



## ADVANCE CONFERENCE GUIDE



**Last Chance to Save \$200!** Register by April 4, 2007, at [java.sun.com/javaone](http://java.sun.com/javaone)

# 2007 JavaOne<sup>SM</sup> Conference

Features Java Technology, Open Source, Web 2.0, Emerging Technologies, and More

Don't miss this year's newly expanded content. Advance your development skills with hundreds of expert-led, in-depth technical sessions in nine tracks over four days:

Consumer Technologies | Java<sup>™</sup> SE | Desktop | Java EE | Java ME  
The Next-Generation Web | Open Source | Services and Integration | Tools and Languages

## How to navigate this brochure and easily find what you need...



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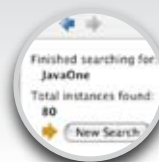
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**JavaOne<sup>SM</sup> Conference | May 8–11, 2007**  
JavaOne Pavilion: May 8–10, 2007, The Moscone Center, San Francisco, CA

**JavaOne<sup>™</sup>**



## BENEFIT from a dynamic conference atmosphere that offers learning, networking, and leading-edge technologies >

**Expanded Content:** Experience a diverse curriculum that now includes Java™ technology, open source, and other offerings that extend the Java platform.

**Education:** Choose from more than 250 technical sessions on Java technology, scripting, open source, Web 2.0, and more.

**Community:** Interact with more than 15,000 Java technology enthusiasts who share your passion for, and commitment to, the newly open-sourced Java platform.

**Industry:** Witness tomorrow's technologies today. Connect with industry leaders, attend in-depth technical sessions and demos, and interact with the innovators of the latest in Java technology-based products and services.

### Experience the Latest Advances in Java Technology and Other Offerings at the JavaOne Conference

The JavaOne conference offers a dynamic, annual coming together of Java technology developers, industry visionaries, and business leaders.

And this year's Conference—the first since the Java platform was open-sourced—broadens the scope of the event to include all open-source technologies and platforms that interoperate with and extend the Java platform.

#### Expanded Content | The 2007 JavaOne conference includes a significantly expanded range of topics, including:

- > Java Technology and the Core Java Platforms (EE/SE/ME)
- > Scripting (JavaScript™ Programming Language, PHP, Ruby on Rails, Python, and More)
- > Open Source and Community Development
- > Integration and Service-Oriented Development
- > Web 2.0 Development
- > Compatibility and Interoperability
- > Business Management

Come witness the latest advances in Java technology and other offerings—and learn how they can satisfy tomorrow's technology needs today. **We look forward to seeing you at the Conference!**

Special Pricing	Early Bird (Through 4/4)	Regular (4/5–5/7)	On-Site (5/8–5/11)
Conference Plus Pass	\$2,495	\$2,595	\$2,695
Conference Pass	\$1,795	\$1,895	\$1,995
Java University™ Only	\$795	\$795	\$795
JavaOne Pavilion Only	\$150	\$150	\$150
Business Track Pass	\$350	\$350	\$350
<p><b>Conference Plus Pass:</b> Access to the four-day Conference program, including the Business Track, JavaOne Pavilion, and the one-day Java University™ program. Also includes a JavaOne Pavilion Pass for a colleague.</p> <p><b>Conference Pass:</b> Access to the four-day Conference program, including the Business Track and the JavaOne Pavilion.</p> <p><b>Java University Only:</b> Access to the one-day Java University program only on Monday, May 7.</p> <p><b>JavaOne Pavilion Only:</b> Access to one day of the JavaOne Pavilion (5/8, 5/9, or 5/10).</p> <p><b>Business Track Pass:</b> Access to the one-day Business Track sessions on Tuesday, May 8, plus access to the general session and the JavaOne Pavilion for that day.</p> <p><b>The 5 + 1 Group Discount:</b> This program offers special savings when you register a group from your company. Buy five Conference Passes or Conference Plus Passes at regular price, and get one Conference Pass free!® It's as easy as calling our registration hotline (+1-866-382-7151 United States and Canada only; 1-650-226-0820 international) for more details.</p> <p><small>*Offer applies only to Conference Plus Pass and Conference Pass rates. No other offers/packages apply.</small></p>			

### Refer Five of Your Friends and Colleagues and Receive a Sony PlayStation Portable (PSP) Game System\*

When you spread the word to friends and colleagues, the Refer a Friend Program rewards you like never before! Just have everyone you're referring enter your Registration ID number (located on your registration confirmation) as their Referral Code when registering for the 2007 JavaOne™ conference. You can receive the Referral Gift described below, based on the total number of completed registrations we receive that list your Registration ID number as the Referral Code. All Referral Codes must be submitted at the time of registration to qualify.

1–4 Registration Referrals – Limited edition t-shirt

5–9 Registration Referrals – One Sony PlayStation Portable (PSP) game system

*While supplies last.*

\* Available only to paid Conference Pass and Conference Plus Pass attendees

For complete rules on participation in the Refer a Friend Program, visit [java.sun.com/javaone/sf/pdfs/refer\\_a\\_friend\\_2007.pdf](http://java.sun.com/javaone/sf/pdfs/refer_a_friend_2007.pdf).

# GENERAL SESSIONS

## Roadmaps to the Future

In daily general session presentations, visionary speakers from industry leaders such as Intel, Motorola, Oracle Corporation, and Sun Microsystems offer compelling visions of the technology future in terms of trends, challenges, and opportunities. These forward-looking sessions offer Conference attendees a roadmap for better exploring the rich field of technical sessions and Birds-of-a-Feather (BOF) gatherings offered throughout the week.

**: HOST :** **John Gage**, *Chief Researcher and Vice President, Science Office, Sun Microsystems, Inc.*



John Gage is chief researcher and vice president of Science Office for Sun Microsystems. He was one of founders of Sun, in 1982, when a group of students professors from Stanford and the University of California, Berkeley, joined to create open systems in hardware and software.

**: FEATURING :** **James Gosling**, *Chief Technology Officer, Vice President, and Sun Fellow, Client Software Group, Sun Microsystems, Inc.*



James Gosling received a B.Sc. in Computer Science from University of Calgary, Canada, in 1977 and received a Ph.D. in Computer Science from Carnegie-Mellon University in 1983. The title of his thesis was *The Algebraic Manipulation of Constraints*. He is currently the chief technology officer, VP, and fellow at Sun Microsystems.

He has built satellite data acquisition systems, a multiprocessor version of UNIX®, several compilers, mail systems, and window managers. He has also built a WYSIWYG text editor; a constraint-based drawing editor; and a text editor called Emacs, for UNIX systems. At Sun his early activity was as lead engineer of the NeWS window system. He did the original design of the Java programming language and implemented its original compiler and virtual machine. He has recently been a contributor to the Real-Time Specification for Java. He is currently also a researcher at Sun Laboratories, where his primary interest is software development tools.

### GENERAL SESSIONS SCHEDULE

**TUESDAY, May 8**  
8:30–10:30 a.m. | 1:30–3:00 p.m.

**WEDNESDAY, May 9**  
8:30–9:15 a.m. | 5:30–6:15 p.m.

**THURSDAY, May 10**  
8:30–9:15 a.m. | 5:30–6:15 p.m.

**FRIDAY, May 11**  
8:30–10:30 a.m.

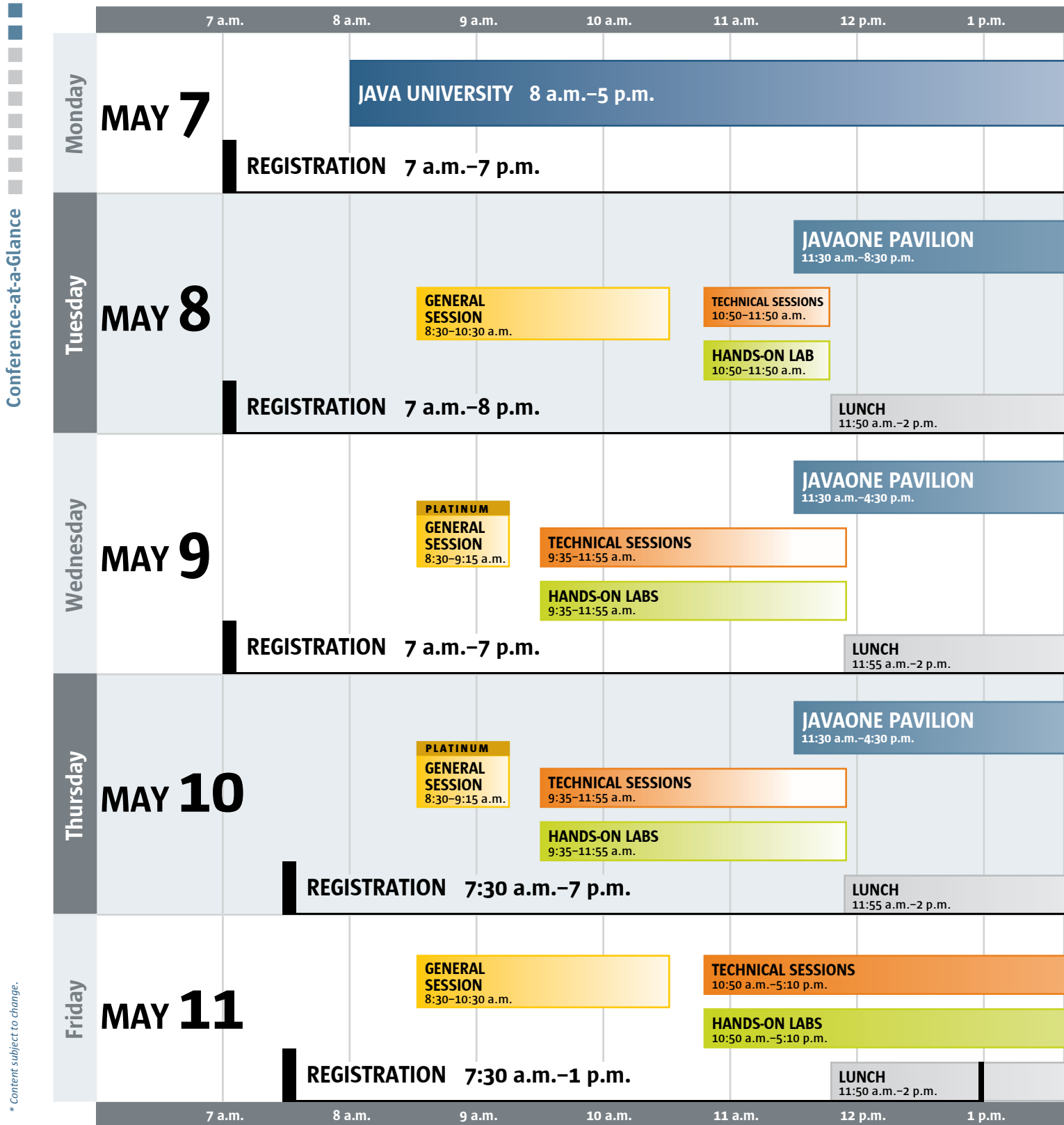


Conference Overview

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# CONFERENCE-AT-A-GLANCE



\* Content subject to change.







## MEET FACE-TO-FACE

### With Top-Tier Global Technology Companies in the JavaOne Pavilion

Meet face-to-face with leading and emerging companies that are pushing innovation with Java technology and beyond. Experience and demo the newest advancements and technologies hitting the industry, test-drive the latest tools and technologies, and find the innovative solutions that you need to meet your everyday development challenges.

#### : EXHIBITORS :

ACTUATE	DataDirect Technologies	ICESoft Technologies Inc.	Motorola	Red Hat
Agitar Software	DiSTI	ILOG, Inc.	NAVTEQ	Ricoh Corporation
Altova	Eclipse Foundation	Infragistics	Nexaweb Technologies	Rogue Wave Software
BACKBASE	Electronic Arts	Intel	No Magic, Inc.	Simlica Corporation
BEA Systems, Inc.	ESRI	Intellicus Technologies	OpenLogic, Inc.	Simula Labs
British Telecommunications	Exadel, Inc.	Interface21	Oracle	Software FX, Inc.
Business Objects	ExitCertified	InterSystems Corporation	O'Reilly Media	SPI Dynamics, Inc.
Canoo Engineering AG	Fiorano Software	JavaService Consulting	Parasoft Corporation	Tangosol, Inc.
Caucho Technology	Fortify Software Inc.	Jazillian, Inc.	Paremus	Teamprise
Cenqua	Fox Interactive Media	Jinfony Software	PayPal	Telelogic
CipherSoft Inc.	GemStone Systems, Inc.	Krugle	Perforce Software	TIBCO Software
Coverity	GigaSpaces Technologies, Inc.	LIFERAY, LLC	Pervasive Software	Tidal Software
	Google	Mainsoft	Pramati Technologies	Tricast Solutions

#### : PLATINUM COSPONSORS :



**MOTODEV**  
The Motorola developer network

**ORACLE**



**NAVTEQ**

**INTERSYSTEMS**

**PARASOFT**  
We make software work.

#### : MEDIA COSPONSORS :



**AXIOMWORLD**

**COLD FUSION**

**Dr.Dobb's**

**ENTERPRISE OPEN SOURCE**

**InfoWorld**

**JavaWorld**



**EXAMWORLD**

**NETWORKWORLD**

**SOAWORLD**

**Web Developer's & Designers Journal**

**WebSphere**

**wildj**

#### : MEDIA PARTNERS :

IEEE Computer Society | Linux Journal | Methods & Tools | Queue | SD Times | Software Test and Performance | The ServerSide.com

## JAVAONE CONFERENCE AFTER DARK EVENTS

Your days at the Conference are packed with technical sessions, Hands-on Labs, and visionary general sessions. Nights are for unwinding with fellow attendees. The JavaOne conference After Dark events offer the opportunity to network with peers at these popular evening gatherings:



### PAVILION HOURS

**TUESDAY, May 8**  
11:30 a.m.–8:30 p.m.

**WEDNESDAY, May 9**  
11:30 a.m.–4:30 p.m.

**THURSDAY, May 10**  
11:30 a.m.–4:30 p.m.

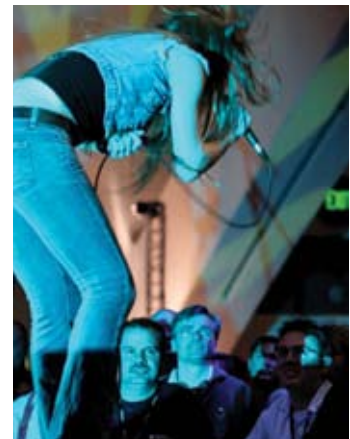
After Dark Events

### Pavilion Reception | Tuesday, May 8, 7–8:30 p.m.

Kick off your Conference experience with a special evening reception in the JavaOne Pavilion created just for you. Meet with representatives from leading technology companies, and see special demos of the latest enhancements to the Java platform. Session speakers and technical experts will be on hand to answer questions, talk about new products, and share insider tips that you won't get anywhere else.

### JavaOne Conference “After Dark” Bash | Thursday, May 10

Enjoy an evening of cutting-edge entertainment and activities, plus plenty of food and drink. Relax, network, and unwind after your day-long immersion in technical education.



## PRESENTATION THEATERS

Are you looking for more? Join us at the Presentation Theaters for insight from cosponsors and exhibitors as they host sessions right on the Pavilion floor during Pavilion hours. This is another opportunity to hear from industry innovators in an intimate setting. Walk right in and take a seat—special registration is not required.



## JAVA UNIVERSITY<sup>SM</sup>

### Provides In-Depth Technical Training

The Java University<sup>SM</sup> program is returning as part of the 2007 JavaOne conference. As the focus for the Conference is expanding this year, so will the number and focus of the Java University program offerings. These great one-day technical training courses, created by Sun-certified instructors, Sun chief engineers, and industry-recognized guest speakers, offer in-depth information on the hottest development topics in today's market.

This year we are offering Java University program attendees the option of taking one full-day course or selecting two of our half-day courses.

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#### Choose from one of the following Java technology **FULL-DAY** courses:

- > Using Java Platform, Enterprise Edition (Java EE) 5 and SOA to Architect and Design Robust Enterprise Applications
- > Get E-Business Solutions: Designing and Implementing Secure Java Technology Web Services
- > Managing Complex Web Applications: Should I Use Apache Struts Framework, JavaServer<sup>™</sup> Faces Technology, or Both?

#### OR select one morning course and one afternoon course from the following **HALF-DAY** courses:

- > Web 2.0: Building Dynamic Web Sites with Ajax and Dojo (*morning course*)
- > Filthy-Rich Clients (*morning course*)
- > Developing Portable Java EE Applications with the Enterprise JavaBeans<sup>™</sup> (EJB<sup>™</sup>) 3.0 API (*morning course*)
- > Developing Enterprise Applications with the Spring Framework (*morning course*)
- > Web 2.0: Leveraging the Project jMaki and Google Web Toolkits for Rapid Web Site Development (*afternoon course*)
- > Learning How Java Platform, Micro Edition (Java ME) Development Works Best for Mobile Devices (*afternoon course*)
- > Developing Java Technology Applications with the Java Persistence API (*afternoon course*)
- > Rapid Web Site Development with Groovy and Grails (*afternoon course*)

#### At the end of the day, Java University program attendees who are yearning for more can stay for one of these three bonus **EVENING** courses\*:

- > Turbocharging Application Performance with Dynamic Tracing (DTrace)
- > Deploying Collaborative Web Sites to the Solaris<sup>™</sup> Operating System (Solaris OS), Using Solaris OS with SAMP
- > Digital Identity Trends and How to Realize RBAC Deployment

\* Places are available until capacity has been met for any of the course rooms.



## Using Java Platform, Enterprise Edition (Java EE) 5 and SOA to Architect and Design Robust Enterprise Applications

: COURSE LEVEL : INTERMEDIATE TO ADVANCED

: COURSE LENGTH : FULL DAY

### COURSE DESCRIPTION

This course provides the students with the knowledge needed to use Java EE 5 best practices and patterns to design and architect robust enterprise applications that allow for rapid change and growth. The students gain an understanding of Java EE technology patterns and how, in practice, they have proven invaluable during the design and implementation of enterprise applications, solving important and recurring design problems. They also gain an understanding of how service-oriented architectures (SOAs) implemented in a wide range of technologies (including REST, RPC, CORBA, and web services) help businesses respond more quickly and cost-effectively to changing market conditions.

### COURSE APPROACH

This course focuses on the usage of Java EE platform patterns from the architectural and design perspectives. It also covers enterprise SOA. The instructor uses UML diagrams, rather than code segments, to present these patterns.

#### Morning content:

- Fundamental Architectural Concepts
- System Architecture Development and Guidelines
- Quality-of-Service Requirements
- Software Architecture

#### Afternoon content :

- Using Java EE Platform Patterns
- Understanding Enterprise SOA

#### Prerequisites:

A thorough knowledge of the Java programming language and EJB component model and an understanding of Java EE application servers and distributed systems

## Get E-Business Solutions: Designing and Implementing Secure Java Technology Web Services

: COURSE LEVEL : INTERMEDIATE TO ADVANCED

: COURSE LENGTH : FULL DAY

### COURSE DESCRIPTION

This course provides the students with the information they need in order to create, implement, and deploy web services and web service clients by using Java technology components; Java technology-based APIs—Java API for XML Processing (JAXP), Java Architecture for XML Binding (JAXB), SOAP with Attachments API for Java (SAAJ), Java API for XML Registries (JAXR), Java API for XML Web Services (JAX-WS); and Java EE. It also provides designers with the information they need in order to understand web services as a realization of service-oriented architecture (SOA). The students also gain an understanding of how to secure web services by using the XML and Web Services Security (XWS-security) framework, federated identity, and Sun Java System SAMLv.2 Plugin tokens.

### COURSE APPROACH

The instructor demonstrates coding examples illustrating the functionality of the JAX-WS API and how to secure Java technology-based web services. The instructor also highlights and discusses sections of code related to an implementation using JAX-WS APIs and web services security.

#### Morning content:

- Java Technologies for Web Services and Platforms
- Web Services Processing APIs
- Web Services Description and Service Registry

#### Afternoon content:

- Java API for XML Web Services (JAX-WS)
- Securing Java Technologies for Web Services, Using the Java EE Application Layer and Transport Layer
- Securing Java Web Services Security, Using Message Layer Security

#### Prerequisites:

A thorough knowledge of Java technology; Java EE; the EJB architecture framework; and XML and basic knowledge of SOAP, SAAJ, WSDL, UDDI, and Java Web Services Developer Pack (WSDP)

## Managing Complex Web Applications: Should I Use Apache Struts Framework, JavaServer Faces Technology, or Both?

: COURSE LEVEL : INTERMEDIATE TO ADVANCED  
: COURSE LENGTH : FULL DAY

### COURSE DESCRIPTION

This course provides the students with the knowledge and skills necessary to quickly build complex web applications from JavaServer Pages™ (JSP™) technology and servlet technologies, using the web container and the Struts framework. It also gives the students the skills necessary to build custom web tier components, using the JavaServer Faces component framework. The students also gain an understanding of the usage of the Struts framework versus the JavaServer Faces component framework for building complex web applications.

### COURSE APPROACH

The instructor highlights and discusses sections of code related to the development of web components by use of the Struts model-view-controller (MVC) framework and JavaServer Faces technology framework.

#### Morning content:

- Web Component History and Model-View-Controller (MVC)
- Need for Frameworks to Gain “ilities”: Extensibility, Manageability, Flexibility, Scalability
- Struts Overview and Benefits
- Struts Implementation
- JSP Technologies

#### Afternoon content:

- JavaServer Faces Component Overview and Framework Discussion
- JavaServer Faces Input Components
- JavaServer Faces Application Sample
- Struts or JavaServer Faces? or Both?

#### Prerequisites:

A thorough knowledge of the Java programming language and a basic understanding of servlets, JSP technology, HTML, and the design of Java technology-based applications

## Web 2.0: Building Dynamic Web Sites with Ajax and Dojo

: COURSE LEVEL : INTERMEDIATE  
: COURSE LENGTH : HALF DAY (MORNING)

### COURSE DESCRIPTION

This course provides the students with the skills necessary to build rich interactive web applications by using Ajax technologies. It explores the popular the Dojo toolkit, a library of web JavaScript™ technology components, which has Ajax components to simplify the creation of rich web applications. This toolkit provides many UI components, including list and tree pickers, tabbed panes, animated buttons, rich text editing, date and color pickers, and more.

### COURSE APPROACH

The instructor highlights, demonstrates, and discusses concepts and source code related to the development of modern dynamic web pages.

#### Content:

The course begins with Ajax concepts and sample Ajax applications, including sample HTML, JavaScript technology, and CSS. The Dojo toolkit is introduced, installed, and used to create interactive web pages.

- Introducing Ajax
- Tools and Technology

#### Prerequisites:

Java technology programming experience

## Filthy-Rich Clients

: COURSE LEVEL : INTERMEDIATE TO ADVANCED  
: COURSE LENGTH : HALF DAY (MORNING)

### COURSE DESCRIPTION:

Authors Chet Haase and Romain Guy present material from their new Java Series book, *Filthy Rich Clients*.

Graphical effects and animation in GUIs can be totally gratuitous. But when done right, they can make applications more effective and users more productive. Expect a lot of code and demos to show how you can apply these techniques to your applications.

#### Content:

- Fundamentals
- Animation
- Effects

#### Prerequisites:

Basic knowledge of the Swing API (participants should have written at least a small Swing application)

## Developing Portable Java EE Applications with the Enterprise JavaBeans™ (EJB™) 3.0 API

: COURSE LEVEL : INTERMEDIATE  
: COURSE LENGTH : HALF DAY (MORNING)

### COURSE DESCRIPTION

This course provides the students with up-to-date knowledge of the EJB 3.0 component API needed to develop and deploy portable business applications for the Java EE platform. The EJB 3.0 component model has been vastly simplified to improve productivity in writing component-based applications with Java EE. The students gain an understanding of fundamental EJB component concepts such as session beans, message-driven beans, transactions, and security and how EJB 3.0 components make it easy to use container services to develop your applications.

### COURSE APPROACH

The instructor highlights and discusses sections of code examples illustrating the functionality and use of EJB 3.0 components.

#### Content:

- Java EE Platform Component Model
- Developing EJB 3.0 Component Session Beans as Business Facades
- Developing EJB 3.0 Component Message-Driven Beans
- Understanding Common EJB Component Concepts
- Implementing Transactions
- Implementing Security
- Advanced Concepts

#### Prerequisites:

Thorough knowledge of the Java programming language

## Developing Enterprise Applications with the Spring Framework

: COURSE LEVEL : INTERMEDIATE  
: COURSE LENGTH : HALF DAY (MORNING)

### COURSE DESCRIPTION

The Spring Framework is one of the world's leading full-stack Java technology-based application frameworks. Through judicious support for dependency injection (DI), aspect-oriented programming (AOP), and portable service abstraction, Spring offers a powerful and pragmatic way to develop enterprise applications. This course teaches participants how to get the most out of Spring.

### COURSE APPROACH

This course covers a broad range of topics enabling participants to gain a clear understanding of the Spring Framework. It discusses the principles of DI and how it helps in simplifying test-driven development (TDD). It also examines AOP concepts and their pragmatic applications. Spring has extensive support for middle-tier functionality, including persistence, remoting, management, messaging, and control flow.

The course illustrates the value Spring provides in these areas. Spring 2.0, a major new release of the framework, contains many new features such as namespace support and AspectJ integration. It discusses these features and ways to leverage them. By the end of the course, participants should be ready to apply Spring in their own applications.

#### Content:

- The Spring Lightweight Container Architecture, Including Inversion of Control
- Agile, Domain-Driven Design Techniques with Spring
- Effective JDBC Technology and Hibernate Data Access
- Declarative Transaction Management
- Pragmatic AOP
- Unit Testing in Isolation
- Rapid System Integration Testing
- Spring's Web Support (Model-View-Controller, Web Flow, and Web Services)
- Spring Security, Remoting, and Java Management Extensions (JMX™) API

#### Prerequisites:

Participants should have a good understanding of the core Java platform as well as a basic knowledge of general Java EE concepts, such as JSP technology and servlets

## Web 2.0: Leveraging the Project jMaki and Google Web Toolkits for Rapid Web Site Development

: COURSE LEVEL : INTERMEDIATE  
: COURSE LENGTH : HALF DAY (AFTERNOON)

### COURSE DESCRIPTION

This course presents two programming frameworks for developing modern web applications: Project jMaki and Google Web Toolkit (GWT).

Project jMaki is a lightweight client-server framework for creating JavaScript technology-centric Ajax applications using CSS layouts, a widget-based interaction model, client services such as publish/subscribe events to tie widgets together, JavaScript technology action handlers, and a generic proxy to interact with external RESTful web services. Project jMaki can interact with many Ajax component libraries, such as the Dojo toolkit.

The Google Web Toolkit is a Java technology-based web application framework that lets you implement Ajax-enabled web applications without knowledge of Ajax or JavaScript technologies. This course spans the gamut of developing applications with GWT. It starts with GWT fundamentals and works up to advanced topics such as implementing custom widgets, database access, and drag-and-drop. Come see how you can develop rich, interactive web applications with this exciting framework.

### COURSE APPROACH

The instructor highlights, demonstrates, and discusses concepts and source code related to the development of modern dynamic web pages.

#### Content:

- Introducing Project jMaki
- The Google Toolkit

#### Prerequisites:

Java technology programming experience (the students need to be familiar with Ajax, JavaScript technology, and other web development technologies such as HTML and CSS)

## Learning How Java Platform, Micro Edition (Java ME) Development Works Best for Mobile Devices

: COURSE LEVEL : BEGINNING TO INTERMEDIATE  
: COURSE LENGTH : HALF DAY (AFTERNOON)

### COURSE DESCRIPTION

With billions of Java technology devices all over the world, Java ME is still one of the hottest technologies for which to build and deploy applications. In this course, learn what the Java ME platform is all about, from the basic introduction to the Java ME platform and MIDlets to how you can easily build a Java ME application by using the NetBeans™ Mobility Pack IDE, to how you can add graphics and media to your application and how to successfully test and deploy it. Finally, you get the chance to apply what you have learned in the course to building your own sample application during our labs.

### COURSE APPROACH

The instructor highlights and discusses sections of code related to the development of Java ME mobile applications. The course shows how to use NetBeans Mobility Pack to create, test, and deploy an application for a mobile device and also presents code samples and technical tips on adding graphics and media to a Java ME application.

#### Content:

- Introduction to the Java ME Platform and Application Development
- How to Start Your Application Development Within the Mobile and Embedded Community
- How to Use the NetBeans Mobility Pack to Start Building Your Mobile Application
- Adding Graphics and Media to Your Java ME Platform Application, Using the NetBeans Mobility Pack
- How to Incorporate Web Services in a Java ME Platform Application
- Testing Best Practices for Java ME Platform Applications

#### Prerequisites:

Laptop with preloaded

- NetBeans Software IDE 5.5 and Mobility Pack ([www.netbeans.org/products/index.html](http://www.netbeans.org/products/index.html))
- Sun Java Wireless Toolkit ([java.sun.com/javame/sdk/index.jsp](http://java.sun.com/javame/sdk/index.jsp))

## Developing Java Technology Applications with the Java Persistence API

: COURSE LEVEL : INTERMEDIATE

: COURSE LENGTH : HALF DAY (AFTERNOON)

### COURSE DESCRIPTION

This course provides the students with knowledge of the Java Persistence API needed to develop and deploy data-driven applications with the Java EE platform and Java Platform, Standard Edition (Java SE). The Java Persistence API is a new persistence API that enables Java SE and Java EE platform technology developers to model database entities as POJOs (Plain Old Java Objects). The students gain an understanding of how to program with the Java Persistence API, independent of platform, as well as how the Java Persistence API integrates with EJB 3.0 component services to facilitate the development of enterprise applications.

### COURSE APPROACH

The instructor highlights and discusses sections of code examples illustrating the functionality and use of the Java Persistence API.

#### Content:

- The Java Persistence API
- Implementing Entity Classes
- Using the EntityManager API
- Using the Java Persistence API Query Language
- Controlling Object/Relational Mapping
- Implementing with Container-Managed and Application-Managed Persistence Contexts
- Leveraging Container Services for Java Persistence
- Configuring and Packaging a Java Persistence Application

#### Prerequisites:

Knowledge of the Java programming language; basic knowledge of relational database concepts

## Rapid Web Site Development with Groovy and Grails

: COURSE LEVEL : INTERMEDIATE

: COURSE LENGTH : HALF DAY (AFTERNOON)

### COURSE DESCRIPTION

Grails leverages hugely popular frameworks such as Spring, Hibernate, and SiteMesh, simplifying them with a dynamic platform and “convention over configuration.” More important, however, it takes integration with Java technology and Java EE Platform to a new level, by bringing the same speed and elegance pioneered on other dynamic platforms such as Ruby and Python.

This course helps you get up to speed with the features offered by the Groovy language, with a whirlwind tour followed by a look at Grails, its features, and its importance as an alternative platform for rapid web application development.

In addition, you learn how to integrate Grails with existing Java technology enterprise services, databases, and web applications and how to use a blended approach mixing static and dynamically typed code to maximize the scalability of your code base.

### COURSE APPROACH

This course introduces Groovy and Grails, providing a basis for rapid web application development. Leveraging these technologies, this course shows you how to set up and customize a dynamic web site.

