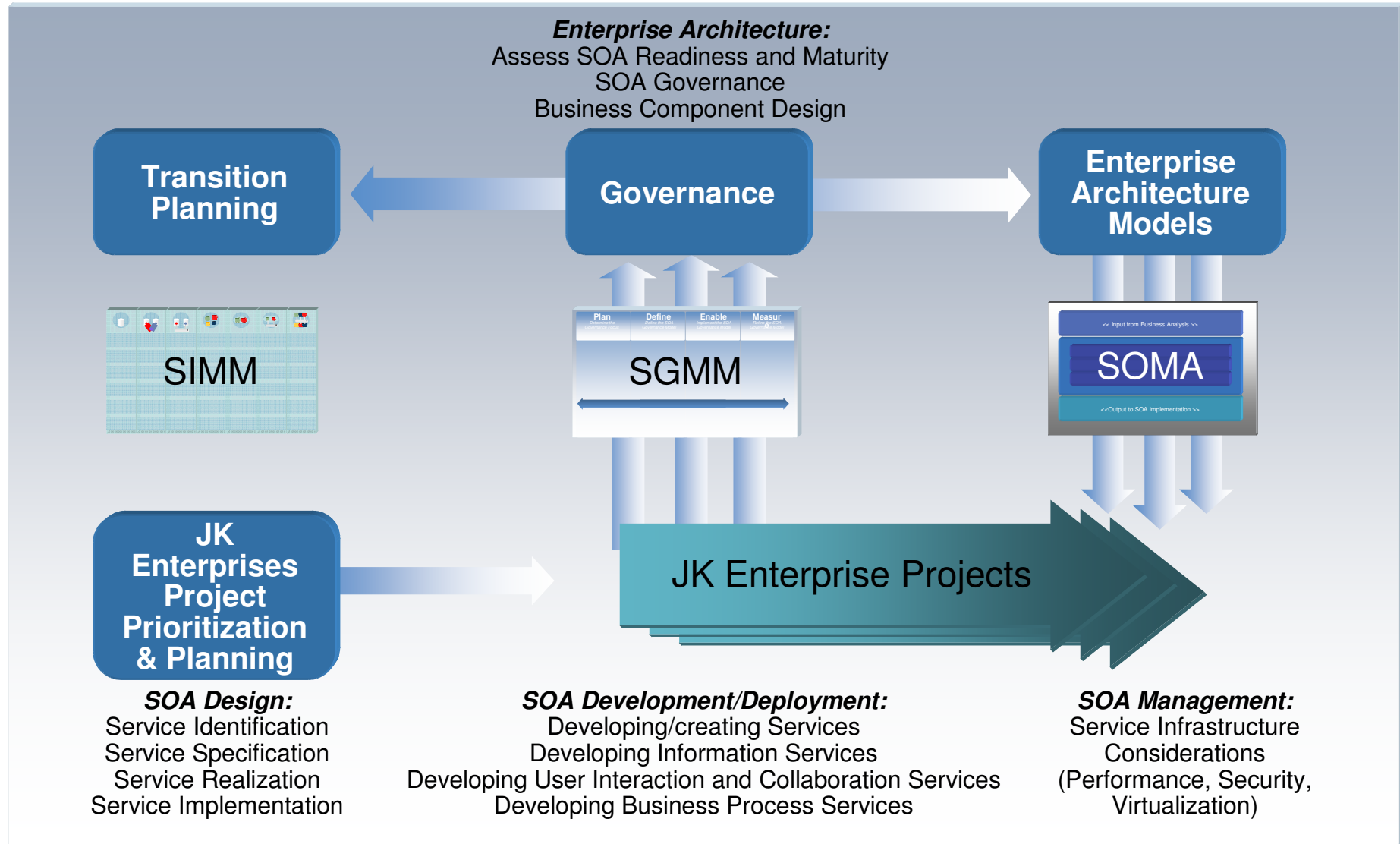


Agenda

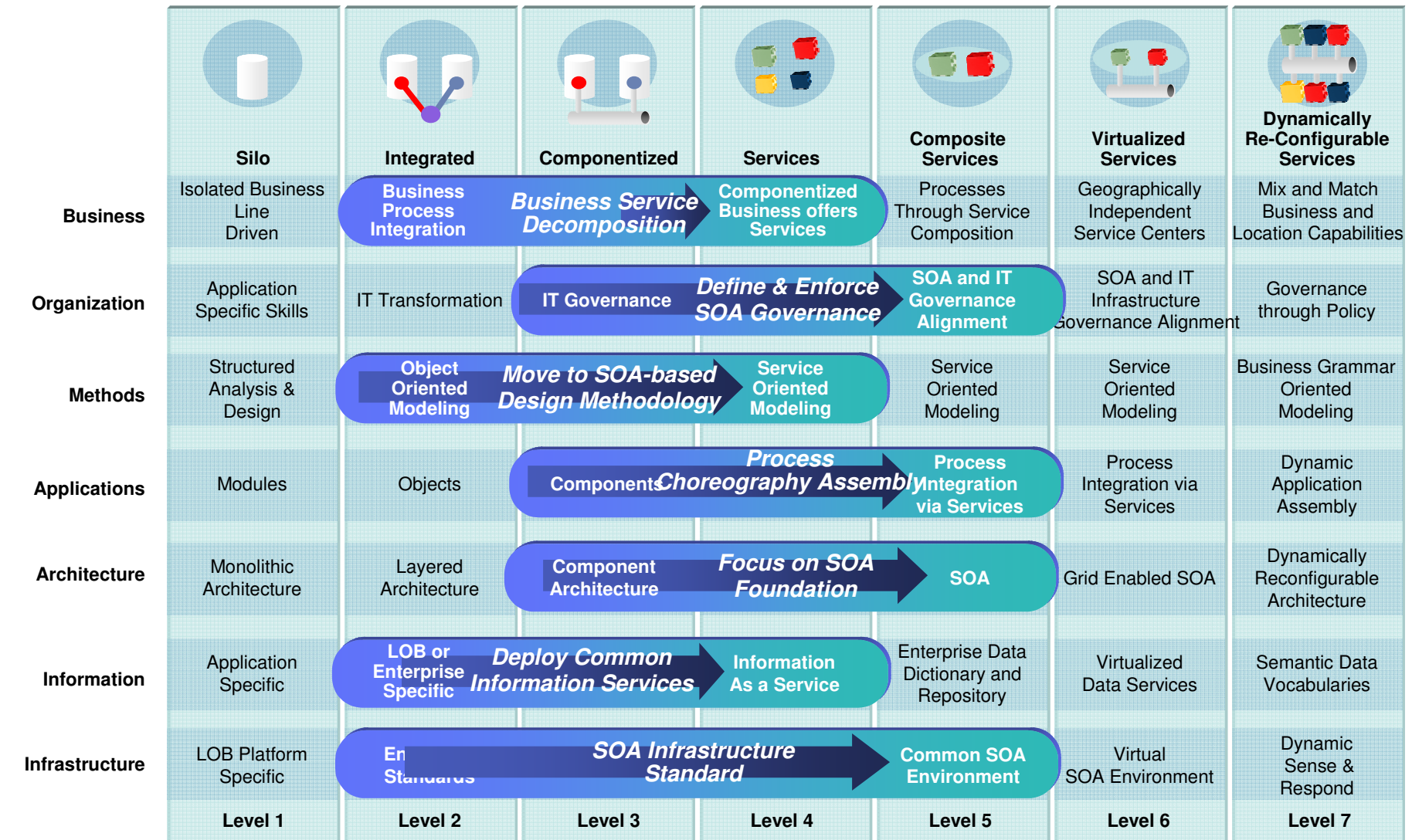
- Enterprise Architecture
- SOA Business Architecture
- SOA IT Architecture
 - *Application Architecture*
 - *Information Architecture*
 - *Infrastructure Architecture*
- Getting Started



