Top Ten Reasons to Use NetBeans™ 6.0 SOA pack (Formerly Enterprise Pack)

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Session TS-9709

Goal of This Talk

What you will gain

Understand the features and benefits of using NetBeans™ 6.0 SOA pack

Agenda

NetBeans 6.0 SOA pack overview

Ten reasons to use NetBeans 6.0 SOA pack

- Demo

Summary

Q&A

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NetBeans 6.0 SOA pack Overview

- Where you can get it
  - http://enterprise.netbeans.org
- For application developers
  - Building SOA and composite applications
  - Working with XML, XML Schema, or WSDL
  - Need to build secure Java™ Platform, Enterprise Edition (Java™ EE Platform) services
  - Developing technology using Java Business Integration (JBI)/Project Open Enterprise Service Bus (Open ESB)

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NetBeans 6.0 SOA pack overview

Ten reasons to use NetBeans 6.0 SOA pack

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Reason 1: A Plug-in to NetBeans 6.0 Integrated Development Environment (IDE)

- SOA pack is **free**
- SOA pack is open-sourced
- SOA pack is supported by both community and Sun engineers
- Everyone can participate

Reason 2: Open ESB Integration with Java EE Platform 5 and Project GlassFish™

- Project GlassFish (a.k.a. Sun Java System Application Server) provides Java EE Platform 5 and community API support
  - Enterprise JavaBeans™ (EJB™) 3.0 specification, Java Persistence API, JavaServer™ Faces technology
  - Struts, Hibernate, and Spring
- SOA pack integrates Open ESB 2.0 Beta 2 with Project GlassFish v.2
  - Open ESB
    - Open standard, open source, interoperable, extensible
    - Combine new and existing applications and web services into composite applications
  - JBI
    - Rich set of Service Engines including BPEL, IEP, XSLT, Java EE Platform, and more
      - Easily consume and invoke Java EE Platform services as part of composite application
    - Exhaustive list of Binding components

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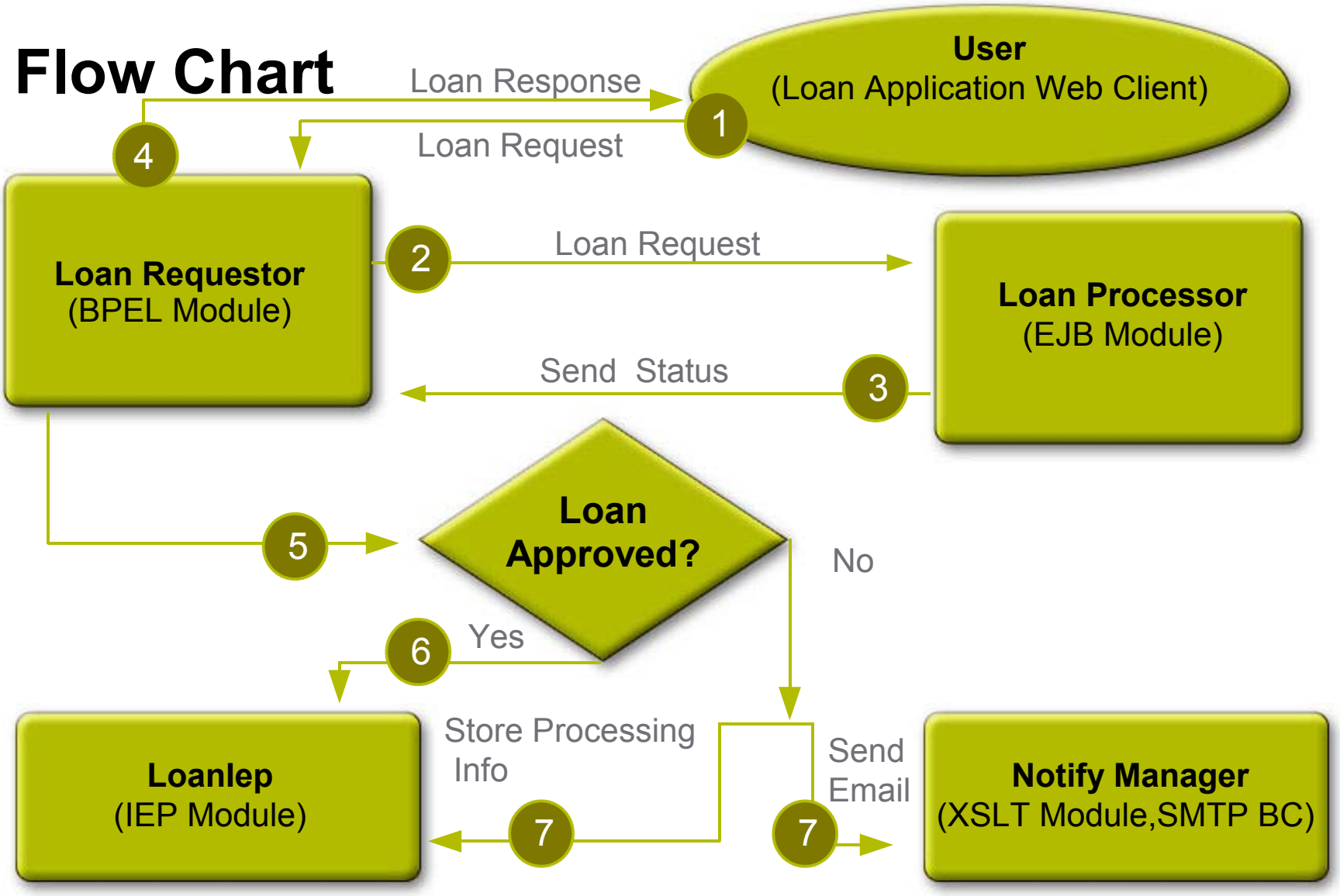
Open ESB Integration with Java EE Platform and Project GlassFish

