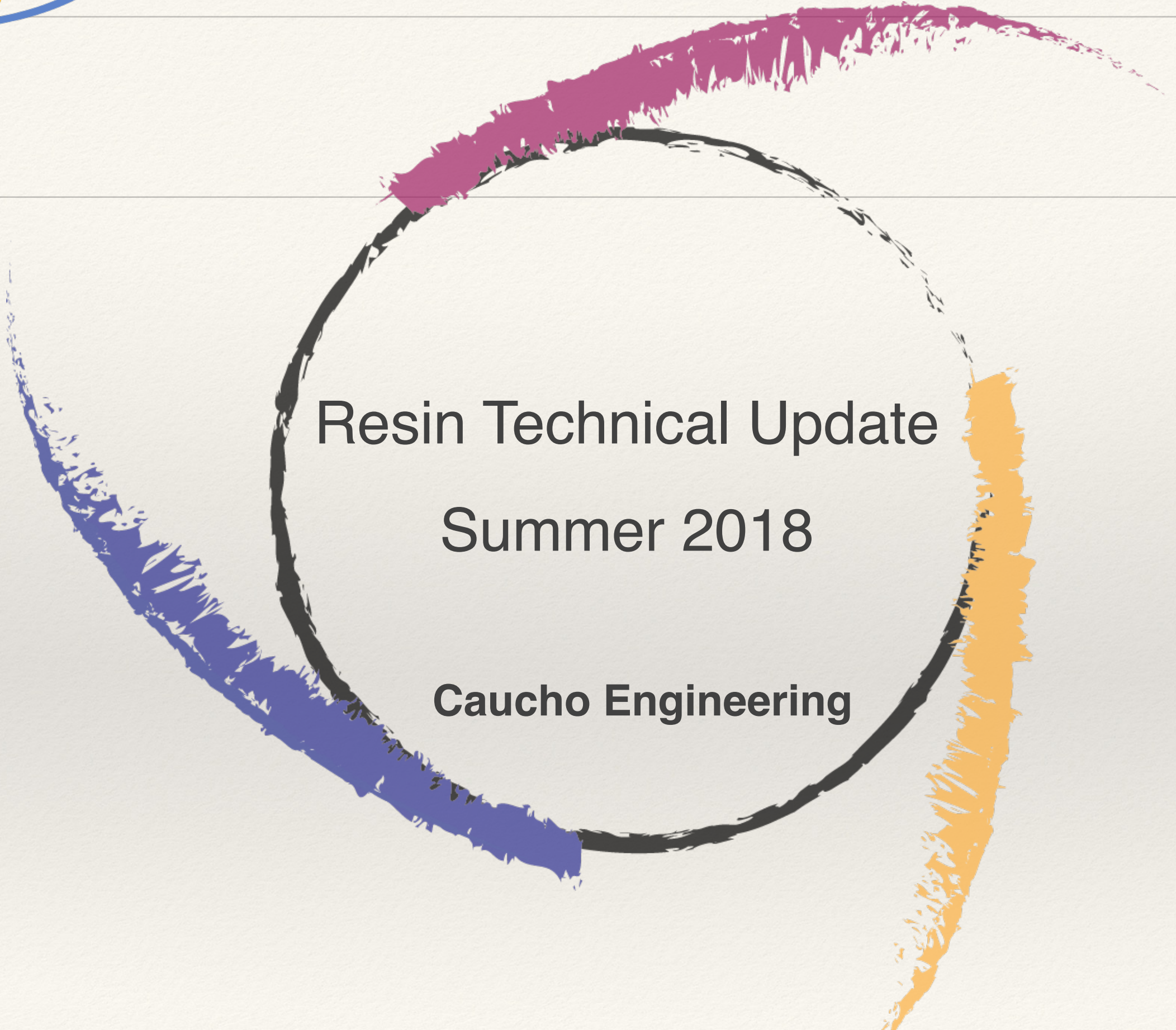


A large, stylized circular graphic composed of three overlapping brush strokes. The top arc is magenta, the bottom-left arc is blue, and the bottom-right arc is orange. A thin black circle is centered within these strokes.

