



IBM SOA Executive Summit



SOA from conception to deployment

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SOA on your terms and our expertise



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Agenda

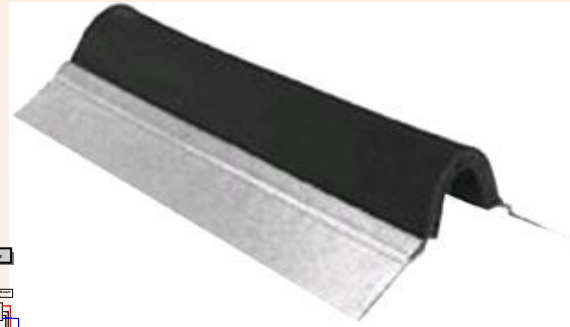
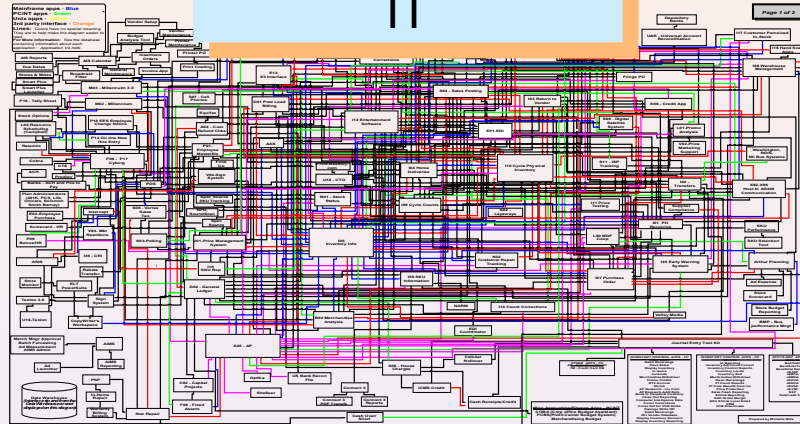
Topics to be covered are:

- SOA from conception to operations
 - Identifying, specifying and realizing the SOA environments
 - Implementing, Deploying and Managing SOA

