



EMPOWER: YOU

GlassFish and the Future of Java EE

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GlassFish Evangelist
Sun Microsystems, Inc.

SUN TECH DAYS 2008–2009
A Worldwide Developer Conference





Who am I ?

- GlassFish Guy
- With Sun for over 9 years
- Specifications, Engineering, Standards, Interoperability, ...
- <http://blogs.sun.com/arungupta>



ajax ajaxworld berlin conf
eclipse fitness gem
glassfish glassfishday hyderabad
india indigo interoperability
javaone javaone2008 jax-ws
jmaki jpa jruby mac
marathon metro microsoft
mysql **netbeans** phobos
photography presos railsconf
ruby rubyonrails running
runninglog runsfm screencast
siliconvalleymarathon **sun**
suntechdays swdp tango
theserverside **totd** training
traveltips **v3** vista wcf **web2.0**
webservices webtier windows
wsaddressing **wsit** youtube



Agenda

- What is GlassFish ?
- GlassFish v2 – Today
- GlassFish v3 – The (near) Future
- Adoption & Success Stories
- Future of Java EE
- Reference



"Positive on Sun and the GlassFish community's release of the second major update of their open source Java application server, GlassFish V2, and its accompanying enterprise rendition, Java System Application Server 9.1. Many technical advances ...

recommend this version **for enterprise use.**"

Current Analysis

Agenda

- **What is GlassFish ?**
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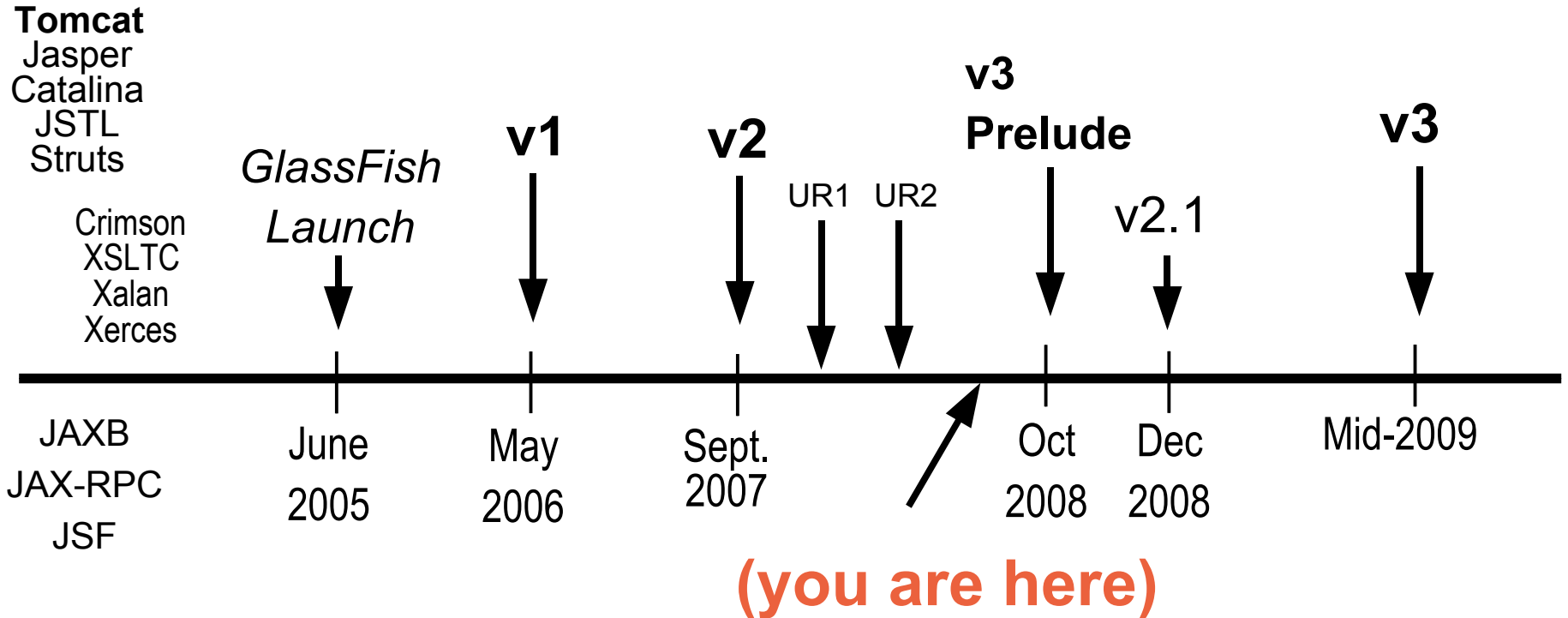


What is GlassFish ?

- A Community
 - > Users, Partners, Testers, Developers, ...
 - > Started in 2005 on java.net
- Application Server
 - > Enterprise Quality and Open Source (CDDL & GPL v2)
 - > Java EE 5 Reference Implementation
 - > Full Commercial Support from Sun
- Leverages Sun's experience in other Java, Middleware, SDK
- Key part of Sun's Open Source Business Model

