






























GlassFish / JavaOne 2008

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Sun's Open Stack

Flexible and Heterogeneous with Zero Barrier to Exit

Database Platform	    
Application Infrastructure	     
Virtualization	  
Operating System	    
Partners	    
Architecture	  

Java EE 5.0 = (J2EE 1.4).next

- Java EE 5 Theme: Ease of Development
- POJO-based programming
 - > More freedom, fewer requirements
- Extensive use of annotations
 - > Reduced need for deployment descriptors
 - > Annotations are the default
- DRY principle (better defaults)
- Resource Injection
- New APIs and frameworks

What Is GlassFish?

- A Java EE 5-compliant Application Server
 - > Can run J2EE applications too
- Open Source
 - > CDDL (like OpenSolaris, NetBeans)
 - > GPLv2 (like Java and NetBeans)
- Enterprise Quality
 - > GlassFish Enterprise Application Server
 - > Adds support, indemnification, and 99.999% availability



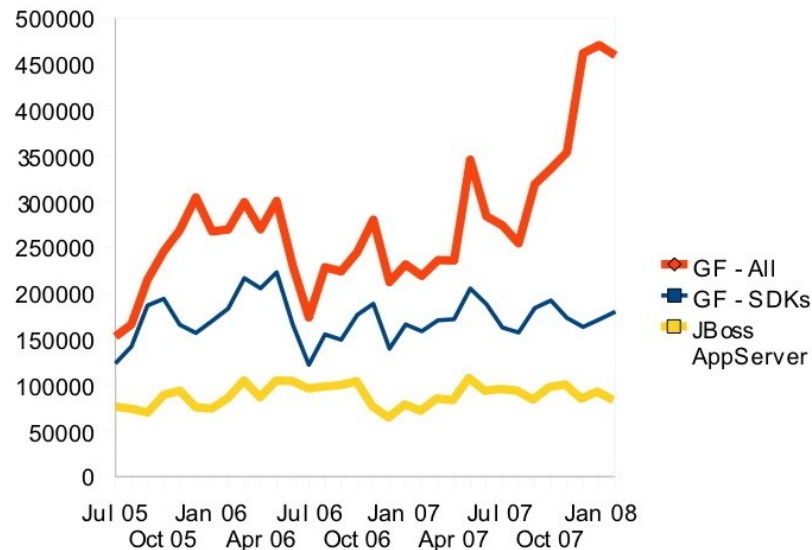
What Is GlassFish? (Cont.)

- Community at <http://glassfish.org>
 - > Sources, bug DBs, discussions
 - > Roadmaps
 - > Architecture Documents
- Governance Board
 - > 2 Sun members: Simon Phipps, Eduardo Pelegri-Llopart
 - > 3 Non-Sun individual members from Google, Wotif.Com, Amex



