



# GlassFish v3 “Prelude”

Alexis Moussine-Pouchkine  
GlassFish Team



# Timeline of Project GlassFish



Tomcat  
Jasper  
Catalina  
JSTL  
Struts

Crimson  
XSLTC  
Xalan  
Xerces

*GlassFish  
Launch*

**v1**

**v2**

UR1

UR2

**v3  
"Prelude"**

v2.1

**v3**

JAXB  
JAX-RPC  
JSF

June  
2005

May  
2006

Sept.  
2007

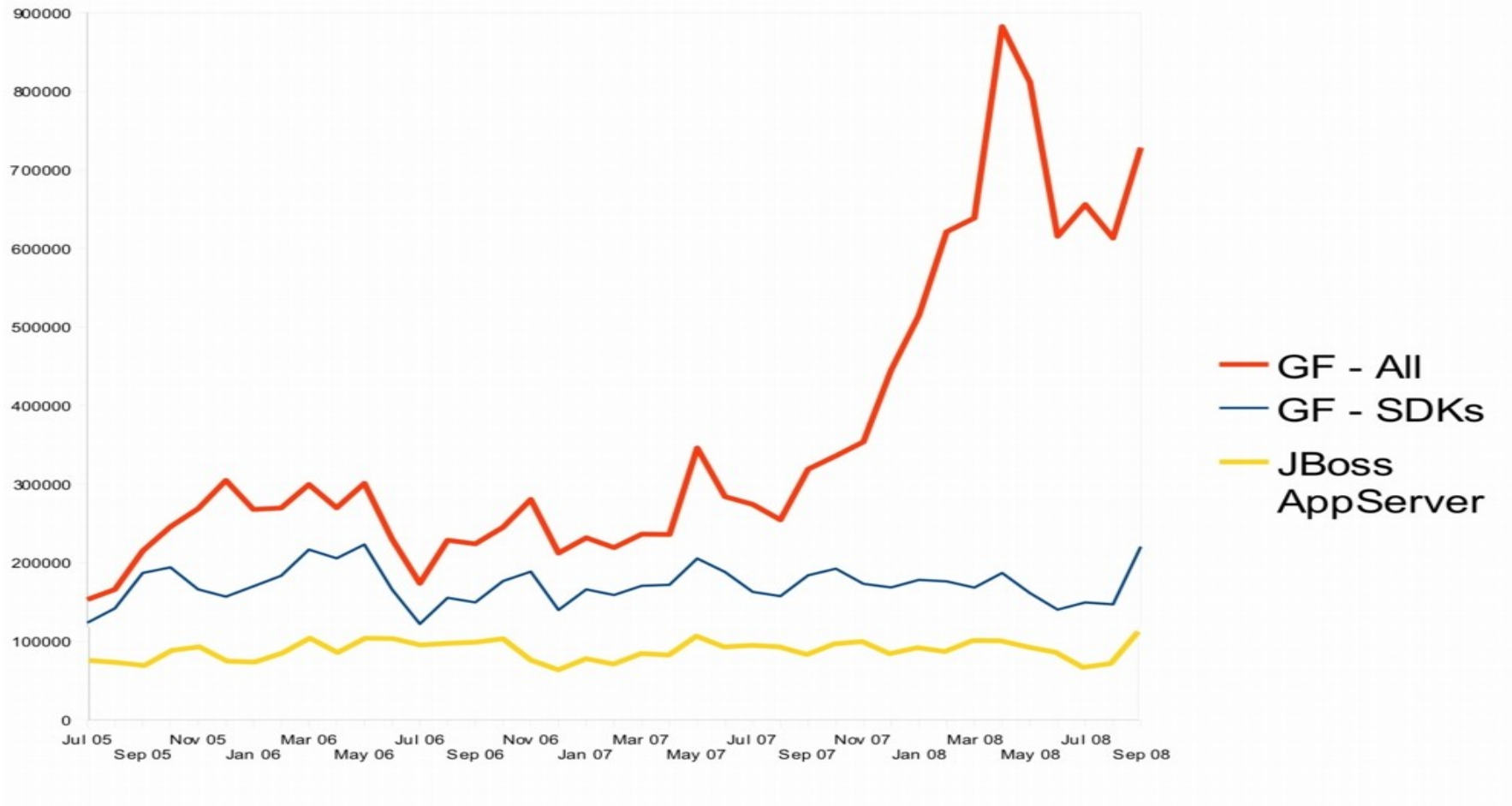
Oct/Nov  
2008

Feb  
2009

Mid-2009

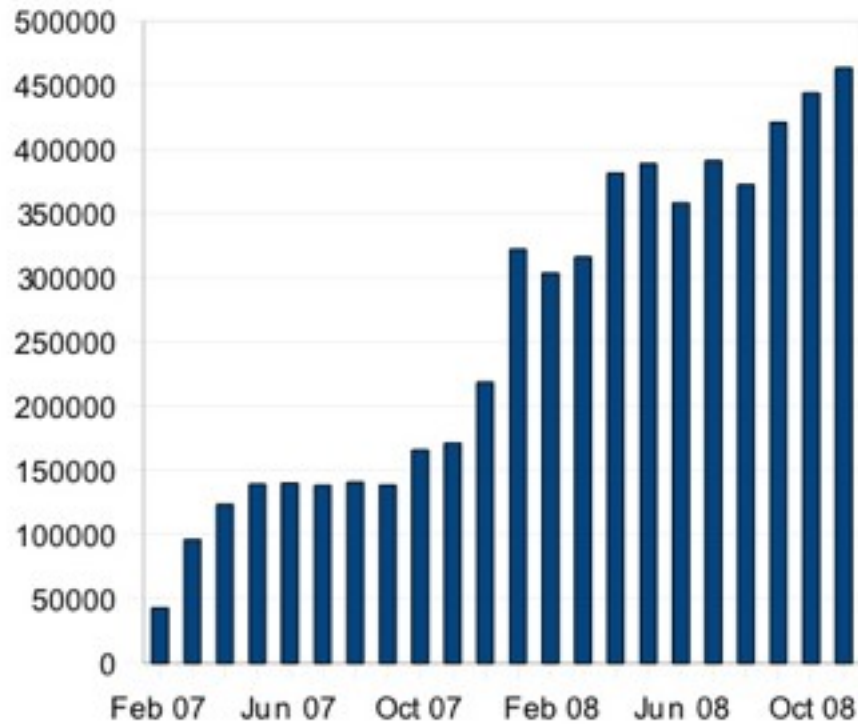