Resin Technical Update

Summer 2018

Caucho Engineering



“We have solved our nationwide scalability problems using Resin clustering and achieved major performance benefits to our high traffic sites.”

-Jung Sir. IT Team, Korea Chamber of Commerce and Industry.

Topics

- Technical road map
- Bugs < 5 open bugs
- New features
- Resin v3 users – migration and benefits of Resin v4

20 year anniversary of Caucho!

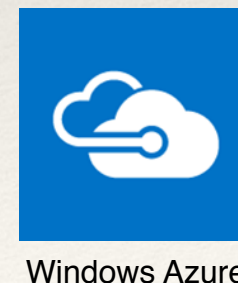
- Most stable version of Resin ever
- Leading Servlet implementation
- Continued usage for new generation of web applications
- Proven, scalable model for web applications
- Resin continues expansion and position as core cloud provider

Java architecture support

Caucho supports most java architectures and distributions including:

1. 3 tier (web tier, app tier, backend)
2. Microservice (REST)
3. Clustered (Cloud: public, private, hybrid)

Major cloud platforms supported:



Specs supported

Resin 3.1

officially supports JDK 1.5-1.6
J2EE 5
Servlet 2.5
JSP 2.1
JSF 1.2
JSTL 1.2
JPA 1.0 (Caucho Amber)
EJB 3.0
NxN clustering
supports Burlap and Hessian2
services
config: supports injection

Resin 4.0

officially supports JDK 1.6-1.9 (v 4.0.57+)
J2EE 6 Web Profile
Servlet 3.0
JSP 2.2
JSF 2.0
JDBC 4.2
JSTL 1.2
JPA 2.0 (EclipseLink)
EJB 3.1 lite
Pod clustering
supports Hessian2 services
config: supports legacy and CDI injection, properties
file

The following JDK 8 bugs have been fixed since the release of 4.0.37:

ByteCodeParser with JDK8 constants - <http://bugs.caucho.com/view.php?id=6037>

Version updates

	<i>Status</i>	<i>Version</i>
<i>JDK9</i>	<i>Completed</i>	<i>4.0.57+</i>
<i>JDBC 4.2</i>	<i>Completed</i>	<i>4.0.56+</i>
<i>Meltdown & Spectrum benchmarks</i>	<i>Completed</i>	<i>4.0.56+</i>
<i>SSL SNI</i>	<i>Completed</i>	<i>4.0.57+</i>
<i>Rewrite Condition: IfProtocolVersion</i>	<i>Completed</i>	<i>4.0.57+</i>
<i>Spring Boot loader module</i>	<i>In Progress</i>	<i>Estimated 0.60</i>
<i>JDK10</i>	<i>In Progress</i>	<i>Estimated 0.60</i>
<i>MVN repo update</i>	<i>In Progress</i>	<i>Estimated 0.60</i>

Full Changelog: <https://caucho.com/resin-4.0/changes/changes.xtp>

New feature #1: TLS Rewrite

feature	<u>new</u>	05-08-18	Feature-Request: New rewrite condition such as <resin:IfProtocolVersion> for TLS Protocol Version
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Use Case:

Be able to use the TLS protocol as a URL Rewrite condition such as <resin:IfProtocolVersion> with a regexp and/or value attribute it would be possible to perform a check and forward on a commonly used page such as a login page.

```
<resin:Redirect regexp='^/login' target='/warn-outdated-tls-version.jsp'>
  <resin:And>
    <resin:IfProtocolVersion value="TLSv1"/>
    <resin:IfQueryParam name="check-tls-version" value="true"/>
  </resin:And>
</resin:Redirect>
```

