IBM SOA ARCHITECT SUMMIT
LE 22 MAI 2008

Activation et exécution dynamiques de services télécom

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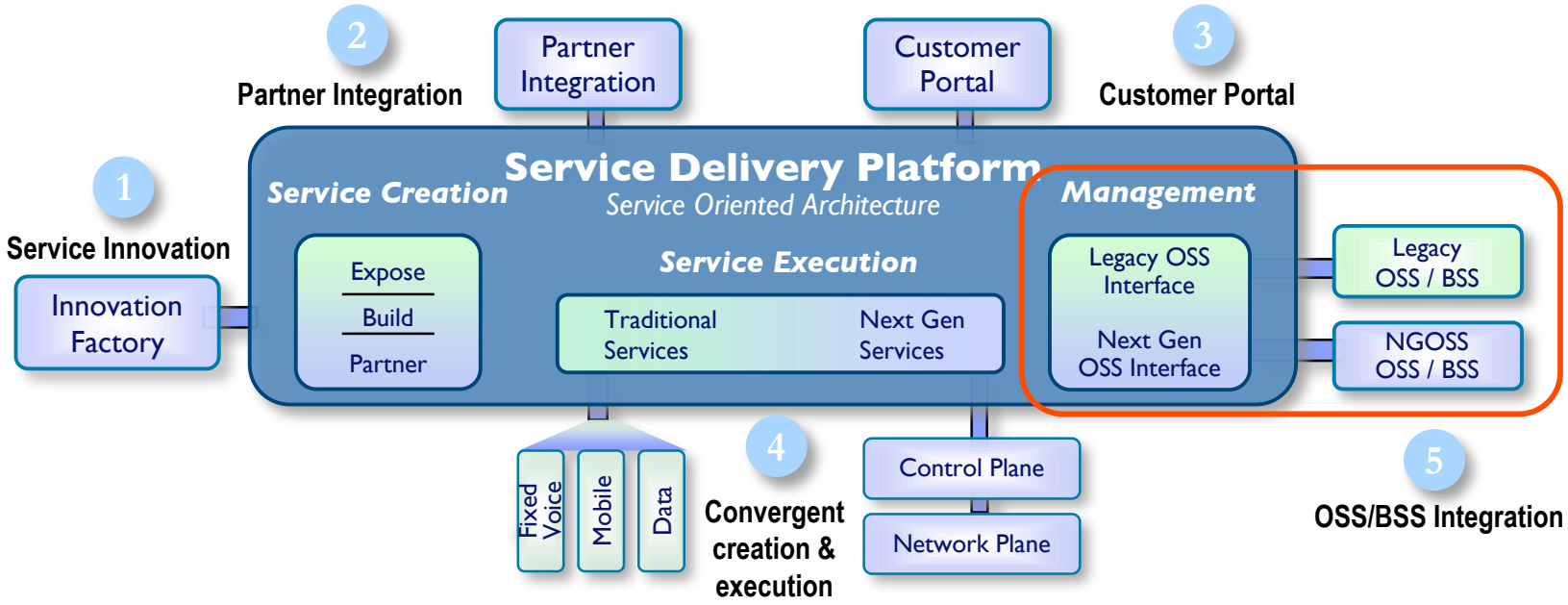
Agenda

- Introduction to Business Services and Dynamic SOA
- Demonstration: Dynamic Order Fulfillment Business Process