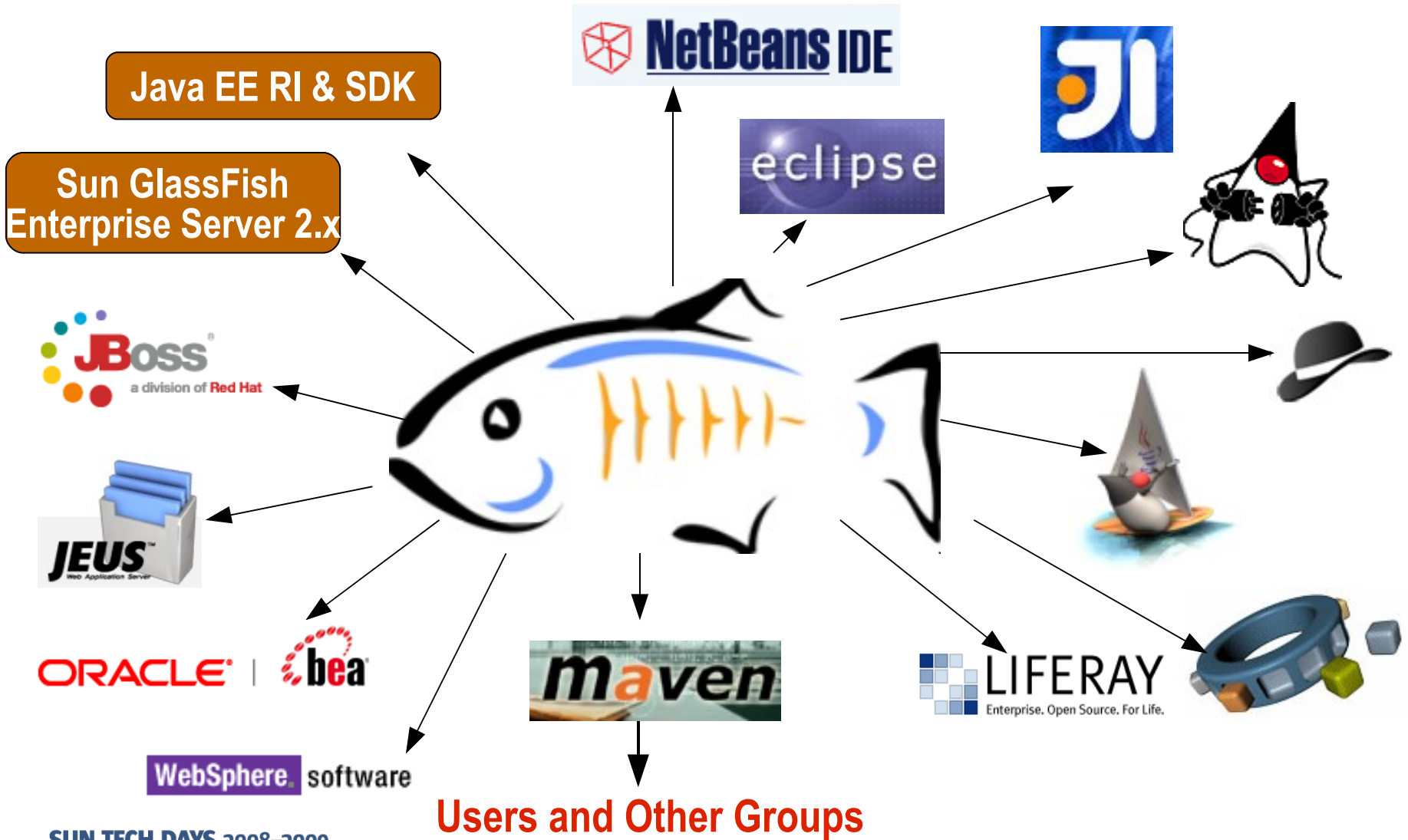


How We Got Here





(Some) Distributions & Contributors





Frameworks and Applications



Quercus PHP



OSWorkFlow

Lucene



AppFuse



OSCache



Integration ORB

iBatis

Project Tango

Apache Httpd



CJUG-Classifieds

Struts



DOJO



BIRT

jBPM

Facelets

Shale Derby



MyFaces ADF

OpenSSO
Open Access . Open Federation



SiteMesh

WebDAV



JSPwiki

SEAM



Tapestry



Spring



MC4J



AJAX

Hudson

StringBeans Portal

HIBERNATE



BlogTrader



OPENSYPHONY
QUALITY COMPONENTS

Wicket

Equinox

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Dalma

OpenPortal
Open Source. Open Standards. Open Portal Server.

WebSphere MQ

EHCACHE



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GlassFish v2

- Update Release 2 in April 2008
- Java EE 5 compliant with advanced features
- Enterprise-centric release
 - > Clustering, Load-Balancing, HA
 - > .NET 3.0 Web services interoperability
 - > World Record Performance
 - > Seamless IDE integration
 - NetBeans, Eclipse, IntelliJ
 - > Developer, Enterprise, Cluster, Custom profiles
- Enterprise Support in Sun GlassFish Enterprise Server 2.0





Ease of use - Administration

Home | Version
Logout | Help

User: admin | Domain: domain1 | Server: localhost

Sun Java™ System Application Server Admin Console

Common Tasks

- Registration
- Domain
- Applications
 - Enterprise Applications
 - Web Applications
 - EJB Modules
 - Connector Modules
 - Lifecycle Modules
 - Application Client Modules
- Web Services
- JBI
 - Service Assemblies
 - Components
 - Shared Libraries
- Custom MBeans
- Resources
 - JDBC
 - JMS Resources
 - JavaMail Sessions
 - JNDI
 - Connectors
- Clusters
 - c1
 - c1s2
 - c1s1
- Stand-Alone Instances
 - server (Admin Server)
- HTTP Load Balancers
- Node Agents
- Configurations
 - c1-config
 - default-config
 - server-config

Common Tasks

Registration and Support

- Registration
- Subscriptions

Enterprise Tasks

- Create New Cluster
- Create New Stand-Alone Instance
- View Clusters
- View Stand-Alone Instances

Deployment

- Deploy Enterprise Application (.ear)
- Deploy Web Application (.war)
- Deploy Custom MBean
- Deploy Java Business Integration (JBI) Service Assembly

Monitoring

- View Monitoring Data

Update Center

- Getting Started Guide
- No New Components Available

Other Tasks

- Search Log Files
- Create New JDBC Connection Pool
- View Web Services

documentation

- Quick Start Guide
- Administration Guide
- Developer's Guide
- Application Deployment Guide
- Deployment Planning Guide

- ◆ [Learn from the Source: Expert-to-engineer web training for Java EE 5.](#)
- ◆ [Join the Project GlassFish](#)
- ◆ [Stay current with GlassFish news at The Aquarium or learn about GlassFish deployments.](#)
- ◆ [Get community support, Developer Expert Assistance or production support.](#)
- ◆ [Check the documentation](#)

A Worldwide Developer Conference



Call Flow Monitoring

Home Version [Logout](#) [Help](#)

User: admin | **Domain:** domain1 | **Server:** localhost
Sun Java™ System Application Server Admin Console

Common Tasks

- Application Server
 - Applications
 - Enterprise Applications
 - Web Applications
 - EJB Modules
 - Connector Modules
 - Lifecycle Modules
 - Application Client Modules
 - Web Services
 - JB1
 - Service Assemblies
 - Components
 - Shared Libraries
 - Custom MBeans
 - Resources
 - Configuration

Call Flow Details

View call flow details of the request. Click on the view tree button to look at call flow in tree view.

