Liberica JDK 21.0.2+14
Release Notes

bellsoft

Contents

1. Introduction

This document provides the late-breaking information about Liberica JDK 21.0.2 release.

The full version string for this update release is 21.0.2+14. The version number is 21.

2. Liberica JDK 21.0.2+14

Liberica is a certified, Java SE 21-compliant distribution of OpenJDK 21, 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 21.

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

Refer to the Oracle JDK 21.0.2 release notes for further information on JDK 21 features. This document further outlines the peculiarities of Liberica distribution as compared to Oracle JDK 21 distribution.

3. Liberica JDK 21 distribution

Liberica JDK 21 is distributed as .rpm, .zip, .deb and .tar.gz packages. Please select the most appropriate for your purposes.

Liberica JDK 21 introduced all [new features](#) supported by OpenJDK 21.

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 to minimize the footprint, it may be beneficial to use Minimal VM, which emphasises on 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 release does not contain any known issues.

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-2024-20918	7.4	hotspot	compiler	network	high	none	none	unchanged	high	high	none
CVE-2024-20919	5.9	hotspot	runtime	network	high	none	none	unchanged	none	high	none
CVE-2024-20921	5.9	hotspot	compiler	network	high	none	none	unchanged	high	none	none
CVE-2024-20922	2.5	javafx	window-toolkit	local	high	none	required	unchanged	none	low	none
CVE-2024-20923	3.1	javafx	graphics	network	high	none	required	unchanged	low	none	none
CVE-2024-20925	3.1	javafx	media	network	high	none	required	unchanged	none	low	none
CVE-2024-20945	4.7	security-libs	javax.xml.crypto	local	high	low	none	unchanged	high	none	none
CVE-2024-20952	7.4	security-libs	java.security	network	high	none	none	unchanged	high	high	none

7. Notable Issues

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

Issue ID: JDK-8315230

Summary: Add a new subsection for `TOOLING` script in the JShell Guide

Description: Since JDK version 21 the JShell tool for interactive exploration of Java code has
                   been enhanced with a new predefined script - `TOOLING`. The script description
                   was added to the JShell Guide.

Issue ID: JDK-8315991

Summary: Add KEEPALIVE Extended Socket Options Support for Windows

Description: The mssql-jdbc driver uses the keepAliveTime and keepAliveInterval socket
                   options to maintain idle connections to the server. However, this feature of
                   maintaining idle connections by driver was only supported on Linux and Mac. The
                   support for the KEEPALIVE socket options was implemented within the JDK for
                   Windows.

Issue ID: JDK-8318748

Summary: Add Telia Root CA v2

Description: Telia root certificate was added.

Issue ID: JDK-8319286

Summary: Invalid CEN header (invalid zip64 extra data field size)

Description: The following ZipException was thrown when the data contained in the CEN
                       Extra fields was ambiguous: Invalid CEN header (invalid zip64 extra data field
                       size).

Issue ID: JDK-8319287

Summary: Increase jdk.jar.maxSignatureFileSize default size, which is too low for JARs such
                       as WhiteSource/Mend unified agent jar

Description: jdk.jar.maxSignatureFileSize default size of 8 MB was too low and caused errors.
                       The fix increased the default value to 16 MB.

Issue ID: JDK-8319740

Summary: Add Let's Encrypt ISRG Root X2

Description: New Let's Encrypt root certificates were added.

Issue ID: JDK-8320287

Summary: Add four DigiCert root certificates

Description: Four new DigiCert root certificates were added.