Implementing the Business - IT expansion joint



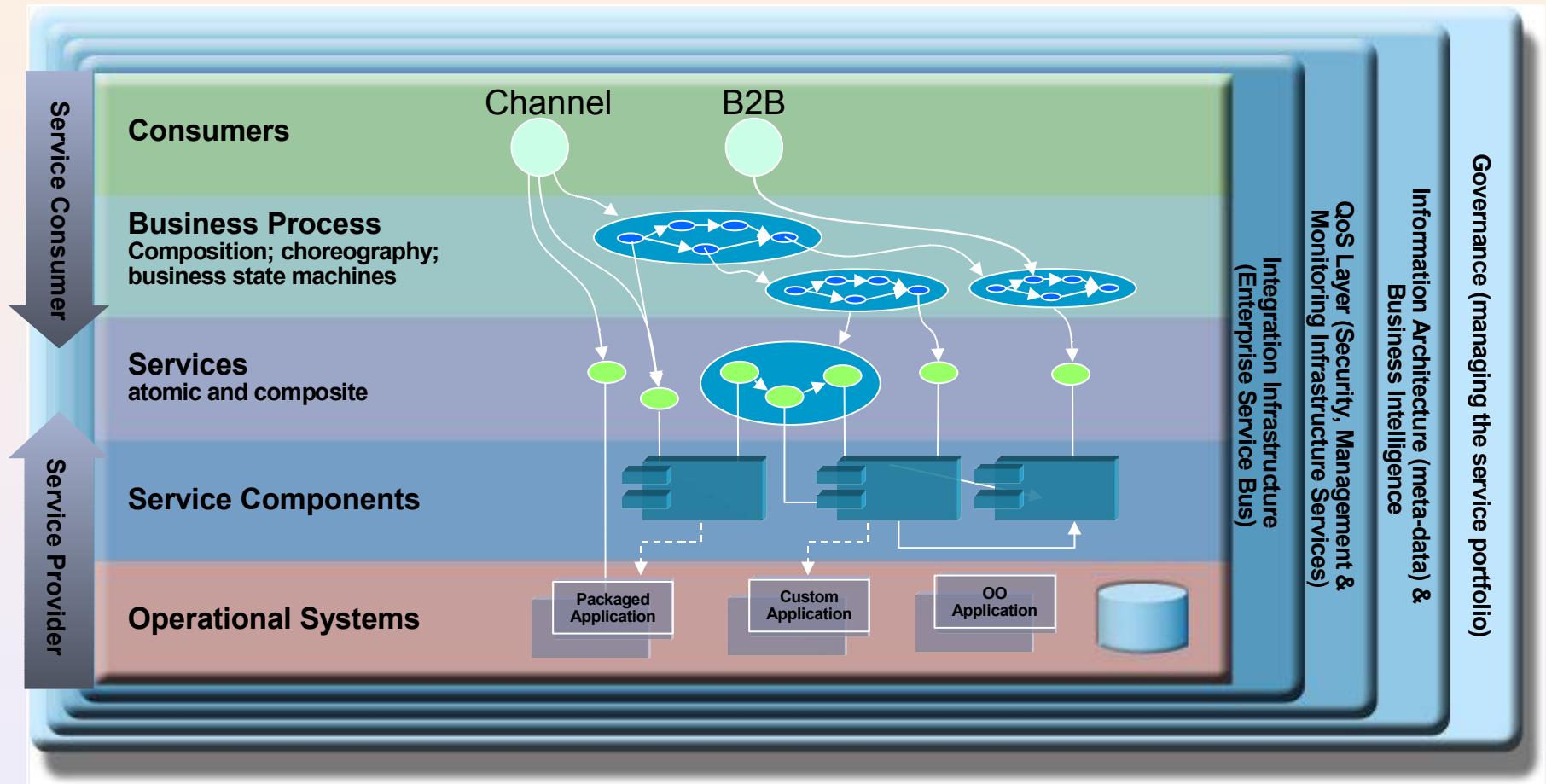
IT



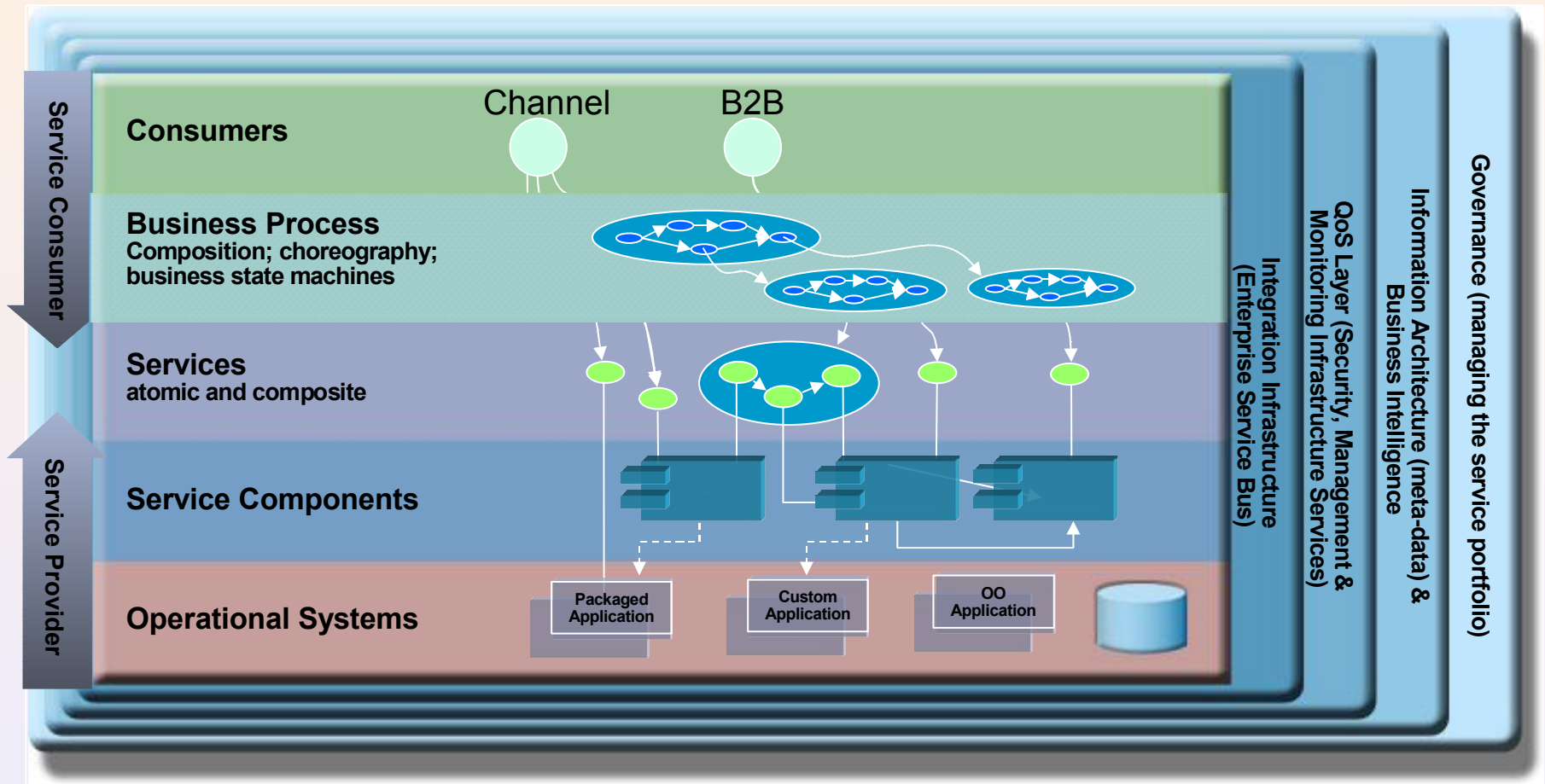
Expansion Joint Cover
Straight Flange



SOA Solution Layering



Realization & Deployment of



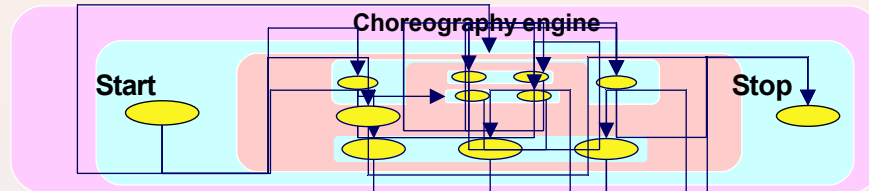
Realization & Deployment of

Business Process
Composition; choreography;
business state machines

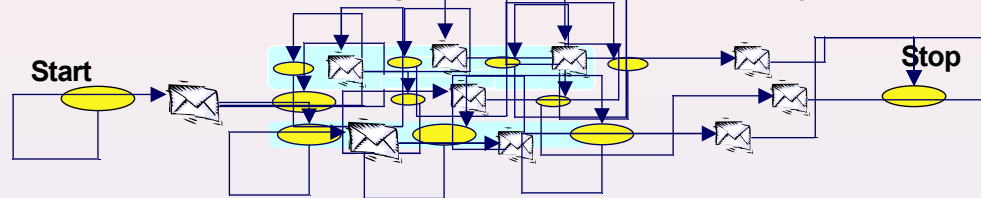


- Realization of business processes depends on existing manifestation of such business processes.
It can be implemented with

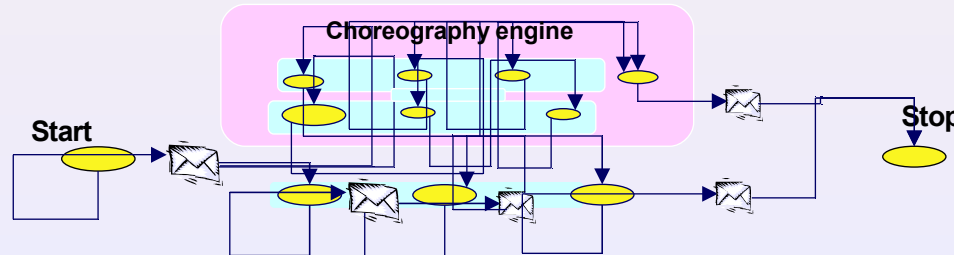
- 1/ A choreography engine as the master chaining services and tasks



