WBI Server Foundation

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WBI Server Foundation

Business Process Choreography

Agenda

WBI Server Foundation Overview

Business Process Technology

Business Process Development Lifecycle

WBI Server Foundation

Summary
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Business Process Development Lifecycle

BPEL4WS - Business Process Language

WBI Server Foundation Quick Introduction

WBI Server Foundation - Process Choreographer

WBI Process Choreographer

Summary
WBI Server Foundation

Announcing IBM WebSphere Business Integration Server Foundation V5.1

*IBM delivers a next generation* integration platform *for building, deploying, and choreographing Web services to form composite applications within a service oriented architecture.*

- SOA(Service Oriented Architecture)
WBI Server Foundation Quick Introduction

- **WebSphere Business Integration Server Foundation**
  - WebSphere Application Server Enterprise (re-branding)
  - Service oriented architecture
  - WebSphere Business Integration Solution
  - Composite Application

- **WebSphere Application Server 5.1**
  - WAS, WAS, WAS, WAS

- **(Integration)**
  - WebSphere Process Choreography (Process Integration)
    - BPEL (BPEL1.1 & BPEL Extension)
    - J2EE
  - WebSphere Studio Application Developer Integration Edition v 5.1
    - WAS, WAS, WAS, WAS, WAS

- **OS** - z/OS, OS/400
WBI Server Foundation - Process Choreographer

- BPEL
- J2EE

- Multi-style Process
  - Non-interruptible (1-transactional) - Short-running (ex)
  - Interruptible (multi-transactional) - Long-running (ex)

- Compensation
  - Commit (compensation)
  - (Not transaction, but acts like transaction)

- Human Interaction
WebSphere Process Choreographer:

- WebSphere MQ Series
- WebSphere Application Server
- Business Process Engine
- People Interaction
- Process Navigation
- Factory
- External I/F
- EJB
- MDB
- Web Service
- Internal I/F
- Relational Database
- Web Client
- Other Clients
- WebSphere AMQ
- File System
- WSAD-IE
- Process Editor
- BPEL/EAR
WBI Server Foundation

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Business Process Choreography

Receive

Sequence

Sequence

Sequence

Reply

Business Process Technology

Invoke

Invoke

Invoke

Business Process?

Business Process Language; BPEL4WS

WebSphere Process Choreographer Details

Summary
EJB-based Application

GUI

Browser

Servlet/Portlet

Application

Session EJB

Entity EJB(s)

Back-end(s)
Choreography for Multiple Applications

invoke

invoke

invoke

invoke

invoke (human)

invoke (business case)
Application

Application Server

WFMS (BPMS)

DBMS

(flow independence)

(data independence)
Business Process Execution Language for Web Services; BPEL4WS

- A language to specify behavior of business processes
  - between Web services
  - as Web services

- WSDL \(\rightarrow\) XML, binds technology
  - choreography, describing behavior and interaction

- 7/2002: Original 1.0 BPEL4WS proposal from IBM, Microsoft and BEA.
  - Standards-based follow-on to earlier BPEL4WS work.
- 5/2003: Revised 1.1 proposal with contributions from SAP and Siebel.
BPEL4WS Activities

- **Receive**
- **Reply**
- **Invoke**
  - (activity) one-way request-response
- **Assign**
  - 1:1
- **Throw**
  - exception (throw)
- **Terminate**
- **Wait**
- **Compensate**

- **Sequence**
- **Flow**
  - (parallel) activity
- **Switch**
  - business path
- **While**
  - (loop)
- **Pick**
  - fault handler
  - compensation handler
  - time-out
  - blocking
- **Scope**
  - nested activity
- **Snippet**
- **Staff**
  - (human interaction)
BPEL4WS - BPEL Editor
Compensation

Forward Navigation
– .Logging

Backward Navigation
¿¡·¯Ã³¸®¹æ½Ä (Process Fault Handling)

¿¡·¯¹ß»ý (Throw Error)

¿¡·¯Ã³¸® (Catch & Handle Error)
WBI Server Foundation –

- Business Rules
  - Billing Policy:
    - Lower amount threshold: 50,000 with a 1% business rule
    - Upper amount threshold: 80,000
WBI Server Foundation – ±âŸ±â´Éµé

- Application adapters
  - J2EE Connector Architecture (JCA) 1.0
  - WebSphere JCA Adapter
    - IBM CICS Transaction Gateway
    - IBM WebSphere Host On-Demand J2EE Connector
    - IBM IMS Connector for Java
    - IBM WebSphere Adapter for mySAP.com

- WebSphere Business Integration Adapter
  - Packaged application – Ariba, SAP, Siebel, PeopleSoft, Oracle Applications, i2
  - Technology/Data handler – JDBC, JText, JMS, Web Services, e-mail, EJB, Data Handler for EDI
  - Mainframe – CICS, ADABAS, IMS, VSAM
Business Process Development Life Cycle

1. (Process Requirements)

2. (Process Modeling)

3. (Services)

4. Interaction Glue

5. Business Process Management Infrastructure

6. (Optimize)

7. (Existing Components)

8. (Participate)

9. (Manage Execution)

10. (Monitor)

11. (Analysis)

12. (Optimize)
WBI Modeler 5.1

*available in 2H04.
Process Choreography: WSAD-IE Process Editor
WBI Monitor 5.1

*Update for use with WebSphere BI Server Foundation available in 2H04.
(WSAD-IE)
(WSAD-IE)
WBI Server Foundation

Business Process Choreography

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Sequence

Receive

Sequence

Sequence

Sequence

Reply

Invoke

WBI Server Foundation

Summary
- WebSphere Studio Application Developer Integration Edition

- [Compensation]
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WebSphere Business Integration Server Foundation

- BPEL - long-running macroflow
- Short-running microflow

- Compensation

- WebSphere Application Server - WebSphere Studio

- Service Oriented Architecture
감사합니다!

Questions?
(Types of Processes)

- Non-interruptible Process (Microprocess)
  - short running, fully automatic (fully automatic)
  - transient behavior,
    all activities within just one transaction
  - Value: reusable business functions

- Interruptible Process (Macroprocess)
  - long running, automatic
  - persistent state, set of separate activities
each activity is a single transaction
  - Value: asynchronous or manual activities

- Work assignment to people = Extension to Interruptible
  - LDAP, OS, websphere