

# Liberica JDK 21.0.6+10

## Release Notes



Liberica JDK  
21.0.6  
January 21, 2025

**be//soft**

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# Contents

|                        |   |
|------------------------|---|
| 1. Version information | 5 |
|------------------------|---|

---

|               |   |
|---------------|---|
| 2. What's New | 6 |
|---------------|---|

---

|                 |   |
|-----------------|---|
| Notable Changes | 6 |
|-----------------|---|

|                                  |   |
|----------------------------------|---|
| Builds of Liberica JDK With CRaC | 9 |
|----------------------------------|---|

|                     |   |
|---------------------|---|
| IANA TZ Data update | 9 |
|---------------------|---|

|                 |    |
|-----------------|----|
| 3. Known Issues | 10 |
|-----------------|----|

---

|               |    |
|---------------|----|
| 4. Fixed CVEs | 11 |
|---------------|----|

---

|                    |    |
|--------------------|----|
| 5. Resolved Issues | 12 |
|--------------------|----|

---

|            |    |
|------------|----|
| JDK issues | 12 |
|------------|----|

|            |    |
|------------|----|
| JFX issues | 28 |
|------------|----|

|                                     |    |
|-------------------------------------|----|
| 6. Updates to Third Party Libraries | 30 |
|-------------------------------------|----|

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# 1. Version information

This document provides information about Liberica JDK 21.0.6 release.

The full version string for this update release is 21.0.6+10. 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-8337966 | <p>Summary: Files.readAttributes fails with Operation not permitted on older docker releases</p> <p>Description: JDK used to fail with 'java.nio.file.FileSystemException: Operation not permitted' on the old docker versions (before v19). Regression was introduced by JDK-8316304 adding a statx syscall. On the old docker versions, statx is not added to the default seccomp <a href="#">white list</a>. It caused EPERM in some systems even if the container image was updated.</p>  |
| JDK-8339581 | <p>Summary: {ClassLoader,Memory}MXBean::isVerbose methods are inconsistent with their setVerbose methods</p> <p>Description: The ClassLoadingMXBean and MemoryMXBean APIs have setVerbose methods to control verbose mode and isVerbose methods to query it. Some JCK tests expect setVerbose(false) to disable verbose mode and, subsequently, isVerbose() to return false. However, if logging to a file is enabled by using '-Xlog' on the java launcher command line, isVerbose() returned true even after calling setVerbose(false).</p> |

## Issue ID

JDK-8339907 Summary: Distrust TLS server certificates issued after Oct 2024 and anchored by Entrust Root CAs

Description: Google and Mozilla have announced plans to distrust TLS Server certificates issued by Entrust. This enhancement implements similar restrictions in the JDK. The restrictions is enforced in the SunJSSE Provider of the Java Secure Socket Extension (JSSE) API. A TLS session will not be negotiated if the server's certificate chain is anchored by any of the Certificate Authorities specified in this issue and the certificate's notBefore date is after October 31, 2024. If necessary, you can work around the restrictions by removing 'ENTRUST\_TLS' from the 'jdk.security.caDistrustPolicies' security property.

JDK-8339908 Summary: BasicFileAttributes.creationTime() falls back to epoch if birth time is unavailable (Linux)

Description: The change which resolved JDK-8316304 added support for obtaining the file creation time from the birth timestamp. Prior to this change, the last modified time had been returned to the creation time. After this change, if the birth timestamp was unavailable, for example if it was not supported by the file system even though the operating system supported it, then the epoch (0) was returned to the creation time. This could cause problems in situations which relied on the old behavior.

JDK-8341054 Summary: Hotspot should be able to use more than 64 logical processors on Windows

Description: Hotspot can use processors across all Windows processor groups on Windows 11/Windows Server 2022 and later. The GetSystemInfo API was replaced by the GetActiveProcessorCount API to correctly retrieve the total number of processors available on the system and a new 'UseAllWindowsProcessorGroups' Windows-specific product flag was added to enable this functionality.

JDK-8341392 Summary: Add 2 SSL.com TLS roots

Description: New SSL.com TLS roots are added as they are the issuing CA used by Entrust going forward.