- 2/ A chain of events/services realizing the process implicitly



- 3/ A mix of choreographed services and tasks, linked by events

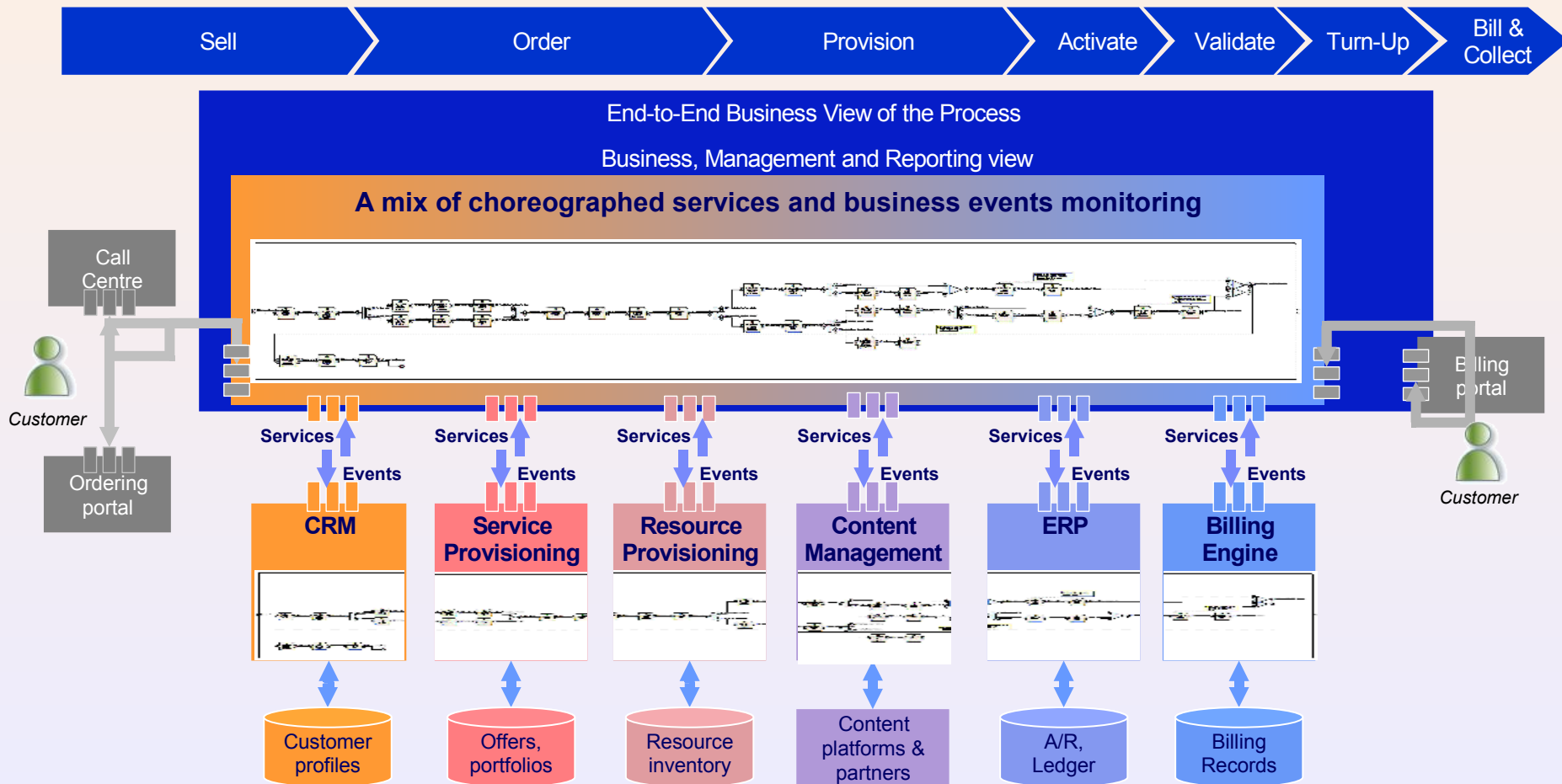


Realization & Deployment of

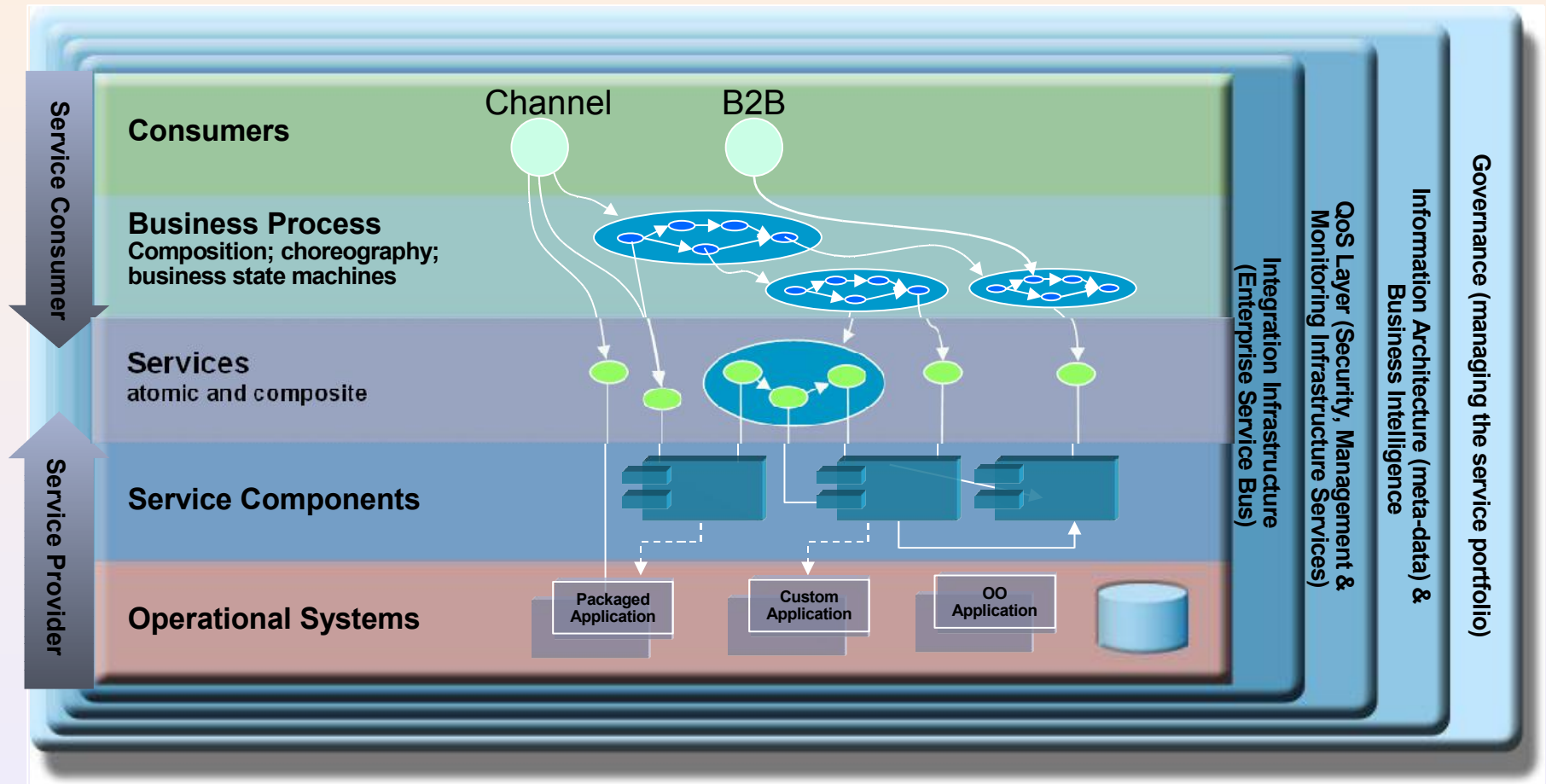
Business Process
Composition; choreography;
business state machines



- Parts of processes can already be implemented by packages: CRM, ERP, Billing, etc. End to end business monitoring may want an integrated view

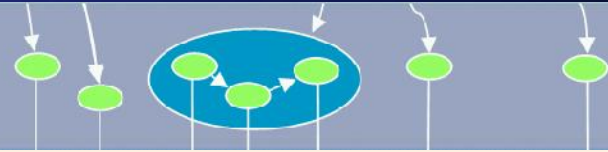


Realization & Deployment of



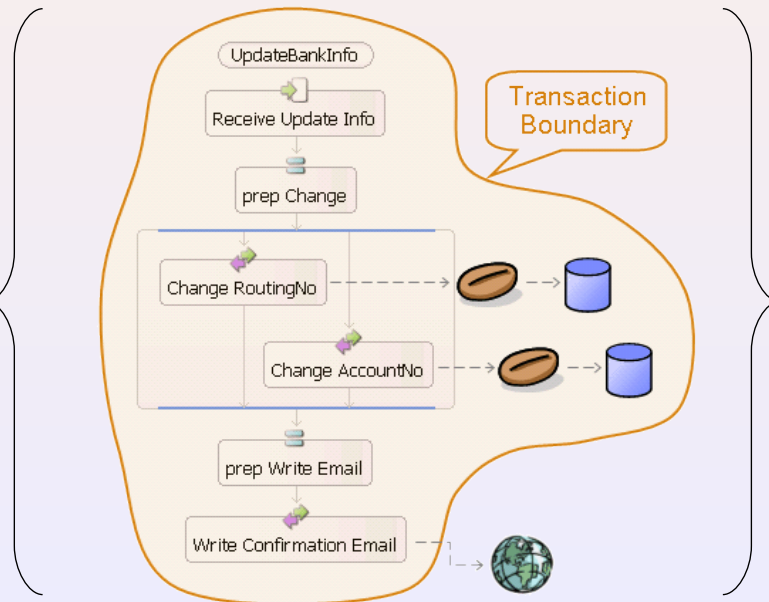
Realization & Deployment of

Services
atomic and composite



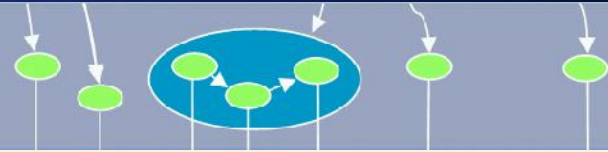
- Matching Granularity:
 - the ideal service granularity is rarely the way transactions, APIs, or messages are implemented
- Consistency:
 - Unit of works are often required when aggregating
- State and process information preservation:
 - Exposed services may not include information that is required in the integrated messages or APIs

