Liberica JDK 21.0.4+9
Release Notes

bellsoft

Contents

1. Version information

This document provides information about Liberica JDK 21.0.4 release.

The full version string for this update release is 21.0.4+9. The version number is 21.

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

2. What's New

This release contains the following updates and new features.

Notable Changes

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

Issue ID	
JDK-8327438	Summary: Test 'api/java_awt/interactive/SystemTrayTests.html' failed because A blue ball icon was 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-8329685	Summary: Fallback option for POST-only OCSP requests Description: Extensive use of GET requests may result in unpredicted behavior with some systems. Now you can set USE_GET to false to use POST requests.
JDK-8330070	Summary: Add a security category to the java -XshowSettings option Description: The -XshowSettings menu now displays relevant information about JDK security configuration.
JDK-8330081	Summary: Inconsistent behavior in com.sun.jndi.ldap.Connection::createSocket Description: SocketFactory now checks what socket is created. Unconnected sockets are not supported. If an unconnected socket is created, it throws a SocketException in SocketFactory::createSocket(). The documentation was also corrected.

Issue ID	
JDK-8332480	Summary: Add GlobalSign 2 TLS root certificates Description: GlobalSign Root R46 and GlobalSign Root E46 root certificates were added.
JDK-8333011	Summary: dpkg appears to have problems resolving symbolically linked native libraries Description: Native libraries linked with symbolic links now correctly processed by dpkg.

Builds of Liberica JDK With CRaC

This release of Liberica JDK includes full CRaC support. CRaC support is available for Liberica JDK 17 and 21. For more information, see Using CRaC with Java applications.

IANA TZ Data update

This release of Liberica JDK 21.0.4 comes with IANA Time Zone Database version 2024b. The following are the main changes in this update:

```
Improve historical data for Mexico, Mongolia, and Portugal.
System V names are now obsolescent.
The main data form now uses %z.
The code now conforms to RFC 8536 for early timestamps.
Support POSIX.1-2024, which removes asctime_r and ctime_r.
Assume POSIX.2-1992 or later for shell scripts.
SUPPORT_C89 now defaults to 1.
```

3. Known Issues

This release does not contain any known issues.

4. Fixed 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-2024-21131	3.7	hotspot	runtime	network	high	none	none	unchanged	none	low	none
CVE-2024-21138	3.7	hotspot	runtime	network	high	none	none	unchanged	none	none	low
CVE-2024-21140	4.8	hotspot	compiler	network	high	none	none	unchanged	low	low	none
CVE-2024-21145	4.8	client-libs	2d	network	high	none	none	unchanged	low	low	none
CVE-2024-21147	7.4	hotspot	compiler	network	high	none	none	unchanged	high	high	none

5. Resolved Issues

JDK issues

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

Issue ID	Summary
JDK-7001133	OutOfMemoryError by CustomMediaSizeName implementation
JDK-8159927	Add a test to verify JMOD files created in the images do not have debug symbols
JDK-8185862	AWT Assertion Failure in ::GetDIBits(hBMDC, hBM, 0, 1, 0, gpBitmapInfo, 0) 'awt_Win32GraphicsDevice.cpp', at line 185
JDK-8187759	Background not refreshed when painting over a transparent JFrame
JDK-8223696	java/net/httpclient/MaxStreams.java failed with didn't finish within the time-out
JDK-8259866	two java.util tests failed with "IOException: There is not enough space on the disk"
JDK-8266242	java/awt/GraphicsDevice/CheckDisplayModes.java failing on macOS 11 ARM
JDK-8278527	java/util/concurrent/tck/JSR166TestCase.java fails nanoTime test
JDK-8280056	gtest/LargePageGtests.java#use-large-pages failed "os.release_one_mapping_multi_commits_vm"
JDK-8281658	Add a security category to the java -XshowSettings option