8. Resolved Issues

JDK issues

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

Issue ID	Summary
JDK-8038244	(fs) Check return value of malloc in Java_sun_nio_fs_AixNativeDispatcher_getmntctl()
JDK-8161536	sun/security/pkcs11/sslecc/ClientJSSEServerJSSE.java fails with ProviderException
JDK-8219652	[aix] Tests failing with JNI attach problems.
JDK-8225377	type annotations are not visible to javac plugins across compilation boundaries
JDK-8232839	JDI AfterThreadDeathTest.java failed due to "FAILED: Did not get expected IllegalThreadStateException on a StepRequest.enable()"
JDK-8267502	JDK-8246677 caused 16x performance regression in SynchronousQueue
JDK-8267509	Improve IllegalAccessException message to include the cause of the exception
JDK-8268916	Tests for AffirmTrust roots
JDK-8286757	adlc tries to build with /pathmap but without /experimental:deterministic
JDK-8294156	Allow PassFailJFrame.Builder to create test UI

Issue ID	Summary
JDK-8294158	HTML formatting for PassFailJFrame instructions
JDK-8294427	Check boxes and radio buttons have rendering issues on Windows in High DPI env
JDK-8294535	Add screen capture functionality to PassFailJFrame
JDK-8295068	SSLEngine throws NPE parsing CertificateRequests
JDK-8295555	Primitive wrapper caches could be `@Stable`
JDK-8299614	Shenandoah: STW mark should keep nmethod/oops referenced from stack chunk alive
JDK-8300663	java/util/concurrent/SynchronousQueue/Fairness.java failed with "Error: fair=true i=0 j=1"
JDK-8301247	JPackage app-image exe launches multiple exe's in JDK 17+
JDK-8301341	LinkedTransferQueue does not respect timeout for poll()
JDK-8301457	Code in SendPortZero.java is uncommented even after JDK-8236852 was fixed
JDK-8301489	C1: ShortLoopOptimizer might lift instructions before their inputs
JDK-8301846	Invalid TargetDataLine after screen lock when using JFileChooser or COM library
JDK-8303737	C2: Load can bypass subtype check that enforces it's from the right object type
JDK-8306561	Possible out of bounds access in print_pointer_information

Issue ID	Summary
JDK-8308103	Massive (up to ~30x) increase in C2 compilation time since JDK 17
JDK-8308204	Enhanced certificate processing
JDK-8308452	Extend internal Architecture enum with byte order and address size
JDK-8308479	[s390x] Implement alternative fast-locking scheme
JDK-8308592	Framework for CA interoperability testing
JDK-8308593	Add KEEPALIVE Extended Socket Options Support for Windows
JDK-8309209	C2 failed "assert(_stack_guard_state == stack_guard_reserved_disabled) failed: inconsistent state"
JDK-8309545	Thread.interrupted from virtual thread needlessly resets interrupt status
JDK-8309663	test fails "assert(check_alignment(result)) failed: address not aligned: 0x00000008baadbabe"
JDK-8309778	java/nio/file/Files/CopyAndMove.java fails when using second test directory
JDK-8309974	some JVMCI tests fail when VM options include -XX:+EnableJVMCI
JDK-8310239	Add missing cross modifying fence in nmethod entry barriers
JDK-8310512	Cleanup indentation in jfc files
JDK-8310596	Utilize existing method frame::interpreter_frame_monitor_size_in_bytes()
JDK-8310982	jdk/internal/util/ArchTest.java fails after JDK-8308452 failed with Method isARM()

Issue ID	Summary
JDK-8311261	[AIX] TestAlwaysPreTouchStacks.java fails due to java.lang.RuntimeException: Did not find expected NMT output
JDK-8311514	Incorrect regex in TestMetaSpaceLog.java
JDK-8311585	Add JRadioButtonMenuItem to bug8031573.java
JDK-8311591	Add SystemModulesPlugin test case that splits module descriptors with new local variables defined by DedupSetBuilder
JDK-8311630	[s390] Implementation of Foreign Function & Memory API (Preview)
JDK-8311631	When multiple users run tools/jpackage/share/LicenseTest.java, Permission denied for writing /var/tmp/*.files
JDK-8311813	C1: Uninitialized PhiResolver::_loop field
JDK-8311938	Add default cups include location for configure on AIX
JDK-8312078	[PPC] JcmdScale.java Failing on AIX
JDK-8312126	NullPointerException in CertStore.getCRLs after 8297955
JDK-8312166	(dc) DatagramChannel's socket adaptor does not release carrier thread when blocking in receive
JDK-8312174	missing JVMTI events from vthreads parked during JVMTI attach
JDK-8312191	ColorConvertOp.filter for the default destination is too slow
JDK-8312433	HttpClient request fails due to connection being considered idle and closed
JDK-8312434	SPECjvm2008/xml.transform with CDS fails with "can't seal package nu.xom"