**(you are here)**

# GlassFish Community/Adoption

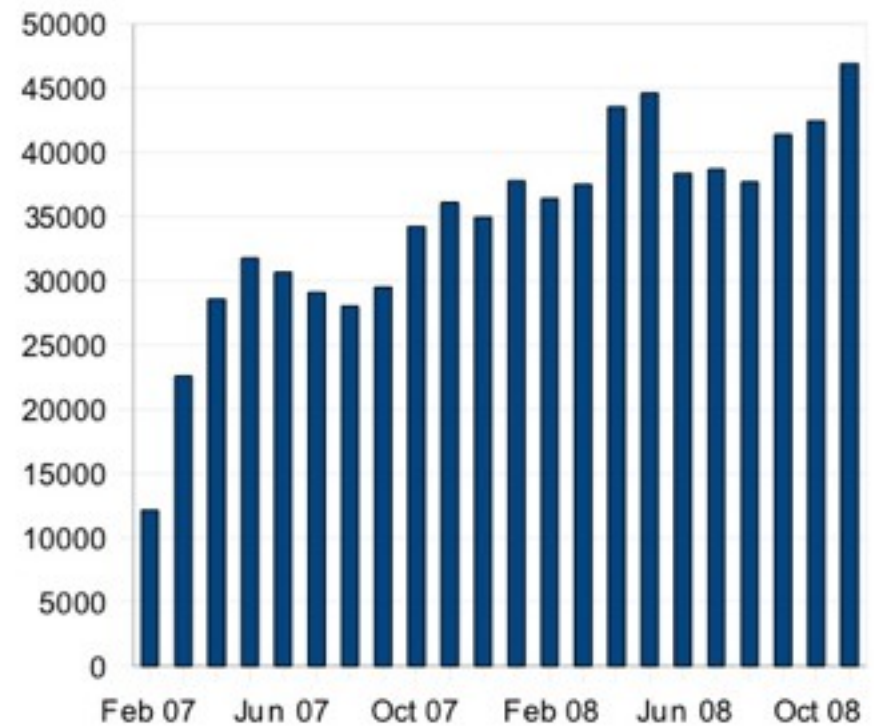


# Actual Users

## Monthly Hits

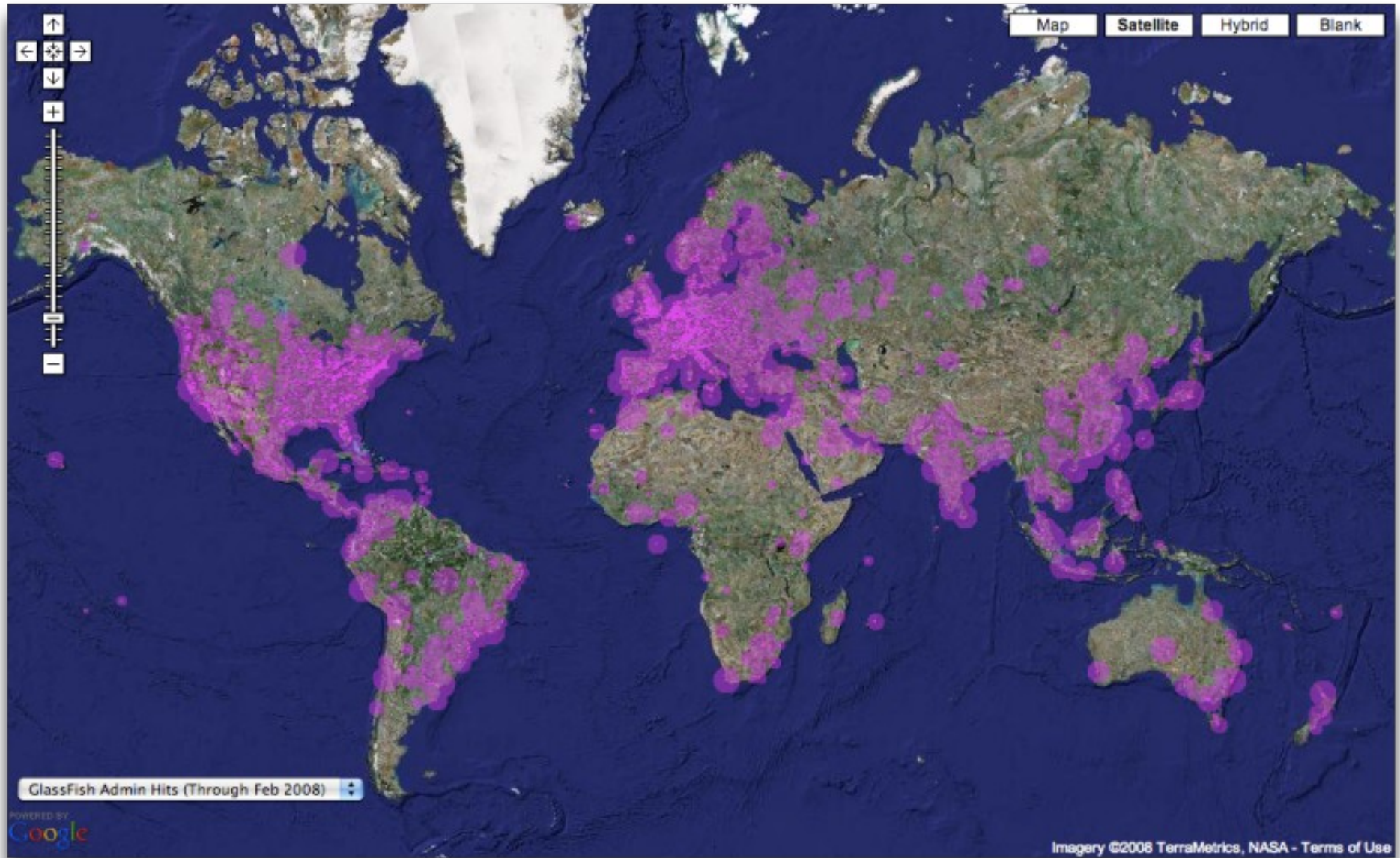


## Monthly IPs



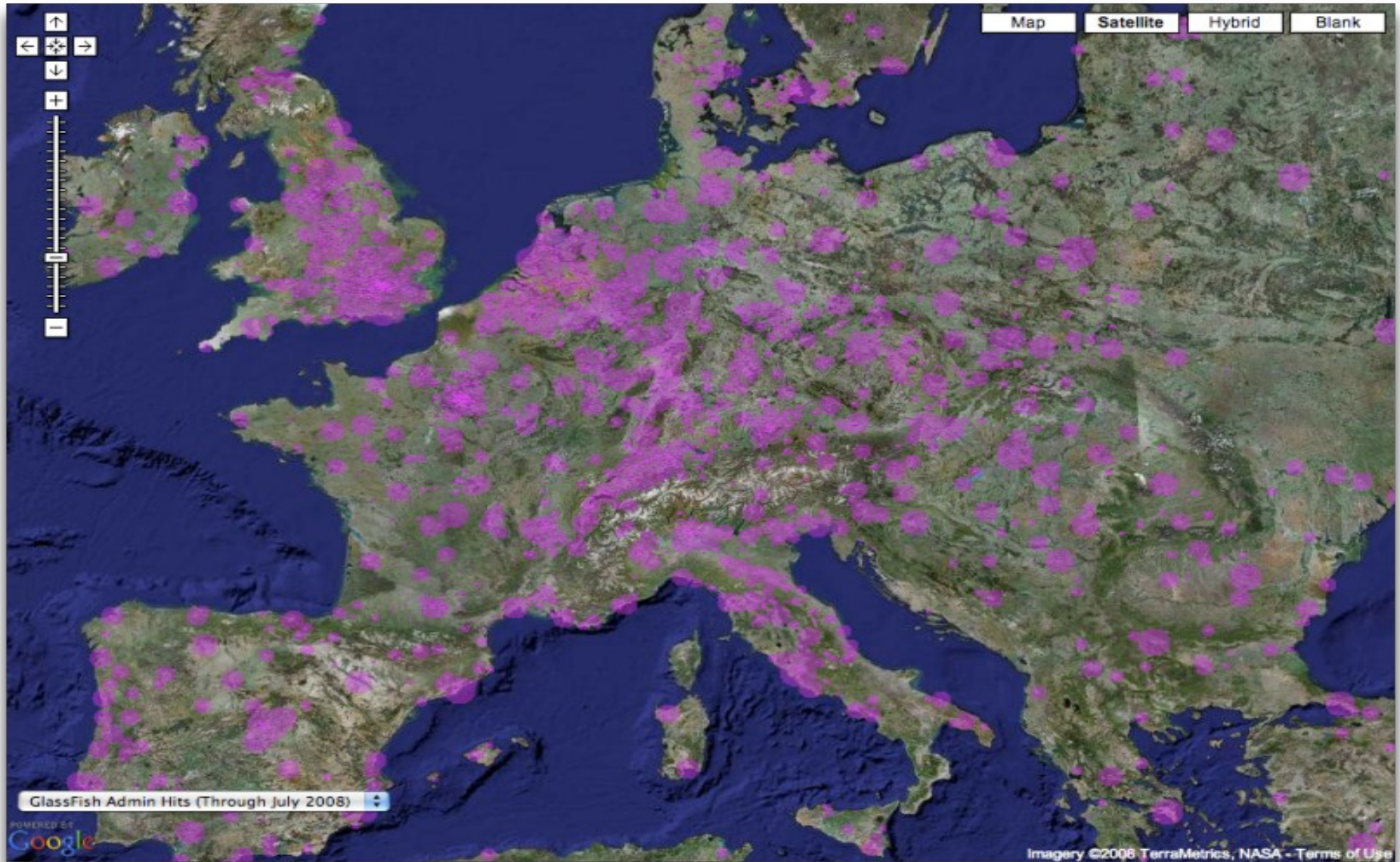


# GlassFish around You



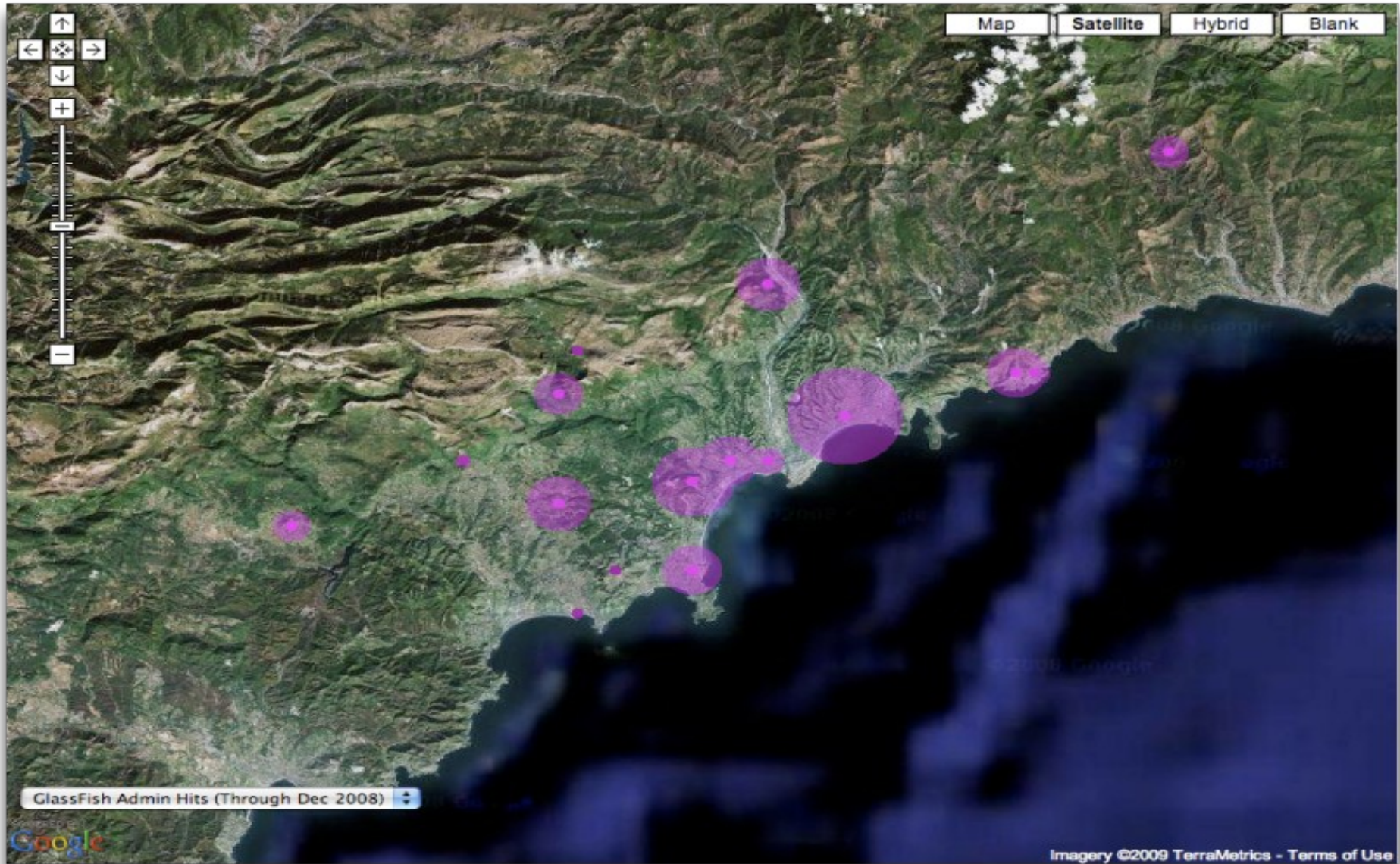


# GlassFish around You (really)



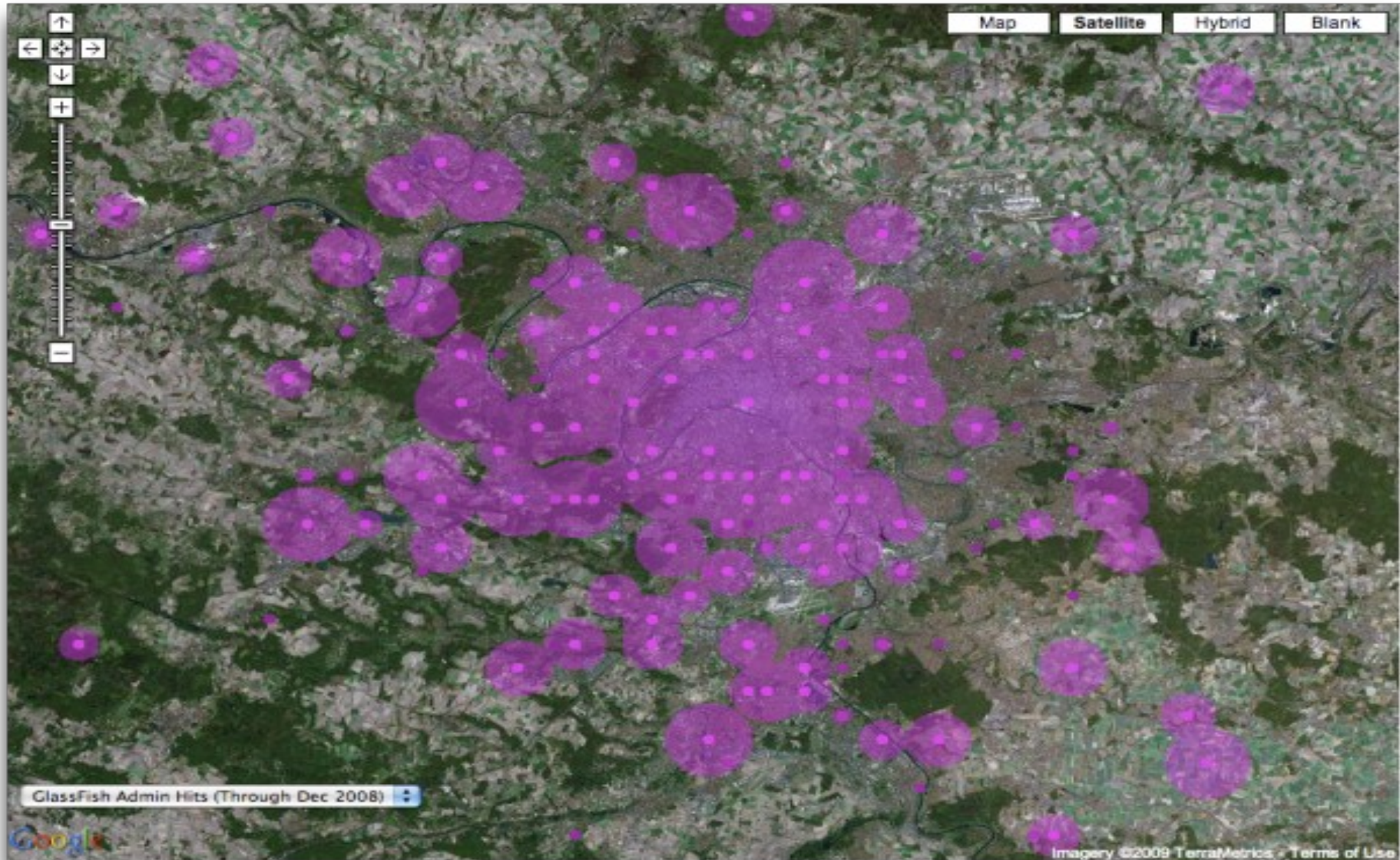


# GlassFish around You (really, really)





# GlassFish around You (really, really)





# All this ....