Reason 3: BPEL Designer

- BPEL provides standard-based orchestration of multiple web services in the right order
- Visually author BPEL 2.0 business processes in the BPEL designer
  - Full round-trip cycle
  - Enhanced step-through debugging support
  - “Beyond syntax” validation of XML Schema, WSDL, and BPEL files
- Easily create XPath expressions in the BPEL Mapper
  - Add complex expressions without coding
- Deploy to the bundled BPEL Service Engine

Flow Chart


User
(Loan Application Web Client)
Loan Response
Loan Request
1
4
Loan Requestor
(BPEL Module)
2
Loan Request
Loan Processor
(EJB Module)
Send Status
3
5
Loan
Approved?
No
6
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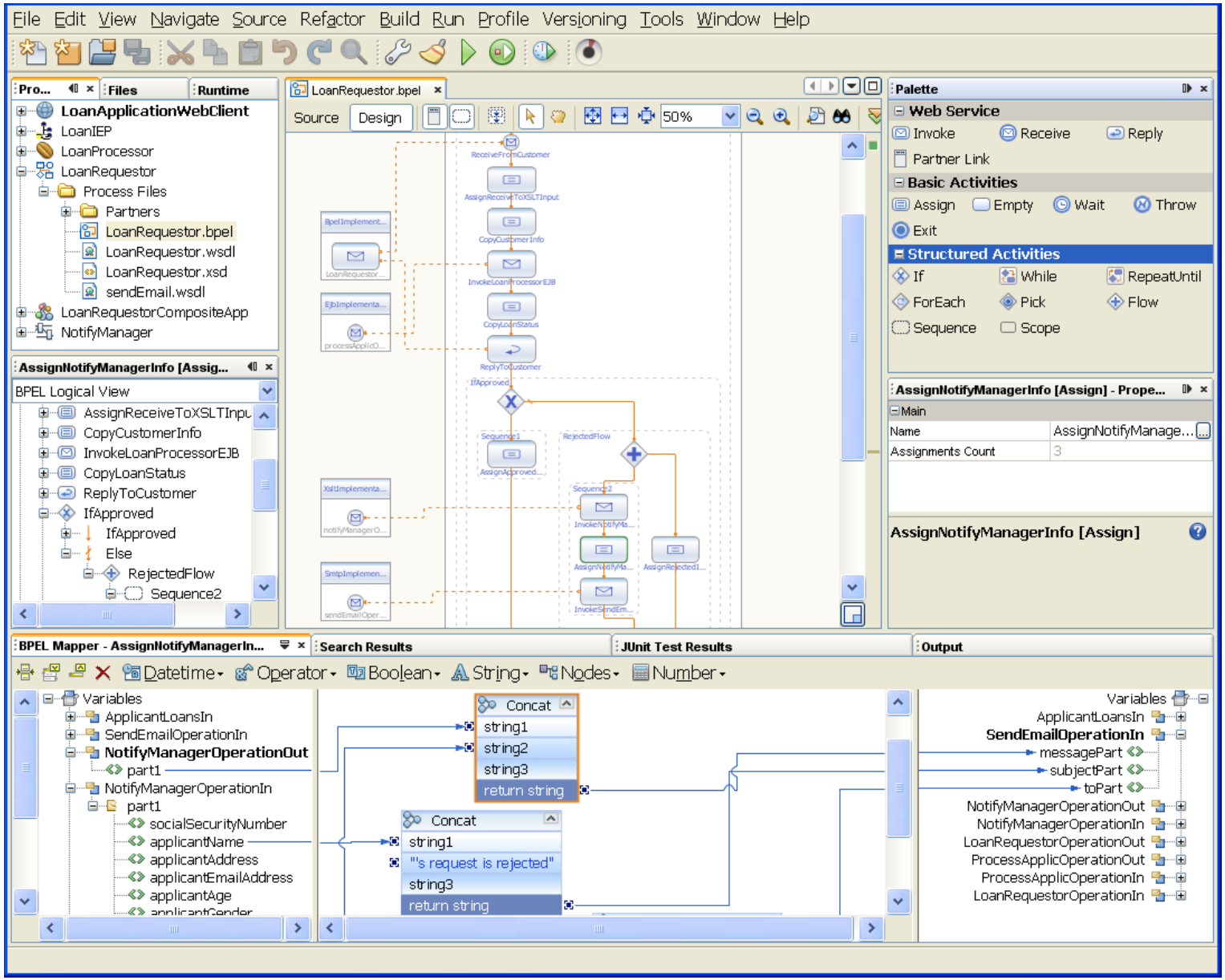
(IEP Module)
Store Processing
Info
7
Send
Email
7
Notify Manager
(XSLT Module,SMTP BC)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LoanApplicationWebClient
LoanIEP
LoanProcessor
LoanRequestor
Process Files
Partners
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LoanRequestor.wsdl
LoanRequestor.xsd
sendEmail.wsdl
LoanRequestorCompositeApp
NotifyManager
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BPEL Logical View
AssignReceiveToXSLTInpu
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InvokeLoanProcessorEJB
CopyLoanStatus
ReplyToCustomer
IfApproved
IfApproved
Else
RejectedFlow
Sequence2
LoanRequestor.bpel
Source
Design
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Palette
Web Service
Invoke
Receive
Reply
Partner Link
Basic Activities
Assign
Empty
Wait
Throw
Exit
Structured Activities
If
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ForEach
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Flow
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Scope
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Main
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JUnit Test Results
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Boolean
String
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Number
Variables
ApplicantLoansIn
SendEmailOperationIn
NotifyManagerOperationOut
part1
NotifyManagerOperationIn
part1
socialSecurityNumber
applicantName
applicantAddress
applicantEmailAddress
applicantAge
Concat
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string2
string3
return string
Concat
string1
"'s request is rejected"
string3
return string
Variables
ApplicantLoansIn
SendEmailOperationIn
messagePart
subjectPart
toPart
NotifyManagerOperationOut
NotifyManagerOperationIn
LoanRequestorOperationOut
ProcessApplicOperationOut
ProcessApplicOperationIn
LoanRequestorOperationIn