#### Content:

- The Groovy Tour
- Getting Started with Grails
- Java Integration

#### Prerequisites:

A good knowledge of web application development using languages such as the Java or JavaScript programming language; basic understanding of HTML and web technologies

<code/>





## HANDS-ON LABS PROGRAM

Get down and dirty with the Hands-on Labs (HOL) program, which is loaded with technical content that gets you exploring and into the Java technologies that are happening now. There is no better way to learn. Each of the instructor-led labs has been expanded to 120 minutes, so you can get into the code. You don't just hear about "how-to" but also experience it. The lab content will also be available on CD.

### Consumer Technologies

#### LAB-7210 Hands-on with Project Darkstar: The JavaOne Conference MUD

Jeffrey Kesselman, Sun Microsystems, Inc.

This lab gives attendees a chance to get their hands dirty with Project Darkstar, the Sun Game Server.

The lab starts with a basic text multiuser dungeon (MUD)-style game, and attendees each get a chance to add their own features to the basic MUD, with explanation and support from the Darkstar engineering team. At the end of each lab session, the completed additions are merged back into the main MUD application, which will be available to players at the Conference over the Conference network.

This is an open lab. Attendees are expected to explore their own project concepts, with design and coding support from the lab leader(s), and should be familiar with the Java programming language, because the lab doesn't cover Java programming language syntax. Attendees need not have any experience with Darkstar, however.

### Java SE

#### LAB-1420 Nonintrusive Monitoring of Java Technology-Based Applications with Java Management Extensions (JMX) Technology, JConsole, and Aspect-Oriented Programming: Using a Spring Application as an Example

Luis-Miguel Alventosa, Sun Microsystems, Inc.

The purpose of this Hands-on Lab is to illustrate how you can monitor a Java technology-based application by using Java Management Extensions (JMX) technology and aspect-oriented programming (AOP) in a nonintrusive manner. A simple application based on the Spring Framework is used as an example. This lab also illustrates how JConsole can be used for troubleshooting problems in running Java technology-based applications.

The lab illustrates the following:

- Creating a Spring application with the Spring Framework plug-in for NetBeans software
- Monitoring the created application with AOP
- Troubleshooting Java technology-based applications with JConsole

The lab steps through the following tasks:

- Creating a simple Spring web model-view-controller (MVC) sample database application, using the Spring Framework plug-in for NetBeans software
- Installation of the AOP monitoring open source package Glassbox Inspector 2.0
- Enabling nonintrusive AOP monitoring of the Spring application via Glassbox Inspector
- Observing application/Spring-specific statistics via Java Platform, Standard Edition (Java SE) 6 JConsole with JMX dynamic attach
- Troubleshooting application-specific problems via Java SE 6 JConsole with JMX dynamic attach
- Adding/modifying monitoring probes (if time permits)

#### LAB-1610 Dive into Script Programming on the Java Platform

Jason Huang, Sun Microsystems, Inc.

Scripting has become more and more popular and very effective for rapid development of web applications since the Java SE 6.0 scripting engine was built in according to JSR 223, Scripting for Java Platform. With the help of the scripting engine in Java SE, scripts can run inside the Java Virtual Machine and leverage the powers of Java technology.

This Hands-on Lab helps programmers

- Learn basic script programming on the Java platform
- Use scripts in server-side development with the script-based MVC framework: Phobos and Ajax technology
- Implement a simple scripting engine and embed it into the Java platform

### Desktop

#### LAB-7210 Hands-on with Project Darkstar: The JavaOne Conference MUD

Jeffrey Kesselman, Sun Microsystems, Inc.

This lab gives attendees a chance to get their hands dirty with Project Darkstar, the Sun Game Server.

The lab starts with a basic text multiuser dungeon (MUD)-style game, and attendees each get a chance to add their own features to the basic MUD, with explanation and support from the Darkstar engineering team.

[CLICK HERE](#) to view real-time lab information and updates.

## Desktop

At the end of each lab session, the completed additions are merged back into the main MUD application, which will be available to players at the Conference over the Conference network.

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## Java EE

### LAB-1610 Dive into Script Programming on the Java Platform

Jason Huang, *Sun Microsystems, Inc.*

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This Hands-on Lab helps programmers

- Learn basic script programming on the Java platform
- Use scripts in server-side development with the script-based MVC framework: Phobos and Ajax technology
- Implement a simple scripting engine and embed it into the Java platform

### LAB-3360 Taste the Special Features of the GlassFish Project

Jian Jiang, *Sun Microsystems, Inc.*  
Wang Yu, *Sun Microsystems, Inc.*

The GlassFish project is the Java EE 5 reference implementation and the Java Persistence API reference implementation. Beyond these standards, the GlassFish project has some outstanding and interesting features that may meet enterprise requirements for future applications. In this lab, you experience some special features in the GlassFish project, including:

- Asynchronous request processing
- Resource consumption management
- Server pushing technology (Comet)
- FastInfoset in web services
- Scripting in GlassFish
- Self-management
- CallFlow

### LAB-4430 Developing an Ajax-Enabled Custom JavaServer Faces Component for NetBeans Visual Web Pack

Gail Anderson, *Anderson Software Group, Inc.*  
Winston Prakash, *Sun Microsystems, Inc.*

This Hands-on Lab is divided into three parts:

- Part 1 – Discusses how to write a custom JavaServer Faces component
- Part 2 – Examines how to modify the custom component to include Ajax
- Part 3 – Covers adding design time to the component so that it can be imported into NetBeans software and be used in the designer for designing the application

## Java ME

### LAB-6340 Advanced Java ME Programming: Streaming Video from a Server to Your Device

Martin Brehovsky, *Sun Microsystems, Inc.*  
Lukas Hasik, *Sun Microsystems, Inc.*  
Fabiola Gallegos Rios, *Sun Microsystems, Inc.*

The Mobile Media API (MMAPI) defined by JSR 135 offers a range of multimedia capabilities for mobile devices, including playback and recording of audio and video from a variety of sources. The J2ME Web Services API (JSR 172) enables Java 2 Platform, Micro Edition (J2ME) devices to be web services clients, providing a programming model that is consistent with the standard web services platform.

In this Hands-on Lab session, developers gain experience with successful tools, technologies, and best practices for seamlessly building a wireless-application-consuming web service using the Java ME and Java EE technologies. The result of the Hands-on Lab will be a real-world mobile application accessing a server with a video database and playing the selected record on the device.

### LAB-7230 Project Sun SPOT, Robots, and Java Technology

Eric Arseneau, *Sun Microsystems, Inc.*

The possibilities and potential applications of wireless embedded devices are limited only by one's imagination. Environmental monitoring, asset tracking, proactive health care, intelligent agriculture, and military surveillance are just a handful of applications that can be revolutionized by the use of such devices. However, the current state of the art makes developing for these platforms a tedious chore—it often involves learning unfamiliar languages and tools, and there is little or no debugging support.

Sun Labs researchers working on Project Sun SPOT (Small Programmable Object Technology) have created a small, wireless battery-powered device that provides a versatile, Java technology-based platform for developing embedded applications. This commercially available platform comes equipped with a 32-bit ARM processor and an IEEE 802.15.4 radio. Stackable boards include application-specific sensors and actuators such as accelerometers, light detectors, temperature sensors, LEDs, push buttons, and general I/O pins. These devices can be duty-cycled to run for months on a single charge of their rechargeable battery. By supporting application development and debugging via standard tools and IDEs, this platform opens up the world of embedded programming to a much broader class of developers.

This Hands-on Lab is an extended version of a very popular lab from last year. This year, the people giving the lab have partnered with Systronix to make it even more fun and interesting. Systronix has developed a rugged, affordable chassis for Sun SPOTs. A SPOT just clips into the base, and you now have a mobile SPOT robot. The chassis uses rubber tracks (like a bulldozer), so it can turn in its own radius and easily climb over typical obstacles such as power cords. The platform includes sites for additional sensors and local controllers. The latter provide for “digital reflexes”: if the robot is about to collide with an object, it can stop in response to local sensor data without a command from the robot brain. Cockroaches have similar capabilities: sensors wired directly to their legs provide quick response for avoiding predators.

cont. >>

# HANDS-ON LABS PROGRAM

## Java ME

- >> This lab teaches participants how to write applications using the Sun SPOT platform and the robot chassis. You learn how to work with various sensors, use the radio to communicate between multiple SPOTs, and create an autonomous vehicle. Each participant has access to two Sun SPOT devices and a robot chassis throughout the session. The participants must be familiar with the Java programming language, but prior hardware experience is not required.

## The Next-Generation Web

### LAB-4430 Developing an Ajax-Enabled Custom JavaServer Faces Component for NetBeans Visual Web Pack

Gail Anderson, *Anderson Software Group, Inc.*  
Winston Prakash, *Sun Microsystems, Inc.*

This Hands-on Lab is divided into three parts:

- Part 1 – Discusses how to write a custom JavaServer Faces component
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## Open Source

### LAB-9520 Using Dynamic Tracing (DTrace) on Java Technology-Based Applications in Solaris Operating System (Solaris OS) 10

Angelo Rajadurai, *Sun Microsystems, Inc.*

Dynamic Tracing (DTrace) is a comprehensive dynamic tracing framework for the Solaris Operating System (Solaris OS). It provides a powerful infrastructure that permits administrators, developers, and service personnel to concisely answer arbitrary questions about the behavior of the operating system and user programs. In this Hands-on Lab, you learn the basic concepts in DTrace, find out how to use DTrace for Java technology-based applications, learn how to use the DTrace toolkit, and look at a real-life scenario for using DTrace.

## Services and Integration

### LAB-5410 Using Identity to Secure Web Services

Aravindan Ranganathan, *Sun Microsystems, Inc.*  
Malla Simhachalam, *Sun Microsystems, Inc.*

Web services are developed by use of open standards and specifications based on XML and SOAP. The technology continues to gain momentum among enterprises as a mechanism for allowing their applications to cross network boundaries and communicate with those of their partners, customers, and suppliers, apart from their internal application integration. Although web services enable open, flexible, and adaptive interfaces, their openness creates security risks. Without proper security protections, a web service can expose vulnerabilities that may have direct consequences for any enterprise. Hence, ensuring the integrity, confidentiality, and security of web services through the application of a comprehensive security model is critical for enterprises as well as their consumers.

This Hands-on Lab explains standards-based technologies for securing such web services. In the advancement of web services technology, one significant area of interest has been propagating users' identity via web services. Such identity-enabled web services present an interface for access to a type of data that is considered a part of an online identity. Identity-enabled web services are generally characterized by the need to know the identity of the user before allowing access to the service. Authentication of the user ensures that the proper security token (needed for access to the web service) is embedded in the SOAP headers. An example of an identity-based web service is a calendar service that needs the identity of the user in order to enforce the permission checks on the events being accessed.

This Hands-on Lab teaches you how to use Sun Java Access Manager (OpenSSO), NetBeans release 5.5, and the Sun Java Application Platform to secure web services. Specifically, this lab

- Teaches how to use OpenSSO deployed within the Java Application Platform Suite to configure authentication source and identity repositories
- Shows how to configure the Java Application Platform Suite to use OpenSSO web service security providers
- Demonstrates how web services can be secured by use of standard mechanisms
- Shows how to simplify web services security by using NetBeans software

## Tools and Languages

### LAB-4430 Developing an Ajax-Enabled Custom JavaServer Faces Component for NetBeans Visual Web Pack

Gail Anderson, *Anderson Software Group, Inc.*  
Winston Prakash, *Sun Microsystems, Inc.*

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- Part 1 – Discusses how to write a custom JavaServer Faces component
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### LAB-8170 Advanced UML Modeling with NetBeans Software

Andrew Korostelev, *Sun Microsystems, Inc.*  
Alexandr Scherbaty, *Sun Microsystems, Inc.*

This Hands-on Lab takes you through the process of developing a Java technology-based application with the NetBeans UML Modeling Module. During this lab, you learn how to design and develop a real-life Java technology-based application, how to create a reverse-engineered UML project from a Java library, and how to analyze a project structure and find and correct mistakes by using the UML graphical presentation.

Prerequisites:

This Hands-on Lab assumes that you have a basic familiarity with the Java programming language and UML modeling. If you are new to UML, a good resource for UML modeling techniques and theory is the official UML resource page, at [www.uml.org/](http://www.uml.org/).



## EVENT CONNECT

### Get Connected with the 2007 JavaOne Conference Event Connect Tool

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- > Find technologies and solutions
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## NETBEANS SOFTWARE DAY

**The Moscone Center, San Francisco | Monday, May 7, 11 a.m.–7 p.m.**

Want to see the latest in Java platform developer tools? NetBeans software can boost your productivity, no matter what type of Java technology development you do: Java Platform, Standard Edition (Java SE), Java Platform, Enterprise Edition (Java EE), or Java Platform, Micro Edition (Java ME). In fact, the NetBeans architecture IDE can make you more productive in other languages, including Ruby, the JavaScript programming language, and C/C++.

At the fourth annual NetBeans Software Day, learn from the experts what's happening with the NetBeans architecture IDE and platform. James Gosling—the father of Java technology—will be there to show off the coolest NetBeans toys. In addition, other technology luminaries will be present to discuss the future of developer tools and rich client platforms. The event is also a great opportunity for community members to meet each other face-to-face and see demos of the next generation of NetBeans software.

So plan to join us for an entertaining and informative event. There are some prizes, and the first 400 attendees receive a complimentary copy of *Rich Client Programming: Plugging into the NetBeans Platform*.

NetBeans Software Day 2007 takes place on Monday, May 7, 2007, at The Moscone Center in San Francisco. It is a companion event to the JavaOne conference, which begins the following day. NetBeans Software Day is free for anyone who wants to attend—you do not have to be registered for the JavaOne conference. But space is limited, so sign up now!

A reception is being held immediately after the event, so come and meet NetBeans software partners and developers!

See [www.netbeans.org/community/articles/javaone/2007/nb-day.html](http://www.netbeans.org/community/articles/javaone/2007/nb-day.html) for the latest information on NetBeans Software Day.

### JAVAONE CONFERENCE ROCK STARS

#### The Best of the Best



JavaOne conference Rock Stars are speakers who have been selected in surveys of their peers and recognized as outstanding speakers. They have received the highest marks from those who attended their sessions and are experts in their areas.

[java.sun.com/javaone](http://java.sun.com/javaone)

### ECO-FRIENDLY CONFERENCE MATERIALS

By bringing this guide to you virtually and on recycled paper, we have reduced greenhouse gases (CO<sub>2</sub> equivalents) by 11.23 tons (22,460 pounds), reduced wood use by 29 tons, saved 202 trees, and reduced wastewater (and associated water pollution) by 73,627 gallons. That last figure is equivalent to 785,000 cans of soda! We are doing what we can to help the environment; please make sure you do the same by recycling this guide when you are through with it.

For other eco-friendly efforts for this year's Conference, visit [java.sun.com/javaone](http://java.sun.com/javaone).

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## CONSUMER TECHNOLOGIES



Exciting technologies are making the transition from research labs to the consumer marketplace. This track focuses on technologies that are poised to make a business impact today, how to scope the effort, and how to define the project and the business model.

The track's sessions cover the following topics:

- Digital TV: tips and techniques on how to build Java technology-based applications for TV, tool and development options, and demonstrations of the state of the art in the digital TV market
- Blu-ray Disc
- Set-top boxes
- Java SE media
- Java technology in cars
- Home security
- Cool innovations

### Consumer Technologies

#### TS-0011 OCAP: Summary of Technical Features and APIs

Kevin Flanagan, *CableLabs*

The OpenCable Applications Platform, OCAP, is Java technology-based middleware defined by the cable television industry to create a national footprint for interactive television applications. The platform abstracts cable network and set-top box specifics, enabling devices that contain an implementation of the platform to execute applications written to the specification.

Historically, digital TV has been received on proprietary set-top boxes (STBs) that include proprietary software environments and applications. Increasing competition from satellite and now telco video providers, pressure from federal regulators, and the desire of consumer electronics and personal computer manufacturers to enter the market have created a need for standards that enable device portability and application interoperability.

This session presents an overview of the technical features and APIs in the core specification. It focuses on the standards that constitute the foundation of OCAP: MHP, HAVI, PJava, and others. From there it discusses specific aspects of the OCAP spec, such as the application model, signaling, security, and resource management. The presentation closes with a discussion and examples of applications currently being implemented to the OCAP spec.

#### TS-0887 Producing Blu-Ray Java Software Titles for Hollywood

Bill Foote, *Sun Microsystems, Inc.*

Philip Starner, *Javelin Ventures*

Michael Zink, *Technicolor*

Blu-Ray Java software opens up limitless creative possibilities for writing interactive titles for the home. Integrating high-definition video and audio, the Blu-Ray Java software you commit to disc can be an integral part of a title that plays on anybody's Blu-Ray player, appearing soon on an HDTV near you.

This presentation describes the BD-J software creation process: the kinds of assets you'll need, the tools available to you, and how to live within the device constraints. It shows you how to tap into the power of advanced Blu-Ray features, such as picture-in-picture, multichannel sound mixing, downloaded video, synchronizing Java software graphics with video, and enhanced Blu-Ray games. It also tells you about the close links between Blu-Ray and the world of broadcast television—including cable, satellite, and IPTV—and how your application can be written to cross over to these other delivery platforms.

*cont. >>*

#### : track one : Consumer Technologies

TS-0011 OCAP: Summary of Technical Features and APIs

TS-0887 Producing Blu-Ray Java Software Titles for Hollywood

TS-5203 Web 2.0 Applications on a Next-Generation Java Card Platform (*see next page*)

## Consumer Technologies

>> The possibilities of the Blu-Ray platform are endless. With this rich new platform, the opportunities aren't limited to just writing software for individual discs: there's also a need for tools and techniques for rapidly creating interactive assets, and there's a market for server technologies to support new ways of using your television. In addition to Hollywood movies, there will be opportunities for educational and other special-interest works. This new industry will be accessed through your remote control, your TV screen, and the software you write for a Blu-Ray title. This session shows you what that software can do and how you can make it happen with Java technology.

### TS-5203 Web 2.0 Applications on a Next-Generation Java Card Platform

Laurent Lagosanto, *Gemalto*  
Jean-Jacques Vandewalle, *Gemalto*

Web applications are becoming more and more important in our daily operations. They tend to replace locally installed desktop applications with flexible and networked browser-centric applications. This trend, sometimes called Web 2.0, is an evolution of the web. Originally designed to deliver information, the web is becoming an infrastructure for running applications. This evolution is supported by a set of technologies and a development technique encompassed by the term "Ajax," an acronym for "Asynchronous JavaScript And XML." The Ajax technique overcomes the classical web application model based on page refresh per user click to provide a rich user experience comparable to that of desktop applications.

The goal of this session is to introduce the stake and technologies of those modern web applications to discuss the roles smart devices can play in such a context. The main driver of the discussion is that a user-attached secure personal device with processing and storage capabilities brings important opportunities to the smart card industry for broadening the impact and usage of high-end products.

The presentation reviews some use cases showing that a smart device integrated in web applications provides technical means of improving the personalization, the security, and the deployment scheme of such modern web applications. Then it presents detailed software architecture designs to expose the implementation issues that have to be tackled. Two important sets of issues are considered:

1. The embedded software infrastructure needed inside the smart device
2. The integration of smart device operations within a web application

Finally, a link is established between this picture and the envisioned next-generation Java Card™ platform products, showing that the smart card industry has been developing the right technologies to support networked web applications with a user-centric point of view.

## JAVA SE



Java Platform, Standard Edition (Java SE) technologies form a solid foundation for building and deploying all kinds of applications, from simple applets to complex enterprise-class programs. This track comprises highly technical talks, many including code examples, that show how to use the core Java platform technologies to build robust, scalable, portable applications. Among the topics are the following:

- Core language and APIs
- Security
- I/O
- Networking
- Utilities
- Concurrency
- Garbage collection
- Monitoring and management
- Java runtime environments (JREs)
- Open-sourcing of Java SE
- Case studies
- Performance
- Cool stuff that shows innovation on the platform

[CLICK HERE](#) to view real-time session information and updates.

## Java SE

### TS-1130 JFugue: Making Music with Java MIDI and Illustrating API Usability

David Koelle, *Charles River Analytics Inc.*  
Geertjan Wielenga, *Sun Microsystems, Inc.*

Are you interested in creating Java technology-based programs that play or create music but you're intimidated by MIDI programming? JFugue is an open source API that lets you program music with just one line of code. And if you're intrigued by how an API can be that easy and still be useful, attend this presentation, which uses JFugue to illustrate some principles of API usability.

The session first takes a look at JFugue: why it exists, what it can do, and how it simplifies a fun task that would otherwise require much more investment of time, knowledge, and energy. It also digs deeper into the library to see some of the really cool stuff JFugue can do: how it can transform phrases of music, connect to external devices, and be easily integrated with your own programs.

It then uses JFugue to illustrate examples of what it takes to make a usable API. Sometimes the complexity of an API can be a barrier to its adoption, which can easily discourage people from using your library. The presentation shows how some of the key principles of API usability have been applied to JFugue and how these can be applied to your own work as well.

The session concludes with a demonstration of how easy it can be to create a Swing client-side application that serves as a graphical front end to JFugue, enabling users to craft music directly in their own application.

### TS-1519 All About Java Technology-Based Robotics

Paul Perrone, *Perrone Robotics, Inc.*

This session describes why Java technology is ideal for emerging mobile robotics applications as well as for more-mature industrial robotics and automation applications. It describes the speaker's experiences and concrete examples of employing Java technology in robots of all shapes and sizes and covers use of Java SE, Java ME, Java Real-Time System (Java RTS), and Project Sun SPOT technologies for a wide variety of robotics applications. It includes descriptions and example code for rat- and cat-size applications that range from hobbyist examples for developers to get their hands on, to real-world commercial examples. And it also presents grander, more elephant-size applications, such as the speaker's experiences with an autonomous dune buggy, Tommy, for the 2005 DARPA Grand Challenge, and Tommy Junior, an autonomous Scion xB, being built for the 2007 DARPA Urban Challenge.

The session also presents experiences and examples with unmanned air vehicles, industrial robotics, and automation applications. It is intended to leave attendees with a sense of the broad range of applications along with concrete examples and code samples for use of Java technology in emerging mobile robotics applications and mature industrial automation applications.

### TS-1990 Exploring the Deep with SONIA

Martin Morissette, *SONIA AUV team*  
Félix Pageau, *SONIA AUV team*

SONIA, an autonomous underwater vehicle (AUV), has proven that Java technology is a technology of choice for modern robotics applications. A team composed of volunteer engineering students from École de Technologie Supérieure (ETS) has successfully demonstrated the power, versatility, and portability of Java technology by building AUVs that continuously rank among the three best in the world.

Each year more than 20 teams from the United States, Canada, Japan, and India compete at the International AUV Competition, hosted by the Association for Unmanned Vehicle Systems International (AUVSI) and the U.S. Office of Naval Research (ONR), in which each team has to demonstrate its vehicle's intelligence by successfully completing an underwater mission. The mission usually consists of robotic vision, acoustic navigation, and vehicle control tasks.

This session presents how the switch to Java technology enabled SONIA to become a winning platform. It delves into the methodologies used to achieve high productivity within a part-time volunteer organization and provides details on its

- Flexible architecture for data gathering, fusion, and decision systems
- Simulator using Java 3D™ API
- Telemetric interface managed by Java Management Extensions (JMX)
- Swing-based vision client to modify robotic vision parameters and algorithms on the fly
- Visual AI editor tool powered by JGraph

### TS-2007 Improving Software Quality with Static Analysis

William Pugh, *Univ. of Maryland*

Static analysis tools can examine your code without executing it and find code quality problems you'll want to pay attention to. These tools have moved far beyond lint and complaining about not using curly braces in your if statements. They can find things such as statements that are guaranteed to dereference a null pointer if executed, methods that do nothing but invoke themselves again and again in an infinite recursive loop, SQL injection, and many other serious programming faults. Some of the faults these tools find in production software are straightforward; others are programming-puzzler-worthy. In fact, many of Joshua Bloch and Neal Gafter's programming puzzlers can be detected by static analysis, including a puzzler bug Bloch and Gafter inadvertently introduced into one of the solutions provided in their book.

This session discusses primarily FindBugs, an open source tool for finding defects in Java technology-based programs. It covers the kinds of errors it finds and gives examples of bugs found by FindBugs in production software. Generally, FindBugs finds a serious issue every several thousand lines of code. FindBugs reports more than 450 serious correctness warnings in Sun's JDK™ software, and the speakers' own auditing and experience have shown that the substantial majority of those warnings correspond to coding defects that should be fixed.

The presentation also discusses how to integrate static analysis into your development process, including issues such as false-positive suppression; rule filtering; auditing; and differential analysis, such as getting a report of just the warnings that have been introduced since the last release to customers. *cont. >>*

: track two : Java SE

TS-1130 JFugue: Making Music with Java MIDI and Illustrating API Usability  
TS-1519 All About Java Technology-Based Robotics  
TS-1990 Exploring the Deep with SONIA  
TS-2007 Improving Software Quality with Static Analysis

## Java SE

>> Anyone with a working knowledge of the Java programming language will be able to understand the issues and defects this session discusses, but even the most seasoned veterans will find the information both interesting and dismaying.

Also briefly discussed are the status of JSR 305, Annotations for Software Defect Detection, and other static analysis tools such as Jackpot, PMD, and the static analysis built into Eclipse and IntelliJ.

### TS-2023 What's Hot in IBM's Virtual Machine for the Java Platform?—2007 Edition

Trent Gray-Donald, *IBM*

IBM has provided a Virtual Machine for the Java platform (JVM) for multiple platforms since the very early days of Java technology. The offering has matured significantly over the years, and this session aims to update the audience on the 2006–2007 progress IBM has made, notably with Java Platform, Standard Edition (Java SE) 6 and Sun Java Real-Time System. The presentation is technical in nature, discussing some of our key new technologies and some of the changes in our development methodology as we embrace new versions of the Java programming language.

### TS-2171 What's Hot in BEA JRockit

Staffan Larsen, *BEA Systems, Inc.*

This session is a continuation of last year's session of the same name. This year it digs deeper into the technical details of BEA JRockit, uncovering some of the specific optimizations done by the compiler and the secrets behind the deterministic garbage collector. It also takes a look at what diagnostics and monitoring tools are available to developers and how to use them to solve problems in a deployment environment.

JRockit is one of a few top Java Virtual Machine (JVM) platforms for enterprise-wide usage. It is available on the Solaris Operating System, Windows, and Linux (SPARC®/x86/x86-64/Itanium).

### TS-2220 Testing Concurrent Software

Brian Goetz, *Sun Microsystems, Inc.*  
William Pugh, *Univ. of Maryland*

Testing concurrent software is hard. Even simple tests require invoking methods from multiple threads and worrying about issues such as timeouts and deadlock. Unlike in sequential problems, many failures are rare, probabilistic events and numerous factors can mask potential errors.

This presentation describes some of the basic challenges in testing concurrent software, describes how frameworks such as TestNG can be used to perform multithreaded tests, and examines some new open source testing frameworks that make it ever easier to create and control the threads needed to test concurrent software and reliably find faults through testing that would normally occur only sporadically through rare thread interleavings. It also discusses how to think about and design unit tests for concurrent software.

It also briefly looks at measuring the performance and scalability of concurrent software. Performance measurement in Java technology is already a difficult problem, and concurrency only makes this harder. The session covers the approaches used by the JSR 166 expert group to test

the `java.util.concurrent` classes, the range of environments in which these tests were run, and ways in which the test results conditioned the development of the code.

Attendees should be familiar with unit testing on the Java platform and with Java technology-based concurrency but need not be familiar with testing concurrent software.

### TS-2294 Closures for the Java Programming Language

Neal Gafter, *Google*

This session describes Closures, a language extension proposed for the JDK 7 release.

### TS-2318 JSR 277: Java Module System

Michal Cierniak, *Google*  
Stanley Ho, *Sun Microsystems, Inc.*

The JSR 277 (Java Module System) specification seeks to address many issues associated with Java Archive (JAR) files, including the lack of version control, the difficulties in distributing multiple JAR files for deployment, the classpath hell, the JAR file hell, and the extension hell that have been well known to many developers on the Java platform for years. The specification defines an architecture with first-class modularity, packaging, and deployment support in the Java platform, including a distribution format, a versioning scheme, a repository infrastructure, and runtime support.

### TS-2383 Java Platform, Standard Edition (Java SE): Present and Future

Danny Coward, *Sun Microsystems, Inc.*

This session presents a comprehensive overview of Java Platform, Standard Edition (Java SE), where it is today, and where it is headed tomorrow.

### TS-2388 Effective Concurrency for the Java Platform

Brian Goetz, *Sun Microsystems, Inc.*

The Java programming language has turned a generation of application programmers into concurrent programmers through its direct support of multithreading. However, the concurrency primitives provided by the Java programming language are just that: primitive. With them you can build whatever concurrency constructs you need, but doing so takes great care, because concurrent programming poses many traps for the unwary.

Based on the principles in the best-selling *Java Concurrency in Practice* and structured with the “bite-size item” style of *Effective Java*, this talk focuses on design techniques that will help you create correct and maintainable concurrent code.

### TS-2401 Java Language Modularity with Superpackages

Alex Buckley, *Sun Microsystems, Inc.*  
Andreas Sterbenz, *Sun Microsystems, Inc.*

JSR 294, Improved Modularity Support in the Java Programming Language, deals with information hiding for “programming in the large.” Structuring a large program with packages usually means exposing too many implementation details to the whole world. The “superpackage”

construct defined in JSR 294 introduces a level of access control wider than a package but narrower than public, so that implementation details can be better encapsulated. This session discusses how superpackages affect access control at compile time and runtime, how they are represented, how they enable separate compilation, and how they interact with JSR 277 versioning and deployment.



[CLICK HERE](#) to view real-time session information and updates.

## Java SE

### TS-2594 Secure Coding Guidelines, Continued: Preventing Attacks and Avoiding Antipatterns

Charlie Lai, *Sun Microsystems, Inc.*

Have you heard of cloning attacks, package insertion attacks, and finalizer attacks but don't fully understand how they work or how to prevent them? Did you know that the accessibility of methods and fields declared private by a developer can automatically increase to package-private under certain circumstances?

This session builds on last year's "Secure Coding Antipatterns: Avoiding Vulnerabilities" session. Although it starts with a quick review, this session focuses primarily on new coding antipatterns, attack scenarios, and JDK software vulnerabilities. More important, the session describes a new set of secure coding guidelines that will help you avoid them.

Whether you're a developer working on the internals of a security component, a shared library, or an end-user application, you can benefit from this session, because a security vulnerability at any level of the software stack can have serious ramifications.

### TS-2656 JMX Technology: Who's Doing What

Jean-François Denise, *Sun Microsystems, Inc.*  
Eamonn McManus, *Sun Microsystems, Inc.*

The Java Management Extensions (JMX) API has been part of the core Java platform since release 5.0. In this session, members of Sun's JMX technology team present a survey of the ways it is being used and a vision of what is in store in the next version.

The presentation examines, among other things

- Management consoles, both free and commercial
- How JMX technology is an excellent fit for aspect-oriented programming, with the Glassbox open source project as an example
- The tools that make it easy for developers to create their own JMX instrumentation

Looking forward, the session presents the features planned for release 7 of Java SE, in particular to address scalability. It discusses the WS-Management support being standardized by JSR 262 and how it will permit interoperation with the world outside the Java platform. The session does not assume detailed knowledge of JMX technology.