SOA and Enterprise Architecture: Best Practices

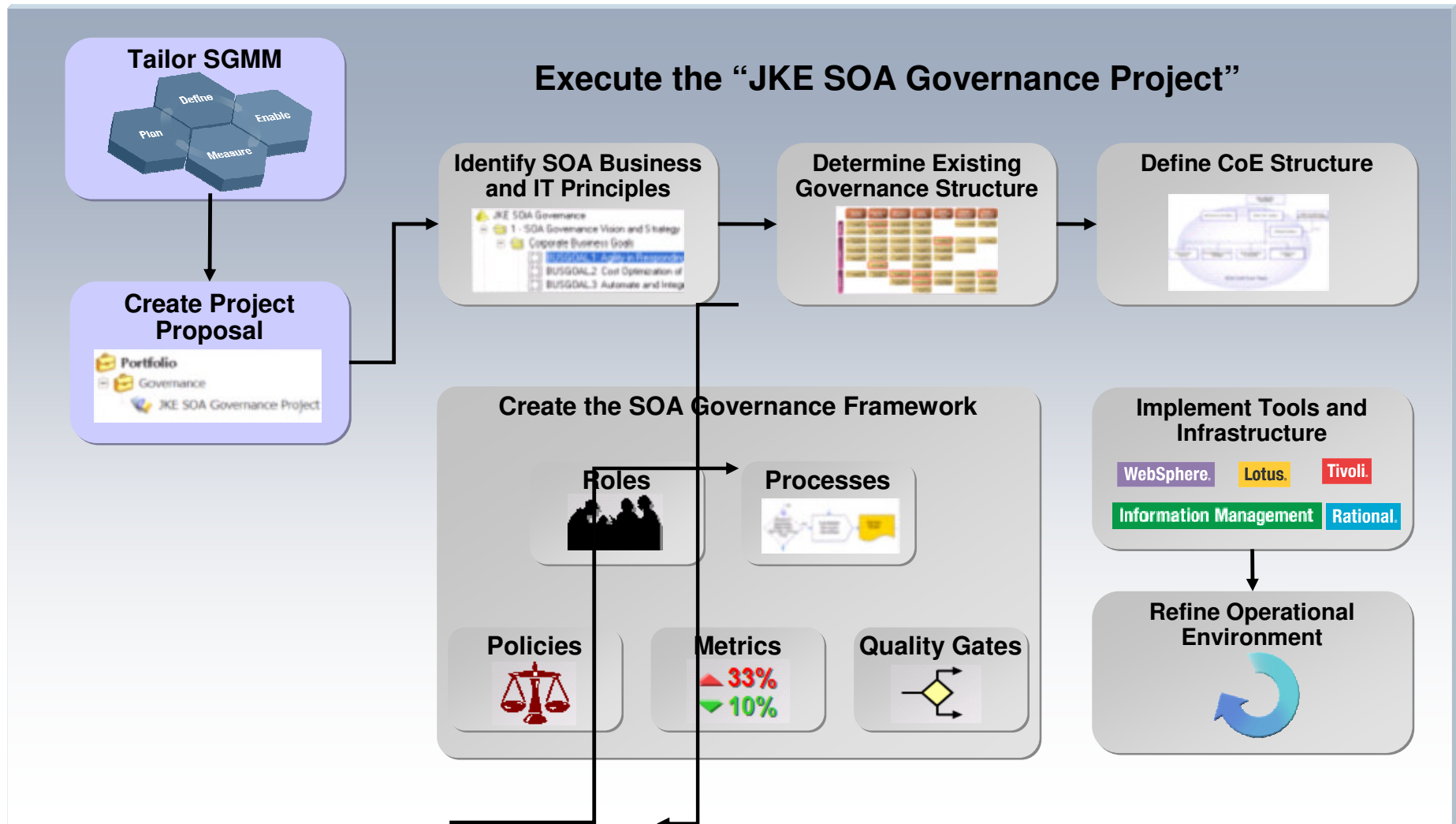


Service Integration Maturity Model (SIMM) – Next Steps



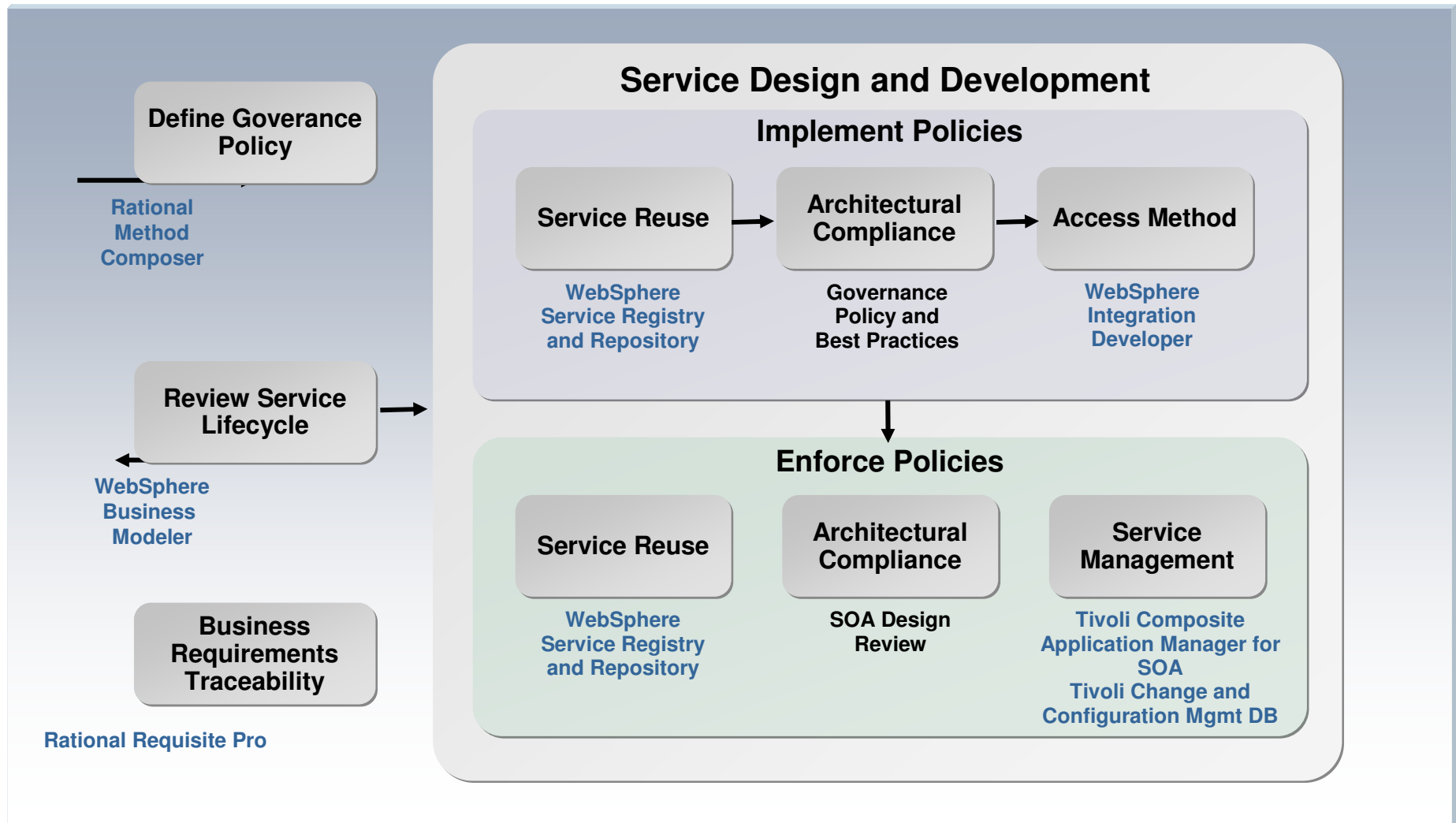
SOA Governance

Defining SOA Governance at JK Enterprises



SOA Governance

Enforcing Governance at JK Enterprises



Agenda

- Enterprise Architecture
- **SOA Business Architecture**
- SOA IT Architecture
 - *Application Architecture*
 - *Information Architecture*
 - *Infrastructure Architecture*
- Getting Started



Business Analysis

Identifying Business Components

Target Competency: ■ Base ■ Competitive ■ Differentiated

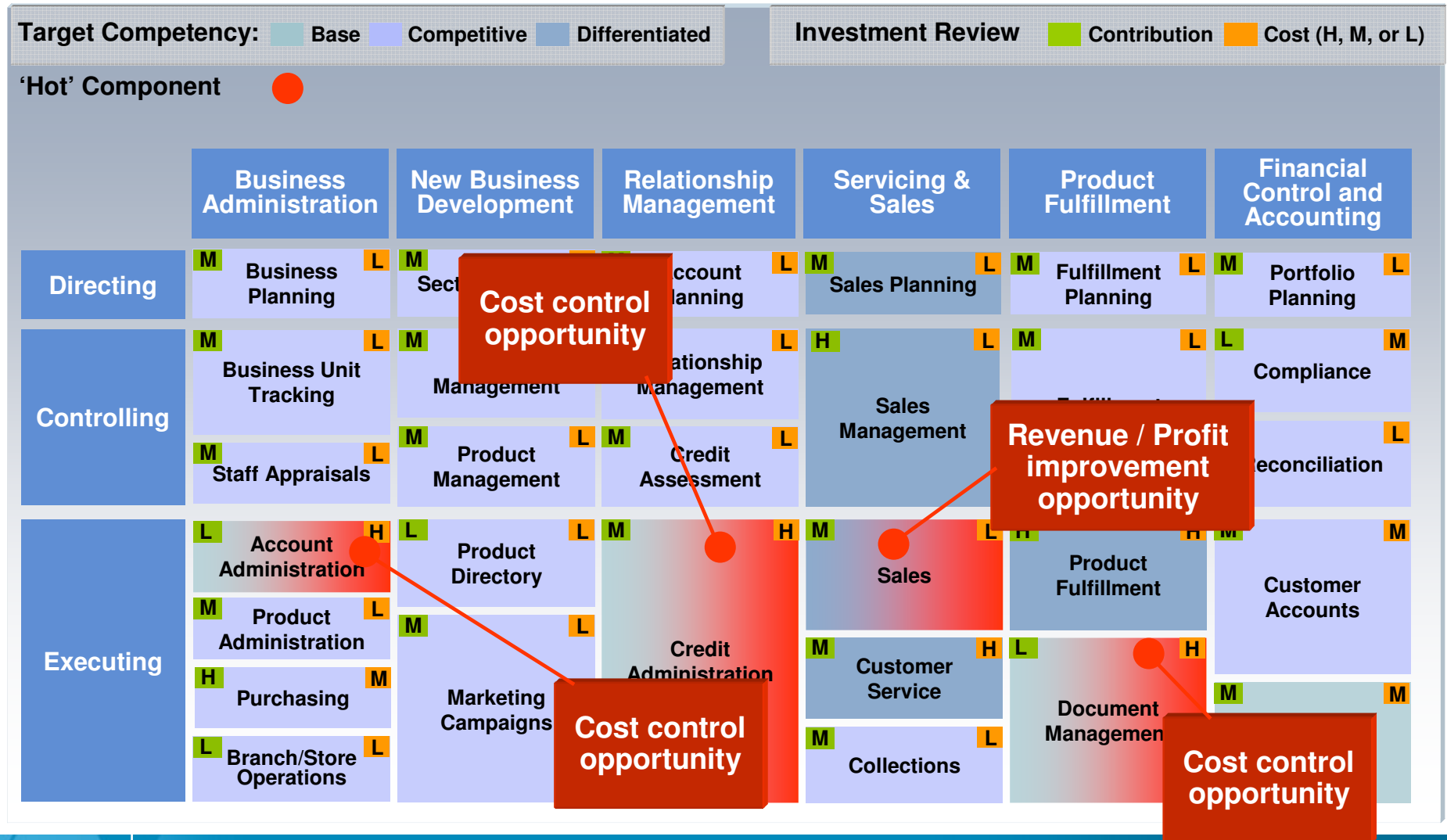
Investment Review ■ Contribution ■ Cost (H, M, or L)

'Hot' Component ●

	Business Administration	New Business Development	Relationship Management	Servicing & Sales	Product Fulfillment	Financial Control and Accounting
Directing	M Business Planning L	M Sector Planning L	M Account Planning L	M Sales Planning L	M Fulfillment Planning L	M Portfolio Planning L
Controlling	M Business Unit Tracking L	M Sector Management L	M Relationship Management L	H Sales Management L	M Fulfillment Monitoring L	L Compliance M
	M Staff Appraisals L	M Product Management L	M Credit Assessment L			M Reconciliation L
Executing	L Account Administration H	L Product Directory L	M Credit Administration H	M Sales L	H Product Fulfillment H	M Customer Accounts M
	M Product Administration L	M Marketing Campaigns L		M Customer Service H	L Document Management H	
	H Purchasing M			M Collections L		M General Ledger M
	L Branch/Store Operations L					

