# METRO



Marek Potočiar marek.potociar@sun.com





# Agenda

- Overview
- Architecture
- Demos
- Roadmap
- Q & A





### What is Metro?

# Metro is one-stop shop for all your web services needs.

- Java web services stack
- ▶ Part of GlassFish™ project
- Production-quality & High-performance





#### Metro = JAX-WS RI + WSIT/Tango

#### JAX-WS RI

- Implements Java API for XML Web Services (JAX-WS)
- Provides core Web services support
- Extensible and pluggable architecture

#### Web Services Interoperability Technology

- Provides support for QoS
  - Security, Reliability, Transactions
- Implementation of WS-\* specifications
  - Interoperability with .NET 3+





### Architecture

**Tooling - NetBeans™ IDE Security Transactions** Reliability **Metadata WSDL** MEX **Policy SOAP** based messaging Message encoding (XML, FI) **TCP SMTP** HTTP





### Core Features

- ▶ JAX-WS 2.1: Easy to use Web services API
  - New addition: Web Services Addressing 1.0 support
- Embrace POJO concepts via annotations
  - Descriptor-free programming
- Encoding, Protocol and Transport Independence
- Integrated Java Architecture for XML Binding (JAXB)
  - Java<sup>™</sup> platform API
  - 100% XML Schema Support
- Communication Optimization Standards
  - MTOM/XOP (W3C), FastInfoset (ITU-T/ISO)





#### Advanced Features

- Bootstrapping Communication and QoS
  - WS-MetadataExchange, WS-Policy
- Quality of Service
  - Reliable Message Delivery
  - Atomic Transactions
  - Secured Communication
- Transparent to application code



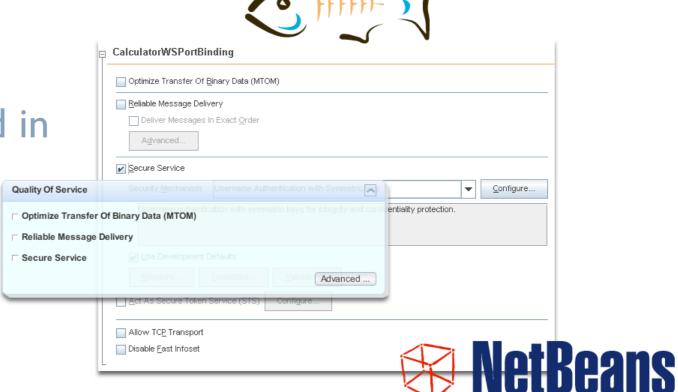


## Programming model

Components developed using JAX-WS and JavaEE APIs

Quality of service specified in configuration file

 produced by NetBeans™ module







## It's Showtime!

- "Hello World" Service
- Efficient data handling
- Message level security
- Reliable message delivery + REST







## Roadmap

- ▶ Metro vI.5
  - Current FCS version
- ▶ Metro v2.0
  - Aligned with GlassFish v3
    - To be released in Summer, 2009
  - Bundles JAXB 2.2 and JAX-WS 2.2
  - Feature one-pagers:

http://wikis.glassfish.org/metro/Wiki.jsp?page=V2.0OnePagers





## Community

- Lots of adoption
  - JavaSE/EE SDK, IBM JDK, GlassFish, Oracle, ...
  - OpenSSO, OpenESB, Wiseman, ...
- Very active mailing lists and forum
  - Even our Microsoft colleagues hang out there
- Hosted extensions
  - Spring, JSON, SMTP transport, DIME, ...
- Be active participate!
  - Vote on issues, provide patches, review documentation





## Metro Summary

- Full-featured WS stack
- Popular in Java community
- Many advanced features
- Interoperability (with Microsoft .NET)
- High Performance
- Running on GlassFish and Tomcat





## Questions?









#### For more information...

http://metro.dev.java.net

http://wsit.dev.java.net

http://jax-ws.dev.java.net

http://glassfish.dev.java.net

users@metro.dev.java.net