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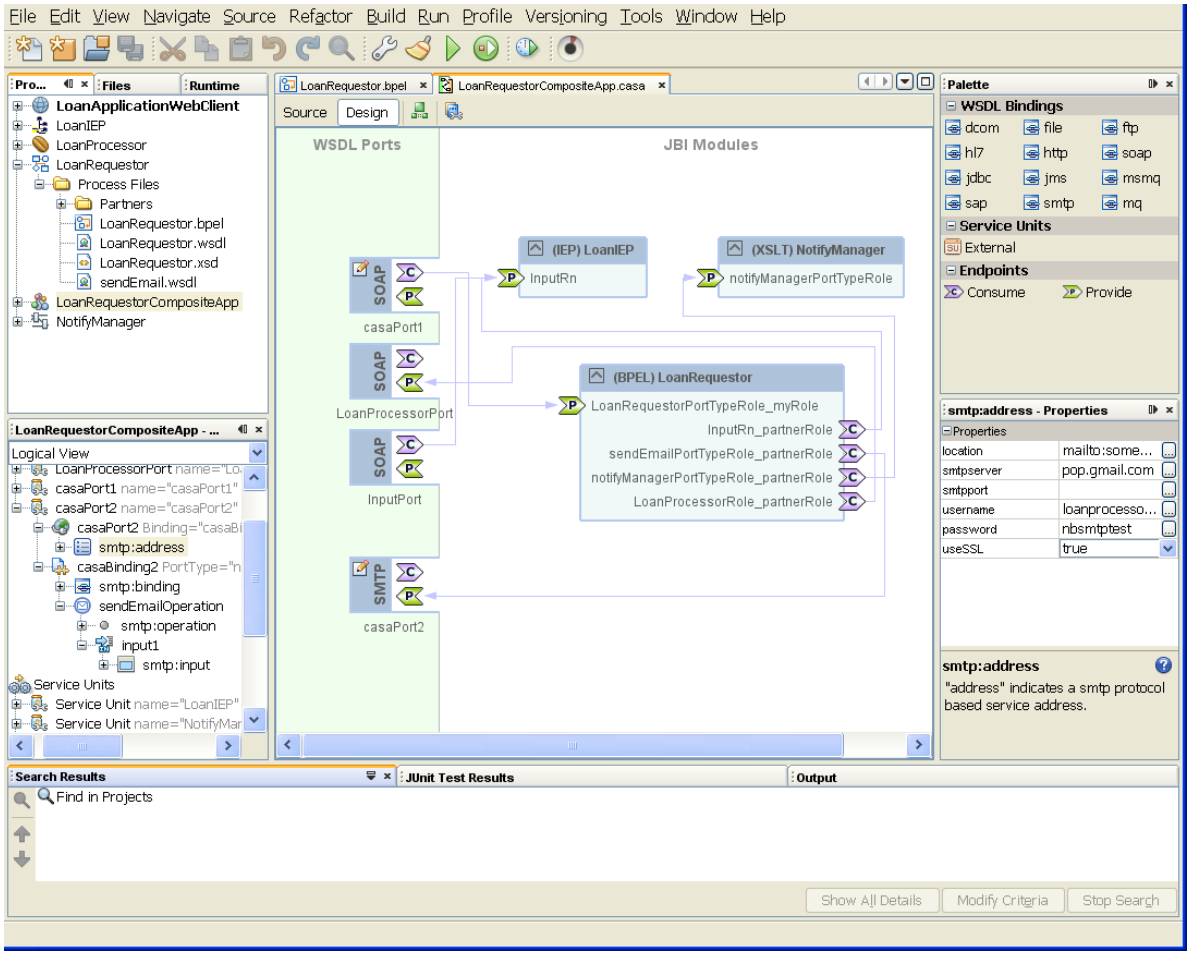
BPEL Editor

Reason 4: Support for Composite Applications

- Assemble services built using different languages and technologies into a composite application
- Composite application project type
- Visual editor for editing project configurations