## Issue ID

JDK-8341393

Summary: Change Entrust TLS distrust date to November 12, 2024

Description: Google has changed their distrust date for Entrust from November 1 to November 12, 2024. Entrust has also changed the date they plan to use SSL.com as the issuing CA for public TLS server certificates to November 12. To align with those updated dates, the distrust date was changed to November 12, 2024.

JDK-8343828

Summary: generic type information lost on mandated parameters of record's compact constructors

Description: Reflection was not retrieving generic type information for mandated parameters. For compact record constructors, the generic type information is now fetched from the Signature attribute for its parameters independently if they are mandated or not. This is a core-reflection only change, the compilation of records with compact constructor is not affected in any way.

JDK-8344678

Summary: Update Timezone Data to 2024b

Description: This OpenJDK release upgrades the in-tree copy of the IANA timezone database to 2024b. This timezone update is primarily concerned with improving historical data for Mexico, Mongolia and Portugal. It also makes Asia/Choibalsan an alias for Asia/Ulaanbaatar and makes the MET timezone the same as CET.

JDK-8345437

Summary: Add an operation mode to the jar command when extracting to not overwrite existing files

Description: In previous OpenJDK releases, when the jar tool extracted files from an archive, it would overwrite any existing files with the same name in the target directory. With this release, a new option ('-k' or '--keep-old-files') may be specified so that existing files are not overwritten. The option may be specified in short or long option form, as in the following examples: '\* jar xkf foo.jar', '\* jar --extract --keep-old-files --file foo.jar'. By default, the old behaviour remains in place and files are overwritten.



## 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 21.0.6 upgrades the in-tree copy of the IANA timezone database to [2024b](#). This timezone update is primarily concerned with improving historical data for Mexico, Mongolia and Portugal. It also makes Asia/Choibalsan an alias for Asia/Ulaanbaatar and makes the MET timezone the same as CET.

The 2024b update also makes a number of legacy timezone IDs equal to geographical names rather than fixed offsets, as follows:

- EST → America/Panama instead of -5:00
- MST → America/Phoenix instead of -7:00
- HST → Pacific/Honolulu instead of -10:00

For long-term support releases of Liberica JDK, this change is overridden locally to retain the existing fixed offset mapping.

## 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-2025-21502 | 4.8        | hotspot   | compiler | network       | high       | none       | none             | unchanged | low             | low       | none         |

# 5. Resolved Issues

## JDK issues

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

| Issue ID    | Summary   |
|-------------|---|
| JDK-6942632 | Hotspot should be able to use more than 64 logical processors on Windows                                      |
| JDK-8028127 | Regtest java/security/Security/SynchronizedAccess.java is incorrect   |
| JDK-8195675 | Call to insertText with single character from custom Input Method ignored                                     |
| JDK-8207908 | JMXStatusTest.java fails assertion intermittently   |
| JDK-8225220 | When the Tab Policy is checked,the scroll button direction displayed incorrectly.                             |
| JDK-8240343 | JDI stopListening/stoplis001 "FAILED: listening is successfully stopped without starting listening"           |
| JDK-8283214 | [macos] Screen magnifier does not show the magnified text for JComboBox                                       |
| JDK-8296787 | Unify debug printing format of X.509 cert serial numbers  |
| JDK-8296972 | [macos13] java/awt/Frame/MaximizedToIconified/MaximizedToIconified.java: getExtendedState() != 6 as expected. |
| JDK-8306446 | java/lang/management/ThreadMXBean/Locks.java transient failures   |

