

# INTRODUCING **Liberica JDK:**

THE MOST COMPLETE JAVA EXPERIENCE

JULY 2024



# Executive summary

## WHAT IS LIBERICA JDK?

Liberica JDK is a free and open source Java Development Kit produced and supported by BellSoft, a leading OpenJDK contributor. Liberica JDK is built around HotSpot JVM and verified by TCK tests for Java SE specification, meaning that it is fully compatible with Oracle Java and the migration requires virtually no code changes. Commercial support with flexible plans and prices is available.

**BellSoft is the only company that provides both enterprise support and timely security updates for legacy JDK versions JDK 6 & 7, LTS versions JDK 8, 11, 17 & 21 and for GraalVM Native Image technology. This makes Liberica JDK the most complete Java experience on the market.**

## WHY CHOOSE LIBERICA JDK?

Liberica JDK is an OpenJDK distribution that is:

### **Secure.**

Quarterly zero-day releases (CPUs) concurrently with Oracle, emergency security patches and fixes as part of commercial support. We support LTS versions longer than most vendors and send all fixes made for clients upstream where they become available to everyone.

### **Supported.**

Liberica JDK binaries can be used for free or commercially supported by our engineers 24/7 without man-in-the-middle. Response comes as fast as within 1 hour based on SLA.

### **Compatible.**

Liberica JDK supports the broadest range of system configurations. Seamless integration with virtual and Cloud environments. We support Docker, VMware, and other hypervisors.

### **Performant.**

Liberica JDK is created by engineers who have worked with Java at Sun Microsystems and Oracle, pioneered the OpenJDK project, and know Java on micro-level. All Liberica JDK binaries go through numerous tests before every release to ensure maximum performance and stability.

### **Affordable.**

Free version, two customizable support plans (Standard and Premium). The superb services are provided for superb prices — lower than those of other vendors.

### **Whole package.**

Liberica JDK belongs to a stack of Java technologies developed by BellSoft: Native Image Kit for generating native images, Liberica Administration Center for automatic updates and monitoring. Free access to monitoring tools (JFR and Mission Control).

### **Multiple flavors available.**

There are three different flavors of Liberica JDK provided: Standard, Full, and Lite, as well as JRE and JDK builds. You can choose a perfect configuration for your project.

## WHERE TO USE LIBERICA JDK?

Liberica JDK is a versatile runtime that can be used for any purpose related to software development:

- Containers
- Native images
- Cloud
- Server
- Virtual machines
- Desktops
- Embedded devices

## Key benefits of Liberica JDK

### SECURITY

A single vulnerability in the development environment may lead to catastrophic consequences for the enterprise. This is why the security of Liberica JDK is the top priority for BellSoft.

- We release quarterly zero-day **Critical Patch Updates (CPUs)** with patches for common vulnerabilities and exposures, as well as **Patch Set Updates (PSUs)** with non-critical bug fixes and improvements. The new builds are always released on time and concurrently with Oracle.
- We provide **off-cycle and emergency security patches and bug fixes** not yet included into the OpenJDK code. These patches are available as part of a commercial support.
- There are **numerous ways to update Liberica JDK** — through Docker Hub images, REST Discovery API, package managers, Linux repositories, or directly from the BellSoft website. Windows users will also benefit from Liberica Administration Center (LAC) — a utility for automatic Java updates and monitoring from a single dashboard for the whole Windows fleet.
- Following the open source development philosophy, we send all patches and fixes we made for clients upstream, where they **become available to everyone** in the next update.
- BellSoft is the **member of the [OpenJDK Vulnerability Group](#)** alongside other major contributors such as Oracle, Red Hat, SAP, etc. The Group members cooperate on reviewing and fixing vulnerability issues in the OpenJDK code.

We are the only provider that guarantees the 100% match of distributed binaries with the source code. This measure means that every component of our runtime can be analyzed and tested. You get the full information of the way the JDK works and can expect zero negative surprises.

## SUPPORT

BellSoft High-Powered support is aimed at providing a white-glove treatment to all customers.