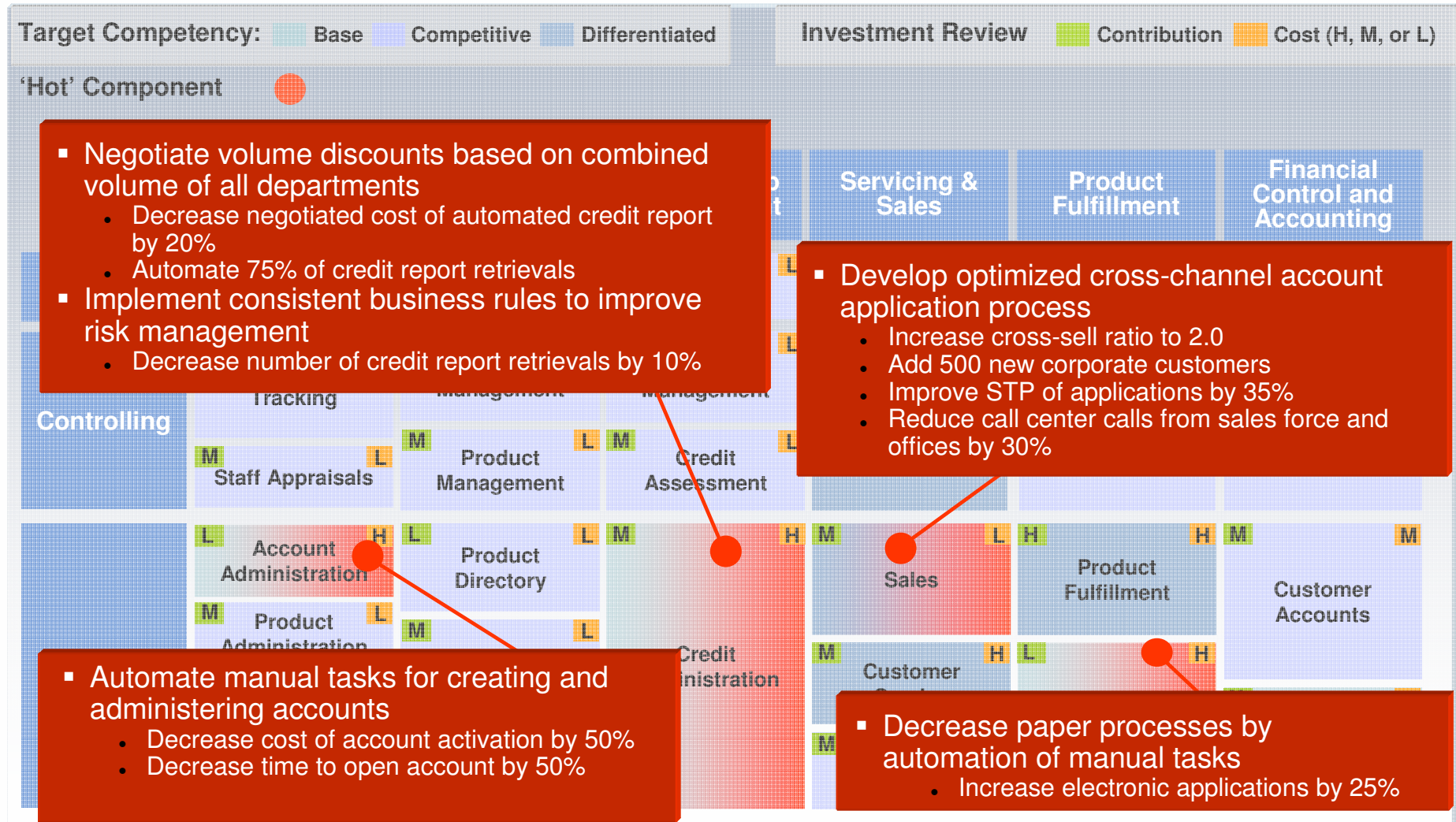
Business Analysis

Identifying Business Components



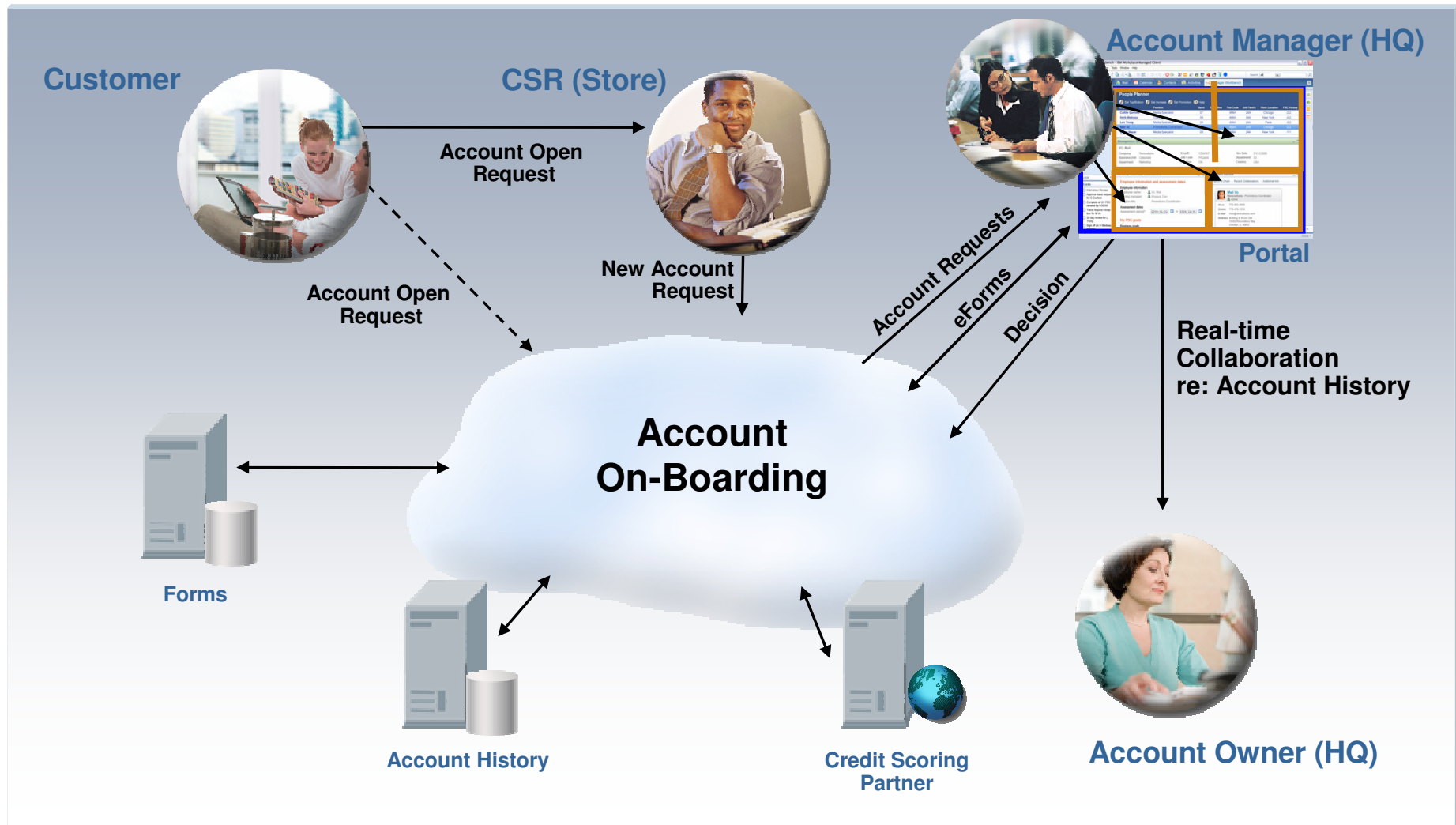
Business Analysis

Identifying Improvement Areas at JK Enterprises



Defining Solution Scope

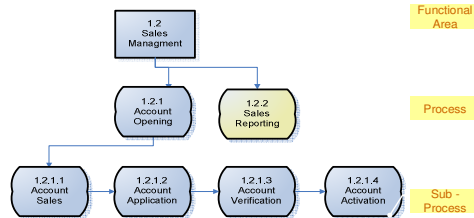
Business Context Diagram



Service Design via SOMA

Service Identification

JK Enterprises Process Decomposition



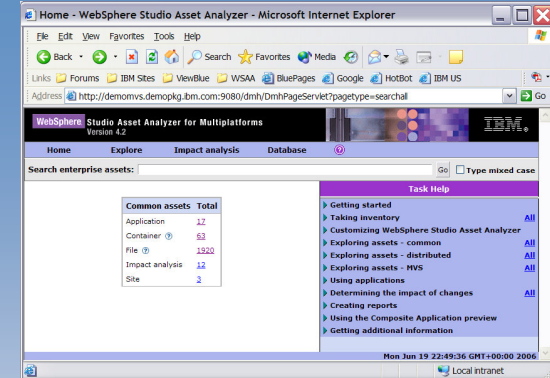
Domain Decomposition

- Techniques:
 - Process Modeling Tools
 - Design of KPIs/Metrics
- Services Identified
 - Open Account
 - Account Activation
 - Account Verification

Requirements:	Priority	Status
KPI1: Decrease cost of account activation Decrease cost of account activation by 50%	Medium	Proposed
KPI2: Decrease negotiated cost of credit report retrieval Decrease negotiated cost (Vendor volume discounts) of credit report.	Medium	Proposed
KPI3: Automate credit report retrievals Automate 75% of all credit report retrievals	Medium	Proposed
KPI4: Decrease number of credit report retrievals Decrease number of credit report retrievals by 10%	Medium	Proposed
KPI5: Increase electronic applications Increase electronic applications by 25%	Medium	Proposed
KPI6: Reduce call center calls Reduce number of call center calls by sales force and offices (stores).	Medium	Proposed
* <Click here to create a requirement>	Medium	Approved

Goal Service Modeling

- Techniques
 - Requirements Planning Tools
 - Design of KPIs/Metrics
- Services Identified
 - Determine Applicant Eligibility
 - Address Verification



Existing Asset Analysis

- Techniques
 - Asset Analysis Tools
 - Interviews/Documentation
- Services Identified
 - Account Inquiry (CICS 2.2)
 - AR Setup (CICS 2.2)
 - Account Setup (CICS 3.1)
 - Create Account (SAP)

Service Specification

Applying The Service Litmus Test

- **Candidate Service Name: AR Setup**

- **Business Alignment:**
 - Is the service business relevant? **YES**
 - Is funding available for service development and management? **YES (Governance Board)**
 - Is the service sharable? **YES**

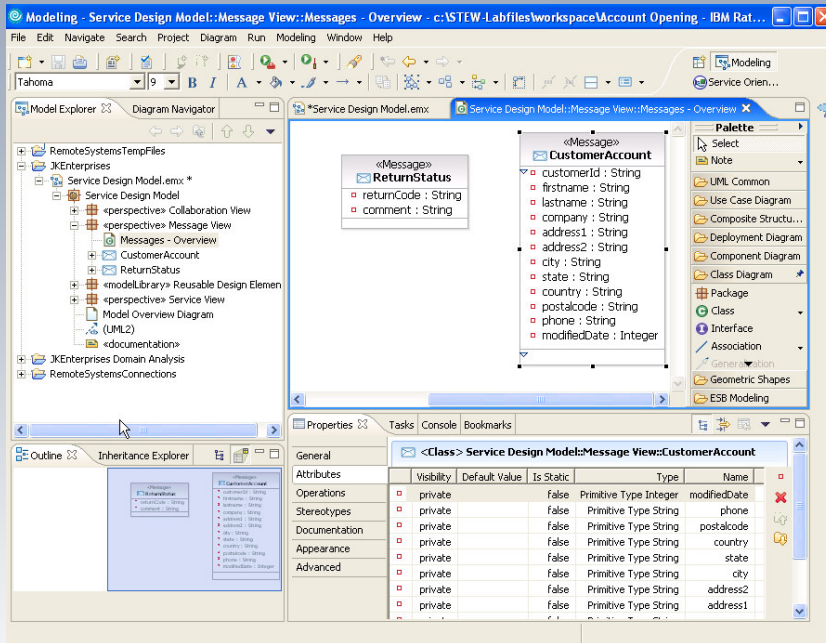
- **Composability**
 - Is the service consistent with NFRs at the composite level? **YES - As per current requirements**
 - Is service stateless? **YES**
 - Is the service self-contained? (Are there dependencies?) **YES – No Dependencies**
 - Is the service technology neutral? **Implementation is CICS 2.x - technology neutral**

- **Externalized Service Description**
 - Is there an externalized service description e.g. WSDL?
 - Can the service be discovered and bound via the service description? **NO - done as part of service creation**
 - Does the description contain meta-data about itself? **Following service creation**

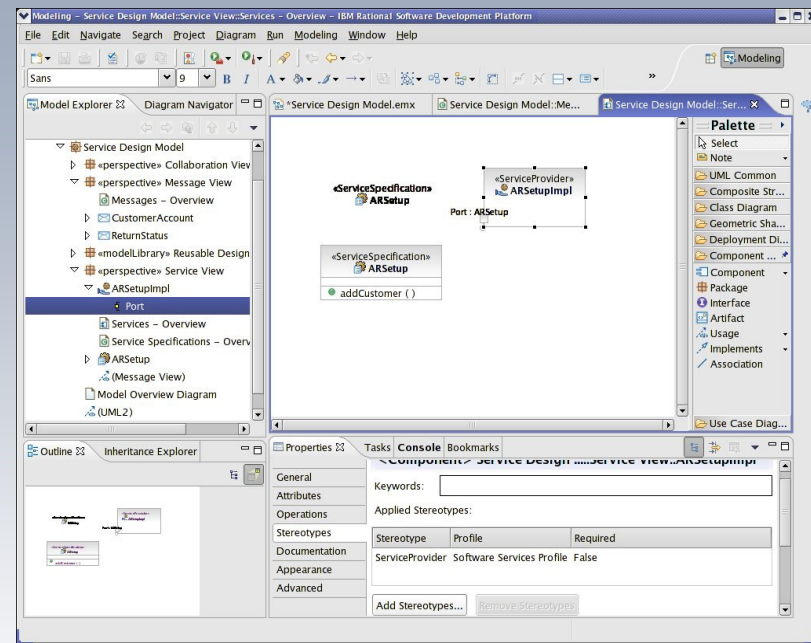
- **Redundancy Elimination**
 - Can the service be applied to all processes where its function is required? **YES**