Issue ID	Summary
JDK-8312440	assert(cast != nullptr) failed: must have added a cast to pin the node
JDK-8312466	/bin/nm usage in AIX makes needs -X64 flag
JDK-8312467	relax the builddir check in make/autoconf/basic.m4
JDK-8312592	New parentheses warnings after HarfBuzz 7.2.0 update
JDK-8312612	handle WideCharToMultiByte return values
JDK-8313164	src/java.desktop/windows/native/libawt/windows/awt_Robot.cpp GetRGBPixels adjust releasing of resources
JDK-8313167	Update to use jtreg 7.3
JDK-8313206	PKCS11 tests silently skip execution
JDK-8313244	NM flags handling in configure process
JDK-8313252	Java_sun_awt_windows_ThemeReader_paintBackground release resources in early returns
JDK-8313322	RISC-V: implement MD5 intrinsic
JDK-8313368	(fc) FileChannel.size returns 0 on block special files
JDK-8313575	Refactor PKCS11Test tests
JDK-8313616	support loading library members on AIX in os::dll_load
JDK-8313643	Update HarfBuzz to 8.2.2
JDK-8313656	assert(!JvmtiExport::can_support_virtual_threads()) with -XX: -DoJVMTIVirtualThreadTransitions

Issue ID	Summary
JDK-8313779	RISC-V: use andn / orn in the MD5 instrinsic
JDK-8313781	Add regression tests for large page logging and user-facing error messages
JDK-8313782	Add user-facing warning if THPs are enabled but cannot be used
JDK-8313792	Verify 4th party information in src/jdk.internal.le/share/legal/jline.md
JDK-8313873	java/nio/channels/DatagramChannel/SendReceiveMaxSize.java fails on AIX due to small default RCVBUF size and different IPv6 Header interpretation
JDK-8314045	ArithmeticException in GaloisCounterMode
JDK-8314094	java/lang/ProcessHandle/InfoTest.java fails on Windows when run as user with Administrator privileges
JDK-8314120	Add tests for FileDescriptor.sync
JDK-8314121	test tools/jpackage/share/RuntimePackageTest.java#id0 fails on RHEL8
JDK-8314191	C2 compilation fails with "bad AD file"
JDK-8314226	Series of colon-style fallthrough switch cases with guards compiled incorrectly
JDK-8314242	Update applications/scimark/Scimark.java to accept VM flags
JDK-8314246	javax/swing/JToolBar/4529206/bug4529206.java fails intermittently on Linux
JDK-8314263	Signed jars triggering Logger finder recursion and StackOverflowError
JDK-8314295	Enhance verification of verifier
JDK-8314307	Improve loop handling

Issue ID	Summary
JDK-8314330	java/foreign tests should respect vm flags when start new processes
JDK-8314468	Improve Compiler loops
JDK-8314476	TestJstatdPortAndServer.java failed with "java.rmi.NoSuchObjectException: no such object in table"
JDK-8314495	Update to use jtreg 7.3.1
JDK-8314551	More generic way to handshake GC threads with monitor deflation
JDK-8314580	PhaseIdealLoop::transform_long_range_checks fails with assert "was tested before"
JDK-8314632	Intra-case dominance check fails in the presence of a guard
JDK-8314759	VirtualThread.parkNanos timeout adjustment when pinned should be replaced
JDK-8314883	Java_java_util_prefs_FileSystemPreferences_lockFile0 write result errno in missing case
JDK-8314935	Shenandoah: Unable to throw OOME on back-to-back Full GCs
JDK-8315026	ProcessHandle implementation listing processes on AIX should use getprocs64
JDK-8315062	[GHA] get-bootjdk action should return the abolute path
JDK-8315082	[REDO] Generational ZGC: Tests crash with assert(index == 0 || is_power_of_2(index))
JDK-8315088	C2: assert(wq.size() - before == EMPTY_LOOP_SIZE) failed: expect the EMPTY_LOOP_SIZE nodes of this body if empty