| Issue ID    | Summary  |
|-------------|--|
| JDK-8308429 | jvmti/StopThread/stopthrd007 failed with "NoClassDefFoundError: Could not initialize class jdk.internal.misc.VirtualThreads" |
| JDK-8309218 | java/util/concurrent/locks/Lock/OOMEInAQS.java still times out with ZGC, Generational ZGC, and SerialGC                      |
| JDK-8311301 | MethodExitTest may fail with stack buffer overrun  |
| JDK-8311656 | Shenandoah: Unused<br>ShenandoahSATBAndRemarkThreadsClosure::_claim_token  |
| JDK-8312518 | [macos13] setFullScreenWindow() shows black screen on macOS 13 & above   |
| JDK-8313374 | --enable-ccache's CCACHE_BASEDIR breaks builds   |
| JDK-8313878 | Exclude two compiler/rtm/locking tests on ppc64le  |
| JDK-8315701 | [macos] Regression: KeyEvent has different keycode on different keyboard layouts   |
| JDK-8316428 | G1: Nmethod count statistics only count last code root set iterated  |
| JDK-8316893 | Compile without -fno-delete-null-pointer-checks  |
| JDK-8316895 | SeenThread::print_action_queue called on a null pointer  |
| JDK-8316907 | Fix nonnull-compare warnings   |
| JDK-8317116 | Provide layouts for multiple test UI in PassFailJFrame   |
| JDK-8317575 | AArch64: C2_MacroAssembler::fast_lock uses rscratch1 for cmpxchg result  |
| JDK-8318105 | [jmh] the test java.security.HSS failed with 2 active threads  |

| Issue ID    | Summary  |
|-------------|--|
| JDK-8318442 | java/net/httpclient/ManyRequests2.java fails intermittently on Linux   |
| JDK-8319640 | ClassicFormat::parseObject (from DateTimeFormatter) does not conform to the javadoc and may leak DateTimeException         |
| JDK-8319673 | Few security tests ignore VM flags   |
| JDK-8319678 | Several tests from corelibs areas ignore VM flags  |
| JDK-8319960 | RISC-V: compiler/intrinsics/TestInteger/LongUnsignedDivMod.java failed with "counts: Graph contains wrong number of nodes" |
| JDK-8319970 | AArch64: enable tests<br>compiler/intrinsics/Test(Long Integer)UnsignedDivMod.java on aarch64                              |
| JDK-8319973 | AArch64: Save and restore FPCR in the call stub  |
| JDK-8320192 | SHAKE256 does not work correctly if n >= 137   |
| JDK-8320397 | RISC-V: Avoid passing t0 as temp register to MacroAssembler::<br>cmpxchg_obj_header/cmpxchgptr                             |
| JDK-8320575 | generic type information lost on mandated parameters of record's compact constructors                                      |
| JDK-8320586 | update manual test/jdk/TEST.groups   |
| JDK-8320665 | update jdk_core at open/test/jdk/TEST.groups   |
| JDK-8320673 | PageFormat/CustomPaper.java has no Pass/Fail buttons; multiple instructions  |
| JDK-8320682 | [AArch64] C1 compilation fails with "Field too big for insn"   |
| JDK-8320892 | AArch64: Restore FPU control state after JNI   |

| Issue ID    | Summary   |
|-------------|---|
| JDK-8321299 | runtime/logging/ClassLoadUnloadTest.java doesn't reliably trigger class unloading |
| JDK-8321470 | ThreadLocal.nextHashCode can be static final                                      |
| JDK-8321474 | TestAutoCreateSharedArchiveUpgrade.java should be updated with JDK 21             |
| JDK-8321543 | Update NSS to version 3.96  |
| JDK-8321550 | Update several runtime/cds tests to use vm flags or mark as flagless              |
| JDK-8321616 | Retire binary test vectors in test/jdk/java/util/zip/ZipFile                      |
| JDK-8321940 | Improve CDSHeapVerifier in handling of interned strings                           |
| JDK-8322166 | Files.isReadable/isWritable/isExecutable expensive when file does not exist       |
| JDK-8322754 | click JComboBox when dialog about to close causes IllegalComponentStateException  |
| JDK-8322809 | SystemModulesMap::classNames and moduleName arrays do not match the order         |
| JDK-8322830 | Add test case for ZipFile opening a ZIP with no entries                           |
| JDK-8323562 | SaslInputStream.read() may return wrong value                                     |
| JDK-8323688 | C2: Fix UB of jlong overflow in PhaseIdealLoop::is_counted_loop()                 |
| JDK-8324841 | PKCS11 tests still skip execution   |
| JDK-8324861 | Exceptions::wrap_dynamic_exception() doesn't have ResourceMark                    |
| JDK-8325038 | runtime/cds/appcds/ProhibitedPackage.java can fail with UseLargePages             |