# ... with a boring application server

(albeit with built-in full Web-Services Stack, full clustering, great monitoring tools, record performance, complete documentation, and heavily deployed in production)

What is a  
“lightweight”  
Application Server ?



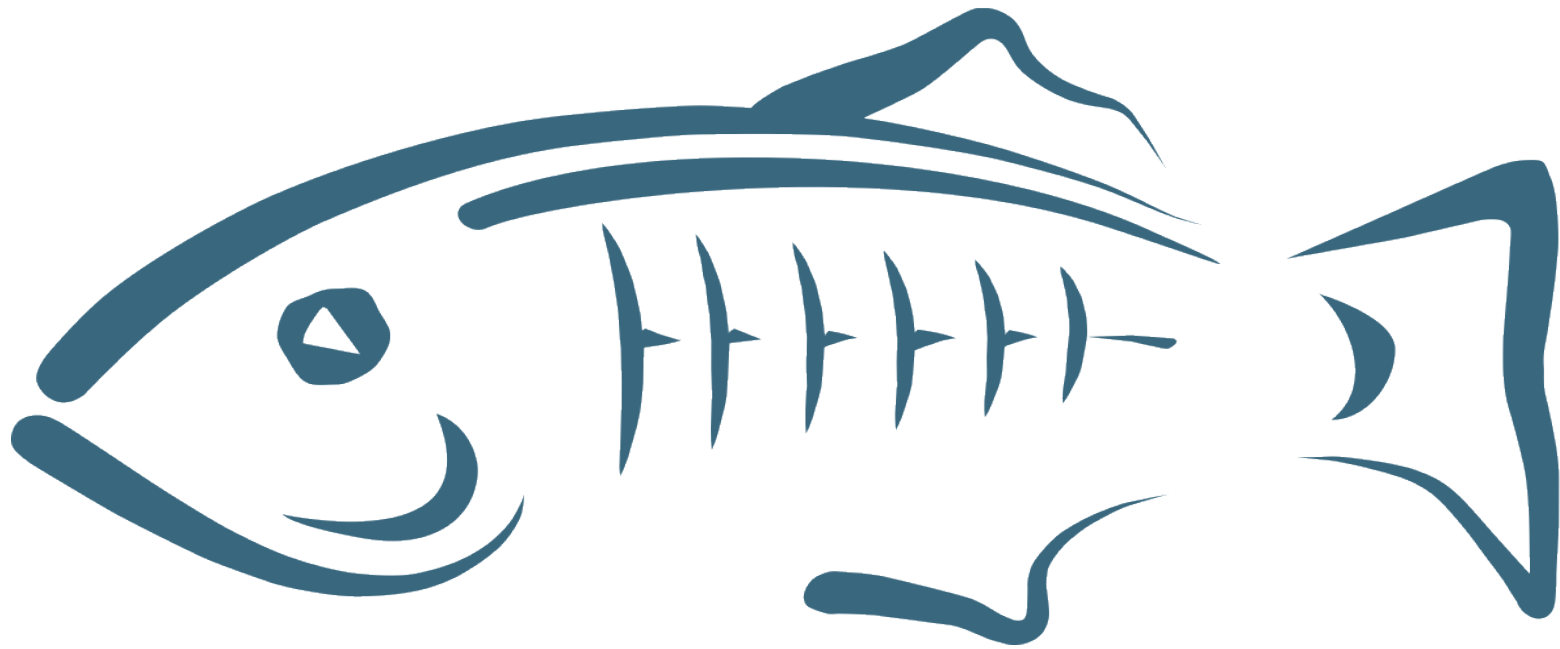
# Tomcat ?

# Fast startup ?



# Load on-demand ?

# Introducing GlassFish v3 Prelude





# Admin Console

Home | Version
Help

User: anonymous | Domain: domain1 | Server: localhost

## GlassFish v3 Prelude Administration Console

There are 1 update(s) available.

**Common Tasks**

- Registration
- Application Server
- Applications
  - Web Applications
- Resources
  - JDBC
- Configuration
  - Web Container
  - HTTP Service
  - Monitoring
  - Security
- Update Tool

## Common Tasks

### Registration and Support

- Registration
- Subscriptions

### Deployment

- Deploy Web Application (.war)