Issue ID	Summary
JDK-8288936	Wrong lock ordering writing G1HeapRegionTypeChange JFR event
JDK-8288989	Make tests not depend on the source code
JDK-8293069	Make -XX:+Verbose less verbose
JDK-8293850	need a largest_committed metric for each category of NMT's output
JDK-8294699	Launcher causes lingering busy cursor
JDK-8294985	SSLEngine throws IAE during parsing of X500Principal
JDK-8295111	dpkg appears to have problems resolving symbolically linked native libraries
JDK-8299023	TestPLABResize.java and TestPLABPromotion.java are failing intermittently
JDK-8301183	(zipfs) jdk/jdk/nio/zipfs/TestLocOffsetFromZip64EF.java failing with ZipException:R0 on OL9
JDK-8303525	Refactor/cleanup open/test/jdk/javax/rmi/ssl/SSLSocketParametersTest.java
JDK-8303773	Replace "main.wrapper" with "test.thread.factory" property in test code
JDK-8303891	Speed up Zip64SizeTest using a small ZIP64 file
JDK-8303959	tools/jpackage/share/RuntimePackageTest.java fails with java.lang.AssertionError missing files
JDK-8303972	(zipfs) Make test/jdk/jdk/nio/zipfs/TestLocOffsetFromZip64EF.java independent of the zip command line
JDK-8304839	Move TestScaffold.main() to the separate class DebugeeWrapper
JDK-8305645	System Tray icons get corrupted when Windows primary monitor changes

Issue ID	Summary
JDK-8305931	jdk/jfr/jcmd/TestJcmdDumpPathToGCRoots.java failed with "Expected chains but found none"
JDK-8306040	HttpResponseInputStream.available() returns 1 on empty stream
JDK-8308144	Uncontrolled memory consumption in SSLFlowDelegate.Reader
JDK-8308453	Convert JKS test keystores in test/jdk/javax/net/ssl/etc to PKCS12
JDK-8309142	Refactor test/langtools/tools/javac/versions/Versions.java
JDK-8309752	com/sun/jdi/SetLocalWhileThreadInNative.java fails with virtual test thread factory due to OpaqueFrameException
JDK-8309757	com/sun/jdi/ReferrersTest.java fails with virtual test thread factory
JDK-8309763	Move tests in test/jdk/sun/misc/URLClassPath directory to test/jdk/jdk/internal/loader
JDK-8309871	jdk/jfr/api/consumer/recordingstream/TestSetEndTime.java timed out
JDK-8309890	TestStringDeduplicationInterned.java waits for the wrong condition
JDK-8310070	Test: javax/net/ssl/DTLS/DTLSWontNegotiateV10.java timed out
JDK-8310228	Improve error reporting for uncaught native exceptions on Windows
JDK-8310234	Refactor Locale tests to use JUnit
JDK-8310355	Move the stub test from initialize_final_stubs() to test/hotspot/gtest
JDK-8310513	[s390x] Intrinsify recursive ObjectMonitor locking

Issue ID	Summary
JDK-8310731	Configure a javax.net.ssl.SNIMatcher for the HTTP/1.1 test servers in java/net/httpclient tests
JDK-8310818	Refactor more Locale tests to use JUnit
JDK-8310913	Move ReferencedKeyMap to jdk.internal so it may be shared
JDK-8311792	java/net/httpclient/ResponsePublisher.java fails intermittently with AssertionError: Found some outstanding operations
JDK-8311823	JFR: Uninitialized EventEmitter::_thread_id field
JDK-8311881	jdk/javax/swing/ProgressMonitor/ProgressTest.java does not show the ProgressMonitorInputStream all the time
JDK-8311964	Some jtreg tests failing on x86 with error 'unrecognized VM options' (C2 flags)
JDK-8312014	[s390x] TestSigInfoInHsErrFile.java Failure
JDK-8312194	test/hotspot/jtreg/applications/ctw/modules/jdk_crypto_ec.java cannot handle empty modules
JDK-8312218	Print additional debug information when hitting assert(in_hash)
JDK-8312320	Remove javax/rmi/ssl/SSLSocketParametersTest.sh from ProblemList
JDK-8312383	Log X509ExtendedKeyManager implementation class name in TLS/SSL connection
JDK-8312498	Thread::getState and JVM TI GetThreadState should return TIMED_WAITING virtual thread is timed parked
JDK-8312777	notifyJvmtiMount before notifyJvmtiUnmount