GlassFish Adoption

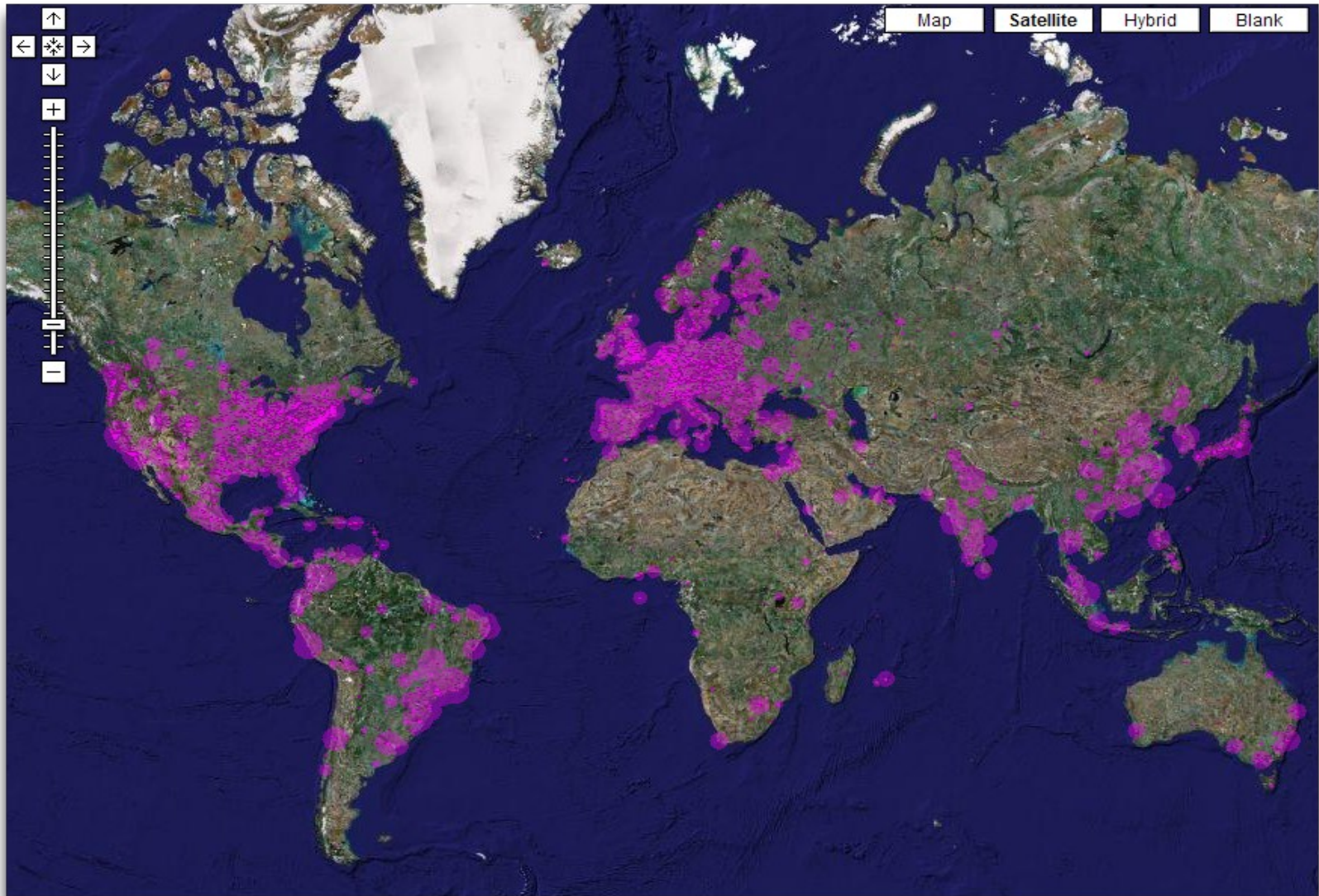
- Millions of downloads



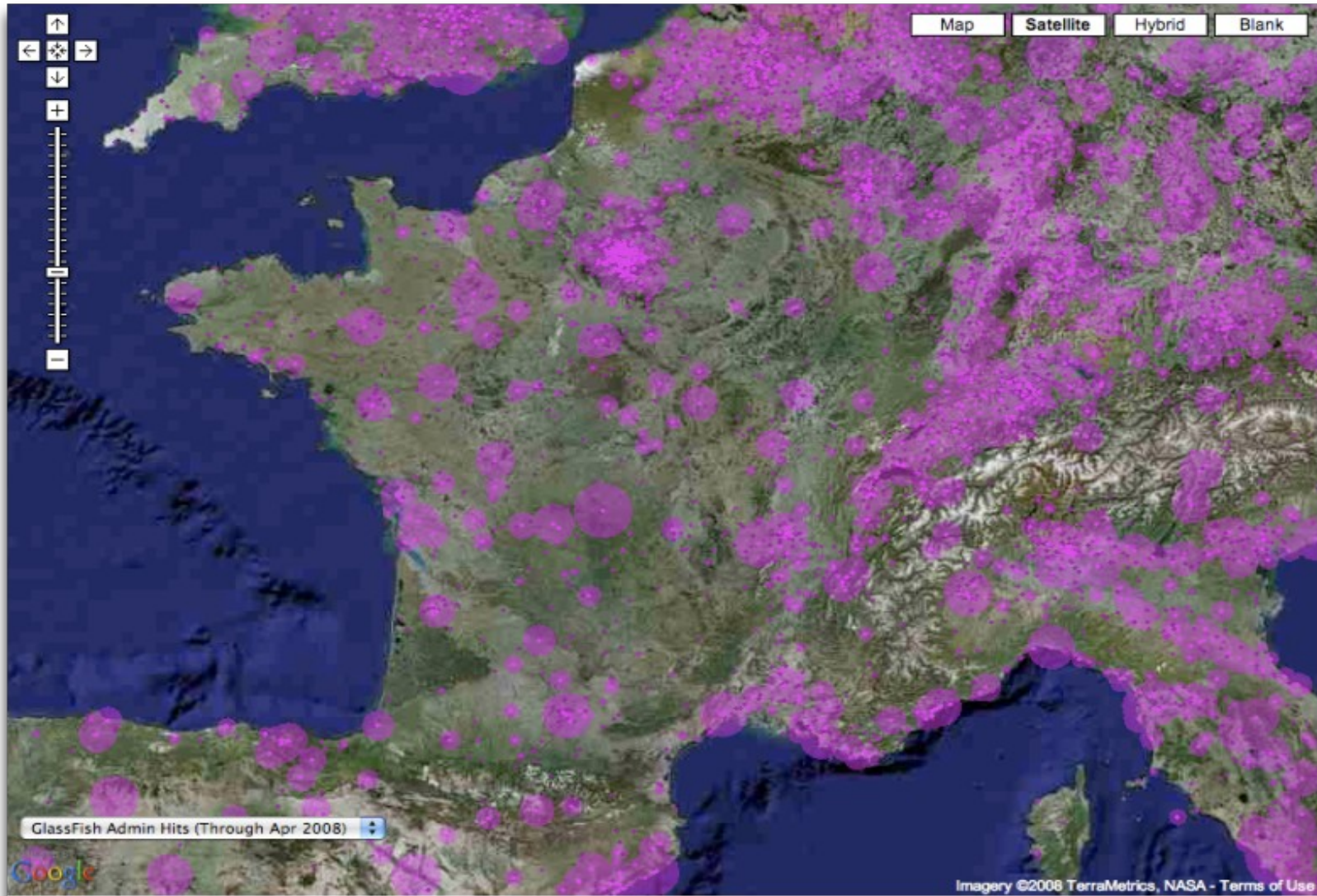
- Dozens of external committers
- Over 8,000 members
- Excellent analyst reviews
 - > Gartner, Forrester, etc...