“Update Bank Info” service



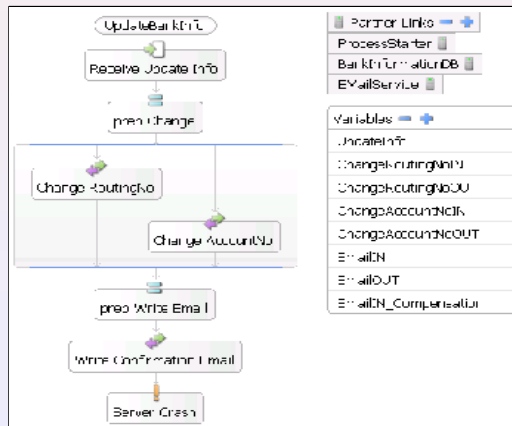
Realization & Deployment of

Services
atomic and composite

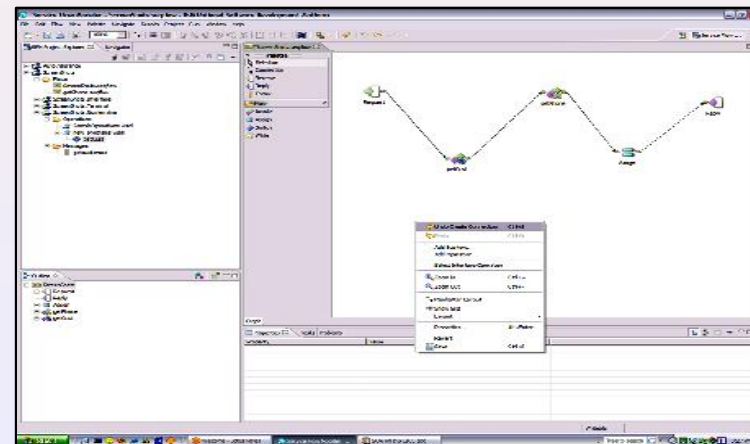


- Solutions for Granularity, Consistency, State and Process information.
 - Short lived (micro seconds) Process Flows (WS-BPEL microflows)
 - Adapters (custom or off the shelf)
 - New mainframe transactions
 - Mainframe hosted flows (CICS Service Flow Modeler)
 - POJO (Plain Old Java Object) in a Service Component
 - Mediations in the Enterprise Service bus
 - Automatic Cross Referencing (WPS business objects)