### Team

- BellSoft has a **team dedicated to customer support**, which is made of **engineers with 15+ years of experience**. It also includes the OpenJDK contributors, who are familiar with the project structure at the micro-level.
- There's no man-in-the-middle, so you don't waste time on speaking with managers, but get **prompt help** from the Java developers.
- **Our team is on duty 9x5 or 24x7 depending on the support plan**. We implement a “follow the sun” model of support, meaning that there is always somebody on duty regardless of your timezone.
- There are **several communication methods**: e-mail, phone, and web. All customers receive an initial two-hour consultation. Premium support customers also get a dedicated support engineer.
- We provide both the documentation and **personal assistance** to customers.

BellSoft supplies its customers with Software Bill Of Materials (SBOM) for its products so enterprises have a transparent and secure Java development environment.

### Scope of support

- We support all Java versions: **LTS releases** (8, 11, 17, 21), current and all non-LTS releases, and **Java 6&7**. We also support **GraalVM** as part of Liberica Native Image Kit.
- We **support LTS versions longer than our competitors** and guarantee **at least eight years** of access to bug fixes and security patches. For more information on Support Roadmap, see Appendix No. 1.

BellSoft is the only JDK vendor that supports both GraalVM and Java 6&7.

- Our commercial support includes **OpenWebStart and OpenJFX** (LTS versions). In addition, the customers get **access to other BellSoft products** — Liberica Native Image Kit, Liberica Administration Center, and others. Please note that we do not support Applets.
- The response times are **as fast as 24 hours** based on SLA. Premium customers receive **security patches within 48 hours** based on SLA. We provide fixes to the runtime, help with migrating to Liberica JDK, and solve compatibility issues with customer's applications in specific cases. Please note that BellSoft does not provide fixes to customer's code.
- All the support is provided without the vendor lock. Thus every potential bug is fixed for all our customers in advance. We do all we can to quickly introduce the solutions to the found issues into OpenJDK, making them available for other vendors and as such further enhancing overall Java security.



## Licensing

- Liberica JDK is provided under GPLv2 with classpath exception just like any other OpenJDK distribution. Oracle Java, however, is distributed under the No-Fee Terms and Conditions (NFTC) license, meaning that you receive free updates for three years, and then have to migrate to a newer Java version or acquire commercial support. Find out why embarking on Oracle Java under NFTC is detrimental to your finances in our article [Java Licensing Changes](#).
- **Liberica JDK is 100% open source.** We provide source code for all binaries.
- BellSoft provides indemnification to commercial Liberica JDK users, meaning that we **take legal liability for damage caused by violating licensing conditions** of any packages shipped with the runtime.

For more information on support plans, see Appendix No. 2.

## COMPATIBILITY

TCK verification guarantees conformity with Java SE standards and the exact same behavior of your applications after the migration.

Liberica JDK is designed to run everywhere. It is supported by

- Most present-day OSs (macOS, Windows, most Linux distributions) for desktop, server, and Cloud (the full list of supported system configurations can be found in Appendix No. 3)
- Architectures: x86 (64 bit, 32 bit), Aarch64 (64 bit), PowerPC (64 bit Little Endian), ARMv7 Hard-Float (32 bit), SPARC, RISC-V
- The main Cloud providers, including Azure Docker, VMware, and other hypervisors
- GraalVM and native images
- Embedded devices

## PERFORMANCE

- All Liberica JDK binaries go through [numerous Quality control tests](#) prior to each release: TCK, Java Regression Test harness, industry-standard benchmarks, Java Microbenchmark harness, PoC exploits, etc. This guarantees the highest performance, stability, and security of our runtime.
- We created a special **Liberica Lite** version optimized for Cloud deployment. It is a full-fledged, Java SE compliant runtime perfect for creating tiny Docker containers. Based on Liberica Lite and Alpine Linux, we created the smallest container on the market that takes up only 42.72 MB.
- The backports we introduced to HotSpot in JDK 11 increase the performance and reduce the footprint of the virtual machine.
- We backported all the improvements and optimizations from the newest Java versions to JDK 11, making it rich with enhancements and highly performant. Oracle did the same to Java 8 only.
- Liberica JDK 17 and 21 support CRaC (Coordinated Restore at Checkpoint), an OpenJDK project aimed at drastically reducing startup and warmup time of Java applications. In a nutshell, CRaC enables the developers to save a snapshot of a running Java instance in a warmed-up state, and then restore the application from the saved image, thus reaching peak stable performance immediately.