[Hide Chart](#) [Back to Call Flow](#)

Request Information

Back to config Jan 7, 2008 5:00:43 PM

User: anonymous

Application: servlet-stateless-ear

Start Container: REMOTE_WEB

Response: Success

Response Time(ms): 10.709

Request Time Distribution

| | | |
|-------------------------|---------|----------|
| Web Container: | 32.566% | 3.452 ms |
| Web Application: | 7.116% | 0.754 ms |
| EJB Container: | 59.532% | 6.311 ms |
| EJB Application: | 0.785% | 0.083 ms |

| Component | % Time Spent |
|-----------|--------------|
| EJB Cont | 60 |
| Web Cont | 36 |
| Web Appz | 12 |
| EJB Appz | 2 |



Web Tier

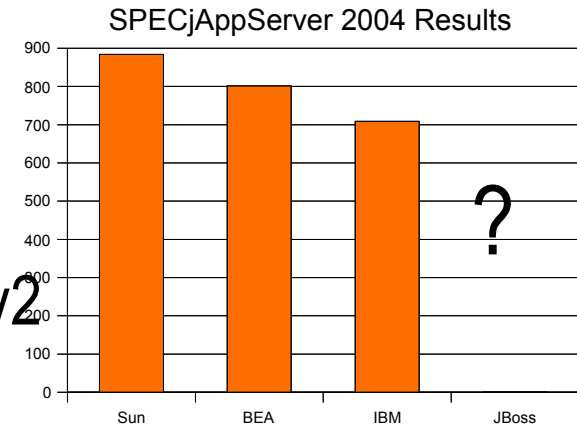
- JSP Container
 - > 10x perf. in-memory JSP compilation (JSR-199)
- Grizzly
 - > Easy-to-use, highly scalable and customizable HTTP Framework
 - > High performant buffers & parsing classes (java.nio)
 - > Non-blocking SSL, Quality of Service constraints
 - > Integrates with current Apache Tomcat HTTP Connector
 - > Supports *Comet* (long-term HTTP connections)
- Hosting features
 - > Alternate docroots
 - > Webcontainer dynamically reconfigurable



World Record Performance

SpecjAppServer 2004

- > July 2007: #1 score on T2000
 - 883.66 JOPS@Standard for GlassFish v2
 - Improved in areas not covered
 - 10% faster than BEA WebLogic
 - 30% faster than IBM WebSphere 6.1



| System Title | JOPS |
|--|--------|
| IBM WebSphere Application Server 6.1 with DB2 8.2 on Sun Fire T2000 using Solaris 10 | 616.22 |
| Oracle Application Server 10g Release 10.1.3.2 - Java Edition on Sun Fire T2000 | 733.22 |
| BEA WebLogic Server 9.2 on Sun SPARC Enterprise T2000 | 801.70 |
| GlassFish V2 (Sun Java Application Server 9.1) on Sun Fire T2000 | 883.66 |

Disclaimers: SPEC and the benchmark name SPECjAppServer 2004 are registered trademarks of the Standard Performance Evaluation Corporation. Competitive benchmark results stated above reflect results published on www.spec.org as of 11/21/07. The comparison presented is based on GlassFish v2 UR1 run on 6 Sun SPARC Enterprise T5120 (1 chip, 8 cores/chip, 8 threads/core) 1.4GHz 8,439.36 SPECjAppServer2004 JOPS@Standard. For the latest SPECjAppServer 2004 benchmark results, visit <http://www.spec.org/>.

GlassFish v2 Demos

- Getting Started with GlassFish v2
- NetBeans, Eclipse & IntelliJ integration
 - > NetBeans:
blogs.sun.com/arungupta/entry/screncast_ws7_secure_and_reliable
 - > Eclipse:
blogs.sun.com/arungupta/entry/glassfish_on_eclipse_ganymede
 - > IntelliJ:
blogs.sun.com/arungupta/entry/getting_started_with_glassfish_in



“ ... we were seriously stressed when IBM declared war with Geronimo, and then HP got in the game against us, too. Red Hat and JonAS didn't scare us at all (really, not at all), nor did we worry about Sun's foray into the market. Oddly enough, of that group **only Sun has managed to mount serious competition to JBoss**”.