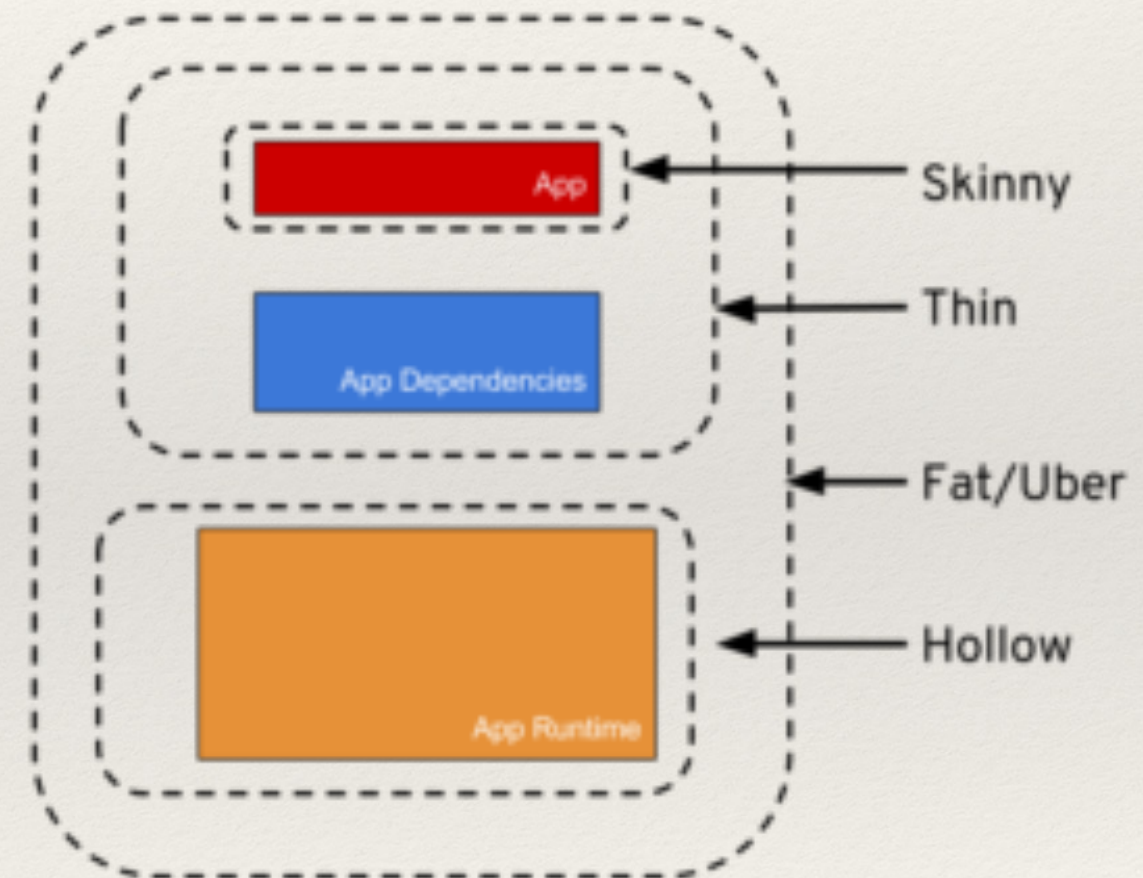

New feature #2: Spring Boot loader

Use Case: Package jars into microservices using Spring Boot loader module

feature	<u>new</u>	07-25-17	Implement spring-boot-loader module for executable jar packaging with embedded Resin
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Maven:

```
<dependencies>
  <dependency>
    <groupId>org.springframework.boot</groupId>
    <artifactId>spring-boot-starter-web</artifactId>
  </dependency>
</dependencies>
```