SOMA Service Specification

Defining the “Account Receivable (AR) Setup” Service



Building the Service Message Model

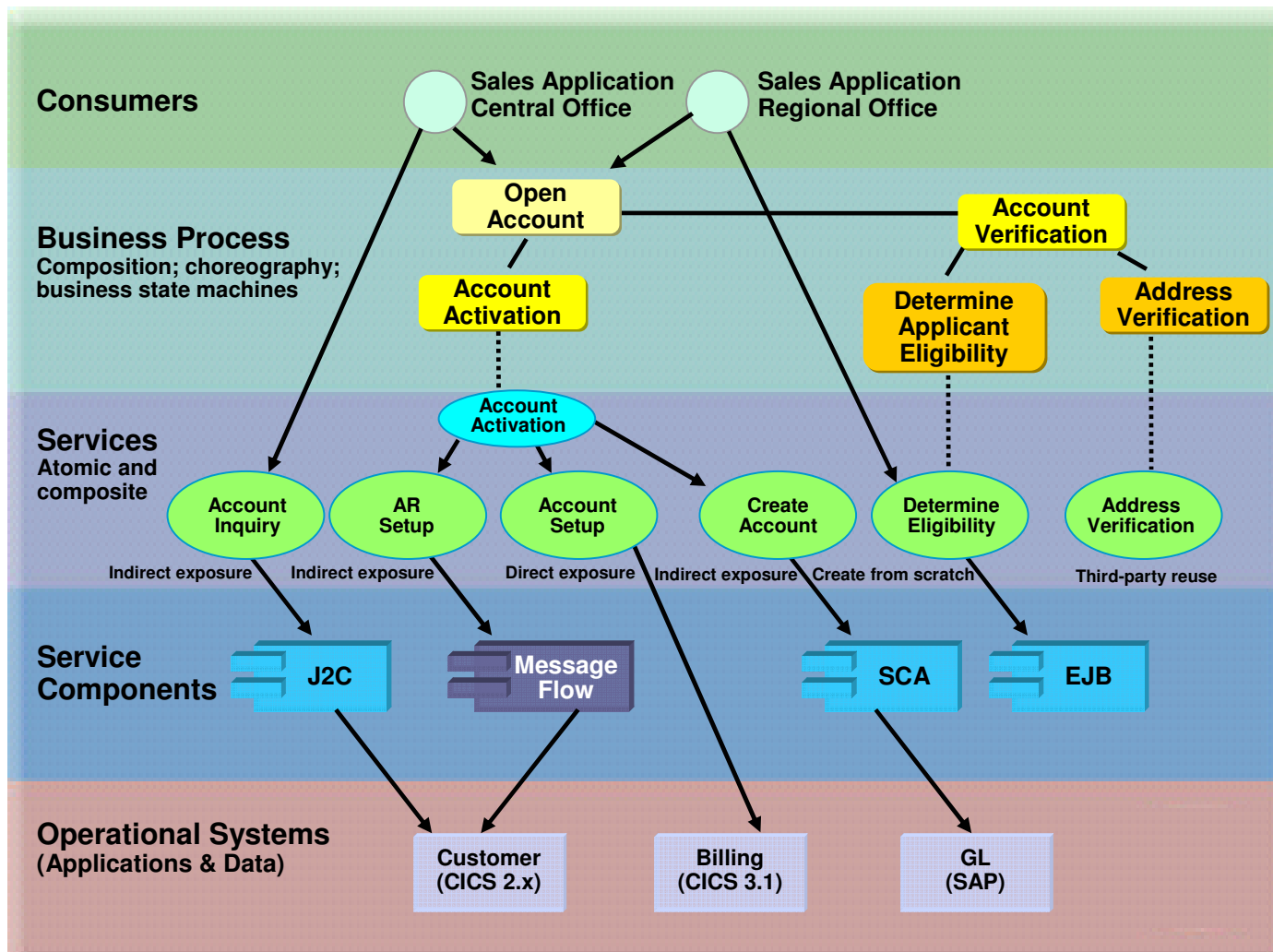


Designing the Service Components



Service Specification

Service Model for "Account Activation"



SOMA Service Realization

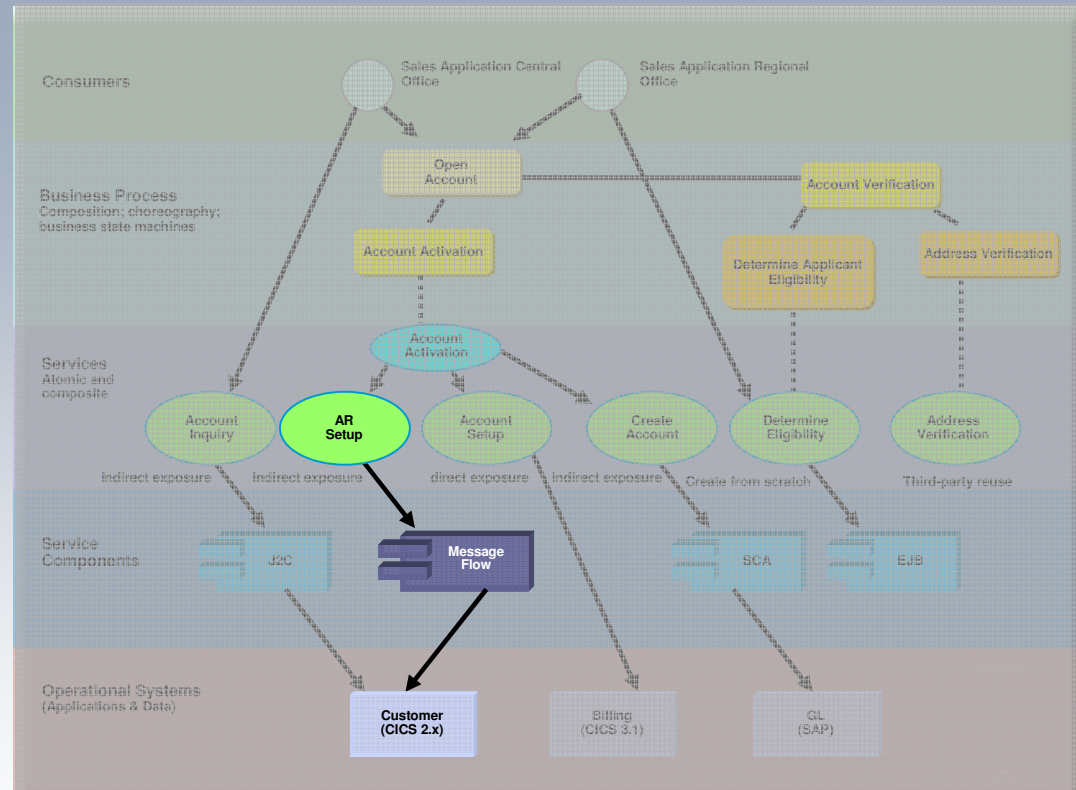
Designing the implementation for the "AR Setup" Service

Architectural Considerations

- Implementation is CICS 2.2
- WebSphere MQ on mainframe
- Security requirements (RACF)
- Alternatives
 - ESB Integration
 - Custom EJB Development
 - J2C Adapter
 - Application-level messaging

Architectural Decisions

- ESB Integration
 - Security requirements
 - Availability requirements
 - Message augmentation/transformation
- Support for both synchronous and asynchronous interactions
- Compensatory service need to be designed and deployed

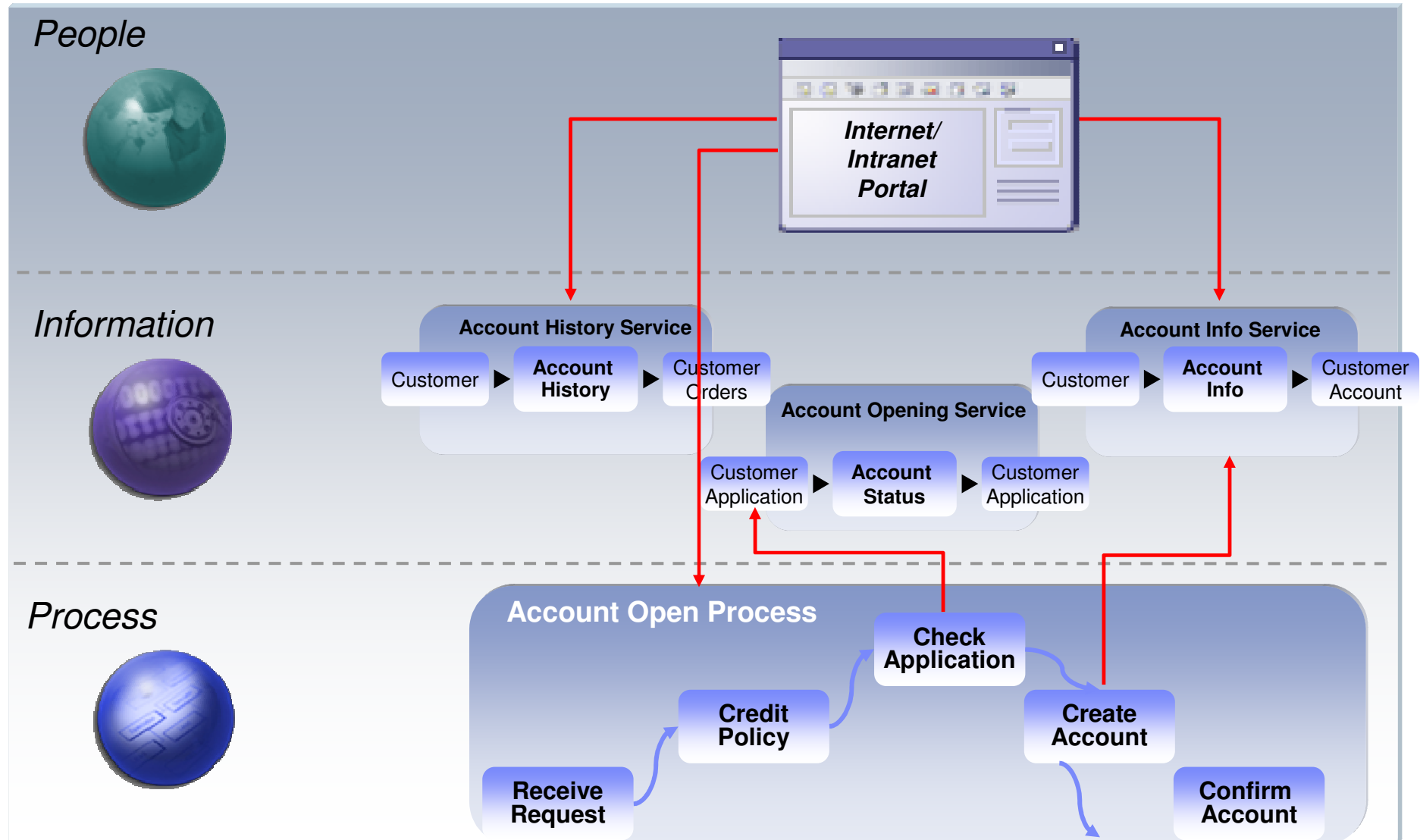


Agenda

- Enterprise Architecture
- SOA Business Architecture
- **SOA IT Architecture**
 - Application Architecture
 - Information Architecture
 - Infrastructure Architecture
- Getting Started



The End-to-end Account Opening Solution



Developing the Process Model

Completing the "Account Open" Process Model

The screenshot displays the WebSphere Business Modeler interface. On the left, a process flow diagram for 'Account Verification' is shown, including activities like 'Final Application Review', 'Approved?', 'Generate Decline', 'Data Cleansing...', and 'Provide Terms and Conditions'. A simulation control panel at the bottom shows a 'Process Cases Summary' table with columns for Case Name, Activity Name, Average Cost, Average Revenue, Average Run Cost, Average Delay Cost, Average Resource Cost, and Average Profit.

