



Azul Zulu builds of OpenJDK

April 2024 Quarterly Update

Release Notes

Revision 0.1

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Revision History

Revision	Date	Description
0.1	April 16, 2024	Initial version of the document.

Release Details

This release is a quarterly update release for Azul Zulu Builds of OpenJDK version 22, 21, 17, 11, 8, 7, and 6.

The following table describes which Azul Zulu versions are published with this release.

Azul Zulu Version (*)	Update Type (**)	JDK Version	Based on		JavaFX Version
			Azul Zulu Version	JDK Version	
22.30.13 (CA) 22.30.14 (SA)	PSU	22.0.1+8	22.28	22.0.0+36	22.0.1+101
21.33.14 (SA)	CPU	21.0.2.0.101+2	21.32	21.0.2+13	21.0.2.0.101+102
21.34.19 (CA) 21.34.20 (SA)	PSU	21.0.3+9	21.33	21.0.2.0.101+2	22.0.1+101
17.49.16 (SA)	CPU	17.0.10.0.101+3	17.48	17.0.10+7	21.0.2.0.101+102
17.50.19 (CA) 17.50.20 (SA)	PSU	17.0.11+9	17.49	17.0.10.0.101+3	22.0.1+101
11.71.14 (SA)	CPU	11.0.22.0.101+2	11.70	11.0.22+7	19.0.6.0.101+101
11.72.19 (CA) 11.72.20 (SA)	PSU	11.0.23+9	11.71	11.0.22.0.101+2	19.0.7+102
8.77.0.14 (SA)	CPU	8u411-b02	8.76	8u402-b06	8u411-b02
8.78.0.19 (CA) 8.78.0.20 (SA)	PSU	8u412-b08	8.77	8u411-b02	8u412-b03
7.69.0.14 (SA)	CPU	7u421-b02	7.67	7u411-b03	N/A
6.63.0.14 (SA)	CPU	6b163	6.61	6b161	N/A

(*) Azul provides two types of distribution packages for each Java version:

- **SA** distributions are tested, certified, and commercially supported Azul Zulu Builds of OpenJDK. Azul ensures that the software that uses the Accessible APIs of the product doesn't have to include specific licenses and that such use doesn't contaminate the code or intellectual property of such software with any license requirements.
- **CA** are Azul Zulu Builds of OpenJDK that are free to download and use.

NOTE

Both SA and CA distributions may contain Early Access builds noted with `-ea-` in their filename. Early Access builds may not be TCK certified.

(**) Update type:

- **CPU** (Critical Patch Updates) contain fixes to security vulnerabilities and critical bug fixes. Azul Zulu CPU releases are generally based on prior-cycle PSU releases, with only security fixes applied. They provide a low-risk vehicle for the potentially urgent deployment of security fixes when issues of sufficient severity arise. CPU releases are available in SA distributions.
- **PSU** (Patch Set Updates) incorporates all fixes in the corresponding CPU, as well as additional non-security bug fixes. Azul Zulu PSU releases incorporate both security fixes and other changes that align the release contents with the associated OpenJDK project quarterly release. PSU releases are available in SA and CA distributions.

What's New

JavaFX Support for Linux on ARM 64-bit

With this release, Azul Zulu Builds of OpenJDK with bundled support for JavaFX are available for Linux on ARM 64-bit for versions 8, 11, 17, 21, and 22.

Support for Windows aarch64

Azul Zulu Builds of OpenJDK, version 21, are now available for Windows ARM 64-bit systems.

Distroless Docker Image with Zulu 21

Docker images with Azul Zulu Builds of OpenJDK are now available for [version 17 and 21 on Docker Hub](#).

Notification of Future Changes

In the next release (July 2024 Quarterly Update Release), the following configuration changes will be applied.

Reduced Testing

Azul will reduce the priority of testing Azul Zulu for the following environments:

- JavaFX support on CentOS 6
- Wind River Platform

That doesn't mean Azul won't accept support requests for Azul JDK on these platforms, you'll be fully covered even if you keep using them. However, it may mean that testing on these platforms will be reduced. If you're still using this platform, please let us know at support@azul.com.

Toolchain Change for macOS x86_64

The toolchain used to build Azul Zulu Builds of OpenJDK, version 8 and 11 on macOS x86_64, will be upgraded from Xcode 11.3.1 to Xcode 12.3.

