



OpenJDK Update

JBug Korea - June 2019

Red Hat OpenJDK Update



- Committed to customer support and continued global leadership of OpenJDK 7, 8 and 11 through June 2020, June 2023, and October 2024 respectively.
- Global leadership of the project implies continuous CPU updates in sync with latest Java versions, backports/fixes/feature updates where it makes sense, and production of canonical binaries hosted on <https://adoptopenjdk.net/upstream.html>
- On OpenJDK Vulnerability Group Governing Board

Red Hat OpenJDK - GC



- Shenandoah GC
 - Continued Shenandoah GC support and improvements for OpenJDK 8 and 11 Shenandoah is part of upstream OpenJDK 12 where Red Hat supports it today upstream. In addition, Red Hat will continue to support it for 8u and 11u for our customers so that they can benefit from an ultra low pausetime GC that can handle heap sizes in the 100s of gigabytes.

Red Hat OpenJDK - Features/Tooling



- Checkpoint/restore support for OpenJDK in progress
 - This is work in progress that has applicability in environments where fast startup time is desirable (e.g. microservices, faas, serverless, etc.).
 - The feature adds CRIU (existing tool) support to Java that will allow users to snapshot a running JVM, which can then be restored quickly from the image on the same or on another machine.

Red Hat OpenJDK - Memory - Architectures



- Persistent Memory
 - Red Hat is driving work for adding Persistent Memory (NVRAM) supports to Java through Non-Volatile Mapped Byte Buffers, which will allow Java developers to efficiently use NVRAM in applicable cases for significantly improved performance:
<https://openjdk.java.net/jeps/352>
- AArch64 support for Graal is in progress
- Active Red Hat participation and Contribution to Graal VM ARM port. PRs waiting on Oracle.

Red Hat OpenJDK - MC/FR



- JDK Mission Control and Flight Recorder improvements
 - We are reviewing a proposed patch to backport Java Flight Recorder to OpenJDK 8u (non-trivial, has extensive implications throughout HotSpot in terms of stability and security) RH helps with about 1/3rd of the contributions today

Roadmap and Evolving distribution support



- Our customer/user needs have evolved, so have our distributions:
 - Windows support (December 2018)
 - OpenJDK 11 RHEL-7 container (April 2019)
 - Supported Windows MSI installer (April 2019)
 - Beta Web Start support for 8 on Windows through IcedTea-Web (April 2019)
 - Non-LTS releases added to EPEL (12, added in April 2019)
 - OpenJDK 8 and 11 RHEL-8 containers (May 2019)
- Upcoming changes:
 - Portable/static binaries for RHEL 7+
 - Java 13 in Fedora and EPEL after upstream release

Red Hat OpenJDK - Value Proposition

- RHEL users enjoy free Java support for all their subscribed RHEL systems. Red Hat Middleware application subscribers get full OpenJDK support for RHEL as well as for Windows for free for their subscribed applications. General OpenJDK Windows support is available as an add-on.
- Mature development team with over a decade of experience working on OpenJDK
- We are upstream leads for 7, 8u and 11u and we have many authors/committers/reviewers upstream, allowing us to quickly fix issues

Red Hat OpenJDK - Value Proposition

- Red Hat OpenJDK is TCK compliant and is fully compatible with the Oracle JDK when it comes to applications using Java SE, making it the perfect drop-in replacement
- All Red Hat OpenJDK builds are extensively tested for correctness as well as performance to ensure that they run as well as possible on the latest versions of RHEL and now Windows



OTHER QUESTIONS ?