Case Name	Activity Name	Average Cost	Average Revenue	Average Run Cost	Average Delay Cost	Average Resource Cost	Average Profit
Case 1		USD123.12	USD0.00	USD70.00	USD0.00	USD53.12	(USD123.12)
Case 2		USD141.23	USD300.00	USD90.00	USD0.00	USD51.23	USD158.77
Case 3		USD81.99	USD300.00	USD55.00	USD0.00	USD26.99	USD218.01
All Cases		USD107.99	USD240.00	USD68.50	USD0.00	USD39.49	USD132.01

On the right, the 'Draft Project Tree' shows a hierarchical view of the project structure. The 'Model Elements' pane displays a detailed view of the 'Credit Risk Assessment - Business Rule' element, including a flow diagram and a 'Comments' section. The 'Attributes' pane shows the general information for this element, such as its name and description.

Design and Simulation of the "Account Open" Business Process Model

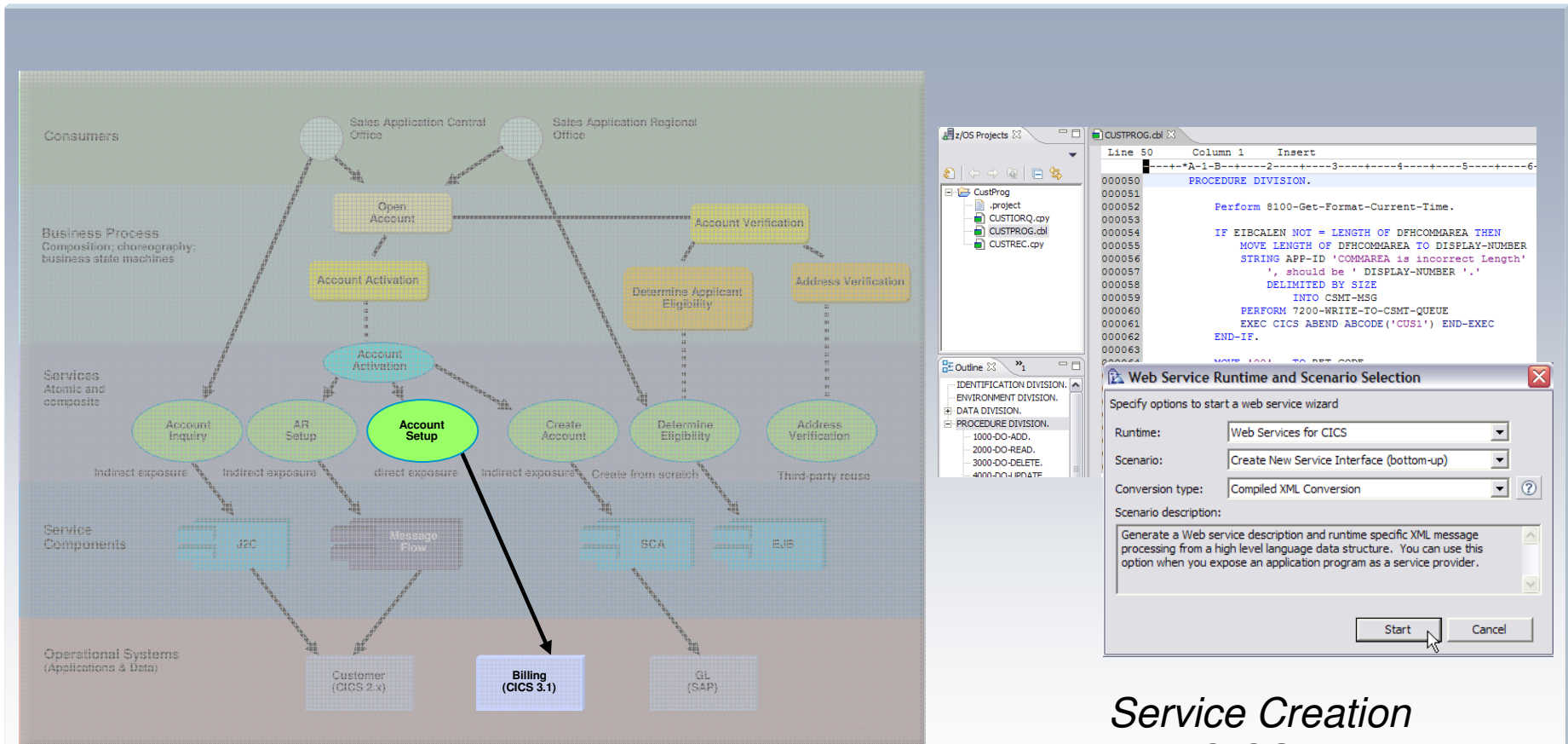
Collaborative Development of the "Account Open" Business Process Model

WebSphere Business Modeler

**WebSphere Business Modeler
Publishing Server**

Application Architecture

"Account Setup" Service (Billing System)



**Direct Exposure
CICS 3.1**

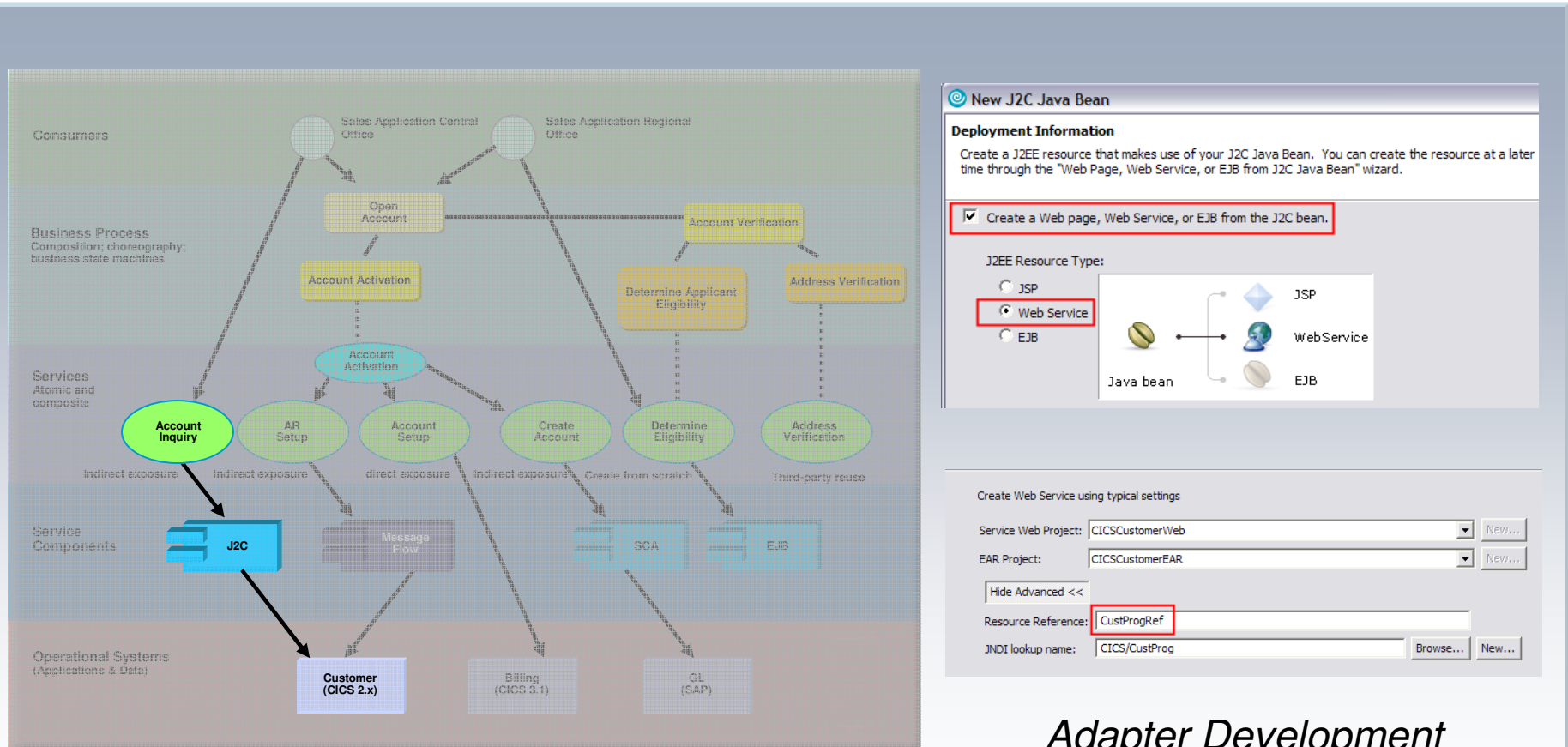
The screenshots show the development environment for CICS 3.1. The top window displays COBOL code for a procedure, including comments and logic for handling account data. The bottom window is the 'Web Service Runtime and Scenario Selection' dialog, which is configured for 'Web Services for CICS' and 'Create New Service Interface (bottom-up)'. The 'Start' button is highlighted.

**Service Creation
With CICS TX 3.1**

Rational Developer for System z

Application Architecture

“Account Inquiry” Service (Customer Management)



New J2C Java Bean

Deployment Information
 Create a J2EE resource that makes use of your J2C Java Bean. You can create the resource at a later time through the "Web Page, Web Service, or EJB from J2C Java Bean" wizard.

Create a Web page, Web Service, or EJB from the J2C bean.

J2EE Resource Type:

- JSP
- Web Service
- EJB

Java bean

Create Web Service using typical settings

Service Web Project:

EAR Project:

Hide Advanced <<

Resource Reference:

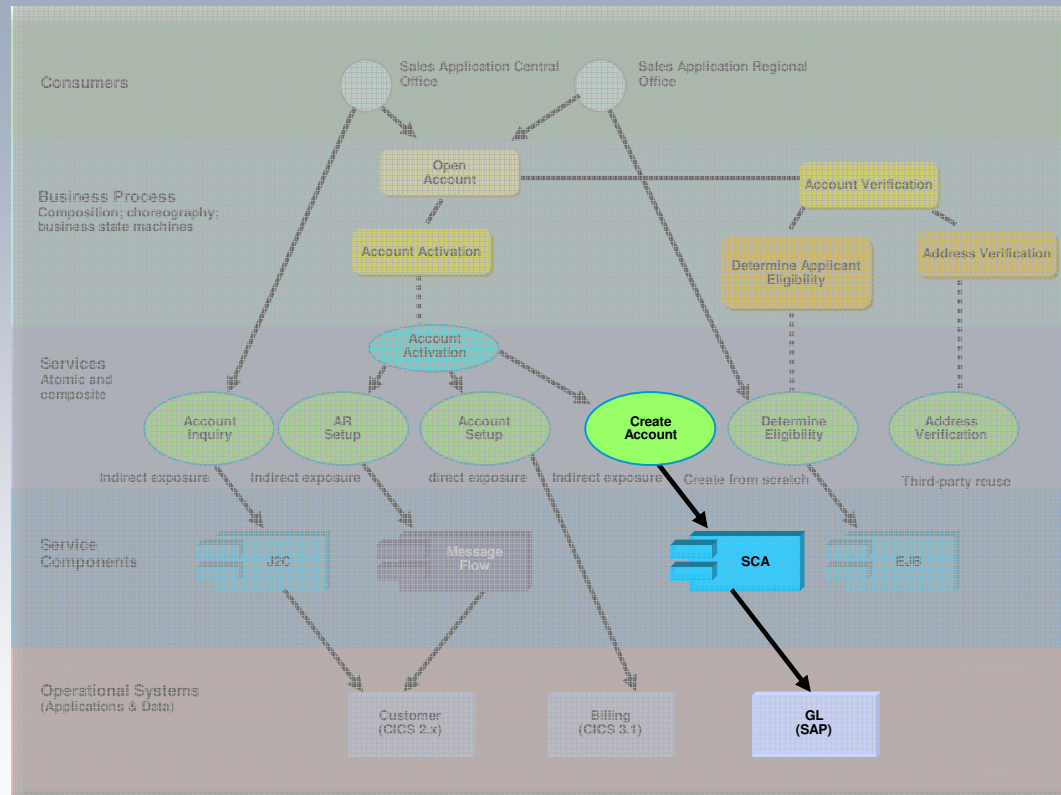
JNDI lookup name:

*Indirect Exposure
J2C Adapter to CICS*

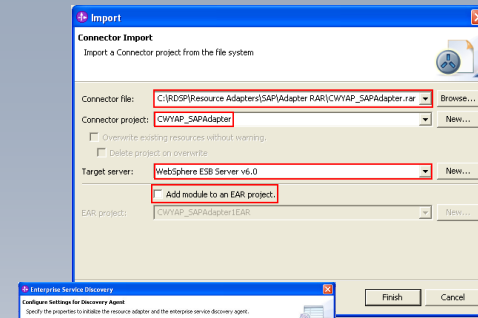
Adapter Development

WebSphere Integration Developer

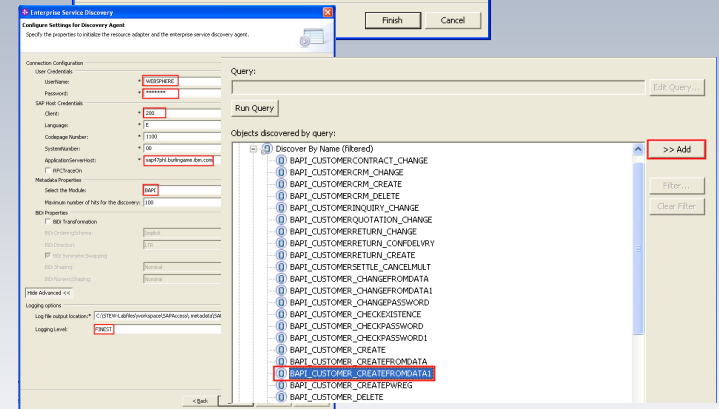
Application Architecture "Create Account" Service (SAP)



Indirect Exposure to SAP



Developing
The SAP
Adapter
Instance



Setting SAP
Adapter
Properties

Selecting BAPIs
For Adapter
Operations

WebSphere Adapter for SAP Software

Service Reuse

Integration with the Service Registry

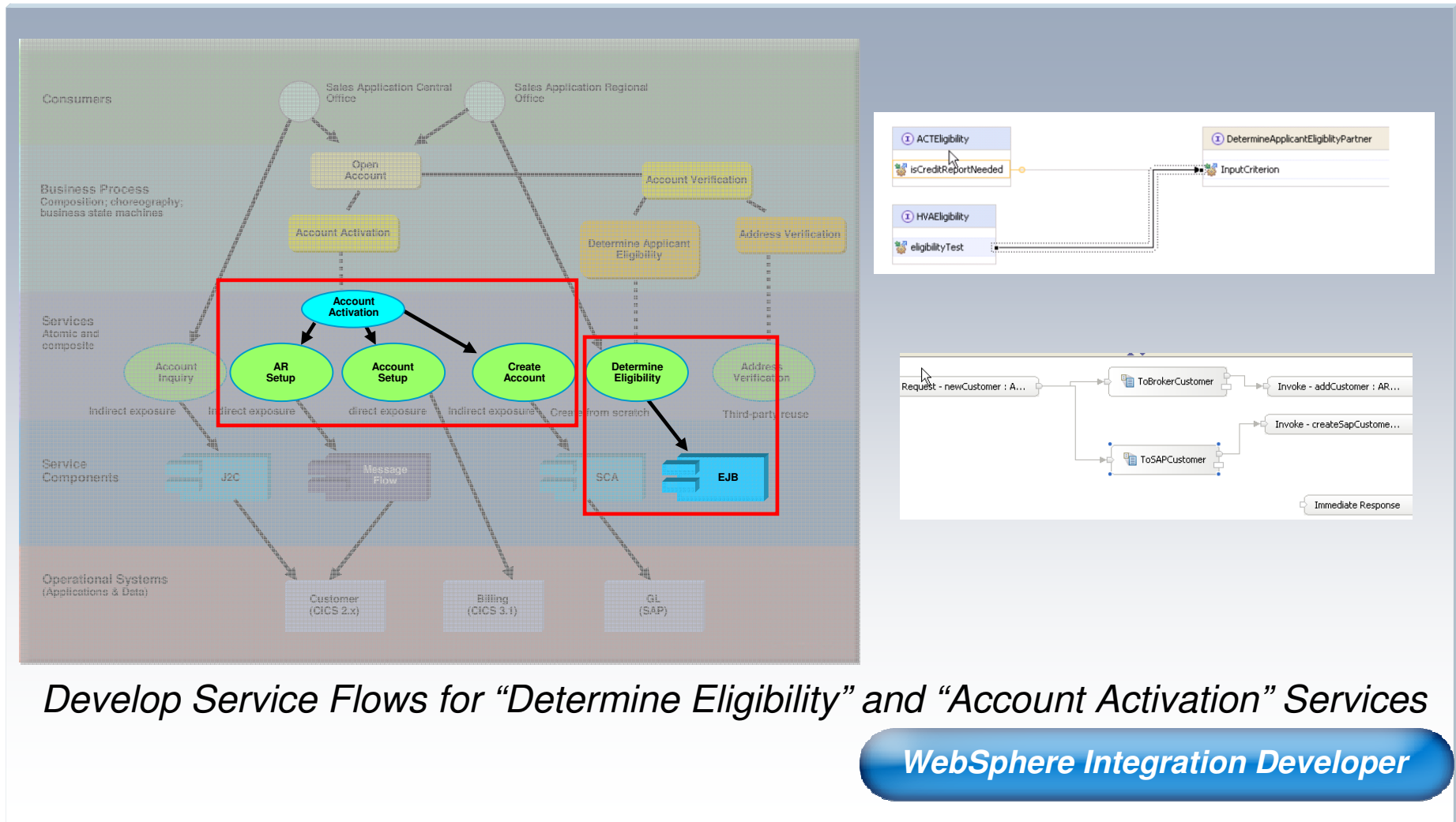
Browsing for Services and Publishing Services with the Web Interface

Browsing for Services with the Eclipse Interface

WebSphere Service Registry and Repository

Application Architecture

Developing Basic and Composite Service Flows



Information Architecture

Data Federation, XML Retrieval and Data Cleansing Services

Operational DB ACCOUNT




Table: INFORMIX ACCOUNT

id: Informix
DW: ibmpassword

INFORMIX

DB2 Database CUSTACC

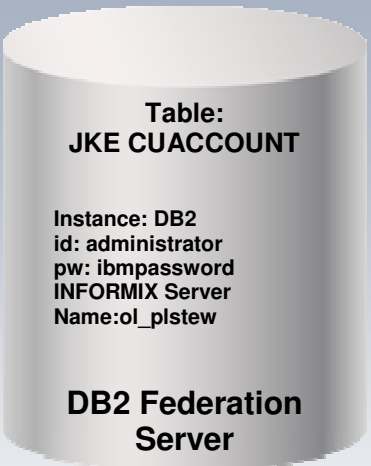
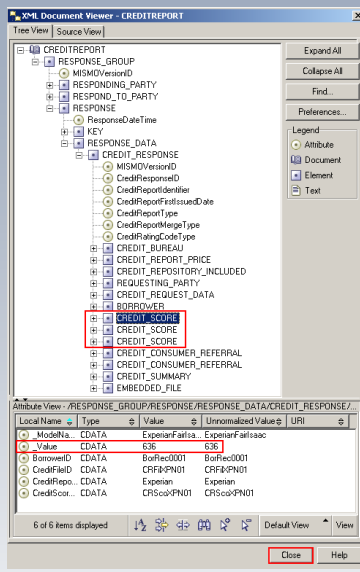
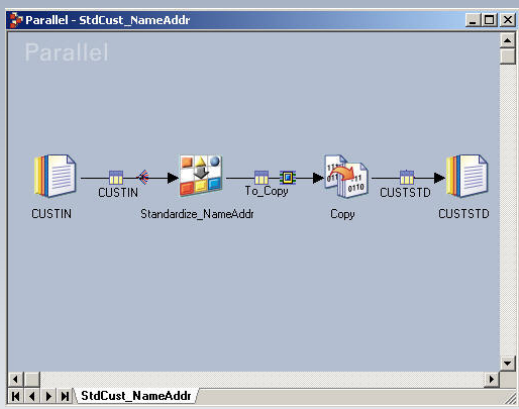