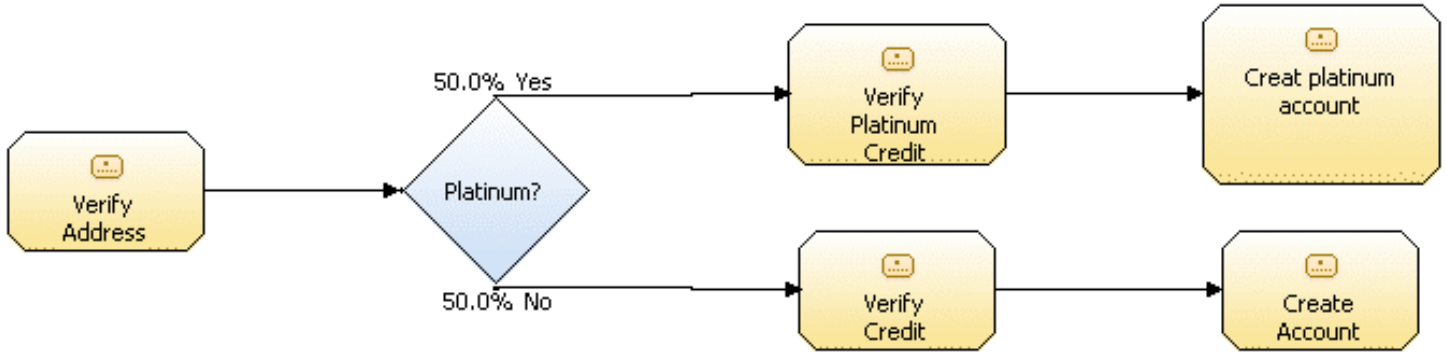
Telecom Environment

The Fabric Telecom Operations Content Pack focuses on OSS/BSS integration

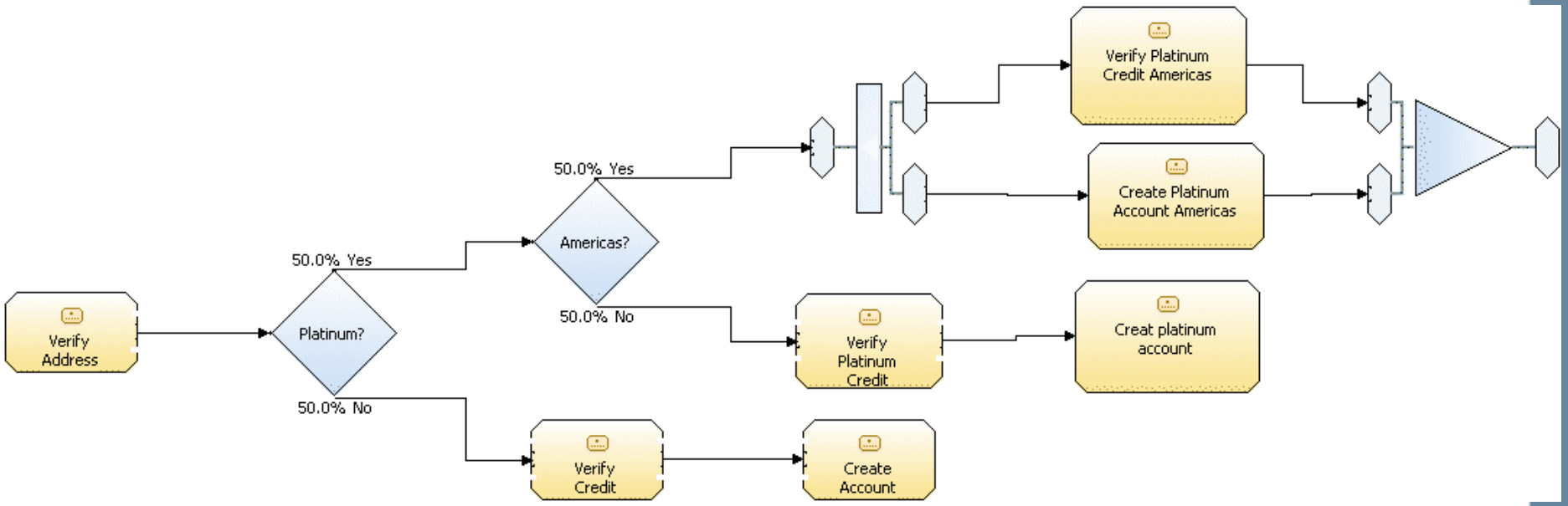


Let’s take an example of a base process

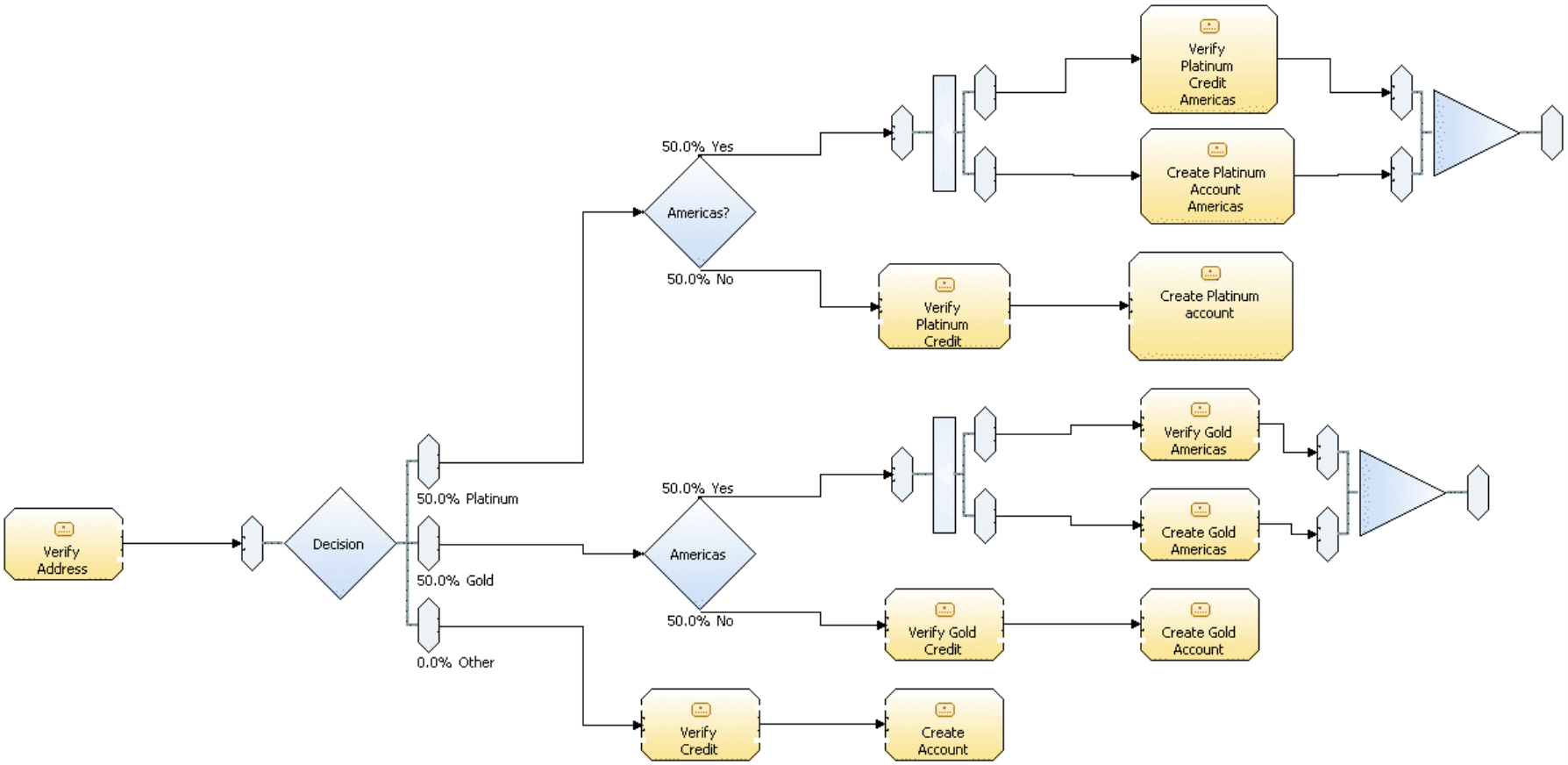
Business Driven Change: Add Platinum customer



Business Driven Change: Add Geographical support



Business Driven Change: Add Gold customer



This leads to a complex process

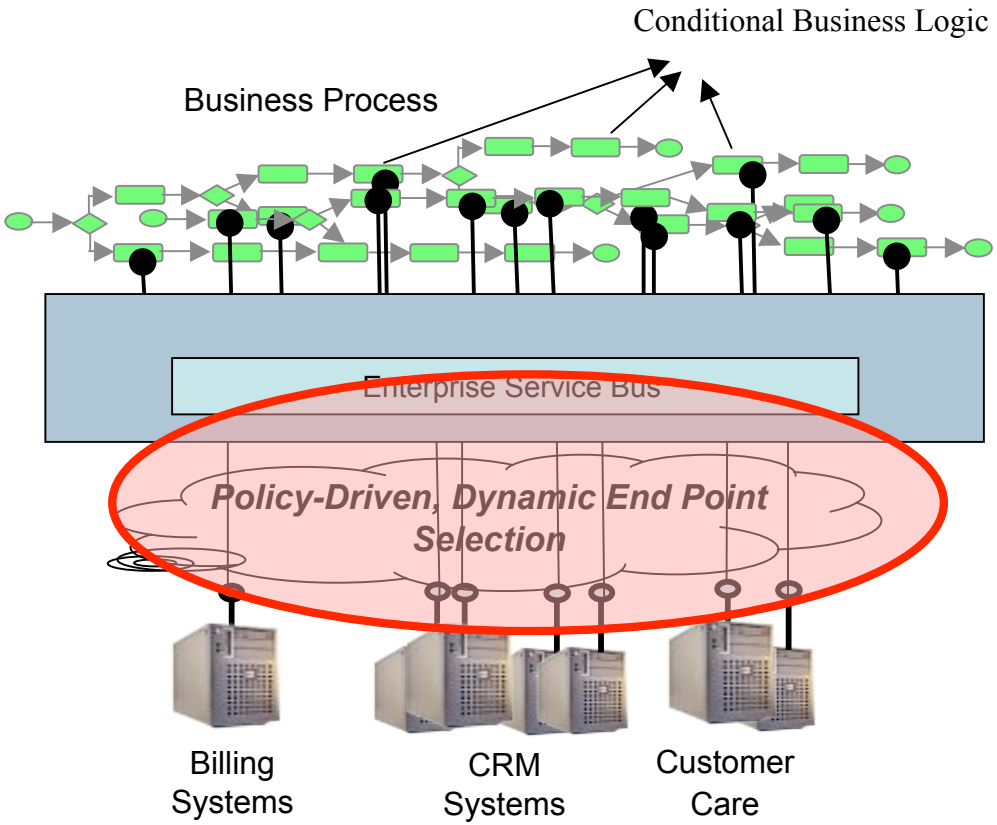
The process has to stay simple

The Process should stay as simple as this…

… while being as flexible as possible

Solution to address this challenge

The key is to extract the conditional business logic from the Business Process



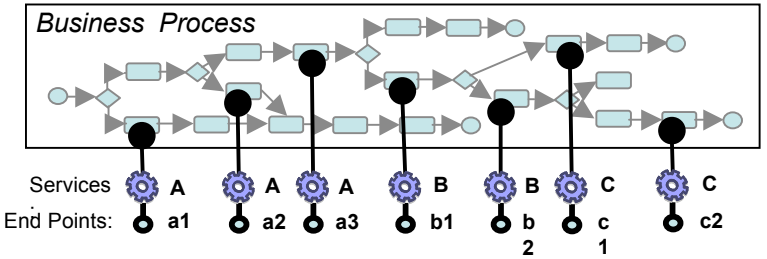
- **Remove hard-coded conditional business logic**
- **Simplifies the business process**
- **No more static bindings to services**
- **Dynamically select services based on business rules**

WebSphere Business Services Fabric

Greater agility through policy-driven, dynamic endpoint selection

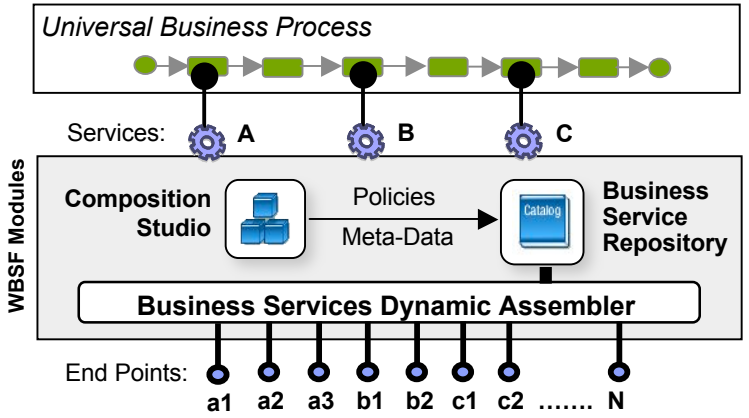
Traditional BPM Approach:

- Hard-coded service bindings
- Hard-coded routing logic, even if business rules and selectors provide some flexibility in decision logic
- Process change requires model change, reassembly & deployment