New feature #3: SameSite attribute

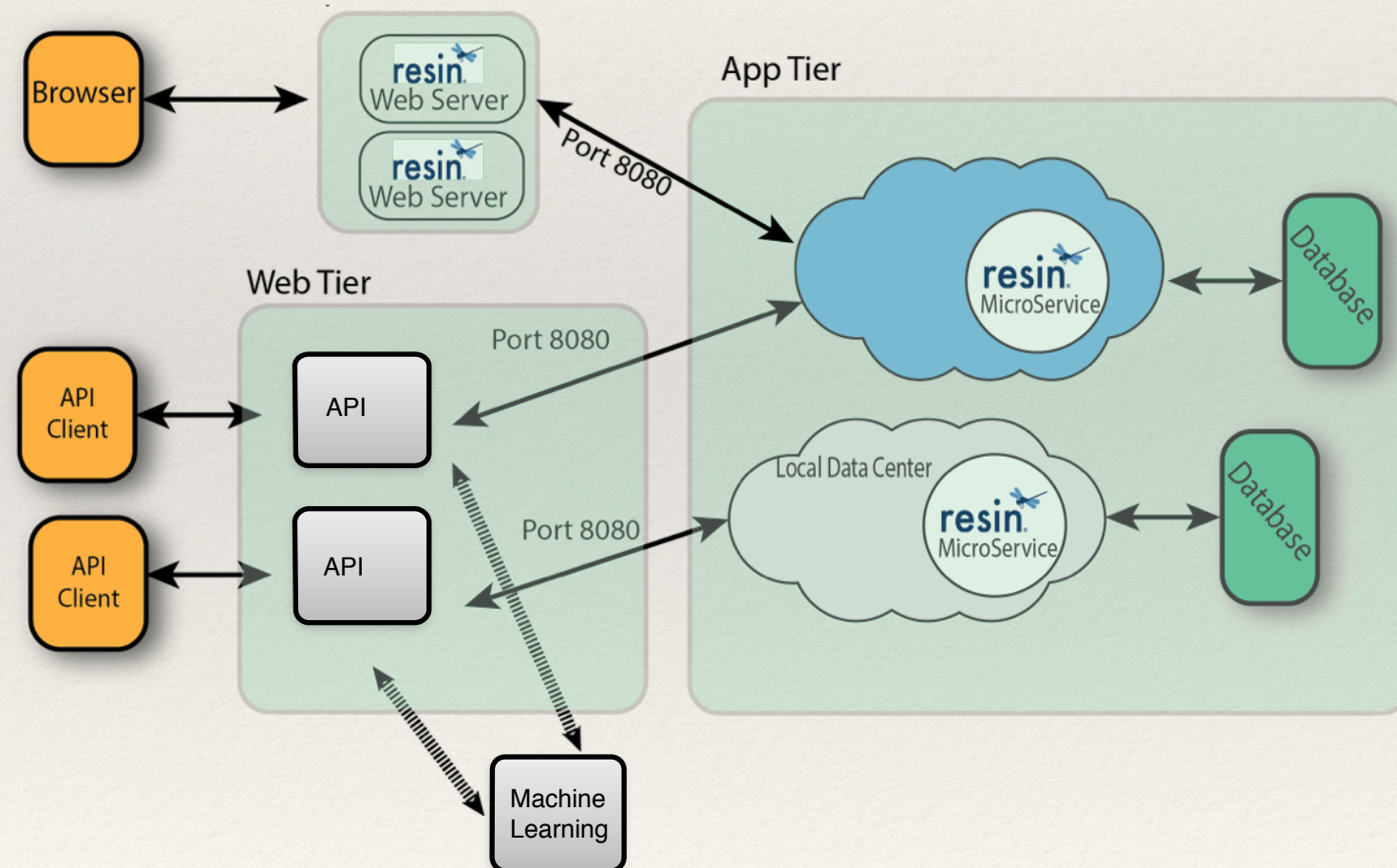
feature	<u>new</u>	02-19-18	Feature-Request: Possibility to add SameSite attribute to the Session Cookie?
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Use Case: A resin configuration option to append "; SameSite=Lax|Strict" to the Session cookie

An upcoming standard, SameSite cookies, creates more secure cookies that are sent only on requests that originate from the same site that issued them. They are designed to prevent Cross-Site Request Forgery (CSRF) or at least make it more difficult.