| Issue ID    | Summary  |
|-------------|--|
| JDK-8325399 | Add tests for virtual threads doing Selector operations  |
| JDK-8325506 | Ensure randomness is only read from provided SecureRandom object   |
| JDK-8325525 | Create jtreg test case for JDK-8325203   |
| JDK-8325610 | CTW: Add StressIncrementalInlining to stress options   |
| JDK-8325762 | Use PassFailJFrame.Builder.splitUI() in PrintLatinCJKTest.java   |
| JDK-8325851 | Hide PassFailJFrame.Builder constructor  |
| JDK-8325906 | Problemlist<br>vmTestbase/vm/mlvm/meth/stress/compiler/deoptimize/Test.java#id1 until<br>JDK-8320865 is fixed                                |
| JDK-8326100 | DeflaterDictionaryTests should use Deflater.getBytesWritten instead of<br>Deflater.getTotalOut   |
| JDK-8326121 | vmTestbase/gc/g1/unloading/tests/unloading_keepRef_rootClass_inMemoryC<br>ompilation_keep_cl failed with Full gc happened. Test was useless. |
| JDK-8326611 | Clean up vmTestbase/nsk/stress/stack tests   |
| JDK-8326898 | NSK tests should listen on loopback addresses only   |
| JDK-8327924 | Simplify TrayIconScalingTest.java  |
| JDK-8328021 | Convert applet test java/awt/List/SetFontTest/SetFontTest.html to main<br>program  |
| JDK-8328242 | Add a log area to the PassFailJFrame   |
| JDK-8328303 | 3 JDI tests timed out with UT enabled  |



| Issue ID    | Summary   |
|-------------|---|
| JDK-8328379 | Convert URLDragTest.html applet test to main  |
| JDK-8328402 | Implement pausing functionality for the PassFailJFrame  |
| JDK-8328619 | sun/management/jmxremote/bootstrap/SSLConfigFilePermissionTest.java failed with BindException: Address already in use |
| JDK-8328665 | serviceability/jvmti/vthread/PopFrameTest failed with a timeout   |
| JDK-8328723 | IP Address error when client enables HTTPS endpoint check on server socket  |
| JDK-8329353 | ResolvedReferencesNotNullTest.java failed with Incorrect resolved references array, quxString should not be archived  |
| JDK-8329533 | TestCDSVMCrash fails on libgraal  |
| JDK-8330045 | Enhance array handling  |
| JDK-8330278 | Have SSLSocketTemplate.doClientSide use loopback address  |
| JDK-8330621 | Make 5 compiler tests use ProcessTools.executeProcess   |
| JDK-8331391 | Enhance the keytool code by invoking the buildTrustedCerts method for essential options                               |
| JDK-8331393 | AArch64: u32 _partial_subtype_ctr loaded/stored as 64   |
| JDK-8331864 | Update Public Suffix List to 1cbd6e7  |
| JDK-8332112 | Update nsk.share.Log to don't print summary during VM shutdown hook   |
| JDK-8332340 | Add JavacBench as a test case for CDS   |

| Issue ID    | Summary  |
|-------------|--|
| JDK-8332461 | ubsan : dependencies.cpp:906:3: runtime error: load of value 4294967295, which is not a valid value for type 'DepType' |
| JDK-8332724 | x86 MacroAssembler may over-align code   |
| JDK-8332777 | Update JCTest suite  |
| JDK-8332866 | Crash in ImageIO JPEG decoding when MEM_STATS is enabled   |
| JDK-8332901 | Select{Current,New}ItemTest.java for Choice don't open popup on macOS  |
| JDK-8333098 | ubsan: bytcodeInfo.cpp:318:59: runtime error: division by zero   |
| JDK-8333108 | Update vmTestbase/nsk/share/DebuggeeProcess.java to don't use finalization   |
| JDK-8333144 | docker tests do not work when ubsan is configured  |
| JDK-8333235 | vmTestbase/nsk/jdb/kill/kill001/kill001.java fails with C1   |
| JDK-8333248 | VectorGatherMaskFoldingTest.java failed when maximum vector bits is 64   |
| JDK-8333317 | Test sun/security/pkcs11/sslecc/ClientJSSEServerJSSE.java failed with: Invalid ECDH ServerKeyExchange signature        |
| JDK-8333427 | langtools/tools/javac/newlines/NewLineTest.java is failing on Japanese Windows   |
| JDK-8333728 | ubsan: shenandoahFreeSet.cpp:1347:24: runtime error: division by zero  |
| JDK-8333754 | Add a Test against ECDSA and ECDH NIST Test vector   |
| JDK-8333824 | Unused ClassValue in VarHandles  |
| JDK-8334057 | JLinkReproducibleTest.java support receive test.tool.vm.opts   |