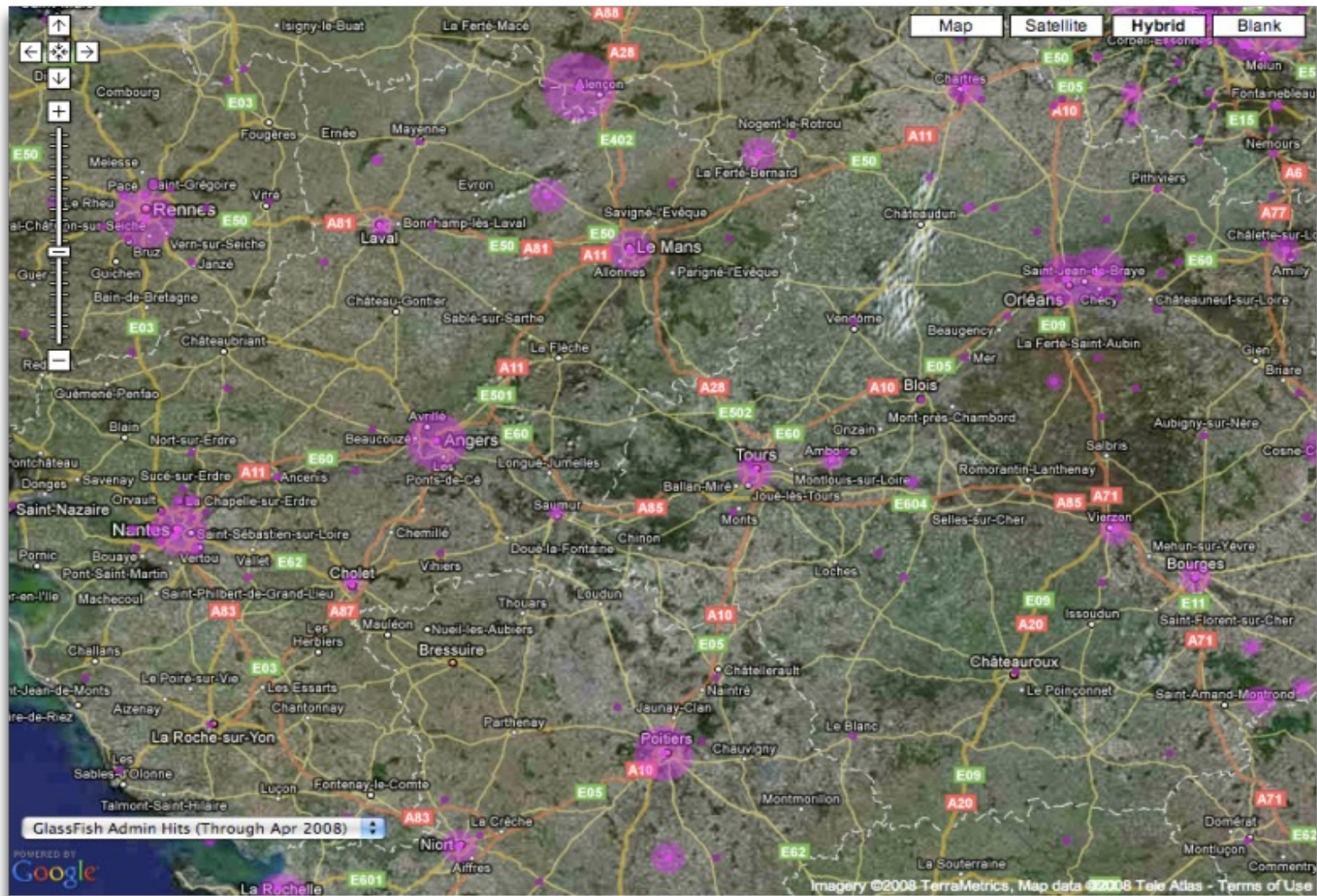
GlassFish around you



GlassFish around you



GlassFish around you



Timeline of Project GlassFish



Tomcat

Jasper

Catalina

JSTL

Struts

Crimson

XSLTC

Xalan

Xerces

*GlassFish
Launch*

v1

v1 UR1

v2

UR1 UR2

v2.1

v3

JAXB
JAX-RPC
JSF

J1'05
June 2005

J1'06
May 2006

Sept.
2007

2008/2009

(you are here)

GlassFish v2 for Enterprises

- Metro Web Services Stack
 - > Performance, Advanced WS & Microsoft interoperability
- Clustering, Load-Balancing, HA
 - > Unified Management
- Web Tier
 - > Grizzly, Dynamic Web Container, Ultra-fast JSP compil.
- OpenMQ
- JBI support (OpenESB 2.0)
- Management & Monitoring
 - > Graphical, command-line, tools, ANT ...
 - > Call Flow, Self-management, etc....
 - > Multi-tier provisioning with N1 SPS