Marc Fleury





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GlassFish v3

- Modular
 - > Maven 2 – Build & Module description
 - > Felix – OSGi runtime
 - > Allow any type of Container to be plugged
 - Start Container and Services on demand
- Emebeddable: runs in-VM
- Extensible: pluggable containers
- Support for upcoming Java EE 6 profiles

<http://glassfish.org/v3>

GlassFish v3 Containers

- Basic Functionality
 - > Handles certain application types
 - > Started and Stopped on demand
- Optional Features
 - > Configuration services
 - > Administration commands
 - > Admin Console plugins



Dynamic Languages & Frameworks



JavaScript



Phobos

<http://glassfish-scripting.dev.java.net>

GlassFish v3

- Don't think of it as Java EE container
 - > ... rather a container that can do Java EE
 - > ... an ideal container for next gen web apps
- Code and documentation available today
 - > Technology Preview 2
 - > Prelude (with enterprise support) in next few weeks

GlassFish v3 Demos

- **Rails & Grails Deployment - Tic Tac Toe**
 - > http://blogs.sun.com/arungupta/entry/tic_tac_toe_using_rails
- **OSGi runtime**
 - > http://blogs.sun.com/arungupta/entry/totd_36_deploy_osgi_bundles
- **Embeddable v3**
 - > http://blogs.sun.com/arungupta/entry/embeddable_glassfish_in_action_servlet
- **NetBeans & Eclipse integration**
 - > http://blogs.sun.com/arungupta/entry/screencast_24_getting_started_with
 - > http://blogs.sun.com/arungupta/entry/glassfish_on_eclipse_ganymede



“Sun and the GlassFish open-source community have delivered the **first production scale open-source** Java EE 5 application server. This **challenges the dominance** of market leaders like Red Hat and IBM”