Issue ID	Summary
JDK-8315195	RISC-V: Update hwprobe query for new extensions
JDK-8315206	RISC-V: hwprobe query is_set return wrong value
JDK-8315213	java/lang/ProcessHandle/TreeTest.java test enhance output of children
JDK-8315214	Do not run sun/tools/jhsdb tests concurrently
JDK-8315362	NMT: summary diff reports threads count incorrectly
JDK-8315377	C2: assert(u→find_out_with(Op_AddP) == nullptr) failed: more than 2 chained AddP nodes?
JDK-8315383	jlink SystemModulesPlugin incorrectly parses the options
JDK-8315415	OutputAnalyzer.shouldMatchByLine() fails in some cases
JDK-8315437	Enable parallelism in vmTestbase/nsk/monitoring/stress/classload tests
JDK-8315442	Enable parallelism in vmTestbase/nsk/monitoring/stress/thread tests
JDK-8315452	Erroneous AST missing modifiers for partial input
JDK-8315499	build using devkit on Linux ppc64le RHEL puts path to devkit into libsplashscreen
JDK-8315545	C1: x86 cmove can use short branches
JDK-8315549	CITime misreports code/total nmethod sizes
JDK-8315554	C1: Replace "cmp reg, 0" with "test reg, reg" on x86
JDK-8315578	PPC builds are broken after JDK-8304913

Issue ID	Summary
JDK-8315579	SPARC64 builds are broken after JDK-8304913
JDK-8315606	Open source few swing text/html tests
JDK-8315612	RISC-V: intrinsic for unsignedMultiplyHigh
JDK-8315644	increase timeout of sun/security/tools/jarsigner/Warning.java
JDK-8315651	Stop hiding AIX specific multicast socket errors via NetworkConfiguration (aix)
JDK-8315683	Parallelize java/util/concurrent/tck/JSR166TestCase.java
JDK-8315684	Parallelize sun/security/util/math/TestIntegerModuloP.java
JDK-8315688	Update jdk21u fix version to 21.0.2
JDK-8315692	Parallelize gc/stress/TestStressRSetCoarsening.java test
JDK-8315696	SignedLoggerFinderTest.java test failed
JDK-8315702	jcmd Thread.dump_to_file slow with millions of virtual threads
JDK-8315706	com/sun/tools/attach/warnings/DynamicLoadWarningTest.java real fix for failure on AIX
JDK-8315735	VerifyError when switch statement used with synchronized block
JDK-8315751	RandomTestBsi1999 fails often with timeouts on Linux ppc64le
JDK-8315766	Parallelize gc/stress/TestStressIHOPMultiThread.java test
JDK-8315770	serviceability/sa/TestJmapCoreMetaspace.java should run with -XX:-VerifyDependencies