## AFFORDABILITY

BellSoft offers high-quality support at affordable prices. Oracle calculates the number of required licenses based on your number of employees. That makes its price dependent not on the number of Java users in your company, but on its size. BellSoft's prices are still based on the number of cores used to run Java apps, which we consider fair and transparent, and they are lower than the prices of our competitors.

The following estimate is based on the prices effective in July 2023 and presented on the corresponding [Oracle Java SE subscription price](#), [Azul Java Pricing](#), and [Liberica JDK support price](#) pages.

Nº OF SERVERS	Nº OF EMPLOYEES	ORACLE JAVA	AZUL PLATFORM CORE	LIBERICA JDK
10	250	\$45,000/year	\$5,000/year	\$3,000/year
500	2,500	\$360,000/year	\$84,930/year	\$70,000/year
2000	8,500	\$1,008,000/year	\$313,100/year	\$165,000/year
Unlimited	35,000	\$2,394,000/year	\$410,200/year	\$285,000/year

In addition, we offer two flexible support plans: Standard and Premium. Each of them you can adjust to your needs and pay only for services you need, thus saving on support even more.

What is more, with Liberica JDK — a unified Java runtime that can run anywhere — and a set of additional utilities you can unify the Java technology stack at your company, work with only one vendor, and reduce costs up to 90% as a result.

## ADDITIONAL UTILITIES

BellSoft develops and supports a range of Java utilities to answer all the needs of Java developers and help companies to form a unified stack of Java technologies.

- [Liberica Native Image Kit \(NIK\)](#) is a multilingual tool based on GraalVM Open Source. It uses Ahead-of-time (AOT) compilation to transform JVM-based apps into native executables with almost instant startup time. Native images eliminate the issue of cold starts when using AWS Lambda and similar services with pay-per-use-model. Liberica NIK is [the default native-image compiler in Spring Native](#).
- [Liberica Administration Center \(LAC\)](#) is a unique Java inventory and update tool for enterprises. It helps to monitor Java runtimes, control runtimes, and perform automatic updates of thousands of runtimes in the Windows fleet all on a single dashboard.

We also provide Java Flight Recorder, Mission Control, and Auto Updater as part of the Liberica JDK bundle. The Full version of Liberica JDK includes LibericaFX, our implementation of OpenJFX for creating rich client applications.

## FLAVOURS

Liberica JDK is provided in three different flavors that include different components and features.

### Liberica JDK Standard

Liberica JDK Standard is a standard OpenJDK distribution with only minor adjustments to the codebase. This package includes all the components necessary for writing, compiling, debugging, and running Java applications. The libraries are implemented as is (vanilla builds), with a guarantee of no vendor lock-in. Liberica JDK Standard is perfect for enterprises looking for a tried-and-true, classical JDK for desktop and server deployment.

### Liberica JDK Full

Liberica JDK Full is based on Liberica JDK Standard but also includes LibericaFX, an OpenJFX implementation for building desktop and GUI applications. In addition, the package also contains a Minimal VM for the development of applications for embedded systems.

### Liberica JDK Lite

Liberica JDK Lite is a unique JDK optimized for cloud instances with a minimal footprint. It is a full-fledged, Java SE-compliant runtime, and yet, it is much smaller than any standard Java distribution. All the standard components are present and there are multiple enhancements added, such as better compression for modules. As a result, Liberica JDK Lite has a higher compression ratio for modules than a classic JDK, thus reducing static footprint. There are also multiple backports integrated from the recent versions of Liberica into Liberica JDK 11 and 17, including:

#### For Liberica JDK 11:

- [JEP 346: Promptly Return Unused Committed Memory from G1](#) — enables G1 GC to automatically return unused Java heap memory to the operating system in the case of low application activity;
- [JDK-8203469: Faster safepoints](#) — increases the average CPU time for JavaThreads between safepoints thus accelerating allocation rate for better performance;
- LTO (link-time optimization) build. Link-time optimization enables the GCC (the GNU Compiler Collection) to write unoptimized intermediate code to object files, which are then optimized by linker as a single module at link time. LTO support in JDK was added in [JEP 297: Unified arm32/arm64 Port](#) to improve performance and reduce the static footprint of shared libraries;