WS-BPEL Micro flow

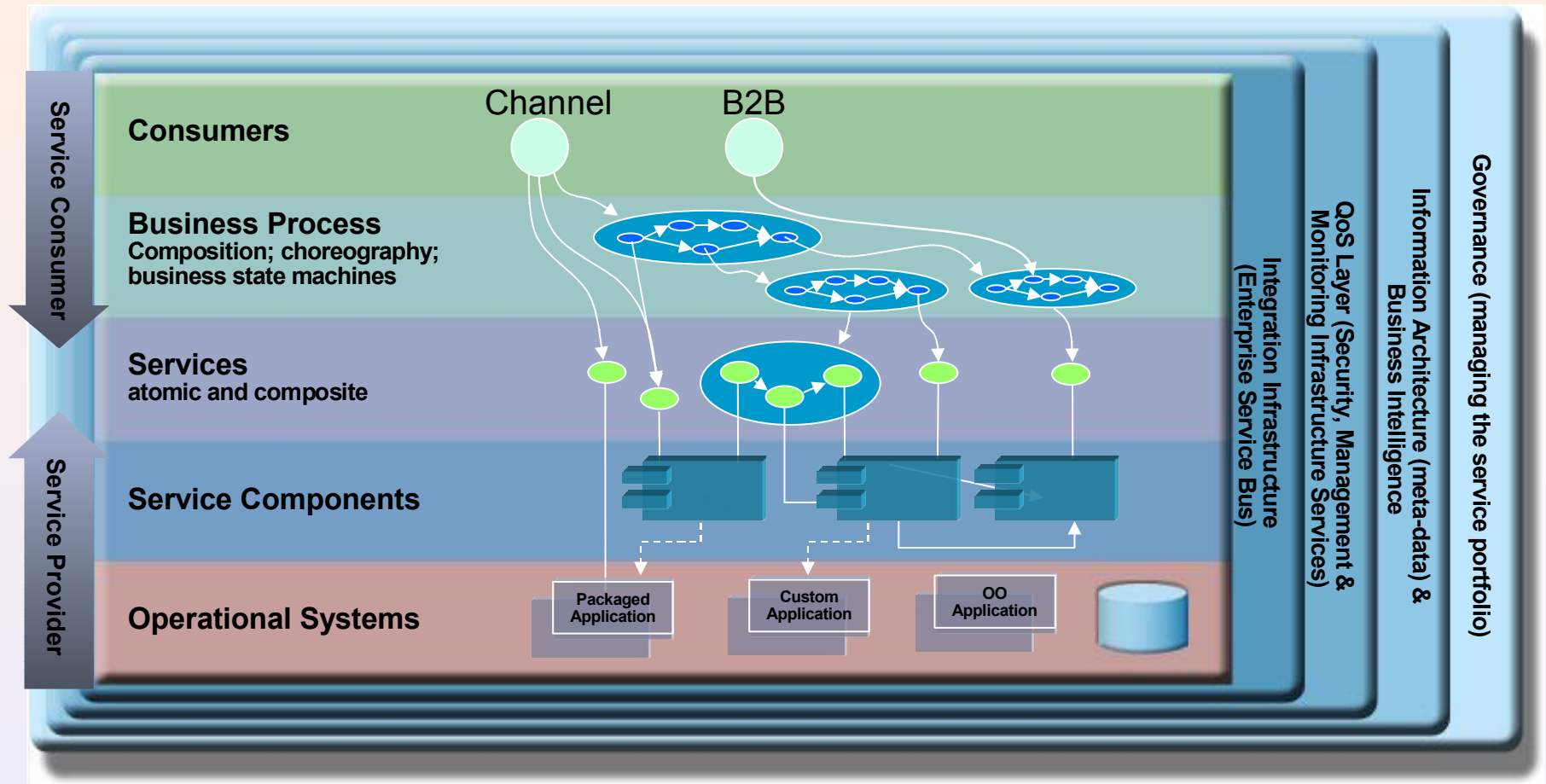


CICS Mainframe flow

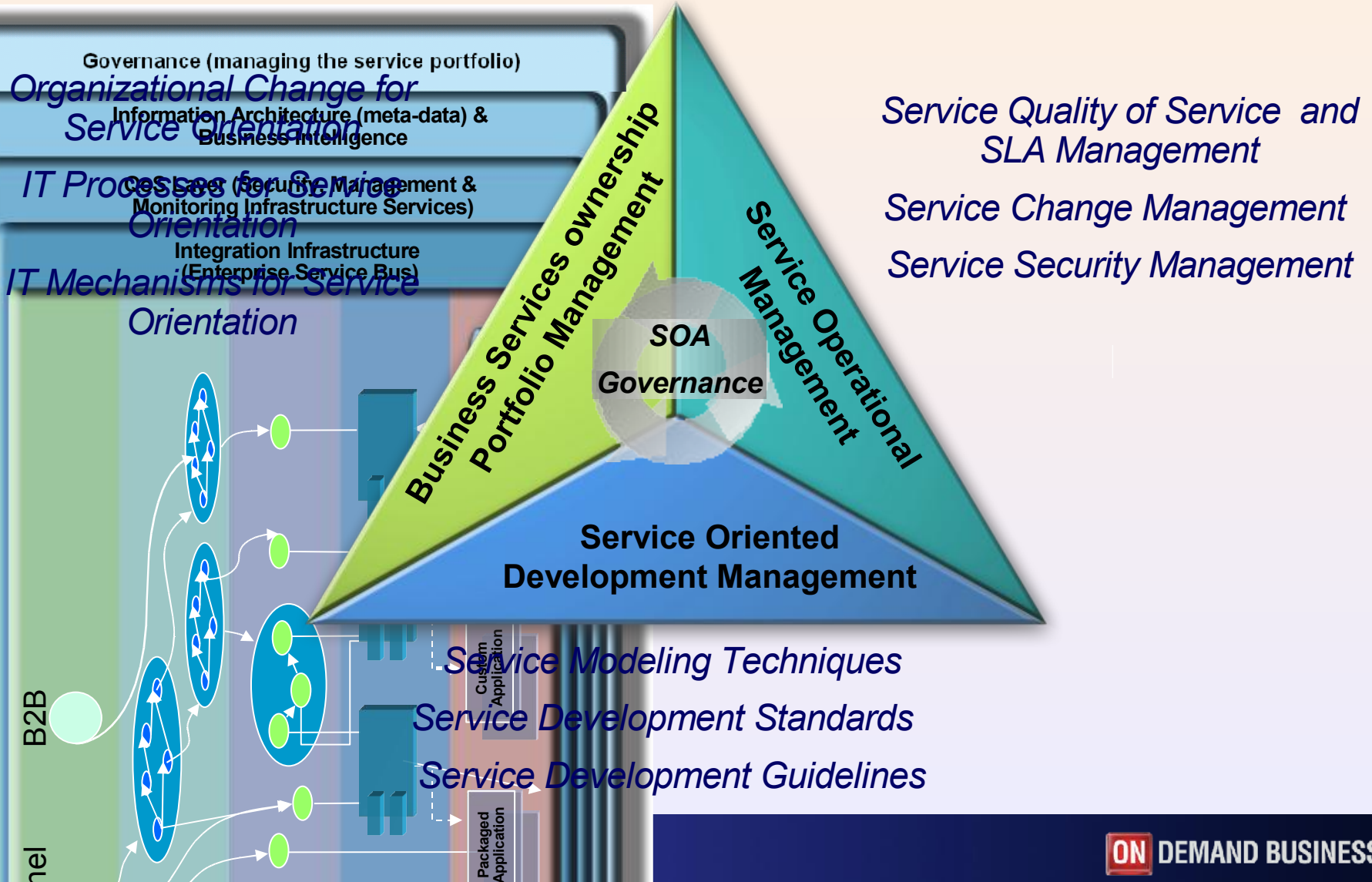


Etc...

Realization & Deployment of



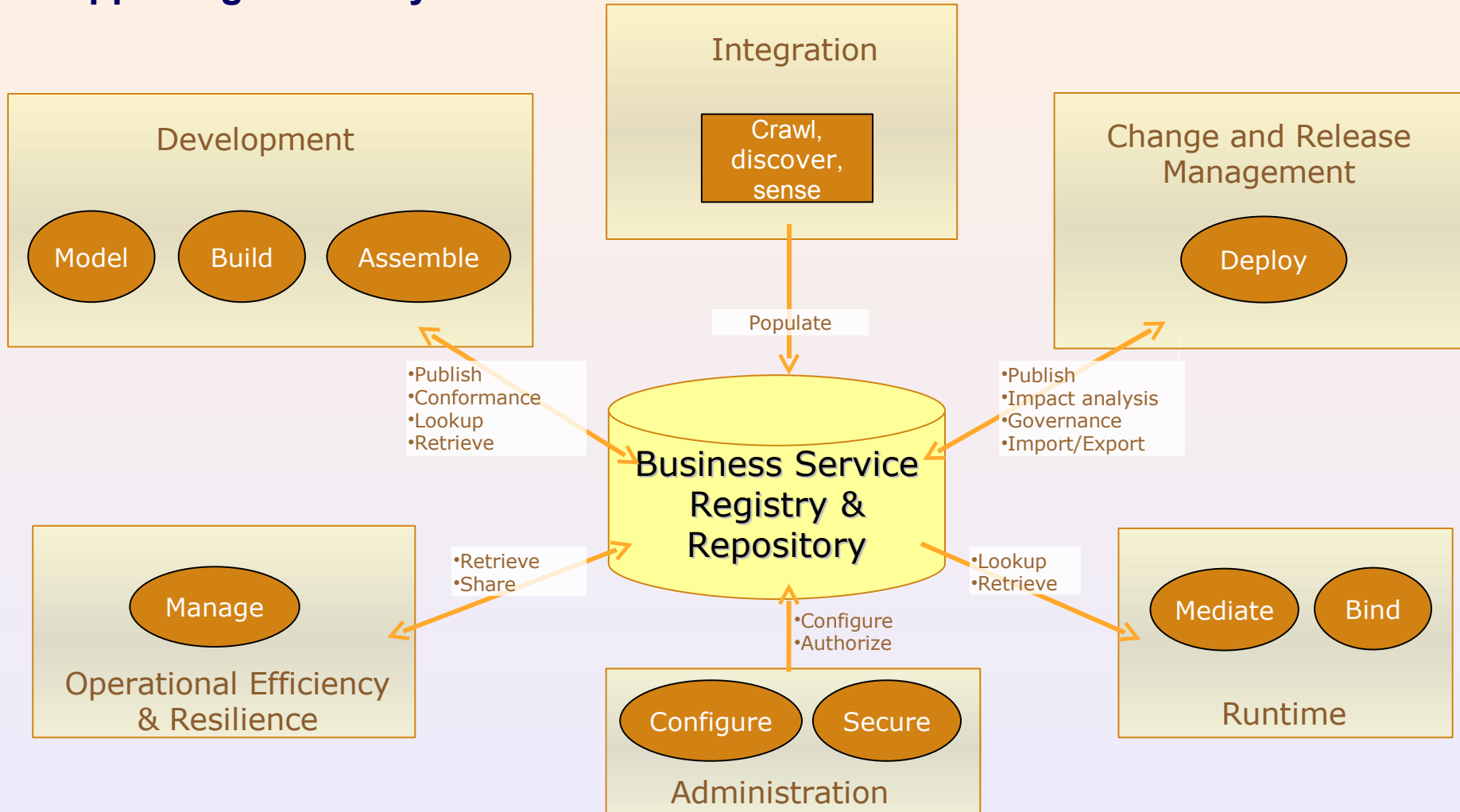
Realization & Deployment of



Realization & Deployment of

Governance (managing the service portfolio)