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Issue ID	Summary
JDK-8315774	Enable parallelism in vmTestbase/gc/g1/unloading tests
JDK-8315863	[GHA] Update checkout action to use v4
JDK-8315869	UseHeavyMonitors not used
JDK-8315920	C2: "control input must dominate current control" assert failure
JDK-8315931	RISC-V: xxxMaxVectorTestsSmokeTest fails when using RVV
JDK-8315936	Parallelize gc/stress/TestStressG1Humongous.java test
JDK-8315937	Enable parallelism in vmTestbase/nsk/stress/numeric tests
JDK-8315942	Sort platform enums and definitions after JDK-8304913 follow-ups
JDK-8315960	test/jdk/java/io/File/TempDirDoesNotExist.java leaves test files behind
JDK-8315971	ProblemList containers/docker/TestMemoryAwareness.java on linux-all
JDK-8316003	Update FileChooserSymLinkTest.java to HTML instructions
JDK-8316017	Refactor timeout handler in PassFailJFrame
JDK-8316025	Use testUI() method of PassFailJFrame.Builder in FileChooserSymLinkTest.java
JDK-8316030	Update Libpng to 1.6.40
JDK-8316031	SSLFlowDelegate should not log from synchronized block
JDK-8316060	test/hotspot/jtreg/runtime/reflect/ReflectOutOfMemoryError.java may fail if heap is huge

Issue ID	Summary
JDK-8316087	Test SignedLoggerFinderTest.java is still failing
JDK-8316113	Infinite permission checking loop in java/net/spi/InetAddressResolverProvider/RuntimePermissionTest
JDK-8316123	ProblemList serviceability/dcmd/gc/RunFinalizationTest.java on AIX
JDK-8316130	Incorrect control in LibraryCallKit::inline_native_notify_jvmti_funcs
JDK-8316142	Enable parallelism in vmTestbase/nsk/monitoring/stress/lowmem tests
JDK-8316156	ByteArrayInputStream.transferTo causes MaxDirectMemorySize overflow
JDK-8316178	Better diagnostic header for CodeBlobs
JDK-8316179	Use consistent naming for lightweight locking in MacroAssembler
JDK-8316181	Move the fast locking implementation out of the .ad files
JDK-8316199	Remove sun/tools/jstatd/TestJstatd* tests from problemlist for Windows.
JDK-8316206	Test StretchedFontTest.java fails for Baekmuk font
JDK-8316304	(fs) Add support for BasicFileAttributes.creationTime() for Linux
JDK-8316337	(bf) Concurrency issue in DirectByteBuffer.Deallocator
JDK-8316341	sun/security/pkcs11/PKCS11Test.java needs adjustment on Linux ppc64le Ubuntu 22
JDK-8316387	Exclude more failing multicast tests on AIX after JDK-8315651
JDK-8316396	Endless loop in C2 compilation triggered by AddNode::IdealIL

Issue ID	Summary
JDK-8316399	Exclude java/net/MulticastSocket/Promiscuous.java on AIX
JDK-8316400	Exclude jdk/jfr/event/runtime/TestResidentSetSizeEvent.java on AIX
JDK-8316401	sun/tools/jhsdb/JStackStressTest.java failed with "InternalError: We should have found a thread that owns the anonymous lock"
JDK-8316411	compiler/compilercontrol/TestConflictInlineCommands.java fails intermittent with force inline by CompileCommand missing
JDK-8316414	C2: large byte array clone triggers "failed: malformed control flow" assertion failure on linux-x86
JDK-8316415	Parallelize sun/security/rsa/SignedObjectChain.java subtests
JDK-8316418	containers/docker/TestMemoryWithCgroupV1.java get OOM killed with Parallel GC
JDK-8316436	ContinuationWrapper uses unhandled nullptr oop
JDK-8316461	Fix: make test outputs TEST SUCCESS after unsuccessful exit
JDK-8316468	os::write incorrectly handles partial write
JDK-8316514	Better diagnostic header for VtableStub
JDK-8316540	StoreReproducibilityTest fails on some locales
JDK-8316566	RISC-V: Zero extended narrow oop passed to Atomic::cmpxchg
JDK-8316581	Improve performance of Symbol::print_value_on()
JDK-8316585	[REDO] runtime/InvocationTests spend a lot of time on dependency verification

