Oracle9i Application Server
Web Services
Agenda

- J2EE
- Web Services
- Case Study
Oracle9i Application Server: J2EE is the Foundation

J2EE & Web Services

Management & Security

Portals

Wireless

Performance & Caching

Business Intelligence

e-Business Integration
Oracle9i Application Server and J2EE

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<th>J2EE Compliance</th>
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<td>Servlets</td>
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- Industry’s most comprehensive Java support
- Enterprise class J2EE server
- Integrated, productive development tools
- Integrated management tools
What Are Web Services?

Web Services consist of a set of messaging protocols, programming standards, and network registration and discovery facilities that expose business functions to authorized parties over the Internet from any web-connected device.
What Are Web Services?

• A Web Service is a discrete business process that…
  – Exposes and describes itself
  – Allows other services to locate it on the web
  – Can be invoked
  – Returns a response
Web Services Conceptually

Web Services Make Your Applications Programmatically Accessible

- Browsers
- HTML
- XML
- Applications
- Firewall
- Web Presentation
- Business Logic
- Databases
Web Services - Standards

• **SOAP** - Simple Object Access Protocol
  – Lightweight, XML-based protocol for exchanging information in a decentralized, distributed environment
  – Protocol, language and platform independent

• **WSDL** - Web Services Description Language
  – XML format for describing network services containing RPC-oriented and message-oriented information.

• **UDDI** - Universal Description, Discovery, & Integration
  – Web Services Yellow Pages
Are Web Services For Everything?

- Re-write everything as a Web service?
- Every application is loosely coupled?
- Real time integration?
- Every component locatable in a UDDI registry?
Where Do Web Services Fit?

**Procedures**
- Within Single Application

**Components**
- Within Like Applications
- Within Single Enterprise

**Integrated Apps**
- WithinSingle Enterprise

**Business Processes**
- Between Enterprises

**Granularity**
- Fine
- Coarse

**Coupling**
- Tight
- Loose

Web Services
J2EE Versus .NET?

“By nearly a three to one margin, J2EE is seen as more mature, more stable, and more strategic than Microsoft’s .NET platform.”

- Giga, May 2001
Web Services in Oracle9iAS

- Oracle9iAS Web Services are implemented as any of the following:
  - Java Classes
  - Stateless Session Enterprise Java Beans (EJBs)
  - Stateless PL/SQL Stored Procedures or Functions
- Oracle9iAS Web Services uses a different Servlet to provide an entry point to a Web Service
Web Services Runtime Architecture

OC4J

Servlet Entry Point
Encode / Decode
SOAP Binding
Stateless
Java
Class
Servlet Entry Point
Encode / Decode
SOAP Binding
Stateful
Java
Class
Servlet Entry Point
Encode / Decode
SOAP Binding
Stateless
Session
EJB
Servlet Entry Point
Encode / Decode
SOAP Binding
Stateless
PL/SQL

Apache

Client
Browser or
Fat Client

Encode / Decode
SOAP Binding

XML

iAS
Oracle9i Application Server: Integrated J2EE and Web Services

- Web Services Description Language
- SOAP Translator
- J2EE Business Logic
- Oracle9iAS

Trading Partners
Customers
Exchanges
Service Providers

Packaged Applications
Custom Applications
Legacy Systems
Heterogeneous Data Sources
Oracle9i JDeveloper: J2EE Web Service Development
Oracle9i JDeveloper: J2EE Web Service Development

Component to Web Service:
- Build Component
- Deploy Component
- Publish Service

Web Service to Client:
- WSDL
- Generate Client
- Connect to Application

Web Service to Implementation:
- WSDL
- Generate Skeleton
- Build Component
Demonstration
JDeveloper and Web Services
Case Study: Schober.com

“Oracle9i Application Server has enabled us to quickly and easily publish our address validation and credit verification services as industry-standard Web Services, without requiring any changes to our existing applications or infrastructure.”

- Ulrich Schober, CEO schober.com AG
Schoober.com J2EE Web Services Solution

1. Place Order
2. Validate Address
3. Verify Credit
4. Ship Order

Consumers

UDDI Registry

Get Service WSDL

Publish WSDL

schoober.com

Web Site

Order Processing

Merchant

Address Validation Service

Credit Verification Service

Oracle9iAS

SOAP
Oracle is a Founding Member of Web Services Interoperability Organization
Next Steps

• For More Information
  – www.oracle.com/appserver/
  – www.oracle.com/tools/

• For Best Practices
  – Oracle9i Accelerator Services
  – Oracle9i Architecture Services

• For Free Downloads
  – otn.oracle.com/software/