Open Source Guide

Azul Systems is the industry's first company dedicated to supporting an enterprise-quality, commercialized version of OpenJDK™ across various operating systems, hypervisors and Cloud platforms. We have also created a variety of open source tools for Java and provide access to our technology for open source developers. Our goal is to accelerate the continued adoption of open source Java technology by enterprises.

www.azulsystems.com/technology/azul-technology

Are you using a Java-based open source project, contributing to one or deploying any Java-based app? Here are resources you can leverage:

Azul Zulu™ and Zulu Enterprise

Zulu is a 100% open source, fully-supported distribution of OpenJDK™ for Linux, Windows, Mac OS X and the cloud. Built and distributed by Azul Systems, Zulu is a JDK (Java Development Kit), and a compliant implementation of the Java Standard Edition (SE) specification. Zulu has been verified by passing all tests in the Java SE 8, 7 or 6 versions of the OpenJDK Community TCK (Technology Compatibility Kit).

Azul Zing®

Azul Zing is an innovative JVM from Azul Systems that includes Azul's C4 "pauseless" garbage collection algorithm. Although not open source, it is available free to open source developers. If you're working on or deploying a project that requires any combination of large memory, high transaction rates, low latency, consistent response times or high sustained throughput, you will see immediate performance benefits by using Zing.

jHiccup

jHiccup is an open source tool developed by Azul CTO Gil Tene that provides a quick picture of your applications' performance as they run in production. Use jHiccup to create, analyze and compare response time profiles, identify the source of production performance issues and profile the response time of your underlying infrastructure.

LatencyUtils

LatencyUtils is a new latency stats tracking package developed by Azul CTO Gil Tene that is available free and dedicated to the public domain. It includes Latency-Stats, a clean API that corrects issues common in the classic (and broken) way in-process monitoring of latency is done.

Pauseless Java HashMap

Azul CTO Gil Tene wrote this pauseless HashMap in response to common (bad) behavior he saw in Java applications in the field. Many Java applications he and our team studied exhibited growing latency spikes at growing intervals, with a near-perfect doubling in both magnitude and interval between the spikes. By far the most common culprits appeared to be HashMaps.

ADVANTAGES

- 100% open source (free to download) commercialized version of Open-JDK, verified using the OpenJDK Technology Compatibility Kit (TCK) for Java SE 8, 7 or 6 in addition to Azul's robust stress and load testing
- Runs on Windows Server, Windows client, Mac OS X and multiple Linux distributions, including Red Hat Enterprise Linux, SuSE Linux Enterprise Server, CentOS and Ubuntu
- Fully supports virtualized deployments using VMware, Hyper-V and KVM
- Validated for Cloud deployments including Microsoft Azure, Amazon AWS (EC2 and S3) and Rackspace
- Enterprise support options available via Zulu Enterprise (Premium support offering including ten-year support lifespan)
- Enhancements are contributed back to OpenJDK

- "Pauseless" garbage collection under any load
- Doubles or triples the number of users or transactions that can be handled by existing hardware
- Requires no application changes
- Certified with Red Hat, JBoss, Cloudera and many other enterprise tools and technologies

- Free and 100% open source
- Works with any Java application and/or JVM
- No performance overhead
- Generates easy-to-read graphs known as "hiccup charts"

- Compilation of useful utilities for measuring Java application latencies
- Free and open source

- Free and 100% open source
- No GPLv2 license restrictions
- Makes fast path get() and put() cheap, and no volatiles in the fast path

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HOW TO USE IT

- Free download: www.azulsystems.com/products/zulu/downloads
- Support packages: www.azulsystems.com/zulu/support
- Zulu community: https://support.azulsystems.com/

- Open source developers and committers can access Zing via Azul's free open source developers program. Get started here: zing_oss@azulsystems.com
- More details on the open source developer program are available here: www.azulsystems.com/zing-oss
- For commercial deployment, start here: www.azulsystems.com/trial

To learn more, check out Zing use cases and white papers on our website or download a copy of the Zing data sheet: www.azulsystems.com/products/zing/datasheet_pdf

- Free download: www.azulsystems.com/downloads/jHiccup
- Documentation: www.azulsystems.com/dev_resources/jhiccup/docs
- See Azul CTO Gil Tene's presentation that shows jHiccup in action: http://bit.ly/1mpnf2Q

- Download from GitHub: http://bit.ly/latencyutils
- Read Azul CTO Gil Tene's description of LatencyStats on Google Groups: http://bit.ly/1keZ7vw

- Download from GitHub: https://github.com/giltene/PauselessHashMap
- Read Azul CTO Gil Tene's Blog post describing the project: http://bit.ly/1oOzw0I

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