Issue ID	Summary
JDK-8313394	Array Elements in OldObjectSample event has the incorrect description
JDK-8313612	Use JUnit in lib-test/jdk tests
JDK-8313702	Update IANA Language Subtag Registry to Version 2023-08-02
JDK-8313710	jcmd: typo in the documentation of JFR.start and JFR.dump
JDK-8313899	JVMCI exception Translation can fail in TranslatedException.<clinit>
JDK-8314573	G1: Heap resizing at Remark does not take existing eden regions into account
JDK-8314794	Improve UTF8 String supports
JDK-8314824	Fix serviceability/jvmti/8036666/GetObjectLockCount.java to use vm flags
JDK-8314828	Mark 3 jcmd command-line options test as vm.flagless
JDK-8314832	Few runtime/os tests ignore vm flags
JDK-8314975	JavadocTester should set source path if not specified
JDK-8315071	Modify TrayIconScalingTest.java, PrintLatinCJKTest.java to use new PassFailJFrame's builder pattern usage
JDK-8315117	Update Zlib Data Compression Library to Version 1.3
JDK-8315373	Change VirtualThread to unmount after freezing, re-mount before thawing
JDK-8315485	(fs) Move java/nio/file/Path/Misc.java tests into java/nio/file/Path/PathOps.java
JDK-8315503	G1: Code root scan causes long GC pauses due to imbalanced iteration

Issue ID	Summary
JDK-8315559	Delay TempSymbol cleanup to avoid symbol table churn
JDK-8315605	G1: Add number of nmethods in code roots scanning statistics
JDK-8315609	Open source few more swing text/html tests
JDK-8315652	RISC-V: Features string uses wrong separator for jtreg
JDK-8315663	Open source misc awt tests
JDK-8315677	Open source few swing JFileChooser and other tests
JDK-8315741	Open source few swing JFormattedTextField and JPopupMenu tests
JDK-8315824	Open source several Swing Text/HTML related tests
JDK-8315834	Open source several Swing JSpinner related tests
JDK-8315889	Open source several Swing HTMLDocument related tests
JDK-8315898	Open source swing JMenu tests
JDK-8315998	Remove dead ClassLoaderDataGraphKlassIteratorStatic
JDK-8316002	Remove unnecessary seen_dead_loader in ClassLoaderDataGraph::do_unloading
JDK-8316053	Open some swing tests 3
JDK-8316138	Add GlobalSign 2 TLS root certificates
JDK-8316154	Opensource JTextArea manual tests

Issue ID	Summary
JDK-8316164	Opensource JMenuBar manual test
JDK-8316186	RISC-V: Remove PlatformCmpxchg<4>
JDK-8316228	jcmd tests are broken by 8314828
JDK-8316242	Opensource SwingGraphics manual test
JDK-8316451	6 java/lang/instrument/PremainClass tests ignore VM flags
JDK-8316460	4 javax/management tests ignore VM flags
JDK-8316559	Refactor some util/Calendar tests to JUnit
JDK-8316563	test tools/jpackage/linux/LinuxResourceTest.java fails on CentOS Linux release 8.5.2111 and Fedora 27
JDK-8316608	Enable parallelism in vmTestbase/gc/vector tests
JDK-8316669	ImmutableOopMapSet destructor not called
JDK-8316670	Remove effectively unused nmethodBucket::_count
JDK-8316696	Remove the testing base classes: IntlTest and CollatorTest
JDK-8316924	java/lang/Thread/virtual/stress/ParkALot.java times out
JDK-8316959	Improve InlineCacheBuffer pending queue management
JDK-8317007	Add bulk removal of dead nmethods during class unloading
JDK-8317235	Remove Access API use in nmethod class

Issue ID	Summary
JDK-8317287	[macos14] InterJVMGetDropSuccessTest.java: Child VM: abnormal termination
JDK-8317350	Move code cache purging out of CodeCache::UnloadingScope
JDK-8317440	Lock rank checking fails when code root set is modified with the Servicelock held after JDK-8315503
JDK-8317600	VtableStubs::stub_containing() table load not ordered wrt to stores
JDK-8317631	Refactor ChoiceFormat tests to use JUnit
JDK-8317677	Specialize Vtablestubs::entry_for() for VtableBlob
JDK-8317809	Insertion of free code blobs into code cache can be very slow during class unloading
JDK-8317965	TestLoadLibraryDeadlock.java fails with "Unable to load native library.: expected true, was false"
JDK-8318109	Writing JFR records while a CHT has taken its lock asserts in rank checking
JDK-8318322	Update IANA Language Subtag Registry to Version 2023-10-16
JDK-8318455	Fix the compiler/sharedstubs/SharedTrampolineTest.java and SharedStubToInterpTest.java
JDK-8318580	"javax/swing/MultiMonitor/MultimonVImage.java failing with Error. Can't find library: /open/test/jdk/java/awt/regtesthelpers" after JDK-8316053
JDK-8318585	Rename CodeCache::UnloadingScope to UnlinkingScope
JDK-8318599	HttpURLConnection cache issues leading to crashes in JGSS w/ native GSS introduced by 8303809