### TS-2689 Effective Java™ Reloaded : This Time It's for Real

Joshua Bloch, *Google, Inc.*

It's been more than five years since *Effective Java™* was released. The Java platform has evolved, and we've learned more about how to use it to best effect. This session covers new material added to the second edition, which makes its debut at this conference. The presentation, which should be useful to every working programmer, contains plenty of new material that was not covered in the 2006 session.

### TS-2885 High-Performance Java Technology in a Multicore World

David Dagastine, *Sun Microsystems, Inc.*  
Paul Hohensee, *Sun Microsystems, Inc.*

This presentation discusses the issues facing Java and Java Virtual Machine (JVM) technologies in a computing world quickly moving toward multiple-core CPU solutions. It reviews current and planned multicore technologies

from Sun, Intel, AMD, and others and describes relevant JVM technology requirements and performance optimizations in detail. It also discusses changes, including example code, in Java technology-based applications to take advantage of multicore platforms. A short demonstration shows how to solve common performance and scalability bottlenecks through JVM software tuning.

### TS-2890 Java Technology Generics and Collections: Tools for Productivity

Maurice Naftalin, *Morningside Light Ltd.*  
Philip Wadler, *University of Edinburgh*

Java technology generics are the largest and most important change to the Java programming language since it was introduced. The Java Collections Framework API is the most widely used library and will become even more popular with the use of generics, which eliminate the annoying casts that previously peppered Collections code. Although the fundamentals of generics and collections are easy to absorb, many important aspects require serious thought. In generifying an existing library, should one recode, use stubs, or use wrappers? What is "migration compatibility," and why is it central to the design of generics? What pitfalls need to be avoided when combining generics and arrays? How does one choose between ArrayDeque and LinkedList?

*Java Generics and Collections*, published by O'Reilly in October 2006, provides a thorough coverage of these topics. Gilad Bracha, Java Generics lead at Sun Microsystems, wrote this review: "A brilliant exposition of generics. By far the best book on the topic, it provides a crystal clear tutorial that starts with the basics and ends leaving the reader with a deep understanding of both the use and design of generics." As of this writing, the book has four reviews on [Amazon.com](#), all five-star.

This presentation, based on the book, answers the questions that developers need to understand to make productive use of generics and collections. Attendees should be practicing programmers using the Java programming language, should be acquainted with the basic ideas of generics, and should have written code using collections.

A big advantage of the erasure technique used to implement generics is the easy migration it allows from nongeneric legacy code to generic code. With erasure, legacy and generic code can interoperate freely, because the compiler can produce the same bytecode from a program using generics as from its nongenerified equivalent. Realizing this advantage in practice needs care, however. The presentation shows how developers can choose between the different routes to full migration.

Unlike generic types, arrays do carry runtime type information. Having two type systems can create difficulties that developers need to understand. The session explains a classic puzzle: why can't you create  
*cont. >>*

: track two : Java SE

TS-2023 What's Hot in IBM's Virtual Machine for the Java Platform?—2007 Edition  
TS-2171 What's Hot in BEA JRockit  
TS-2220 Testing Concurrent Software  
TS-2294 Closures for the Java Programming Language  
TS-2318 JSR 277: Java Module System  
TS-2383 Java Platform, Standard Edition (Java SE): Present and Future  
TS-2388 Effective Concurrency for the Java Platform  
TS-2401 Java Language Modularity with Superpackages  
TS-2594 Secure Coding Guidelines, Continued: Preventing Attacks and Avoiding Antipatterns  
TS-2656 JMX Technology: Who's Doing What  
TS-2689 Effective Java™ Reloaded : This Time It's for Real  
TS-2885 High-Performance Java Technology in a Multicore World  
TS-2890 Java Technology Generics and Collections: Tools for Productivity



## Java SE

>> generic arrays? It shows that you don't need arrays much anymore but also how to use them safely—when you really must have them—with generics. It explains the Principle of Truth in Advertising and the Principle of Indecent Exposure, which lay down the restrictions necessary for arrays of generic type to be safely used.

The new collections classes introduced in Java 5 and Java 6 technology widen the implementation choices to the point where it can be difficult for a developer to know how to choose the best and most efficient one for a particular task. The session presents examples of the different scenarios for the use of the most important implementations, with guidelines for selecting between them, based on the algorithmic efficiency of their operations. It explains when and how to use the three new interfaces introduced in the Java 6 technology.

Increasingly, mainstream developers using the Java programming language are going to need to understand concurrency, driven by the changing economics of hardware design, which now favor parallel operation of multiple cores and multiple processors over increasing clock speeds. For many programs, increasing efficiency will now mean parallelization, and programmers using the Java programming language are well equipped to take advantage of this, if they understand the concurrent collections introduced in Java 5 technology and extended in Java 6 technology. The presentation shows the ideas behind the concurrent collections and the way in which their mechanisms for thread safety affect their behavior under concurrent modification.

### TS-2901 A Real-Time Garbage Collector for a Real-Time Java Virtual Machine

Bertrand Delsart, *Sun Microsystems, Inc.*  
 Antonios Printezis, *Sun Microsystems, Inc.*

One of the most important features of Java Real-Time System 2.0, to be released in 2007, is the inclusion of a real-time garbage collector (RTGC). This presentation introduces this RTGC and demonstrates its advantages.

The presentation first gives a brief overview of the Real-Time Specification for Java (or RTSJ), covering the three different types of threads (java/lang/Threads, RealtimeThreads, and NoHeapRealtimeThreads) that can coexist in an application and the three types of memory (heap, scoped, and immortal) that can be used.

The session then describes how the RTGC fits in the above model and discusses some of its characteristics:

- Fully concurrent operation (no stop-the-world phases)
- Latencies in the hundreds-of-microseconds range
- Robustness in terms of shielding critical threads from the rest
- Autotuning to enhance ease of use (only a couple of parameters to set)

The session covers the Java Management Extensions (JMX) technology-based observability features for RTGC that are being worked on, as well as an API to dynamically and programmatically change RTGC's behavior.

It also describes the process of migrating a Java technology application onto Java Real-Time System 2.0 and how the RTGC can be tuned to enable the designated real-time threads to achieve extremely low latencies, illustrating this with a concrete example.

Finally, it also includes specific early customer experiences with development and deployment of real-time Java technology applications using Java Real-Time System 2.0, to highlight the strengths and advantages of Java Real-Time System 2.0.

### TS-2906 Garbage-Collection-Friendly Programming

John Coomes, *Sun Microsystems, Inc.*  
 Peter Kessler, *Sun Microsystems, Inc.*  
 Antonios Printezis, *Sun Microsystems, Inc.*

Developers often ask this session's speakers for advice on how to write code that is more garbage-collection-friendly. Most of the time, their advice is: don't believe the urban myths, and don't do anything special, because trying to be smart is likely to confuse, instead of help, garbage collectors. Having said that, over the years, they have developed a small set of rules of thumb they give customers to help them with garbage-collection-related issues. This presentation summarizes them.

It starts with a very brief overview of garbage-collection terminology, to refresh the audience's memory. The overview covers only concepts that are touched on during the session, including the characteristics of generational and incremental garbage collectors.

The remainder of the presentation is split into three sections:

**Section 1:** General advice—This section covers some general programming advice on how not to get in the way of the garbage collector, such as the following:

- Object allocation is very cheap, so don't be afraid of it.
- The use of object pools should be avoided, except in special circumstances.
- Reference nulling is largely unnecessary, except on a few very specific occasions.

The next two sections cover garbage-collection-related features of the Java programming language.

**Section 2:** Finalizers—Blind use of finalization can put unnecessary load on the garbage collector. This section covers traps a programmer can easily fall into when using finalization and how to avoid such traps.

**Section 3:** References—This section gives an overview of the three reference types of the Java programming language, advises which type to use when, and illustrates different usage patterns.

Wherever possible, concrete demos illustrate pathologies in programs that stress the GC and show how they can be rectified.

### TS-2992 Tricks and Tips with NIO, Using the Grizzly Framework

Jean-François Arcand, *Sun Microsystems, Inc.*  
 Alan Bateman, *Sun Microsystems, Inc.*  
 Scott Oaks, *Sun Microsystems, Inc.*

Writing scalable high-volume traffic network server applications in the Java programming language has always been difficult. Before the advent of the Java New I/O (NIO) API, thread and buffer management issues made it impossible for a server to scale to thousands of users. But using NIO presents its own challenges in terms of program design and implementation. However, the Grizzly project has gained a lot of interest and adoption over the past two years, as a result of its performance and scalability as a general-purpose Java NIO Framework.

This session discusses some tricks and tips the speakers have learned in working on the Grizzly NIO Framework. They describe how to efficiently manage the byte buffer and how to properly handle SelectionKey, recommend some thread and byte buffer techniques, and talk about efficient NIO/SSL implementation. Finally they compare the Grizzly framework with other existing Java NIO API frameworks.

[CLICK HERE](#) to view real-time session information and updates.

## DESKTOP



Java technology on the desktop is more vibrant than ever. Rich, interactive desktop applications and applets based on Java technology play an increasingly important role in delivering and supporting standard applications as well as new innovations. Desktop development in Java technology continues to thrive on all major desktop platforms, including Macintosh, Linux, and Windows. Come learn about technologies and techniques in the following areas:

- Swing: Making GUI application development easier and more powerful
- Making GUI applications more usable, appealing, and dynamic
- GUI and graphics-related technologies
- 2-D and 3-D graphics and imaging
- Deployment: Making your standalone, browser, and Java Web Start software applications available to the masses
- Cool stuff that shows innovation on the desktop

## Desktop

### TS-1548 Search Inside the Music: Using Signal Processing, Machine Learning, and 3-D Visualizations to Discover New Music

Paul Lamere, Sun Microsystems, Inc.

This presentation discusses Search Inside the Music, a Sun Laboratories research project that is exploring new ways to help people discover new music even as our music collections get very large.

As online music collections grow to many millions of songs, finding a new song we might like is becoming very difficult. The Search Inside the Music system can help you find new music by finding music that *sounds like* music we already know and like.

SITM, written entirely in the Java programming language, uses digital signal processing and machine learning algorithms to build a music-similarity model that can predict how similar or dissimilar a pair of songs sound. SITM uses this model to recommend music by finding music that sounds similar to music you already know and like.

Not only can you use this music-similarity model to help recommend music but you can also use the model to generate a more engaging, immersive interface to your music. SITM uses the music-similarity model to generate a “music space,” a 3-D representation of a music collection, in which songs are positioned according to music similarity. In this music space, classical music may be clustered in one corner, trying to stay as far away from punk music as possible, whereas blues finds a home near, but separate from, jazz and rock. This visualization encourages music exploration. You can audition new songs by clicking on a song in the visualization and find similar-sounding songs by clicking on a song’s neighbors. You can generate interesting playlists by creating paths through this music space.

The presentation discusses some of the problems inherent in traditional music recommenders and how a content-based approach to music recommendation can help improve music recommendations. It covers some of the algorithms involved in building a music-similarity model, including the digital-signal-processing algorithms used for extracting music features and the machine-learning algorithms for identifying significant patterns in music. It also discusses some of the algorithms used to generate immersive interactive visualizations of a music space, using the Java 3D API. It concludes with a demonstration of the Search Inside the Music system.

: track two : Java SE

TS-2901 A Real-Time Garbage Collector for a Real-Time Java Virtual Machine  
TS-2906 Garbage-Collection-Friendly Programming  
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: track three : Desktop

TS-1548 Search Inside the Music: Using Signal Processing, Machine Learning, and 3-D Visualizations to Discover New Music

## Desktop

### TS-1550 Behind the Virtual Flying Dukes Programming Contest

Kevin McDonnell, *Sun Microsystems, Inc.*  
John Wetherill, *Sun Microsystems, Inc.*

This year's JavaOne conference features the Virtual Flying Dukes contest, in which participants create a 3-D avatar and write code to control its behavior, enabling it to catch a virtual T-shirt launched from a virtual stage.

This session discusses all aspects of the contest, from creating avatars by using 3-D modeling tools to building 3-D scenes with textures and objects, building jMonkey Engine (jME) scene graphs, writing jME code to invoke behavior, building NetBeans software plug-ins, and the use of Project GlassFish for the back-end submission system.

Code samples and contest hints are provided.

### TS-3160 Desktop Java Technology Today

Chet Haase, *Sun Microsystems, Inc.*  
Thorsten Laux, *Sun Microsystems, Inc.*

This session explores the current state of desktop Java technology, highlighting technologies such as deployment, Swing, the Java 2D™ API, and Abstract Window Toolkit (AWT). It begins with a quick overview of the state of desktop Java technology and then focuses on the meat of the presentation: what's new in Java SE 6 for desktop Java technology developers and where we're heading for Java SE 7, showing plenty of code and a demo or two to keep things rolling. The session also gives an overview of this year's Java Desktop track.

### TS-3165 Filthy-Rich Clients: Talk Dirty to Me

Chet Haase, *Sun Microsystems, Inc.*

Animation and whizzy graphical effects can be totally gratuitous, but they can also be used to make applications more effective and users more productive. This session examines the fundamentals of timing and animation and shows techniques for implementing cool effects easily in Swing applications.

This year's session starts from where last year's left off, covering the updates to the Timing Framework (version 1.0), showing details of a new library for animated transitions, detailing techniques for various cool Swing rendering approaches, and deep-diving into code for various static and animated GUI effects.

Expect lots of code and demos, plus techniques you can use at home.

### TS-3290 Applet-JAX: Advanced Techniques for Browser-Based Java Technology

Ethan Nicholas, *Sun Microsystems, Inc.*  
Jasper Potts, *Sun Microsystems, Inc.*

Integrating Java technology into rich Internet applications has never been easier. This session provides an overview of some of the powerful features, such as the Common DOM API and LiveConnect, available to Java technology-based applets today, along with novel ways to apply them in the hunt for the Next Big Thing. Stay for a sneak peek of upcoming improvements in the Java 7 platform that will make using Java technology in web browsers easier than ever before.

### TS-3420 Form Follows Function (F3)

Christopher Oliver, *Sun Microsystems, Inc.*

This session provides an introduction to GUI development with F3, an open source, object-oriented, declarative Java scripting language.

F3 is a statically typed language that allows good integrated development environment (IDE) support and compile-time error reporting and has type inference, declarative syntax, and automatic data binding with full support for 2-D graphics and standard Swing components as well as declarative animation. You can also import Java class files, create new objects for the Java platform, call their methods, and implement interfaces for the Java platform.

IDE plug-ins are available for both the NetBeans IDE and Eclipse. Both plug-ins support as-you-type validation, code completion, syntax highlighting, and hyperlink navigation (with Control-mouseover).

F3 attempts to demonstrate that we're not exploiting the full capabilities of the Java platform for GUI development and that, together with supporting tools such as F3, the Java platform is highly competitive with or superior to competing GUI development platforms such as Adobe Apollo, Ajax/DHTML Macromedia Flash/Flex/Open Laszlo, Microsoft WPF/XAML, and Mozilla XUL.

See [blogs.sun.com/chrisoliver](http://blogs.sun.com/chrisoliver) for more information.

### TS-3489 3-D Earth Visualization with NASA World Wind

Tom Gaskins, *NASA*

NASA World Wind provides next-generation 3-D virtual globe technology for embedding in applications written in the Java programming language. It supplies a suite of Java technology-based components that developers include within their own applications, providing virtual globe functionality to any application that can benefit from it. This makes virtual globe technology available to far more people in far more domains. Because of the Java programming language's write once, run anywhere design, NASA World Wind components are available and identical on all platforms. The components perform as well as, or better than, any other known virtual-globe implementation and utilize the OpenGL® API for 3-D graphics via Java OpenGL (JOGL). This presentation introduces NASA World Wind and shows several ways of embedding it in programs written in the Java programming language. It describes how to deploy World Wind with Java Web Start software and as an applet. It also shows how to extend World Wind to visualize any 2-D or 3-D information in the context of an accurately modeled 3-D Earth with terrain.

### TS-3569 Beans Binding

Hans Muller, *Sun Microsystems, Inc.*  
Jan Stola, *Sun Microsystems, Inc.*  
Scott Violet, *Sun Microsystems, Inc.*

Tired of writing TableModels? Custom DocumentListeners got you down? New to Swing and not sure of the best way to bind to Swing components? Then this session is for you. Beans binding aims to make it trivial for you to bind your application model to your Swing GUI, with very little code. This session gives you the latest on Beans Binding (JSR 295), including integration with the NetBeans integrated development environment GUI Builder.

[CLICK HERE](#) to view real-time session information and updates.

## Desktop

### TS-3634 Developing Enterprise Business Applications in Eclipse Rich Client Platform: Intermediate/Advanced

Scott Delap, *Software Consultant*

The first generation of web applications sacrificed usability and function for ease of deployment. Recently the industry has shifted back to richer user interfaces written in Ajax, Flash, and the Java programming language. Many business applications have requirements such as offline access, desktop integration, and UI customizations that make using Ajax and Flash difficult to nearly impossible. For such applications, rich client architectures featuring online deployment and web-enabled client-server communications provide the easiest path to development success. Eclipse's Rich Client Platform gives organizations a valuable jump-start in the creation of such applications. Eclipse RCP enables enterprise applications to reclaim the powerful user interface paradigms that were lost with the emergence of thin clients while retaining the benefits of server-side scalability, security, and reliability. However, several core functions of such business applications are not handled transparently by Eclipse RCP out of the box.

This tutorial emerged out of the experience the speaker gained while working on a large Eclipse RCP/Java 2 Platform, Enterprise Edition (J2EE platform) enterprise application (2.3 million lines of code in the RCP application). It addresses the gap between the standard functionality of Eclipse RCP and what is needed for the creation of polished, highly usable business applications.

### TS-3742 Modular Programming with the NetBeans Platform

Tim Boudreau, *Sun Microsystems, Inc.*

The NetBeans platform is an open source framework that can be used to build rich GUI applications. Underlying the platform is the NetBeans Module System and the concept of "modular design." This presentation takes you through creating applications—both GUI and non-GUI—with the NetBeans platform and the benefits it offers to any programmer.

### TS-3833 Debugging and Optimizing Swing Applications

Ben Galbraith, *Self-Employed*

From detecting (and resolving) memory leaks to increasing the speed of your Swing applications, this session highlights debugging techniques of special importance to Swing applications, along with tips and methodologies for increasing their performance.

### TS-3834 Being Productive with Swing

Ben Galbraith, *Self-Employed*

Although eye candy tends to receive special attention from desktop developers, the currency of IT departments worldwide is productivity. This session presents several techniques for increasing your productivity in developing Swing-based applications.

### TS-3921 User Interfaces: Past, Present, and Future; Good, Bad, and Ugly

Steve Northover, *IBM*  
Joe Winchester, *IBM UK*

GUI design today tends to be rather like the cinema of a hundred years ago, where the cameramen were in charge, because they were the only ones who could operate the equipment. Cinema has moved on to become an art form in which the engineers are vital to its creation but the content is decided by people who are trying to captivate the audience and make them suspend their disbelief so they become unaware that they are watching actors. The same approach is needed for GUIs, where users should feel totally at ease with the technology, rather than have to wrestle their way through forms containing widgets thrown together by programmers. This session covers user interfaces at the abstract level of good and bad design as well as the history of the GUI, to help show where controls such as scroll bars, hypertext links, and pop-up menus came from; why they've outgrown their initial purpose; and why using them is a poor way to navigate data and information.

### TS-3942 JSR 296: The Swing Application Framework

Joshua Marinacci, *Sun Microsystems, Inc.*  
Hans Muller, *Sun Microsystems, Inc.*

For an experienced desktop Java platform developer, building a new Swing application can be both challenging and rewarding. For a novice, the experience can be rather different: it's often mystifying and frustrating. That's because a standard architecture for desktop applications has not been part of the Java platform. Until now.

The overall goal of JSR 296 is to simplify building desktop Java technology-based applications by defining a small set of classes that are intended to serve as the core for typical Swing applications. This set of classes provides a set of common services such as lifecycle, defaults, session state, actions, and tasks (worker threads). By using a standard Swing application core, most developers will find that they can concentrate on what makes their application unique, rather than on the plumbing and scaffolding common to most applications.

This presentation provides a detailed look at the elements of the Application Framework in terms of their APIs and sample usage. The session concludes with a demo of building a complete desktop application in the NetBeans integrated development environment.

## : track three : Desktop

- TS-1550 Behind the Virtual Flying Dukes Programming Contest
- TS-3160 Desktop Java Technology Today
- TS-3165 Filthy-Rich Clients: Talk Dirty to Me
- TS-3290 Applet-JAX: Advanced Techniques for Browser-Based Java Technology
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- TS-3833 Debugging and Optimizing Swing Applications
- TS-3834 Being Productive with Swing
- TS-3921 User Interfaces: Past, Present, and Future; Good, Bad, and Ugly
- TS-3942 JSR 296: The Swing Application Framework



## JAVA EE



Java Platform, Enterprise Edition (Java EE) is the industry standard for developing portable, robust, scalable, and secure server-side Java technology-based applications. Building on the solid foundation of the Java SE platform, Java EE offers standard APIs for web services, persistence, security, management, deployment, and communications that make it the industry standard for implementing enterprise-class service-oriented architecture (SOA) and Web 2.0 applications.

This track includes technical sessions and tutorials on topics such as the following:

- Present and future APIs, standards, and specifications
- Enterprise data modeling, persistence, databases
- Quality of service: security, manageability, availability, scalability, reliability, portability, and performance
- Web services and interoperability with other platforms
- Portal and telephony technologies
- Open source innovation involving the platform
- Pragmatic testing and debugging techniques
- Case studies on applying the platform to solve real-world problems
- Cool stuff that shows innovation on the platform

## Java EE

### TS-1419 Best OSGi Practices

BJ Hargrave, *IBM*  
Peter Kriens, *aQute*  
Thomas Watson, *IBM*

The OSGi specifications have seen widespread adoption in the industry over the last few years. Adoption in enterprise software projects, JSR 232 for the mobile phone industry, the explosion of the number of Eclipse users and programmers, the immense interest in the Spring OSGi project, and the long trail of OSGi use in industrial automation and embedded computing have firmly placed OSGi technology on the map. However, as with any new technology, there is a period in which practitioners struggle with how to best use the technology. Existing patterns clearly work in the OSGi environment, but the best results are achieved when patterns are used that work most effectively on an OSGi platform.

One consideration with OSGi design is how to decompose the system into separate modules called bundles. Although applications can be written as monoliths and deployed as monoliths, more advantages can be obtained when the system is decomposed into smaller, modularized parts. Properly applying this model allows bundles to be reusable, and it allows the reuse of third-party bundles. Also, most systems today contain large chunks of code from previous projects or from external providers. This code will require bundlization to cooperate. This presentation shows you how to bundlize legacy code and warns you about potential pitfalls.

Bundle decomposition is closely related to how to use services. OSGi services provide a service-oriented model for interbundle collaboration and are highly dynamic, with varying cardinalities. The whiteboard pattern is one pattern that is very powerful and related to the inversion of control (IoC) pattern, which is highly popular today. Additional use patterns are also presented.

The session helps practitioners understand the advantages of OSGi technology and properly apply it to their projects. The speakers are people who have been using OSGi since 1998, who have heavily influenced the specification, and would like to share their experiences with you.

### TS-1743 Xen and the Art of Distributed Virtual Machine Management

Greg Lavender, *Dept. of Computer Sciences, The University of Texas at Austin*

There is a lot of interest in virtual machine software for virtualizing multicore hardware resources. This session looks at Xen, a hypervisor platform that supports multiple virtual machine instantiations on the x86 and x64 hardware platforms. The Department of Computer Sciences at the University of Texas at Austin designed a Java Message Queue software agent-based system that allows for the dynamic creation, instantiation, monitoring, management, and automigration of Xen virtual machines running on a rack of Sun x64 Opteron systems. The agents monitor various system resources and can automatically determine opportunistic strategies for load-balancing virtual machines (VMs) across multicore CPUs and physical machines on a gigabit-switched VLAN. Java Message Queue software is used to establish multicast message channels for agent communication as well as real-time monitoring messages sent to a Java technology-based Standard Widget Toolkit (SWT) graphical display.



[CLICK HERE](#) to view real-time session information and updates.

## Java EE

The management console enables monitoring of the current status of all VMs, creating new VM instances, and actively managing the migration of VMs across systems. The current system uses the Xen 3.03 hypervisor and works with a Linux kernel running as Dom0 and DomU. Work is currently under way to allow the OpenSolaris™ operating system to also be used as Dom0 and DomU. The ultimate goal is to have the OpenSolaris operating system provide Dom0 control services and enable agent-based control of any number of x86/x64 operating systems running as DomU virtual machines. As more and more users consider virtualization technologies, the ability to have Java technology-based software agents assist in the creation, monitoring, management, and automatic control of thousands of virtual machine instances in large compute clusters will become increasingly important.

### TS-1911 Event-Driven Application Servers

Thomas Bernhardt, *Bear Stearns*  
Alexandre Vasseur, *Independent*

This session introduces you to event-driven application servers (EDAS), a key building block of event-driven architectures. EDAS enable the composition of applications that consist of loosely coupled, reusable, event-driven services. The presentation discusses how EDAS provide a deployment and management environment for event-driven services. It introduces event-driven beans as deployment units and proposes a programming model enabled by massive scalability and agility thanks to Event Stream Processing (ESP) and Complex Event Processing (CEP) capabilities. ESP/CEP can be thought of as turning a database upside-down so that data is streamed against registered queries and listeners—which allows for massive scalability with predictable latency.

An introduction outlines the core concepts and vocabulary of ESP and CEP, especially sliding windows on infinite event streams and event causality. It also showcases its primary use cases in the field of algorithmic trading, RFID, SLA, and network management and details the key challenges addressed by EDAS when dealing with more than 100,000 events per second and complex statements combining multiple streams.

The session illustrates EDAS key capabilities with Esper(\*), an open source plain Java ESP/CEP container. It describes its core components and POJO programming model and looks at a tailored programming model that substitutes for well-known message-driven beans (MDBs) when dealing with ESP/CEP: event-driven beans. This paradigm shifts the focus from transport and transaction to real-time business-oriented application integration.

The session concludes with a discussion of how EDAS complement and compare to classical Java EE application servers and how this model is being massively embraced by early technology adopters such as investment banks. It also emphasizes forthcoming challenges, especially in the event visualization area and event stream query language standardization.

The attendees learn about ESP/CEP capabilities and find out more about a new era of middleware: EDAS that most Java EE vendors are looking at in their labs.

(\*) Esper is the leading Java ESP/CEP framework. It is open-source and freely available at [esper.codehaus.org](http://esper.codehaus.org).

### TS-1991 JavaGrid: Platform as a Service, at Your Service, for Your Service

Bob Scheffler, *Sun Microsystems, Inc.*

JavaGrid is a research project to build a system that provides a dynamic virtualized grid of Java Virtual Machines (JVMs), networks, and storage. It is designed for operation as a utility to host software-as-a-service (SaaS) providers and business-internal applications and is intended to be an attractive, horizontally scalable development and deployment environment for long-running services. In this session, the speakers describe their view of what a complete JavaGrid would encompass, discuss the current subset implementation and its programming model, and give an example of its use.

The base JavaGrid API is layered on Java SE. At its core, JavaGrid features programmatic spawning of JVMs on the grid; programmatic allocation of IP addresses, host names, file systems, and database instances; and programmatic control of network connectivity between resources (JVMs, storage, and the Internet), including connectivity with other customers' resources. Internet-facing connectivity includes static and dynamic NAT, layer 4-7 load balancing (including HTTPS), name-based virtual hosting, and direct binding to Internet-routable IP addresses for maximum protocol flexibility.

Off-grid developer access to JavaGrid is via the same API that is used on-grid, WebDAV (for file systems), and a web portal. Developer tools include NetBeans software support for remotely deploying and debugging applications on JavaGrid. Higher-level frameworks automate on-grid deployment and management of subsystems and applications, such as automated deployment and network configuration of multiple Apache Tomcat instances in a load-balanced configuration. A JavaGrid-wide Liberty identity provider simplifies end-user identity management for SaaS providers.

The system makes use of multiple features of the Solaris Operating System (Solaris OS). Zones are used for JVM isolation and network binding control. Resource pools and the Fair Share Scheduler are used to manage processor allocations. IP Filter is used in network connectivity control. Extended accounting facilities are used to account for CPU time and network traffic. ZFS file system features such as snapshots and clones are available to developers.

: track four : Java EE

TS-1419 Best OSGi Practices  
TS-1743 Xen and the Art of Distributed Virtual Machine Management  
TS-1911 Event-Driven Application Servers  
TS-1991 JavaGrid: Platform as a Service, at Your Service, for Your Service

## Java EE

### TS-4089 Web Beans Update

Gavin King, *JBoss*  
Bob Lee, *Google Inc.*

JSR 299, Web Beans, aims to unify the JavaServer Faces technology-based managed bean component model with the Enterprise JavaBeans (EJB) component model, resulting in a significantly simplified programming model for web-based applications. This session covers

- The background of the Web Beans effort
- Expert group membership
- The purpose and scope of the Web Beans specification
- The Web Beans programming model
- The impact on other JSRs: EJB 3 architecture; JavaServer Faces platform; Java EE
- The current status of JSR 299
- Open issues
- Q&A

### TS-4225 What's New in the Java Portlet Specification 2.0 (JSR 286)?

Wesley Budziwojski, *Sun Microsystems, Inc.*  
Stefan Hepper, *IBM*

This presentation outlines what the new version of the Java Portlet Specification 2.0, defined in JSR 286, will introduce. This specification will introduce many new features you missed in the first version. The presentation covers all the major new concepts, such as coordination between portlets, serving resources through the portlet, supporting Ajax use cases with portlets, portlet filters, and validation-based caching. It illustrates these new concepts with code samples.

In addition to these major new concepts and interfaces, JSR 286 introduces a lot of small but important changes that the presentation explains as well. These include the portlet window ID, support for CC/PP, and resource bundle support for application metadata. The session also covers the alignment with the new version of Web Services for Remote Portlets (WSRP 2.0) and web frameworks such as JavaServer Faces technology.

### TS-4247 Enterprise JavaBeans 3.5 Technology

Kenneth Saks, *Sun Microsystems, Inc.*

The Enterprise JavaBeans (EJB) 3.0 specification refocused applications based on Java EE on ease of use and leveraged the EJB technology-based container to facilitate the development of enterprise applications. The Enterprise JavaBeans 3.5 specification will go further, by simplifying the EJB technology-based API and defining new capabilities for the session-bean and message-driven-bean component models.

This session examines some of the key features being considered for the Enterprise JavaBeans 3.5 specification. Possible topics include enhancements to the EJB technology-based timer service, improvements to the EJB component model environment, business interface simplifications, new EJB technology-based lifecycle events, and better support for asynchronous operations.

### TS-4249 The Top 10 Ways to Botch Enterprise Java Technology-Based Application Scalability and Reliability

Cameron Purdy, *Tangosol, Inc.*

This follow-on to the last JavaOne conference's sleeper hit "The Top 10 Ways to Botch an Enterprise Java Technology-Based Application" explores best practices for protecting against scalability and reliability in Java EE applications and compute grid environments. Starting with simple abuses of messaging and clustering technologies, this presentation navigates a wide swath of options available to enterprising architects seeking to limit the effectiveness of scale-out environments.

After last year's presentation, the speakers were disappointed that some attendees mistakenly used this information to avoid pitfalls, errors, and other common causes of project failure. They hope for better results this year.