| Issue ID    | Summary  |
|-------------|--|
| JDK-8334405 | java/nio/channels/Selector/SelectWithConsumer.java#id0 failed in testWakeupDuringSelect  |
| JDK-8334475 | UnsafeIntrinsicsTest.java#ZGenerationalDebug assert(!assert_on_failure) failed: Has low-order bits set                                 |
| JDK-8334560 | [PPC64]: postalloc_expand_java_dynamic_call_sched does not copy all fields   |
| JDK-8334562 | Automate com/sun/security/auth/callback/TextCallbackHandler/Default.java test  |
| JDK-8334567 | [test] runtime/os/TestTracePageSizes move ppc handling   |
| JDK-8334719 | (se) Deferred close of SelectableChannel may result in a Selector doing the final close before concurrent I/O on channel has completed |
| JDK-8335142 | compiler/c1/TestTraceLinearScanLevel.java occasionally times out with -Xcomp   |
| JDK-8335172 | Add manual steps to run security/auth/callback/TextCallbackHandler/Password.java test  |
| JDK-8335267 | [XWayland] move screencast tokens from .awt to .java folder  |
| JDK-8335344 | test/jdk/sun/security/tools/keytool/NssTest.java fails to compile  |
| JDK-8335428 | Enhanced Building of Processes   |
| JDK-8335449 | runtime/cds/DeterministicDump.java fails with File content different at byte ...   |
| JDK-8335530 | Java file extension missing in AuthenticatorTest   |
| JDK-8335664 | Parsing jsr broken: assert(bci >= 0 && bci < c → method() → code_size()) failed: index out of bounds                                   |

| Issue ID    | Summary   |
|-------------|---|
| JDK-8335709 | C2: assert(!loop→is_member(get_loop(useblock))) failed: must be outside loop                          |
| JDK-8335912 | Add an operation mode to the jar command when extracting to not overwriting existing files            |
| JDK-8336240 | Test com/sun/crypto/provider/Cipher/DES/PerformanceTest.java fails with java.lang.ArithmeticException |
| JDK-8336257 | Additional tests in jmxremote/startstop to match on PID not app name                                  |
| JDK-8336315 | tools/jpackage/windows/WinChildProcessTest.java Failed: Check is calculator process is alive          |
| JDK-8336413 | gtk headers : Fix typedef redeclaration of GMainContext and GdkPixbuf                                 |
| JDK-8336564 | Enhance mask blit functionality redux   |
| JDK-8336640 | Shenandoah: Parallel worker use in parallel_heap_region_iterate                                       |
| JDK-8336854 | CAInterop.java#actalisauthenticationrootca conflicted with /manual and /timeout                       |
| JDK-8336911 | ZGC: Division by zero in heuristics after JDK-8332717   |
| JDK-8337066 | Repeated call of StringBuffer.reverse with double byte string returns wrong result                    |
| JDK-8337067 | Test runtime/classFileParserBug/Bad_NCDFE_Msg.java won't compile                                      |
| JDK-8337320 | Update ProblemList.txt with tests known to fail on XWayland   |
| JDK-8337331 | crash: pinned virtual thread will lead to jvm crash when running with the javaagent option            |