  - Modifying the connectivity between services
  - Modifying concrete WSDL attributes
  - Making connections to third-party services
- Targeting Open ESB

Composite Application (Service Assembly) Editor



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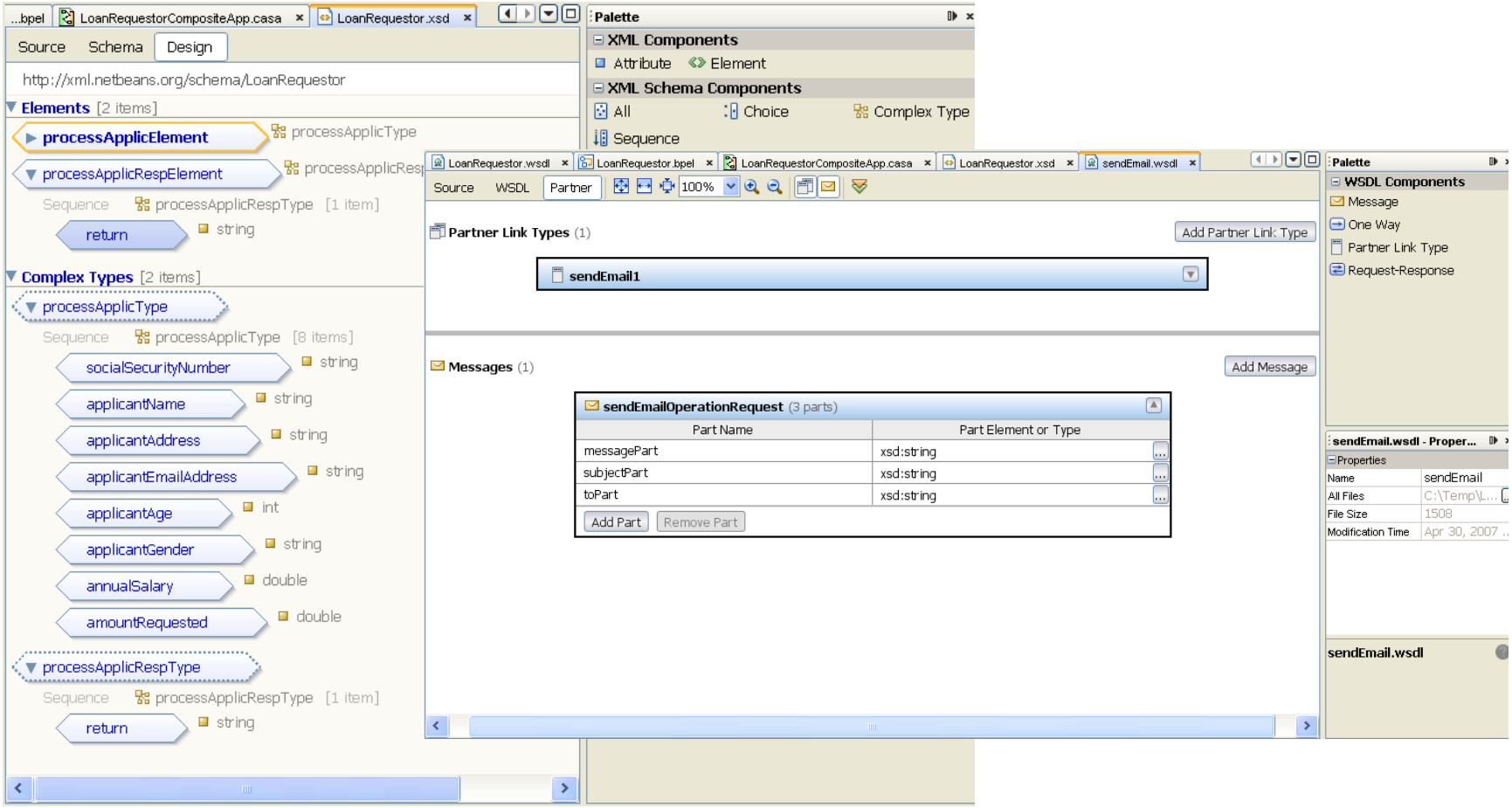
Composite Application (Service Assembly) Editor