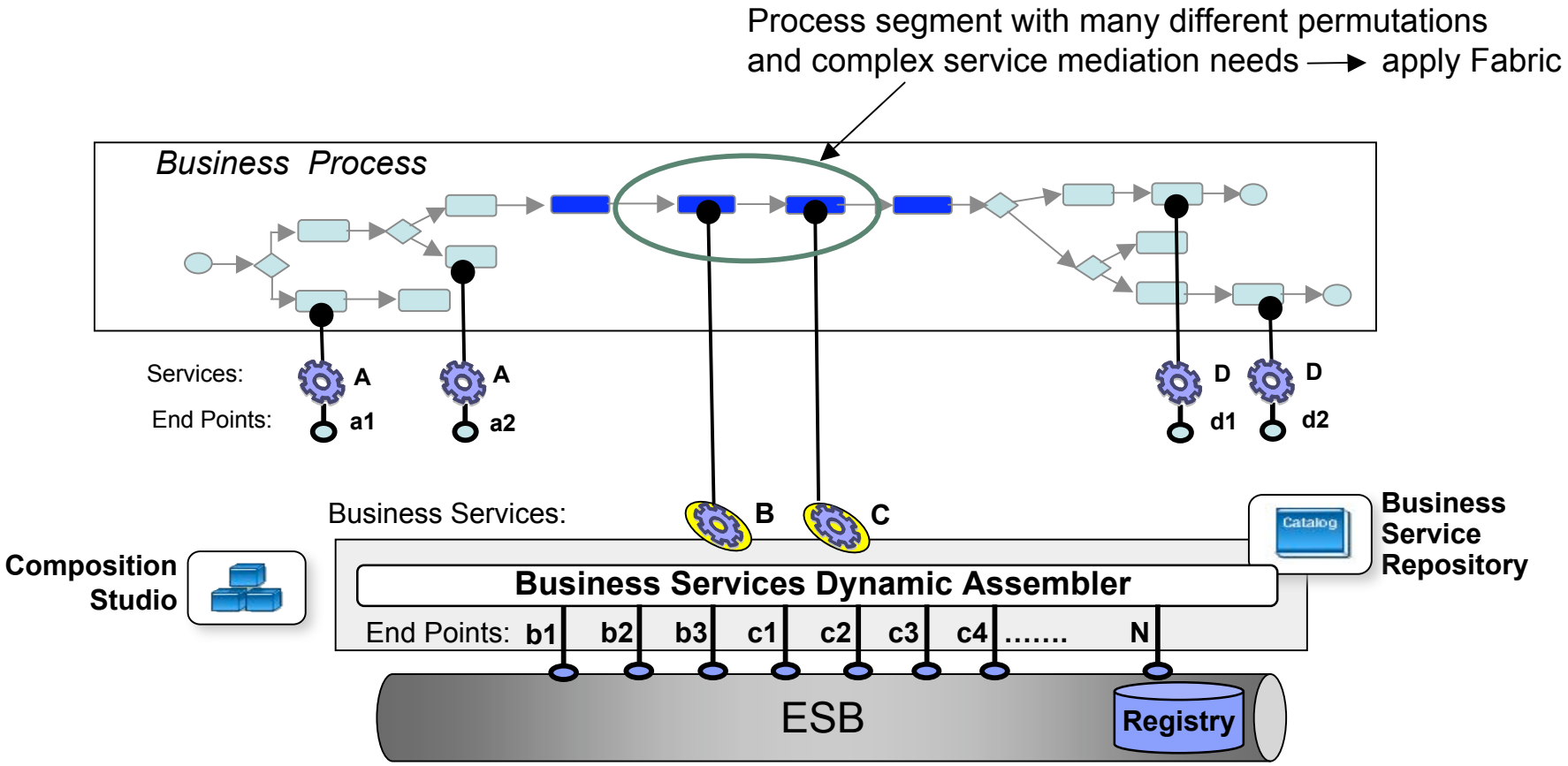


Using Fabric and Business Services:

- Just-in-time integration through policy-driven, dynamic endpoint selection,
- Manage processes and assert policies at a higher level, using industry languages defined by ontologies



Reasons to select a WBSF Solution…
Reduced Complexity In The Process Layer



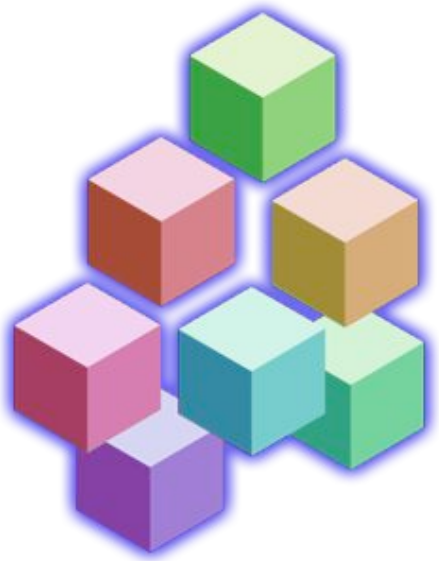
Introducing WebSphere Business Services Fabric

- Platform to enable a new class of **Service Oriented Applications**
- Provides modeling, assembly, deployment, management, and governance of **Business Services**
- Includes optional **Industry Content Packs** that contain pre-built SOA assets that accelerate development of industry-specific Service Oriented Applications
- Includes WebSphere Process Server and WebSphere Integration Developer

Business Services are the “Building Blocks” of Industry Solutions

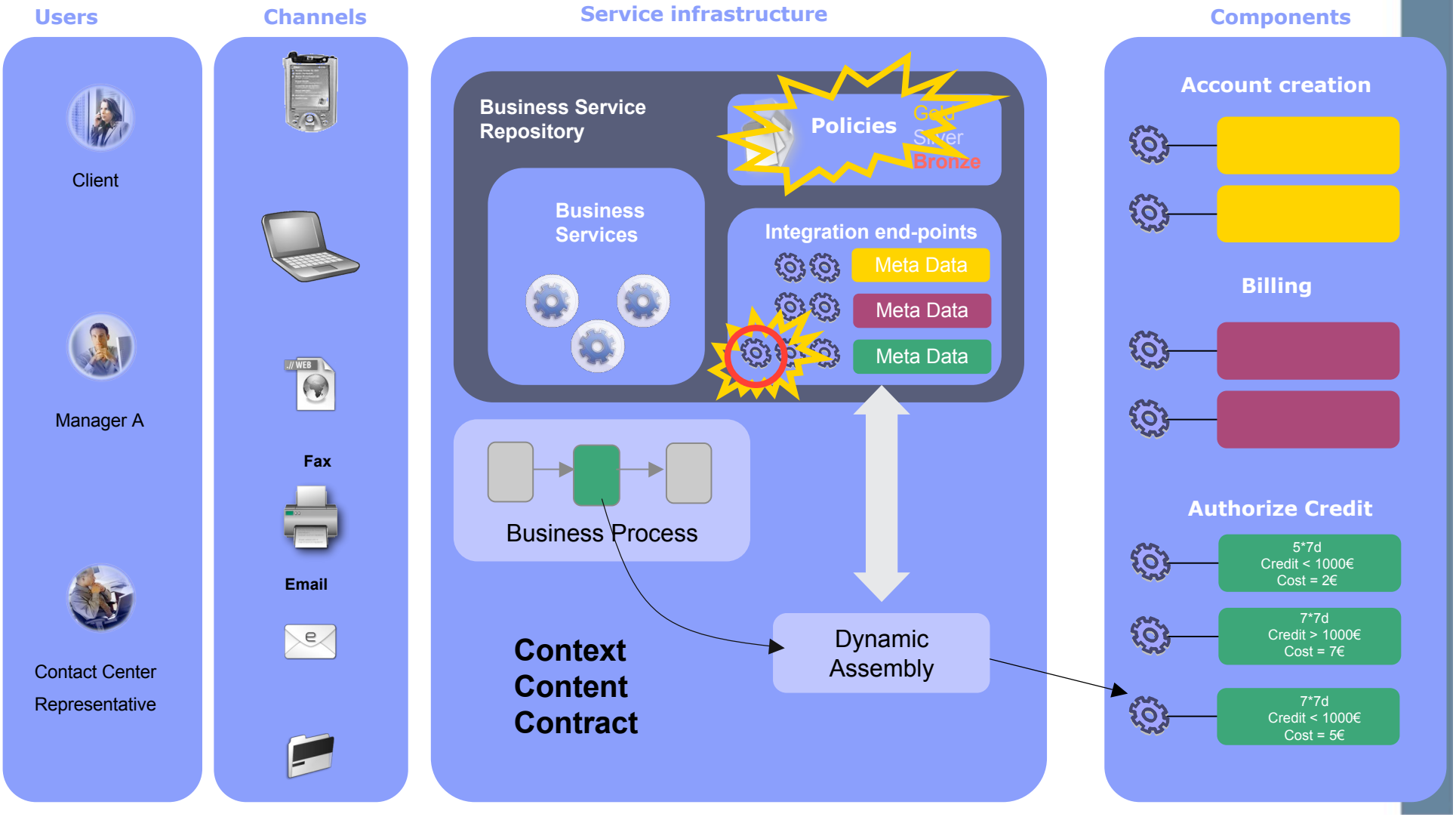
A Business Service is a business function whose execution can be adapted at runtime based on business policy and user context.

- Designed at business level to represent a discrete business function (e.g. check credit, open account)
- Derived from disparate IT resources (e.g. legacy systems, custom applications, ISV systems, third party services)
- Built using Web service and industry standards (e.g. WS-I, ACORD, HIPAA, HL7)
- Provisioned through multiple communication channels (e.g. Web, B2B, IVR)
- Can be combined to create loosely coupled applications and processes
- Can provide flexible, adaptable behavior based on business policy and user context



Composite business services are collections of business services built around a complex business process that work together to provide straight through processing of that capability

Business Services Dynamic Assembly



6 Components to manage Business Service Lifecycle

Composition Studio
Composition Studio enables domain-experienced software architects to source, assemble, publish, and manage composite business services and policies.

Subscriber Manager
Subscriber Manager controls and automates entitlements of Business Services. It enables creation, control, and management of service portfolios across the ecosystem. Integrates with leading security and identity management products e.g. LDAP, TAM.