| Issue ID    | Summary  |
|-------------|--|
| JDK-8337410 | The makefiles should set problemlist and adjust timeout basing on the given VM flags                     |
| JDK-8337780 | RISC-V: C2: Change C calling convention for sp to NS   |
| JDK-8337810 | ProblemList BasicDirectoryModel/LoaderThreadCount.java on Windows  |
| JDK-8337826 | Improve logging in OCSPTimeout and SimpleOCSPResponder to help diagnose JDK-8309754                      |
| JDK-8337851 | Some tests have name which confuse jtreg   |
| JDK-8337876 | [IR Framework] Add support for IR tests with @Stable   |
| JDK-8337966 | (fs) Files.readAttributes fails with Operation not permitted on older docker releases                    |
| JDK-8338058 | map_or_reserve_memory_aligned Windows enhance remap assertion  |
| JDK-8338101 | remove old remap assertion in map_or_reserve_memory_aligned after JDK-8338058                            |
| JDK-8338109 | java/awt/Mouse/EnterExitEvents/ResizingFrameTest.java duplicate in ProblemList                           |
| JDK-8338110 | Exclude Fingerprinter::do_type from ubsan checks   |
| JDK-8338112 | Test testlibrary_tests/ir_framework/tests/TestPrivilegedMode.java fails with release build               |
| JDK-8338344 | Test TestPrivilegedMode.java intermittent fails<br>java.lang.NoClassDefFoundError: jdk/test/lib/Platform |

| Issue ID    | Summary   |
|-------------|---|
| JDK-8338380 | Update TLSCommon/interop/AbstractServer to specify an interface to listen for connections |
| JDK-8338389 | [JFR] Long strings should be added to the string pool                                     |
| JDK-8338402 | GHA: some of bundles may not get removed  |
| JDK-8338449 | ubsan: division by zero in sharedRuntimeTrans.cpp   |
| JDK-8338550 | Do libubsan1 installation in test container only if requested                             |
| JDK-8338748 | [17u,21u] Test Disconnect.java compile error: cannot find symbol after JDK-8299813        |
| JDK-8338751 | ConfigureNotify behavior has changed in KWin 6.2  |
| JDK-8338759 | Add extra diagnostic to java/net/InetAddress/ptr/Lookup.java                              |
| JDK-8338924 | C1: assert(0 <= i && i < _len) failed: illegal index 5 for length 5                       |
| JDK-8339080 | Bump update version for OpenJDK: jdk-21.0.6   |
| JDK-8339180 | Enhanced Building of Processes: Follow-on Issue   |
| JDK-8339248 | RISC-V: Remove li64 macro assembler routine and related code                              |
| JDK-8339384 | Unintentional IOException in jdk.jdi module when JDWP end of stream occurs                |
| JDK-8339386 | Assertion on AIX - original PC must be in the main code section of the compiled method    |
| JDK-8339416 | [s390x] Provide implementation for resolve_global_bject                                   |

| Issue ID    | Summary  |
|-------------|--|
| JDK-8339487 | ProcessHandleImpl os_getChildren sysctl call - retry in case of ENOMEM and enhance exception message |
| JDK-8339548 | GHA: RISC-V: Use Debian snapshot archive for bootstrap   |
| JDK-8339560 | Unaddressed comments during code review of JDK-8337664   |
| JDK-8339591 | Mark jdk/jshell/ExceptionMessageTest.java intermittent   |
| JDK-8339637 | (tz) Update Timezone Data to 2024b   |
| JDK-8339644 | Improve parsing of Day/Month in tzdata rules   |
| JDK-8339648 | ZGC: Division by zero in rule_major_allocation_rate  |
| JDK-8339725 | Concurrent GC crashed due to GetMethodDeclaringClass   |
| JDK-8339731 | java.desktop/share/classes/javafx/swing/text/html/default.css typo in margin settings                |
| JDK-8339741 | RISC-V: C ABI breakage for integer on stack  |
| JDK-8339787 | Add some additional diagnostic output to java/net/ipv6tests/UdpTest.java                             |
| JDK-8339803 | Acknowledge case insensitive unambiguous keywords in tzdata files                                    |
| JDK-8339892 | Several security shell tests don't set TESTJAVA_OPTS   |
| JDK-8340007 | Refactor KeyEvent/FunctionKeyTest.java   |
| JDK-8340008 | KeyEvent/KeyTyped/Numpad1KeyTyped.java has 15 seconds timeout  |
| JDK-8340109 | Ubsan: ciEnv.cpp:1660:65: runtime error: member call on null pointer of type 'struct CompileTask'    |

