CAUCHO

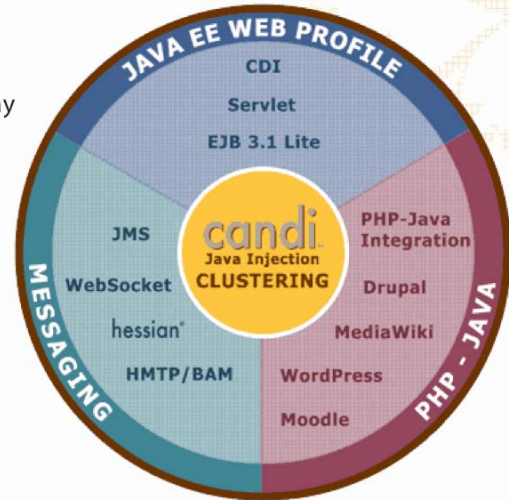## Java EE 6 Web Profile Leader – 2011 Roadmap

CAUCHO TECHNOLOGY

Caucho's relentless quest for performance and reliability paved the way for Resin® to be a leading global Open Source Java application server since 1998. Our engineers' dedication to the development, support and evolution of the Resin Java EE 6 Web Profile continues to uphold our reputation for quality, performance and manageability. We've helped organizations worldwide including start-ups, governments and Fortune 500 companies build and grow their business with one of the most flexible, rock-solid and powerful application servers, Resin.

CAUCHO ACCOMPLISHMENTS

- 2011 | Caucho to be Java EE 6 Web Profile certified
- 2010 | Gartner names Caucho in "Cool Vendors in Platform and Integration Middleware"
- 2010 | Resin 4.0 released: Web Profile – CanDI, Servlets, EJB 3.1 Lite
- 2009 | Gartner names Caucho in "Magic Quadrant for Enterprise Application Servers"
- 2008 | Caucho introduces advance Clustering and Cloud
- 2007 | Resin 3.1 released: JSF, Comet support & versioning
- 2006 | Quercus release: PHP-Java implementation
- 2005 | Caucho becomes Sun Microsystems J2EE licensee
- 2004 | Hessian 1.0 specification released
- 2003 | e-gatematrix deploys on Resin
- 2002 | CNET deploys on Resin
- 2001 | Caucho & NTT Data Intramart establish partnership
- 2000 | Salesforce.com deploys on Resin
- 1999 | Resin 1.0 released
- 1998 | Founding of Caucho Technology, Inc.

ROADMAP

Delivering the most lightweight and scalable software is just the beginning. By employing agile development with rigorous planning and testing, Caucho continuously aligns our product delivery to meet our customers' needs. Our focus is on the advancement of the Resin Java EE 6 Web Profile and beyond to provide developers with a highly functional yet lightweight tool: an application server with built-in Caching, Cloud Computing Support, Messaging and Clustering. Resin is a fast and clear-cut Web Profile application server designed for deployment and management of both web-tier and service oriented applications. From WebSocket to SOA, Resin provides current and next generation enterprise features.

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Milestones

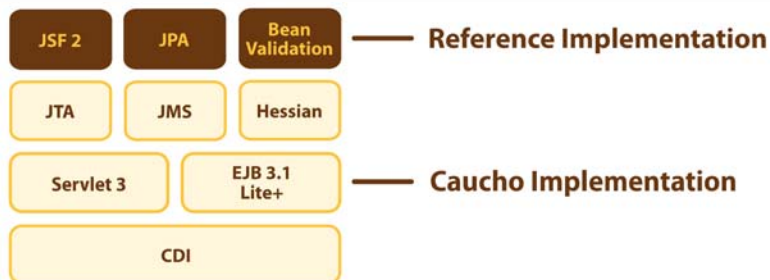| Version	Release Date	Milestones*
4.0.13	10-NOV-2010	• **EJB TCK**
4.0.14	07-JAN-2011	• **Java EE 6 Web Profile TCK**: EL, JPA, JSF, JSP, JSR-299, JSR-330, JTA, Servlet • **Resin Eclipse plugin update** - *(http://caucho.com/eclipse)* • **WebSocket API update** – based on changes to draft IETF specifications • **BAM update** - improved Broker-Actor-Mailbox model • **Comet/Async updates** – improved callback timing behaviors with complete () calls
4.0.15	08-FEB-2011	• **Java EE 6 Web Profile TCK:** JSTL, JDBC • **Resin Eclipse update** – automatic download of Resin Professional • **Health Check updates** – enhancement for more control of Resin restarts and logging
4.0.16	MAR-2011	• **WebSocket**
4.0.17	APR-2011	• **Dynamic Server** – Cloud Computing Support
4.0.18+	2nd QTR, 2011	• **Resin Java EE Web Profile** (beta release)
4.1.0	2nd QTR, 2011	• **Resin Java EE Web Profile** (production/stable release)
4.1.1+	3rd-4th QTR, 2011	• **Quality and reliability improvements of Resin core design, features, and projects** (Hessian, Quercus, HMTP)