Issue ID	Summary
JDK-8316645	RISC-V: Remove dependency on libatomic by adding cmpxchg 1b
JDK-8316648	jrt-fs.jar classes not reproducible between standard and bootcycle builds
JDK-8316659	assert(LockingMode != LM_LIGHTWEIGHT || flag == CCR0) failed: bad condition register
JDK-8316671	sun/security/ssl/SSLSocketImpl/SSLSocketCloseHang.java test fails intermittent with Read timed out
JDK-8316679	C2 SuperWord: wrong result, load should not be moved before store if not comparable
JDK-8316710	Exclude java/awt/font/Rotate/RotatedTextTest.java
JDK-8316719	C2 compilation still fails with "bad AD file"
JDK-8316735	Print LockStack in hs_err files
JDK-8316741	BasicStroke.createStrokedShape miter-limits failing on small shapes
JDK-8316743	RISC-V: Change UseVectorizedMismatchIntrinsic option result to warning
JDK-8316746	Top of lock-stack does not match the unlocked object
JDK-8316778	test hprof lib: invalid array element type from JavaValueArray.elementSize
JDK-8316859	RISC-V: Disable detection of V through HWCAP
JDK-8316879	RegionMatches1Tests fails if CompactStrings are disabled after JDK-8302163
JDK-8316880	AArch64: "stop: Header is not fast-locked" with -XX:-UseLSE since JDK-8315880

Issue ID	Summary
JDK-8316894	make test TEST="jtreg:test/jdk/..." fails on AIX
JDK-8316906	Clarify TLABWasteTargetPercent flag
JDK-8316929	Shenandoah: Shenandoah degenerated GC and full GC need to cleanup old OopMapCache entries
JDK-8316933	RISC-V: compiler/vectorapi/VectorCastShape128Test.java fails when using RVV
JDK-8316935	[s390x] Use consistent naming for lightweight locking in MacroAssembler
JDK-8316958	Add test for unstructured locking
JDK-8316967	Correct the scope of vmtimer in UnregisteredClasses::load_class
JDK-8316976	Improve signature handling
JDK-8317039	Enable specifying the JDK used to run jtreg
JDK-8317121	vector_masked_load instruction is moved too early after JDK-8286941
JDK-8317136	[AIX] Problem List runtime/jni/terminatedThread/TestTerminatedThread.java
JDK-8317257	RISC-V: llvm build broken
JDK-8317262	LockStack::contains(oop) fails "assert(t→is_Java_thread()) failed: incorrect cast to JavaThread"
JDK-8317294	Classloading throws exceptions over already pending exceptions
JDK-8317327	Remove JT_JAVA dead code in jib-profiles.js
JDK-8317335	Build on windows fails after 8316645

Issue ID	Summary
JDK-8317336	Assertion error thrown during 'this' escape analysis
JDK-8317340	Windows builds are not reproducible if MS VS compiler install path differs
JDK-8317373	Add Telia Root CA v2
JDK-8317374	Add Let's Encrypt ISRG Root X2
JDK-8317507	C2 compilation fails with "Exceeded _node_regs array"
JDK-8317510	Change Windows debug symbol files naming to avoid losing info when an executable and a library share the same name
JDK-8317547	Enhance TLS connection support
JDK-8317581	[s390x] Multiple test failure with LockingMode=2
JDK-8317601	Windows build on WSL broken after JDK-8317340
JDK-8317603	Improve exception messages thrown by sun.nio.ch.Net native methods (win)
JDK-8317692	jcmd GC.heap_dump performance regression after JDK-8292818
JDK-8317705	ProblemList sun/tools/jstat/jstatLineCountsX.sh on linux-ppc64le and aix due to JDK-8248691
JDK-8317706	Exclude java/awt/Graphics2D/DrawString/RotTransText.java on linux
JDK-8317711	Exclude gtest/GTestWrapper.java on AIX
JDK-8317736	Stream::handleReset locks twice
JDK-8317751	ProblemList ConsumeForModalDialogTest.java, MenuItemActivatedTest.java & MouseModifiersUnitTest_Standard.java for windows