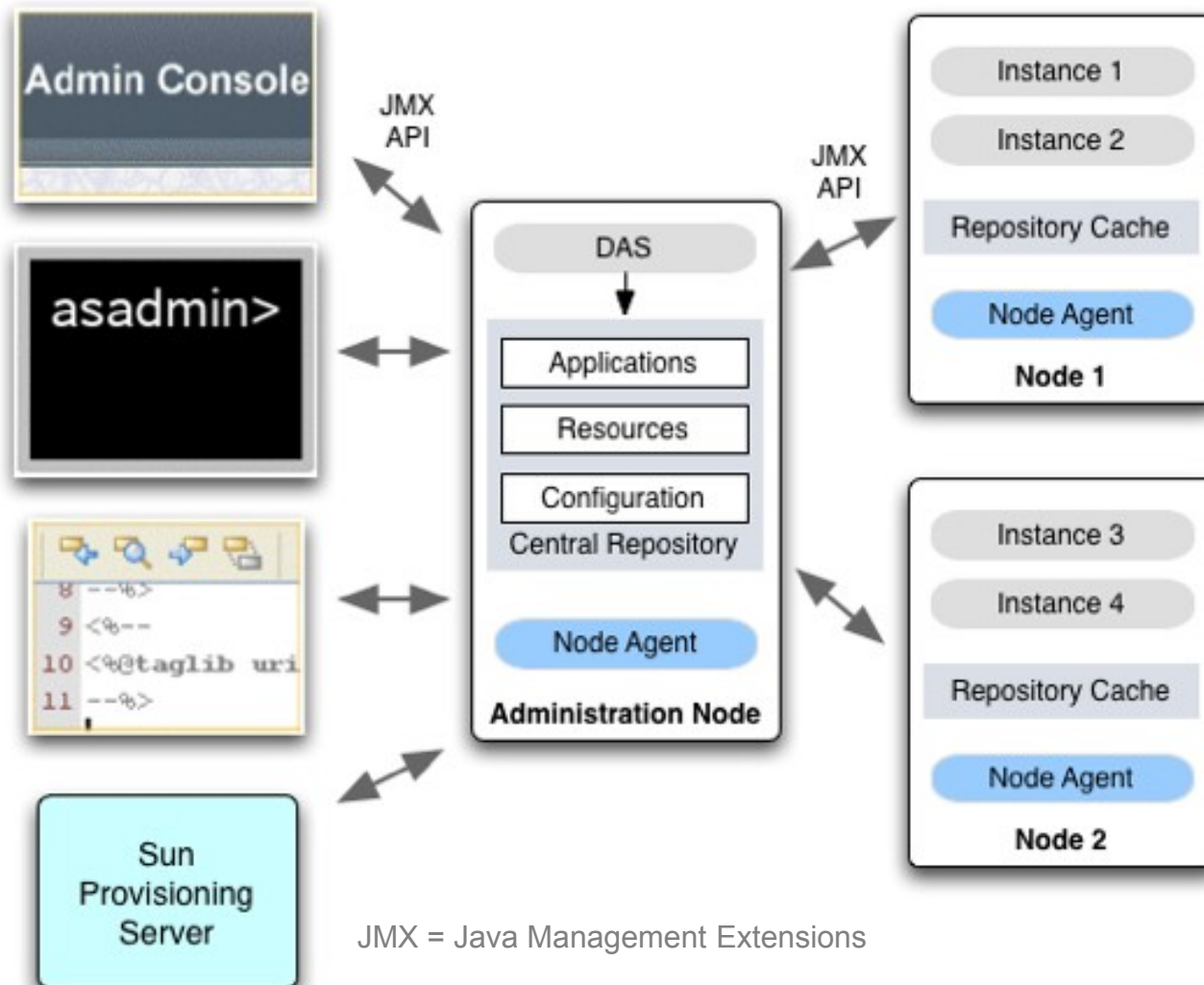


GlassFish v2 for the Developer



- Single, smaller, download
 - > Around 60 MB total
- Multiple User Profiles
 - > Developer, Cluster, Enterprise
 - > Upgrade from one to another
- Better startup time
 - > Almost matches Tomcat (see also GlassFish v3)
- Cool Technologies
 - > Grizzly's Comet, jRuby on Rails, jMaki, ...
- Update Center
 - > Provision and install new features, new frameworks, ...
- Tools support
 - > NetBeans, (My)Eclipse, IntelliJ, etc...

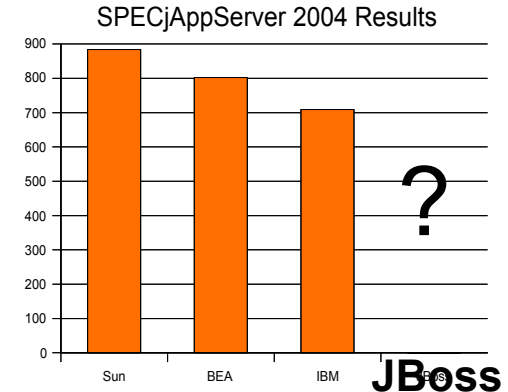
Clustering in GlassFish v2



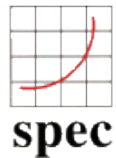
Performance

SPECjAppServer

- > July 2007: #1 score on T2000
 - > 883.66 JOPS@Standard for GlassFish v2
 - > + 10% vs. WebLogic, +30% vs. WebSphere 6.1