#### For Liberica JDK 17:

- String deduplication for ZGC, ParallelGC, and SerialGC, first introduced in [JEP 192: String deduplication for G1](#), and then extended to other garbage collectors in Java 18. If the strings are duplicated, i.e., contain the same bytes in their code and value fields, the GC deletes all but one byte arrays and reassigns references, thus reducing memory footprint;
- LTO build;
- [Supporting CDS archived heap objects](#) for ParallelGC and SerialGC improves startup because there's no need to create numerous expensive data structures (like module graph) from scratch.

All the dependent changes were added to Liberica JDK Lite as well.

## JDK/JRE builds

Every flavor is available in two build versions:

- JRE (Java Runtime Environment), a set of libraries and binaries **only to execute Java applications**.
- JDK (Java Development Kit), that is used to **develop and test applications**. It contains the JRE plus multiple development tools (Java interpreter (java), a compiler (javac), an archiver (jar), a documentation generator (Javadoc), a debugger (jdb), and others).

## Liberica JDK Performance Edition

[Liberica JDK Performance Edition](#) (or liberica-perf) brings essential improvements from JVM 17 to JDK 8 and 11 to boost the performance of Java applications. This is an easy solution if you plan to migrate to JDK 17 in the future, or have to stay on JDK 8 or 11 and benefit from the features of JVM 17. Our tests display the significant boost to the startup time, higher peak and mean throughput, and a shorter G1GC evacuation pause.

## Liberica JDK with CRaC

[Liberica JDK with CRaC](#) utilizes the Coordinated Restore at Checkpoint (or CRaC) API to pause a running application at an arbitrary point in time ("checkpoint"), save the checkpoint file (snapshot), and then restore the state of an application from the file. This way, you can drastically reduce the startup and warmup times from seconds to milliseconds by launching the app in an already stabilized state at peak performance.

# Unified Java runtime and where to use it

## WHAT IS A UNIFIED JAVA RUNTIME?

A unified Java runtime is a concept of providing the most complete Java experience for developers. BellSoft is the only company that provides support and timely security updates for a plethora of JDK builds, including:

- LTS versions JDK 8, 11, 17 & 21,
- Legacy JDK versions JDK 6 & 7,
- GraalVM Native Image.

This takes care of all Java needs of our customers, no matter what hardware they use (server, desktop, Cloud, embedded systems, etc), or what Java version they require for their apps to work. With multiple additional utilities, native image functionality, ready for use Docker containers, and top-notch affordable support from a single vendor, BellSoft's Unified Java Runtime covers all our customer's needs, making Liberica JDK the most complete Java experience.

## EXAMPLES OF USE

- Take advantage of Liberica Lite when you need the smallest size of JDK, for example, inside a container.
- Use Liberica in **native images** as part of [Liberica Native Image Kit](#). Liberica NIK is always based on the latest release of Liberica JDK (11, 17, or 21) and GraalVM with security patches, bug fixes, and fresh improvements.
- Even better, build the smallest and the most performant **microcontainers** with [Alpaquita Cloud Native Platform](#), that combines Liberica Lite with [Alpaquita Linux](#), a new build optimized for Java, and Liberica NIK.



- Utilize Liberica JDK Full with LibericaFX to build beautiful **desktop applications**. JavaFX is a powerful platform for desktop app development, because it helps to write manageable Java code, provides numerous functions out-of-the-box and supports multiple third party libraries. And [turning JavaFX apps into native images](#) will reduce the file size and enhance user experience.
- A dedicated build of Liberica JDK with enhanced ARM performance is an optimal solution for **embedded devices**. The build is optimized for systems with lower performance and includes MinimalVM, additional APIs, and LibericaFX for convenient development of GUIs.
- No matter what you are using for production, 2FBEDD or cutting-edge technologies such as **GraalVM**, we provide Liberica JDK builds for all these cases.

**Liberica JDK is recommended by VMware for use with Spring Framework.**

## USE CASES

Find out why industry leaders choose Liberica JDK.

