Liberica JDK 22.0.1+10
Release Notes

bell/soft

Contents

1. Introduction

This document provides the late-breaking information about Liberica JDK 22.0.1 release.

The full version string for this update release is 22.0.1+10. The version number is 22.

2. Liberica JDK 22.0.1+10

Liberica is a certified, Java SE 22-compliant distribution of OpenJDK 22, which works on server (Linux x86_64, Linux ARM64, Windows 64), desktop (Windows 64, Mac, Linux x86_64), and embedded devices (Linux ARM64, Linux ARMv7, including Raspberry Pi 2 & 3 (ARMv6 hardfloat)). It has the following notable additions:

- Linux x86_64 version contains support for ZGC.

- Linux x86_64, ARMv8 and ARMv7 distributions include a choice of Client VM, Server VM and Minimal VM.

- Alpine Linux x86_64 and aarch64 are built with musl support.

- Windows x86_64, Windows ARMv8, Mac, Linux x86_64, and Linux ARMv7 distributions contain OpenJFX 22.

- Linux ARMv7 distribution contains Device IO API compiled for Raspberry Pi.

Refer to the Oracle JDK 22.0.1 release notes for further information on JDK 22 features. This document further outlines the peculiarities of Liberica distribution as compared to Oracle JDK 22 distribution.

Discontinued OS support

Note that Liberica JDK 22.0.1 is not available for and cannot be run on the following operating systems:

- Windows x86 (32-bit)

- macOS 10.x

3. Liberica JDK 22 distribution

Liberica JDK 22 is distributed as .rpm, .zip, .deb and .tar.gz packages. Please select the most appropriate for your purposes.

Liberica JDK 22 introduced all new features supported by OpenJDK 22.

With the introduction of the Jigsaw feature in JDK 9 and Minimal VM it is now possible to create a Runtime that is sufficient to run your application and trim down the size of the Runtime. To generate a Runtime with just the Minimal VM, add `--vm=minimal` to jlink options.

By default, the Liberica uses Server VM. Server VM and Client VM can be enabled with `-server` and `-client` command line options, respectively. In case the deployment requires minimizing the footprint, it may be beneficial to use Minimal VM, which emphasis is a minimal footprint. It has C1 JIT compiler only, Serial GC and no serviceability features.

4. Security Baselines

BellSoft Liberica follows the security baselines for Oracle Java SE. Please refer to the Oracle documentation for a list of issues fixed in a given release.

5. Known Issues

This is the list of known issues in this release.

Issue ID	
JDK-8322567	Summary: Increased Startup Time when Using `-XX:StartFlightRecording` Description: A noticeable 10% increase in startup time can be observed when using the `-XX:StartFlightRecording` option with smaller applications. Workaround: N/A
JDK-8325737	Summary: `Files.readString` may return incorrect String when UTF-16 or other Charsets Description: Strings read with `java.nio.files.Files.readString` may return incorrect strings when decoding with a Charset other than US-ASCII, ISO08859-1, or UTF-8. Reading strings with other multi-byte charsets such as UTF_16 may produce incorrect results. Workaround: Run the JDK 22 GA build with `-XX:-CompactStrings` option to disable the use of 'Compact Strings'.
N/A	Summary: LibericaFX and EGL on Raspbian Description: As of 2017, the default location of Broadcom libEGL.so and libGLESv2.so has changed in Raspbian OS. Workaround: To leverage hardware EGL acceleration available from Broadcom video drivers in LibericaFX while running a recent Raspbian OS, run the following commands: **1.** `cd /opt/vc/lib`, **2.** `sudo ln -s libbrcmEGL.so libEGL.so`, **3.** `sudo ln -s libbrcmGLESv2.so libGLESv2.so`

6. CVEs

This is the list of the security issues fixed in this release. CVSS scores are provided using the CVSS version 3.1 scoring system.

CVE ID	CVSS score	Component	Module	Attack Vector	Complexity	Privileges	User Interaction	Scope	Confidentiality	Integrity	Availability
CVE-2023-41993	7.5	javafx	web	network	high	none	required	unchanged	high	high	high
CVE-2024-21002	2.5	javafx	graphics	local	high	none	required	unchanged	none	low	none
CVE-2024-21003	3.1	javafx	graphics	network	high	none	required	unchanged	none	low	none
CVE-2024-21004	2.5	javafx	window-toolkit	local	high	none	required	unchanged	none	low	none
CVE-2024-21005	3.1	javafx	graphics	network	high	none	required	unchanged	none	low	none
CVE-2024-21011	3.7	hotspot	runtime	network	high	none	none	unchanged	none	none	low
CVE-2024-21012	3.7	core-libs	java.net	network	high	none	none	unchanged	none	low	none
CVE-2024-21068	3.7	hotspot	compiler	network	high	none	none	unchanged	none	low	none

7. Notable Issues

This is the list of the notable issues fixed in this release.