### Monitoring

- View Monitoring Data
- Configure Monitoring

### Documentation

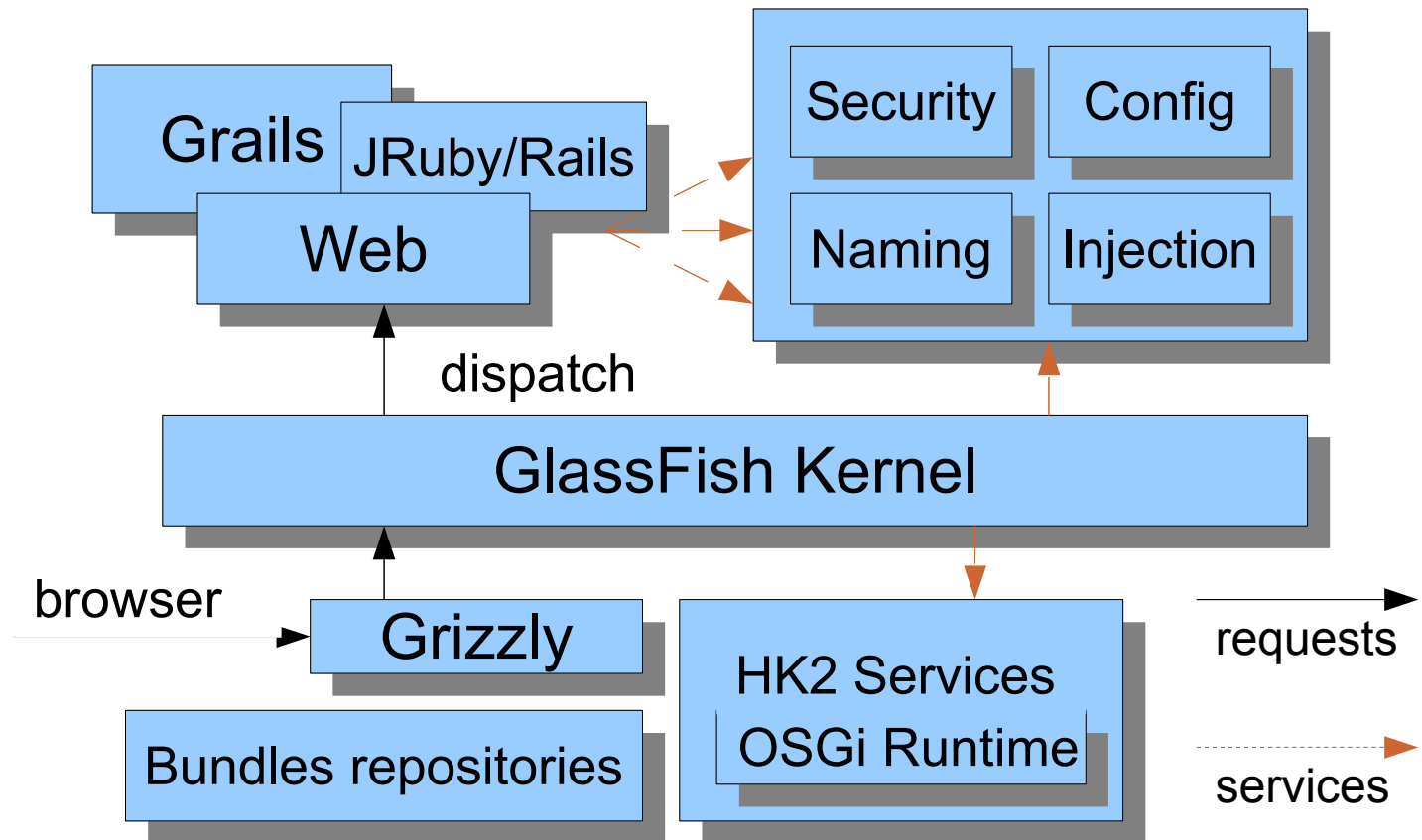
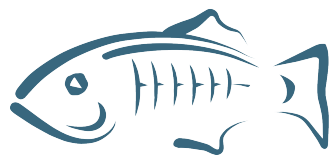
- Quick Start Guide
- Administration Guide
- Developer's Guide
- Application Deployment Guide

### Update Center

- Installed Components
- Available Updates
- Available Add-Ons

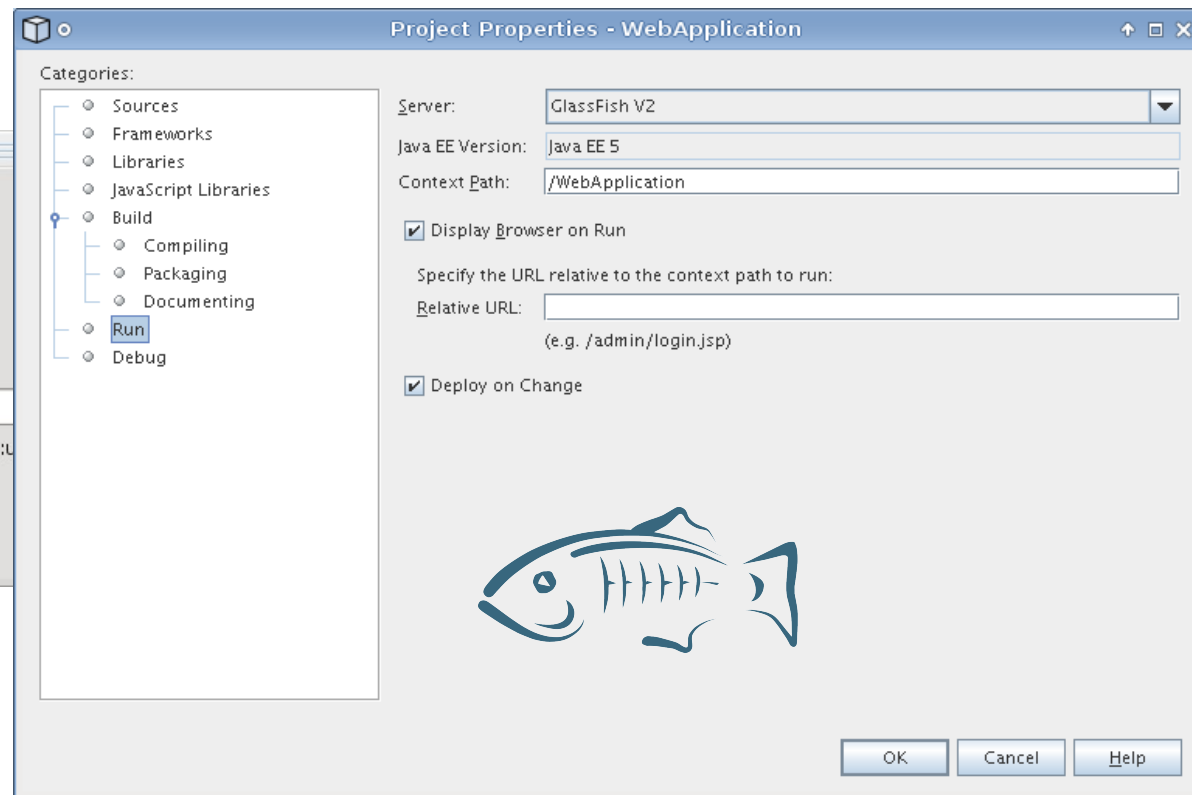
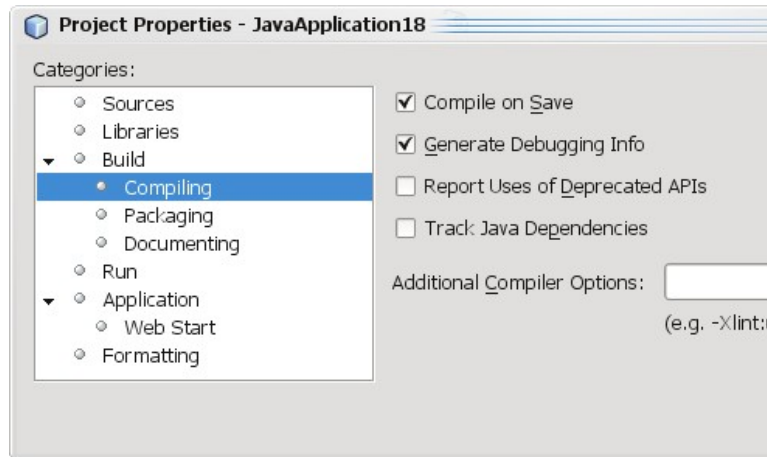
# Modular and Dynamic

- Modular : Apache Felix (OSGi)
- Extensible : HK2
- Yet very Fast !