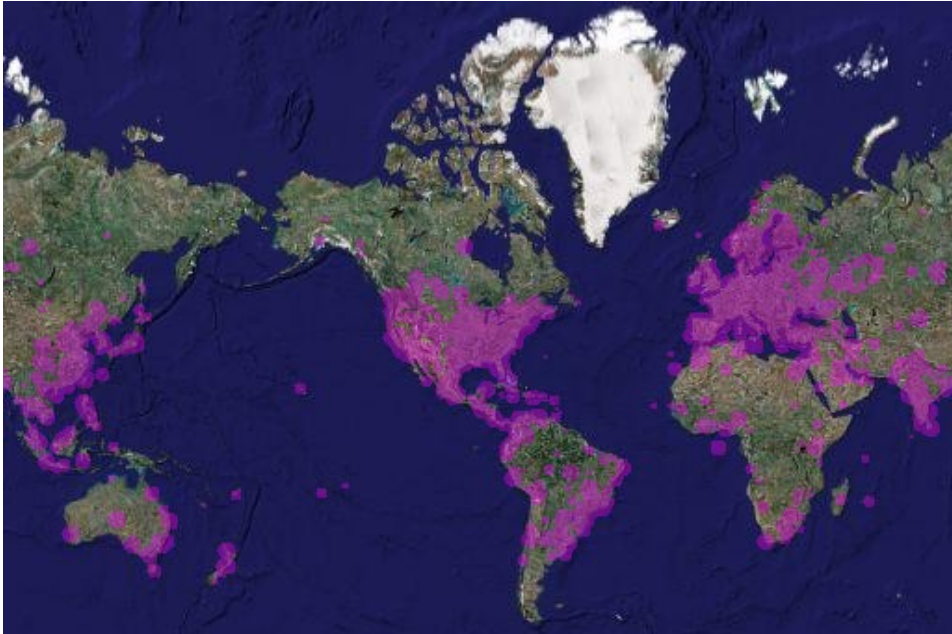


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Some Adoption Indicators



- 4m hits in 15 months
- 420k+ different IPs

- 150k registrations in 7 months
- 4.5m+ downloads in 12 months

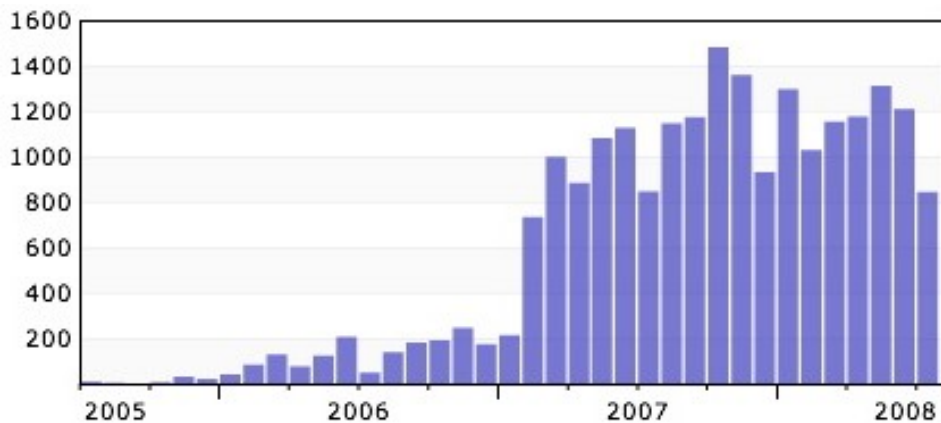




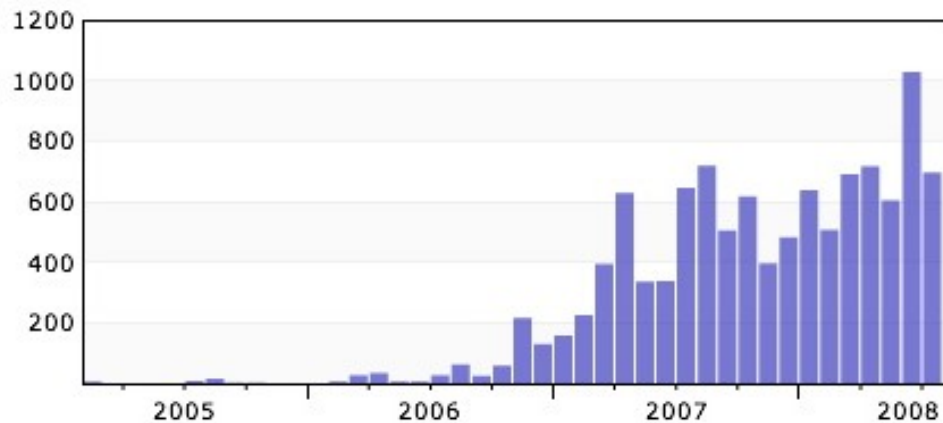
40% growth
in
Latin America



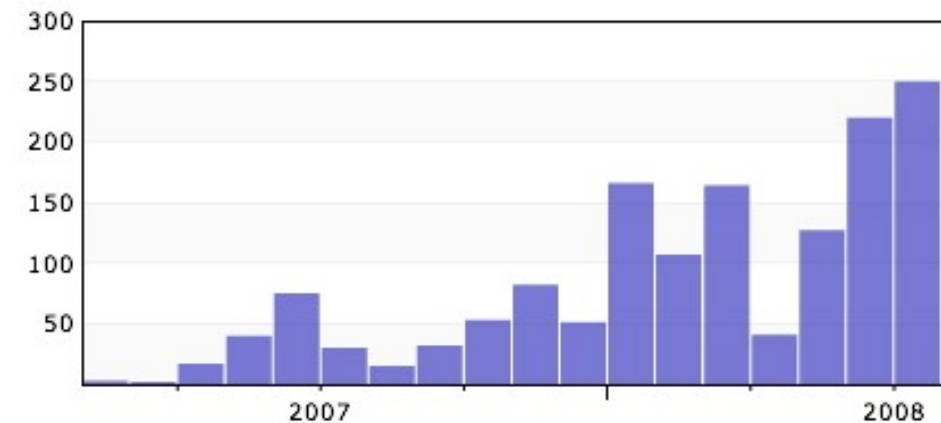
... One more



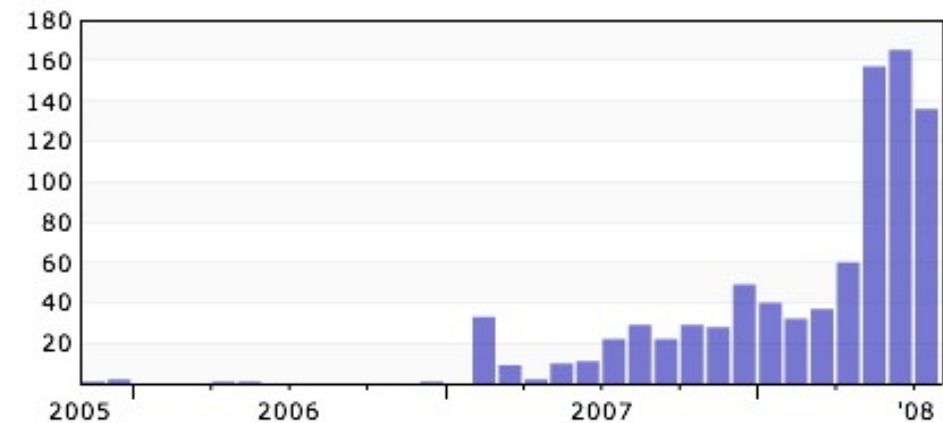
GlassFish



Hudson



Grizzly



OpenESB



Who else is using GlassFish ...



OKAIR

GFOS



MPOWER: YOU



4HOMEMEDIA

NUMERA
SISTEMI E INFORMATICA



Gesellschaft

Imixs

RTL

**BANK
DEGROEF
GROUP**

SELMET
DocDoku

SNCF

wotif.com
28 days of great deals!

**WORLDxCHANGE
COMMUNICATIONS**
Your connection to the world

**ITAC
SOFTWARE**

GIEMAN.COM
COMPLETE IT SOLUTIONS

blogs.sun.com/stories

travelmuse™
Imagine Experience. Share.

First in Flight
GLASSFISH
NORTH CAROLINA

Auchan

carrefourgroup



NETENT
NET ENTERTAINMENT

**INTERNATIONAL
ENVIRONMENTAL**
Flexible solutions for indoor environments

**reino
INTERNATIONAL**

DALI



Peerflix



**Federal Aviation
Administration**



GlassFish Partners


- Targeted at ISVs, Hosting partners & Other solution providers
 - > Profile in Partner Showcase
 - > Banner Advertising on GlassFish community and blogs
 - > Training Discounts
- Requirements
 - > Customer-ready support for GlassFish
 - > Associate-level member in SPA



GlassFish & MySQL Unlimited

- No counting sockets, incidents, servers or audits
 - > Starts @ \$65,000 for an unlimited servers

GlassFish & MySQL Savings over 3 years*

| | GlassFish & MySQL Unlimited | Oracle and WebLogic |
|-------------------------------------|--|---|
| Product Editions | GlassFish Enterprise Server MySQL Enterprise Gold | WebLogic Enterprise Edition Oracle Enterprise Edition |
| Pricing Model | Unlimited deployment | Per Socket |
| Subscription Cost (24x7x365) | \$80,000/Year | N/A |
| License Cost | N/A | WebLogic Enterprise Edition: \$25,000/CPU Oracle Enterprise Edition: \$47,500/CPU |
| Support Cost (24x7x365) | N/A | WebLogic Enterprise Edition: \$5,500/CPU/Year Oracle Enterprise Edition: \$10,450/CPU/Year |
| 3 Year TCO | \$240,000 | \$3,237,000 |
| Total Savings | | \$2,997,000  |

* Configuration and backup documentation

Application server hardware: 20 dual-socket, dual core X86 servers

Database hardware: 10 dual socket, dual core X86 servers



Why GlassFish over JBoss ?

- First Java EE 5 certified application server
 - > 2.5 years ahead of JBoss
- Only open-source application server to outperform WebLogic/WebSphere
- Ease-of-use
 - > Superb, professionally written documentation
 - > Feature-rich NetBeans integration (at no cost!)
- Significantly more cost-effective
- Publicly posted roadmap with exact dates
 - > So you can plan your roadmap
 - > GlassFish is first and foremost a *community*

And some more ...

- 5 9's of availability (HADB) if needed
- .NET 3.0 Web services interoperability
- Dynamic Languages & Frameworks
 - > GlassFish v3 prelude: 1st Class citizens
- GlassFish Update Center
- Broad, feature-rich, mature open source “stack”
 - > MySQL, OpenSolaris, Open ESB, OpenDS, OpenSSO, Web Synergy (portal), SailFin



And more ...