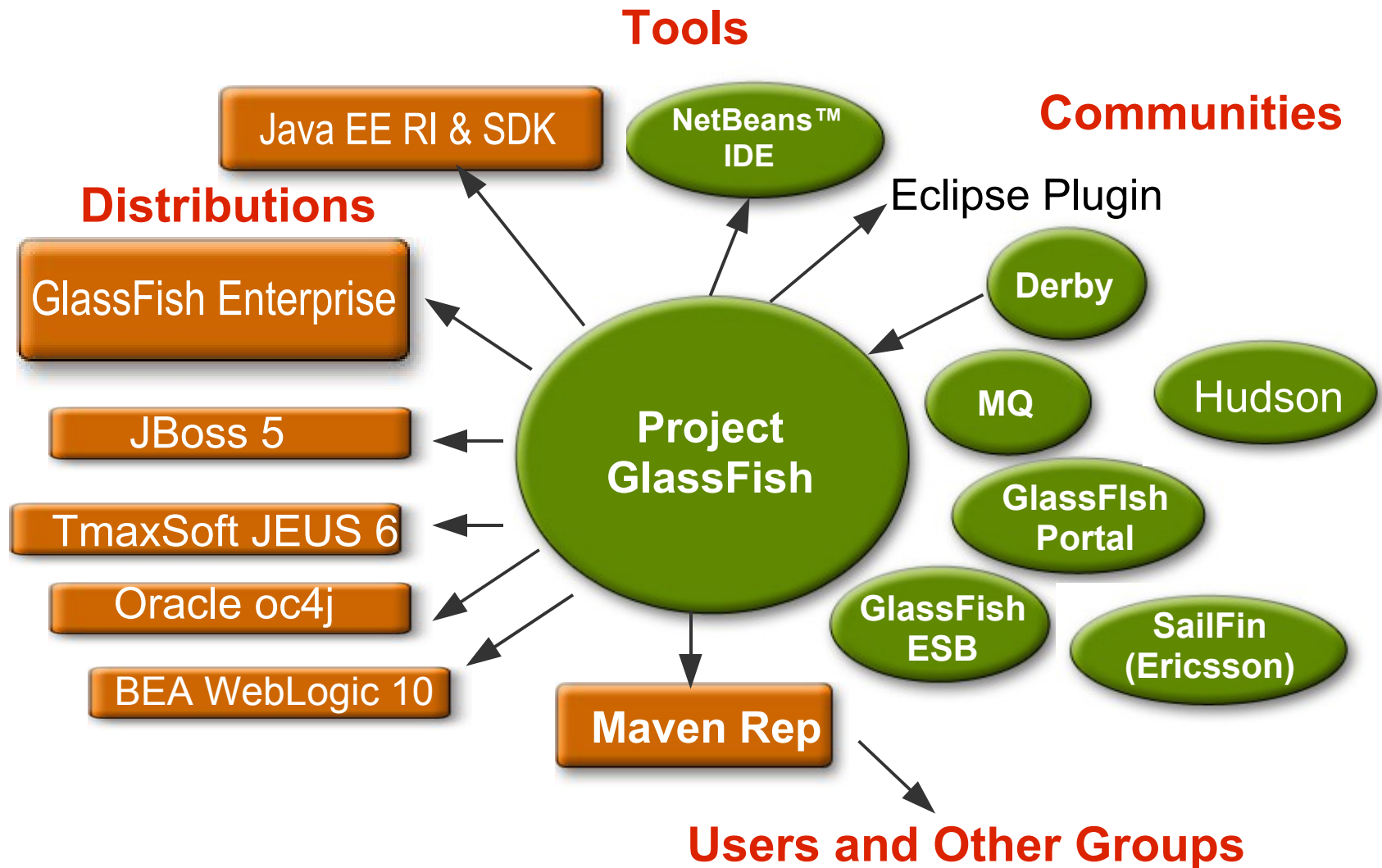


- > July 2007: Best \$/perf. on full Open Source
 - > GlassFish v2, OpenSolaris, Java 6, PostgreSQL
 - > 3x the price/perf vs. Oracle on HP score
- > November 2007: Massive Scalability Result
 - > 8,439.36 JOPS@Standard (6 nodes, 18 instances)
 - > Sun T5120 & E6900



You no longer need to chose between Open Source and Performance

(Some) Distributions & Contributors



Migration considerations

- **verifier**
 - > Verifies the code and packaging against the Java EE specifications
 - > Ships with every copy of GlassFish and Java EE SDK
- **migrate2glassfish**
 - > Pick up where the verifier or AVK left off
 - > Migrates from Tomcat, JBoss, WebLogic, WebSphere
- **asupgrade**
 - > Migrate (applications, resources, configuration) from one version of GlassFish to another (newer) one

GlassFish v3

An ideal Web 2.0 container



- Small, Fast, and modular
 - > Very fast startup time
 - > Use what you need
 - > Developer-friendly
- Faster, lighter Java server engine
- Java and Scripting applications
 - > jRubyOnRails, Grails, PHP, Python/Django, more
- A good fit for SOA/ESB solutions
- Available starting... now!
 - > Targeting beta by the end of 2008
- Final version will be Java EE 6