# Painless Java EE development !

- Java EE development doesn't have to be painful :)
- Incremental compile of all Java EE artifacts
- Auto-deploy of all Java EE and static artifacts



# Demo

(Startup  
Compile on Save  
Deploy on Change  
Session)



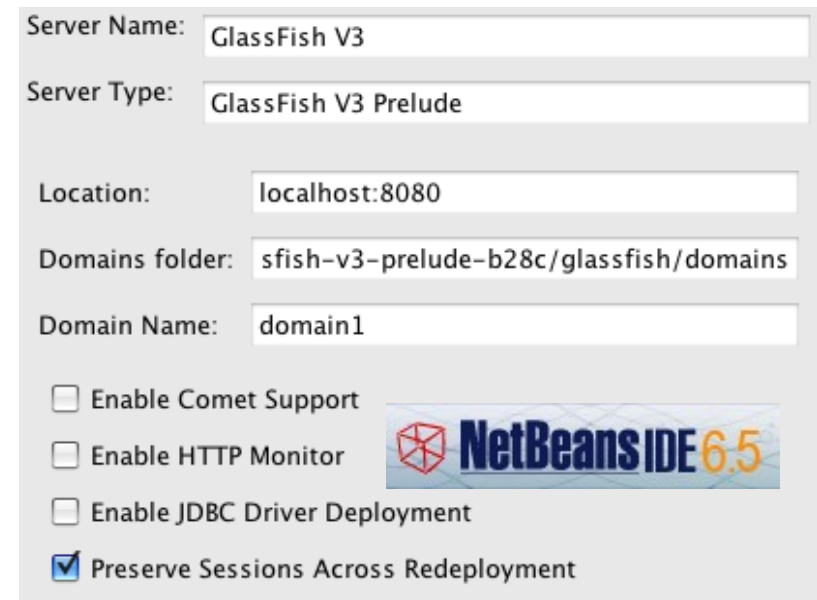
# Session Retention

Deployment option to maintain stateful sessions across re-deployments

```
$ asadmin redeploy --properties  
keepSessions=true myapp.war
```

Greatly simplifies the development paradigm.

Integrated in NetBeans 6.5 :



Server Name: GlassFish V3

Server Type: GlassFish V3 Prelude

Location: localhost:8080

Domains folder: sfish-v3-prelude-b28c/glassfish/domains


Domain Name: domain1

Enable Comet Support

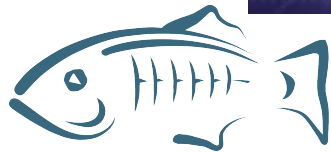
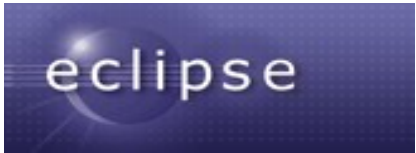
Enable HTTP Monitor

Enable JDBC Driver Deployment

Preserve Sessions Across Redeployment



# Yes, Eclipse too !



**New Server**

**New GlassFish v3 Prelude Server**  
Create a new GlassFish v3 Prelude server

Domain Name:

Domain Directory:

Administrator Id:

Administrator Password:

Use Anonymous Connection for Admin Commands

Preserve Sessions Across Redeployment

MyServlet.java | GlassFish Update Center

Available Add-Ons | Available Updates | Installed Components | Configuration

### Available Add-Ons

This page lists the add-on components that are available. Use this page to install any add-on components that you require.

Installation Path: /Users/AlexisMP/glassfishv3-prelude

Available Add-Ons (15)

Component	Category	Version	Install Size	Source
<input type="checkbox"/> jersey	Web Services	1.0-0.3	7MB	dev.glassfish.org
<input type="checkbox"/> glassfish-management-110n	Application Servers	3.0-28.3	96KB	dev.glassfish.org
<input type="checkbox"/> glassfish-web-gui-110n	Application Servers	3.0-28.3	60KB	dev.glassfish.org
<input type="checkbox"/> pkg-extra-tools	System Tools	0.1.0-15.1269	64KB	dev.glassfish.org
<input type="checkbox"/> glassfish-jdbc-gui-110n	Application Servers	3.0-28.3	78KB	dev.glassfish.org
<input type="checkbox"/> jruby-gems	Scripting	2.1.1-1.2	25MB	contrib.glassfish.org
<input type="checkbox"/> glassfish-jts	Application Servers	3.0-28.3	340KB	dev.glassfish.org
<input type="checkbox"/> glassfish-gui-110n	Application Servers	3.0-28.3	3MB	dev.glassfish.org
<input type="checkbox"/> metro	Web Services	1.4-5010	15MB	dev.glassfish.org
<input type="checkbox"/> jmaki	Scripting	1.8.1-2.0	6MB	contrib.glassfish.org

Register

Serv | Glass | Probl | Task | Prop | Data | Snip | Prog | Cons

Server	State	Status
GlassFish V2 Java EE 5 at localhost	Stopped	
GlassFish v3 Prelude at localhost	Started	Synchronized
EclipseWeb	-	Synchronized

# Update Center

Update Tool

Application Images

- GlassFish v3 Prelude
  - Available Add-ons
  - Available Updates
  - Installed Components

1 component will be installed (7.7 MB)

Component	Category	Published	Version
<input type="checkbox"/> GlassFish Nucleus Localization	Application Servers	10/30/2008	3.0-28.3
<input type="checkbox"/> GlassFish Web Container Consol ...	Application Servers	10/30/2008	3.0-28.3
<input type="checkbox"/> GlassFish support for Grails fra...	Scripting	11/03/2008	1.0.3-1.4
<input type="checkbox"/> jMaki Ajax Framework	Scripting	11/06/2008	1.8.1-2.0
<input type="checkbox"/> JRuby on GlassFish	Scripting	10/03/2008	1.1.4-1.1
<input type="checkbox"/> JRuby Gems	Scripting	10/17/2008	2.1.1-1.2
<input type="checkbox"/> Image Packaging System Extra T...	System Tools	10/08/2008	0.1.0-15.1...
<input checked="" type="checkbox"/> Jersey RESTful Web services for ...	Web Services	10/23/2008	1.0-0.3
<input type="checkbox"/> Metro Web Services Stack	Web Services	10/23/2008	1.4-5010

Refresh List Install

Description

**Jersey RESTful Web services for GlassFish**

Jersey is the open source (under dual CDDL+GPL license) JAX-RS (JSR 311) Reference Implementation for building RESTful Web services. But, it is also more than the Reference Implementation. Jersey provides additional APIs and extension points (SPIs) so that developers

```
% bin/pkg
Usage:
    pkg [options] command [cmd_options] [operands]
```

Unique Identifier: pkg:/jersey@1.0,0-0.3:20081023T091426Z

Getting manifest for pkg:/jersey@1.0,0-0.3:20081023T091426Z...done.