Home | Version | User: admin | Domain: domain1 | Server: localhost | Logout | Help

Sun Java™ System Application Server Admin Console

Common Tasks

- Domain
- Applications
 - Enterprise Applications
 - Web Applications
 - EJB Modules
 - Connector Modules
 - Lifecycle Modules
 - Application Client Modules
- Web Services
- JBI
 - Service Assemblies
 - Components
 - Shared Libraries
- Custom MBeans
- Resources
 - Clusters
 - Stand-Alone Instances
 - HTTP Load Balancers
- Node Agents
- Configurations

Common Tasks

To access information about a task, select the "i" info button

Enterprise Tasks

- Create New Cluster
- Create New Stand-Alone Instance
- View Clusters
- View Stand-Alone Instances

Deployment

- Deploy Enterprise Application (.ear)
- Deploy Web Application (.war)
- Deploy Custom MBean
- Deploy Java Business Integration (JBI) Service Assembly

Monitoring

- View Monitoring Data

Other Tasks

- Search Log Files
- Create New JDBC Connection Pool
- View Web Services

Support/Help

- Quick Start Guide
- Administration Guide
- Developer's Guide
- Application Deployment Guide
- Deployment Planning Guide

- Learn from the Source: [Expert-to-engineer web training for Java EE 5.](#)
- Join the [Project GlassFish](#) watch the latest news in [The Aquarium](#).
- Need help? Learn how to get [free help](#) from Sun.
- Get [Production Support](#)

JBoss Management Console

- Monitoring
 - Monitor Alerts
 - Snapshots
 - Web Status
 - Connector scoreboard
 - Full status
- J2EE Domains
 - jboss.management.local
- AOP
 - Classes
 - Unbound Bindings
- System
 - Unified ClassLoaders
 - JMX MBeans
 - Catalina
 - Catalina.type=Server
 - Catalina.type=StringCache
 - JMImplementation
 - com.arjuna.ats.properties
 - jboss
 - jboss.admin
 - jboss.alerts
 - jboss.aop
 - jboss.bean
 - jboss.beans
 - jboss.cache
 - jboss.console
 - jboss.deployer
 - jboss.deployer
 - jboss.ejb
 - jboss.ejb3
 - jboss.j2ee

JBoss JMX MBean View

MBean Name: **Domain Name:** Catalina
type: Server
 MBean Java Class: org.apache.tomcat.util.modeler.BaseModelMBean

[Back to Agent View](#) [Refresh MBean View](#)

MBean description:
Standard Server Component

List of MBean attributes:

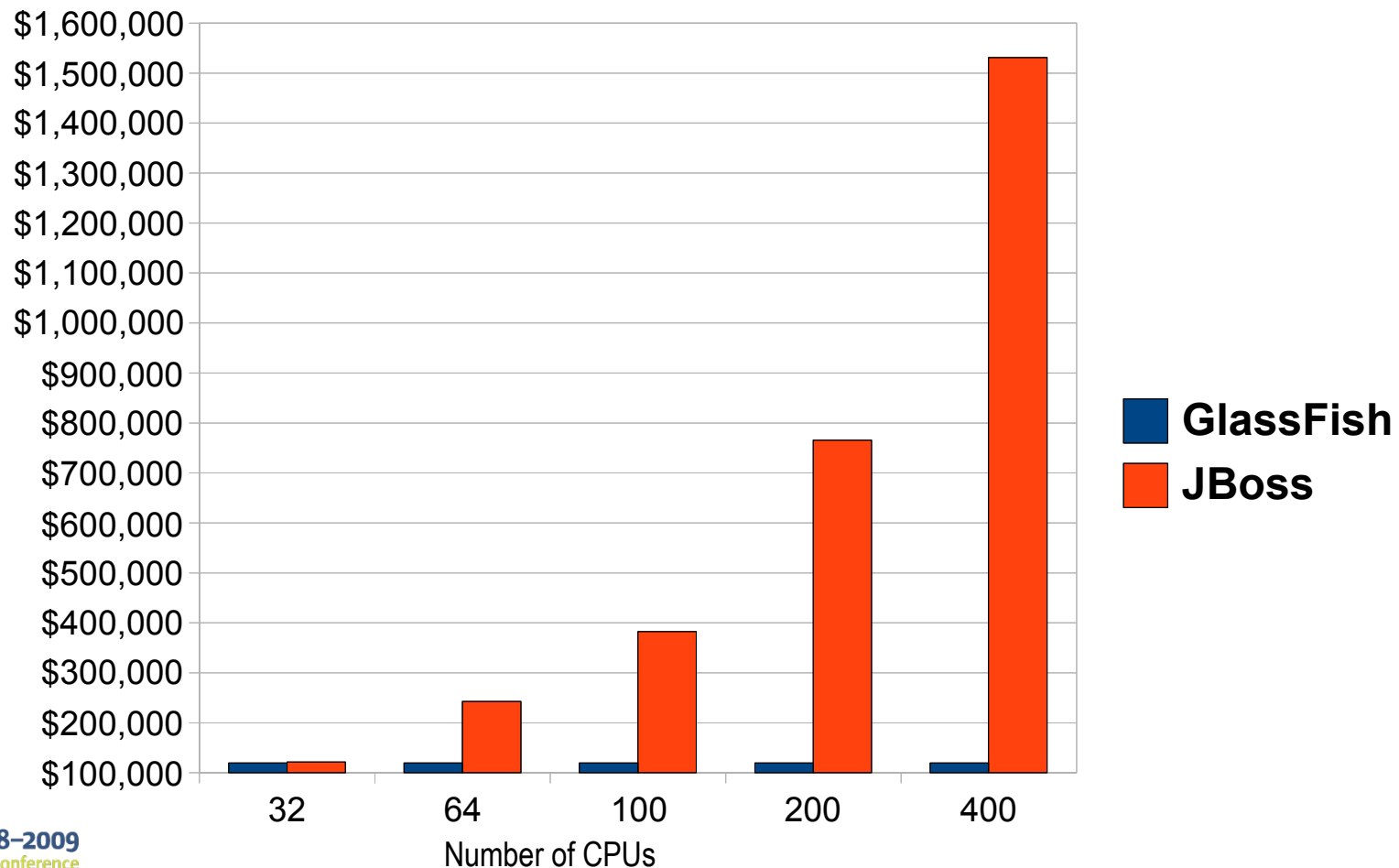
| Name | Type | Access | Value |
|--------------|-------------------------|--------|----------------------------------|
| modelerType | java.lang.String | R | org.apache.catalina.core.Standar |
| port | int | RW | 8005 |
| serverInfo | java.lang.String | R | JBossWeb/2.0.0.GA |
| serviceNames | [Ljava.lang.ObjectName; | RW | [Ljava.lang.Object |