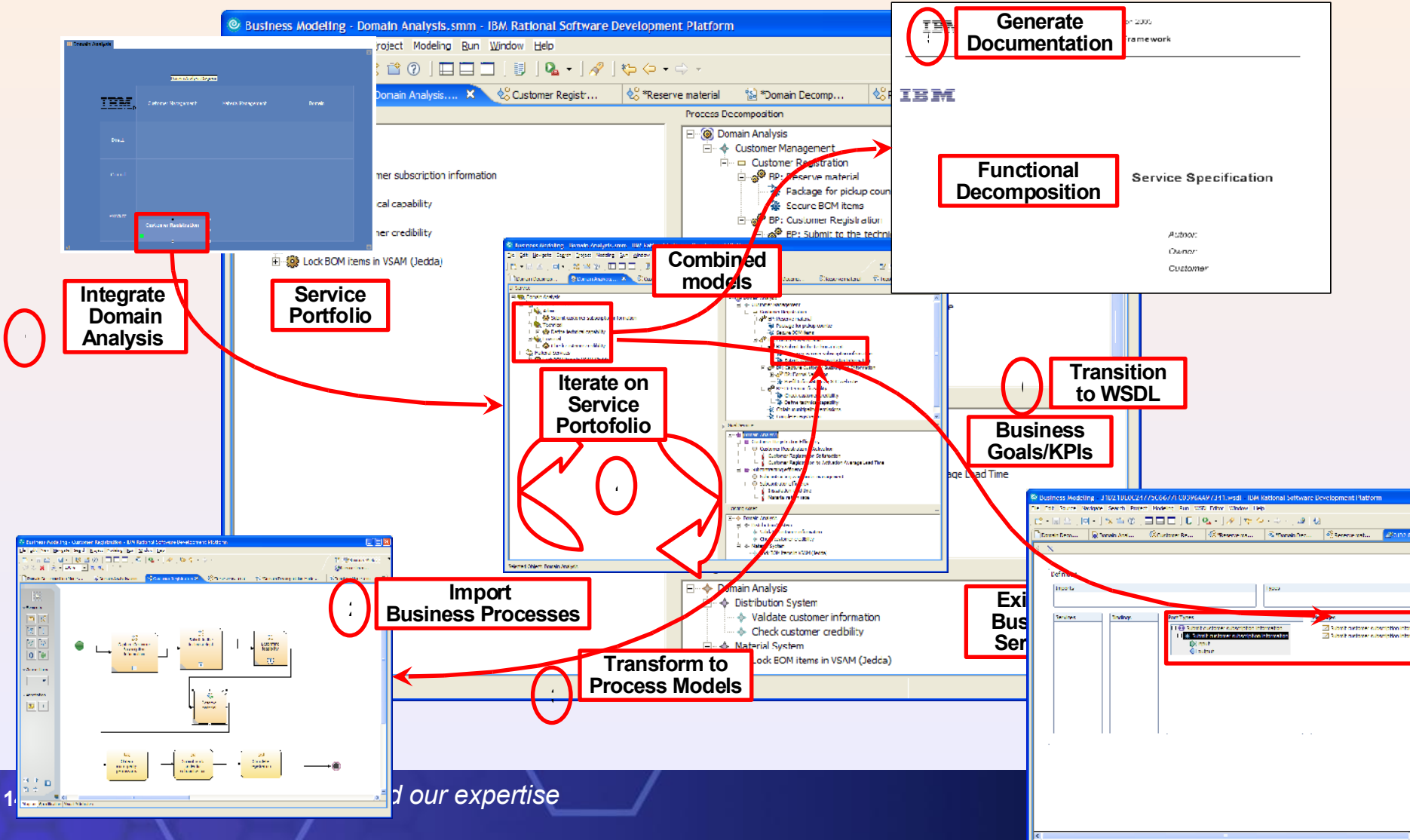
Supporting the life cycle of services



Realization & Deployment of

Governance (managing the service portfolio)

Supporting the Service Oriented Development Management



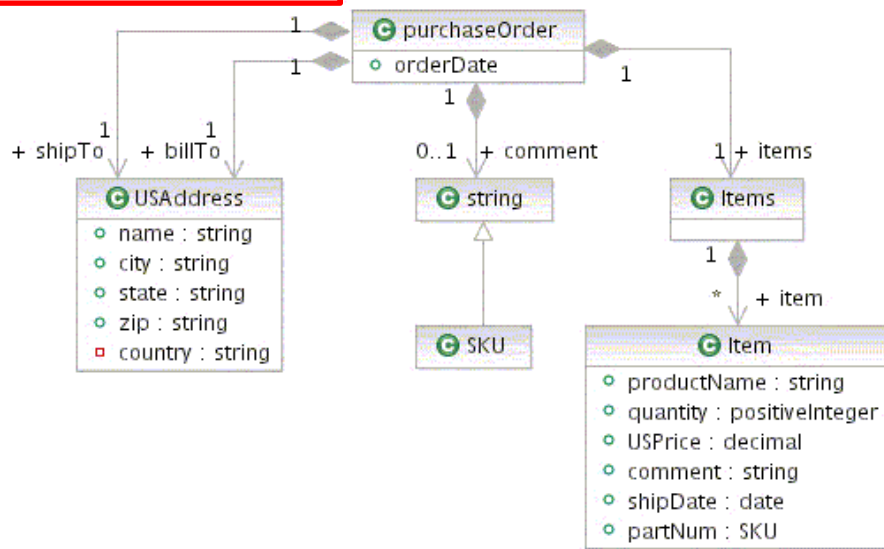
Realization & Deployment of

Designing information models and generate artifacts

Reusability of business services requires a shared information model .

Governance (managing the service portfolio)

Capture Information Model



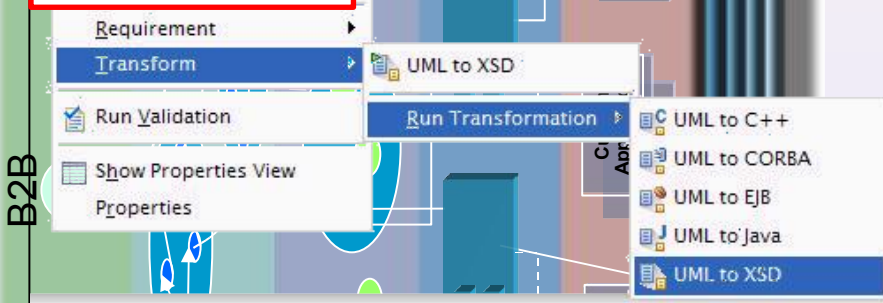
Example generated purchase order schema

```

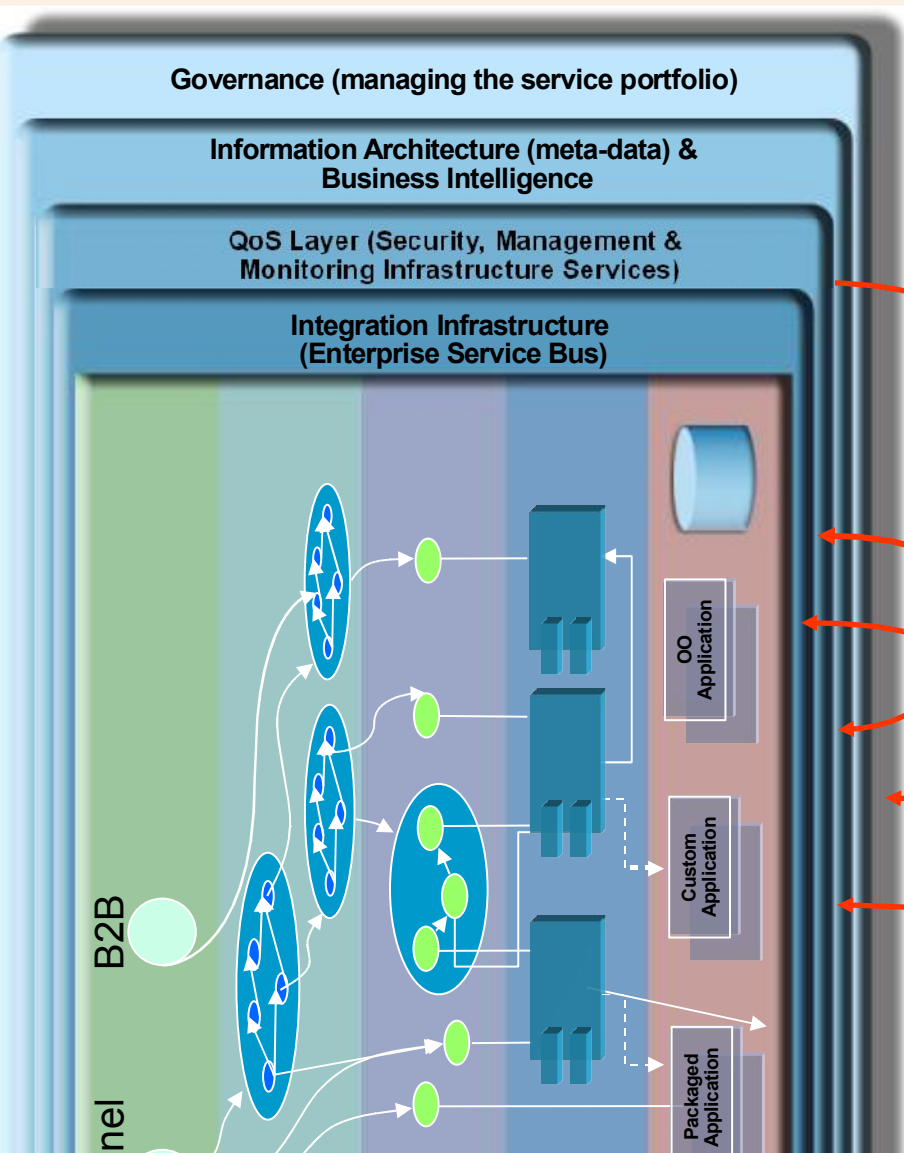
<?xml version="1.0" encoding="UTF-8" ?>
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <xsd:complexType name="purchaseOrder">
    <xsd:sequence>
      <xsd:element name="orderDate"/>
      <xsd:element name="shipTo" type="USAddress"/>
      <xsd:element name="billTo" type="USAddress"/>
      <xsd:element minOccurs="0" name="comment" type="string"/>
      <xsd:element name="items" type="Items"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="Items">
    <xsd:sequence>
      <xsd:element maxOccurs="unbounded" minOccurs="0" name="item" type="Item"/>
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  </xsd:complexType>
  <xsd:complexType name="USAddress">
    <xsd:sequence>
      <xsd:element name="name" type="string"/>
      <xsd:element name="city" type="string"/>
      <xsd:element name="state" type="string"/>
      <xsd:element name="zip" type="string"/>
      <xsd:element name="country" type="string"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="Item">
    <xsd:sequence>
      <xsd:element name="productName" type="xsd:string"/>
      <xsd:element name="quantity" type="xsd:positiveInteger"/>
      <xsd:element name="USPrice" type="xsd:decimal"/>
      <xsd:element name="comment" type="string"/>
      <xsd:element name="shipDate" type="xsd:date"/>
      <xsd:element name="partNum" type="SKU"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="SKU">
    <xsd:sequence>