Issue ID	Summary
JDK-8317772	NMT: Make peak values available in release builds
JDK-8317790	Fix Bug entry for exclusion of runtime/jni/terminatedThread/TestTerminatedThread.java on AIX
JDK-8317803	Exclude java/net/Socket/asyncClose/Race.java on AIX
JDK-8317807	JAVA_FLAGS removed from jtreg running in JDK-8317039
JDK-8317818	Combinatorial explosion during 'this' escape analysis
JDK-8317834	java/lang/Thread/IsAlive.java timed out
JDK-8317839	Exclude java/nio/channels/Channels/SocketChannelStreams.java on AIX
JDK-8317920	JDWP-agent sends broken exception event with onthrow option
JDK-8317959	Check return values of malloc in native java.base coding
JDK-8317964	java/awt/Mouse/MouseModifiersUnitTest/MouseModifiersUnitTest_Standard.java fails on macosx-all after JDK-8317751
JDK-8317967	Enhance test/jdk/javax/net/ssl/TLSCommon/SSLEngineTestCase.java to handle default cases
JDK-8317987	C2 recompilations cause high memory footprint
JDK-8318078	ADLC: pass ASSERT and PRODUCT flags
JDK-8318089	Class space not marked as such with NMT when CDS is off
JDK-8318144	Match on enum constants with body compiles but fails with MatchException
JDK-8318183	C2: VM may crash after hitting node limit

Issue ID	Summary
JDK-8318240	[AIX] Cleaners.java test failure
JDK-8318415	Adjust describing comment of os_getChildren after 8315026
JDK-8318474	Fix memory reporter for thread_count
JDK-8318525	Atomic gtest should run as TEST_VM to access VM capabilities
JDK-8318528	Rename TestUnstructuredLocking test
JDK-8318540	make test cannot run .jasm tests directly
JDK-8318562	Computational test more than 2x slower when AVX instructions are used
JDK-8318587	refresh libraries cache on AIX in print_vm_info
JDK-8318591	avoid leaks in loadlib_aix.cpp reload_table()
JDK-8318669	Target OS detection in 'test-prebuilt' makefile target is incorrect when running on MSYS2
JDK-8318705	[macos] ProblemList java/rmi/registry/multipleRegistries/MultipleRegistries.java
JDK-8318736	com/sun/jdi/JdwpOnThrowTest.java failed with "transport error 202: bind failed: Address already in use"
JDK-8318759	Add four DigiCert root certificates
JDK-8318889	C2: add bailout after assert Bad graph detected in build_loop_late
JDK-8318895	Deoptimization results in incorrect lightweight locking stack
JDK-8318951	Additional negative value check in JPEG decoding

Issue ID	Summary
JDK-8318953	RISC-V: Small refactoring for MacroAssembler::test_bit
JDK-8318955	Add ReleaseIntArrayElements in Java_sun_awt_X11_XlibWrapper_SetBitmapShape XlbWrapper.c to early return
JDK-8318957	enhance agentlib:jdwp help output by info about allow option
JDK-8318961	increase javacserver connection timeout values and max retry attempts
JDK-8318981	compiler/compilercontrol/TestConflictInlineCommands.java fails intermittent with 'disallowed by CompileCommand' missing from stdout/stderr
JDK-8319104	GtestWrapper crashes with SIGILL in AsyncLogTest::test_asynclog_raw on AIX opt
JDK-8319120	Unbound ScopedValue.get() throws the wrong exception
JDK-8319184	RISC-V: improve MD5 intrinsic
JDK-8319187	Add three eMudhra emSign roots
JDK-8319195	Move most tier 1 vector API regression tests to tier 3
JDK-8319268	Build failure with GCC8.3.1 after 8313643
JDK-8319339	Internal error on spurious markup in a hybrid snippet
JDK-8319436	Proxy.newProxyInstance throws NPE if loader is null and interface not visible from class loader
JDK-8319525	RISC-V: Rename *_riscv64.ad files to *_riscv.ad under riscv/gc
JDK-8319532	jshell - Non-sealed declarations sometimes break a snippet evaluation