And another one ...

GlassFish vs JBoss Premium Subscription (3 years)

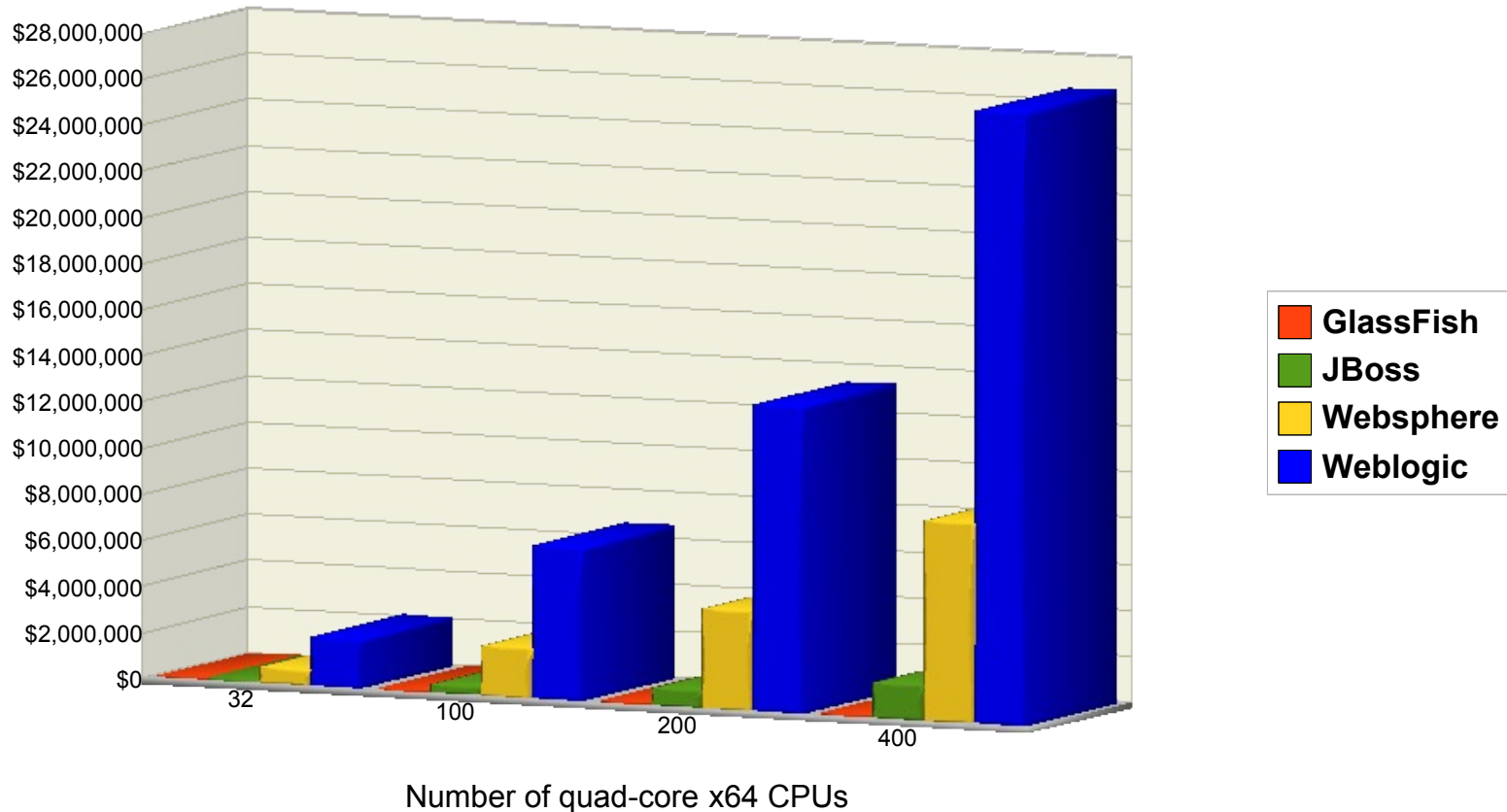
Subscription
Price
(USD)