GlassFish v3

GlassFish @ JavaOne 2008

- GlassFish v3 Tech Preview 2 (TP2)
 - > HK2/OSGi-based Web container
 - > 21 MB download, 1-sec startup
 - > Admin and update tool downloaded on demand
 - > Add-ons available from update center :
 - > EJB 3.1 (preview)
 - > jRuby On Rails (no WAR packaging required)
 - > Grails (now also for GlassFish v2)
 - > Jersey and Metro (Web Services)
 - > jMaki (Ajax)
- Tools-ready: NetBeans 6.1, Eclipse 3.3

GlassFish @ JavaOne 2008 (2)

- GlassFish v3 – modular and extensible
 - > OSGi support (Apache Felix is the default)
 - > HK2 for extensibility
- Embedded GlassFish
 - > Single JAR file and Java API to replace asadmin
 - > Developer use-cases (Maven, Grails, IDEs, ...)

GlassFish @ JavaOne 2008 (3)

- GlassFish Enterprise
 - > Commercially supported product from Sun
 - > Access to support, patches, and indemnification
- GlassFish Unlimited
 - > Per-employee pricing (in addition to socket/CPU-based)
 - > Similar to MySQL unlimited
- GlassFish Partner Program
 - > 35+ ISVpartners signed up (SpringSource, IceFaces, TerraCotta, G2One, Synchronica, Liferay, ...)
 - > Integrator program coming up

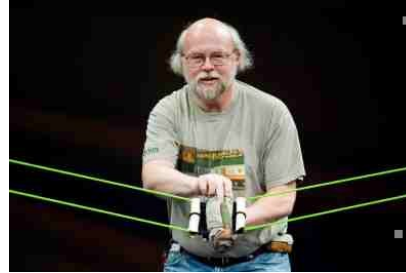
GlassFish @ JavaOne 2008 (4)

- GlassFish ESB
 - > GlassFish v3, OpenESB.next, JBI, OSGi (project Fuji)
- GlassFish Portal
 - > OpenPortal + Liferay = WebSynergy
 - > Integrated OpenSSO, Portlets 2.0, WSRP, and more
 - > 110MB download
- GlassFish Communications Server
 - > Sailfin-based commercially supported SIP App Server
 - > Preview available (almost feature-complete)

JavaOne 2008

The largest developer conference WW

- 4 days
- 15 000 participants
- 62 countries
- 400+ sessions, BOF, labs
- 110+ exhibitors
- N parties
- CommunityOne



JavaOne 2008

- NetBeans 6.1
- Java EE 6
- Java 6 update 10
- Multi-languages
- OpenJDK
- Java FX
- Java 7
- OpenSolaris



NetBeans 6.1

- GlassFish v2 (Tomcat, WebSphere, JBoss, Weblo.)
- JavaScript
- Performance
- Spring, Axis, SOAP UI support
- MySQL integration
- JSF CRUD
- RESTful web services (JAX-RS/Jersey)
- Coming up: PHP, JavaScript debugger, ...



Java EE 6 – JSR 316

- Extensibility
- Profiles
- Pruning
- More ease of development

Rightsizing

New and updated:

- JSF 2.0 (JSR 314)
- JSP 2.2
- JAX-RS (JSR 311)
- WebBeans 1.0 (JSR 299)
- Servlets 3.0 (JSR 315)
- EJB 3.1
- Java Persistence 2.0
- JAX-WS 2.2
- Java EE Connectors 1.6

Goal is to deliver a final version first half of 2009

The exact set of technologies to be included will be determined by the expert group

Java EE 6 – Enhancements

- Servlet 3.0
 - > No more `web.xml` editing
 - > ARP (Async. Request Processing)
 - > File upload
- JPA 2.0
 - > Criteria API
 - > Collections and better Maps support
 - > Validation support (JSR 303)
 - > `@OrderBy`, specify unfetched state
- JSF 2.0
 - > Make custom components much easier to develop
 - > Ajax support, reduce configuration, Portlet 2.0 alignment

Java EE 6 – EJB 3.1

- Packaging simplification
 - > No more `ejb-jar`. Easier to share libraries, persistence units
- Singleton Beans
 - > `@Singleton` to share data in EJB container (per JVM)
- Concurrency
 - > `@ReadOnly` as optimization of singleton (vs. single-threaded access)
 - > `@BeanManagedConcurrency` to explicitly use synchronized
- TimerService
 - > Calendar-based:
`@Schedule(hour="12", dayOfMonth="2")`
 - > Automatic creation (on deploy)
- Asynchronous operations
 - > `@Asynchronous public void init (...) {...}`
 - > `@Asynchronous Future doWork (...) {...}`