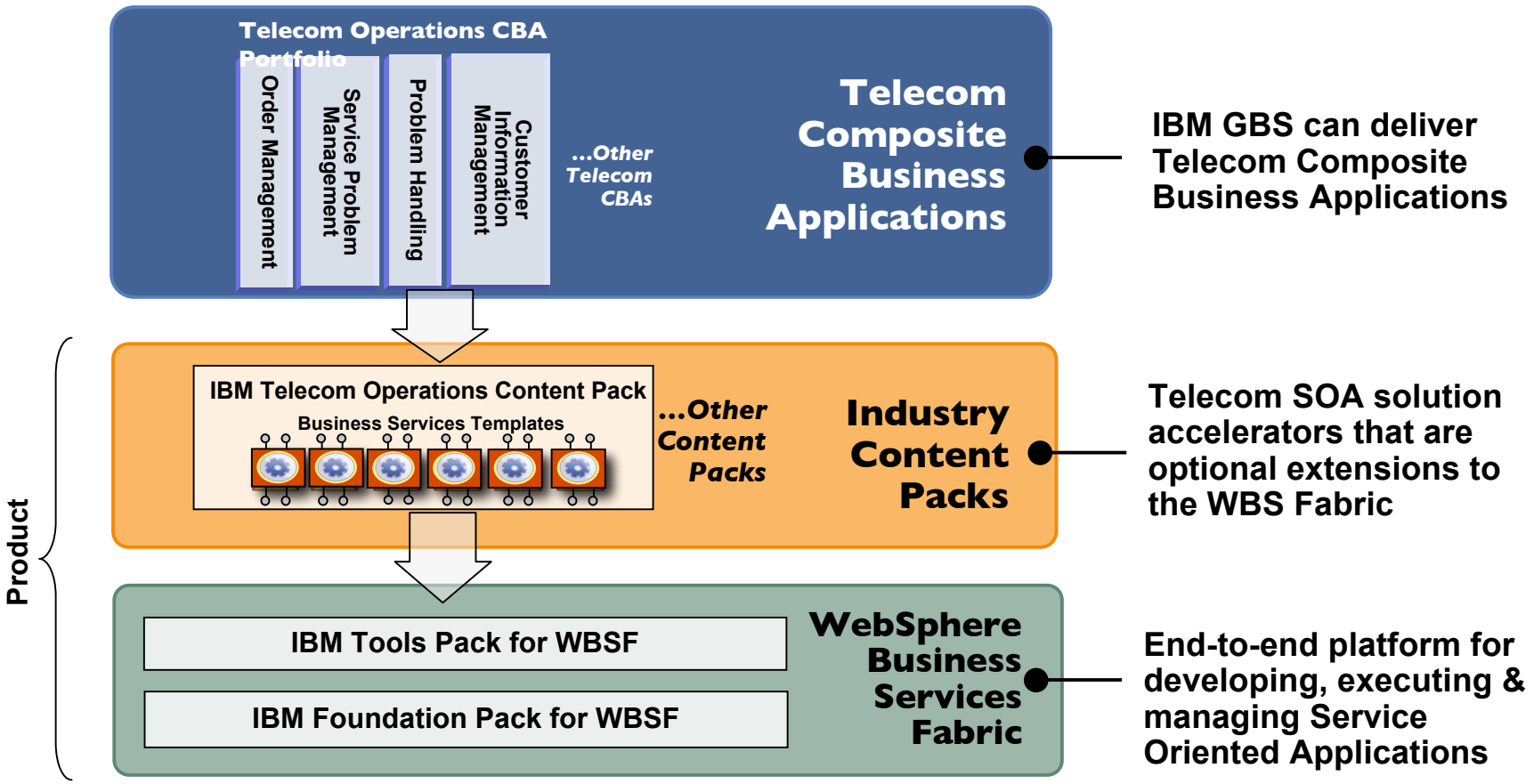
Governance Manager
Governance Manager provides end to end governance of Business Services through design-time, runtime, deploy-time and manage-time

Business Services Repository
Business metadata repository for business service context, domain ontologies, business policies, and business service subscriber entitlements. Enables discovery and federation of service metadata in external registries including UDDI and WebSphere Service Registry and Repository.

Dynamic Assembler
A highly scalable, policy composition and semantic mediation engine that enables dynamic service assembly and service behavior adaptation based on content, context, and contract.

Performance Manager
Performance Manager provides visibility and monitoring of composite business services. Provides contextual views of business service performance and enables drill-down analysis of events and exceptions.

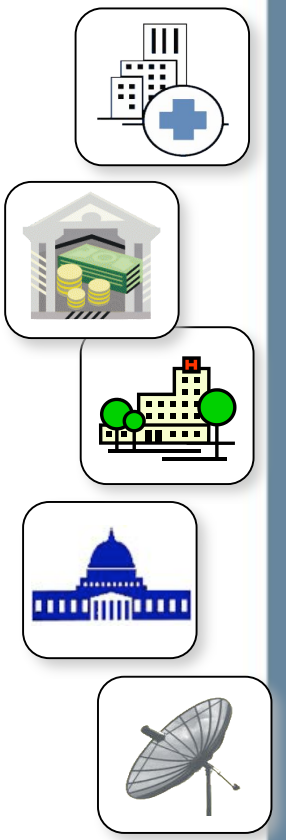
Fabric Architecture and Packaging



Telecom Operations Content Pack: An SOA Accelerator

Definition:

Pre-built industry specific assets that **speed time to market** for Telecom Service Oriented Business Solutions



IBM Telecom Operation Content Pack is:

- **Pre-definition of reusable business services**, decomposed at the right-level of granularity
- Collection of pre-built **reference Business Services templates** derived from telecom industry business processes
- Optimized for use across the Telecom Operations ecosystem (customers, employees, partners, IT systems, etc)
- Assets primarily derived from telecom industry standards like eTOM, SID, TAM and industry best practices
- **Extensible and configurable** to support unique client needs

Pre-Built Assets in Telecom Content Pack

Telecom Operations Capability-Process Maps

- **Decomposition of business capabilities and processes**
- *EXAMPLES: Service Configuration & Activation, Create & Deliver Bill*
- ***UML Models (RSA 7.0), Fabric Content Archive (WBS Fabric 6.1)***

Telecom Operations Business Services Templates

- **Decomposition of business services including assertions, policies, roles and channels**
- *EXAMPLES: Process Customer Order, Service Trouble Ticketing*
- ***SCA Modules (WID 6.1), Fabric Content Archive (WBS Fabric 6.1)***

Telecom Operations Service Interfaces

- **Telecom specific data types, schemas and web service interfaces**
- *EXAMPLES: Create Service Specification, Deactivate Resource*
- ***SCA Libraries (WID 6.1)***

Telecom Operations Common Services

- **Telecom specific common functions**
- *EXAMPLES: Video Transcoding, Content Filtering*
- ***SCA Libraries (WID 6.1), EARs (WPS 6.1)***

Telecom Operations Business Object Model

- **Conceptual view of enterprise data for the Telecom industry. Derived from NGOSS SID Standards**
- ***UML Models (RSA 7.0)***

Telecom Operations Business Glossary

- **Telecom specific taxonomy of business terms derived from NGOSS SID Standards**
- ***UML Models (RSA 7.0), Fabric Content Archive (WBS Fabric 6.1)***

Knowledge Assets

Reference Architecture, How-To Guide, Reference Implementation, Developer Guide, Install Guide

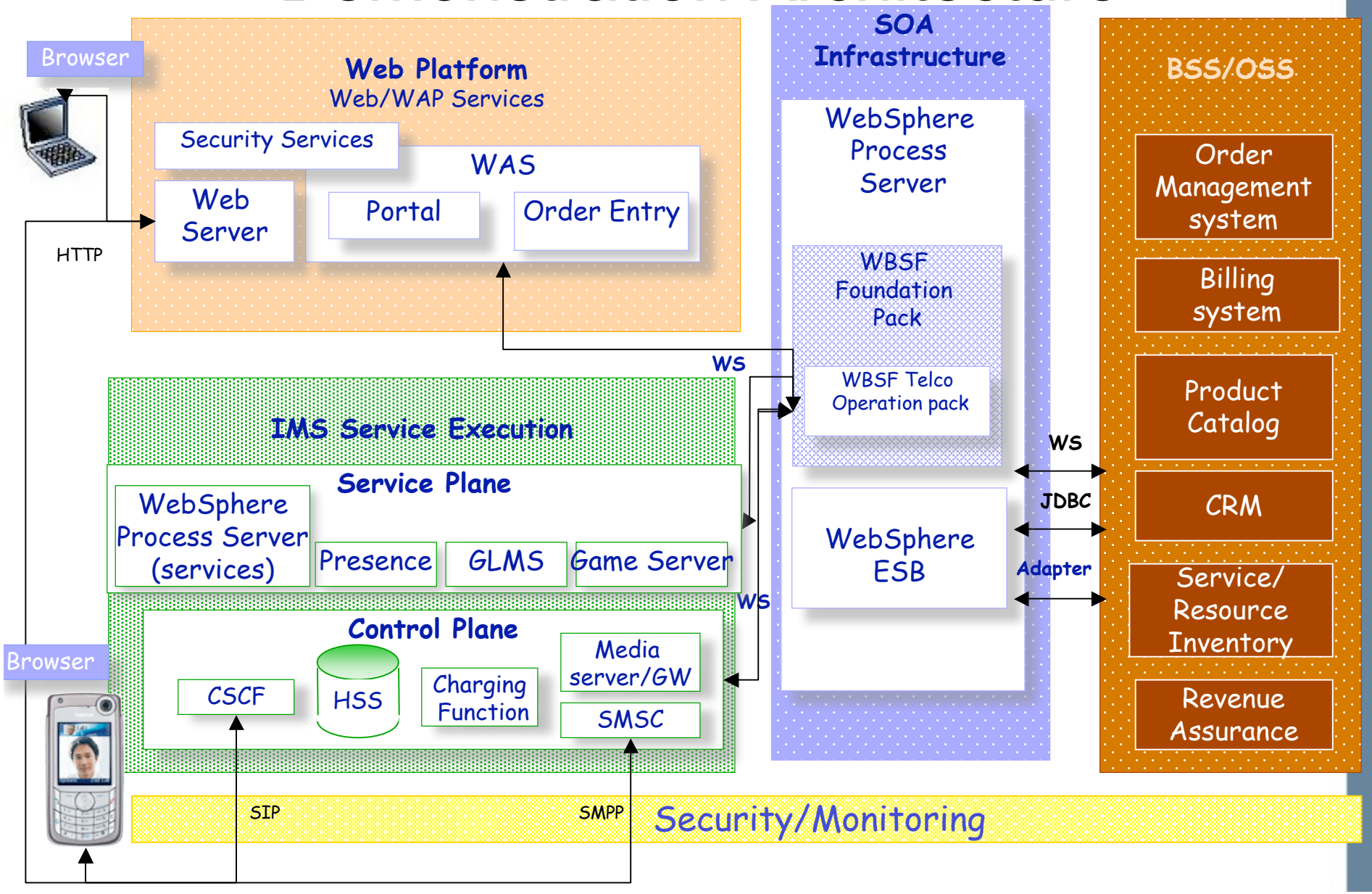
Overview of NGOSS Standards

- **NGOSS (New Generation Operations Systems and Software program)**
  - Developed by TeleManagement Forum, a telecom standards body
  - Standard for development and deployment of easy to integrate, flexible, easy to manage OSS/BSS components
  - Industry-agreed framework for next generation OSS/BSS
- **eTOM (enhanced Telecom Operations Map)**
  - Telecom “Domain Analysis” reference map
  - Functional decomposition of a service provider’s enterprise environment
- **SID (Shared Information & Data Model)**
  - Provides a common vocabulary and set of information/data definitions and relationships
  - SID defines over 1000 business entities for Telecom Operators
- **TAM (Telecom Applications Map)**
  - Is the idealized application structure use for services implementation
  - Provides the bridge between eTOM/SID and real applications by grouping together process functions and information data into recognized OSS/BSS applications