Toolchain Change for Windows

After July 2024, Azul Zulu Builds, version 6 and 7, for Windows will be compiled with Microsoft Visual Studio 2017. This means that the builds will no longer include the `mscvr100.dll` library provided by the Microsoft Visual C++ 2010 SP1 Redistributable Package (x86/x64), which was included by default in earlier builds. Applications that

depend on the presence of this dll in the JDK/JRE will fail to run with the new builds.

There are two possible workarounds for this problem:

- Install Microsoft Visual C++ 2010 SP1 Redistributable Package.
- Rebuild the application using a modern version of Visual Studio.

Supported Platforms

This section provides information about the operating systems that are supported in this release of Azul Zulu.

Azul Zulu Builds of OpenJDK Without and With OpenJFX

Some versions of Azul Zulu are available in different packages for specific platforms, as indicated in this overview table with:

-  : Build of OpenJDK without OpenJFX.
-  : Build of OpenJDK without and with OpenJFX.

NOTE

The list of supported configurations and platform includes, but is not limited to, the table below. Don't hesitate to [contact Support](#) if you have issues with Azul Zulu Builds of OpenJDK on any other platform or configuration.

Operating System	Azul Zulu Version						
	6	7	8	11	17	21	22
Windows (x86 32/64-bit)							
Windows Server 2022						 [1]	 [1]
Windows Server 2019						 [1]	 [1]
Windows Server 2016						 [1]	 [1]

Windows 11						 [1]	 [1]
Windows 10						 [1]	 [1]
Windows (ARM 64-bit)							
Windows 11	n/a	n/a	n/a	n/a			n/a
Linux (x86 32/64-bit)							
RHEL 9.x	n/a					 [1]	 [1]
RHEL 8.x						 [1]	 [1]
RHEL 7.x						 [1]	 [1]
SLES 15						 [1]	 [1]
SLES 12						 [1]	 [1]
CentOS Stream						 [1]	 [1]
Ubuntu 22.04						 [1]	 [1]
Ubuntu 20.04						 [1]	 [1]
Ubuntu 18.04						 [1]	 [1]
Debian 12						 [1]	 [1]
Debian 11						 [1]	 [1]

Debian 10						 [1]	 [1]
Wind River 8.x	n/a			n/a	n/a	n/a	n/a
CoreOS	n/a					n/a	n/a
Alpine Linux 3.11 or later	n/a	n/a					
Amazon Linux 2023	n/a	n/a					
Linux (ARM 64-bit)							
Ubuntu 22.04	n/a	n/a					
Ubuntu 20.04	n/a	n/a					
Ubuntu 18.04	n/a	n/a					
Debian 12	n/a	n/a					
Debian 11	n/a	n/a					
Alpine Linux 3.11 or later	n/a	n/a					
Amazon Linux 2023	n/a	n/a					
Linux with kernel 3.10.x and glibc 2.23 [2] [3]	n/a	n/a			n/a	n/a	n/a
Linux (ARM 32-bit Hard-Float)							
Ubuntu 18.04 [4]	n/a	n/a				n/a	n/a
Raspbian 10 Buster [4]	n/a	n/a				n/a	n/a
Raspbian 9 Stretch [4]	n/a	n/a			n/a	n/a	n/a
Linux with kernel 3.10.x and glibc 2.9 [4] [5]	n/a	n/a			n/a	n/a	n/a
Linux (ARM 32-bit Soft-Float) [6]							
Linux with kernel 2.6.34 and glibc 2.5 [7]	n/a	n/a			n/a	n/a	n/a
Debian 7 Wheezy [8]	n/a	n/a			n/a	n/a	n/a

Linux with kernel 3.10.x and glibc 2.9 [8]	n/a	n/a	✓	✓	n/a	n/a	n/a
Linux (MIPS 32-bit) [9]							
Linux with kernel 4.9.59 and glibc 2.9 [10]	n/a	n/a	✓	n/a	n/a	n/a	n/a
Linux (ppc64 Big Endian)							
Linux with kernel 3.8.13 and glibc 2.22 [11]	n/a	n/a	✓	n/a	n/a	n/a	n/a
Linux (ppc32 Hard-float and SPE)							
Linux with kernel 3.12.37 and glibc 2.20 [12]	n/a	n/a	✓	n/a	n/a	n/a	n/a
QNX							
QNX 7.0 ARMv7 [13]	n/a	n/a	✓	n/a	n/a	n/a	n/a
MacOS (x86 64-bit)							
macOS 12+	n/a	✓	✓✓	✓✓	✓✓	✓✓	✓✓
MacOS (Apple Silicon)							
macOS 12+	n/a	n/a	✓✓	✓✓	✓✓	✓✓	✓✓
Solaris (x86 and Sparc)							
Solaris 11	n/a	✓	✓	✓	n/a	n/a	n/a
Solaris 10	n/a	✓	✓	n/a	n/a	n/a	n/a