Example: Resin architecture

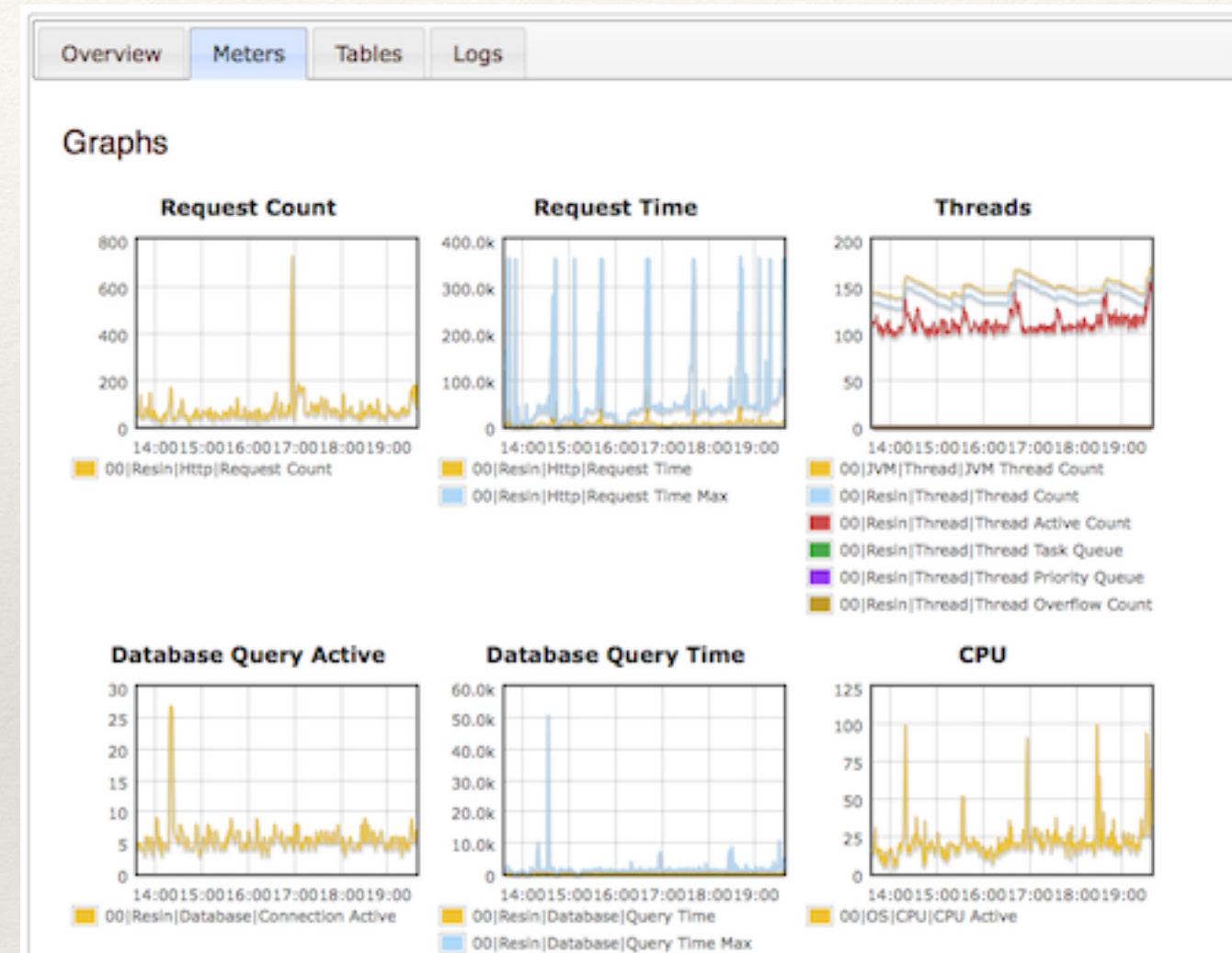
- Combine health checks + health actions + custom scripts
- Using graceful shutdown time periods
- SSL Offloading + API Scrubbing



Resin 3 to Resin 4 migration

Resin 4.0 includes numerous and extensive performance enhancements over its predecessor 3.0, among them:

- Improved cloud computing support
- Monitoring capabilities at every level of Resin's architecture
- Enhanced performance through native optimizations
- Simplified configuration
- Rewrite of Resin's internal caching
- Many more!