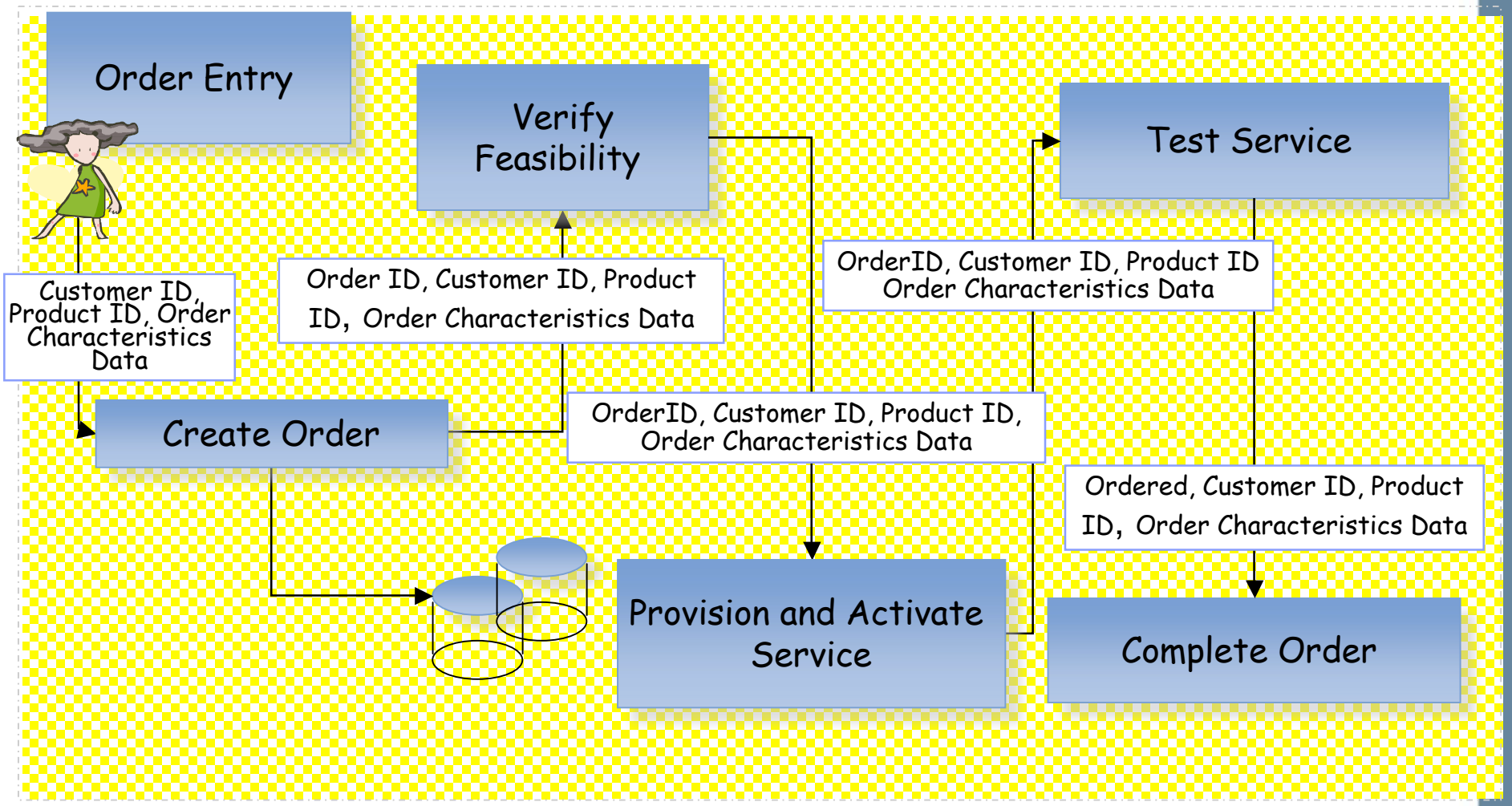
Agenda

- Introduction to Business Services and Dynamic SOA
- Demonstration: Dynamic Order Fulfillment Business Process

Demonstration Architecture



Service Ordering & Provisioning Process Overview



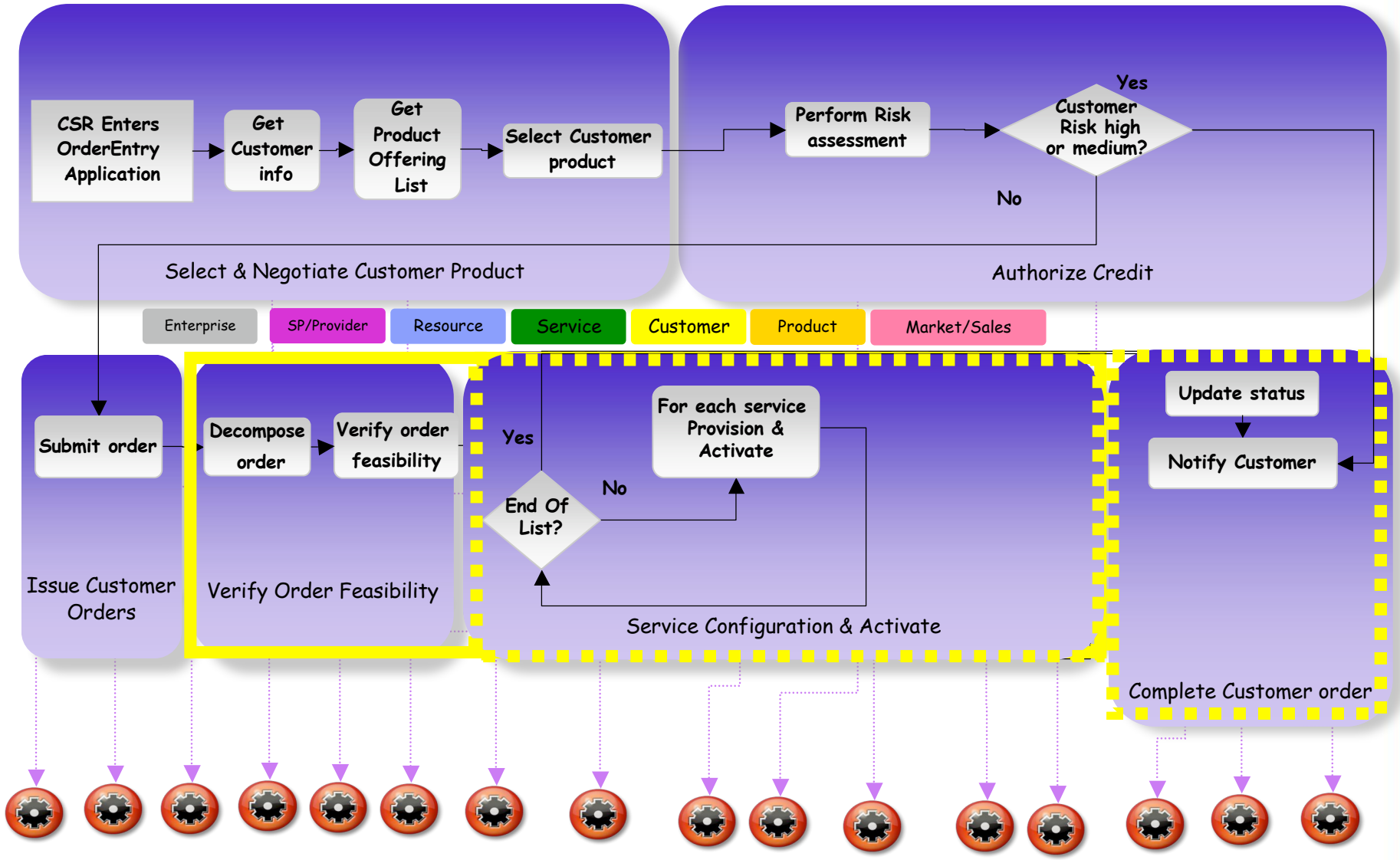
Telecom Business Drives

- Telco companies introduce new services much more rapidly than they used to in the past.
- They need automated processes that are highly flexible
- Companies are forced to deal with new channels instead of the traditional CSR (orders can arrive from retail shops, business partners, other operators, customer self-care, mobile phone portals).
- Additional suppliers such as content providers, gaming, commerce applications and other services are now involved. Coordinating with those suppliers puts a new burden on the companies.
- Competitive pressures and customer expectations drive the companies to offer instant services. Fulfilment of these services requires automated order fulfilment processes and very high application availability.