Issue ID	Summary
JDK-8318720	G1: Memory leak in G1CodeRootSet after JDK-8315503
JDK-8318727	Enable parallelism in vmTestbase/vm/gc/concurrent tests
JDK-8318757	VM_ThreadDump asserts in interleaved ObjectMonitor::deflate_monitor calls
JDK-8318854	[macos14] Running any AWT app prints Secure coding warning
JDK-8318962	Update ProcessTools javadoc with suggestions in 8315097
JDK-8318986	Improve GenericWaitBarrier performance
JDK-8319048	Monitor deflation unlink phase prolongs time to safepoint
JDK-8319153	Fix: Class is a raw type in ProcessTools
JDK-8319265	TestLoadLibraryDeadlock.java fails on windows-x64 "Unable to load b.jar"
JDK-8319338	tools/jpackage/share/RuntimeImageTest.java fails with -XX:+UseZGC
JDK-8319376	ParallelGC: Forwarded objects found during heap inspection
JDK-8319437	NMT should show library names in call stacks
JDK-8319567	Update java/lang/invoke tests to support vm flags
JDK-8319568	Update java/lang/reflect/exeCallerAccessTest/CallerAccessTest.java to accept vm flags
JDK-8319571	Update jni/nullCaller/NullCallerTest.java to accept flags or mark as flagless
JDK-8319574	Exec/process tests should be marked as flagless

Issue ID	Summary
JDK-8319578	Few java/lang/instrument ignore test.java.opts and accept test.vm.opts only
JDK-8319647	Few java/lang/System/LoggerFinder/modules tests ignore vm flags
JDK-8319648	java/lang/SecurityManager tests ignore vm flags
JDK-8319650	Improve heap dump performance with class metadata caching
JDK-8319651	Several network tests ignore vm flags when start java process
JDK-8319672	Several classloader tests ignore VM flags
JDK-8319676	A couple of jdk/modules/incubator/ tests ignore VM flags
JDK-8319677	Test jdk/internal/misc/VM/RuntimeArguments.java should be marked as flagless
JDK-8319713	Parallel: Remove PSAdaptiveSizePolicy::should_full_GC
JDK-8319757	java/nio/channels/DatagramChannel/InterruptibleOrNot.java failed: wrong exception thrown
JDK-8319859	Better symbol storage
JDK-8319876	Reduce memory consumption of VM_ThreadDump::doit
JDK-8319896	Remove monitor deflation from final audit
JDK-8319955	Improve dependencies removal during class unloading
JDK-8320005	Allow loading of shared objects with .a extension on AIX
JDK-8320061	[nmt] Multiple issues with peak accounting

Issue ID	Summary
JDK-8320097	Improve Image transformations
JDK-8320113	[macos14] : ShapeNotSetSometimes.java fails intermittently on macOS 14
JDK-8320129	"top" command during jtreg failure handler does not display CPU usage on OSX
JDK-8320275	assert(_chunk→bitmap().at(index)) failed: Bit not set at index
JDK-8320331	G1 Full GC Heap verification relies on metadata not reset before verification
JDK-8320342	Use PassFailJFrame for TruncatedPopupMenuTest.java
JDK-8320343	Generate GIF images for AbstractButton/5049549/bug5049549.java
JDK-8320349	Simplify FileChooserSymLinkTest.java by using single-window testUI
JDK-8320365	IPPPrintService.getAttributes() causes blanket re-initialisation
JDK-8320370	NMT: Change MallocMemorySnapshot to simplify code.
JDK-8320515	assert(monitor→object_peek() != nullptr) failed: Owned monitors should not have a dead object
JDK-8320525	G1: G1UpdateRemSetTrackingBeforeRebuild::distribute_marked_bytes accesses partially unloaded klass
JDK-8320548	Improved loop handling
JDK-8320570	NegativeArraySizeException decoding >1G UTF8 bytes with non-ascii characters
JDK-8320681	[macos] Test tools/jpackage/macosx/MacAppStoreJlinkOptionsTest.java timed out on macOS