### TS-4436 Technical Overview of GlassFish Build V2

Dhiru Pandey, *Sun Microsystems, Inc.*

GlassFish is the name of the open source community engaged in a development project for building a Java EE 5 application server. The GlassFish community has already delivered GlassFish V1, a robust commercial, production-quality, Java EE 5 platform-compatible single-instance application server that is free for development, deployment, and redistribution.

GlassFish V2 builds on the V1 offering and adds enterprise features such as clustering, high availability, and multimachine administration capabilities. This session provides technical details on what is new in GlassFish V2, such as

- Clustering and in-memory replication
- Group Management Service (GMS) using Project Shoal
- Web Services Interoperability Technology (WSIT)
- Java Business Interface (JBI) integration
- Usage profiles
- Self-management templates
- IIOP failover
- JSR 196 support
- Update Center

A demo of some of the new features in GlassFish V2 follows the presentation.

### TS-4439 Minimalist Testing Techniques for Enterprise Java Technology-Based Applications

Chris Richardson, *Chris Richardson Consulting, Inc.*

Testing is like flossing. Whereas flossing is essential to prevent dental decay, testing is essential to prevent software decay. Although many developers agree that it's necessary, it's not always done. Far too many development teams do little or no automated testing

This presentation describes low-cost yet effective strategies for testing the different tiers of an enterprise Java technology-based application: business tier, data access tier, and web tier. You learn ways to quickly write thorough yet fast-running tests. For example, the session describes how to write data-access-tier tests that use mock objects and metadata to avoid being slowed down by the database. You learn testing techniques you can easily apply to your application.

[CLICK HERE](#) to view real-time session information and updates.

## Java EE

### TS-4514 Three Approaches to Securing Your JavaServer Faces Technology/Spring/Hibernate Applications

Jaya Doraiswamy, *ELM Resources*  
Ray Lai, *Intuit*

There are at least three security frameworks for securing your JavaServer Faces technology/Spring/Hibernate applications. Container security (such as page navigation), JavaServer Faces technology security (role-based security for JavaServer Faces components), and the Spring-Acegi framework (role-based access for web pages and Spring beans) are frameworks that address different problems in different tiers. Picking an inappropriate solution may affect the overall security.

Security for JavaServer Faces technology/Spring/Hibernate applications should be end-to-end instead of security for the web tier. This session discusses how different security frameworks can secure the web pages components; the business tier, such as the JavaBeans architecture; the data tier, such as data objects using Hibernate; and techniques to support both web and nonweb applications and a variety of security providers, such as Java Authentication and Authorization Service (JAAS), database, and LDAP.

The session uses a loan application example. Developers get perspective on when and why each security framework should be used and the drawbacks of each.

### TS-4532 Building an Embeddable Enterprise Content Management Core with the Latest Java Technologies

Florent Guillaume, *Nuxeo*

This session describes the architecture and implementation of an embeddable, extensible enterprise content management core for Java EE and simpler platforms. The presentation starts by describing the general architectural concepts used as building blocks:

- A schema and document model, reusing XML schemas and making good use of XML namespaces, where document types are built with several facets
- A repository model, using hierarchy and versioning, with the Content Repository API for Java (JSR 170) being one of the possible back ends
- A query model, based on the Java Persistence query language (JSR 220) and reusing the path-based concepts from Java Content Repositories (JCR)
- A fine-grained security model, compatible with WebDAV concepts and designed to provide flexible security policies
- An event model using synchronous and asynchronous events, allowing bridging through Java Message Service (JMS) or other systems to other event-enabled frameworks
- A directory model, representing access to external data sources using the same concepts as for documents but taking advantage of the specificities of the data back ends

Suitable abstraction layers are put in place to provide the required level of flexibility. One of the main architectural tasks is to find commonalities in all the systems used (or whose use is planned in the future) so framework users need to learn and use a minimal number of concepts. The result is a set of concepts that are fundamental to enterprise document management and are usable through direct Java technology-based APIs, Java EE APIs, or SOA. The presentation shows, for each of the main components, which challenges have been met and overcome

when building a framework in which all components are designed to be improved and replaced by different implementations without sacrificing backward compatibility with existing ones.

The described implementation, Nuxeo Core, can be embedded in a basic Java technology-based framework based on OSGi (such as Eclipse) or in one based on Java EE, according to the needs of the application using it. This means that the core has to function without relying on Java EE services but also has to take advantage of them when they are available (providing clustering, messaging, caching, remoting, and advanced deployment).

The session includes a demo. Attendees should have intermediate knowledge of Java technology concepts and design patterns and an understanding of the content management problem space.

### TS-4568 Java Persistence API: Portability Do's and Don'ts

Michael Keith, *Oracle*

The Java Persistence API has been declared the unifying standard for POJO persistence in the enterprise. It offers enterprise runtime portability in exchange for using its runtime API and metadata portability if its annotation or XML format is used to specify O/R mapping and/or persistence metadata.

One of the biggest wins for users is the pluggability of implementations, allowing mixing and matching of Enterprise JavaBeans (EJB) technology containers and persistence providers. This gives an application the ability to pull out an existing persistence provider and plug another one in, an ideal scenario for comparing performance and scalability. An important requirement for this to be possible, though, is that the application be portably written and decoupled from all proprietary features and API calls.

Although the first release of the Java Persistence API specification includes the most important and heavily used persistence features, it does not specify every feature that has been uncovered by more than a decade of O/R mapping and Java technology-based object persistence. The most useful of these features, such as fine-grained user code for object mappings, database schema generation, or read-only reference entities, are supported by many of the current O/R persistence products and will likely be added to a subsequent specification release. Until that time, however, persistence developers should be aware of the features that are standard and those that currently lie outside the standard. This presentation outlines some of the boundaries defined by the current Java Persistence API specification, 1.0, and examines practices that can cause an application to stray from the portability path. It discusses some of the different aspects of portability, including source code, compile-time and link-time incompatibilities, and semantic and metadata-based dependencies.

cont. >>

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- TS-4089 Web Beans Update
- TS-4225 What's New in the Java Portlet Specification 2.0 (JSR 286)?
- TS-4247 Enterprise JavaBeans 3.5 Technology
- TS-4249 The Top 10 Ways to Botch Enterprise Java Technology-Based Application Scalability and Reliability
- TS-4436 Technical Overview of GlassFish Build V2
- TS-4439 Minimalist Testing Techniques for Enterprise Java Technology-Based Applications
- TS-4514 Three Approaches to Securing Your JavaServer Faces Technology/Spring/Hibernate Applications
- TS-4532 Building an Embeddable Enterprise Content Management Core with the Latest Java Technologies
- TS-4568 Java Persistence API: Portability Do's and Don'ts

## Java EE

>> Some existing applications may make use of exotic features that are slightly off the beaten path, and some of these applications may not be willing to sacrifice such features for the sake of portability. The presentation shows how hooks provided by the Java Persistence API can be used to access features outside the specification, thus allowing an application to maintain and leverage existing custom features within the framework of a standard API.

The tips and tricks contained in this session are presented in the form of principles and descriptions and then as concrete examples. Java programming language code snippets are used to illustrate the concepts and apply them to real-world applications.

This session will be of great interest to developers who want to write portable persistence code and offers specific advice to those who are developing, or planning to develop, applications using the Java Persistence API. Architects, system designers, and strategic technology planners will also profit from this talk and will come away with a general awareness of portable persistence in relation to the Java Persistence API. Attendees do not need to have experience with the Java Persistence API to attend this talk, and although some knowledge of the issues surrounding persistence would be beneficial, it is not required.

### TS-4593 Guidelines, Tips, and Tricks in Using Java EE 5 from the Java BluePrints Program

Inderjeet Singh, *Sun Microsystems, Inc.*

This session describes best practices for using the Java EE 5 platform for writing web-based enterprise applications. It presents some puzzlers and gotchas from the trenches regarding Java EE 5 on what seems obvious but is wrong. It also discusses how best to use the various Java EE and Java SE annotations, when to avoid them, and how to successfully use the various Java SE 5 and Java SE 6 features in your enterprise applications. Finally, it describes how to correctly write web-only applications that use Java technology-based persistence and covers the design choices for building a robust model tier with Java Persistence APIs and Java Transaction APIs.

### TS-4656 Harvard-MIT Data Center's Dataverse Network: A JavaServer Faces/Enterprise JavaBeans 3.0 Technology Digital Library Application on Java EE 5

Wendy Bossons, *Harvard University*  
Merce Crosas, *Harvard University*  
Gustavo Durand, *Harvard University*  
Gary King, *Harvard University*  
Ellen Kraffmiller, *Harvard University*  
Bob Treacy, *Harvard University*

The Harvard-MIT Data Center provides an open source platform for management, dissemination, exchange, and citation of virtual collections of quantitative and qualitative research data. HMDC is the principal distributor of quantitative social science data from major international data consortia for Harvard and MIT and a leader in research in digital libraries and statistical methodology. HMDC is affiliated with The Institute for Quantitative Social Science at Harvard University. When HMDC decided to update its technology in 2006, some of the considerations in this decision were the need for I18n, a rich client interface enabling students, researchers, and librarians to organize their work, and support for complex relationships between the entities that make up such a system.

The latter requirement may have steered the HMDC away from Enterprise JavaBeans (EJB) technology in the past, but it felt that the POJO model in the EJB 3.0 architecture was well suited to its needs and chose to develop on Java EE 5. The main components of its development environment are the GlassFish application server, PostgreSQL database, and the Apache Lucene search engine. HMDC used the Sun Java Studio Creator application development tool to get started with JavaServer Faces application development and NetBeans release 5.5 as its main IDE for development in EJB 3.0 software and integration of the JavaServer Faces components with the EJB architecture. It also adapted its JavaServer Faces application pages to use Shale Tiles and adapted Shale Tiles to work with the JavaServer Faces 1.2 platform.

This case study of HMDC's experience in getting started in the Java EE 5 environment is geared to developers who are starting or considering moving to Java EE 5. It includes a demo of the HMDC application and illustrates the code that is driving it. Code samples include end-to-end JavaServer Faces/EJB technology interactions, modeling entity relationships with persistence annotations, Java technology-based code for persistence of entities involving many-to-many and other types of relationships, session facades for entities, and extended persistence contexts with stateful session beans. The session shows how HMDC uses JavaServer Faces technology to build a rich client interface, including the use of cascading style sheets in its JavaServer Faces application pages. It also presents sample code integrating its JavaServer Faces 1.2 application pages with Shale Tiles and code demonstrating its use of the Apache Lucene search engine.

[CLICK HERE](#) to view real-time session information and updates.

## Java EE

### TS-4721 Implementing Java EE Applications, Using Enterprise JavaBeans (EJB) 3 Technology: Real-World Tips, Tricks, and New Design Patterns

Edgar A Silva, *Summa Technologies*  
Fabiane Nardon, *Vidatis*

The new Enterprise JavaBeans (EJB) 3 specification makes enterprise applications development easier, cleaner, and faster. As with any other new technology, however, there are always new tricks to be learned and pitfalls to be avoided. This session presents the speakers' experience with building real-world applications using EJB 3 technology. The session uses the lessons learned in this experience to show techniques, tools, tips, and tricks to make good use of session-beans-, entity-beans-, and message-driven-beans-compliant objects, discussing the problems and pitfalls encountered. It presents a series of refactoring actions you can perform to better use new features in EJB 3 technology, with real-world examples. The session also presents a revision of the traditional EJB technology design patterns, showing the role they played when release 3 was being developed and presenting new design patterns that arose with this new version. The goal of this session is to share the results of this experience with other developers, discussing the outcome of using EJB 3 technology, the benefits, the drawbacks, and the techniques for building a successful EJB 3 technology-based application.

### TS-4746 Hibernate Search: Googling Your Java Technology-Based Persistent Domain Model

Emmanuel Bernard, */Boss*

Query and search capabilities are often synonyms of traditional SQL queries for most applications. Full-text search capabilities (think Google search engine in applications), however, bring a much wider expressiveness and freedom to queries (synonyms, approaching terms, noise words, result by relevance, and so on) and make them order(s) of magnitude faster than an equivalent (if even possible) SQL query.

Despite its clear advantage, this technology is not common in traditional Java EE applications. Some solutions tie you to a specific database engine, and some don't, and the cost and complexity of bringing a full-text search engine into a Java EE application is often not negligible, due to the

- Mismatch between the domain model and the full-text index model
- Cost of keeping the index up to date in terms of enterprise data changes (RDBMS)
- Mismatch between the index querying process and the ORM query API such as the Java Persistence API

Application developers tend to exclude such a technology from their day-to-day applications.

Built on top of Apache Lucene, Hibernate Search (an open source project under the Hibernate umbrella) nails down each of those issues, bringing a Google-like search capability to persistent domain models powered by the Java Persistence API. This session shows how full-text search features have been integrated into the Java Persistence API and metadata, bringing a unified view to your domain model and avoiding the previous mismatches. Such ORM/search engine integration lowers the barrier to entry for full-text technologies.

A live demo shows how to add full-text search capabilities to an existing application based on the Enterprise JavaBeans (EJB) 3.0 specification.

After this session, you should know how to add full-text search engine capabilities to existing code and reconsider the cost and complexity of such an operation, opening new horizons to your business applications.

A general understanding of ORM concepts is expected for this session.

### TS-4902 Java Persistence API: Best Practices and Tips

Mitesh Meswani, *Sun Microsystems, Inc.*  
Rima Patel Sriganesh, *Sun Microsystems, Inc.*

It has been almost a year since the release of the Java Persistence API specification, and many enterprise developers have started using this technology in their Java EE and Java SE applications. As a consequence, the recurring questions JPA developers have been posing need to be addressed. This session goes through some of the best practices for designing efficient JPA applications and presents techniques for achieving functionality in JPA-based applications that is currently lacking in the core API.

The session covers the following topics:

- Basics of high-performance JPA entities
  - Flush mode
  - Locking strategy
  - Caching
- Whether to use a container-managed or application-managed entity manager in web tier applications
- Generated primary keys—are they as simple as they sound?
- Scenarios regarding detach and merge
- Bulk updates and deletes—things to remember
- Impact of data model on entity performance
- Tips for mapping objects to related data
- Mapping overrides using XML
- Transactions and entities
  - Transaction isolation levels
- Using stored procedures with JPA

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TS-4593 Guidelines, Tips, and Tricks in Using Java EE 5 from the Java BluePrints Program  
TS-4656 Harvard-MIT Data Center's Dataverse Network: A JavaServer Faces/Enterprise JavaBeans 3.0 Technology Digital Library Application on Java EE 5  
TS-4721 Implementing Java EE Applications, Using Enterprise JavaBeans (EJB) 3 Technology: Real-World Tips, Tricks, and New Design Patterns  
TS-4746 Hibernate Search: Googling Your Java Technology-Based Persistent Domain Model  
TS-4902 Java Persistence API: Best Practices and Tips



## Java EE

### TS-4919 Adding Telephony to Java Technology-Based Enterprise Applications

Sreeram Duvur, *Sun Microsystems, Inc.*  
Jonathan Kaplan, *Sun Microsystems, Inc.*

“Converged applications” are an important new segment of the enterprise market. This session focuses on the convergence of Voice-over-IP (VoIP) with enterprise applications. Adding VoIP support enables a new range of applications, such as click-calling, enhanced call center applications, and web conferencing, that tightly integrate voice channels with business data.

The session demonstrates how to implement converged applications by using Java EE. It discusses Conference Manager, a project from Sun Labs for managing, visualizing, and controlling conference calls. Conference Manager, implemented as a traditional Java EE technology-based application, allows users to set up conference calls from a web interface. Conference Manager has been enhanced, based on the SIP servlet specification, to interact in real time with a software conference bridge, which makes it possible to display live information to users, such as who is present on a conference call and who is currently speaking.

The presentation focuses on the architecture of Conference Manager as an example of a typical converged application. It discusses the overall design as well as in-depth solutions for three important problems. On the back end, it shows how to connect the Java EE container with a software conference bridge by using the Java EE connector architecture. It also describes how the Conference Manager uses SIP servlets to provide real-time access to conference call state. On the front end, the presentation demonstrates two interfaces for conference visualization: a browser-based Ajax interface as well as a mobile interface based on IP Multimedia Subsystems (IMS).

The session addresses issues related building a telephony application in Java EE, by providing examples of how to architect for performance, scalability, and reliability. It discusses common problems, including how to store and access rapidly changing application state, how to checkpoint this state for rapid failover, and how to use techniques such as load balancing over multiple servers to achieve scalability.

The presentation is for developers who are familiar with Java EE and would like to learn how to integrate VoIP-based telephony into their enterprise applications. Attendees learn about important standards, including Java EE 5, SIP, and SIP servlets (JSR 116 and 289). They also learn techniques for building reliable, scalable enterprise applications that seamlessly integrate voice channels. Although some knowledge of Java EE is expected, no prior knowledge of VoIP or telephony is necessary.

### TS-4945 Java Persistence 2.0

Linda DeMichiel, *Sun Microsystems, Inc.*

One of the key outcomes of Java EE 5 was the introduction of the Java Persistence API, a new, simplified API for POJO persistence and object/relational mapping for use in both the Java EE and Java SE environments.

The purpose of Java Persistence 2.0 is to augment the Java Persistence API to include further features requested by the community, including object/relational mapping and query language capabilities, and standardization of features currently designated as optional in Java Persistence 1.0.

This session provides a brief overview of some of the topics under consideration by the Java Persistence 2.0 Expert Group, why they need to be addressed, and progress to date.

These areas include the following:

- Expanded object/relational mapping functionality, including greater flexibility in combining existing mapping options, support for collections of embedded objects, ordered lists, combinations of access types, additional metadata to support DDL generation, and so on.
- Expanded query capabilities and additions to the Java Persistence query language
- Standardization of additional contracts for entity detachment and merge, and persistence context management
- Standardization of sets of “hints” for query configuration and entity manager configuration
- Expanded pluggability contracts for Java EE environments

### TS-4948 Unleashing the Power of JAX-WS RI: Spring, Stateful Web Services, SMTP, and More

Kohsuke Kawaguchi, *Sun Microsystems, Inc.*  
Jitendra Kotamraju, *Sun Microsystems, Inc.*  
Vivek Pandey, *Sun Microsystems, Inc.*

Java API for XML Web Services (JAX-WS) RI goes beyond a typical web services stack. It provides various goodies that exceed the requirements of the specification, so that developers do not have to look elsewhere for solutions while developing web-services-based applications. This session is about empowering developers with all the JAX-WS RI extensions, such as the following and many more:

- **Spring support:** get your service and/or handlers configured through Spring.
- **Stateful web services:** if your service needs to maintain state for each client, stateful web service support makes it easy to do so in an object-oriented way.
- **HTTP session-scoped services:** if you like the productivity gain of stateful web services and yours is an HTTP service, this will make it easier for you.
- **Server-side asynchrony:** if you need to build a highly scalable service that supports numerous concurrent clients, JAX-WS RI has something for you.
- **Additional transports:** the Java Message Service (JMS) API, SOAP/TCP, SMTP-JAX-WS RI can be used with a variety of different transports for different needs.
- **HTTP traffic logging:** JAX-WS can help you troubleshoot problems by enabling you to see what’s being sent on the wire.
- **Adding SOAP headers:** if you need to add headers that are not in WSDL, you can do so without using handlers.

The presentation goes through all the extensions and their use cases, which you can download and start using today. At the end of the session, developers will be ready to take advantage of these extensions.

[CLICK HERE](#) to view real-time session information and updates.

## JAVA ME



Java Platform, Micro Edition (Java ME) can be found in more than two billion devices worldwide, from printers to mobile handsets, providing a rich platform for which developers can develop and deploy mobile data services. In this track's sessions, developers become familiar with key Java ME technologies and learn advanced techniques for developing, testing, optimizing, and deploying consumer and embedded Java technology content, demonstrated through real-world examples from experienced developers. Among the topics in this track are the following:

- Mobile Service Architecture (MSA) and the features you can now expect on devices
- Mobile web services
- Developing for Blu-ray players: Hollywood comes to Java technology
- Mobile Ajax
- Multimedia and data services
- Mapping applications and location-based services
- Integration with smart card technologies
- Cool and new things that demonstrate innovation in this space

## Java ME

### TS-1519 All About Java Technology-Based Robotics

Paul Perrone, *Perrone Robotics, Inc.*

This session describes why Java technology is ideal for emerging mobile robotics applications as well as for more-mature industrial robotics and automation applications. It describes the speaker's experiences and concrete examples of employing Java technology in robots of all shapes and sizes and covers use of Java SE, Java ME, Java Real-Time System (Java RTS), and Project Sun SPOT technologies for a wide variety of robotics applications. It includes descriptions and example code for rat- and cat-size applications that range from hobbyist examples for developers to get their hands on, to real-world commercial examples. And it also presents grander, more elephant-size applications, such as the speaker's experiences with an autonomous dune buggy, Tommy, for the 2005 DARPA Grand Challenge, and Tommy Junior, an autonomous Scion xB, being built for the 2007 DARPA Urban Challenge.

The session also presents experiences and examples with unmanned air vehicles, industrial robotics, and automation applications. It is intended to leave attendees with a sense of the broad range of applications along with concrete examples and code samples for use of Java technology in emerging mobile robotics applications and mature industrial automation applications.

### TS-1990 Exploring the Deep with SONIA

Martin Morissette, *SONIA AUV team*

Félix Pageau, *SONIA AUV team*

SONIA, an autonomous underwater vehicle (AUV), has proven that Java technology is a technology of choice for modern robotics applications. A team composed of volunteer engineering students from Ecole de Technologie Supérieure (ETS) has successfully demonstrated the power, versatility, and portability of Java technology by building AUVs that continuously rank among the three best in the world.

Each year more than 20 teams from the United States, Canada, Japan, and India compete at the International AUV Competition, hosted by the Association for Unmanned Vehicle Systems International (AUUSI) and the U.S. Office of Naval Research (ONR), in which each team has to demonstrate its vehicle's intelligence by successfully completing an underwater mission. The mission usually consists of robotic vision, acoustic navigation, and vehicle control tasks.

This session presents how the switch to Java technology enabled SONIA to become a winning platform. It delves into the methodologies used to achieve high productivity within a part-time volunteer organization and provides details on its

- Flexible architecture for data gathering, fusion, and decision systems
- Simulator using Java 3D™ API
- Telemetric interface managed by Java Management Extensions (JMX)
- Swing-based vision client to modify robotic vision parameters and algorithms on the fly
- Visual AI editor tool powered by JGraph

: track four : Java EE

TS-4919 Adding Telephony to Java Technology-Based Enterprise Applications

TS-4945 Java Persistence 2.0

TS-4948 Unleashing the Power of JAX-WS RI: Spring, Stateful Web Services, SMTP, and More

: track five : Java ME

TS-1519 All About Java Technology-Based Robotics

TS-1990 Exploring the Deep with SONIA

## Java ME

### TS-5051 Tackling Java ME Device Fragmentation: Orange and Sun Collaboration

Limor Bergman, *Sun Microsystems, Inc.*  
Rhian Sugden, *Sun Microsystems, Inc.*  
Martin Wrigley, *Orange SA*

When Java ME was first introduced, it promised WORA (write once, run anywhere). In reality, WORA has been very difficult to achieve, however, resulting in Java ME developers' writing separate or custom software for each device on which they want their application to execute. This device fragmentation costs time and money and can result in the creation of a different JAR file for each device. This is even more of an issue now that code needs to be verified. Together, Sun and Orange have worked to develop a set of guidelines for developers using the Java ME platform that will help reduce the cost and effort of covering a wider range of devices.

This session walks through the design guidelines and provides developers with practical advice on how an application can be written to achieve the optimal balance of application performance and coverage of numerous devices. Code samples illustrate specific techniques for writing MIDlets that handle different device capabilities.

### TS-5114 Welcome to the UI Theme Park: Customizing the Java ME User Experience with JSR 258

Jere Kapyaho, *Nokia Corporation*

Customization of mobile device user interfaces has become increasingly popular as the graphics and sound capabilities of the devices have been greatly enhanced. Individual users like to personalize their devices, whereas corporate entities such as carriers and device manufacturers need to establish their brand and make the user experience more seamless and predictable.

This session presents the Mobile User Interface Customization API for Java ME (JSR 258) and demonstrates its use in practice. The API allows software developers to query and manipulate the customizable properties of the mobile device user interface. JSR 258 also defines a cross-platform, XML-based exchange format for appearance data, for use by content developers and distributors.

The session presents the concepts of systemwide themes and application-specific skins in the API. Themes are collections of data about the appearance of the mobile device user interface. Activating a theme triggers UI changes that affect the whole device, whereas individual applications can be customized by application of skins.

The presentation shows code examples of how developers can access theme and skin data in Java ME applications using the JSR 258 API. It also introduces the file format for describing UI customization data, intended to be used as the transport and storage format for customization data. The data can be used across mobile devices from different vendors and various user interface toolkits. Finally, the session provides a demonstration of the effects of changing the active theme or skin programmatically.

The Mobile User Interface Customization API is in the final stages of the Java Community Process and will be available for licensing by the 2007 JavaOne conference.

### TS-5180 Mobile, Embedded, and Consumer General Session

John Muhlner, *Sun Microsystems, Inc.*  
Laurie Tolson, *Sun Microsystems, Inc.*

This session is intended to give developers an overview of what is happening in the consumer space today and which trends are going to be significant in the near future. It's a must for novices and experts alike.

### TS-5188 Web Services to Go: Mobile Access to Web Services with JSRs 279 and 280

Stephen Lewontin, *Nokia*  
Pia Niemela, *Nokia Corporation*  
Ellen Siegel, *Sun Microsystems, Inc.*

Web services are everywhere, but interacting with them from mobile devices has been less than completely straightforward. Not anymore! JSRs 280 (XML API for Java ME) and 279 (Service Connection API for Java ME) are changing the status quo, by adding platform support for XML and web services, creating a new mobile web services ecosystem. JSR 280 provides a general-purpose API for XML processing, extending JSR 172 and adding Streaming API for XML (StAX) and Document Object Model (DOM) parsing. JSR 279 builds on JSR 280's XML API and provides a framework for straightforward access to networked services, incorporating support for service discovery, authentication, and identity.

Come learn how to integrate web services into your mobile applications. This presentation provides a brief overview of XML, web services, and service-oriented architecture; describes the key features of JSRs 279 and 280, with example client code; and concludes with a brief demo illustrating the new device capabilities. No detailed background is required, although basic familiarity with Java ME and web services would be helpful.

### TS-5203 Web 2.0 Applications on a Next-Generation Java Card Platform

Laurent Lagosanto, *Gemalto*  
Jean-Jacques Vandewalle, *Gemalto*

Web applications are becoming more and more important in our daily operations. They tend to replace locally installed desktop applications with flexible and networked browser-centric applications. This trend, sometimes called Web 2.0, is an evolution of the web. Originally designed to deliver information, the web is becoming an infrastructure for running applications. This evolution is supported by a set of technologies and a development technique encompassed by the term "Ajax," an acronym for "Asynchronous JavaScript And XML." The Ajax technique overcomes the classical web application model based on page refresh per user click to provide a rich user experience comparable to that of desktop applications.

The goal of this session is to introduce the stake and technologies of those modern web applications to discuss the roles smart devices can play in such a context. The main driver of the discussion is that a user-attached secure personal device with processing and storage capabilities brings important opportunities to the smart card industry for broadening the impact and usage of high-end products.

[CLICK HERE](#) to view real-time session information and updates.

## Java ME

The presentation reviews some use cases showing that a smart device integrated in web applications provides technical means of improving the personalization, the security, and the deployment scheme of such modern web applications. Then it presents detailed software architecture designs to expose the implementation issues that have to be tackled. Two important sets of issues are considered:

1. The embedded software infrastructure needed inside the smart device
2. The integration of smart device operations within a web application

Finally, a link is established between this picture and the envisioned next-generation Java Card™ platform products, showing that the smart card industry has been developing the right technologies to support networked web applications with a user-centric point of view.

### TS-5345 Bring Map and Navigation Capabilities to Your Location-Based Applications with JSR 293, Location API 2.0

Jaana Majakangas, *Nokia Corporation*  
Michael Zhang, *SIRF Technology*

Location-based services (LBSs) are becoming increasingly popular, with the growing number of GPS-enabled devices on the market. However, there is still a tremendous diversity of mobile devices using different operating systems, different GPS chip sets, different mapping and GIS engines, and different location platforms. Common and standardized APIs on top of these heterogeneous environments are crucial for speeding up LBS development and adoption in the Java community.

JSR 179, Location API, standardizes location retrieval on Java ME. The next challenge for developers is the location consumption: how to make use of the location? This need is now being addressed with JSR 293, Location API 2.0, which aims to include support for several common location-based services in the standardized API. Location API 2.0 will include a service provider framework, a client API that enables developers on the Java platform to use services from different location-based service providers. These services include geocoding, mapping, and navigation services. Location API 2.0 will also include a landmark exchange format and a set of global landmark categories that enable the exchange of landmarks between devices.

This session guides attendees through the new features of Location API 2.0. It explains the background of the technical solutions and provides use cases and code examples. It also shows how a Java technology-based application can take advantage of a map service provider and display maps to the user or write a navigation application that uses navigation services through a Java technology-based interface. The session also demonstrates how to import landmarks from a points-of-interest database into the device and export users' own landmarks from the device. After the session, attendees will have a clear view of the new features Location API 2.0 brings to application developers and knowledge of how to use these features. Previous knowledge about location technologies and location-based services is helpful for getting the most out of the session, but the session can be followed without any previous knowledge about these topics.

### TS-5483 Real-World Enterprise Wireless Application Development

John Edward, *Research In Motion*  
Eddie Maier, *FedEx*

Java ME is a solid foundation for developing mobile applications, but what about meeting the needs of demanding end users and enterprise IT departments? There are key considerations that can make or break the success of your enterprise wireless development project. Requirements for device standardization, manageability, governance, security, and forward interoperability are a reality in the enterprise. How does all of this affect developers on the Java platform?

This technical case study examines how the power of Java technology can be leveraged for enterprise mobility. Understand some of the challenges encountered in a real-world large-scale enterprise wireless application project and some of the keys to a successful deployment. Hear practical tips on topics such as wireless application design, effective user interface, and integration with existing enterprise systems.

### TS-5525 Mobile Ajax for Java Technology

Akhil Arora, *Sun Microsystems, Inc.*  
Vincent Hardy, *Sun Microsystems, Inc.*

Up to now, Ajax has been applied to browser-based applications. This session describes tools and techniques for applying the Ajax programming model to Java ME technology-based applications. This is achieved by a combination of the ability to invoke REST-style web services easily in Java technology with presentation of the results, using standards-based markup and DOM manipulation. An advantage of this approach is that combining access to the phone's features such as camera, GPS, phone book, Bluetooth, and the like with data to and from web services makes interesting applications possible.

cont. >>

: track five : Java ME

TS-5051 Tackling Java ME Device Fragmentation: Orange and Sun Collaboration  
TS-5114 Welcome to the UI Theme Park: Customizing the Java ME User Experience with JSR 258  
TS-5180 Mobile, Embedded, and Consumer General Session  
TS-5188 Web Services to Go: Mobile Access to Web Services with JSRs 279 and 280  
TS-5203 Web 2.0 Applications on a Next-Generation Java Card Platform  
TS-5345 Bring Map and Navigation Capabilities to Your Location-Based Applications with JSR 293, Location API 2.0  
TS-5483 Real-World Enterprise Wireless Application Development  
TS-5525 Mobile Ajax for Java Technology

## Java ME

### TS-5585 Whiz-Bang Graphics and Media Performance for Java ME Applications

Ashmi Bhanushali, *NVIDIA Corporation*  
Pavel Petrosenko, *Sun Microsystems, Inc.*  
Nandini Ramani, *Sun Microsystems, Inc.*

Java ME has several graphics APIs, including JSR 184, JSR 239 (for 3-D graphics), JSR 226 (for 2-D graphics), and JSR 135 and JSR 234 (for media). This session starts with an overview of these graphics APIs and discusses the appropriate API for different use cases. It then covers platform implementation techniques being used to provide excellent performance for applications using these APIs. These techniques include utilization of hardware acceleration and VM optimizations for media and graphics applications.