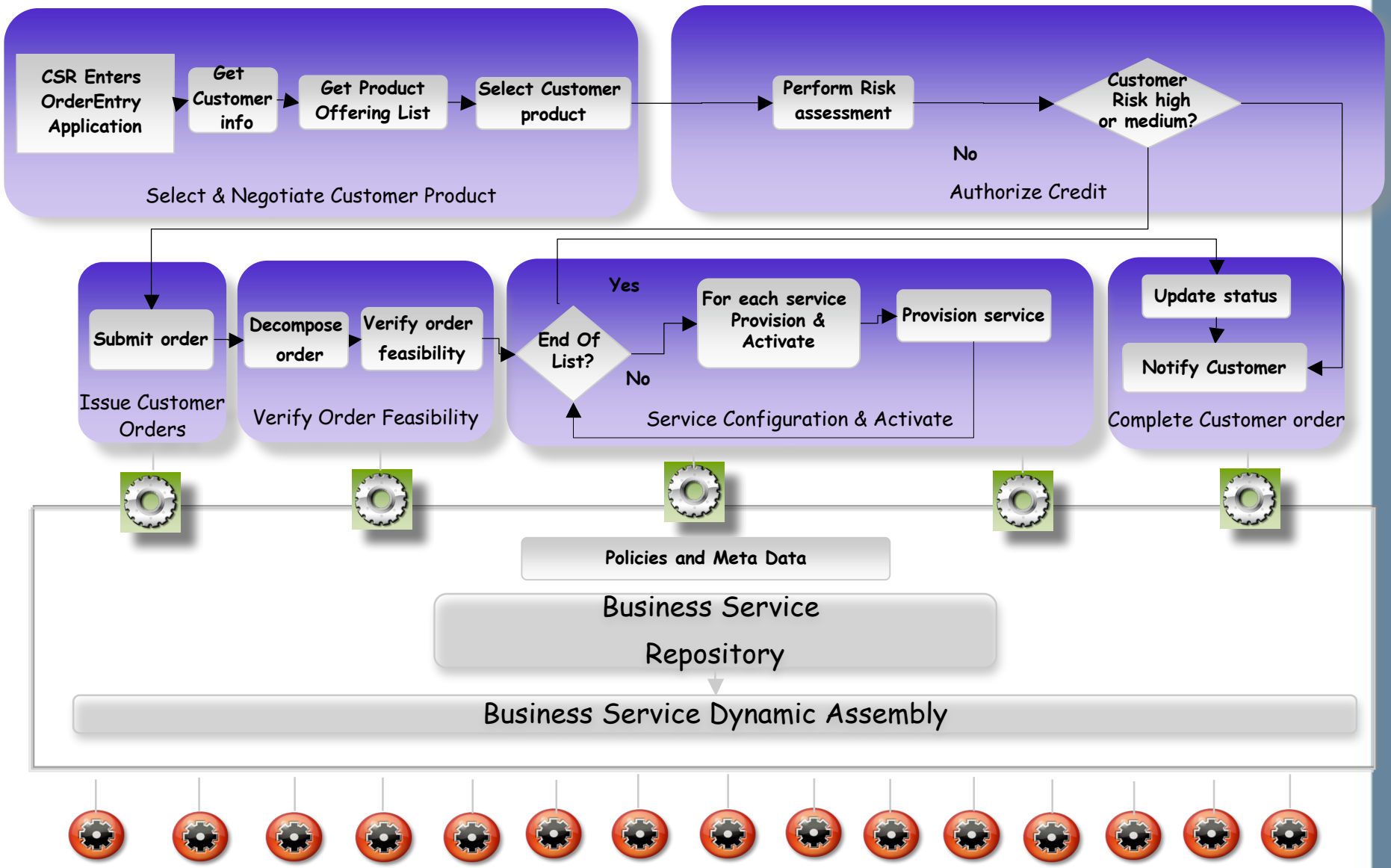
Demonstration Goals

- Deliver an order fulfillment process that performs dynamic provisioning of services.
- The solution should provide a high levels of flexibility, dynamicity, stability and availability
- The demonstration shows network based services in an IMS environment.

Building the Order Fulfillment Process



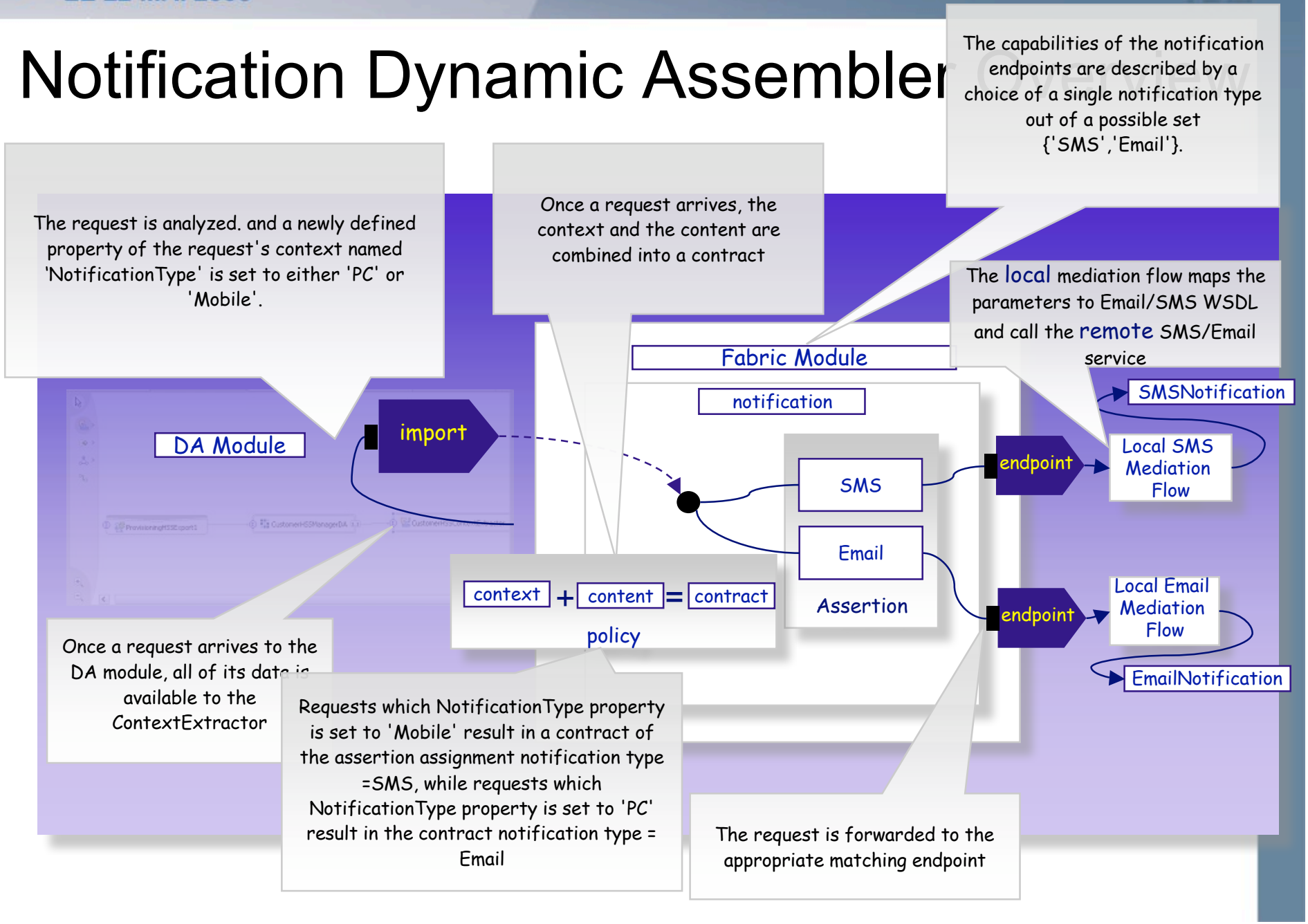
Order Fulfillment Process with Dynamic SOA



Fabric Dynamic Assembly

- The Reference Implementation uses the Fabric to enable dynamic end point selection
- The Business Services Dynamic Assembler links service consumers to service providers and can be thought of as a smart proxy that determines which endpoints to use based on requests.
- The Fabric enables dynamic endpoint selection based on Context, Content and Contract of the message
- Using this feature in the infrastructure allows the end point application replacement without the need to change the process