| Issue ID    | Summary  |
|-------------|--|
| JDK-8340210 | Add positionTestUI() to PassFailJFrame.Builder   |
| JDK-8340214 | C2 compilation asserts with "no node with a side effect" in PhaseldealLoop::try_sink_out_of_loop |
| JDK-8340230 | Tests crash: assert(is_in_encoding_range    k→is_interface()    k→is_abstract()) failed: sanity  |
| JDK-8340306 | Add border around instructions in PassFailJFrame   |
| JDK-8340308 | PassFailJFrame: Make rows default to number of lines in instructions                             |
| JDK-8340365 | Position the first window of a window list   |
| JDK-8340383 | VM issues warning failure to find kernel32.dll on Windows nanoserver                             |
| JDK-8340387 | Update OS detection code to recognize Windows Server 2025  |
| JDK-8340398 | [JVMCI] Unintuitive behavior of UseJVMCICompiler option  |
| JDK-8340418 | GHA: MacOS AArch64 bundles can be removed prematurely  |
| JDK-8340461 | Amend description for logArea  |
| JDK-8340466 | Add description for PassFailJFrame constructors  |
| JDK-8340552 | Harden TzdbZoneRulesCompiler against missing zone names  |
| JDK-8340590 | RISC-V: C2: Small improvement to vector gather load and scatter store                            |
| JDK-8340632 | ProblemList java/nio/channels/DatagramChannel/ for MacOS   |
| JDK-8340657 | [PPC64] SA determines wrong unextendedSP   |



| Issue ID    | Summary  |
|-------------|--|
| JDK-8340684 | Reading from an input stream backed by a closed ZipFile has no test coverage       |
| JDK-8340785 | Update description of PassFailJFrame and samples                                   |
| JDK-8340799 | Add border inside instruction frame in PassFailJFrame                              |
| JDK-8340801 | Disable ubsan checks in some awt/2d coding   |
| JDK-8340804 | doc/building.md update Xcode instructions to note that full install is required    |
| JDK-8340812 | LambdaForm customization via MethodHandle::updateForm is not thread safe           |
| JDK-8340815 | Add SECURITY.md file   |
| JDK-8340899 | Remove wildcard bound in PositionWindows.positionTestWindows                       |
| JDK-8340923 | The class LogSelection copies uninitialized memory                                 |
| JDK-8341024 | [test] build/AbsPathsInImage.java fails with OOM when using ubsan-enabled binaries |
| JDK-8341146 | RISC-V: Unnecessary fences used for load-acquire in template interpreter           |
| JDK-8341235 | Improve default instruction frame title in PassFailJFrame                          |
| JDK-8341261 | Tests assume UnlockExperimentalVMOptions is disabled by default                    |
| JDK-8341562 | RISC-V: Generate comments in -XX:+PrintInterpreter to link to source code          |
| JDK-8341688 | Aarch64: Generate comments in -XX:+PrintInterpreter to link to source code         |
| JDK-8341722 | Fix some warnings as errors when building on Linux with toolchain clang            |