Reason 5: Support Real-World XML Artifacts

- XML Schema editor
  - Visualize, analyze, and edit XML Schema
  - Apply design patterns to XML Schema
  - Author complex XML Schema by editing easy-to-understand virtual instance documents
- WSDL editor
  - Create WSDL files using graphical editor
- Re-factor across XML Schema, WSDL, and BPEL files
- Support for cross-project XML file references
- Schema-based code completion for XML instances

XML Schema Editor/WSDL Editor



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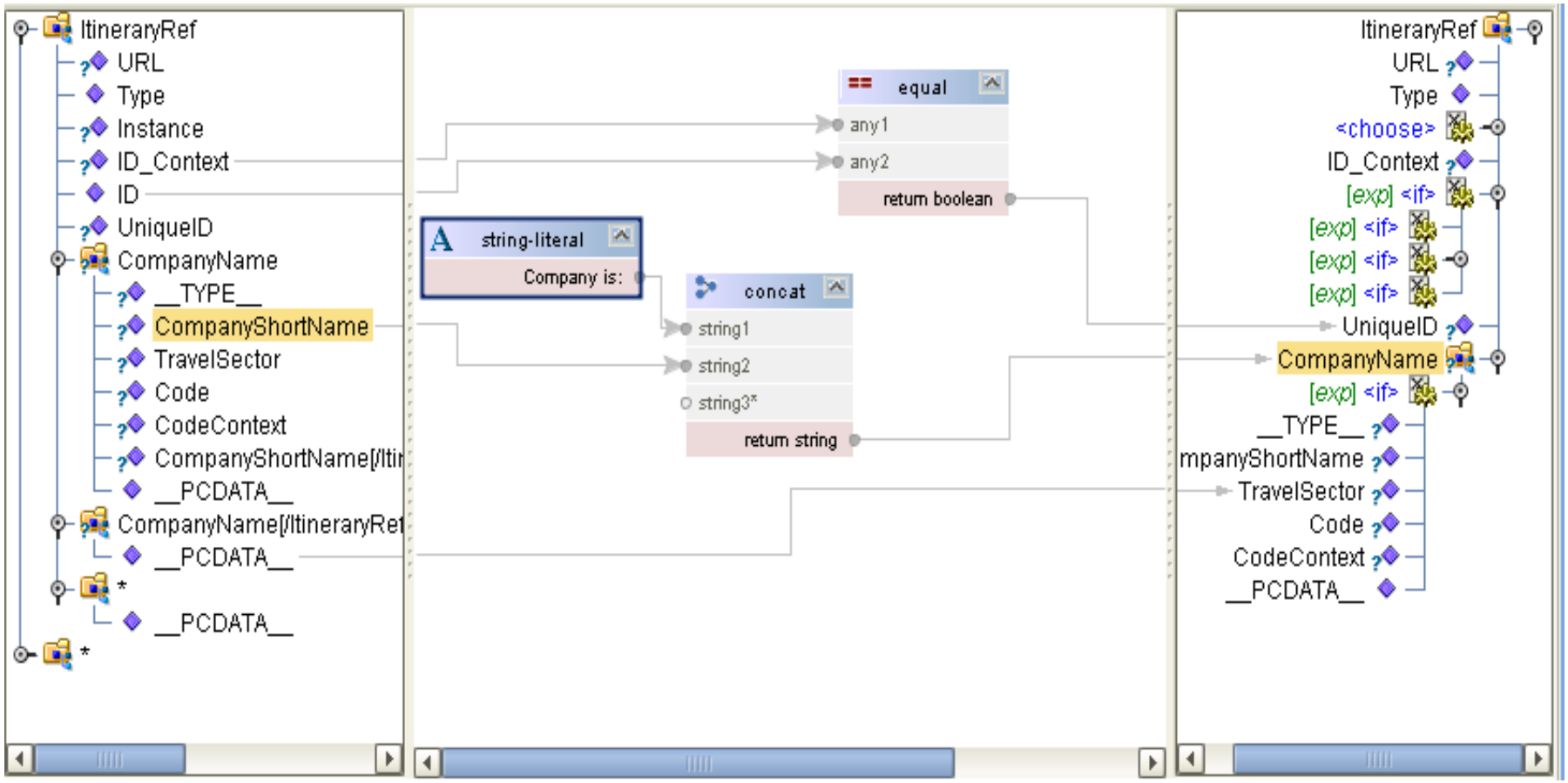
XML Schema Editor/WSDL Editor