Issue ID	Summary	21
JDK-8320692	Null icon returned for .exe without custom icon	
JDK-8320707	Virtual thread test updates	
JDK-8320712	Rewrite BadFactoryTest in pure Java	
JDK-8320714	java/util/Locale/LocaleProvidersRun.java and java/util/ResourceBundle/modules/visibility/VisibilityTest.java timeout after passing	
JDK-8320715	Improve the tests of test/hotspot/jtreg/compiler/intrinsics/float16	
JDK-8320924	Improve heap dump performance by optimizing archived object checks	
JDK-8321075	RISC-V: UseSystemMemoryBarrier lacking proper OS support	
JDK-8321107	Add more test cases for JDK-8319372	
JDK-8321163	[test] OutputAnalyzer.getExitValue() unnecessarily logs even when process has already completed	
JDK-8321182	SourceExample.SOURCE_14 comment should refer to 'switch expressions' instead of 'text blocks'	
JDK-8321270	Virtual Thread.yield consumes parking permit	
JDK-8321276	runtime/cds/appcds/dynamicArchive/DynamicSharedSymbols.java failed with "'17 2: jdk/test/lib/apps ' missing from stdout/stderr"	
JDK-8321489	Update LCMS to 2.16	
JDK-8321713	Harmonize executeTestJvm with create[Limited]TestJavaProcessBuilder	
JDK-8321718	ProcessTools.executeProcess calls waitFor before logging	

Issue ID	Summary
JDK-8321812	Update GC tests to use execute[Limited]TestJava
JDK-8321815	Shenandoah: gc state should be synchronized to java threads only once per safepoint
JDK-8321925	sun/security/mscapi/KeytoolChangeAlias.java fails with "Alias <246810> does not exist"
JDK-8322239	[macos] a11y : java.lang.NullPointerException is thrown when focus is moved on the JTabbedPane
JDK-8322477	order of subclasses in the permits clause can differ between compilations
JDK-8322503	Shenandoah: Clarify gc state usage
JDK-8322818	Thread::getStackTrace can fail with InternalError if virtual thread is timed-parked when pinned
JDK-8322846	Running with -Djdk.tracePinnedThreads set can hang
JDK-8322858	compiler/c2/aarch64/TestFarJump.java fails on AArch64 due to unexpected PrintAssembly output
JDK-8322920	Some ProcessTools.execute* functions are declared to throw Throwable
JDK-8322962	Upcall stub might go undetected when freezing frames
JDK-8323002	test/jdk/java/lang/Thread/virtual/stress/GetStackTraceALotWhenPinned.java times out on macosx-x64
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

Issue ID	Summary
JDK-8323231	Improve array management
JDK-8323276	StressDirListings.java fails on AIX
JDK-8323296	java/lang/Thread/virtual/stress/GetStackTraceALotWhenPinned.java#id1 timed out
JDK-8323390	Enhance mask blit functionality
JDK-8323519	Add applications/ctw/modules to Hotspot tiered testing
JDK-8323595	is_aligned(p, alignof(OopT))) assertion fails in Jetty without compressed OOPs
JDK-8323635	Test gc/g1/TestHumongousAllocConcurrentStart.java fails with -XX:TieredStopAtLevel=3
JDK-8323685	PrintSystemDictionaryAtExit has mutex rank assert
JDK-8323994	gtest runner repeats test name for every single gtest assertion
JDK-8324121	SIGFPE in PhaseIdealLoop::extract_long_range_checks
JDK-8324123	aarch64: fix prfm literal encoding in assembler
JDK-8324236	compiler/ciReplay/TestInliningProtectionDomain.java failed with RuntimeException: should only dump inline information for … expected true, was false
JDK-8324238	[macOS] java/awt/Frame/ShapeNotSetSometimes/ShapeNotSetSometimes.java fails with the shape has not been applied msg
JDK-8324243	Compilation failures in java.desktop module with gcc 14