Issue ID	
JDK-8322557	Summary: @param/@return descriptions of ZoneRules#isDaylightSavings() are incorrect Description: The description was corrected as follows: 'ZoneRules#getStandardOffset() is true if the specified instant is in daylight savings, false otherwise.'
JDK-8324353	Summary: KEM.getInstance() should check if a 3rd-party security provider is signed Description: When instantiating a third-party security provider's implementation (class) of a `KEM` algorithm, the framework will determine the provider's codebase (JAR file) and verify its signature. In this way, JCA authenticates the provider and ensures that only providers signed by a trusted entity can be plugged into the JCA. This is consistent with other JCE service classes, such as `Cipher`, `Mac`, `KeyAgreement`, and others.
JDK-8324366	Summary: Clarify Locale related system properties Description: The description for the following system properties was extended: user.language, user.script, user.country (used to be user.region, still exists for compatibility), user.variant, user.extensions.
JDK-8324371	Summary: The system properties page is missing some properties Description: The page https://docs.oracle.com/en/java/javase/21/docs/api/system-properties.html was updated to include all system properties, such as user.language, user.country, user.variant, and others.

Issue ID	
JDK-8324383	Summary: SegmentAllocator:allocateFrom(ValueLayout, MemorySegment,ValueLayout,long,long) spec mismatch in exception scenario Description: The description was corrected to match the behavior of SegmentAllocator:allocateFrom(ValueLayout,MemorySegment,ValueLayout,long,long).
JDK-8324407	Summary: Consider adding some text re. memory zeroing in Arena::allocate Description: The following text was added: 'Memory segments {@linkplain #allocate(long, long) allocated} by the returned arena are zero-initialized.'
JDK-8325605	Summary: Regression in round-tripping UTF-16 strings after JDK-8311906 Description: Strings read with `java.nio.files.Files.readString` may return incorrect strings when decoding with a charset other than US-ASCII, ISO08859-1, or UTF-8. See Known Issues.
JDK-8326323	Summary: Test 'api/java_awt/interactive/SystemTrayTests.html' failed because A blue ball icon is added outside of the system tray Description: When pressing the 'Add tray icon' button, the blue ball icon is now added to the system tray.
JDK-8326357	Summary: Add Certainly roots R1 and E1 Description: Certainly Root R1 CA certificate was added.
JDK-8326830	Summary: Make TrimNativeHeapInterval a product switch Description: `TrimNativeHeapInterval` has been made an official product switch. It allows the JVM to trim the native heap at periodic intervals. This option is only available on Linux with glibc.

8. Resolved Issues

JDK issues

This is the list of general JDK issues fixed in this release.

Issue ID	Summary
JDK-8314164	java/net/HttpURLConnection/HttpURLConnectionExpectContinueTest.java fails intermittently in timeout
JDK-8314275	Incorrect stepping in switch
JDK-8315708	Enhance HTTP/2 client usage
JDK-8317299	safepoint scalarization doesn't keep track of the depth of the JVM state
JDK-8317804	com/sun/jdi/JdwpAllowTest.java fails on Alpine 3.17 / 3.18
JDK-8318158	RISC-V: implement roundD/roundF intrinsics
JDK-8318340	Improve RSA key implementations
JDK-8318603	Parallelize sun/java2d/marlin/ClipShapeTest.java
JDK-8318696	Do not use LFS64 symbols on Linux
JDK-8319382	com/sun/jdi/JdwpAllowTest.java shows failures on AIX if prefixLen of mask is larger than 32 in IPv6 case
JDK-8319851	Improve exception logging

Issue ID	Summary
JDK-8320890	[AIX] Find a better way to mimic dl handle equality
JDK-8321151	JDK-8294427 breaks Windows L&F on all older Windows versions
JDK-8321374	Add a configure option to explicitly set CompanyName property in VersionInfo resource for Windows exe/dll
JDK-8321408	Add Certainly roots R1 and E1
JDK-8321480	ISO 4217 Amendment 176 Update
JDK-8321489	Update LCMS to 2.16
JDK-8321815	Shenandoah: gc state should be synchronized to java threads only once per safepoint
JDK-8321972	test runtime/Unsafe/InternalErrorTest.java timeout on linux-riscv64 platform
JDK-8322092	Bump version numbers for 22.0.1
JDK-8322098	os::Linux::print_system_memory_info enhance the THP output with /sys/kernel/mm/transparent_hugepage/hpage_pmd_size
JDK-8322122	Enhance generation of addresses
JDK-8322159	ThisEscapeAnalyzer crashes for erroneous code
JDK-8322163	runtime/Unsafe/InternalErrorTest.java fails on Alpine after JDK-8320886
JDK-8322417	Console read line with zero out should zero out when throwing exception
JDK-8322725	(tz) Update Timezone Data to 2023d
JDK-8322772	Clean up code after JDK-8322417