### VMware & Spring Native

VMware is a leading provider of multi-cloud services for all applications. Over the years, BellSoft has supported VMware's JDK development efforts by providing Liberica JDK. Satisfied with timely and reliable support, VMware invited BellSoft to extend the relationship by providing compiler and Java Runtime support for Spring Native — a recent addition to the Spring Framework ecosystem for compiling Spring Boot applications into native executables. VMware now provides their users with both native support for Spring and Liberica Native Image Kit through the Native Image Buildpack.

### JetBrains

JetBrains is a software vendor specializing in intelligent development tools, including IntelliJ IDEA – the leading Java IDE. The company uses Liberica JDK and relies on the BellSoft team's experience and expertise to provide timely updates for the customers of JetBrains. Engineering teams of both companies keep JetBrains Runtime secure and performant.

### Flow Traders

Flow Traders is a leading global technology-enabled liquidity provider in financial products. When the company decides to migrate to an OpenJDK distribution, it chose Liberica JDK, which was onboarded without hiccups. The company has been satisfied with the level of support provided by BellSoft since then and appreciates the stability, quality, and speed of the runtime.

### QZ

QZ specializes in browser-to-hardware communication and develops QZ Tray, a cross-browser, cross-platform plugin for printing. For several years, the company was experiencing problems with Java that led to severe degradation of printing quality. The previous JDK provider wasn't able to solve the issue, and the company turned to BellSoft. The BellSoft engineers discovered that the problem arose from several bugs, including one that was over 20 years old. They promptly patched the issues, but they also had to ask a downstream project to permanently change its public API.

### OOCL

OOCL is one of the world's largest integrated international container transportation and logistics companies. OOCL provides transportation services in Asia, Europe, the Americas, Africa and Australasia. Liberica JDK delivers the stable and secure Java environment that helps OOCL to provide its customers with fully-integrated logistics.

## APPENDIX NO. 1. SUPPORT ROADMAP

RELEASE	ORACLE JDK GA DATE	END OF ORACLE PUBLIC UPDATES	END OF COMMERCIAL SUPPORT	
			ORACLE JAVA SE	LIBERICA JDK
JDK 6	Dec 2006	Apr 2013	Dec 2018	Mar 2026
JDK 7	Jul 2011	Apr 2015	Jul 2022	Mar 2026
JDK 8	Mar 2014	Jan 2019	Dec 2030	Mar 2031
JDK 11	Sept 2018	Mar 2019	Sept 2026	Mar 2032
JDK 17	Sept 2021	Mar 2022	Sept 2029	Mar 2030
JDK 21	Sept 2023	Mar 2024	Sept 2031	Mar 2032

## APPENDIX NO. 2. SUPPORT PLANS

### FREE

- Access to all Liberica JDK binaries
- Quarterly updates
- Access to other products: Liberica Native Image Kit, Liberica Mission Control

### STANDARD SUPPORT

- All the previous benefits
- Quarterly and off-cycle security updates and bug fixes
- Response times as fast as 24 hours based on SLA
- 9x5 with web and email access
- Emergency patches not yet included in the open source OpenJDK
- A two-hour initial consultation
- Access to Liberica Administration Center (conditions apply)

### PREMIUM SUPPORT

- All the previous benefits
- 24x7 with web, email and phone access
- Security patches SLA: 48 hours
- Response times as fast as 1 hour based on SLA
- Dedicated support engineer