Hardware acceleration for graphics and media is available on mobile devices today and is expected to grow significantly over the next few years. The presentation focuses on leveraging the underlying hardware to create compelling, high-performance applications on the Java ME platform. It shows code examples of 2-D/3-D graphics and media applications, highlighting the areas that use the graphics processing unit (GPU) and the central processing unit (CPU). Knowledge of hardware characteristics enables application developers to achieve optimal performance. The session shows code examples of how this can be achieved by adaptation of the code to the level of acceleration available.

VM optimizations for a better 2-D and 3-D interactive experience for gaming, for example, include general Java technology-based performance enhancements, minimization and even distribution of pauses, predictable garbage collection, use of the memory-mapping unit and vector floating-point coprocessor, and runtime compiler support for graphics and media applications.

The session includes several code samples and demos on devices for each of the 2-D/3-D APIs as well as media APIs.

### TS-5617 Open Source Object-Oriented Databases for Java ME Technology-Based Embedded Systems

Andrei Gorine, *McObject*  
Konstantin Knizhnik, *McObject*

Java ME provides a runtime environment for software on multiple devices, such as mobile phones, PDAs, and TV set-top boxes. These applications increasingly require sophisticated data management to support software such as electronic programming guides in set-top boxes, address book applications in mobile phones, and music indexes in digital audio players.

Embedded applications often store and process data locally (the database and application reside on the same device). In such cases, relational databases become impractical, in large part due to the sophisticated, resource-consuming SQL optimizers needed to execute queries. In fact, the level of query processing provided by an Oracle, or even a MySQL, database is often not required, because the queries are simple and are known when the application is compiled. This enables specialized resource-conserving data management solutions to be developed for embedded devices.

Object-oriented databases offer the advantage of seamless integration with object-oriented programming languages. With a relational database, the application must translate the relational representation of the application's data to the object representation required by the host language. Some modern IDEs and modeling tools generate this "translation" code automatically. However, this extra layer of code still constrains performance, compared to object-oriented databases' direct data access.

Despite the promise of object-oriented database systems, few have emerged for the Java ME platform, because object-oriented databases depend on Java technology-based features that are limited or nonexistent in Java ME. This presentation illustrates how efficient object-oriented data management for the Embedded Java application environment can be achieved by "engineering around" the absence of such Java technology-based features as a reflection mechanism or "weak reference" support. These techniques—honed by the presenters while developing the Perst Lite open source, object-oriented Java ME database—provide both an excellent window on Java ME internals and a roadmap for attendees also navigating Java ME's strictures.

Usually an object-oriented database's interface with the host application is based on reflection capabilities in the host language, for inspecting the object format at runtime. However, due to its complexity, reflection is omitted in Java 2 Platform, Micro Edition (J2ME), so a database must be designed to live without reflection. One solution, from the C/C++ world, is for the application to provide pack and unpack routines to serialize and deserialize objects, and the database runtime to use these to fetch and store objects. The presentation introduces such routines in Java technology, including the option of providing a utility to automate generation of such code.

Caching is another challenge. An OODBMS's object cache keeps frequently used objects in memory, to avoid excessive disk I/O. Java technology's memory deallocation or "garbage collection" is problematic alongside the object cache. If the object is "pinned" into the cache with a "strong reference," the garbage collector won't deallocate it. As a result, the object cache grows and can take all available memory or even overflow memory. To counter this, Java technology provides "weak references" that allow a program to reference an object while also allowing that object to be reclaimed. But because weak references greatly complicate garbage collection, they are omitted from many device-specific Java ME variants.

Therefore, in Java ME, a database must control the size of the object cache explicitly—for example, by clearing the cache upon transaction commit. With such strategies, object orientation and such inherent database strengths as transaction support, optimized algorithms, and significantly shorter time to market can benefit developers on the Java ME platform.



[CLICK HERE](#) to view real-time session information and updates.

## Java ME

### TS-5628 Developing Flashy Mobile Applications, Using SVG and JSR 226

Martin Brehovsky, *Sun Microsystems, Inc.*  
Andrei Mihaila, *Nokia*  
Marc Verstaen, *Hyperion*

Developing UIs for Java ME applications has typically meant using either high-level LCDUI components, which do not provide enough flexibility, or creating a custom UI using low-level graphics, which is flexible but very difficult. With the introduction of JSR 226 (Scalable 2D Vector Graphics API for Java ME), the landscape has changed — now applications with an rich, animated, and interactive UI can be easily developed by use of appropriate tools.

SVG with JSR 226 also brings a new style of application development to the Java ME platform, similar to the development process of web applications. A graphic artist can focus on creating presentation graphics for the application, whereas application programmers can focus on creating application business logic and not spending hours tweaking low-level graphic UIs.

This session discusses all stages of JSR 226-powered application development—from authoring tools for developing the SVG content, through the Java ME IDE utilizing JSR 226 for integrating the SVG content with business logic, to the deployment of the created application to the real device. Multiple examples and demos, along with source code, are shown for each stage of the development cycle, including a demonstration of JSR 226-based applications running on real devices.

### TS-5642 What to Do with APDU?

Hartti Suomela, *Nokia*

JSR 177 (Security and Trust Services API) contains four optional packages: APDU, CRUPTO, JCRMI, and PKI. The APDU package can be used to communicate with smart cards on devices, but using it is not as straightforward as one could imagine. There is a complicated system for access control, and constructing an APDU requires reading through a lot of documentation. The purpose of this session is to introduce the audience to how the JSR 177 APDU package can be used and what the restrictions are for its usage.

### TS-5711 Developing Reliable Products: Static and Dynamic Code Analysis

Aleksandr Kuzmin, *Sun Microsystems, Inc.*

Many software errors don't manifest themselves during regular testing. Software with subtle problems such as memory corruption may run flawlessly on one platform but crash on another. Various memory leaks may not be noticed during functional testing but may cause problems in production deployment. Code stability is critical for embedded software or server applications.

Dynamic analysis is helping identify the source of problems much faster as well as alerting developers to problems we were previously unaware of. Dynamic analysis discovers real problems (versus theoretical issues found during static analysis). The precision of dynamic analysis is limited only by runtime test coverage of the product.

It is static analysis that helps detect the defects beyond the limits of runtime coverage. Its analytical tools report theoretical errors by modeling possible dynamics of software applications by relying solely on the source code.

Proper application of static and dynamic tools during development and test cycles significantly helps improve the reliability of products.

During development and testing of a variety of Java ME products, Sun teams run commercial and freeware analytical tools. This presentation provides examples, statistics, and Sun success stories.

### TS-5712 How to Build, Run, and Develop Code with the phoneME Open Source Project

Stuart Marks, *Sun Microsystems, Inc.*  
Hinkmond Wong, *Sun Microsystems, Inc.*

In this session, attendees can expect detailed instruction on how to download, build, run, and develop code with the phoneME open source project. They see firsthand how to use this project to build something new for the exciting world of wireless devices. There are step-by-step examples of developing new platforms, building cool apps, and creating interesting demos on Java ME technology-enabled cell phones.

The phoneME project is the open source project at [java.net](http://java.net) that addresses the Java technology-based software stack for mobile phones (also known in the past as Java 2 Platform, Micro Edition [J2ME] and Java ME technology). The objective of the phoneME project is to further expand the usage of Java ME technology in the mobile handset market. The project scope includes a focus on the mainstream feature phone segment, with phoneME Feature software, and the emerging advanced phone segment, with phoneME Advanced software. The goal in making these technologies available to the mobile and embedded community as open source code is to reduce implementation variation, increase the rate of innovation, and enable new devices to leverage the power of Java ME.

#### : track five : Java ME

- TS-5585 Whiz-Bang Graphics and Media Performance for Java ME Applications
- TS-5617 Open Source Object-Oriented Databases for Java ME Technology-Based Embedded Systems
- TS-5628 Developing Flashy Mobile Applications, Using SVG and JSR 226
- TS-5642 What to Do with APDU?
- TS-5711 Developing Reliable Products: Static and Dynamic Code Analysis
- TS-5712 How to Build, Run, and Develop Code with the phoneME Open Source Project

## Java ME

### TS-5743 Graphical, Scripted, and Animated User Interfaces on Java ME

Vincent Hardy, *Sun Microsystems, Inc.*  
Nandini Ramani, *Sun Microsystems, Inc.*

This session discusses various technologies and techniques that enable developers to create highly graphical, animated, and scripted user interfaces on Java ME.

The session focuses on showing code samples articulating how to create such user interfaces and explains which APIs can be used today, such as the Scalable 2D Vector Graphics API v1.0 (JSR 226), as well as what is becoming possible with new and upcoming APIs such as the Scalable 2D Vector Graphics API v2.0 (JSR 287) and the Java Language & XML User Interface Markup Integration APIs (JSR 290).

On the Java ME platform, it has long been difficult or simply not possible to create graphics that adapt to the display resolution and the display's aspect ratio. Likewise, there was no simple way to create, generate, and run animations to manipulate user interface elements. Additionally, the set of user interface components available on MIDP was fairly limited.

With the new APIs already available (JSR 226) or coming to the Java ME platform (JSR 287, 290), these limitations are lifted and developers can import, create, and play animations; trigger them when needed by their application; scale their graphics to the display's resolution; render them to the desired aspect ratio; and create reusable user interface components. The goal of this session is to illustrate how to implement these features, with demonstrations of shipping devices as well as code examples.

### TS-5906 Building a Java ME Test Suite in 15 Minutes

Alexander Glasman, *Sun Microsystems, Inc.*  
Mikhail Gorshenev, *Sun Microsystems, Inc.*  
Roman Zelov, *Sun Microsystems, Inc.*

JT Harness and Java ME Framework are the open source tools developed on [java.net](http://java.net) ([jtharness.dev.java.net](http://jtharness.dev.java.net), [cqme.dev.java.net/framework.html](http://cqme.dev.java.net/framework.html)). JT Harness is an open source version of Sun's JUnit harness, which has its origins in the beginning of Java technology: its first version was used for the testing of the JDK 1.0 release. In the 10+ years that followed, it evolved into a mature, full-featured test harness. Java ME Framework is a Java ME plug-in for JT Harness that provides support for the different flavors of Java ME.

This session is targeted at Java ME developers and quality engineers who need automated unit or regression testing. It addresses device limitations such as memory size and processor speed typical for Java ME phones and dealing with VM crashes and resource leaks. Also it discusses how to overcome test suite scalability problems and shows how large, stable test suites are put together.

A demonstration shows how to use JT Harness and Java ME Framework to create a simple Java ME test suite and run it on a Java ME device.

### TS-5913 Tools for Developing Advanced Mobile Multimedia Applications

Jay Indurkar, *Sprint Nextel*

JSR 135, Mobile Media API, is a very powerful API that enables developers to create innovative applications, as demonstrated by some of the applications that run on Sprint devices (Sprint Music Store, the first music full-track wireless download service launched in the U.S.; Mobi TV, the first application that allowed developers to watch live streaming TV). JSR 135 is one of the APIs that elicit a lot of questions from developers; a "Best Practices in Utilizing JSR 135" would help educate developers currently using Java ME and entice other developers to explore some of its capabilities.

This presentation covers the following:

- An overview of JSR 135 (play media files, take pictures, and so on)
- An existing multimedia application that highlights the capabilities of the JSR (stream RTSP file, play media clip file, take pictures, and so on)
- How to build a sample application utilizing NetBeans software customized for Sprint (Sprint Mobility IDE with multimedia components to initialize the player, access files from external memory, and so on)
- Tips/best practices/errors most common in utilizing JSR 135 (incorrect permission declarations, incorrect player initialization, handling background threading with the foreground UI operating)
- Compiling and running the project in the emulator
- Deploying the application onto an actual Sprint handset that replicates the features shown at the beginning of the session

At the end of the session, the attendees should have a good understanding of the capabilities of JSR 135, best practices/tips and tricks they can incorporate into their own application, and how to develop an application that utilizes JSR 135 and deploy it to run on a JSR 135-enabled handset.

[CLICK HERE](#) to view real-time session information and updates.

## THE NEXT-GENERATION WEB



The web has entered the next stage of its development—Web 2.0—a second generation of online services built on wide-scale sharing and participation. Solutions work together to let developers easily enrich web applications and achieve desktop-like interactivity. Java technology continues to play a dominant role in the web's development as enterprises continue to derive value from their IT investment in Java technology. The openness of the Java platform and the Java Community Process have created an environment that has produced a wealth of technology aimed at bringing Web 2.0 practices to developers worldwide. This track showcases the best examples of technologies that

- Leverage the network effect to create unique value:
  - Participatory web sites, tagging, annotation, sharing
  - Blogs and wikis as a means of mass communications
- Use Ajax to do the following:
  - Take advantage of the newest features in common browsers to deliver desktop-quality user experiences from web applications
  - Increase resource utilization through effective use of Ajax for web user interfaces
- Open the Java Virtual Machine to new languages and frameworks that make up Web 2.0:
  - Ruby on Rails
  - Python
  - JavaScript programming language

### The Next-Generation Web

#### TS-6014 You Are Hacked: Ajax Security Essentials for Enterprise Java Technology Developers

James Gould, *VeriSign Inc.*  
Karthik Shayamsunder, *VeriSign Inc.*  
David Smith, *VeriSign Inc.*

Ajax has become a popular technology for building web applications, but it is still beset by security issues. By itself, it does not substantially change the fundamentals of web application security, but it makes traditional threats and attacks much, much worse, by increasing the attack surface.

As an enterprise Java technology developer or security professional, you need to be aware of a few issues to watch out for when architecting, building, and testing Ajax-based web applications. Thus, this session, by the VeriSign Information and Security Services teams, discusses topics such as browsers' JavaScript programming language security models and common exploits found in Ajax applications, such as cross-site scripting, cross-site request forgery, malicious data, and code injection.

After attending the session, attendees will have a better understanding of how a typical hacker thinks and will be able to identify the common potential threats and eliminate vulnerabilities, using the mechanisms described in the presentation.

#### TS-6029 Beyond Blogging: Feeds in Action

Dave Johnson, *Sun Microsystems, Inc.*

Like XML-RPC and SOAP before them, RSS and Atom were born in the blogosphere and quickly moved beyond blogging. Nowadays web service providers are using RSS and Atom feeds and REST-based protocols as lightweight alternatives to SOAP and developers are finding new ways to combine web services from different sites into new applications, known as "mashups" in the lingo of Web 2.0.

In this session, you learn the history, details, and pros and cons of the various RSS formats and the new IETF standard Atom feed format. You find out how to use the open source ROME feed utilities to fetch, parse, and produce all forms of RSS and Atom. The presentation covers the inner workings of the Atom Publishing Protocol, a new lightweight REST protocol for web publishing that serves as the basis for new APIs from Google and other web API providers. And you learn how use the ROME Propono library to build Atom protocol servers and client applications.

: track five : Java ME

TS-5743 Graphical, Scripted, and Animated User Interfaces on Java ME  
TS-5906 Building a Java ME Test Suite in 15 Minutes  
TS-5913 Tools for Developing Advanced Mobile Multimedia Applications

: track six : The Next-Generation Web

TS-6014 You Are Hacked: Ajax Security Essentials for Enterprise Java Technology Developers  
TS-6029 Beyond Blogging: Feeds in Action

## The Next-Generation Web

### TS-6039 Building a Web Platform: Java Technology at Ning

Diego Doval, *Ning, Inc.*  
Brian McCallister, *Ning, Inc.*  
Martin Traverso, *Ning, Inc.*

Scripting languages are here to stay, but building reliable, scalable systems for them to run on is a challenge. Ning has approached it in a unique way: building a platform in Java technology that is, in essence, a massive API that any language can use. Ning APIs cover basic tasks, such as storage, to move advanced functionality, such as identity and “friends” connections, all exposed through semantics compatible with the Atom publishing protocol. Under the covers, a multitude of servers of various types share the load, providing support for multiple languages on the back end while remaining generic and scalable.

Java technology is at the core of Ning’s ability to quickly improve the platform on the company Solaris Operating System (Solaris OS) production environment while allowing development and testing in hybrid environments that include Linux, the Solaris OS, and Windows.

From the Ning content store to Ning identity and other services, this session covers the technologies Ning uses and how they complement Java 2 Platform, Standard Edition (J2SE) and Java 2 Platform, Enterprise Edition (J2EE) with open source libraries to create an industrial-strength environment that powers next-generation web applications.

### TS-6045 Web Algorithms

Jason Hunter, *Mark Logic*

This session explains—without any needless math or boring proofs—several fun algorithms of interest to back-end web programmers. Each algorithm was selected because it’s really practical, really interesting, or both. The algorithms aren’t always the same but can include public key cryptography, credit card checksum validation, TCP Slow Start, 2’s complement, priority queues, the XOR swap, and the Google MapReduce function for massively distributed calculation.

### TS-6175 Distributed Caching, Using the JCACHE API and ehcache, Including a Case Study on Wotif.com

Greg Luck, *Wotif.com*

Java EE web applications are typically used in e-commerce systems. They generally involve multiple application servers communicating with a database. Caching can play an important role in enabling scaling out. Caching can be applied to servlet responses, collection caching, and Java Persistence API caching. JSR 107 (JCACHE) is an effort to standardize the cache API. It benefits users by providing a lowest common denominator for caches and by reducing the cost of change of caching implementations.

This presentation looks at the features of JCACHE and the ehcache implementation of JCACHE (ehcache-1.3) in particular. It also includes a case study of wotif.com, the third-largest e-commerce site in Australia by revenue, which does a large amount of caching at each of the levels mentioned above. The case study shows how wotif.com achieved horizontal scaling by using the distributed caching features available in ehcache—all running on the GlassFish project application server. It demonstrates how to replicate servlet responses across a cluster, so that regardless of the view generator—whether it be JavaServer Pages

(JSP) software, Velocity, or XML responses to Ajax calls—the servers can share a cache of responses. Next the presentation looks at how to cache computed results represented as collections. It examines pull-through-cache patterns and gives examples. Last, it discusses caching with the Java Persistence API. Wotif.com uses Hibernate, which enables pluggable second-level caching, and the presentation shows how the site uses Hibernate with a distributed cache to minimize database access.

The session closes with a discussion of the timeline for release of the JCACHE specification and how to get started.

### TS-6178 Simplifying JavaServer Faces Component Development

Kito Mann, *JSF Central*

The benefits of using JavaServer Faces UI components to rapidly construct complex, interactive user interfaces have become quite clear over the past couple of years. However, the process of developing these UI components is currently quite tedious. This presentation examines techniques for easing the process of developing components with techniques such as annotations, convention over configuration, and templating.

### TS-6375 jMaki: Web 2.0 App Building Made Easy

Carla Mott, *Sun Microsystems, Inc.*  
Gregory Murray, *Sun Microsystems, Inc.*

Everyone is trying to build cool Web 2.0 applications. jMaki is a lightweight client-server framework for creating JavaScript programming-language-centric Web 2.0 applications using CSS layouts, the widget model, client services such as publish/subscribe events to tie widgets together, JavaScript programming language action handlers, and a generic proxy to interact with external RESTful web services. This session covers how to use jMaki to build an application and talks about the widget model, how to enable communication between widgets, connecting to RESTful web services, and customizing the look of the application using CSS. jMaki is a great framework for creating applications, whether you are familiar with Java technology, the JavaScript programming language, or PHP.

### TS-6381 The Future of the Java Technology Web Tier

Rajiv Mordani, *Sun Microsystems, Inc.*

The Java technology web tier in Java EE includes servlets, JSP technology, expression language (EL), and JavaServer Faces technology. The next versions of these technologies are now being developed in open source in the GlassFish project, which, among other things, is adding features for building Web 2.0-style applications. This session provides an overview of all the new features being added or that are planned for addition to the components as well as new features targeted for Java EE 6.

[CLICK HERE](#) to view real-time session information and updates.

## The Next-Generation Web

### TS-6410 Hands-on DWR

Geert Bevin, *Uwyn*  
Joe Walker, *Getahead*

This presentation digs into many advanced DWR features such as Reverse Ajax and the JavaScript technology proxy APIs. The session creates a web-based multiplayer game, almost from scratch, illustrating how straightforward it is to create advanced effects with minimal coding. By demonstrating advanced page manipulation and server-based control of browsers, the game shows how to update any web application to react to server changes.

The session is designed for anyone wanting to learn how to create interactive web applications. It assumes that attendees have used DWR, attended an introduction talk, or have a good understanding of Ajax and the JavaScript programming language.

### TS-6475 Fast, Beautiful, Easy: Pick Three — Building Web User Interfaces in the Java Programming Language with Google Web Toolkit

Bruce Johnson, *Google*

Google Web Toolkit (GWT) was introduced at the JavaOne conference exactly one year ago. At that time, the goal was to explain the basic GWT architecture: GWT enables developers on the Java platform to leverage great Java programming language tools to create Ajax applications by compiling Java programming language source code into the JavaScript programming language. This year, with the preliminaries out of the way, this presentation moves on to something even more fun: creating world-class user interfaces with GWT.

The session demonstrates techniques for easily building beautiful, usable, and extremely fast web UIs that take maximum advantage of GWT's integration with the Java programming language and tools.

### TS-6503 JRuby, Rails, and Java EE

Tim Bray, *Sun Microsystems, Inc.*  
Ashish Sahni, *Sun Microsystems, Inc.*

Ruby is extremely popular these days, thanks in large part to Rails—the model-view-controller (MVC)-based framework that allows rapid creation of database-backed web applications. JRuby strives to provide a 100% Pure Java implementation of the Ruby language.

This session demonstrates how you can run a Ruby on Rails application on a Java EE server using JRuby. This will allow you to exploit the best of both worlds: the rapid develop/deploy/test cycle on Ruby on Rails and the enterprise-level features, such as high scalability and availability, of a Java EE environment.

The GlassFish application server, in addition to Java EE 5 functionality, supports various other interesting technologies and features required to build and deploy web and enterprise applications. Grizzly/clustering features in GlassFish and the JRuby interpreter make it one of the most desirable platforms for production deployments. There are various options for running Rails applications using GlassFish: (1) using a native Ruby interpreter; (2) using JRuby, which allows seamless integration with Java and Java EE code directly on top of Grizzly, the GlassFish HTTP connector; and (3) running Rails applications as a Java EE web application using JRuby. Each mode has benefits and disadvantages.

This session covers all aspects of integrating your Rails applications into a Java EE environment in various modes, discusses pros and cons, compares and contrasts with a traditional Ruby on Rails environment, and shares data on scalability. It also explains the architecture and design of the integration and demos the runtime.

### TS-6536 Enabling Identity 2.0 in Java Technology

Hans Granqvist, *VeriSign, Inc.*  
David Recordon, *VeriSign, Inc.*

With the evolution of Web 2.0 and privacy concerns about sites such as MySpace, a need for personal identity solutions has emerged within the past two years. In response, several user-controlled digital identity technologies—such as OpenID, Microsoft CardSpace, and the Higgins Project—have sprung up that are converging in places such as Apache, Eclipse, Identity Commons, IETF, and OASIS. This session explains the need for digital identity technologies (improved security, higher user convenience, increased privacy, more-accurate information, new applications) and outlines how developers on the Java platform can take advantage of digital identity in their applications by using an existing application, with code, for example.

### TS-6590 Killer JavaScript Technology Frameworks for Java Platform Developers: An Exploration of Prototype, Script.aculo.us, and Rico

David Geary, *Clarity Training, Inc.*

Web developers have long been mired in the mundane world of form processing. Servlets and the first wave of web application frameworks such as Struts extended the original World Wide Web, which began as a set of hyperlinked documents built on the stateless HTTP protocol. Servlets and those web application frameworks added state and gave us the ability to implement rudimentary applications that presented a set of fields to their users along with a button to submit that information and move on to another banal web page with yet another form.

All the while, desktop application developers enjoyed rich user interface (UI) frameworks where interactivity ruled. Desktop applications sported components and drag-and-drop and let their users manipulate controls without redrawing the entire page in response to those manipulations.

cont. >>

## : track six : The Next-Generation Web

- TS-6039 Building a Web Platform: Java Technology at Ning
- TS-6045 Web Algorithms
- TS-6175 Distributed Caching, Using the JCache API and ehcache, Including a Case Study on Wotif.com
- TS-6178 Simplifying JavaServer Faces Component Development
- TS-6375 jMaki: Web 2.0 App Building Made Easy
- TS-6381 The Future of the Java Technology Web Tier
- TS-6410 Hands-on DWR
- TS-6475 Fast, Beautiful, Easy: Pick Three—Building Web User Interfaces in the Java Programming Language with Google Web Toolkit
- TS-6503 JRuby, Rails, and Java EE
- TS-6536 Enabling Identity 2.0 in Java Technology
- TS-6590 Killer JavaScript Technology Frameworks for Java Platform Developers: An Exploration of Prototype, Script.aculo.us, and Rico



## The Next-Generation Web

>> Then Asynchronous JavaScript And XML (Ajax) burst on the scene. Google, with Gmail and Google Maps, led the Ajaxian surge with web applications that were nearly as interactive as desktop applications. Suddenly, the JavaScript programming language, which for a long time was frowned upon as a poor cousin of the Java programming language, was on every web application developer's radar, as bosses and clients demanded applications that were as responsive as Gmail.

But much to the chagrin of developers using the Java programming language, the JavaScript programming language, other than having a syntactic resemblance to the Java programming language, is not the Java programming language at all. The JavaScript language is a powerful language in its own right, but it is a far cry from the statically typed, inheritance-based Java programming language. To a developer using the Java programming language, the JavaScript language is foreign and can be vexing to use. If you are a developer who uses the Java programming language but has no JavaScript language experience, for example, odds are that you are not going to dive into the JavaScript language and come up with a drag-and-drop framework in a few days of feverish coding.

Fortunately for everyone involved, the next evolution of Ajax was JavaScript language frameworks—such as Prototype, Script.aculo.us, and Rico—that make the JavaScript programming language easier to use and provide indispensable features such as special effects, drag-and-drop, and behaviors. Suddenly, the JavaScript programming language and Ajax have become much more accessible not only to developers using the Java programming language but also to software developers in general.

This session explores the aforementioned frameworks: Prototype, which adds low-level JavaScript programming language enhancements in addition to Ajax underpinnings; Script.aculo.us, which builds on Prototype to provide UI-specific whizbang features such as special effects and drag-and-drop; and Rico, also built on top of Prototype, which adds behaviors—attaching Ajaxian behaviors to ordinary HTML—to the mix.

Prototype and its derivatives have enjoyed a great deal of popularity, mostly in the Ruby arena, but they are just as valuable to developers using the Java programming language. This session looks at these frameworks from the perspective of developers using the Java programming language. You learn how to integrate Prototype and Script.aculo.us into applications based on servlets and JavaServer Pages (JSP) technology and how to wrap Rico components with JavaServer Faces components. Come see how you can take advantage of the Prototype family of JavaScript programming language frameworks in your Java technology-based web applications.

If you attend this session, you should have some familiarity with the JavaScript programming language, in addition to a solid understanding of the Java programming language and servlets. Some familiarity with JavaServer Faces technology is also desirable. When you leave this session, you will have a good understanding of Prototype and its derivative frameworks and how you can use them in your Java technology-based web applications.

## TS-6676 Blueprints for Mashups: Practical Strategies, Tips, and Code for Designing and Building

Mark Basler, *Sun Microsystems, Inc.*  
Sean Brydon, *Sun Microsystems, Inc.*  
Gregory Murray, *Sun Microsystems, Inc.*

Web applications are making their functionality and data available as a live service, so that other applications can combine, or mash up, with those live services to offer a new and creative user experience. This presentation identifies some of the key problems and issues facing developers and provides some practical strategies and code examples for successfully jump-starting your own mashups.

The session looks under the hood, examines popular live services, and identifies common problems and some of the underlying designs and technical choices of building mashup applications. It also discusses some of the issues you face when building your own live mashups. After exploring the concepts, the session discusses building a web application as a service and also building a mashup that combines with live services.

### Designing and building an application as a service:

The presentation discusses guidelines for designing the interface and building the service. Among the issues addressed is using a RESTful service API, an RSS/Atom feed, or a JavaScript technology library to expose your service to mashup clients. Because using JavaScript technology is a popular way to offer your service to clients, the session dives into the usage of the JavaScript technology library, including widget, gadgets, and even snippets. It then looks below the surface and discusses design choices in implementing the service and considers issues such as access control and metering, choosing data formats such as JSON or XML, layering your application, and leveraging Java technologies.

### Building an application to mash up with services:

The presentation considers the issues you face when your application is the client and needs to mash up with live services. It covers strategies for handling security models, handling asynchronous remote services, customizing the look of widgets, making services work together in a page, Ajax limitations, and other choices that are part of designing and building a mashup. It also examines a live mashup application to pull it all together and shows how to include various services in an application.

The session includes lots of code discussions, and attendees will be able to reuse the design strategies and code to jump-start their own mashups with the Java technology web tier.

## TS-6707 Beyond Cookies: Persistent Storage (and Offline Access) for Ajax/DHTML Applications with Dojo Storage

Brad Neuberg, *Brad Neuberg Consulting*

Web applications have been constrained by the 4K limit of cookies for years. In this session for developers, learn how Dojo Storage, part of the open source Ajax toolkit Dojo, can enable web applications to persistently and securely store large amounts of data, including for offline access. The session shows how to use the dojo.storage API; includes example applications that use these APIs, such as a web-based word processor that persists its files locally rather than on a server; and presents details of how dojo.storage is internally implemented. In addition, learn the state of the art for making your web-based Ajax applications work offline.

[CLICK HERE](#) to view real-time session information and updates.

## The Next-Generation Web

### TS-6713 JavaServer Faces Technology and Ajax Panel Discussion

Gary Horen, *BEA Systems, Inc.*

The programming model for Ajax has recently shown signs of migrating from the client side of the connection to the server side. In the Java EE world, the form many Ajax runtime frameworks have chosen to take is JavaServer Faces technology-based. Come meet with some of the creators of these JavaServer Faces technology-based Ajax frameworks, and hear about why they think these two technologies are a good marriage and where they see this going in the future.