Reason 6: XSLT Designer

- Web service is implemented as a XSLT service
- XSL stylesheet-based services make message transformation easier
- XSLT project: creates artifacts for deployable service unit
- XSL Transformation Editor: allows to edit data transformation in a visual way
- Use-cases supported
  - Request-reply service: The XSLT services receives a message from a web service, transforms it, and sends it back
  - Service proxy: The XSLT service acts as a proxy service, transforming messages exchanged by two web services

XSL Transformation Editor



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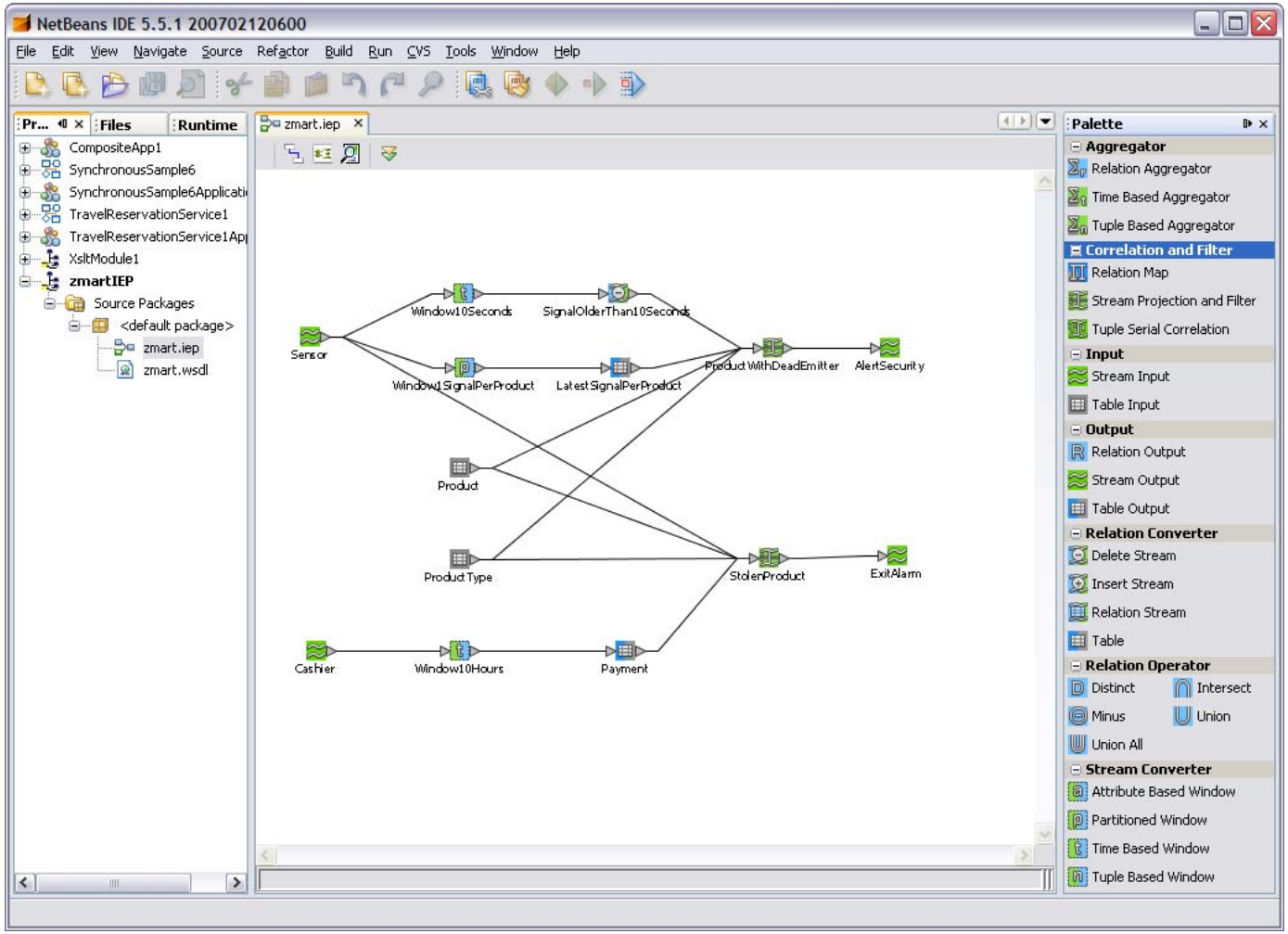
XSL Transformation Editor