Notification Dynamic Assembler

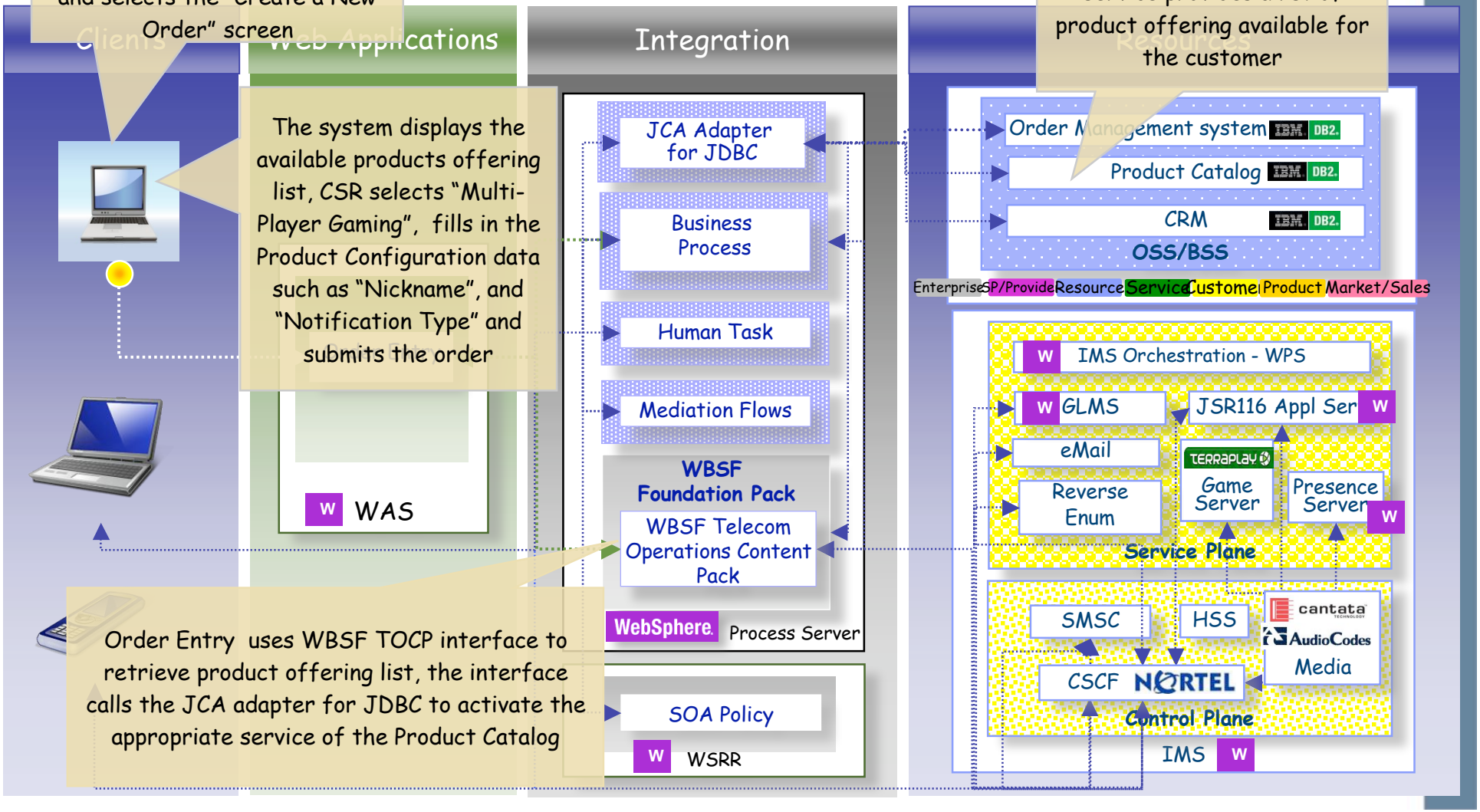


Order Fulfillment Process at runtime

CSR enters Order Entry application to place customer order. CSR provides customer ID, gets customer information, and selects the "Create a New Order" screen

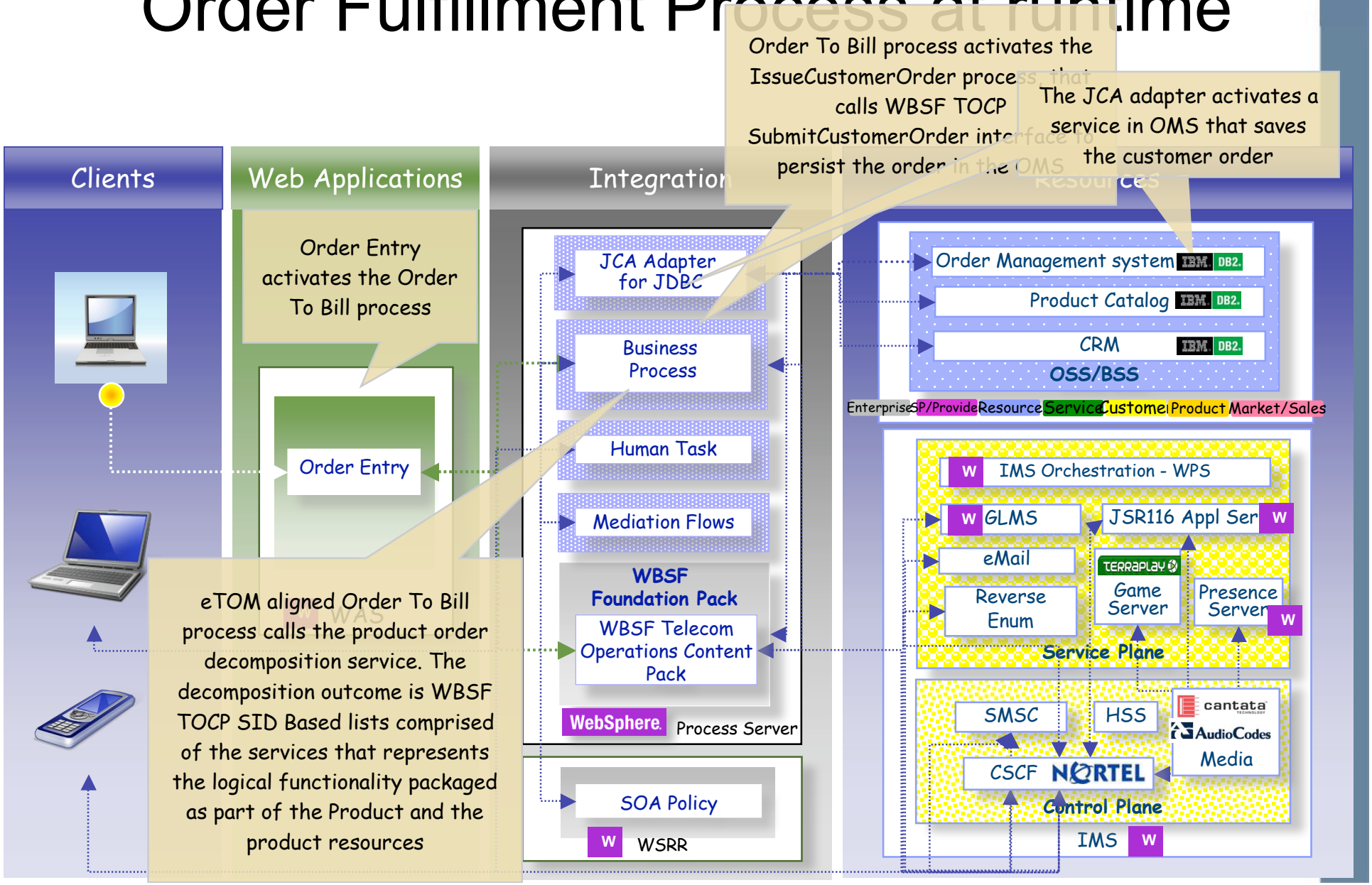
The system displays the available products offering list, CSR selects "Multi-Player Gaming", fills in the Product Configuration data such as "Nickname", and "Notification Type" and submits the order

The SID base Product Catalog service is activated. The service provides a list of product offering available for the customer



Order Entry uses WBSF TOCP interface to retrieve product offering list, the interface calls the JCA adapter for JDBC to activate the appropriate service of the Product Catalog

Order Fulfillment Process at runtime



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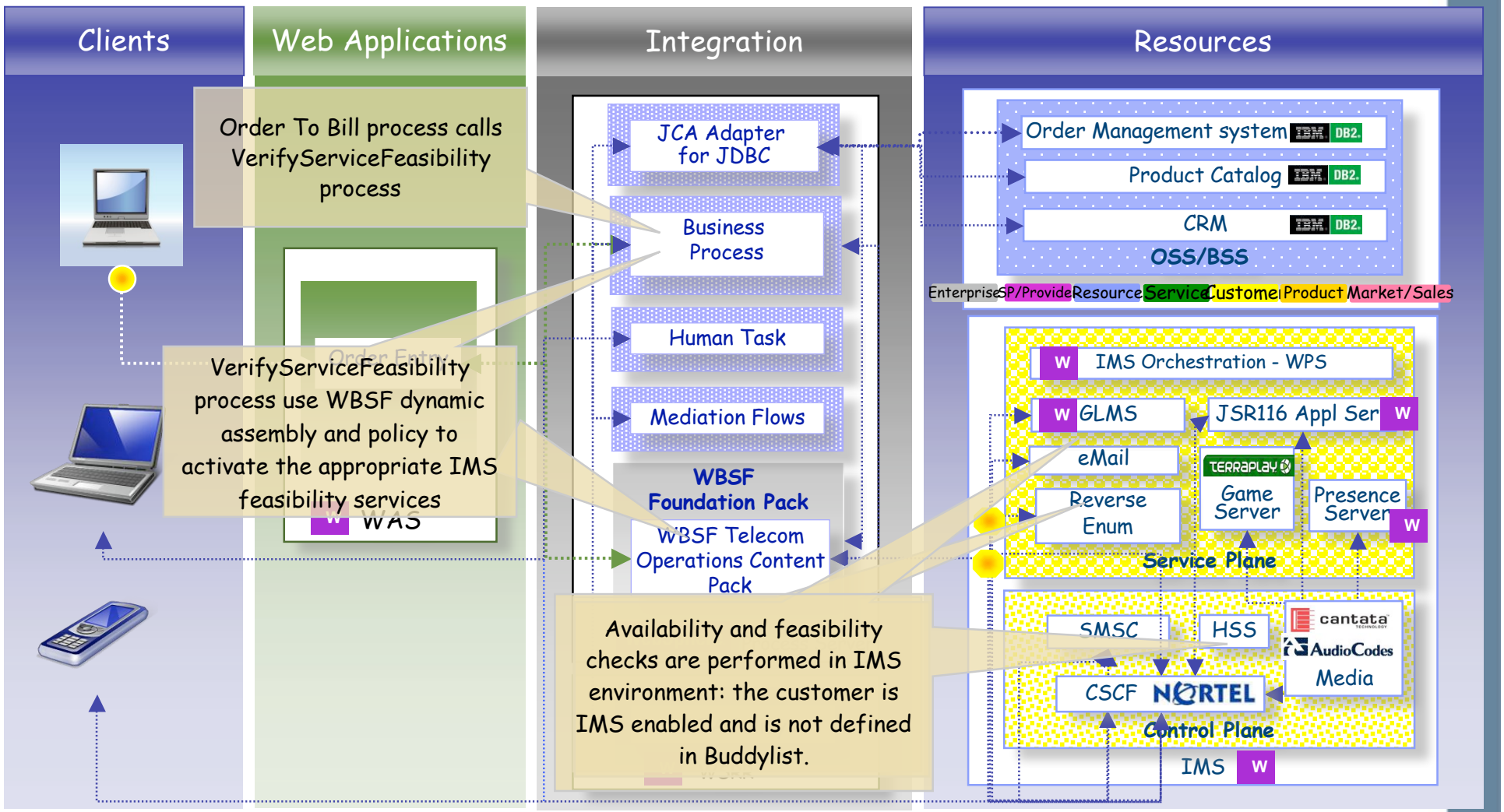