Here is the agenda:

- Why Ajax and JavaServer Faces technology are a good match
- Some of the challenges involved in designing an Ajax web application with JavaServer Faces technology
- How using JavaServer Faces technology compares to using more-client-centric programming models
- Cost/benefit trade-offs of a JavaServer Faces technology model versus a pure client-side model (server resources and scalability versus functional advantages, and so on)
- Some of the architectural challenges involved in creating a JavaServer Faces technology-based Ajax framework
- Interoperability between different frameworks in the same web application
- Possible future directions

### TS-6807 Real-World Comet-Based Applications

Jean-François Arcand, *Sun Microsystems, Inc.*  
Cedar Milazzo, *4Home Media*  
Naoto Takai, *Recompile.net*

This session introduces Comet-based applications. Comet (sometimes called request polling, HTTP streaming, or continuation) is a programming technique that enables web servers to send data to the client without any need for the client to request it. It allows creation of event-driven web applications. The session first introduces what a Comet application is and when to use and create Comet applications. Next it introduces the Comet framework and its Bayeux protocol. Finally it demonstrates Comet and Comet applications using Ajax and the Dojo toolkit.

### TS-6821 Spring Web Flow: A Next-Generation Web Application Controller Technology

Keith Donald, *Interface21*

Spring Web Flow (SWF) is a powerful framework for implementing user dialogs within a Java EE web application. Now at version 1.0, Spring Web Flow is used heavily in major industries such as banking, transportation, and entertainment to power mission-critical applications. This session gets right to the point to demonstrate by example what this mature, feature-rich framework has to offer developers. Developers attending the session learn how to apply Spring Web Flow to orchestrate business tasks, enforce navigation rules, manage application state, prevent duplicate submits, and solve the infamous back-button problem. In addition, they see how to achieve code reuse, elegance, and testability when defining flows for execution across a variety of environments, including within Java EE servlet and portlet containers.

This session is backed up by several engaging live demos that are not to be missed.

### TS-6836 Creating Amazing Web Interfaces with Ajax

Ben Galbraith, *Self-Employed*

How far we've come from the conventional wisdom of just a few years hence that web interfaces could never be "rich." In this session, Dion Almaer and Ben Galbraith of [Ajaxian.com](http://Ajaxian.com) demonstrate exactly how to create rich web interfaces by using modern techniques pioneered by the Ajax community. They do this by presenting a variety of specific interface scenarios and case studies.

### TS-6889 Java Technology-Powered Microsoft Ajax

Joe Stagner, *Microsoft*

Ajax is the new wave in web development. The Microsoft Ajax Client Framework is platform-independent. This session drills down into building Ajax applications in Java technology by using the Microsoft Ajax Libraries. In the session, developers who use the Java platform see how the Microsoft Client Libraries make the JavaScript programming language friendlier to them, adding classes, Inheritance, Interfaces, namespaces, and more.

### TS-6957 Project Phobos: Server-Side Scripting for the Java Platform

Roberto Chinnici, *Sun Microsystems, Inc.*  
Qingqing Ouyang, *Sun Microsystems, Inc.*

Scripting is one of the most exciting topics in programming these days. Languages such as the JavaScript programming language, Ruby, and Python have soared in popularity in recent years, each bringing a fresh, different perspective to the activity of programming.

Project Phobos is a lightweight, scripting-friendly, web application environment whose goal is to marry the productivity and interactivity of scripting with the high performance and reliability of the Java platform. Far from being a fork in the road, the choice between a scripting language or the Java programming language for any particular piece of code becomes a function of convenience, with the full knowledge that the two entities will be able to interoperate.

This presentation shows how the combination of scripting languages and the Java platform provides a development and deployment environment for web applications that is vastly superior to either one of its components. It describes the basic architecture of a Phobos application and demonstrates how scripting languages and the Java platform can combine to provide a dynamic, interactive, tool-rich environment for building web applications involving Ajax, REST, RSS/Atom, mashups, and more.

## : track six : The Next-Generation Web

- TS-6676 Blueprints for Mashups: Practical Strategies, Tips, and Code for Designing and Building
- TS-6707 Beyond Cookies: Persistent Storage (and Offline Access) for Ajax/DHTML Applications with Dojo Storage
- TS-6713 JavaServer Faces Technology and Ajax Panel Discussion
- TS-6807 Real-World Comet-Based Applications
- TS-6821 Spring Web Flow: A Next-Generation Web Application Controller Technology
- TS-6836 Creating Amazing Web Interfaces with Ajax
- TS-6889 Java Technology-Powered Microsoft Ajax
- TS-6957 Project Phobos: Server-Side Scripting for the Java Platform

## OPEN SOURCE



Open Source development adds a new dimension to Java code, its communities, and its users. It presents both unfettered opportunity to innovate and logistical challenges involving how to share code and with whom.

This year this track shines a spotlight on some of the people and projects here today, ahead of the curve in an open source world that now embraces Java technology. Sessions focus on real-world examples and experiences—both big and small, known and new—with developing and leveraging code that uses a free/open source model. Learn technical details of code bases, how to develop and contribute code, how to collaborate on projects beyond just the bits, and how these projects and processes can make your own development projects more valuable—to you as well as your customers.

## Open Source

### TS-5712 How to Build, Run, and Develop Code with the phoneME Open Source Project

Stuart Marks, *Sun Microsystems, Inc.*  
Hinkmond Wong, *Sun Microsystems, Inc.*

In this session, attendees can expect detailed instruction on how to download, build, run, and develop code with the phoneME open source project. They see firsthand how to use this project to build something new for the exciting world of wireless devices. There are step-by-step examples of developing new platforms, building cool apps, and creating interesting demos on Java ME technology-enabled cell phones.

The phoneME project is the open source project at [java.net](http://java.net) that addresses the Java technology-based software stack for mobile phones (also known in the past as Java 2 Platform, Micro Edition [J2ME] and Java ME technology). The objective of the phoneME project is to further expand the usage of Java ME technology in the mobile handset market. The project scope includes a focus on the mainstream feature phone segment, with phoneME Feature software, and the emerging advanced phone segment, with phoneME Advanced software. The goal in making these technologies available to the mobile and embedded community as open source code is to reduce implementation variation, increase the rate of innovation, and enable new devices to leverage the power of Java ME.

### TS-7080 Open Source SOA Realized

Soren Hartvig, *Capgemini*  
Poul Moller, *Capgemini*

This session dives straight into the middle of a real-world open source SOA implementation, showing all the facets of how the SOA Big Rules are attained within the solution.

It presents an in-depth walk-through, including examples and demos, of

- How to implement large xmlschema-driven document/literal web services, using partly Java EE 5 and partly Java 2 Platform, Enterprise Edition (J2EE) 1.4
- How security is enabled through certificate-based authentication with WS-Security
- How the services are orchestrated with WS-BPEL
- How JSR 168 portlets leverage the end-user experience and how these are exposed by use of Web Services for Remote Portlets (WSRP)

The solution is based strictly on open source software, and the session includes a guide for picking the right frameworks and the right products from the myriad available.

Prerequisites: Knowledge of Java technology, IDEs, XML; interest in SOA

[CLICK HERE](#) to view real-time session information and updates.

## Open Source

### TS-7082 Building JavaServer Faces Applications with Spring and Hibernate

Kito Mann, *JSF Central*

Chris Richardson, *Chris Richardson Consulting, Inc.*

JavaServer Faces technology is emerging as a powerful force for building web applications. With its extensive array of UI component options, Ajax support, and basic application infrastructure, developers are building sophisticated, interactive web UIs with less effort, but it is a view layer framework. What if your service layer is written with Spring and Hibernate? This session explains when you might want to use JavaServer Faces technology with Spring and Hibernate and discusses possible integration options such as Spring 2, the JavaServer Faces technology/Spring integration library, and Shale/Spring integration. It begins by examining the use cases for using these three technologies together and expands upon the topic with a demo of integrating a Spring/Hibernate service layer into a JavaServer Faces user interface. It then examines how to integrate JavaServer Faces technology with Spring Web Flow.

### TS-7361 Writing Java Platform Applications for Ubuntu

Jeff Bailey, *Ubuntu*

Sathyan Catari, *Sun Microsystems, Inc.*

Larry Freeman, *Sun Microsystems, Inc.*

Etienne Goyer, *Canonical*

Harpreet Singh, *Sun Microsystems, Inc.*

Ubuntu is one of the most popular flavors of Linux, according to [DistroWatch.com](#). It focuses on user experience, which it accomplishes through a very active community and its packaging system. This panel session is copresented by Sun and Ubuntu (Canonical Ltd.).

The session focuses on the steps involved in writing an application that gets released through Ubuntu. It walks through the steps of releasing an application as part of Ubuntu and shows what's involved in taking advantage of the applications that have already been released as Ubuntu packages.

In the presentation, Sun engineers discuss the experience of releasing a GlassFish project on Ubuntu and how a Java EE 5 application that runs as a GlassFish project can be released on Ubuntu.

Ubuntu engineers discuss what's happening on the Ubuntu side and how Ubuntu is able to come out with new releases every six months while continuously improving its user experience and quality.

### TS-7496 Joyful Metamorphosis: Migrating a Large Enterprise Build from Ant to Maven

Chris Berry, *E\*Trade*

Jason van Zyl, *Sonatype*

Large enterprise Ant builds can often be the source of many hidden dangers, costs, and hindrances to team productivity. Ant itself is an excellent tool, and its tasks are incredibly useful, but it provides no structure, no patterns, and no coherence with respect to a project's organization and infrastructure and how developers interact within a team. Knowledge of Ant has been heavily invested in and is something that needs to be leveraged. Maven provides the perfect marriage of Ant's utility and sensitivity to a project's organization and infrastructure.

A project's infrastructure includes how sources are laid out in the file system, where documentation is placed, how dependencies are managed, how resultant artifacts are managed, how continuous integration is managed, how issue management is integrated, how this all ties together in the IDE for your developers to make them productive, and more. Ant can be utilized to provide functionality for each of these aspects, but the critical difference with Maven is that it provides the framework and patterns to tie all these aspects together to create a system that helps your team understand the important interactions between these aspects for greater productivity.

This session describes in detail a project that was approaching crisis at a very large financial services company, where one of the most important builds was converted from Ant to Maven to alleviate the crisis. The crisis was the result of an "inner platform effect": the build created with Ant had become so complex that it was almost impossible for anyone besides its creators to modify it. The presentation covers the strategies for converting very large builds, available tools to aid in the migration, and the resultant benefits of the final migration.

: track seven : Open Source

TS-5712 How to Build, Run, and Develop Code with the phoneME Open Source Project  
 TS-7080 Open Source SOA Realized  
 TS-7082 Building JavaServer Faces Applications with Spring and Hibernate  
 TS-7361 Writing Java Platform Applications for Ubuntu  
 TS-7496 Joyful Metamorphosis: Migrating a Large Enterprise Build from Ant to Maven

## Open Source

### TS-7557 **OpenOffice.org Extensions with NetBeans Software**

Juergen Schmidh, *Sun Microsystems, Inc.*

This session shows how developers can use the OpenOffice.org NetBeans software integration module for developing with and for OpenOffice.org/StarOffice software.

The popularity of the standardized (OASIS and ISO/IEC 26300) Open Document Format for Office Applications (OpenDocument) is growing. This also drives the popularity of OpenOffice.org in government agencies and enterprises. Corporate users often demand the integration of office productivity into existing workflows and applications and also often require additional functionality or special customizations of existing features.

OpenOffice.org offers a language-independent application programming interface (API) that enables programming of OpenOffice.org in the Java programming language. It makes it possible to use OpenOffice.org as a service provider in other applications, extend it with new functionality, or simply customize and control OpenOffice.org.

Typical use cases are document creation, conversion, or printing from remote client applications (typical server scenarios). You can also embed office functionality into your own Java technology-based applications to make use of the rich feature set—for example, using the editor of the word processor application with all of its features in your own application. Or you can intercept and replace existing commands with your own implementations. For example, you can replace the standard save/load commands to save/load directly into/from a document management system (DMS). Alternatively, it is possible to insert additional save/load menu entries to support the DMS. Are you thinking about embedding your own Java technology-based components into an OpenOffice.org writer document? Embed such components and activate them in an external window. The use cases can be extended easily, and it is obvious that the OpenOffice.org and Java technology worlds can benefit from each other.

The OpenOffice.org NetBeans integration module helps you use this API most effectively from the NetBeans integrated development environment (IDE). The session shows you how to

- Use wizards to create complete extensions for OpenOffice.org
- Deploy extensions directly from the NetBeans IDE into a running office program
- Debug the running extensions in the NetBeans IDE
- Use a remote client application to use OpenOffice.org as a server
- Create Java technology-based macros for OpenOffice.org in the NetBeans IDE
- Deploy the macros directly from the NetBeans IDE into OpenOffice.org documents
- Debug running macros in the NetBeans IDE

### TS-7622 **Java Technology Libre Panel**

Geir Magnusson, Jr., *Apache Software Foundation*

Tom Marble, *Sun Microsystems, Inc.*

Dalibor Topic, *Max Planck Institute for Computer Science*

Tom Tromey, *Red Hat, Inc.*

Mark Wielaard, *Free Software Foundation*

For the last 10 years, various projects have been working on free implementations of the Java programming language compilers, runtimes, and libraries. The recent Sun release of its Java SE implementation under GPLv2 adds the specification's reference implementation to the growing community of Java SE implementations. Come to this session to hear leading voices of the F/LOSS Java SE community discuss the effects of the move, collaboration points, where we want to go, and how to get there. The presentation also discusses what cooperation can lead to and how to retain an environment that fosters collaboration, innovation, and compatibility.

### TS-7755 **Advanced Spring Framework**

Rod Johnson, *Interface21*

The Spring Framework is the most popular application programming framework for development on the Java platform and Java EE, with widespread usage across many industries. Spring, an open source product published under the Apache Software License, enables POJO-based development while making it easy for developers to access advanced enterprise services.

In this presentation, Rod Johnson, the father of Spring and CEO of Interface21, talks about advanced features of the Spring component model and how it provides a basis for meeting the rapidly evolving needs of modern applications. Spring provides a universal POJO programming model that is equally at home in Java EE application servers, lightweight web applications, grid compute farms, batch processing, and rich client applications, providing a unique ability to implement business logic in simple objects while leveraging the power of enterprise technologies.

Johnson explains the Spring component model before discussing the following topics:

- The many value-adds the Spring component model offers, such as exporting Java Management Extensions (JMX) technology MBeans and remote endpoints without the need for any coding in the Java programming language
- The many extension points the Spring component model offers and how they benefit developers
- The extensible XML configuration support added in Spring 2.0 and how it benefits large applications and the many third-party products building on Spring
- Spring's unique support for implementing any component in a choice of dynamic languages that run on the Java platform
- Scaling out the Spring component model to grid computing
- Scaling out the Spring component model for SOA, using Enterprise Service Bus (ESB) and Service Component Architecture (SCA) technology

Attendees learn how Spring-based applications are ready for the challenge of tomorrow. Johnson shows code examples throughout the presentation, leaving attendees ready to try these features out for themselves.



[CLICK HERE](#) to view real-time session information and updates.

## Open Source

### TS-7820 The Apache Harmony Project

Tim Ellison, IBM UK Ltd.

Geir Magnusson, Jr., Apache Software Foundation

Apache Harmony is an effort of the Apache Software Foundation to build a compatible implementation of Java SE 5. The project's goals include creating an open, modular architecture that supports interoperability between multiple implementations of the Java virtual machine (VM) and multiple implementations of the Java SE class library. Defining a strong modular architecture enables a disparate set of developers to collaborate on producing a compliant Java technology implementation.

This presentation describes techniques for defining the major functional areas of Java SE and gives a status report on the implementation's progress to date. It shares some of the technical lessons learned in the Apache Harmony project to facilitate interoperability between open source and proprietary Java VMs and class library code. It demonstrates how the VM interface and class library architecture achieve the right degree of independence while ensuring that implementation choices are not compromised.

The presentation is of interest to practitioners and developers with an interest in open source innovation involving the Java platform and includes a demo of the Harmony code to date.

### BUS-7845 Defining Open Source Business Models and Their Critical Success Factors

Donald Smith, Eclipse Foundation

To be successful in any business, an organization needs not only a successful business model but also a successful strategy. Strategy is about being able to differentiate oneself in a way that is difficult or impossible to replicate. Business models, however, are generally more understandable and provide a great area for study.

This session presents the results of some important research being undertaken at Carleton University in the area of open source business models. It first presents a method for classifying and describing business models related to open source. After laying the groundwork for describing business models, it examines the critical success factors that enable organizations to be successful in each. These critical success factors have been discovered through a qualitative study of many organizations within the various business models.

### TS-7900 Apache OFBiz: Real-World Open Source Java Platform ERP

David Jones, Sun Microsystems, Inc.

Ean Schuessler, Brainfood, Inc.

Bruno Souza, Sun Microsystems, Inc.

This presentation covers the use of Apache Open for Business in a bid to achieve global domination of all business processes for the open source Java platform. OFBiz provides a complete enterprise resource planning (ERP) system written in the Java programming language that is ready for industrial application. The session discusses the origin of OFBiz in Len Silverston's universal data model work and examines its sophisticated infrastructure for managing e-commerce, catalogs, promotion and pricing, orders (sales and purchase), customers (customer relationship management), fulfillment, accounting, manufacturing, work efforts, and content.

The presentation also discusses the implications of an open source universal data model and the gains in productivity from using preexisting code versus the inherent challenge of learning a large system. It considers how high-quality open source ERP potentially alters the build-versus-buy question in engineering the enterprise. And it touches on the potential of sharing best practices with vendors, suppliers, and even competitors through source code.

The session includes a demonstration rooted in actual implementation and application rather than high-level business speak. It shows the similarities between the OFBiz Entity Engine and other object/relational containers as well as the fundamental (classless) differences. It also examines the OFBiz Service Engine model, how it deeply ingrains a service-oriented architecture in OFBiz, and the aspect-oriented programming implications of OFBiz entity condition actions and service condition actions.

The demonstration provides a tour of these capabilities and shows how the (off-the-shelf) functionality can be modified to handle specific business problems. It shows an e-commerce system created to provide knowledge management for a large construction company. The system manages more than 8,000 employees, who collectively produce 35,000+ home starts and more than \$7 billion dollars in yearly revenue. Attendees see the application of the content management system and CRM models for a 14-city technical conference and look at a legal contract management system built with the OFBiz workflow management system. Each effort demonstrates how the preexisting business logic greatly reduced the amount of programmer effort necessary to complete the system.

: track seven : Open Source

TS-7557 OpenOffice.org Extensions with NetBeans Software

TS-7622 Java Technology Libre Panel

TS-7755 Advanced Spring Framework

TS-7820 The Apache Harmony Project

BUS-7845 Defining Open Source Business Models and Their Critical Success Factors

TS-7900 Apache OFBiz: Real-World Open Source Java Platform ERP

## SERVICES AND INTEGRATION



SOA architectures are being realized in implementations of high-value connections between enterprises. These e-business collaborations present a challenge not typically considered when SOA is discussed. Developers must start creating global applications. In addition, the delta between external collaboration and internal integration is disappearing. In effect, developers are beginning to converge on a single global application development model.

This track's sessions address the developer community's need for creating pragmatic e-business services with Java technology. Among the topics are the following:

- Best practices for implementing composite applications conforming to service-oriented architecture principles
- Securing global collaboration
- The design of message-based collaborations independent of platform and service implementation
- Best practices in policy enforcement
- Tools and technologies for implementing e-business services for functions such as orchestration, routing, rules, validation, and data access
- The use of REST and Web 2.0 techniques to solve e-collaboration problems
- What facilities provided by web services and SOA have been found to be of the most value in solving e-collaboration problems
- New approaches and technologies such as SCA and Java Business Integration (JBI)
- Interoperability

## Services and Integration

### TS-7080 Open Source SOA Realized

Soren Hartvig, *Capgemini*  
Poul Moller, *Capgemini*

This session dives straight into the middle of a real-world open source SOA implementation, showing all the facets of how the SOA Big Rules are attained within the solution.

It presents an in-depth walk-through, including examples and demos, of

- How to implement large xmlschema-driven document/literal web services, using partly Java EE 5 and partly Java 2 Platform, Enterprise Edition (J2EE) 1.4
- How security is enabled through certificate-based authentication with WS-Security
- How the services are orchestrated with WS-BPEL
- How JSR 168 portlets leverage the end-user experience and how these are exposed by use of Web Services for Remote Portlets (WSRP)

The solution is based strictly on open source software, and the session includes a guide for picking the right frameworks and the right products from the myriad available.

Prerequisites: Knowledge of Java technology, IDEs, XML; interest in SOA

### TS-8131 Java Technology and Web Services Security in Action

William Bathurst, *Oracle*  
Marc Chanliau, *Oracle*  
Tugdual Grall, *Oracle*  
Vikas Jain, *Oracle*

In service-oriented architecture (SOA), security and especially identity propagation are among the challenges IT organizations face today. Java EE and Java SE provide standards and best practices, such as Java Authentication and Authorization Service (JAAS) and Java Authorization Contract for Containers (JACC), to ensure security in the platform, and web services also provide WS-Security standards for achieving secure communication and identity propagation. In this session, you find out how you can achieve identity propagation between services and business processes by using Java technology.

The session introduces you to the various security standards of the Java platform and web services and demonstrates them in action by using an end-to-end scenario involving Java SE, Java EE applications (JAX-WS), business processes (BPEL), and the Enterprise Service Bus (ESB). You see how Java technology-based security can be used in conjunction with WS-Security standards to encrypt, sign messages, and propagate the identity of users between the various actors of a classical SOA-based application.

[CLICK HERE](#) to view real-time session information and updates.

## Services and Integration

### TS-8194 Spring and Service Component Architecture as the Basis for Distributed Services Applications

Adrian Colyer, *Interface21*  
Mike Edwards, *IBM*  
Hal Hildebrand, *Oracle*

The Spring framework offers an excellent way of assembling coarse-grained components, which, in turn, can form part of a larger application. Service Component Architecture (SCA) offers a simple way of composing individual components together in a distributed runtime. Together, Spring and SCA form a powerful combination for the creation of distributed and composed business solutions using web services and other services protocols. This session demonstrates the step-by-step construction of a distributed order-processing application using Spring beans and SCA composites, showing the advantages of the separation of concerns between the detailed business code within the Spring beans and the solution configuration information held within SCA composites.

### TS-8216 Why Do I Need Java Business Integration (JBI) When We Have BPEL?

Andreas Egloff, *Sun Microsystems, Inc.*  
Peter Walker, *Sun Microsystems, Inc.*

This session explores and answers one of the most popular questions posed to the JBI team at last year's JavaOne conference: Does JSR 208, Java Business Integration (JBI), compete or overlap with the Business Process Execution Language (BPEL)?

A hands-on walk-through and concrete examples reveal that much consideration went into the design of JBI to serve as an ideal platform for BPEL and that they are, in fact, complementary. The session highlights the capabilities BPEL provides and the advantages JBI adds into the mix.

Attendees learn how the design-time artifacts from a composite application with a BPEL business process map onto JBI artifacts and the JBI runtime. The hands-on walk-through utilizes the Java EE SDK tools bundle to give insight into the role of the BPEL service engine in the context of the JBI framework and other JBI components and shows how the combination forms an effective basis for orchestrating services.

The session also addresses some common questions and misconceptions about how to best utilize JBI and how different users can get started on benefiting from JBI.

### TS-8434 Ajax Push (a.k.a. Comet) with Java Business Integration (JBI)

Andreas Egloff, *Sun Microsystems, Inc.*

This session shows how to push your critical business information out to Ajax clients and the browser—with lower latency and without compromising scalability or system performance.

As the popularity of Ajax applications has grown, it has also increased the interest in techniques to improve upon the need for frequent polling to keep up to date with information changing or arriving on the server. The term *Comet* has been proposed to describe a popular approach to achieving push to the browser.

A concrete walk-through shows how to build such an application based on the latest technology release of Java Business Integration (JBI) in the Java EE SDK tools bundle. Using these tools brings the power of the JBI ecosystem with the BPEL and business activity monitoring service engines to your web application.

The presentation also illustrates the challenges of a push-style interaction—such as scaling, security, and effects on the network and server; additionally, it describes the approaches used in the implementation to avoid these pitfalls.

### TS-8440 Decorating Your SOA Services with Governance Enforcement Contracts

Michael Wheaton, *Sun Microsystems, Inc.*

Service-oriented architecture (SOA) is becoming the prevailing choice of IT enterprises, and the success of the transition to an SOA is based on the quality of the SOA governance solution. This session highlights why SOA governance is crucial for the successful transition to SOA. It also discusses how to build policy enforcement contracts that can customize how service consumers and producers are able to interact with existing enterprise services.

The session explores how Java EE enterprise architects and developers can build and leverage an SOA governance strategy to manage, share, and enforce policies for the key service artifacts across the enterprise. It shows how to effectively manage the design time, runtime, and management time aspects of the governance infrastructure.

The presentation focuses on tips, best practices, and strategies for how to develop policy enforcement contracts across internal or external services in the enterprise and thus enhance the value of your Java EE enterprise. It looks at how to apply SOA governance to your ESB, BPM, and portal strategies.

The session addresses the following SOA governance strategies and best practices:

- Service classification and taxonomies for publishing and discovering services
- Managing the service life cycle
- Addressing version management and method customizing
- Policy definition and management of nonfunctional systemic qualities
- Creation and usage of governance contracts with enterprise services

Finally, the presentation explores real-world examples of how SOA governance improves the success rate of SOA transition based on customer case studies.

## : track eight : Services and Integration

- TS-7080 Open Source SOA Realized  
TS-8131 Java Technology and Web Services Security in Action  
TS-8194 Spring and Service Component Architecture as the Basis for Distributed Services Applications  
TS-8216 Why Do I Need Java Business Integration (JBI) When We Have BPEL?  
TS-8434 Ajax Push (a.k.a. Comet) with Java Business Integration (JBI)  
TS-8440 Decorating Your SOA Services with Governance Enforcement Contracts

## Services and Integration

### TS-8450 Pragmatic Advice for Implementing SOA: Lessons Learned from the Common Services Team at American Airlines

Steve Moats, *American Airlines*  
Brian Polster, *Credera*

In 2004 the American Airlines Customer Technology Group was looking for a way to better leverage its resources. The group, which was responsible for all customer-facing systems, such as AA.com, IVR, and airport kiosks, had systems with similar functionality but different sets of analysts, developers, and quality assurance teams. AA started a Common Services team to address the duplication within these systems. The team soon faced several technical and organizational challenges.

This presentation focuses on the lessons learned by this team over the past two years, detailing how it dealt with the following issues:

- Service variation—how to handle business rules that vary between departments
- Service versioning—how often to release services; how to manage impacts to client systems
- Deploying services—it's OK not to use web services (some of the time)

### TS-8459 Service Virtualization: Separating Business Logic from Policy Enforcement

Michael Gionfriddo, *Sun Microsystems, Inc.*  
Ron Ten-Hove, *Sun Microsystems, Inc.*

Creating services is only half the battle in providing them to users. Beyond the core service, a wide variety of policy enforcement mechanisms is needed to address security, privacy, and manageability concerns.

This session discusses a new approach to service provision: service virtualization. This separates the core logic of a service from enforcement of policies by introducing a virtual services layer, allows policies to be treated as an operational aspect of service delivery, and avoids “code churn” when policies change. This architecture provides unique features for addressing some of the most annoying problems encountered in delivering and evolving services.

### TS-8541 A Step Along the Way: Using Ajax, Portals, and Services to Provide Better Network Management

Anton McConville, *Nortel*

At the 2006 JavaOne conference, Scott McNealy noted that if we could offer each of the children in Africa a laptop and link them to the internet, there wouldn't be enough system administration in the world to support the resulting network. He challenged us to use web services, thin clients, and network computing to help.

Supporting our communications networks has become a growing problem even with the networks we're building in offices and cities.

- The number of devices that are networked is increasing.
- The range of devices in the network is widening.
- Devices have evolved from dedicated solid-state boxes to programmable and customizable solutions.

There are currently only limited convenient means of fluidly managing and relating these interfaces to each other. Network components ship with their own management tools, the presentation and access of those tools differ, and they don't contribute their data to each other.

This problem hasn't gone unnoticed at Nortel (a major telecom equipment provider).

This presentation explores how one team leveraged Web 2.0 concepts within a large corporation with a strong telecom hardware culture and history to strive toward a more capable management solution.

The presentation tells a story and discusses the ingredients: Enterprise JavaBeans (EJB) 3.0 architecture, Ajax/portal-based user interface, service-oriented architecture, and agile development environment. It navigates through the terminology, cuts through the hype, and shows some bold decision-making here and there.

The session also demonstrates parts of the solution. A simple service is built and deployed to show how the technology fits together and how service orientation can help improve network manageability.

Although this solution doesn't close the digital divide in any immediate way, it rises to McNealy's challenge and hints at how we can grow to make the network smarter over time. It is a step along the way.

Attendees should be aware of, and interested in, web services, enterprise Java technology, portals, and Ajax.

[CLICK HERE](#) to view real-time session information and updates.

## Services and Integration

### TS-8544 Integration Gets All Mashed Up: Bridging Web 1.0 and Web 2.0 Applications

Andreas Krohn, *Kapow Technologies*

Today, using a web browser has become the most dominant way to access content and applications in the enterprise. It is common for companies to let their employees, partners, and customers access all kinds of information and services via the web. However, as the number of web systems explodes, both inside and outside the firewall, it is not always easy to get them to work together in an integrated fashion, because they are often built by different departments and organizations using a variety of technologies.

The back-end systems behind the web interface, the traditional integration point, are typically a conglomeration of incompatible operating environments, data structures, development tools, and software architectures. Traditional approaches to integration are costly, brittle, tightly coupled, and largely unsatisfying to IT organizations and developers.

Developers who attend this session learn about a new approach to application integration called mashups. Mashups focus on integration through the web-based front end, using the most common web interfaces available today: HTML, HTTP, Ajax, REST, SOAP, RSS, ATOM, and the JavaScript programming language. They enable any application component with a web interface to be quickly and easily repurposed or integrated, including web-based content, data, or business logic.

This session demonstrates the use of Swing-based wizards to create the following mashup styles, each suited to solve specific types of integration problems:

- **Presentation-layer mashups.** Presentation-layer mashups extract and assemble various parts of applications and web sites and other assets available via HTTP to create internal portals, wikis, and customer-facing sites. "Clip" content or extract data from any web site, incorporate Ajax for client-side efficiencies, and deploy as JSR 168- and WSRP-compliant portlets with a few mouse clicks.
- **Logic-based mashups.** This class of mashups provides programmatic access to business logic through existing SOAP interfaces provided by the source application or by wrapping legacy application logic as a REST-based service when no service interface exists. These mashups can be created without changes to the underlying code of the legacy application and require no control of the source application environment, providing a cost-effective bridge between Web 1.0 and Web 2.0 applications.
- **Data/content-based mashups.** These mashups join content from two or more sources and either combine them into a new data repository or transfer the data to a new place or application.

The programming model for mashups is different from that of web applications or web services. Although many of the same Java technology-based components—such as JSP technology, servlets, portlets, and the JavaScript programming language—are used, the application platform is the web itself, with the application paradigm being one of incremental reuse and rapid deployment, as opposed to development from scratch. Mashups represent the leading edge of Web 2.0 application development and offer tremendous productivity advantages for enterprise developers.

### TS-8554 Building, Assembling, and Deploying Composite Service Applications

Michael Beisiegel, *IBM*  
Michael Rowley, *BEA Systems*

Businesses are placing increasing demands on developers to enable service collaboration across diverse organizations using a variety of technologies such as Java technology, Microsoft .NET, PHP, Ruby, and JavaScript technology. Although web services provide protocol interoperability, developers face a series of challenges in building, assembling, and deploying applications in distributed service environments. This session demonstrates how SCA goes beyond web services to address these challenges. Taking a hands-on approach, it shows how SCA provides a language-independent service development model, an assembly model for tying together services written in a variety of languages, and a deployment model for composite applications.