Table: JKE CUACCOUNT

Instance: DB2
id: administrator
pw: ibmpassword
INFORMIX Server Name: ol_plstew

DB2 Federation Server





Building Federation Services

WebSphere Federation Server

Building Native XML Retrieval Services

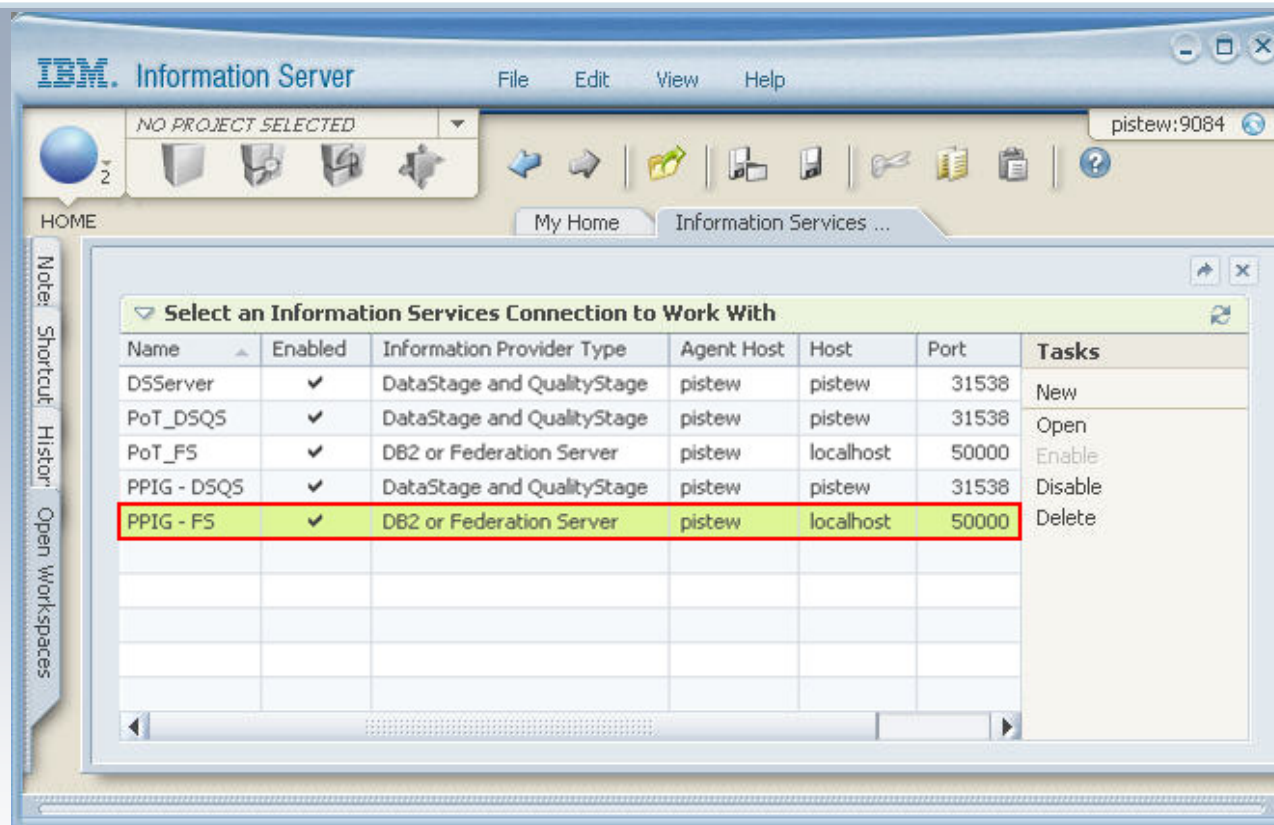
DB2 v9 Viper

Building Account Application Data Cleansing Service

WebSphere Quality Stage

Information Architecture

Exposing Information Services

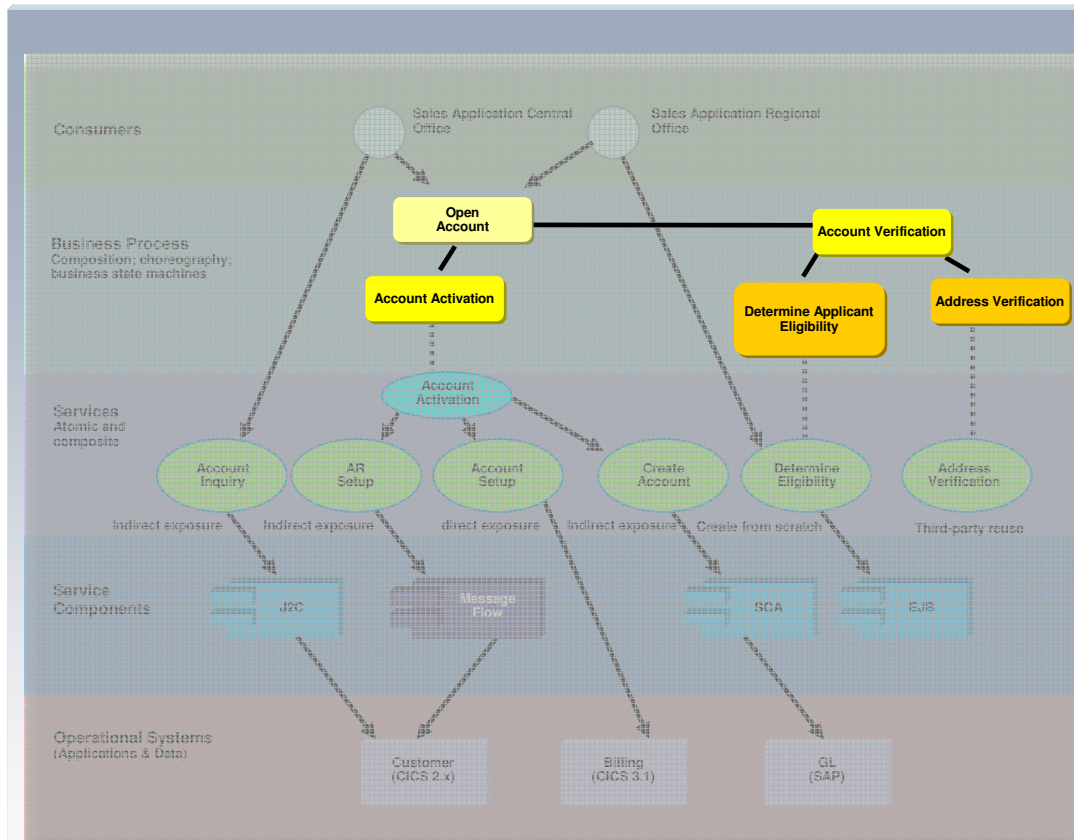


Registering Information Services

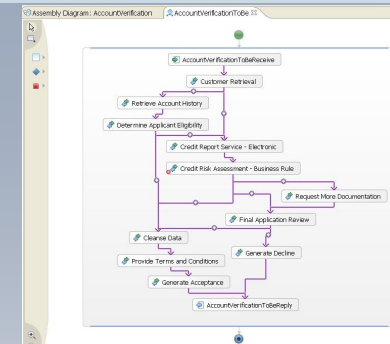
IBM Information Server

Process Design and Deployment

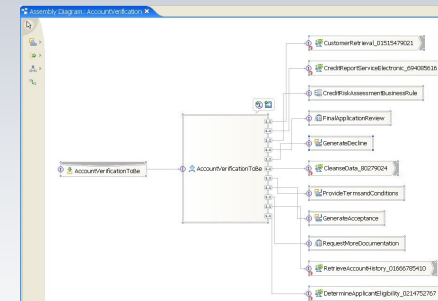
Assembly and Deploy



WS-BPEL Process Implementation



*“Account Open”
WS-BPEL Implementation*

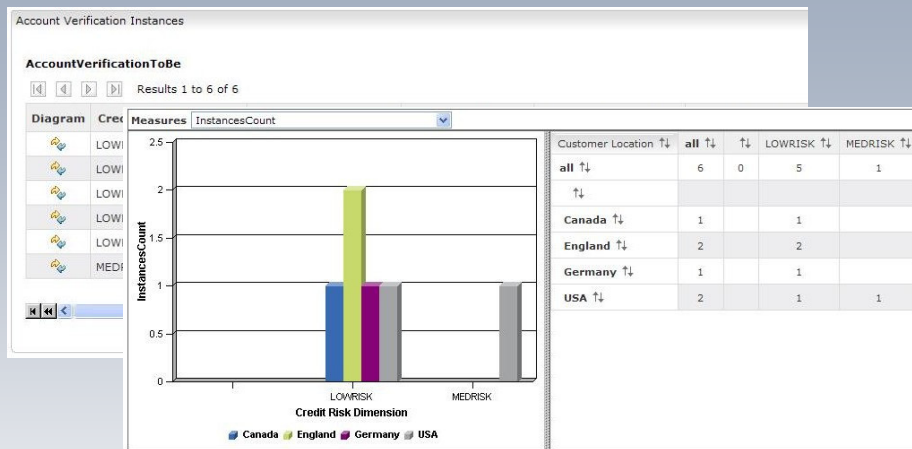


*Wiring the Components for the
“Account Open” Process*

WebSphere Integration Developer

Process Monitoring and Management

Building BPM Monitoring Components and Dashboards



Monitoring Credit Risk

Account Verification Key Performance Indicator (KPI)

KPI Name	Status	Value	Target	Value in Range
Account Opening Duration Indicator		1 m, 9 s	14 h, 0 m, 0 s	
Manual Approval Indicator		33.33	5	
New Accounts Opened Indicator		66.67	90	