Issue ID	Summary
JDK-8319542	Fix boundaries of region to be tested with os::is_readable_range
JDK-8319700	[AArch64] C2 compilation fails with "Field too big for insn"
JDK-8319828	runtime/NMT/VirtualAllocCommitMerge.java may fail if mixing interpreted and compiled native invocations
JDK-8319922	libCreationTimeHelper.so fails to link in JDK 21
JDK-8319958	test/jdk/java/io/File/libGetXSpace.c does not compile on Windows 32-bit
JDK-8319961	JvmtiEnvBase doesn't zero _ext_event_callbacks
JDK-8320001	javac crashes while adding type annotations to the return type of a constructor
JDK-8320053	GHA: Cross-compile gtest code
JDK-8320209	VectorMaskGen clobbers rflags on x86_64
JDK-8320280	RISC-V: Avoid passing t0 as temp register to MacroAssembler::lightweight_lock/unlock
JDK-8320363	ppc64 TypeEntries::type_unknown logic looks wrong, missed optimization opportunity
JDK-8320597	RSA signature verification fails on signed data that does not encode params correctly
JDK-8320601	ProblemList java/lang/invoke/lambda/LambdaFileEncodingSerialization.java on linux-all
JDK-8321067	Unlock experimental options in EATests.java

Issue ID	Summary
JDK-8322883	[BACKOUT] 8225377: type annotations are not visible to javac plugins across compilation boundaries
JDK-8322985	[BACKOUT] 8318562: Computational test more than 2x slower when AVX instructions are used

JFX issues

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

Issue ID	Summary
JDK-8251240	Menus inaccessible on Linux with i3 wm
JDK-8307536	FileAlreadyExistsException from NativeLibLoader when running concurrent applications with empty cache
JDK-8311185	VirtualFlow jump when cellcount changes
JDK-8313048	Better Glyph handling
JDK-8313056	General enhancements of Glass
JDK-8313105	Improved media framing
JDK-8313321	Set minimum python version in WebKit cmake scripts
JDK-8313648	JavaFX application continues to show a black screen after graphic card driver crash
JDK-8314484	Update Gradle to 8.4

Issue ID	Summary
JDK-8314486	JavaFX build uses deprecated features that will be removed in gradle 8
JDK-8315074	Possible null pointer access in native glass
JDK-8315864	Change JavaFX release version to 21.0.2 in jfx21u
JDK-8315870	icu fails to compile with Visual Studio 2022 17.6.5
JDK-8315958	Missing range checks in GlassPasteboard
JDK-8316135	Create release notes for JavaFX 21
JDK-8317370	JavaFX runtime version is wrong at runtime
JDK-8317508	Provide media support for libavcodec version 60
JDK-8317842	Create release notes for JavaFX 21.0.1
JDK-8318115	Webkit build fails after gradle 8.4
JDK-8318386	Update Glib to 2.78.1
JDK-8318387	Update GStreamer to 1.22.6
JDK-8318708	FX: Update copyright year in docs, readme files to 2024
JDK-8318714	Update copyright header for files modified in 2023
JDK-8318984	Update to Xcode 14.3.1 on macOS
JDK-8319066	Application window not always activated in macOS 14 Sonoma
JDK-8319079	Missing range checks in decora

Issue ID	Summary
JDK-8319231	Unrecognized "minimum" key in .jcheck/conf causes /reviewers command to be ignored
JDK-8319669	[macos14] Running any JavaFX app prints Secure coding warning
JDK-8319762	Update to Visual Studio 2022 version 17.6.5 on Windows
JDK-8319996	Update to GCC 13.2.0 on Linux
JDK-8320267	WebView crashes on macOS 11 with WebKit 616.1

Liberica JDK 21.0.2+14
Release Notes