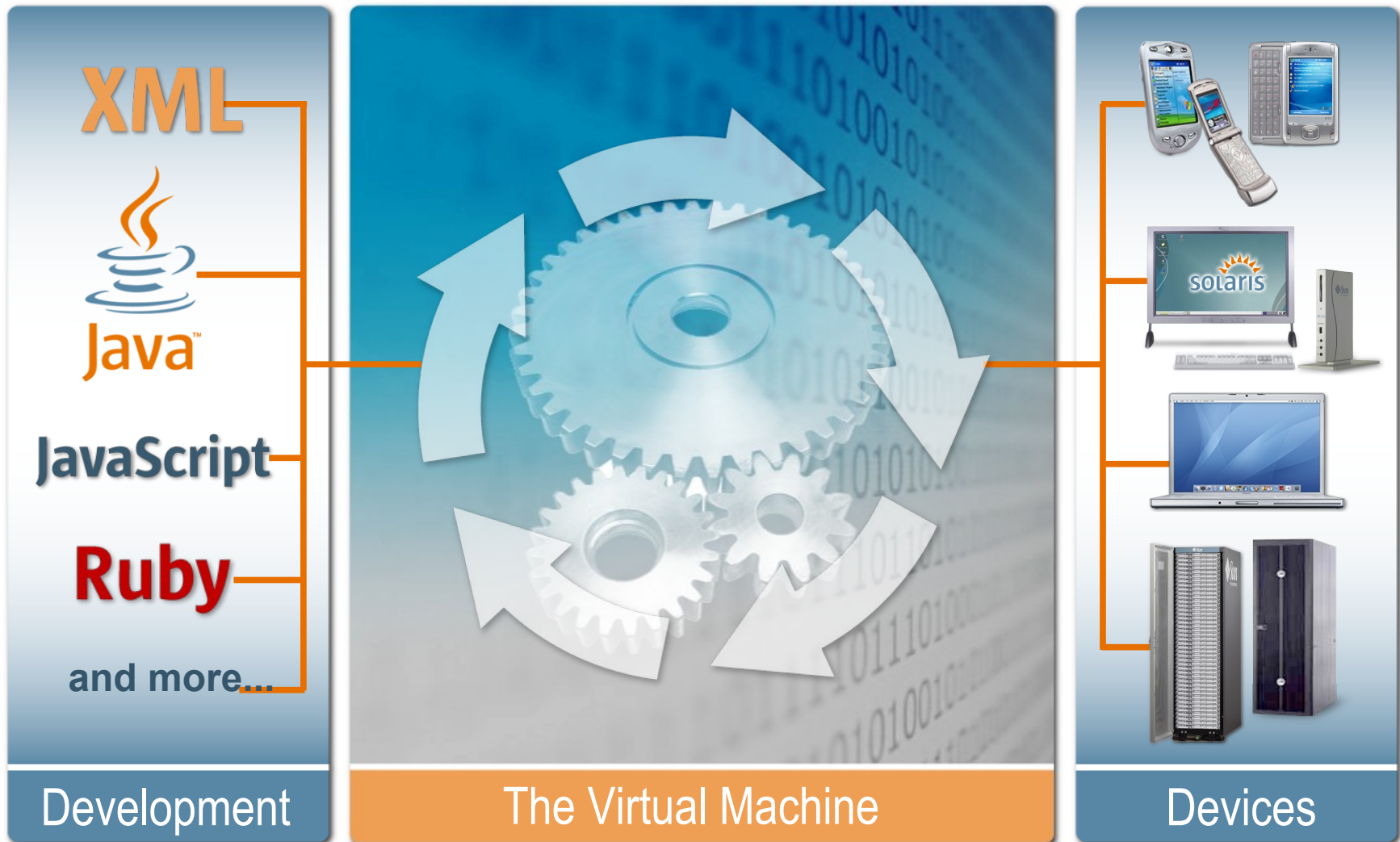
Java EE 6 – New APIs

- Web Beans 1.0
 - > Brings together JSF and EJB
 - > Inspired by JBoss' Seam
 - > JBoss (Gavin King) is spec lead for JSR 299
 - > Bob Lee (Guice) heavily involved
- JAX-RS
 - > RESTful Web Services
 - > RI developed in // with Specification:
<http://jersey.dev.java.net>
 - > Expose POJO as RESTful resources
 - > High-level declarative programming model
 - > Flexible typing, runtime takes care of common conversions
 - > Pluggable support for types, containers, and resolvers

Java 6 update 10

- Java Plug-in Re-write
 - > Browser/JVM in separate processes
 - > Drag'n'drop to create Java Web Start application
- Smaller download (Java Kernel)
- New Installer
- Deploy kit
- Improved Start-up (Quickstarter)
- Nimbus look'n'feel

The Java Platform



Multi-languages

- JRuby/Rails
- Python/Django
- PHP/Symphony
- Groovy/Grails
- Scala/Lift
- Perl...
- Leverage Java APIs
- Leverage Java runtimes
 - > JVM (HotSpot)
 - > App Server (Admin, pooling, performance, ...)