Reason 7: Intelligent Event Processor

- Intelligent Event Processor (IEP) processes data streams and detects business events in real-time
- IEP Service Engine: Collect and deliver business events in real-time
- IEP Event Processing
  - Aggregation (time-based, tuple-based, relation)
  - Stream conversion and relation operations
  - Correlation and filtering (relation-map, stream-project-and-filter, tuple-serial-correlation)
- IEP Editor: Describe the workflow for routing and processing data streams

IEP Editor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Pr... Files Runtime
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SynchronousSample6
SynchronousSample6Applicati
TravelReservationService1
TravelReservationService1Ap
XsltModule1
zmartIEP
Source Packages
<default package>
zmart.iep
zmart.wsdl
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Window10Seconds
SignalOlderThan10Seconds
Sensor
Window1SignalPerProduct
LatestSignalPerProduct
ProductWithDeadEmitter
AlertSecurity
Product
Product Type
StolenProduct
ExitAlarm
Cashier
Window10Hours
Payment
Palette
Aggregator
Relation Aggregator
Time Based Aggregator
Tuple Based Aggregator
Correlation and Filter
Relation Map
Stream Projection and Filter
Tuple Serial Correlation
Input
Stream Input
Table Input
Output
Relation Output
Stream Output
Table Output
Relation Converter
Delete Stream
Insert Stream
Relation Stream
Table
Relation Operator
Distinct
Intersect
Minus
Union
Union All
Stream Converter
Attribute Based Window
Partitioned Window
Time Based Window
Tuple Based Window

DEMO

Intelligent Event Processor

Reason 8: Conveniently Bundled Runtime Components

- Project GlassFish application server
  - Java EE Platform 5 software
- Open ESB
  - JBI
    - Service engines
      - Java EE Platform, BPEL, IEP, SQL, XSLT Service Engines
    - Binding components
      - File, FTP, HTTP, Java DataBase Connectivity (JDBC™), Java Message Service (JMS), SMTP, WebSphere MQ Binding Components
- Sun Java system access manager
  - Secure Java EE Platform services