## APPENDIX NO. 3. SUPPORTED SYSTEM CONFIGURATIONS

OPERATING SYSTEM	PLATFORMS	OS VERSIONS	LIBERICA JDK 8 (LTS)	LIBERICA JDK 11 (LTS)	LIBERICA JDK 17 (LTS)	SUPPORT NOTES
Windows Server	<ul style="list-style-type: none"> <li>x86 (64 bit)</li> </ul>	<ul style="list-style-type: none"> <li>Windows Server 2019</li> <li>Windows Server 2016</li> <li>Windows Server 2012 R2</li> <li>Windows Server 2012</li> <li>Windows Server 2008 R2</li> </ul>				
Windows Desktop	<ul style="list-style-type: none"> <li>x86 (64 bit, 32 bit)</li> </ul>	<ul style="list-style-type: none"> <li>Windows 10</li> <li>Windows 8</li> <li>Windows 7 SP1+</li> </ul>				For Windows 8, Metro Mode is not supported.
Windows Desktop	<ul style="list-style-type: none"> <li>AArch64</li> </ul>	<ul style="list-style-type: none"> <li>Windows 10</li> </ul>				For Windows 8, Metro Mode is not supported.
macOS	<ul style="list-style-type: none"> <li>x86 (64 bit)</li> <li>AArch64 (64 bit)</li> </ul>	<ul style="list-style-type: none"> <li>11.0 Big Sur</li> <li>10.15 Catalina</li> <li>10.14 Mojave</li> <li>10.13 High Sierra</li> <li>10.12 Sierra</li> <li>10.11 El Capitan</li> <li>11.0 Big Sur</li> <li>12.0 Monterey</li> </ul>				Binaries are notarized, JDK 17+ requires 10.12 Sierra as the minimum version.
Ubuntu Linux	<ul style="list-style-type: none"> <li>x86 (64 bit, 32 bit)</li> <li>AArch64 (64 bit)</li> <li>ARMv7 Hard-Float (32 bit)</li> <li>PowerPC (64 bit Little Endian)</li> </ul>	<ul style="list-style-type: none"> <li>12.04 (LTS)</li> <li>14.04 (LTS)</li> <li>15.04, 15.10</li> <li>16.04 (LTS), 16.10</li> <li>17.04, 17.10</li> <li>18.04 (LTS), 18.10</li> <li>19.04, 19.10</li> <li>20.04 (LTS)</li> </ul>				Ubuntu 12.04 (LTS) and 14.04 (LTS) are only supported for Liberica JDK 8. ARMv7 Hard-Float (32 bit) is only supported starting from Liberica JDK 11.
Debian Linux	<ul style="list-style-type: none"> <li>x86 (64 bit, 32 bit)</li> <li>AArch64 (64 bit)</li> <li>ARMv7 Hard-Float (32 bit)</li> <li>PowerPC (64 bit Little Endian)</li> </ul>	<ul style="list-style-type: none"> <li>8.x</li> <li>9.x</li> <li>10.x</li> </ul>				ARMv7 Hard-Float (32 bit) is only supported starting from Liberica JDK 11.
Red Hat Enterprise Linux (RHEL)	<ul style="list-style-type: none"> <li>x86 (64 bit, 32 bit)</li> <li>AArch64 (64 bit)</li> <li>PowerPC (64 bit Little Endian)</li> </ul>	<ul style="list-style-type: none"> <li>5.5+</li> <li>6.x</li> <li>7.x</li> <li>8.x</li> </ul>				Version 5.x is only supported for Liberica JDK 8. PowerPC is supported since 7.x.
CentOS	<ul style="list-style-type: none"> <li>x86 (64 bit, 32 bit)</li> <li>AArch64 (64 bit)</li> <li>PowerPC (64 bit Little Endian)</li> </ul>	<ul style="list-style-type: none"> <li>5.5+</li> <li>6.x</li> <li>7.x</li> <li>8.x</li> </ul>				Version 5.x is only supported for Liberica JDK 8. PowerPC is supported since 7.x.
Amazon Linux	<ul style="list-style-type: none"> <li>x86 (64 bit, 32 bit)</li> <li>AArch64 (64 bit)</li> </ul>	<ul style="list-style-type: none"> <li>Versions 1, 2</li> </ul>				
Oracle Enterprise Linux (OEL)	<ul style="list-style-type: none"> <li>x86 (64 bit, 32 bit)</li> </ul>	<ul style="list-style-type: none"> <li>5.5+</li> <li>6.x</li> <li>7.x</li> <li>8.x</li> </ul>				Version 5.x is only supported for Liberica JDK 8.
SuSE Linux Enterprise Server (SLES)	<ul style="list-style-type: none"> <li>x86 (64 bit, 32 bit)</li> <li>AArch64 (64 bit)</li> <li>PowerPC (64 bit Little Endian)</li> </ul>	<ul style="list-style-type: none"> <li>12 SP1</li> <li>12 SP2</li> <li>12 SP3</li> <li>12 SP4</li> <li>12 SP5</li> <li>15</li> <li>15 SP1</li> </ul>				