```

Generate XML Schemas



Realization & Deployment of



Manage: Service Security and identity management

- Consistent authorization across the infrastructure components

Manage: End to End Service Transaction Performance

- Collect transaction data: Web Services, java beans, RMI/IIOP, MQ, JMS, CICS, IMS
- Problems detected: identify performance bottlenecks

Manage: Resources

- Collect resource data: CPU utilization, network latency, I/O throughput, Operating Systems
- Problems detected: queues filling up / timing out, disk failures, hardware or network failures

Realization & Deployment of

QoS Layer (Security, Management & Monitoring Infrastructure Services)

Relationship: Services that support Business Process
Key Performance Indicators
Impact Analysis

Business Process Modeling and Monitoring tools

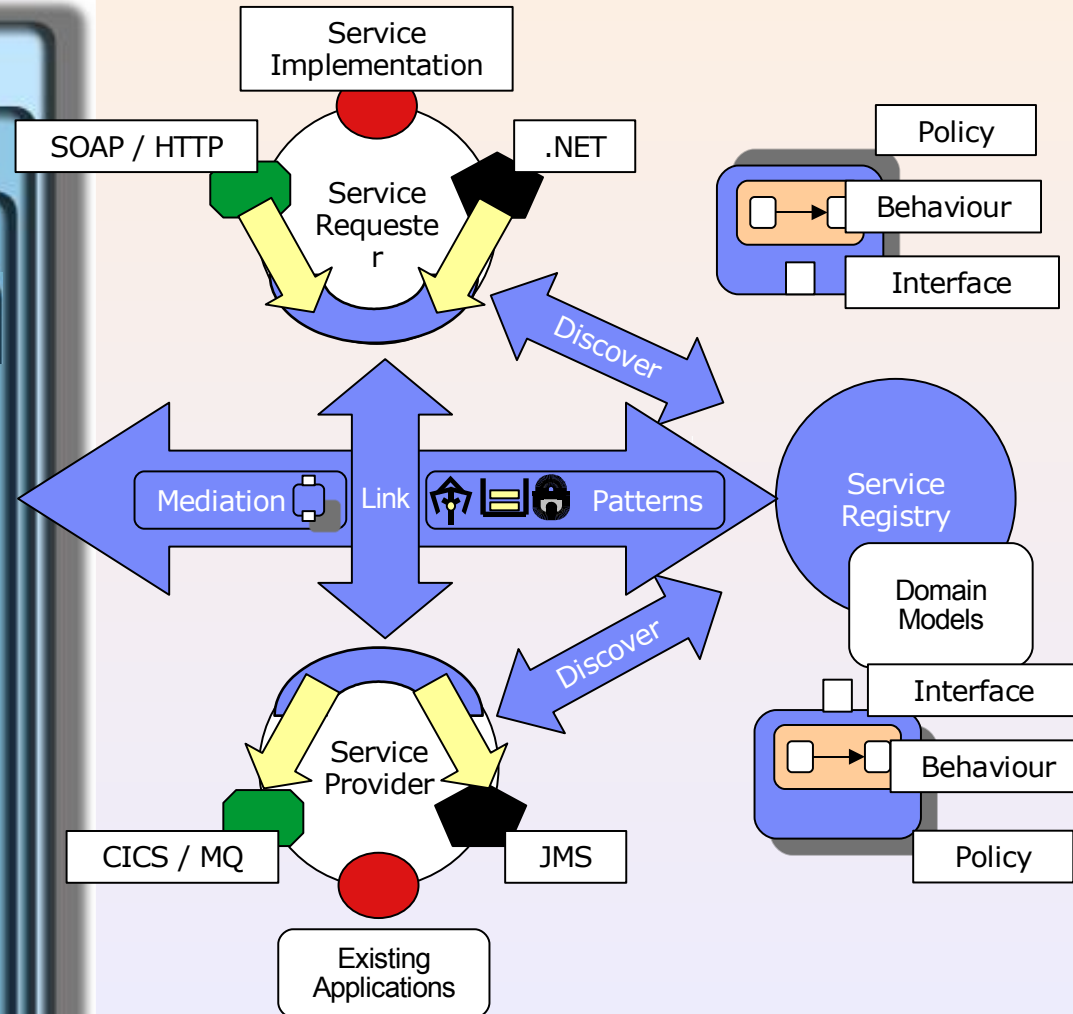
Service Instance Information
Relationship: Services that depend on Infrastructure
Management policies