## GlassFish v3 Prelude

There are 1 update(s) available.

### Common Tasks

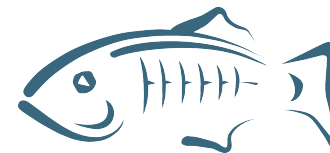
- Registration
- Application Server
- Applications
  - Web Applications
- Resources
  - JDBC
- Configuration
  - Web Container
  - HTTP Service
  - Monitoring
  - Security
- Update Tool

# Not just Java !

## And right from the Update Center



- Groovy / Grails
  - Uses GlassFish Embedded on `%grails run-app`
  - Smaller archives with `%grails shared-war`
- JRuby on Rails
  - > Multiple deploys strategies including “Native” directory-based
    - One command, one instance, one process
- Grizzly, admin, JDBC pooling, Metro, available to all!





# Demo

(Single GlassFish hosting  
JavaEE, Rails & Grails)

# Prelude to Java EE 6 (via GlassFish Update Center)

- JSF 2.0 Preview
  - > Integrated Facelets
  - > First-class Ajax support
  - > Pub/Sub Events
  - > Composite components
  - > Better resource handling
  - > Groovy integration
- EJB 3.1 Preview
  - > WAR packaging
  - > Singleton
  - > No Interface View
  - > TimerService
  - > Asynchronous operations
  - > ...
- Servlet 3.0 soon

# JAX-RS (JSR 311) with Jersey

- Making it easy to build RESTful Web services
- Production-quality Reference Implementation

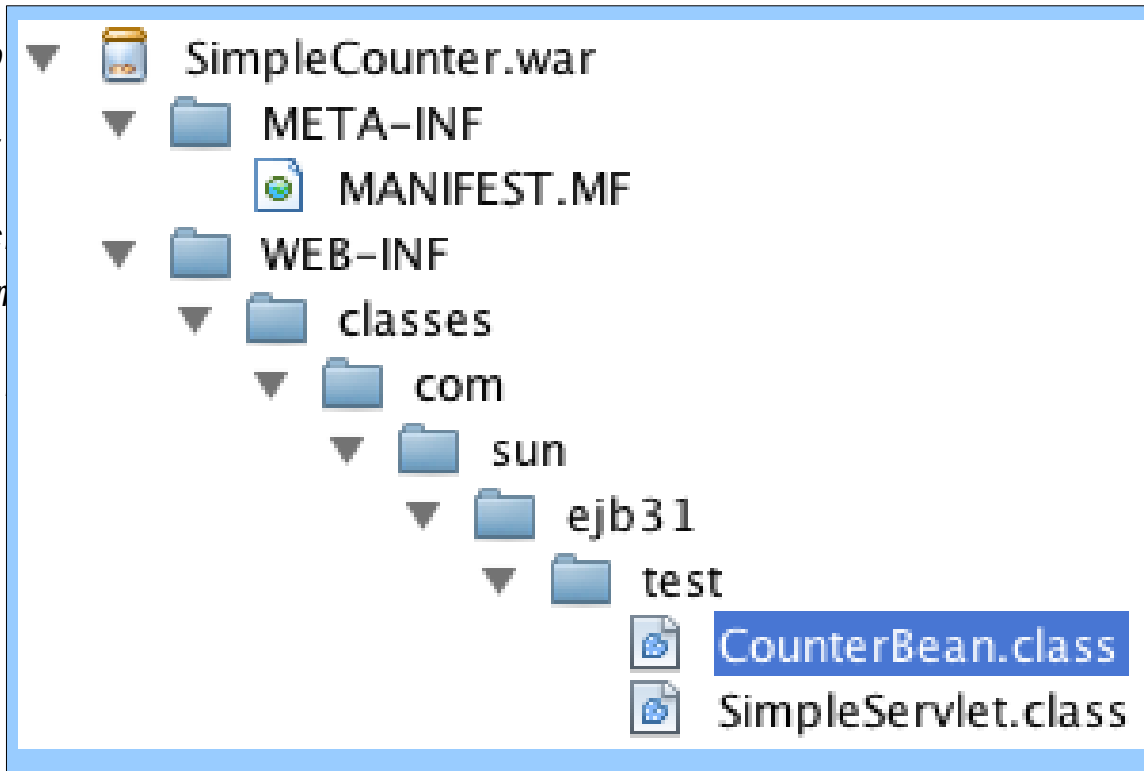
```
@javax.ws.rs.Path( "/users/{id}" )
public class UserResource {
    @javax.ws.rs.GET
    @javax.ws.rs.Produces( "text/xml" )
    public String getUser( @PathParam( "id" )
        String userName) {
        ...
    }
}
```

- Final and supported v1.0
- Fine client API too

# EJB 3.1 Sample

```
import javax.ejb.Singleton;
@Singleton
public class SimpleServlet extends HttpServlet {
    @EJB CounterBean counterBean;
```

```
public class CounterBean implements Counter {
    private int count = 0;
    public synchronized void increment() {
        return count++;
    }
}
```



```
, ... resp) {
    response.getWriter();
    counterBean.incrementAndGetHitCount();
}
```

```
}
```



# Demo

(simple ejb 3.1  
war packaging)

# GlassFish Embedded

```
AppServer glassfish = new AppServer(8080);  
glassfish.deployWar(warFile);
```

**total(1022ms)**



```
INFO: GlassFish V3 Prelude startup time : Embedded(430ms) startup services(592ms) total(1022ms)
```

# GlassFish Embedded

```
public class Main {  
    public static void main (String[] args) {  
        AppServer glassfish = new AppServer(8080);  
        glassfish.deployWar(warFile);  
    }  
}
```