OpenJDK

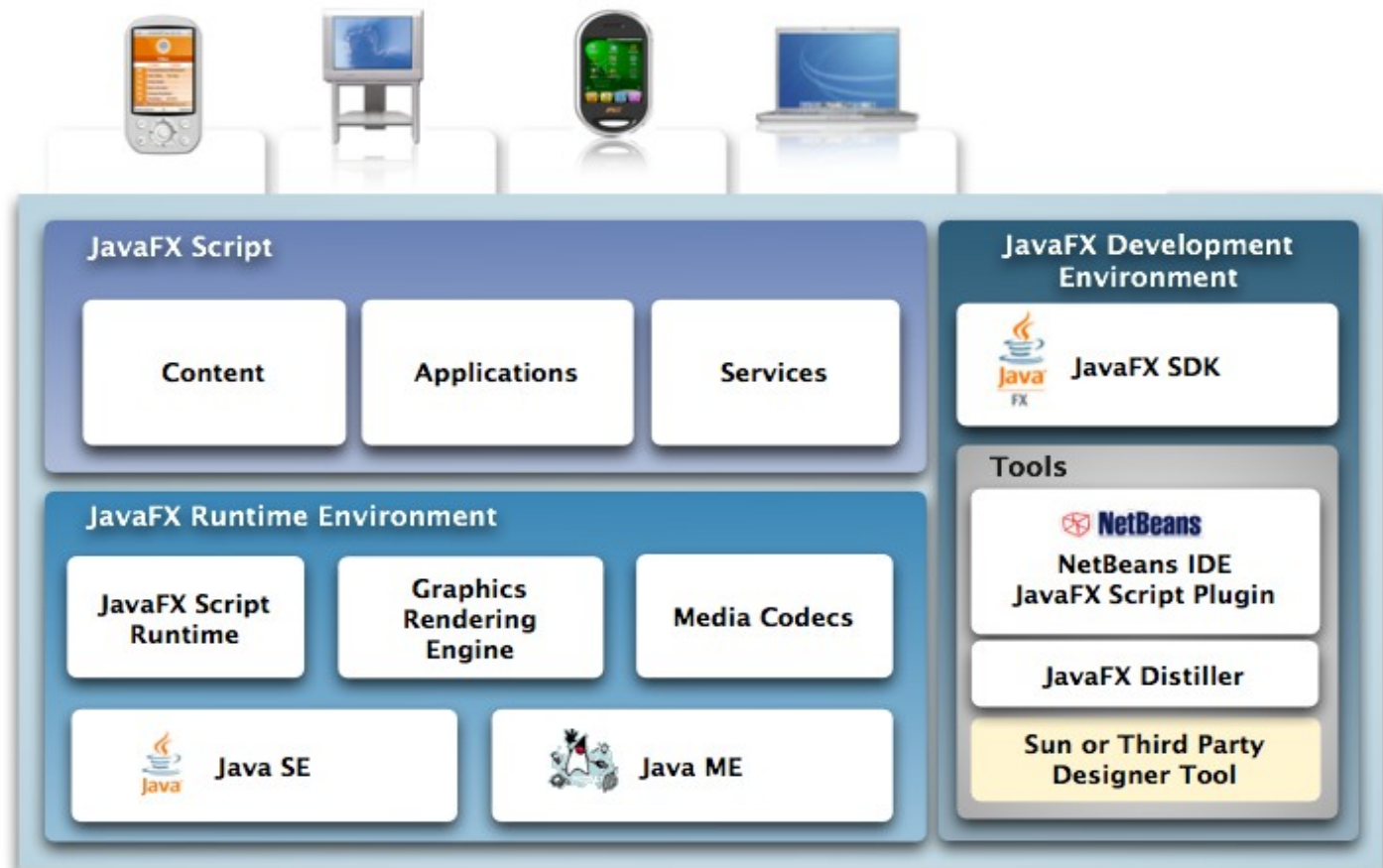
- Spring 2007
 - > GPLv2 license
 - > 25 169 source files
 - > Compatible Innovation
 - > Existing License still available
- Spring 2008
 - > SoyLatte (Mac Port)
 - > Fully functional Mercurial SCM
 - > RedHat as contributor
 - > OpenJDK 6 integrated in Ubuntu 8.0.4, Fedora 9, ...

Java FX

- Family of products (Script, Mobile, TV)
 - > Incremental feature to millions of deployed JVMs
- JavaFX Script
 - > DSL for rich UI (declarative, data binding, ...)
 - > For graphic artists and developers
 - > WebKit
- Scene Graph
 - > Layered on top of Swing/Java2D
 - > Easy composition, animation
- Media support (codecs from on2)
 - > Video (HD264) & sound
- Tools

Java FX Roadmap

- SDK: Early Access July 2008 (Final in the Fall)
- Mobile & TV : May 2009



Java 7

- Evolutions langage
 - > Super packages (JSR 294)
 - > Evolution annotations (JSR 308)
 - > Closures (large débat)
 - > Reified Generics
- Java Modules (JSR 277)
 - > Annonce d'une intégration avec OSGi
- Desktop Java
 - > Beans Bindings (JSR 295)
 - > Swing Application Framework (JSR 296)

Java 7 (suite)

- Scripting: InvokeDynamic (JSR 292)
- Management
 - > JMX 2.0 (JSR 255)
 - > WS Connector for JMX (JSR 262)
- JSR 310: Date and Time API
- JSR 220: Enterprise JavaBeans 3.0 (JPA)
- JSR 260: Javadoc Tag Technology Update
- JSR 310: Date and Time API
- ...



- First community release
 - > Formerly known as project Indiana
- Appeal to Linux users...
 - > Gnome, bash, ...
 - > 600MB (CD, not DVD)
 - > Network package repository
 - > Large HW supported + tools to diagnose
- ... with Solaris unique features
 - > IPS
 - > DTrace
 - > ZFS (default FS)
 - > Zones (aka Containers)



Questions ?

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Buffet !