### TS-8612 jPDL: Simplified Workflow for Java Technology

Tom Baeyens, *JBoss, a Division of Red Hat*

Are you considering developing a homegrown workflow engine? Then you should definitely attend this session first. Java Process Definition Language (jPDL) is a language for expressing long-running processes. Unlike most orchestration technologies, jPDL focuses on plain Java technology and includes sophisticated task management capabilities. Attendees learn in which scenarios jPDL is more appropriate than BPEL or other process languages.

Human tasks and other forms of wait states are typically quite a hassle in server-side programming. Developers have to think in terms of requests and manually maintain the user tasks in a database. In the structure of a server-side application, it's very hard to get a picture of the overview. jPDL gives you back that overview. Handling an insurance claim, submitting and handling an expense note, or going through a lawsuit are good examples of long-running processes. jPDL allows users to express the overall execution of these processes in terms of the JavaBeans architecture, user tasks, and other forms of wait states. These processes can be edited and viewed graphically. jPDL leverages the unified expression language (EL) to easily bind your POJOs to the process flow, and it leverages Hibernate to store the state of the long-running processes in the users' database.

On the one hand, jPDL has all the required features for business process management (BPM), but on the other hand, jPDL is also designed to fit like a glove on standard and enterprise Java applications. Ease of use for developers on the Java platform is often neglected in BPM offerings, and jPDL solves this problem.

## : track eight : Services and Integration

- TS-8450 Pragmatic Advice for Implementing SOA: Lessons Learned from the Common Services Team at American Airlines
- TS-8459 Service Virtualization: Separating Business Logic from Policy Enforcement
- TS-8541 A Step Along the Way: Using Ajax, Portals, and Services to Provide Better Network Management
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- TS-8554 Building, Assembling, and Deploying Composite Service Applications
- TS-8612 jPDL: Simplified Workflow for Java Technology



## Services and Integration

### TS-8683 Introduction to CASA: An Open Source Composite Applications Editor

Tientien Li, *Sun Microsystems, Inc.*  
Jun Qian, *Sun Microsystems, Inc.*  
Joshua Sandusky, *Sun Microsystems, Inc.*

This presentation introduces the Composite Application Service Assembly (CASA) editor, a new component of the NetBeans Enterprise Pack 5.5.1 release. The CASA editor greatly simplifies the workflow needed to build composite applications for the Java Business Integration platform. It provides an innovative visual design environment in which to compose business logic implemented in Enterprise JavaBeans (EJB) technology, BPEL, XSLT, and other domain-specific languages to build composite applications. The editor enables developers to quickly perform tasks such as

- Modifying the connectivity between service unit endpoints
- Modifying binding component concrete WSDL attributes
- Attaching WS policy definitions to bindings
- Making connections to third-party service units

This session is a combination of tutorials and demonstrations. It first introduces key features of composite application and then uses examples to demonstrate how to implement them in CASA. The discussion is divided into three parts to cover basic concepts, external connectivity, and internal connectivity.

For audience members unfamiliar with some of the subjects discussed in the session, a brief overview of composite applications, Java Business Integration, and the NetBeans Enterprise Pack release is included.

### TS-8835 SCA/SDO and Java Technology: Complementary Technologies That Drive Open SOA Environments

The Open SOA collaboration (OSOA, [www.osoa.org](http://www.osoa.org)) is an informal group of 16 companies whose charter is to define specifications that can establish a standard architecture and programming model for building components and simplifying the creation of SOA environments. The collaboration is targeting primarily two areas: Service Component Architecture (SCA) and Service Data Objects (SDO).

In this session, members of the collaboration are participating in a moderated panel discussion in which they help the developers, architects, and assemblers in the audience understand the promise of the SCA and SDO architecture and programming model, its relation to Java technology, and in particular whether and how it benefits the community of developers using the Java programming language.

### TS-8840 Services Interoperability with Java Technology and .NET: Technologies and Tools for Web 2.0

Gerald Beuchelt, *Sun Microsystems, Inc.*  
Marina Fisher, *Sun Microsystems, Inc.*

With the majority of enterprise and web developers focusing on Ajax, Java technology, and Microsoft .NET, it's important to achieve interoperability across these technologies. This session covers three main topics:

- Web 2.0 interoperability challenges, focused on various levels of interoperability within the Ajax environment, encompassing the inconsistency of the Ajax widget behavior at the browser and OS level. The ability to aggregate content across multiple service transport protocols and data interchange formats. Gap and emerging technologies, such as OpenSSO, OpenID/SAML, Liberty, and CardSpace, with respect to Web 2.0 application SLA.
- Services interoperability based on Java and .NET technologies. Detailed discussion of the interoperability coverage of Sun's Web Services Interoperability Technologies (WSIT) and Windows Communication Foundation (WCF). Services' essential security; reliability; atomic transaction; other quality-of-service requirements; and the ability to remain interoperable across Java EE and .NET platforms.
- How to build an Ajax application by using a NetBeans software Project jMaki framework and consume a .NET web service built with Microsoft Visual Studio. How to build an ASP.NET Ajax application and consume a Java technology-based web service. A demo and overview of REST- and SOAP-style messages, complete with code for these two scenarios.

In conclusion, the session highlights best practices for achieving interoperability on the client and server sides. This includes specific protocol and technology compatibility assessment, requirements review and risk assessment, and cross-platform validation, as well as unit and integration testing of the individual services and Ajax components.

[CLICK HERE](#) to view real-time session information and updates.

## Services and Integration

### TS-8849 Fun and Profit with the Google Checkout API in Java Technology

Patrick Chanezon, *Google*

The Google Checkout API is a REST XML API that uses a combination of synchronous and asynchronous messages to integrate your web site with Google Checkout. Depending on the level of integration you want, it can be the simplest or the most complex of the Google APIs. Because it is two-way, it is also the most interesting and challenging from a technical point of view. It is an excellent real-life example of web applications' interacting with a web-scale service through XML message choreography.

Developers can get bonuses for helping merchants integrate: fun and profit!

Google Checkout is a checkout process you integrate with your web site, enabling your customers to buy from you quickly and securely by using a single username and password. This presentation describes the service and its integration with AdWords.

The Google Checkout API enables you to integrate your web site with the Google Checkout Service, from simple static checkout buttons to full-fledged two-way integration. The API covers many functionalities, from shopping cart posting to merchant-calculated shipping and taxes and order management. Because the API is two-way, your service's endpoint will be called by Google for notification or merchant calculations.

The session describes the Java technology-based open source project, demonstrating how to perform a level-2 Google Checkout integration in your Java technology-based online store. The client library uses Java Architecture for XML Binding (JAXB) for XML parsing and generation. The presentation explains the architecture of a typical Java technology-based client application. As an example, the Java technology-based PetStore sample application is enhanced during the session to integrate Google Checkout level 1 and some aspects of level-2 functionalities.

A sample Ajax application developed on the Java platform by use of Google Web Toolkit is dissected: it uses the simpler HTML API to generate "Buy Now" buttons from a catalog in comma-separated-value format.

Developers can get consulting opportunities to help vendor integration, and through the e-commerce providers incentives program, they can also earn Google bonuses for signing up merchants.

This session is for intermediate to advanced server-side developers on the Java platform who have some skills in web services and XML and some interest in online commerce. Attendees will come out of this session with a precise idea of what the Google Checkout service provides, what operations the API enables, and how to create a complete Google Checkout integration in Java technology.

### TS-8882 Implementing Interoperable SOA in Your Enterprise

Mohammad Akif, *Microsoft*  
Kevin Wittkopf, *Microsoft*

This session discusses establishing an SOA in an enterprise that has Java technology-based and Microsoft .NET services and systems. It provides practical guidance and strategies for implementing enterprise features such as reliable messaging, propagation of security credentials, production and consumption of services, and transactional behavior across technology and platform boundaries. The session is targeted at senior developers who have advanced programming skills and are tasked with making design decisions about interoperability. It uses real-world examples and demonstrations of how to realize a hybrid SOA; the attendees are expected to know and understand the principles of SOA and have an intermediate-level understanding of common WS-\* standards, because the presentation does not provide an introduction to the core ideas behind SOA.

### TS-8897 Designing Service Collaborations: The Design of "Wire"-Centric Integration

Mark Hapner, *Sun Microsystems, Inc.*  
Gopalan Suresh Raj, *Sun Microsystems, Inc.*

Integration design used to be focused on the design of middleware that connected applications. Today the "wire" design of the message exchanges between collaborating services is the core architectural element of integration. The Internet and the messaging standards it has driven allow integration wire design to be global, nonproprietary, and platform-independent. A service collaboration design formally captures the functional, infrastructure, and protocol layers of the message exchange wire that connects the services that implement one or more of the collaboration's roles. This session presents an overview of collaboration wire design and walks through an example to illustrate how it is done in practice.

## : track eight : Services and Integration

- TS-8683 Introduction to CASA: An Open Source Composite Applications Editor
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- TS-8849 Fun and Profit with the Google Checkout API in Java Technology
- TS-8882 Implementing Interoperable SOA in Your Enterprise
- TS-8897 Designing Service Collaborations: The Design of "Wire"-Centric Integration

## TOOLS AND LANGUAGES



Application development techniques are progressing rapidly, requiring developers to write better code in less time while trying to stay abreast of many emerging programming technologies. In this track, developers have the opportunity to learn how to apply traditional Java programming environment tools and new dynamically typed (scripting) languages to enhance productivity for developing for and deploying to the Java platform; accelerate development of cross-platform applications; and rethink how sophisticated applications should be written.

The sessions and BOFs in this track offer best practices and methodologies for driving development productivity and cover a broad range of technical areas such as the following:

- Collaboration
- Integrated development environments (IDEs)
- Modeling systems
- Monitoring solutions
- Performance analysis tools
- Plug-ins
- Scripting languages
- Source code editors
- Cool tricks

## Tools and Languages

### TS-1742 Cool Things You Can Do with the Groovy Dynamic Language

Guillaume Alléon, *EADS Corporate Research Centre*  
 Dierk König, *Canoo Engineering AG*  
 Guillaume Laforge, *OCTO Technology*  
 John Wilson, *Wilson Partnership*

Dynamic languages give you powerful capabilities that statically typed languages can't offer. Groovy, the agile dynamic language for the Java Virtual Machine (JVM), offers dynamic capabilities unmatched by the Java programming language itself, and in this session, you discover nice tricks you can do with it. For instance, you find out how easy it is to consume and expose SOAP or XML-RPC web services, parse or produce XML documents, create Swing UIs in no time, script ActiveX or COM components to interact with your Microsoft Office applications, or create handy reusable templates.

### TS-8612 jPDL: Simplified Workflow for Java Technology

Tom Baeyens, *JBoss, a Division of Red Hat*

Are you considering developing a homegrown workflow engine? Then you should definitely attend this session first. Java Process Definition Language (jPDL) is a language for expressing long-running processes. Unlike most orchestration technologies, jPDL focuses on plain Java technology and includes sophisticated task management capabilities. Attendees learn in which scenarios jPDL is more appropriate than BPEL or other process languages.

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[CLICK HERE](#) to view real-time session information and updates.

## Tools and Languages

### TS-9086 Advanced JRuby: Metaprogramming Magic Unleashed

Charles Nutter, *Sun Microsystems, Inc.*

JRuby has enabled all the magic and power of the Ruby language to apply to Java libraries and frameworks. In many cases, this means simply calling from Ruby code into Java code as you would with a Java technology-based application. But this represents only a fraction of Ruby's potential, ignoring perhaps its more powerful feature: metaprogramming.

Ruby incorporates metaprogramming as part of the core language, allowing methods and classes to be written and rewritten at runtime. It allows creation of handlers for missing methods or missing constants, crucial for efficiently supporting domain-specific languages. It also enables code to be evaluated within many different contexts, allowing a quick and painless way to create new code from simple strings, even inside existing classes and objects. Metaprogramming is core to nearly every major Ruby application and sets Ruby apart from other languages on the Java Virtual Machine.

This session demonstrates Ruby's metaprogramming features as applied to the Java platform and its libraries. It walks through creating a simple domain-specific language, explores the design of builder syntaxes, and shows how to instantly wrap Java libraries by using metaprogramming techniques. It also discusses the power and potential of metaprogramming and shows a few mind-blowing examples of Ruby's future on the Java platform.

### TS-9363 Java Platform Performance on Multicore: Better Performance or Bigger Headache?

Azeem Jiva, *AMD*

Java technology-based applications are not easy to optimize, especially on multicore processors, with issues ranging from garbage collection and Java Virtual Machine (JVM) options to quality of generated Java code. Multiple cores should improve Java technology performance, but when performance doesn't materialize, developers are left wondering what's going on.

AMD CodeAnalyst Performance Analyzer allows developers using the Java programming language to correlate time-based profiles, event-based profiles, generated (JIT) code, and other hardware issues back to their original Java source code. This session discusses intelligent use of AMD CodeAnalyst Performance Analyzer to investigate ways of improving Java platform performance with multicore machines.

Highlights include hardware counters, thread investigations, the effects of changes on generated code, and investigating hot methods. By the end of the session, developers will have an understanding of how to improve the multicore-machine performance of their programs written in the Java programming language.

### TS-9370 JRuby on Rails: Agility for the Enterprise

Thomas Enebo, *Sun Microsystems, Inc.*  
Charles Nutter, *Sun Microsystems, Inc.*

Web development has never been easier than with Ruby on Rails. From the first day, you have a runnable application, complete with development server. Code generators create skeletons, configurations, templates, and tests for your fully-MVC project. The generated code itself is perhaps a tenth of the size of other frameworks'—sometimes even smaller than those frameworks' configuration files alone. Rails developers are happier and more productive than those working on other platforms. And best of all, it's written in the powerful and elegant Ruby programming language.

Now Rails has arrived on the Java platform. JRuby on Rails brings the agility of Rails to Java technology-based servers and applications, from the simplest web applications to the largest enterprise deployments. It promises agility for web tier developers across all organizations, in addition to the ease of use and proven scalability of Java technology-based application servers. This presentation discusses how JRuby on Rails brings the Rails revolution to the Java platform, in all its splendor.

### TS-9452 Visual Development and Deployment of Advanced Mobile Applications

David Kaspar, *Sun Microsystems, Inc.*  
Robert Virkus, *Enough Software*  
Milesz Weckowski, *Jamba GmbH*

Visually designing mobile applications is often considered technology used only by novices in the mobile arena, but it can also be leveraged for developing advanced mobile applications dealing with device fragmentation issues. Creating a compelling mobile application is only the first step; you also need to sell it.

This session discusses and demonstrates available options for visually creating mobile applications. It looks at generated code and shows how to overcome device fragmentation issues. You also learn about deployment in the real world and how to sell your application, from one of the biggest content aggregators in the world.

The presentation implements, designs, and deploys a mobile RSS reader—all done live with available open source software such as NetBeans software and Java 2 Platform, Micro Edition (J2ME) Polish. You will walk away not only with in-depth knowledge about the latest tools but also with a mobile RSS reader that you can download at the end of the session.

## : track nine : Tools and Languages

TS-1742 Cool Things You Can Do with the Groovy Dynamic Language

TS-8612 jPDL: Simplified Workflow for Java Technology

TS-9086 Advanced JRuby: Metaprogramming Magic Unleashed

TS-9363 Java Platform Performance on Multicore: Better Performance or Bigger Headache?

TS-9370 JRuby on Rails: Agility for the Enterprise

TS-9452 Visual Development and Deployment of Advanced Mobile Applications

## Tools and Languages

### TS-9511 Using Ajax with POJC (Plain Old JavaServer Faces Components)

Matthew Bohm, *Sun Microsystems, Inc.*  
Craig McClanahan, *Sun Microsystems, Inc.*

This session demonstrates methods for building dynamic web user interfaces by using Ajax techniques with JavaServer Faces components not designed with Ajax interactions in mind. It discusses several approaches to supporting partial page submit and partial page refresh capabilities, including support for these techniques in IDEs.

### TS-9516 Using jMaki in a Visual Development Environment

Ludovic Champenois, *Sun Microsystems, Inc.*  
Craig McClanahan, *Sun Microsystems, Inc.*  
Gregory Murray, *Sun Microsystems, Inc.*

Over the last year, Greg Murray's jMaki project (at [ajax.dev.java.net](http://ajax.dev.java.net)) has gotten increasing attention, because of its elegant solution to the hardest problems in using Ajax—an interface common to many of the popular client-side JavaScript technology widget libraries that have become available. However, the provided interface still requires application developers to have a significant understanding of client-side issues such as JavaScript technology events and data transport formats such as JSON.

This session describes an approach that can be used to leverage the advanced client-side capabilities that jMaki provides while providing a more productive development experience, especially for developers who are not particularly advanced in terms of client-side technologies. The fundamental technology it provides is wrapping jMaki capabilities in JavaServer Faces components at two levels (a single powerful, generic component and an individual component per widget), plus integration of these components into an integrated development environment (the NetBeans 5.5 IDE), both in a traditional way and with drag-and-drop editing support with the Visual Web Pack plug-in.

### TS-9535 Comparing the Developer Experience of Java EE 5.0, Ruby on Rails, and Grails: Lessons Learned from Developing One Application

Damien Cooke  
Tom Daly, *Sun Microsystems, Inc.*

This session looks at experience gained while developing the same web application in all three frameworks and highlights the benefits and pitfalls of each. Particular attention is paid to where each framework has an advantage; where it is easy or hard to achieve a design point; and where one framework may be better suited than the others, such as for small web applications or for enterprise-class large-scale applications.

The session begins with some brief background on Ruby on Rails and Grails. It covers topics such as tools that are available or likely to become available for each of these frameworks as well as the challenges of volume adoption of each framework.

### TS-9555 Quick and Easy Profiling with Integrated Tools

Jaroslav Bachorik, *Sun Microsystems, Inc.*  
Jiri Sedlacek, *Sun Microsystems, Inc.*  
Gregg Sporar, *Sun Microsystems, Inc.*

Have you ever struggled to figure out why some part of your application runs slowly? Have you ever seen hard-to-reproduce OutOfMemoryErrors that shut down your application?

What do you need to make profiling of a Java application easy? The answer is simple: powerful tools that are well integrated into your development environment. Recent advances in the JDK software have increased the power and flexibility of profiling tools for the Java platform. Further advances in integrated development environments (IDEs) have made profiling tools even easier and more convenient to use. Finding performance problems, threading issues, and memory leaks has never been easier. This session focuses on specific advances in the integration of powerful profiling tools into a Java IDE and includes demonstrations that show specific use cases.

### TS-9585 What's New in Oracle JDeveloper

Shay Shmeltzer, *Oracle*

Over the last year, Oracle has been enhancing Oracle JDeveloper in every possible area, expanding the IDE to cover SOA and Portal in addition to core Enterprise Java. This session updates you on what is new in the recent production versions as well as what you can expect in the upcoming Release 11 version.

Here is a partial list of the features the presentation covers:

- JDK release 6 and Java EE 5 support
- Visual development with Ajax and the JavaServer Faces application
- Enterprise JavaBeans (EJB) 3.0 technology enhancement
- New SOA tools integration
- Blurring the line between JavaServer Faces technology and portlets

The session also discusses the many enhancements to the Oracle Application Development Framework and how it can integrate into your system development. Oracle is relying on JDeveloper to deliver a productive development environment for thousands of developers working on one of the largest Java 2 Platform, Enterprise Edition (J2EE platform) enterprise applications: Oracle Fusion Applications.

See how you can leverage the same capabilities in your development environment.



[CLICK HERE](#) to view real-time session information and updates.

## Tools and Languages

### TS-9624 Practical Parallels: From Development on the Java Platform to Development with the JavaScript Programming Language

Dave Johnson, *Nitobi*

This presentation touches on several key areas of JavaScript technology and Ajax development that are also important topics for Java EE. With greater emphasis placed on rich, Ajax-enabled web applications, enterprise developers are having to learn new ways of testing, debugging, and documenting them. Attendees gain familiarity with some powerful new JavaScript technology development tools—including JSDoc, Selenium, and Venkman—and will understand how they can be put to use in enterprise application development.

The session begins with a look at how test-driven development applies to JavaScript technology and how Selenium can be used to easily create automated tests of user interface components. Next it takes the audience through an in-depth debugging tutorial with Venkman for Mozilla, including use of the Call stack, using watches and breakpoints, and how to inspect variables and the DOM.

Finally, the session demonstrates how JSDoc can be used to easily produce JavaDoc tool-like API documentation using a simple code-comment syntax. The presentation includes a live demonstration of writing and generating some very basic documentation, highlighting some key use cases such as public and private accessors, inheritance, and switches.

The speaker is an author of *Enterprise AJAX*, from Prentice Hall, and CTO of Nitobi, a Vancouver, BC-based vendor of an enterprise-class framework and toolset. He specializes in designing and building high-performance Ajax components and applications for a host of Fortune 500 clients. He has also written for numerous journals and magazines, including [JavaWorld.com](http://JavaWorld.com) and [XML.com](http://XML.com).

### TS-9646 Performance-Tune Your Ajax Application

Robert Buffone, *Nexaweb Technologies Inc.*

As Ajax matures as a technology, its use in large applications has increased significantly. But large applications require more extensive amounts of code, which leads to the inevitable performance bottlenecks and memory constraints associated with nontrivial application development. This session provides detailed information on how to performance-tune large Ajax applications by using a variety of available tools and techniques. Drawing on the experience of having developed large Ajax frameworks, the session looks at a variety of performance bottlenecks that can occur within an application.

It pays special attention to systematic techniques that yield the biggest return in the shortest amount of time, including

- Using Mozilla's Rhino JavaScript technology engine as a complete performance-monitoring tool capable of monitoring complete Ajax code bases
- Injecting monitoring code into every function of JavaScript technology within an application to create a complete performance picture
- Locating performance issues through drill-downs into function call counts, total time spent, average time per call, and call stacks
- Start time optimization using Dojo, gzip, and compression

### TS-9709 Top 10 Reasons to Use NetBeans Enterprise Pack

Doris Chen, *Sun Microsystems, Inc.*

Todd Fast, *Sun Microsystems, Inc.*

Hong Lin, *Sun Microsystems, Inc.*

Chris Webster, *Sun Microsystems, Inc.*

A service-oriented architecture (SOA) enables enterprises to not only solve problems such as connecting to business partners and accessing legacy applications but also to adapt more flexibly to changing business needs. Enterprises need tools to build service-oriented applications and to improve the productivity and quality of development. The NetBeans Enterprise Pack, an open source and freely available plug-in to the NetBeans integrated development environment, has demonstrated many of its robust capabilities, among them a visual round-trip Orchestration Designer for BPEL development; markerless UML modeling; visual XML tooling; visual web service development with a WSDL designer; and design-time support for building identity-enabled, secure web services.

This presentation discusses all aspects of NetBeans Enterprise Pack and the key reasons why enterprise developers should use it. The latest features are demonstrated throughout the presentation. The session should have strong appeal to enterprise developers who want to choose the right tool to ease their SOA application development.

: track nine : Tools and Languages

TS-9511 Using Ajax with POJC (Plain Old JavaServer Faces Components)  
 TS-9516 Using jMaki in a Visual Development Environment  
 TS-9535 Comparing the Developer Experience of Java EE 5.0, Ruby on Rails, and Grails: Lessons Learned from Developing One Application  
 TS-9555 Quick and Easy Profiling with Integrated Tools  
 TS-9585 What's New in Oracle JDeveloper  
 TS-9624 Practical Parallels: From Development on the Java Platform to Development with the JavaScript Programming Language  
 TS-9646 Performance-Tune Your Ajax Application  
 TS-9709 Top 10 Reasons to Use NetBeans Enterprise Pack

## Tools and Languages

### TS-9720 Advanced Groovy

Rod Cope, *OpenLogic, Inc.*

Groovy is a relatively new dynamic object-oriented scripting language for the Java Virtual Machine (JVM) that feels like a mixture of Ruby, Python, and the Java programming language. It gives you the expressive power of Ruby, the simplicity of Python, and direct access to the (enhanced) JDK software and all existing Java code. You can declare variable, argument, and method types if you want static typing or simply leave them off to go fully dynamic. Better yet, use static typing just when you need it, such as when you want to integrate heavily with existing Java code.

It's easy to start using Groovy, but there are lots of goodies that aren't so obvious in the beginning. This session covers things such as currying, single object iteration, dynamic language extensions, enhancing the JDK software, default parameters, advanced closures, and active proxies. The goal is to learn how to take advantage of the really powerful features of Groovy to get things done faster and easier.

Attendees should be familiar with the Java programming language and basic Groovy.

### TS-9782 Ajax and JavaServer Faces Technology Tooling in Eclipse

Jess Garms, *BEA Systems, Inc.*  
Tim Wagner, *BEA Systems, Inc.*

See the latest web and Java EE 5 tooling from Eclipse. This session explores the newest features in the Eclipse Web Tools Platform (WTP) project—including WYSIWYG JavaServer Pages (JSP)/JavaServer Faces technology editing, Ajax tools such as DOM inspection, CSS tracking, and JavaScript language debugging—and support for the Java Persistence API and other Java EE 5 technologies.

The WTP project lead, Tim Wagner, presents a demo-driven talk that explores the WTP feature set, concentrating on those features that enable web application development. Attendees experience the range of support and functionality available with the open source project—no commercial tools are shown. The presentation also covers such platform technologies as refactoring, update sites, and the new JSR 269 implementation in Eclipse.

### TS-9861 Advanced Java Programming Language Refactoring: Pushing the Envelope

Tom Ball, *Sun Microsystems, Inc.*

NetBeans release 6.0 has a new Java programming language model for analyzing and refactoring source code, based on Jackpot technology and the Java 6 technology-based Compiler API, which makes it much easier for developers to create and deploy new refactorings. Now that there is a powerful framework for creating new refactorings, what can be done to push the envelope beyond today's standards? Sun has been working on several new refactorings that address the following:

- Source conversion to Java 5 programming language conventions, including the specifying of generic type information (based on existing usage), use of the enhanced for loop, automatic annotating, and enum detection and conversion
- Locating and repairing security problems in source code
- Moving code to use the Java platform concurrency API
- Refactorings that are controlled by code metrics

This presentation describes the new Java programming language model, how developers can create and deploy their own refactorings, and the current state of the new advanced refactorings.

### TS-9920 Eclipse Europa: New Features and Technical Integrations

Bjorn Freeman-Benson, *Eclipse Foundation*  
Mike Milinkovich, *Eclipse Foundation*

Eclipse, like other popular IDEs (the NetBeans integrated development environment, Microsoft Visual Studio, and so on), continues to improve its base functionality. This presentation covers new and interesting features in the Java technology and web tooling facets of the Eclipse Europa release (scheduled for June 2007). It looks at both the colorful user interface aspect (with pretty slides) and the nitty-gritty extension points aspect (with dense code slides) of these new features.

As the Eclipse ecosystem continues to grow, the set of Eclipse projects grows along with it. The other half of the session is about the technical issues surrounding cross-project interactions: Eclipse is a good single-purpose platform (for example, as a Java integrated development environment), but it really excels as a multipurpose platform. The presentation explains some of the design decisions and technical choices that led to some of the important multipurpose frameworks.

This session makes the safe assumption that the audience members are already familiar with the basics of Eclipse: that it's a Java integrated development environment, that it's a framework for building IDEs (C++, Fortran, PHP, Python, Perl, Tcl, and so on), that it's a framework for tool integration, and that it's a great platform for rich OSGi-based applications on both the client and the server. Assuming that you know all that, the presentation launches into more depth from there.

[CLICK HERE](#) to view real-time session information and updates.

## Tools and Languages

### TS-9944 PHP and Java Technology Integration: A Technical How-To Session with Cofounder and Co-CTO of Zend Andi Gutmans

Andi Gutmans, *Zend Technologies*

Java technology and PHP integration are becoming increasingly important as more and more enterprise projects are reusing existing Java 2 Platform, Enterprise Edition (J2EE) investments on the back end with PHP as a front-end glue technology. In this session, Andi Gutmans, cofounder and co-CTO of Zend, explores an interoperability scenario between the J2EE platform and PHP to teach the essential tools for getting mission-critical applications running quickly.

Gutmans presents a live demo on how to use a J2EE back-end system application server and a Zend platform as a PHP/Java technology bridge to achieve optimal interoperability. The Zend platform with the PHP/Java technology bridge enables PHP developers to create applications that interact with Java technology-based objects. Leveraging PHP's object-oriented syntax overloading capabilities makes it possible to instantiate and manipulate Java technology-based objects from within PHP scripts as if they were native PHP objects.

### TS-9972 RubyTooling: State of the Art

Tor Norbye, *Sun Microsystems, Inc.*

Java integrated development environments (IDEs) have offered unparalleled productivity tools for developers. Refactoring, code completion, and static code analysis are all made possible by the Java programming language's static typing system. Dynamic languages, on the other hand, have traditionally left much to be desired in the tools department. Their proponents have argued that tools are not as necessary, because there is less code to write, and that unit tests can replace static checking. With dynamic languages such as Ruby being hosted on the Java platform, new efforts have been made to bring the features of Java IDEs to the dynamic language world. The results are promising: as a dynamic language developer, you can have your cake and eat it too.

This technical session covers recent developments for Ruby in the NetBeans IDE and discusses future directions for research in this area, such as direct and statistical type inference, wide-ranging refactoring support, more-accurate code completion, and multilanguage editing and debugging.

#### : track nine : Tools and Languages

TS-9720 Advanced Groovy  
TS-9782 Ajax and JavaServer Faces Technology Tooling in Eclipse  
TS-9861 Advanced Java Programming Language Refactoring: Pushing the Envelope  
TS-9920 Eclipse Europa: New Features and Technical Integrations  
TS-9944 PHP and Java Technology Integration: A Technical How-To Session with Cofounder and Co-CTO of Zend Andi Gutmans  
TS-9972 RubyTooling: State of the Art



## BIRDS-OF-A-FEATHER SESSIONS

Birds-of-a-Feather sessions are offered in the evenings in an informal setting, as an extension of technical content. These sessions, which focus on a particular topic, allow you to collaborate with experts and your peers on that particular topic.