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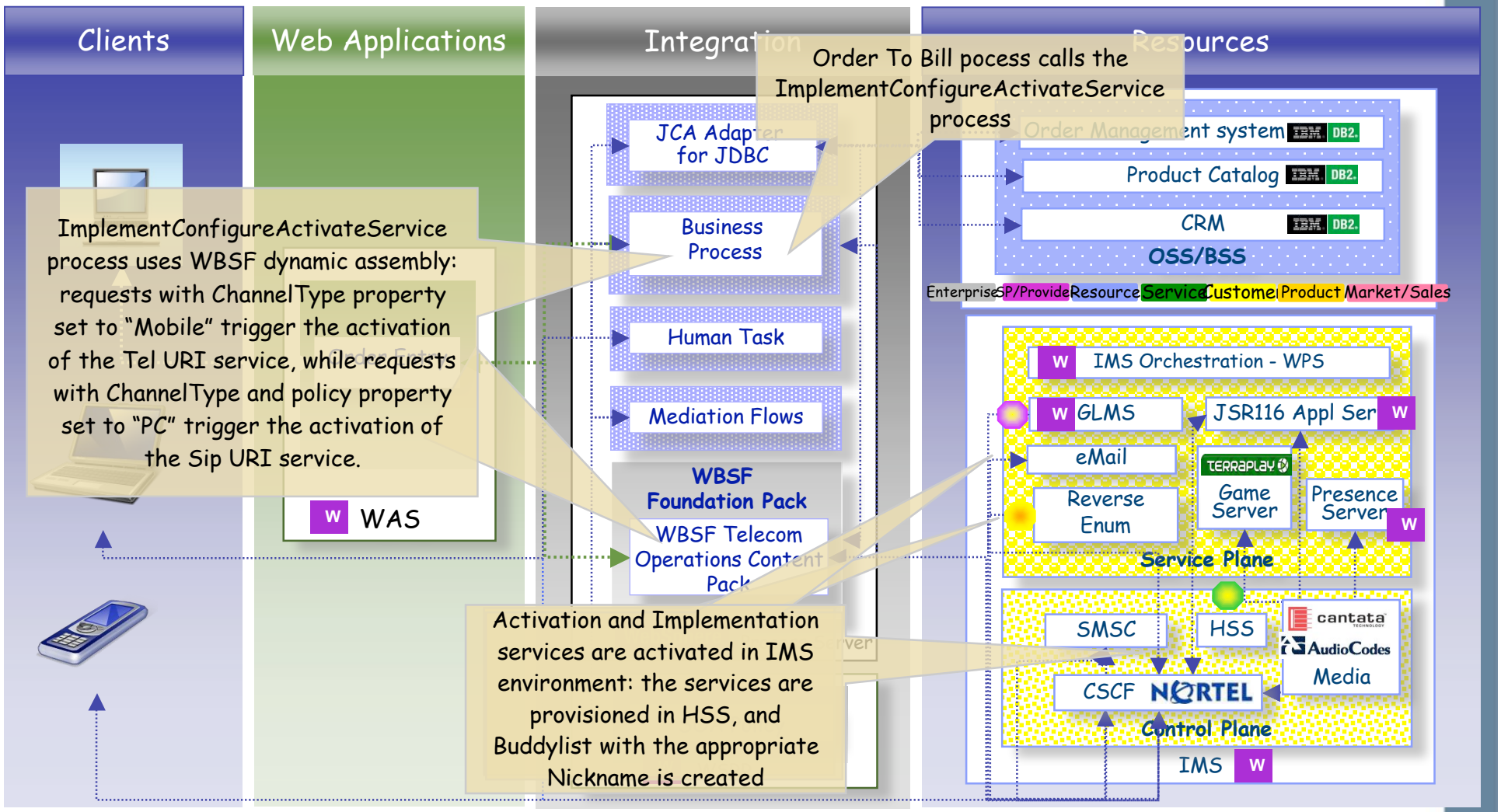
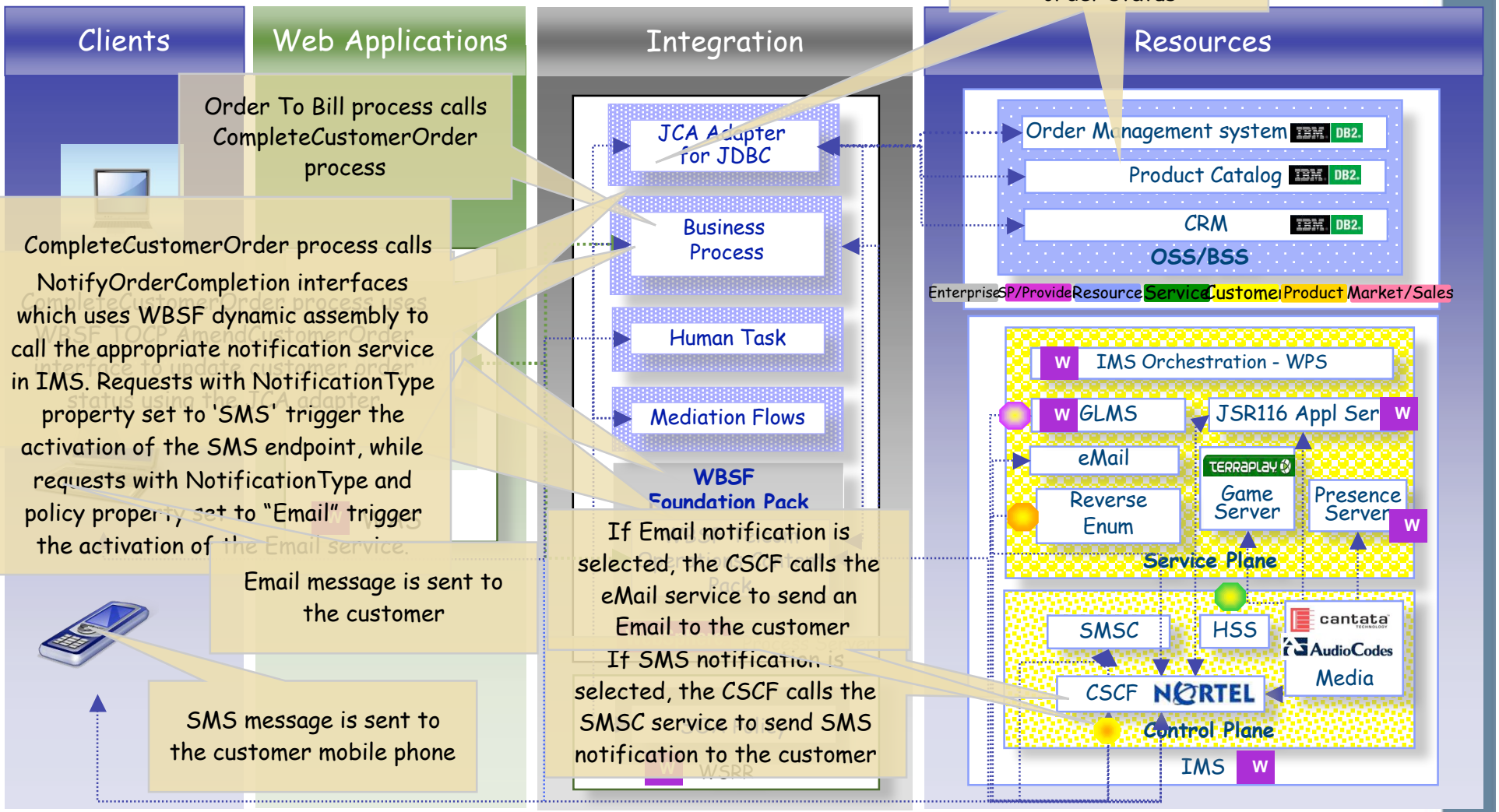


Order Fulfillment Process at runtime



Summary

- WebSphere Business Services Fabric enables simplify your business processes, while making them more dynamic & flexible
- WBSF support business processes variability, in an environment with changing business conditions
- Telecom Operations Content Pack is an SOA Accelerator:
  - Provides business level decomposition, based on industry standards and best practices
  - Contains a collection of pre-built assets that help you jumpstart in an SOA telecom project

धन्यवाद
Hindi

多謝
Traditional Chinese

ขอบคุณ
Thai

Спасибо
Russian

Gracias
Spanish

شكرا
Arabic

Thank You

Obrigado
Brazilian Portuguese

Grazie
Italian

Danke
German

Merci
French

நன்றி
Tamil

多谢
Simplified Chinese

감사합니다
Korean

ありがとうございました
Japanese