Issue ID	Summary
JDK-8324559	Improve 2D image handling
JDK-8324632	Update Zlib Data Compression Library to Version 1.3.1
JDK-8324646	Avoid Class.forName in SecureRandom constructor
JDK-8324648	Avoid NoSuchMethodError when instantiating NativePRNG
JDK-8324723	GHA: Upgrade some actions to avoid deprecated Node 16
JDK-8324733	[macos14] Problem list tests which fail due to macOS bug described in JDK-8322653
JDK-8324817	Parallel GC does not pre-touch all heap pages when AlwaysPreTouch enabled and large page disabled
JDK-8324824	AArch64: Detect Ampere-1B core and update default options for Ampere CPUs
JDK-8324834	Use _LARGE_FILES on AIX
JDK-8324933	ConcurrentHashTable::statistics_calculate synchronization is expensive
JDK-8324998	Add test cases for String.regionMatches comparing Turkic dotted/dotless I with uppercase latin I
JDK-8325024	java/security/cert/CertPathValidator/OCSP/OCSPTimeout.java incorrect comment information
JDK-8325028	(ch) Pipe channels should lazily set socket to non-blocking mode on first use by virtual thread
JDK-8325095	C2: bailout message broken: ResourceArea allocated string used after free

Issue ID	Summary
JDK-8325137	com/sun/management/ThreadMXBean/ThreadCpuTimeArray.java can fail in Xcomp with out of expected range
JDK-8325203	System.exit(0) kills the launched 3rd party application
JDK-8325213	Flags introduced by configure script are not passed to ADLC build
JDK-8325255	jdk.internal.util.ReferencedKeySet::add using wrong test
JDK-8325326	[PPC64] Don't relocate in case of allocation failure
JDK-8325372	Shenandoah: SIGSEGV crash in unnecessary_acquire due to LoadStore split through phi
JDK-8325432	enhance assert message "relocation addr must be in this section"
JDK-8325437	Safepoint polling in monitor deflation can cause massive logs
JDK-8325567	jspawnhelper without args fails with segfault
JDK-8325579	Inconsistent behavior in com.sun.jndi.ldap.Connection::createSocket
JDK-8325600	Better symbol storage
JDK-8325613	CTW: Stale method cleanup requires GC after Sweeper removal
JDK-8325621	Improve jspawnhelper version checks
JDK-8325743	test/jdk/java/nio/channels/unixdomain/SocketOptions.java enhance user name output in error case
JDK-8325862	set -XX:+ErrorFileToStderr when executing java in containers for some container related jtreg tests

Issue ID	Summary
JDK-8325908	Finish removal of IntlTest and CollatorTest
JDK-8325972	Add -x to bash for building with LOG=debug
JDK-8326006	Allow TEST_VM_FLAGLESS to set flagless mode
JDK-8326101	[PPC64] Need to bailout cleanly if creation of stubs fails when code cache is out of space
JDK-8326140	src/jdk.accessibility/windows/native/libjavaaccessbridge/AccessBridgeJavaEntryPoints.cpp ReleaseStringChars might be missing in early returns
JDK-8326201	[S390] Need to bailout cleanly if creation of stubs fails when code cache is out of space
JDK-8326351	Update the Zlib version in open/src/java.base/share/legal/zlib.md to 1.3.1
JDK-8326446	The User and System of jdk.CPULoad on Apple M1 are inaccurate
JDK-8326496	[test] checkHsErrFileContent support printing hserr in error case
JDK-8326521	JFR: CompilerPhase event test fails on windows 32 bit
JDK-8326529	JFR: Test for CompilerCompile events fails due to time out
JDK-8326591	New test JmodExcludedFiles.java fails on Windows when --with-external-symbols-in-bundles=public is used
JDK-8326638	Crash in PhaseIdealLoop::remix_address_expressions due to unexpected Region instead of Loop
JDK-8326643	JDK server does not send a dummy change_cipher_spec record after HelloRetryRequest message