| Issue ID    | Summary  |
|-------------|--|
| JDK-8341806 | Gcc version detection failure on Alinux3   |
| JDK-8341927 | Replace hardcoded security providers with new test.provider.name system property |
| JDK-8341997 | Tests create files in src tree instead of scratch dir                            |
| JDK-8342014 | RISC-V: ZStoreBarrierStubC2 clobbers rflags                                      |
| JDK-8342063 | [21u] [aix] Backport introduced redundant line in ProblemList                    |
| JDK-8342181 | Update tests to use stronger Key and Salt size                                   |
| JDK-8342183 | Update tests to use stronger algorithms and keys                                 |
| JDK-8342188 | Update tests to use stronger key parameters and certificates                     |
| JDK-8342409 | [s390x] C1 unwind_handler fails to unlock synchronized methods with LM_MONITOR   |
| JDK-8342496 | C2/Shenandoah: SEGV in compiled code when running jcstress                       |
| JDK-8342578 | GHA: RISC-V: Bootstrap using Debian snapshot is still failing                    |
| JDK-8342607 | Enhance register printing on x86_64 platforms                                    |
| JDK-8342669 | [21u] Fix TestArrayAllocatorMallocLimit after backport of JDK-8315097            |
| JDK-8342681 | TestLoadBypassesNullCheck.java fails improperly specified VM option              |
| JDK-8342701 | [PPC64] TestOSRLotsOfLocals.java crashes   |
| JDK-8342765 | [21u] RTM tests assume UnlockExperimentalVMOptions is disabled by default        |

| Issue ID    | Summary   |
|-------------|---|
| JDK-8342823 | Ubsan: ciEnv.cpp:1614:65: runtime error: member call on null pointer of type 'struct CompileTask'       |
| JDK-8342905 | Thread.setContextClassLoader from thread in FJP commonPool task no longer works after JDK-8327501 redux |
| JDK-8342962 | [s390x] TestOSRLotsOfLocals.java crashes  |
| JDK-8343285 | java.lang.Process is unresponsive and CPU usage spikes to 100%  |
| JDK-8343474 | [updates] Customize README.md to specifics of update project  |
| JDK-8343506 | [s390x] multiple test failures with ubsan   |
| JDK-8343724 | [PPC64] Disallow OptoScheduling   |
| JDK-8343848 | Fix typo of property name in TestOAEPPadding after 8341927  |
| JDK-8343877 | Test AsyncClose.java intermittent fails - Socket.getInputStream().read() wasn't preempted               |
| JDK-8343884 | [s390x] Disallow OptoScheduling   |
| JDK-8343923 | GHA: Switch to Xcode 15 on MacOS AArch64 runners  |
| JDK-8344164 | [s390x] ProblemList hotspot/jtreg/runtime/NMT/VirtualAllocCommitMerge.java                              |
| JDK-8344628 | Test TestEnableJVMCIProduct.java run with virtual thread intermittent fails                             |
| JDK-8344993 | [21u] [REDO] Backport JDK-8327501 and JDK-8328366 to JDK 21   |
| JDK-8345055 | [21u] ProblemList failing rtm tests on ppc platforms  |

## JFX issues

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

| Issue ID    | Summary   |
|-------------|---|
| JDK-8318388 | Update libxslt to 1.1.39  |
| JDK-8331616 | ChangeListener is not triggered when the InvalidationListener is removed            |
| JDK-8333374 | Cannot invoke "com.sun.prism.RTTexture.contentsUseful()" because "this.txt" is null |
| JDK-8334124 | Rendering issues with CSS "text-shadow" in WebView                                  |
| JDK-8335714 | Enhance playing MP3s  |
| JDK-8335715 | Improve Direct Show support   |
| JDK-8336798 | DRT test cssrounding.html test for linear layout fails with WebKit 619.1            |
| JDK-8336941 | Update libxslt to 1.1.42  |
| JDK-8337481 | File API: file.name contains path instead of name                                   |
| JDK-8338306 | WebView Drag and Drop fails with WebKit 619.1                                       |
| JDK-8338307 | Additional WebKit 619.1 fixes from WebKitGTK 2.44.3                                 |
| JDK-8340208 | Additional WebKit 619.1 fixes from WebKitGTK 2.44.4                                 |
| JDK-8341920 | Intermittent WebKit build failure on Windows generating PDB files in 619.1          |
| JDK-8343136 | Change JavaFX release version to 21.0.6 in jfx21u                                   |

| Issue ID    | Summary   |
|-------------|---|
| JDK-8343630 | Pass AccessControlContext to/from WebKit as opaque object |

# 6. Updates to Third Party Libraries

This release does not contain any changes in the third party libraries.

# 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 21.0.6+10  
Release Notes

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