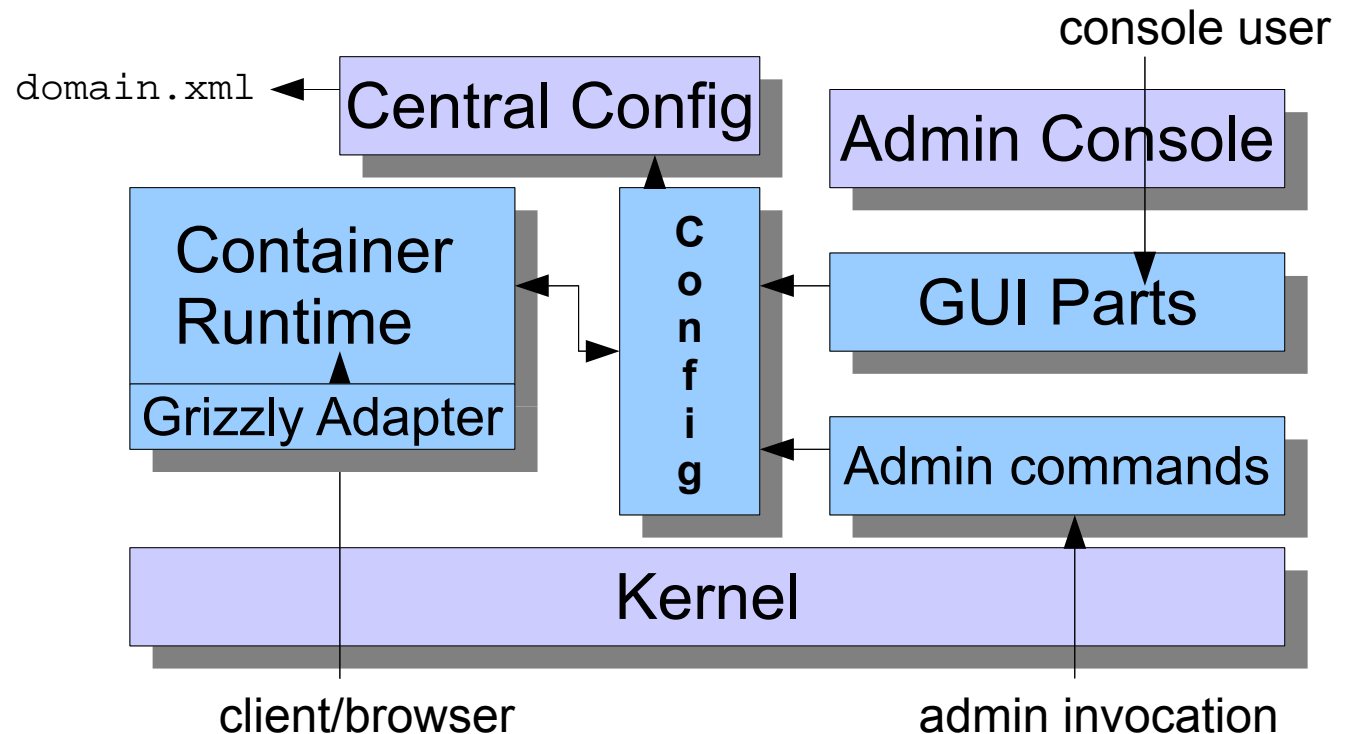
# GlassFish Embedded

```
@BeforeClass
public static void setUpClass () {
    AppServer glassfish = new AppServer(8080);
    glassfish.deployWar(warFile);
}
```

```
@Test
public void pingApplication () {
    ...
}
```

# A lot more ...

- Comet, Cometd/Bayeux
- Full support for mod\_jk, WebDAV, CGI, SSI
- Metro 1.4 Web Services (.NET 3.5)
- pkg and IPS
- RESTful admin
- Monitoring
- Extensible
  - > Runtime
  - > Admin console
  - > Config file



# GlassFish v3 Prelude – Practical

- Get it from <http://glassfish.org>
- Download size: 26MB
  - > Graphical Installer
  - > Zip version
  - > Community-contributed IzPack installer
- Runs on Java 5 and Java 6
- Questions and feedback to :  
[USERS@glassfish.dev.java.net](mailto:USERS@glassfish.dev.java.net) or GlassFish forum.
- Supported product, subscriptions available



# v3 Prelude vs. GlassFish v2

Feature	GlassFish Server v2	GlassFish v3 Prelude
<b>Java Platform, Enterprise Edition</b>		
Java Compatible, Enterprise Edition (Java EE 5) Certified	X	
<b>Web Application and Service Technologies</b>		
Java Web Technologies (Servlet 2.5, JSP 2.1, JSF 1.2)	X	X
<a href="#">Metro Web Services Stack</a>	X	X [1][4]
<a href="#">.NET 3.0 Web Services Interoperability</a>	X	
<a href="#">.NET 3.5 Web Services Interoperability</a>		X[1][4]
<b>Next Generation Web</b>		
<a href="#">jMaki</a> (Ajax Framework)	X[4]	X[4]
<a href="#">Jersey/JAX-RS 1.0</a> (RESTful Web Services)	X[4]	X[4]
<b>Administration</b>		
Admin Console and CLI (Centralized Administration)	X	X
JMX	X	X
Node Agent & Cluster Mgmt	X	
Upgrade Tool	X	
<b>Client</b>		
Application Client Container	X	
Java WebStart <a href="#">support</a>	X	
<b>Enterprise Application Technologies</b>		
Java DB, JDBC Connection Pooling	X	X
JTA/JTS	X	X
J2EE Connector Architecture 1.5	X	X[2]
EJB 3.0	X	
JMS	X	
JPA 1.0 (TopLink)	X	

# v3 Prelude vs. GlassFish v2 (2)

Feature	GlassFish Server v2	GlassFish v3 Prelude
<b>Scripting</b>		
jRuby/Rails Web Archive (.war) deployment	X[4]	X[4]
“Native” jRuby/Rails deployment – without need for Servlet container		X[4]
Dynamic resizing of jRuby Runtime Pool		X[4]
Groovy/Grails		X[4]
<b>Developer Tools</b>		
Integrated Development Support (Eclipse and NetBeans)	X	X
Rapid Redeployment - Maintain session state on application redeploy		X
Update Center	X	X
Update Center integration with Administration Console		X
Verification Tools	X	
Image Packaging System (IPS) Tools		X
<b>Framework Technologies</b>		
Grizzly (Java NIO)	X	X
Comet (HTTP Push)	X	X
CORBA	X	
Modular Architecture Based on OSGi		X
<a href="#">GlassFish Embedded</a>		X
Extend GlassFish Functionality (Extensibility APIs) (Administration Console, asadmin CLI utility, more)		X
<b>System/Performance Technologies</b>		
Clustering	X	X[3]
Load Balancer Plugin	X	
Centralized Administration of Load Balancer Plugin Configuration	X	
High Availability	X	
<b>Integration</b>		
Integration with Identity Manager, OpenSSO, OpenESB, OpenPortal...	X	

# v3 Prelude Usage



SailFin  
(Telco AppServer)



Project Fuji  
(OpenESB.next)

xWiki  
GlassFishV3  
JavaDB



EHCache Server  
GlassFish v3 Embedded  
Jersey



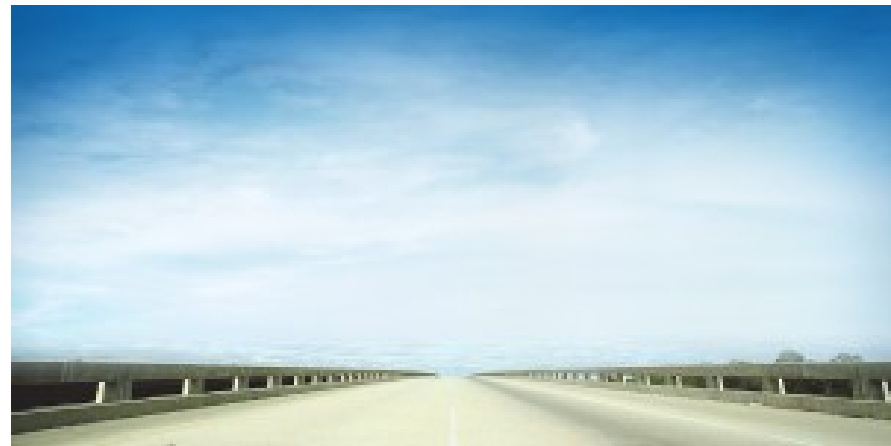
WebSynergy  
(Portal, Liferay)



WebEngine  
GlassFish v3 Embedded  
Jersey

# GlassFish v3 Roadmap

- V3 Final aligned with Java EE 6
  - > Targeted for June 2009
  - > Clustering, central admin likely on the update center
- V3.1 adding clustering
  - > Late in 2009



<http://glassfish.org>



[alexis.mp@sun.com](mailto:alexis.mp@sun.com)  
<http://blogs.sun.com/alexismp>