Application and IT Resource Management

SOA Management Tools

Realization & Deployment of

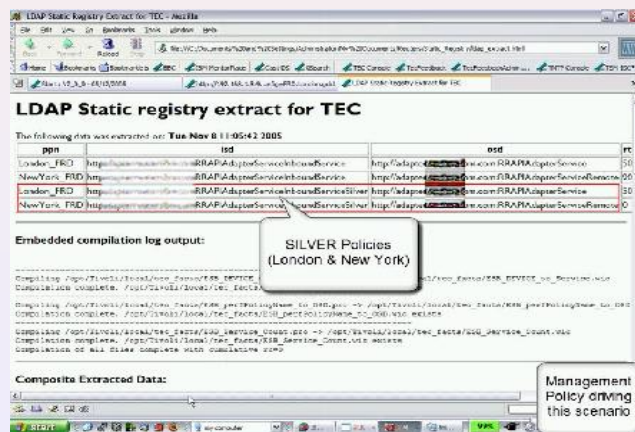
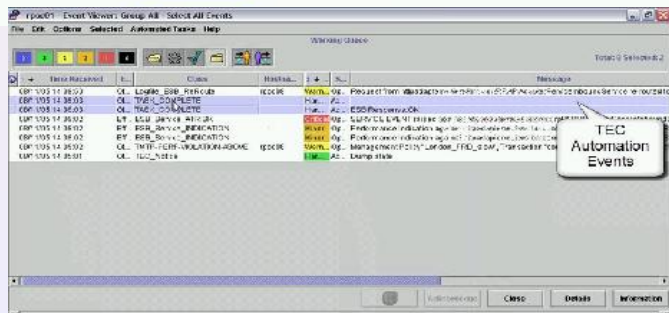
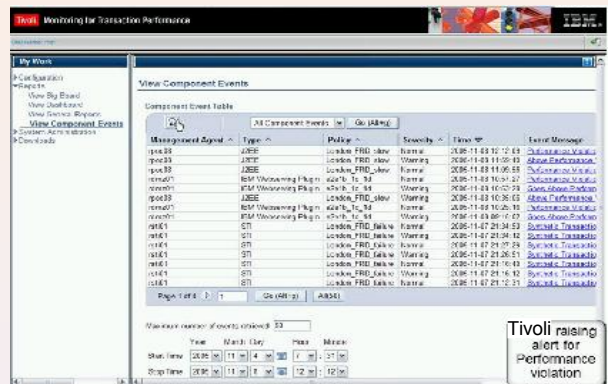
- Enterprise Service Bus
 - Governance (managing the service portfolio)
 - Provides interoperability services, distributed or centralized
 - Information Architecture (meta-data) & Business Intelligence
 - Service Interact with each other based on the QoS requirements of the individual transactions
 - QoS Layer (Security, Management & Monitoring, Infrastructure Services)
 - Persistent/Non-persistent, Loosely coupled/Tightly-coupled
 - Integration Infrastructure (Enterprise Service Bus)
- Common infrastructure for SOA, Events, Messages
 - Connects and integrates an enterprise's IT business
 - Bridging heterogeneous platforms, environments and transports
- Mediates service requests and responses
 - Performs transformation, routing and other "value-added" services
 - Enables connection-type transparency
- Standards-based (e.g. JMS, SOAP, Web Services, ...)
 - Open APIs and protocols support the interoperability and substitution of middleware from multiple vendors



Realization & Deployment of



Example Enterprise Service Bus implementation with policy based Service guarantee
Gold Member service requests are routed to the best response time provider



Conclusion

- We have experience in delivering SOA projects that demonstrate the value of flexibility
- We have experience in the methods, best practices and have the middleware and tools that make the end to end service life cycle real.
- Integrating flexibility both on the business semantic and in the technical infrastructure is essential

End of presentation

धन्यवाद

Hindi

多謝

Traditional Chinese

ขอบคุณ

Thai

Спасибо

Russian

Gracias

Spanish

நன்றி

Tamil

Merci

French

Thank You

English

شكراً

Arabic

Obrigado

Brazilian Portuguese

多谢

Simplified Chinese

Grazie

Italian

Danke

German

ありがとうございました

Japanese

감사합니다

Korean

감사합니다



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Closing Slide

Questions

SOA on your terms and our expertise



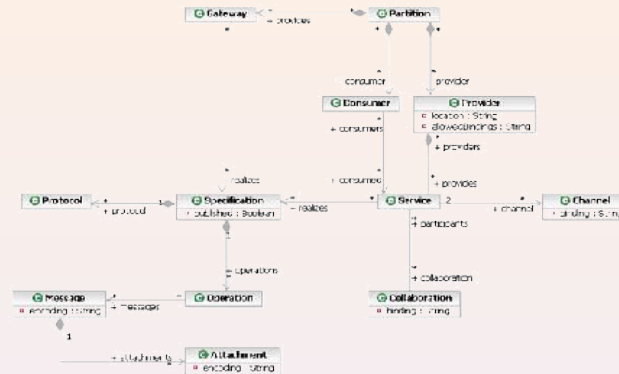
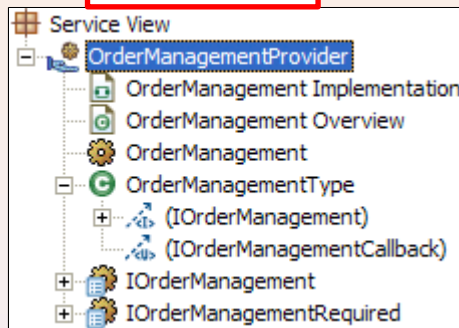
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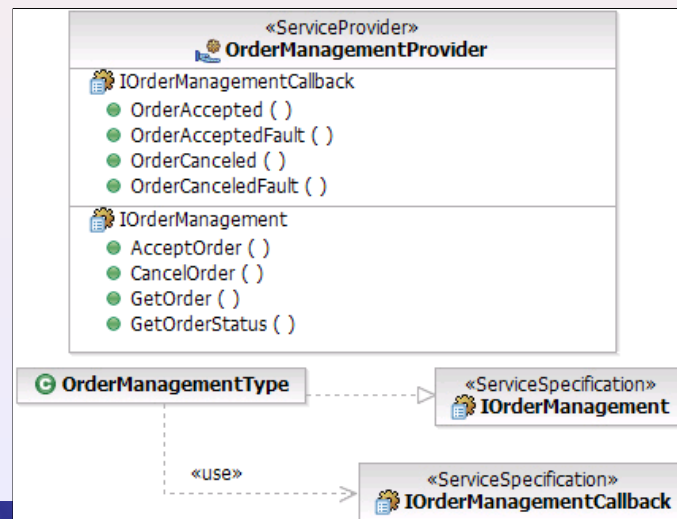
Specifying Services with UML 2.0 Profile for Software Services

Profile implemented in IBM Rational Software Architect Provides a common language for describing services

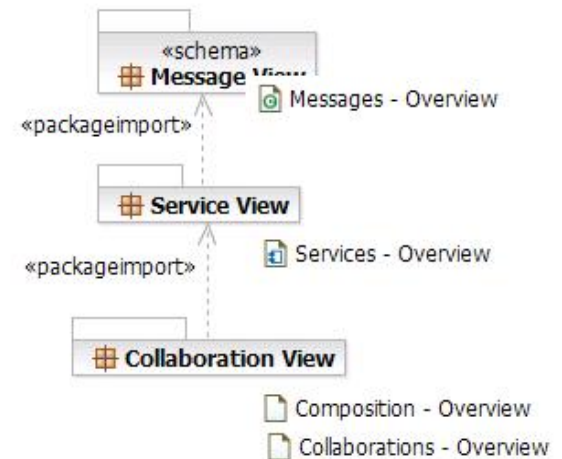
Service Portfolio



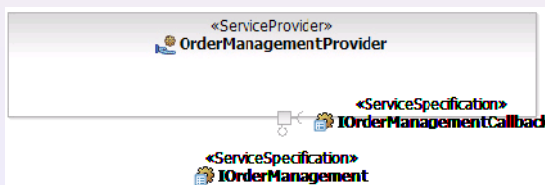
Specify Service operations



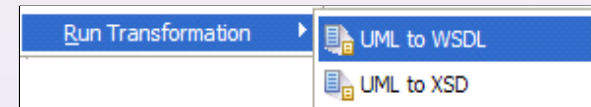
Specify Messages, Services, Compositions



Specify Service packaging

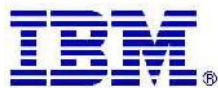


Generate WSDL





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Closing Slide

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