Application Server Pricing Comparison

3 years of 7x24 premium support

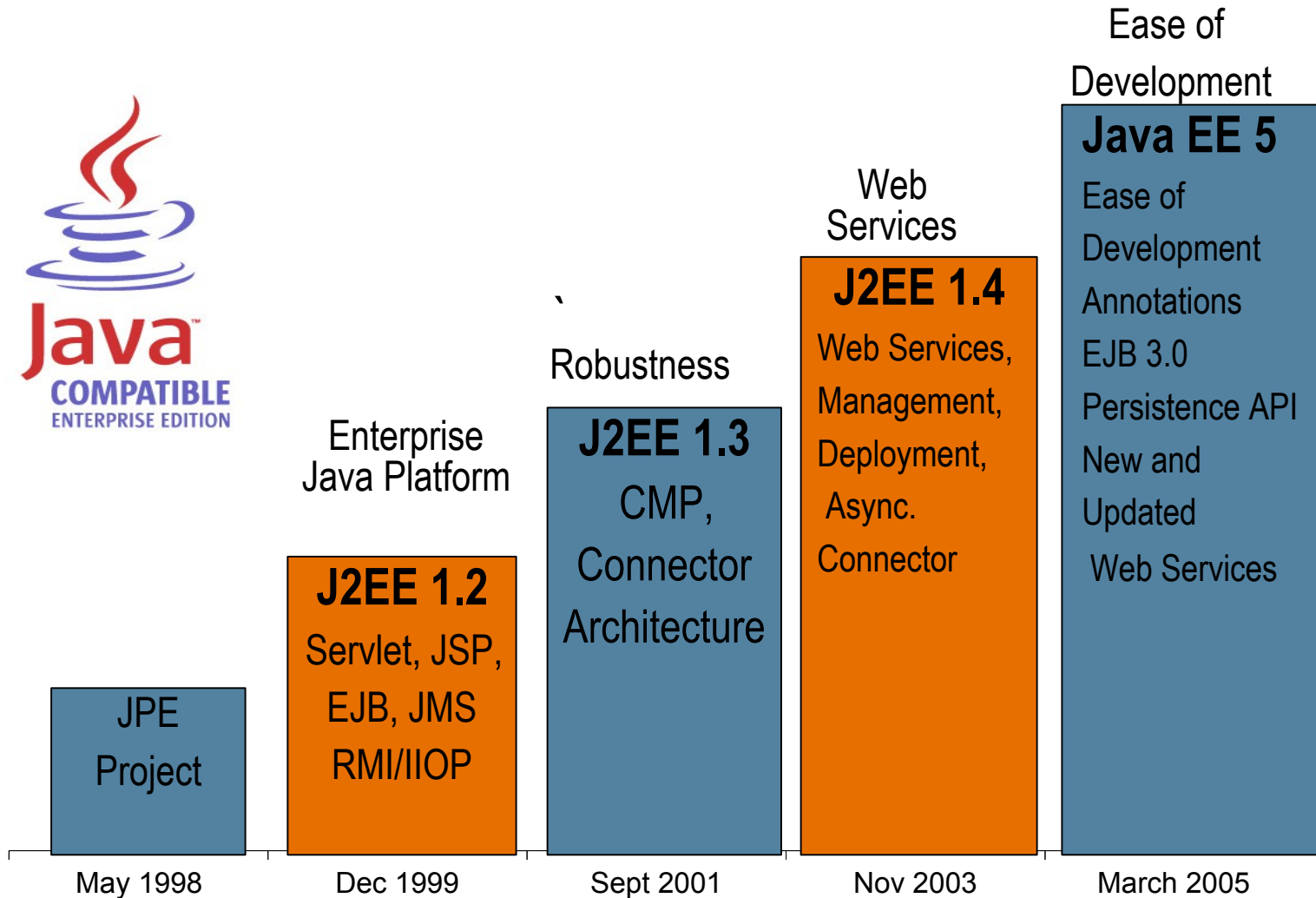


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History of Enterprise Java



Java EE 6

- Rightsizing
 - > Flexibility at development and deployment
 - > Focus on specific classes of applications
 - > Simplify by removing rarely/superseded APIs
- Profiles: Proper subsets/supersets
 - > Web profile defined
- Pruning: Make some components optional
- Extensibility: Embrace open source libraries & frameworks

Java EE 6 Specs

- EJB 3.1
- JPA 2.0
- Servlet 3.0
- JSF 2.1
- JAX-RS 1.0
- WebBeans 1.0
- Java Connector Architecture 1.6

Other Components

- Java SE 6 underneath
- Point updates
 - > JAX-WS 2.2
 - > JSR 109 1.3
 - > JSF 2.2
- Completed JSRs
 - > JSR 196
 - > JAXB 2.2



So Why GlassFish?



- **Java EE 5** (vs. Tomcat, Websphere, JBoss)
- **Performance!** (vs. Jboss, WebSphere, WebLogic)
- **Administration** (vs. JBoss, Tomcat)
- **Enterprise-ready** (vs. JBoss, Tomcat)
- **Enterprise support** (vs. Tomcat)
- **Bigger picture:** OpenSSO, OpenESB, etc...
- **Community** (vs. Weblogic, Websphere)

“Enterprise Features at OpenSource price!”

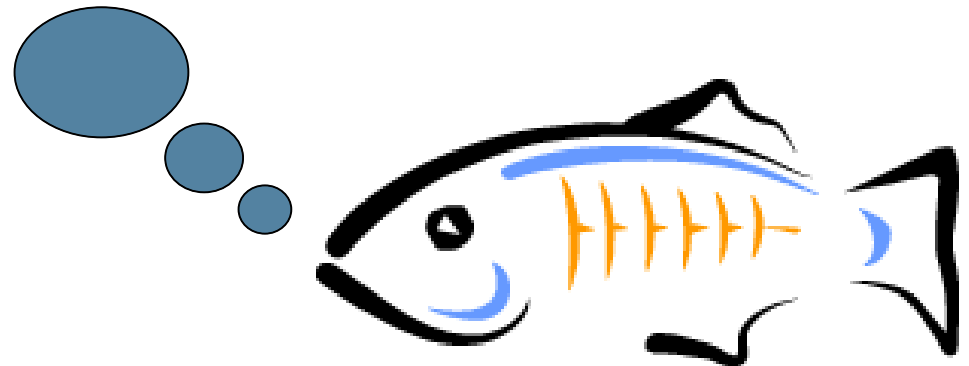
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Reference

- <http://glassfish.org>
- <http://blogs.sun.com/theaquarium>
- <http://blogs.sun.com/stories>
- <http://blogs.sun.com/glassfishforbusiness>
- <http://wiki.glassfish.java.net>



Fast, Easy & Reliable
Modular, Embedable, Extensible

THANK YOU

Arun Gupta
GlassFish Evangelist

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