Issue ID	Summary
JDK-8326661	sun/java2d/cmm/ColorConvertOp/ColConvTest.java assumes profiles were generated by LCMS
JDK-8326685	Linux builds not reproducible if two builds configured in different build folders
JDK-8326718	Test java/util/Formatter/Padding.java should timeout on large inputs before fix in JDK-8299677
JDK-8326773	Bump update version for OpenJDK: jdk-21.0.4
JDK-8326824	Test: remove redundant test in compiler/vectorapi/reshape/utils/TestCastMethods.java
JDK-8326891	Prefer RPATH over RUNPATH for $ORIGIN rpaths in internal JDK binaries
JDK-8326936	RISC-V: Shenandoah GC crashes due to incorrect atomic memory operations
JDK-8326948	Force English locale for timeout formatting
JDK-8326960	GHA: RISC-V sysroot cannot be debootstrapped due to ongoing Debian t64 transition
JDK-8326974	ODR violation in macroAssembler_aarch64.cpp
JDK-8327036	[macosx-aarch64] SIGBUS in MarkActivationClosure::do_code_blob reached from Unsafe_CopySwapMemory0
JDK-8327059	os::Linux::print_proc_sys_info add swappiness information
JDK-8327096	(fc) java/nio/channels/FileChannel/Size.java fails on partition incapable of creating large files
JDK-8327136	javax/management/remote/mandatory/notif/NotifReconnectDeadlockTest.java fails on libgraal

Issue ID	Summary
JDK-8327180	Failed: java/io/ObjectStreamClass/ObjectStreamClassCaching.java#G1
JDK-8327261	Parsing test for Double/Float succeeds w/o testing all bad cases
JDK-8327413	Enhance compilation efficiency
JDK-8327468	Do not restart close if errno is EINTR [macOS/linux]
JDK-8327474	Review use of java.io.tmpdir in jdk tests
JDK-8327486	java/util/Properties/PropertiesStoreTest.java fails "Text 'xxx' could not be parsed at index 20" after 8174269
JDK-8327631	Update IANA Language Subtag Registry to Version 2024-03-07
JDK-8327799	JFR view: the "Park Until" field of jdk.ThreadPark is invalid if the parking method is not absolute
JDK-8327971	Multiple ASAN errors reported for metaspace
JDK-8327988	When running ASAN, disable dangerous NMT test
JDK-8327989	java/net/httpclient/ManyRequest.java should not use "localhost" in URIs
JDK-8327998	Enable java/lang/ProcessBuilder/JspawnhelperProtocol.java on Mac
JDK-8328037	Test java/util/Formatter/Padding.java has unnecessary high heap requirement after JDK-8326718
JDK-8328066	WhiteBoxResizeTest failure on linux-x86: Could not reserve enough space for 2097152KB object heap
JDK-8328165	improve assert(idx < _maxlrg) failed: oob

Issue ID	Summary
JDK-8328166	Epsilon: 'EpsilonHeap::allocate_work' misuses the parameter 'size' as size in bytes
JDK-8328168	Epsilon: Premature OOM when allocating object larger than uncommitted heap size
JDK-8328194	Add a test to check default rendering engine
JDK-8328524	[x86] StringRepeat.java failure on linux-x86: Could not reserve enough space for 2097152KB object heap
JDK-8328540	test javax/swing/JSplitPane/4885629/bug4885629.java fails on windows hidpi
JDK-8328555	hidpi problems for test java/awt/Dialog/DialogAnotherThread/JaWSTest.java
JDK-8328589	unify os::breakpoint among posix platforms
JDK-8328592	hprof tests fail with -XX:-CompactStrings
JDK-8328604	remove on_aix() function
JDK-8328638	Fallback option for POST-only OCSP requests
JDK-8328702	C2: Crash during parsing because sub type check is not folded
JDK-8328703	Illegal accesses in Java_jdk_internal_org_jline_terminal_impl_jna_linux_CLibraryImpl_ioctl0
JDK-8328705	GHA: Cross-compilation jobs do not require build JDK
JDK-8328709	AIX os::get_summary_cpu_info support Power 10
JDK-8328744	Parallel: Parallel GC throws OOM before heap is fully expanded