### Consumer Technologies

- BOF-0904** **Java SE Media: Take 2**  
Chris Adamson, *Subsequently & Furthermore, Inc.*
- BOF-1493** **Improve Your Commute with the Java Speech Extension, "JMF," and RSS**  
Aaron Mulder, *Chariot Solutions*

### Java SE

- BOF-2775** **Test Patterns In Java Technology, Part II**  
Jaroslav Tulach, *Sun Microsystems, Inc.*
- BOF-2794** **A New Date and Time API for Java SE**  
Stephen Colebourne, *Self*  
Michael Santos, *Summa Technologies do Brasil*
- BOF-2801** **OpenJDK Project Q&A: Part 1**  
Mark Reinhold, *Sun Microsystems, Inc.*
- BOF-2816** **The Troubleshooting and Diagnostic Utilities in JDK Release 5 and 6**  
Alan Bateman, *Sun Microsystems, Inc.*  
Jim Holmlund, *Sun Microsystems, Inc.*  
Kelly O'Hair, *Sun Microsystems, Inc.*  
A. Sundararajan, *Sun Microsystems, Inc.*
- BOF-2864** **Experiences with Debugging Data Races**  
Cliff Click, *Azul Systems*  
Ivan Posva, *Azul Systems*
- BOF-2899** **Java Programming Language Features in JDK Release 7**  
Peter von der Ahé, *Sun Microsystems, Inc.*
- BOF-2958** **Dynamic Scripting Languages BOF**  
Frank Cohen, *PushToTest*

### Desktop

- BOF-1306** **Through the Looking Glass: Project Wonderland — an Immersive, Collaborative, Shared Virtual 3-D Space**  
Paul Byrne, *Sun Microsystems, Inc.*  
Krishna Gadepalli, *Sun Microsystems, Inc.*  
Deron Johnson, *Sun Microsystems, Inc.*  
Hideya Kawahara, *Sun Microsystems, Inc.*  
Nigel Simpson, *Sun Microsystems, Inc.*  
Nicole Yankelovich, *Sun Microsystems, Inc.*
- BOF-3066** **SwingLabs**  
Richard Bair, *Sun Microsystems, Inc.*
- BOF-3349** **Advanced Swing Drag-and-Drop**  
Shannon Hickey, *Sun Microsystems, Inc.*
- BOF-3356** **Next-Generation UI Elements for Swing Applications**  
Richard Bair, *Sun Microsystems, Inc.*  
Kirill Grouchnikov, *Amdocs*

### Java EE

- BOF-4095** **A Case for Updating the Java Message Service (JMS) 1.1 API with Simple, High-Impact Extensions**  
Demed Lher, *Oracle*  
Vivekananda Maganty, *Oracle*
- BOF-4181** **Embracing the Standard: Migrating a Spring/Hibernate Application to Java EE 5**  
Robin de Silva Jayasinghe, *SAP AG*  
Adrian Görler, *SAP AG*
- BOF-4182** **Bridging Forward Compensation Transactions and the Java Transaction API (JTA)**  
Kevin Conner, *JBoss*  
Jonathan Halliday, *JBoss*  
Mark Little, *JBoss*
- BOF-4271** **Java EE/Java SE/Java Authorization Contract for Containers (JACC) Security in a Nutshell**  
Vinay Shukla, *Oracle*  
Jeff Trent, *Oracle*
- BOF-4400** **Improve and Expand JavaServer Faces Technology with JBoss Seam**  
Kito Mann, *JSF Central*  
Michael Yuan, *Red Hat Inc.*
- BOF-4664** **Dynamic Portals and Ajax in Portlets**  
Jai Suri, *Sun Microsystems, Inc.*  
Greg Ziebold, *Sun Microsystems, Inc.*
- BOF-4834** **Designing Self-Evolving and Self-Configuring Java EE Applications**  
Daniel Lopez Janariz, *University of the Balearic Islands*  
Fabiane Nardon, *Vidatis*

[CLICK HERE](#) to view real-time session information and updates.

## Java ME

- BOF-1891** **SPOTBot: Turning a SunSPOT into a Rugged and Affordable Mobile Robot**  
Bruce Boyes, *Systronix Inc*  
Arshan Poursohi, *Sun Microsystems, Inc.*
- BOF-5559** **Mobile TV in Java ME: Possibilities and Issues When Implementing a Streaming Video Client**  
Björn Hjelt, *TeliaSonera*
- BOF-5610** **MSA Recipes: How to Develop Rich Java ME Applications, Using MSA Ingredients**  
Amihai Cohen, *Sun Microsystems, Inc.*  
Avi Zohari, *Sun Microsystems, Inc.*
- BOF-5851** **Unleashing JSR 184: Insider Secrets**  
Sean Wylie-Toal, *Bight Games*
- BOF-5914** **How to Work with Java ME Carriers**  
Nathan Smith, *Sprint Nextel*

## The Next-Generation Web

- BOF-6012** **JavaScript Programming Language Best Practices for Developers on the Java Platform**  
Gregory Murray, *Sun Microsystems, Inc.*  
Sang Shin, *Sun Microsystems, Inc.*
- BOF-6042** **Ajax for Average Joes: Enterprise Ajax Adoption Without Rocket Scientists**  
Coach Wei, *Nexaweb Technologies Inc*
- BOF-6412** **Describing RESTful Applications: WADLing with Java**  
Marc Hadley, *Sun Microsystems, Inc.*
- BOF-6424** **Accessibility for Ajax and Web 2.0 Applications, from Emerging Concepts to Practical Coding**  
Earl Johnson, *Sun Microsystems, Inc.*  
Yutaka Yoshida, *Sun Microsystems, Inc.*
- BOF-6563** **Tapestry 5: Java Programming Language Power, Scripting Ease**  
Howard Lewis Ship, *Independent Consultant*
- BOF-6745** **Ingredients for a Killer App: Adding Mojo to Your Swing and Ajax Applications with Seamless Web Browser Integration**  
Eric Monk, *McDonald Bradley, Inc*
- BOF-6825** **Testing Web 2.0 Features, Using Real-World Applications**  
Aditya Dada, *Sun Microsystems, Inc.*
- BOF-6993** **Migrating to Struts 2 from Struts 1**  
Don Brown, *Atlassian Software Systems Pty Ltd.*

## Open Source

- BOF-2801** **OpenJDK Project Q&A: Part 1**  
Mark Reinhold, *Sun Microsystems, Inc.*
- BOF-7449** **The Application Developer Project: Leveraging the Mobile and Embedded Community to Build Better Applications, Faster**  
Terrence Barr, *Sun Microsystems, Inc.*
- BOF-7846** **The Long Tail Treasure Trove**  
Brian McCallister, *Ning, Inc.*  
Gianugo Rabellino, *SourceSense*

## Services and Integration

- BOF-8081** **Tips and Techniques for Achieving Web Services Interoperability in Enterprise Applications**  
Tugdual Grall, *Oracle*  
Velmurugan Subramanian, *Oracle*
- BOF-8173** **Debugging and Troubleshooting BPEL Processes**  
Alexander Zgursky, *Sun Microsystems, Inc.*
- BOF-8238** **Building Composite Services Applications**  
Mike Edwards, *IBM*  
Jim Marino, *BEA Systems*
- BOF-8484** **Building Enterprise Services, Using the Enterprise Service Bus (ESB) and Data Transformation Appliance**  
Narayan Chintalapati, *Marriott*
- BOF-8490** **Policy-Driven Interactions in Web Services Ecosystems: Surveying the Landscape**  
Abhijit Belapurkar, *Yahoo! Software Development India Pvt. Ltd.*
- BOF-8847** **Developing Components for Java Business Integration: Binding Components and Service Engines**  
Alexander Fung, *Sun Microsystems, Inc.*  
Frank Kieviet, *Sun Microsystems, Inc.*  
Chikkala Srinivasan, *Sun Microsystems, Inc.*  
Sherry Weng, *Sun Microsystems, Inc.*
- BOF-8872** **Java Business Integration 2.0**  
Peter Walker, *Sun Microsystems, Inc.*

## Tools and Languages

- BOF-9055** **Developing a Real-World Web Application with NetBeans Release 5.5 Visual Web Pack**  
David Botterill, *Sun Microsystems, Inc.*
- BOF-9066** **MemoryLint: An Extensible Tool for Automatic Recognition of Ineffective or Dangerous Heap Structures**  
Radim Kubacki, *Sun Microsystems, Inc.*  
Petr Nejedly, *Sun Microsystems, Inc.*
- BOF-9123** **Visualize Runtime Problems: A New All-in-One JDK Software Troubleshooting Tool**  
Mandy Chung, *Sun Microsystems, Inc.*  
Tomas Hurka, *Sun Microsystems, Inc.*  
Arseniy Kuznetsov, *Sun Microsystems, Inc.*
- BOF-9179** **Java Platform Web Applications Versus Ruby on Rails: This Time with Tools**  
Martin Adamek, *Sun Microsystems, Inc.*
- BOF-9231** **FindBugs BOF**  
William Pugh, *Univ. of Maryland*
- BOF-9622** **Lessons Learned in Writing and Supporting a Plug-in for IDEA, the NetBeans Platform, and Eclipse**  
Mark Stephens, *IDR Solutions*
- BOF-9843** **Grails, Sails, and Trails: Rails Through a Coffee Filter**  
Andrea Wright, *Chariot Solutions, Inc.*
- BOF-9982** **The "java.lang.OutOfMemoryError: PermGen Space" Error Message Demystified**  
Edward Chou, *Sun Microsystems, Inc.*  
Frank Kieviet, *Sun Microsystems, Inc.*  
A. Sundararajan, *Sun Microsystems, Inc.*





## NEW FOR 2007: Java Technology Business Day!

The Westin San Francisco Market Street (Formerly the Argent Hotel) | Tuesday, May 8

- > This special event is designed for business and marketing leaders at companies delivering Java technology-based products, including software, hardware, content, and services. Participants begin the day with their technical colleagues at the general session before attending five sessions designed just for them. At the end of the afternoon, they rejoin Conference attendees to tour the exciting JavaOne Pavilion and enjoy a reception.
- > Through presentations, case studies, and a panel discussion, the curriculum covers business issues pertaining to the Java platform—for the server, the desktop, and devices. The day offers many opportunities for networking with peers and influencing the direction of programs and services to boost business in the Java technology ecosystem.

<code/>

[Home](#)[Conference Overview](#)[JavaOne Pavilion](#)[After Dark Events](#)[Java University](#)[Hands-on Labs Program](#)[Registration](#)[Conference-at-a-Glance](#)[Special Programs](#)[Technical Sessions](#)[BOF Sessions](#)[Java Technology  
Business Day](#)

[CLICK HERE](#) to view real-time session information and updates.

Java Technology Business Day

## The agenda includes:

### Open-Source Java Technology: Business Opportunities and Risks

Simon Phipps, *Chief Open Source Officer, Sun Microsystems, Inc.*

Ted Schuh, *Marketing Manager, Java Platform Enterprise Edition, Sun Microsystems, Inc.*

Rich Sands, *Community Marketing Manager, Java Platform Standard Edition, Sun Microsystems, Inc.*

Vivek Mody, *Community Marketing Manager, Mobile and Embedded Community, Sun Microsystems, Inc.*

How will Sun's decision to open source its Java technology implementations drive adoption and innovation and open new markets? What else might change in the Java technology ecosystem? Get the facts and explore the myths to understand the opportunities and risks for your business.

### Marketing, Branding, and Certification Programs Demystified

Bruce G. Lee, *Brand Strategist, Sun Microsystems, Inc.*

Jean Elliott, *Senior Director, Java Platform Product Marketing, Sun Microsystems, Inc.*

Whether you represent a nonprofit, a startup, or a multinational corporation, attend this special session to learn about the power of the Java technology brand and programs that can offer you global visibility in the technology industry and access to millions of consumers.

### Partnering to Win!

Ingrid Mayer, *Group Manager, Market Development, Sun Microsystems, Inc.*

Ann McLaughlin, *Director, ISV and Partnerships, Sun Microsystems, Inc.*

Dan Powers, *Director, ISV Engineering, Sun Microsystems, Inc.*

And more ...

The Java community is supported by a strong partner ecosystem. This presentation highlights the features of vendor programs and illustrates them with case studies to demonstrate how they can boost your business.

### New and Improved Services

Thorsten Laux, *Director of Client Engineering, Sun Microsystems, Inc.*

Bill Curci, *Marketing Manager, Java Platform, Standard Edition (Java SE), Sun Microsystems, Inc.*

With data that will surprise (and possibly delight) you, this session explains the market context for Java technology content and applications today. It also outlines Sun's array of new services designed to support development, deployment, and distribution.

### Interactive Industry Panel: Maximizing ROI

Join Anne Thomas-Manes, the Burton Group's vice president and research director for Application Platform Strategies, and an exciting group of other speakers to explore what the industry needs in order to maximize ROI in the Java technology ecosystem. Be sure to bring your ideas!

For the latest information, please see <http://java.sun.com/javaone/sf/businessday.jsp>.

## RETAIL STORE AND BOOKSTORE HOURS

	Retail Store	Bookstore
Monday, May 7	~	10:00 a.m.–5:00 p.m.
Tuesday, May 8	10:00 a.m.–8:00 p.m.	7:30 a.m.–8:00 p.m.
Wednesday, May 9	10:00 a.m.–7:00 p.m.	7:30 a.m.–8:00 p.m.
Thursday, May 10	10:00 a.m.–7:00 p.m.	7:30 a.m.–8:00 p.m.
Friday, May 11	10:00 a.m.–3:00 p.m.	7:30 a.m.–2:00 p.m.



# 2007 REGISTRATION AND ACCOMMODATIONS FORM | page 1 of 2

## 1. Contact Information

**Note:** Registrations must be accompanied by full payment to be processed.

For additional registrations, please make a copy of this form. (Each individual registering for the conference must fill out a separate form.)

Name: \_\_\_\_\_ Job Title: \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State/Zip Code: \_\_\_\_\_ Country: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_ Email: \_\_\_\_\_

☐ Sun may use this information to contact me. ☐ Sun may share this information with its business associates to contact me.

Please complete and  
fax to: **+1-650-226-0840**

**Phone: +1-866-382-7151**

**Phone International: +1-650-226-0820**

### Mailing Address:

C/O George P. Johnson  
999 Skyway Road, Suite 300  
San Carlos, CA 94070

## 2. User Profile This section must be completed to process your registration.

### 1. Please indicate the category closest to your company/organization's primary business or technology interest (select ONE only):

- |  |  |   |  |
|--|--|---|--|
| <input type="checkbox"/> 1a. Aerospace                                       | <input type="checkbox"/> 1h. Construction                      | <input type="checkbox"/> 1o. Life Sciences                  | <input type="checkbox"/> 1v. Transportation          |
| <input type="checkbox"/> 1b. Automotive                                      | <input type="checkbox"/> 1i. Education                         | <input type="checkbox"/> 1p. Manufacturing – Discrete       | <input type="checkbox"/> 1w. Utilities               |
| <input type="checkbox"/> 1c. Banking   | <input type="checkbox"/> 1j. Financial Services                | <input type="checkbox"/> 1q. Manufacturing – Process        | <input type="checkbox"/> 1x. Wholesale               |
| <input type="checkbox"/> 1d. Business & Professional Services                | <input type="checkbox"/> 1k. Government – Civilian             | <input type="checkbox"/> 1r. Media/Entertainment/Publishing | <input type="checkbox"/> 1y. Other (Please Specify): |
| <input type="checkbox"/> 1e. Communications                                  | <input type="checkbox"/> 1l. Government – Defense/Intelligence | <input type="checkbox"/> 1s. Oil & Gas                      |  |
| <input type="checkbox"/> 1f. Computer Distributor/Reseller/Retailer          | <input type="checkbox"/> 1m. Health Care                       | <input type="checkbox"/> 1t. Retail Trade                   |  |
| <input type="checkbox"/> 1g. Computer Distributor/Reseller/System Integrator | <input type="checkbox"/> 1n. Insurance                         | <input type="checkbox"/> 1u. Software Publisher/ISV         |  |

### 2. Which best describes your primary job function? (select ONE only)

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> 2a. Developer                                      | <input type="checkbox"/> 2g. First-Line Development Manager/Supervisor | <input type="checkbox"/> 2m. Business Analyst        |
| <input type="checkbox"/> 2b. Software Engineer                              | <input type="checkbox"/> 2h. Departmental Development Manager          | <input type="checkbox"/> 2n. Business Manager        |
| <input type="checkbox"/> 2c. Project/Team Leader                            | <input type="checkbox"/> 2i. IT, MIS VP/Director                       | <input type="checkbox"/> 2o. Student                 |
| <input type="checkbox"/> 2d. Software/Systems Architect                     | <input type="checkbox"/> 2j. CTO, CIO                                  | <input type="checkbox"/> 2p. Faculty/Staff           |
| <input type="checkbox"/> 2e. Systems Analyst                                | <input type="checkbox"/> 2k. Non-IT-Related Management                 | <input type="checkbox"/> 2q. Other (Please Specify): |
| <input type="checkbox"/> 2f. Software Testing, QA or Customer/Field Support | <input type="checkbox"/> 2l. Product Manager/Product Marketing         |  |

### 3. What size is your company:

- |   |
|---|
| <input type="checkbox"/> 3a. 1–99 employees             |
| <input type="checkbox"/> 3b. 100–499 employees          |
| <input type="checkbox"/> 3c. 500–999 employees          |
| <input type="checkbox"/> 3d. 1,000–2,499 employees      |
| <input type="checkbox"/> 3e. 2,500–4,999 employees      |
| <input type="checkbox"/> 3f. 5,000–9,999 employees      |
| <input type="checkbox"/> 3g. More than 10,000 employees |

### 4. What is your role in the process for purchasing information technology products/services for your company?

- |   |
|---|
| <input type="checkbox"/> 4a. Create IT Strategies                         |
| <input type="checkbox"/> 4b. Determine Need to Purchase                   |
| <input type="checkbox"/> 4c. Evaluate/Recommend Products, Brands, Vendors |
| <input type="checkbox"/> 4d. Set Budget for Expenditures                  |
| <input type="checkbox"/> 4e. Specify Features/Technical Requirements      |
| <input type="checkbox"/> 4f. Authorize/Approve Purchase                   |
| <input type="checkbox"/> 4g. None of the Above                            |

### 5. In which of the following specialty areas are you involved with Java™ technology-based application development? (select all that apply)

- |   |   |
|---|---|
| <input type="checkbox"/> 5a. Mobility/Wireless                              | <input type="checkbox"/> 5g. Consumer Electronics                                     |
| <input type="checkbox"/> 5b. Interconnectivity & Compatibility              | <input type="checkbox"/> 5h. Adding 3-D Visualization to Applications                 |
| <input type="checkbox"/> 5c. Gaming   | <input type="checkbox"/> 5i. Vertical Industry-Specific Enterprise-Class Applications |
| <input type="checkbox"/> 5d. Smart Cards                                    | <input type="checkbox"/> 5j. None of the Above  |
| <input type="checkbox"/> 5e. Intelligent Peripherals and/or Imaging Devices | <input type="checkbox"/> 5k. Other (Please Specify):                                  |
| <input type="checkbox"/> 5f. Desktop Applications                           |   |

### 6. What is your primary platform for development (select one)?

- |   |  |
|---|--|
| <input type="checkbox"/> 6a. Solaris Operating System - x64/x86 | <input type="checkbox"/> 6j. IBM AIX                 |
| <input type="checkbox"/> 6b. Solaris Operating System - SPARC   | <input type="checkbox"/> 6k. SGI IRIX                |
| <input type="checkbox"/> 6c. Windows NT                         | <input type="checkbox"/> 6l. Sun Linux               |
| <input type="checkbox"/> 6d. Windows 2000                       | <input type="checkbox"/> 6m. Red Hat Linux           |
| <input type="checkbox"/> 6e. Windows XP                         | <input type="checkbox"/> 6n. IBM Linux               |
| <input type="checkbox"/> 6f. Windows CE                         | <input type="checkbox"/> 6o. Other Linux             |
| <input type="checkbox"/> 6g. Mac OS                             | <input type="checkbox"/> 6p. None of the Above       |
| <input type="checkbox"/> 6h. Palm OS                            | <input type="checkbox"/> 6q. Other (Please Specify): |
| <input type="checkbox"/> 6i. HP UNIX                            |  |

### 7. On what platform(s) do you plan to deploy your application(s)? (select all that apply)

- |   |  |
|---|--|
| <input type="checkbox"/> 7a. Solaris Operating System - x64/x86 | <input type="checkbox"/> 7j. IBM AIX                 |
| <input type="checkbox"/> 7b. Solaris Operating System - SPARC   | <input type="checkbox"/> 7k. SGI IRIX                |
| <input type="checkbox"/> 7c. Windows NT                         | <input type="checkbox"/> 7l. Sun Linux               |
| <input type="checkbox"/> 7d. Windows 2000                       | <input type="checkbox"/> 7m. Red Hat Linux           |
| <input type="checkbox"/> 7e. Windows XP                         | <input type="checkbox"/> 7n. IBM Linux               |
| <input type="checkbox"/> 7f. Windows CE                         | <input type="checkbox"/> 7o. Other Linux             |
| <input type="checkbox"/> 7g. Mac OS                             | <input type="checkbox"/> 7p. None of the above       |
| <input type="checkbox"/> 7h. Palm OS                            | <input type="checkbox"/> 7q. Other (Please Specify): |
| <input type="checkbox"/> 7i. HP UNIX                            |  |

### 8. The level of your developer expertise in using Java technology is:

- |  |
|--|
| <input type="checkbox"/> 8a. Novice with limited experience  |
| <input type="checkbox"/> 8b. Fundamental knowledge and some experience   |
| <input type="checkbox"/> 8c. Intermediate knowledge and some experience, but I need help with difficult problems |
| <input type="checkbox"/> 8d. Advanced knowledge – I coach and mentor others                                      |
| <input type="checkbox"/> 8e. Not a Java technology developer   |

### 9. Please indicate if you would like to become a Sun™ Developer Network member:

- |                                  |
|----------------------------------|
| <input type="checkbox"/> 9a. Yes |
| <input type="checkbox"/> 9b. No  |

### 10. Please indicate whether you are affiliated with or a member of the following groups (select all that apply):

- |   |   |
|---|---|
| <input type="checkbox"/> 10a. Java™ Community Process     | <input type="checkbox"/> 10f. Sun™ Developer Network  |
| <input type="checkbox"/> 10b. Javalobby                   | <input type="checkbox"/> 10g. Sun User Group          |
| <input type="checkbox"/> 10c. Java.net                    | <input type="checkbox"/> 10h. None of the Above       |
| <input type="checkbox"/> 10d. Java SIGS                   | <input type="checkbox"/> 10i. Other (Please Specify): |
| <input type="checkbox"/> 10e. Java™ Technology User Group |   |

### 11. If you have attended the JavaOne conference in the past, please specify which years (select all that apply):

- |                                    |                                    |   |
|------------------------------------|------------------------------------|---|
| <input type="checkbox"/> 11a. 1996 | <input type="checkbox"/> 11f. 2001 | <input type="checkbox"/> 11l. 2001 in Japan   |
| <input type="checkbox"/> 11b. 1997 | <input type="checkbox"/> 11g. 2002 | <input type="checkbox"/> 11m. 2002 in Japan   |
| <input type="checkbox"/> 11c. 1998 | <input type="checkbox"/> 11h. 2003 | <input type="checkbox"/> 11n. 2003 in Japan   |
| <input type="checkbox"/> 11d. 1999 | <input type="checkbox"/> 11i. 2004 | <input type="checkbox"/> 11o. Never; this is my first time at the JavaOne conference. |
| <input type="checkbox"/> 11e. 2000 | <input type="checkbox"/> 11j. 2005 |   |
|                                    | <input type="checkbox"/> 11k. 2006 |   |

### 12. What most influenced you to attend the 2007 JavaOne conference?

- |  |  |
|--|--|
| <input type="checkbox"/> 12a. Blog                                   | <input type="checkbox"/> 12g. Podcast                    |
| <input type="checkbox"/> 12b. Content                                | <input type="checkbox"/> 12h. Recommendation from Others |
| <input type="checkbox"/> 12c. Direct Mail                            | <input type="checkbox"/> 12i. Self-Improvement           |
| <input type="checkbox"/> 12d. Email                                  | <input type="checkbox"/> 12j. Web                        |
| <input type="checkbox"/> 12e. Opportunity to Interact with Community | <input type="checkbox"/> 12k. Word of Mouth              |
| <input type="checkbox"/> 12f. Past Experience                        |  |



**3. Accommodations** Select OnePlease complete and fax to: **+1-650-226-0840**

- ☐ I need a hotel reservation and am submitting a completed 2007 JavaOne conference accommodations form.
- ☐ Please contact me regarding a hotel reservation.
- ☐ I do not need a hotel reservation.

**4. Request and Payment for Accommodations**

Name on Credit Card: \_\_\_\_\_ ☐ Visa ☐ MasterCard ☐ AmEx ☐ DiscoverCard ☐ Diners Card

Card Number: \_\_\_\_\_ Expiration Date: \_\_\_\_\_

Billing Address: \_\_\_\_\_ Signature: \_\_\_\_\_

Hotel Choice #1 (Select from below): \_\_\_\_\_ Hotel Choice #2: \_\_\_\_\_

Arrival Date: \_\_\_\_\_ Departure Date: \_\_\_\_\_ Room Type: ☐ King/Queen Bed ☐ Double Beds

**Hotel cancellation policy:** To change or cancel your hotel reservation, contact the 2007 JavaOne<sup>SM</sup> Conference Registration Hotline at +1-866-382-7151 (for U.S. and Canada only) or +1-650-226-0820 (International) or by email at [javaoneinfo@eventreg.com](mailto:javaoneinfo@eventreg.com).

Hotel cancellations must be made no less than 72 hours prior to your arrival date to avoid a penalty equivalent to one night's room and tax. You must arrive on your scheduled arrival date to avoid a no-show penalty and the cancellation of the remainder of your stay. Some hotels may charge an early departure penalty. Please note that all special requests are based on hotel availability upon check-in.

**Hotel Selection:**

Hotel	Rate	Distance to Moscone	Hotel	Rate	Distance to Moscone	Hotel	Rate	Distance to Moscone
1. Argent Hotel	\$259	1 Block	15. Kensington Park Hotel	\$165	7 Blocks	29. Powell Hotel	\$140	3 Blocks
2. Bijou Hotel	\$135	4 Blocks	16. King George Hotel	\$139	5 Blocks	30. Prescott Hotel	\$189	7 Blocks
3. Carlton Hotel	\$129	9 Blocks	17. Mark Twain Hotel	\$129	7 Blocks	31. Ramada Plaza Downtown	\$149	6 Blocks
4. Cartwright Hotel	\$149	7 Blocks	18. Marriott San Francisco Downtown	\$279	1 Block	32. Rex Hotel	\$179	7 Blocks
5. Chancellor Hotel	\$144	6 Blocks	19. Maxwell Hotel	\$155	5 Blocks	33. Serrano Hotel	\$179	7 Blocks
6. Courtyard by Marriott Downtown	\$249	2 Blocks	20. Metropolis Hotel	\$145	5 Blocks	34. Sir Francis Drake	\$179	6 Blocks
7. Crowne Plaza Union Square	\$199	7 Blocks	21. Milano Hotel	\$139	1 Block	35. Stratford Hotel	\$129	5 Blocks
8. Diva Hotel	\$175	5 Blocks	22. Monaco Hotel	\$219	6 Blocks	36. Triton Hotel	\$169	7 Blocks
9. Executive Hotel – Vintage Court	\$159	8 Blocks	23. Monticello Inn	\$149	3 Blocks	37. Villa Florence	\$169	5 Blocks
10. Fusion Hotel	\$159	4 Blocks	24. Mosser Hotel	\$159	1 Block	38. W San Francisco	\$289	1 Block
11. Galleria Park Hotel	\$179	5 Blocks	25. Nikko Hotel	\$190	5 Blocks	39. Warwick Regis Hotel	\$169	6 Blocks
12. Grand Hyatt San Francisco	\$225	6 Blocks	26. Palomar Hotel	\$249	1 Block	40. Westin St. Francis	\$229	6 Blocks
13. Handlery Union Square	\$179/\$199	5 Blocks	27. Parc 55 Hotel	\$229	4 Blocks			
14. Hilton San Francisco	\$219	6 Blocks	28. Pickwick Hotel	\$149	1 Block			

**5. Conference Registration** Select One

Priority Code/Promo Code: (Please provide priority/promo code here)	Early Bird (Through 4/4)	Regular (4/5–5/7)	On-Site (5/8–5/11)
<input type="checkbox"/> <b>Conference Plus Pass</b>	<b>\$2,495</b>	<b>\$2,595</b>	<b>\$2,695</b>
<input type="checkbox"/> <b>Conference Pass</b>	<b>\$1,795</b>	<b>\$1,895</b>	<b>\$1,995</b>
<input type="checkbox"/> <b>Java University<sup>SM</sup> Only</b>	<b>\$795</b>	<b>\$795</b>	<b>\$795</b>
<input type="checkbox"/> <b>JavaOne<sup>SM</sup> Pavilion Only</b>	<b>\$150</b>	<b>\$150</b>	<b>\$150</b>
Select Pavilion Date: <input type="checkbox"/> 5/8 <input type="checkbox"/> 5/9 <input type="checkbox"/> 5/10			
<input type="checkbox"/> <b>Business Track Pass</b>	<b>\$350</b>	<b>\$350</b>	<b>\$350</b>

**Conference Plus Pass:** Access to the four-day Conference program, including the Business Track, JavaOne Pavilion, and the one-day Java University program. Also includes a JavaOne Pavilion Pass for a colleague.

**Conference Pass:** Access to the four-day Conference program, including the Business Track and the JavaOne Pavilion.

**Java University Only:** Access to the one-day Java University program only on Monday, May 7.

**JavaOne Pavilion Only:** Access to one day of the JavaOne Pavilion (5/8, 5/9, or 5/10).

**Business Track Pass:** Access to the one-day Business Track sessions on Tuesday, May 8, plus access to the general session and the JavaOne Pavilion for that day.

**The 5 + 1 Group Discount:** This program offers special savings when you register a group from your company. Buy five Conference Passes or Conference Plus Passes at regular price and get one Conference Pass free! \* It's as easy as calling our registration hotline (+1-866-382-7151 United States and Canada only; 1-650-226-0820 international) for more details.

\*Offer applies only to Conference Plus Pass and Conference Pass rates. No other offers/packages apply.

**6. Payment for Registration**

Payment in U.S. funds must accompany this form. Registrations without payment will be returned. Registrations with this form must be received by April 23, 2007. Recording devices are prohibited. Attendee consents to any recording of the event by Conference Planners or its designees. Persons under the age of 18 are not permitted at the Conference.

☐ **CHECK NUMBER** \_\_\_\_\_ (made payable to **George P. Johnson**) Amount \$ \_\_\_\_\_

☐ I would like to use my **CREDIT CARD** to charge my attendance.

☐ Visa ☐ MasterCard ☐ AmEx ☐ Diners Card

Name on Credit Card: \_\_\_\_\_

Card Number: \_\_\_\_\_

Expiration Date: \_\_\_\_\_

Billing Address: \_\_\_\_\_

Signature: \_\_\_\_\_

**Cancellation, substitution and refund only policy:**

Cancellation of your JavaOne conference registration for any reason, must be received in writing and sent to our registration department by fax to +1-650-226-0840 or by mail: 2007 JavaOne Conference, C/O George P. Johnson, 999 Skyway Road, Suite 300, San Carlos, CA 94070, USA. For a full refund, notification must be made by February 8, 2007. After February 8, 2007, a 50 percent refund will be given. No refunds will be made after February 22, 2007. No credits are given to late notices or no-shows.



If you require special assistance covered under the Americans with Disabilities Act, please call +1-650-226-0820, or email [javaoneinfo@eventreg.com](mailto:javaoneinfo@eventreg.com) by Monday, April 23, 2007.



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Client-side  
Compatibility and interoperability  
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Cryptography  
Data objects  
Databases  
Distributed computing  
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Garbage collection  
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Integrated development environments (IDEs)  
Integration and service-oriented development  
Internationalization

Java Community Process™ (JCP™) services  
Java SE, EE, and ME platforms  
Java Foundation Classes technology  
Java runtime environments (JREs)  
JavaServer™ Faces technology  
JavaServer Pages™ technology  
Jini™ program  
JXTA™ networking technology  
Linux operating system  
Mobile Information Device Profile (MIDP)  
Modeling systems  
Monitoring solutions  
NetBeans™ technology  
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