OPERATING SYSTEM	PLATFORMS	OS VERSIONS	LIBERICA JDK 8 (LTS)	LIBERICA JDK 11 (LTS)	LIBERICA JDK 17 (LTS, CURRENT)	SUPPORT NOTES
OpenSUSE	<ul style="list-style-type: none"> <li>x86 (64 bit, 32 bit)</li> <li>AArch64 (64 bit)</li> <li>PowerPC (64 bit Little Endian)</li> </ul>	<ul style="list-style-type: none"> <li>Leap</li> <li>Tumbleweed</li> </ul>				
Alpine Linux	<ul style="list-style-type: none"> <li>x86 (64 bit)</li> </ul>	<ul style="list-style-type: none"> <li>3.8+</li> </ul>				
Alpine Linux	<ul style="list-style-type: none"> <li>AArch64 (64 bit)</li> </ul>	<ul style="list-style-type: none"> <li>3.8+</li> </ul>				
Raspbian	<ul style="list-style-type: none"> <li>ARMv7 Hard-Float (32 bit)</li> </ul>	<ul style="list-style-type: none"> <li>Jessie</li> <li>Stretch</li> <li>Buster</li> </ul>				
Solaris 10	<ul style="list-style-type: none"> <li>SPARC</li> <li>x86 (64 bit)</li> </ul>	<ul style="list-style-type: none"> <li>10.9+</li> </ul>				SRU updates may be required to address support tickets for Solaris.
Solaris 11	<ul style="list-style-type: none"> <li>SPARC</li> <li>x86 (64 bit)</li> </ul>	<ul style="list-style-type: none"> <li>11.1+</li> </ul>				SRU updates may be required to address support tickets for Solaris.

## APPENDIX NO. 4. LIBERICAFOX

LibericaFX (based on OpenJFX) is supported for the platforms and operating systems listed in the following table. A supported video driver provided by the graphics card vendor is required for HW acceleration to function properly. LibericaFX is part of the Full Liberica JDK and JRE bundles.

OS FAMILY	PLATFORMS	LIBERICA JDK 8 (LTS)	LIBERICA JDK 11 (LTS)	LIBERICA JDK 17 (LTS, CURRENT)	SUPPORT NOTES
Windows	<ul style="list-style-type: none"> <li>x86 (64 bit, 32 bit)</li> </ul>				
Windows	<ul style="list-style-type: none"> <li>AArch64</li> </ul>				Media and Webkit are not supported
macOS	<ul style="list-style-type: none"> <li>x86 (64 bit)</li> </ul>				
macOS	<ul style="list-style-type: none"> <li>AArch64 (64 bit)</li> </ul>				
Linux	<ul style="list-style-type: none"> <li>x86 (64 bit)</li> </ul>				Supported only on Ubuntu 16.04+, Red Hat Linux family starting from 7.x and SUSE versions with GTK3 backend. libavcodec and libavformat packages (available in Ubuntu 16.04+ and RHEL/CentOS 8.x) are required for Media functionality.
Linux	<ul style="list-style-type: none"> <li>x86 (32 bit)</li> </ul>				libavcodec and libavformat packages (available in Ubuntu 16.04+) are required for Media functionality.
Linux	<ul style="list-style-type: none"> <li>AArch64 (64 bit)</li> </ul>				libavcodec and libavformat packages (available in Ubuntu 16.04+) are required for Media functionality.
Linux	<ul style="list-style-type: none"> <li>ARMv7 Hard-Float (32 bit)</li> </ul>				EGL, SW (direct framebuffer) and GTK pipelines are supported. Media functionality is supported in LibericaFX since 11.0.8 and 14.0.2. libavcodec and libavformat packages (such as available in Raspbian Buster) are required for Media functionality in X11. Media functionality for EGL and SW rendering is not supported. Webkit is not supported.





## CONTACT US TODAY

Have more questions about Liberica JDK, our other products, or enterprise support plans? Our sales representative, Bob Boshehri, will provide you with the assistance you need.

Feel free to reach out to Bob using the contact details below or [schedule a meeting](#) with him.



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