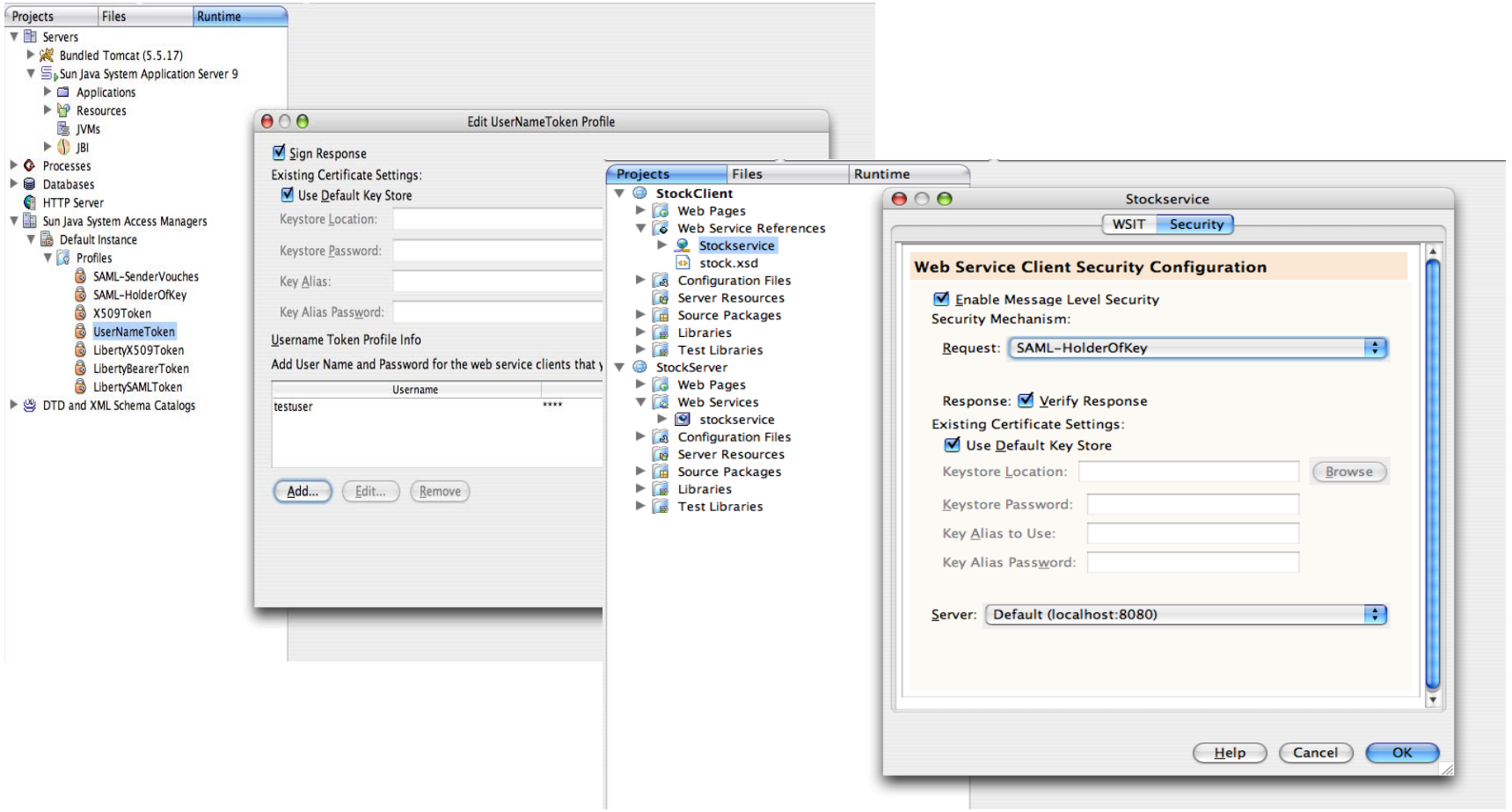
DEMO

Loan Processing Application Demo

Reason 9: Secure Web Services

- Message-level security for Java EE Platform 5 services
  - Works with NetBeans software Web, EJB technology, EAR, and application client projects
- WS-I BSP token profiles
  - SAML-HK, SAML-SV, X509, UP
- Liberty-WSF token profiles
  - SAML-Bearer, SAML, X509
- Runtime installed and configured for easy out-of-the-box use

Secure Web Services



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Secure Web Services

Reason 10: Java BluePrints Sample Applications/Resources

- BPEL Java BluePrints: http://blueprints.dev.java.net/bpcatalog/ee5/index.html
  - Synchronous web service interactions using BPEL
  - Asynchronous web service interactions using BPEL
  - Fault handling using BPEL
  - Message-based coordination of events using BPEL
  - Concurrent asynchronous coordination of events using BPEL
- Identity Java BluePrints
  - SAML sample: http://www.netbeans.org/kb/55/amsecurity.html
  - Liberty sample: http://www.netbeans.org/kb/55/amsecurity-liberty.html

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- Plug-in to NetBeans 6.0 IDE
- Integrates Open ESB with Project GlassFish
- BPEL designer
- Support for composite applications
- XML Schema Editor/WSDL Editor
- XSLT service designer
- Intelligent event processor
- Bundled runtime components
- Secure web services
- Java BluePrints sample applications

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