Issue ID	Summary
JDK-8322783	prioritize /etc/os-release over /etc/SuSE-release in hs_err/info output
JDK-8322790	RISC-V: Tune costs for shuffles with no conversion
JDK-8322945	Problemlist runtime/CompressedOops/CompressedClassPointers.java on AIX
JDK-8323021	Shenandoah: Encountered reference count always attributed to first worker thread
JDK-8323065	Unneccesary CodeBlob lookup in CompiledIC::internal_set_ic_destination
JDK-8323086	Shenandoah: Heap could be corrupted by oom during evacuation
JDK-8323154	C2: assert(cmp != nullptr && cmp→Opcode() == Op_Cmp(bt)) failed: no exit test
JDK-8323170	j2dbench is using outdated javac source/target to be able to build by itself
JDK-8323210	Update the usage of cmsFLAGS_COPY_ALPHA
JDK-8323331	fix typo hpage_pdm_size
JDK-8323428	Shenandoah: Unused memory in regions compacted during a full GC should be mangled
JDK-8323515	Create test alias "all" for all test roots
JDK-8323637	Capture hotspot replay files in GHA
JDK-8323657	Compilation of snippet results in VerifyError at runtime with --release 9 (and above)
JDK-8323664	java/awt/font/JNICheck/FreeTypeScalerJNICheck.java still fails with JNI warning on some Windows configurations

Issue ID	Summary
JDK-8323675	Race in jdk.javadoc-gendata
JDK-8323964	runtime/Thread/ThreadCountLimit.java fails intermittently on AIX
JDK-8324041	ModuleOption.java failed with update release versioning scheme
JDK-8324050	Issue store-store barrier after re-materializing objects during deoptimization
JDK-8324280	RISC-V: Incorrect implementation in VM_Version::parse_satp_mode
JDK-8324347	Enable "maybe-uninitialized" warning for FreeType 2.13.1
JDK-8324598	use mem_unit when working with sysinfo memory and swap related information
JDK-8324637	[aix] Implement support for reporting swap space in jdk.management
JDK-8324647	Invalid test group of lib-test after JDK-8323515
JDK-8324659	GHA: Generic jtreg errors are not reported
JDK-8324753	[AIX] adjust os_posix after JDK-8318696
JDK-8324937	GHA: Avoid multiple test suites per job
JDK-8325074	ZGC fails assert(index == 0 || is_power_of_2(index)) failed: Incorrect load shift: 11
JDK-8325150	(tz) Update Timezone Data to 2024a
JDK-8325203	System.exit(0) kills the launched 3rd party application
JDK-8325213	Flags introduced by configure script are not passed to ADLC build

Issue ID	Summary
JDK-8325326	[PPC64] Don't relocate in case of allocation failure
JDK-8325470	[AIX] use fclose after fopen in read_psinfo
JDK-8325496	Make TrimNativeHeapInterval a product switch
JDK-8325590	Regression in round-tripping UTF-16 strings after JDK-8311906
JDK-8325672	C2: allocate PhaseIdealLoop::_loop_or_ctrl from C→comp_arena()
JDK-8325876	crashes in docker container tests on Linuxppc64le Power8 machines
JDK-8326000	Remove obsolete comments for class sun.security.ssl.SunJSSE
JDK-8326101	[PPC64] Need to bailout cleanly if creation of stubs fails when code cache is out of space
JDK-8326360	Update the Zlib version in open/src/java.base/share/legal/zlib.md to 1.3
JDK-8326638	Crash in PhaseIdealLoop::remix_address_expressions due to unexpected Region instead of Loop

JFX issues

This is the list of JFX issues fixed in this release.

Issue ID	Summary
JDK-8304008	Update README.md and CONTRIBUTING.md for jfx update repos
JDK-8311492	FontSmoothingType LCD produces wrong color when transparency is used

Issue ID	Summary
JDK-8313032	Enhanced handling of Glass
JDK-8313040	Enhanced Font handling
JDK-8313064	General enhancements of image handling
JDK-8313072	Enhanced handling of Fonts
JDK-8314147	Updated the PhongMaterial documentation
JDK-8318614	Update WebKit to 617.1
JDK-8318624	API docs specify incorrect default value for nodeOrientation property
JDK-8320441	Additonal fix for JDK-8313032
JDK-8322236	Build failure after JDK-8313064
JDK-8322703	Intermittent crash in WebView in a JFXPanel from IME calls on macOS
JDK-8323555	Change JavaFX release version to 22.0.1 in jfx22u
JDK-8323879	constructor Path(Path) which takes another Path object fail to draw on canvas html
JDK-8323880	Caret rendered at wrong position in case of a click event on RTL text
JDK-8324233	Update JPEG Image Decoding Software to 9f
JDK-8324326	Update ICU4C to 74.2
JDK-8324337	Cherry-pick WebKit 617.1 stabilization fixes

Issue ID	Summary
JDK-8325154	resizeColumnToFitContent is slower than it needs to be
JDK-8325258	Additional WebKit 617.1 fixes from WebKitGTK 2.42.5
JDK-8325550	Grammatical error in AnchorPane.setLeftAnchor (and other setters) javadoc
JDK-8325873	Update JDK_DOCS property to point to JDK 21 docs
JDK-8326989	Text selection issues on WebView after WebKit 617.1
JDK-8327177	macOS: wrong GlobalRef deleted in GlassMenu
JDK-8327979	Change JavaFX release version to 22.0.2 in jfx22u
JDK-8328136	Create release notes for JavaFX 22
JDK-8328749	Remove unused imports in javafx.web
JDK-8328752	Fix missing @Overrides in javafx.web

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