Issue ID	Summary
JDK-8328776	[AIX] remove checked_vmgetinfo, use vmgetinfo directly
JDK-8328812	Update and move siphash license
JDK-8328822	C2: "negative trip count?" assert failure in profile predicate code
JDK-8328825	Google CAInterop test failures
JDK-8328938	C2 SuperWord: disable vectorization for large stride and scale
JDK-8328948	GHA: Restoring sysroot from cache skips the build after JDK-8326960
JDK-8328957	Update PKCS11Test.java to not use hardcoded path
JDK-8328988	[macos14] Problem list LightweightEventTest.java which fails due to macOS bug described in JDK-8322653
JDK-8328997	Remove unnecessary template parameter lists in GrowableArray
JDK-8329013	StackOverflowError when starting Apache Tomcat with signed jar
JDK-8329109	Threads::print_on() tries to print CPU time for terminated GC threads
JDK-8329163	C2: possible overflow in PhaseIdealLoop::extract_long_range_checks()
JDK-8329213	Better validation for com.sun.security.ocsp.useget option
JDK-8329223	Parallel: Parallel GC resizes heap even if -Xms = -Xmx
JDK-8329545	[s390x] Fix garbage value being passed in Argument Register
JDK-8329570	G1: Excessive is_obj_dead_cond calls in verification

Issue ID	Summary
JDK-8329605	hs errfile generic events - move memory protections and nmethod flushes to separate sections
JDK-8329663	hs_err file event log entry for thread adding/removing should print current thread
JDK-8329823	RISC-V: Need to sync CPU features with related JVM flags
JDK-8329840	Fix ZPhysicalMemorySegment::_end type
JDK-8329850	[AIX] Allow loading of different members of same shared library archive
JDK-8329862	libjli GetApplicationHome cleanups and enhance jli tracing
JDK-8329961	Buffer overflow in os::Linux::kernel_version
JDK-8330011	[s390x] update block-comments to make code consistent
JDK-8330094	RISC-V: Save and restore FRM in the call stub
JDK-8330156	RISC-V: Range check auipc + signed 12 imm instruction
JDK-8330242	RISC-V: Simplify and remove CORRECT_COMPILER_ATOMIC_SUPPORT in atomic_linux_riscv.hpp
JDK-8330275	Crash in XMark::follow_array
JDK-8330464	hserr generic events - add entry for the before_exit calls
JDK-8330523	Reduce runtime and improve efficiency of KeepAliveTest
JDK-8330524	Linux ppc64le compile warning with clang in os_linux_ppc.cpp
JDK-8330615	avoid signed integer overflows in zip_util.c readCen / hashN

Issue ID	Summary
JDK-8330815	Use pattern matching for instanceof in KeepAliveCache
JDK-8331031	unify os::dont_yield and os::naked_yield across Posix platforms
JDK-8331113	createJMHBundle.sh support configurable maven repo mirror
JDK-8331167	UBSan enabled build fails in adlc on macOS
JDK-8331298	avoid alignment checks in UBSAN enabled build
JDK-8331331	:tier1 target explanation in doc/testing.md is incorrect
JDK-8331352	error: template-id not allowed for constructor/destructor in C++20
JDK-8331466	Problemlist serviceability/dcmd/gc/RunFinalizationTest.java on generic-all
JDK-8331639	[21u]: Bump GHA bootstrap JDK to 21.0.3
JDK-8331942	On Linux aarch64, CDS archives should be using 64K alignment by default
JDK-8332253	Linux arm32 build fails after 8292591
JDK-8334441	Mark tests in jdk_security_infra group as manual

JFX issues

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

Issue ID	Summary
JDK-8329705	Add missing Application thread checks to platform specific a11y methods

Issue ID	Summary
JDK-8330462	StringIndexOutOfBoundException when typing anything into TextField
JDK-8330683	Change JavaFX release version to 21.0.4 in jfx21u
JDK-8331748	Update libxml2 to 2.12.6
JDK-8332328	[GHA] GitHub Actions build fails on Linux: unable to find gcc-13
JDK-8332539	Update libxml2 to 2.12.7

6. Updates to Third Party Libraries

This is the list of changes in the third party libraries.

Library	Full name	New Version	Module	JBS
LCMS	LittleCMS	2.16	java.desktop	JDK-8321489
Zlib	Zlib Data Compression Library	1.3.1	java.base	JDK-8324632

7. Upgrading to the New Version

To keep your Liberica JDK up-to-date and secure, always upgrade to the newest available version once it is released. To upgrade, install the new version over the previous one. For the installation instructions, see Liberica JDK Installation Guide.

Liberica JDK 21.0.4+9
Release Notes

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