* Milestone development schedule may change in priority and release time

Product Strategy

DEVELOPMENT FOCUS

- **Web Profile**
  - ✓ Fast, high performance and lightweight Java EE 6 application server
  - ✓ Resin CanDI (Caucho's CDI implementation): fully integrated in Java EE container, annotation based framework, embeddable test environment, EJB security, and EJB transaction annotations on managed beans

- **Enterprise Cloud/Clustering Support**
  - ✓ Designed for the dynamics of both internal and external virtualization-based clouds
  - ✓ Remote cluster-wide and synchronized application deployment
  - ✓ Data and session replication and caching
  - ✓ Failover to improve reliability
  - ✓ Responsive dynamic servers to meet application demands

- **Health management and monitoring**
  - ✓ Extensive health tools, statistics, trouble-shooting and post-mortem administration
  - ✓ Restart and recovery when failure is detected plus contextual post-mortem failure analysis
  - ✓ Triad server configuration - triple redundancy for critical server state
  - ✓ Real-time view of threads, memory, and on-demand profiling
  - ✓ JMX view for all Mbeans deployed in JVM
  - ✓ Dynamic metering and web application management

Resin Java EE Web Profile Implementation

EXPERT SINGLE TIER SUPPORT

- **Development and technical support provided by Caucho engineers**

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Popular Features

HIGH PERFORMANCE APPLICATION SERVER

The Resin Application server provides Servlet, JSP, JSF, JSTL, EJB Lite, transaction management, messaging, remote services, distributed sessions, SSL, a complete logging solution, PHP, a fast and fully capable HTTP server, and load balancing.

SCALABILITY

The Resin 4.0 Cloud infrastructure provides a dynamic and reliable method for scaling up or down by adding or removing virtual servers to match production load levels. Whether you have a single server or hundreds of servers, the clustering and replication architecture will scale seamlessly.

FULL CONTROL AND VISIBLITY WITH LUCID CONFIGURATION

Resin offers complete control of configuration setup and deployment for web applications. Its fully integrated framework and management tools facilitate cloud computing by requiring only a single step to deploy and upgrade applications to numerous machines in a transactional fashion.

ZERO DOWN-TIME MAINTENANCE AND ADMINISTRATION

Resin's well-structured and concise configuration makes it easy to get a new or upgraded site up and running. With native support for virtualized and dynamic environments, Resin allows administrators to perform maintenance on faulty machines while the deployment remains live.

OPEN SOURCE

Resin is an open source application server supported by a vibrant community as well as Caucho's own engineering staff. Resin is one of the oldest and most successful open source Java application servers in the industry with a large user base.

CLUSTER VERSION-CONTROLLED DEPLOYMENT AND REPOSITORY

Resin supports running multiple versions of the same application within the same server so that upgrading requires zero downtime for active sites. By directing users with existing sessions to older versions and new users to new versions, Resin makes the upgrade process transparent to both users.

CLOUD COMPUTING SUPPORT

Cloud computing offers the ability to scale a web application deployment to fit the needs of users at any given time. With built-in support for both internal and external virtualized environments, Resin makes it possible for even existing applications to take advantage of recent advances in elastic infrastructure.

TECHNICAL SUPPORT BY CAUCHO DEVELOPERS

Caucho offers focused and quality technical support provided by our developers who write the code. Fast and expert support reduces wait time and increases productivity for system administrators and developers.

Caucho's Open Source Projects

QUERCUS

- PHP on the JVM: to improve performance, scalability and security of PHP applications
- Fast and reliable PHP front-end integration with Java back-end business logic
- Java and PHP integration reduces Java development time and adds power to PHP applications
- Integrated PHP profiler for performance bottleneck identification
- Shared security across PHP and Java applications
- Shared data for caching across multiple requests
- Java connection pooling to minimize database load cost
- Application server compatibility: Resin, Tomcat, Amazon EC2 & BeanStalk and Google App Engine
- PHP application compatibility: Wordpress, MediaWiki, Drupal, vBulletin, and Moodle
- Quercus with Resin provides Cloud Computing support and session management to PHP

HESSIAN

- Hessian is a fast, compact, binary serialization protocol that not only outperforms XML-based remoting protocols like SOAP and XML-RPC but also meets or exceeds the performance of other binary protocols like ORMI and Java JNI
- Hessian 2.0 provides cross-language binary object serialization with efficiencies better than java.io serialization. The compaction encodings added to Hessian 2.0 have improved an already-popular cross-platform binary web services protocol. With these changes, Hessian 2.0 now directly competes with java.io serialization in efficiency.
- Languages implementation includes: Java, Flash/Flex, Python, Ruby, and more
- Hessian is a simple, but powerful protocol that is able to do virtually everything other web services protocols can do without all the baggage. Its simplicity also makes it easy for applications written in different languages to talk to each other using web services. As a binary, self-contained protocol, Hessian doesn't require XML or other support libraries that often cause headaches for developers.

HMTP (Hessian Message Transport Protocol)

- HMTP is an Asynchronous, object-oriented messaging framework designed around small, interactive message packets
- Broker-actor topology based on the Hessian protocol and BAM
- BAM is based on the architectural model of XMPP (Jabber), but abstracts it to an API to allow different wire protocols underneath.
- HMTP with BAM for fast and lightweight messaging over WebSocket

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