Building Components to Monitor Account Opening Duration

WebSphere Business Monitor

WebSphere Dashboard Framework

Building User Interaction Services

Developing and Deploying the "New Account" Application

Building Role-Specific Portlets and Dashboards

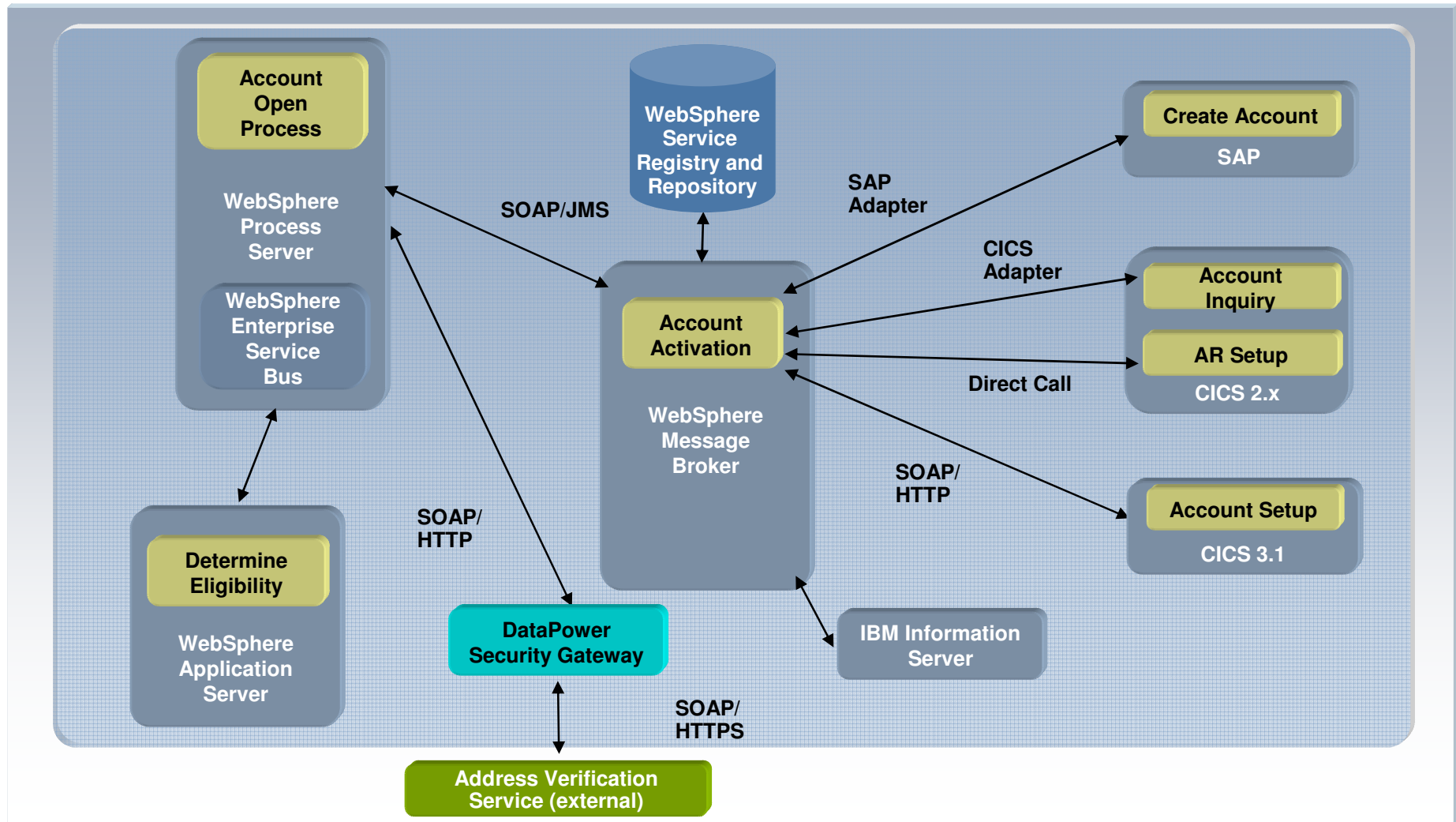
Lotus Forms

WebSphere Dashboard Framework

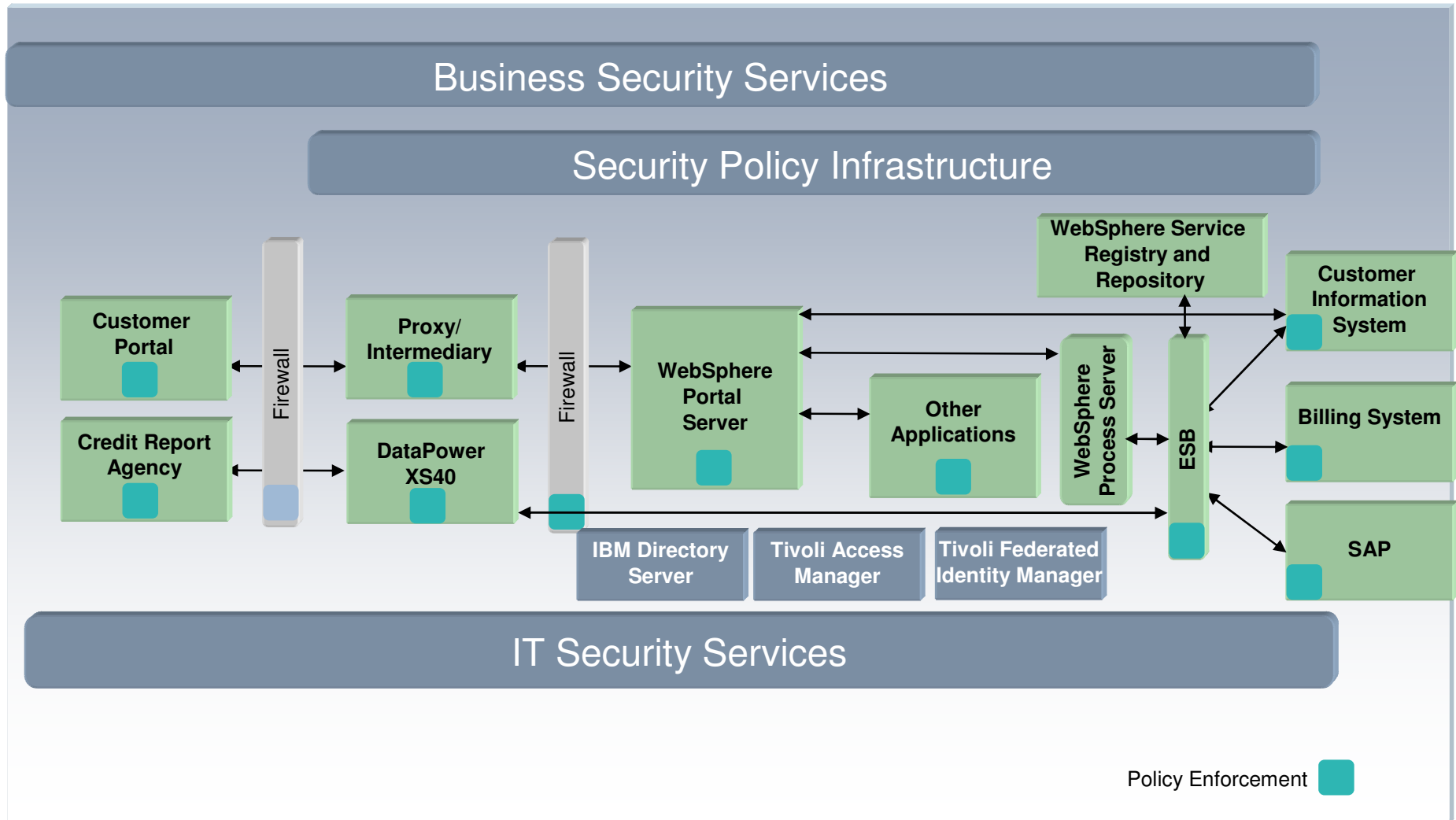
WebSphere Portal

Deploying the Solution Architecture

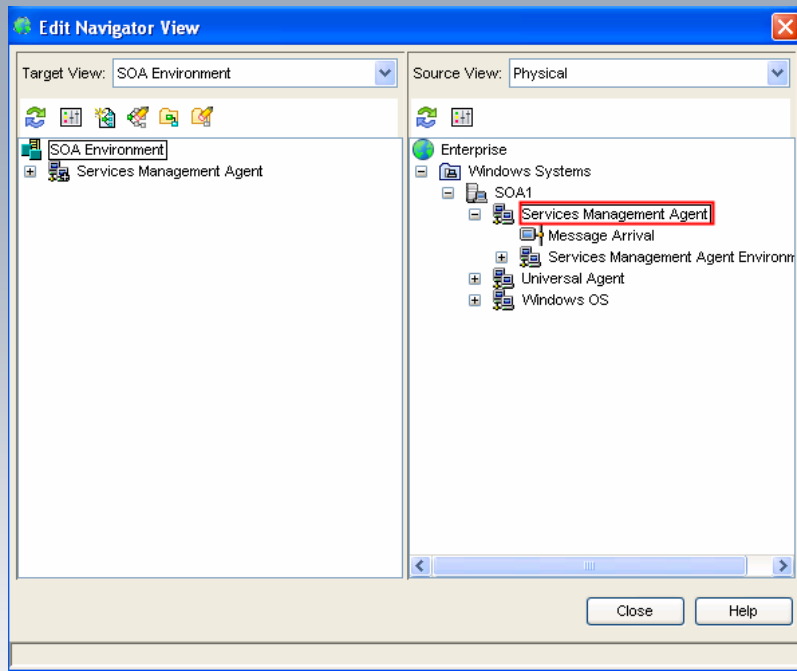
Implementation Topology for JK Enterprises



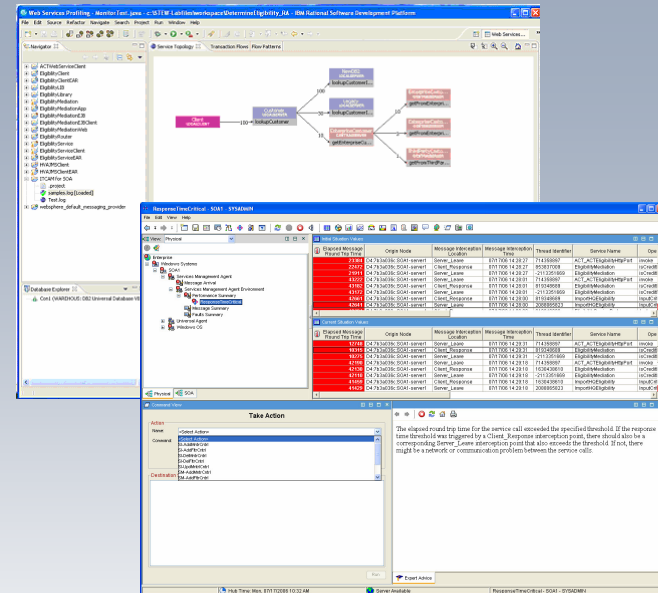
JK Enterprises Security Architecture



Infrastructure Architecture *Composite Application Management*



Configuring Service Management Agents



Monitoring Account Opening Performance and Availability

Tivoli Composite Application Manager for SOA

Tivoli Enterprise Portal

Agenda

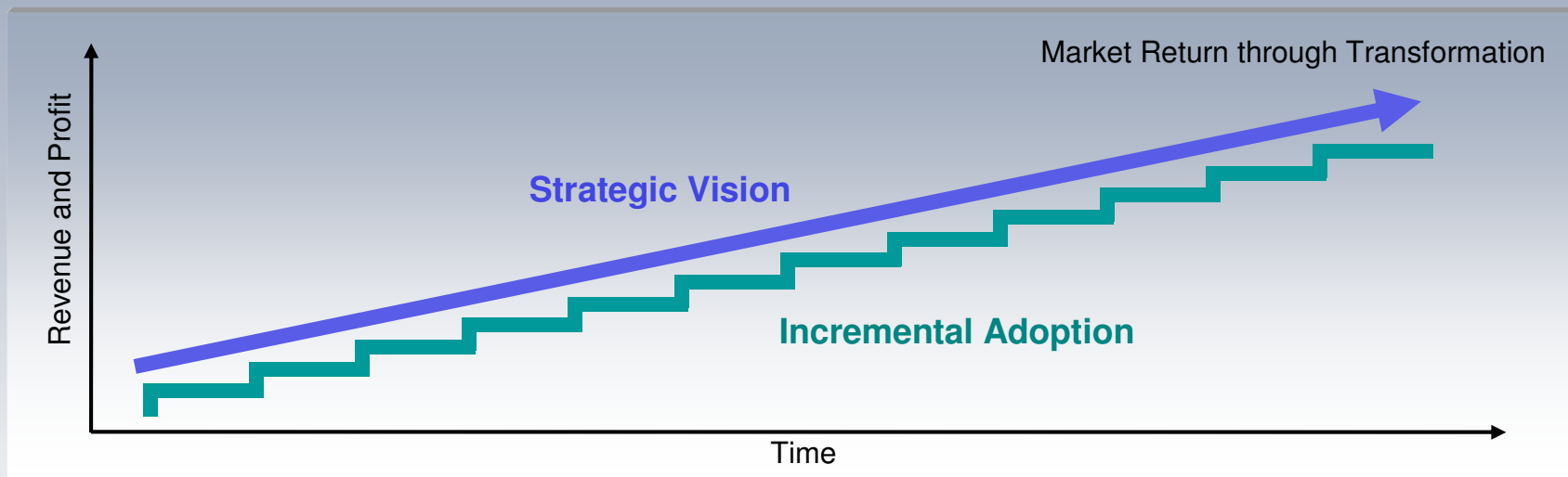
- Enterprise Architecture
- SOA Business Architecture
- SOA IT Architecture
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 - *Information Architecture*
 - *Infrastructure Architecture*
- **Getting Started**



SOA Adoption: Tactical and Strategic Action Combined

SOA Goal

- Market return through transformation: quicker time to production, lower costs, competitive differentiation



Two Primary Roadmap Perspectives

- **Strategic Vision**
Business and IT statement of direction which can be used as a guideline for decision making, organizational buy-in, standards adoption
- **Project Plans**
Implementation projects to meet immediate needs of the current business drivers

Why IBM?

Trusted, experienced guidance based on 5700 customers*



*# of Customers using our SOA offerings

Why IBM for SOA?

IBM understands service orientation and your business



Expertise in aligning business and IT processes

- 7500+ certified SOA consultants, architects, IT specialists
- Dozens of SOA-enabled business solutions

Thriving ecosystem of partners (ISVs, SIs, Resellers)

- 2500+ partners in SOA community
- 3500+ assets in SOA Business Catalog

Extensive Industry experience and best practices

- Over 4000 customers worldwide
- SOA Entry Points, SOA Reference Architecture, SIMM

Unmatched breadth and depth of products

- Over \$1B/yr invested in SOA
- Leadership in open standards & 300+ SOA-related patents

Leadership in Governance & Service Lifecycle Management

- IBM SOA Governance & Management Method that spans the services lifecycle

Let's Go!

Build on SOA Successes for Greater Business Value

1. Continue to discover the value of SOA
 - Not just doing the same thing a different way
 - SOA is not just about technology, but technology's integration with business insight
- Get Assessed! SOA Self Assessment
On-line at **ibm.com/soa/assessment**
 - Evaluate and select a SOA project
 - Arrange for a SOA Workshop to begin your SOA journey



"...IBM is the leader in the development of SOA intellectual property.... with firm-wide SOA investment of \$1 billion, IBM will leverage cutting-edge R&D, leading to quicker SOA value and reusable SOA assets for clients."

*The Forrester Wave™
North American SOA Integration, Q3
2006, September 2006*

धन्यवाद

Hindi

多謝

Traditional Chinese

Teşekkür ederim

Turkish

Спасибо

Russian

Gracias

Spanish

شكراً

Arabic

Thank You

English

Obrigado

Portuguese

Grazie

Italian

Danke

German

Merci

French

Multumesc

Romanian

多谢

Simplified Chinese

감사합니다

Korean

ありがとうございました

Japanese

IBM SOA Architect Summit

A globe is centered in the image, rendered with a blue-to-green color gradient. The continents are depicted using a pattern of small, dark hexagons, giving it a digital or network-like appearance. The globe is set against a dark blue background that also features a faint, larger-scale hexagonal pattern.

SOA on your terms and our expertise