[Resin 3 to 4 migration document](#)

Resin 3 to Resin 4 migration

Resin migration is:

- **Free:** included with your Resin license
- **Secure:** allows you to take advantage of all performance, bug, and security related fixes that have been made to Resin
- **Simple:** Resin includes a migration document to help get you started, however most users are able to
 - start with a vanilla Resin 4 installation
 - make adjustments to the configuration
 - be up and running in a matter of days!

[Resin 3 to 4 migration document](#)

Case Studies

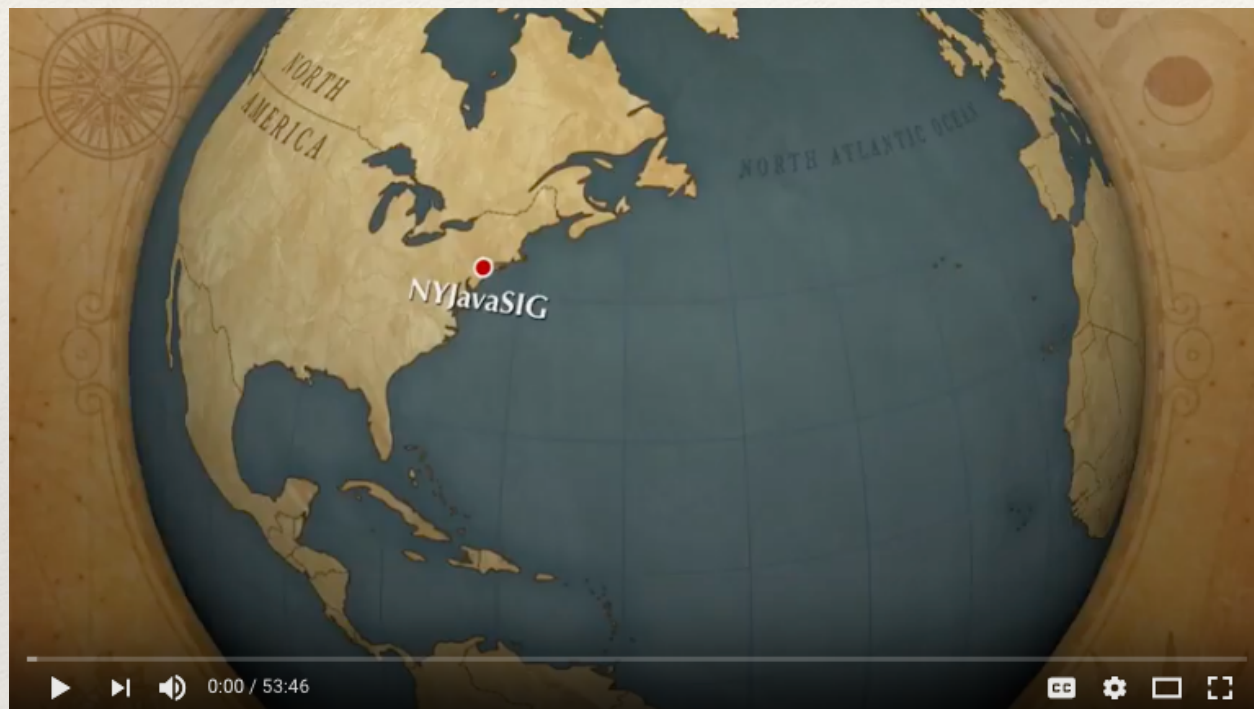
Documented migrations have been made available for reading on our website at: <https://caucho.com/casestudies>

Recent case studies:



Caucho @ NY JUG

High Throughput and Lightweight Web Applications for Modern Use Cases
Presented by Sean Wiley, Caucho Senior Engineer



We've heard all the buzzwords:
SOA, Java EE, Java Web Profile,
Eclipse MicroProfile, Microservices, etc.
Java web applications have seen their
fair share of technology re-branding.
But honestly there hasn't been much
true re-architecting.

<https://www.youtube.com/watch?v=6OBubsCCYrg>