1. Build of OpenJDK (with and without OpenJFX) only for 64-bit.
2. Bundles with the Checkpoint/Restore (with the `criu` suffix) functionality require kernel 4.4.0+.
3. Bundles compiled with GCC 9 (with the `gcc9` suffix) require glibc 2.29.
4. Bundles with the C1 compiler were tested on ARMv6/ARMv7/ARMv8 hardware. Bundles with both C1 and C2 compilers were tested on ARMv7/ARMv8 hardware.
5. Bundles with the CRaM (with the `cr` suffix) functionality require glibc 2.13.
6. Bundles with the C1 compiler will use FPU, if it is present and available, to speed up

floating point operations. Bundles with both C1 and C2 compilers require FPU.

7. Bundles with the C1 compiler. Tested on ARMv5 hardware.

8. Bundles with the C1 compiler were tested on ARMv6 and ARMv7 hardware. Bundles with both C1 and C2 compilers were tested on ARMv7 hardware.

9. MIPS32r2 ISA, Big Endian, FPU in 32-bit mode or equivalent emulation.

10. Linux soft-float O32 MIPS ABI

11. Bundles for this platform were tested on QorIQ® T4240-RDB.

12. Hard-Float EABI bundles were tested on QorIQ® T1024RDB. SPE ABI bundles were tested on NXP® P2020RDB.

13. ARMv7 32-bit Hard-Float ABI

Azul Zulu Builds of OpenJDK With CRaC

NOTE

Currently, CRaC is only available for the specified Linux systems, in version 17, 21, and 22 of Azul Zulu Builds of OpenJDK. For development, you can use the CRaC Java library on any platform and simulate the CRaC functionality.

-  : Build of OpenJDK with full CRaC support.
-  : Build of OpenJDK with CRaC support for development purposes. These provide a simulated checkpoint/restore mechanism to be used for development and testing.

Operating System	Azul Zulu Version					
	17		21		22	
	x86 64-bit	ARM 64-bit	x86 64-bit	ARM 64-bit	x86 64-bit	ARM 64-bit
Linux						
Alpine Linux 3.11+						
Windows		n/a		n/a		n/a
macOS						

IANA Time Zone Data Version

This release of Azul Zulu comes with IANA Time Zone Database version 2024a.

Fixed Issues

This section covers all issues that were fixed in this release.

Fixed Common Vulnerabilities and Exposures

NOTE The full CVE list will be available in V1.0 of this release notes document.

Non-CVE Security Fixes

NOTE The full Non-CVE Security Fixes list will be available in V1.0 of this release notes document.

OpenJDK Fixes and Enhancements

The following table describes the OpenJDK changes implemented in this release.

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8317507	6, 7, 8, 11, 17	C2 compilation fails with "Exceeded _node_regs array"	CPU,PSU
JDK-6764543	6	SIGSEGV in libfontconfig.so starting from jdk7b33	CPU,PSU
JDK-8322725	6, 7, 8, 11, 17, 21, 22	(tz) Update Timezone Data to 2023d	CPU,PSU
JDK-8211106	6	[windows] Update OS detection code to recognize Windows Server 2019	CPU,PSU
JDK-8268974	11, 17	GetJREPath() JLI function fails to locate libjava.so if not standard Java launcher is used	CPU,PSU
JDK-8274840	6, 7	Update OS detection code to recognize Windows 11	CPU,PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8273229	6, 7	Update OS detection code to recognize Windows Server 2022	CPU,PSU
JDK-8325150	6, 7, 8, 11, 17, 21, 22	(tz) Update Timezone Data to 2024a	CPU,PSU
JDK-8316693	17, 21	Simplify at-requires checkDockerSupport()	PSU
JDK-8316929	17	Shenandoah: Shenandoah degenerated GC and full GC need to cleanup old OopMapCache entries	PSU
JDK-8316947	11, 17, 21	Write a test to check textArea triggers MouseEntered/MouseExited events properly	PSU
JDK-8316973	21	GC: Make TestDisableDefaultGC use createTestJvm	PSU
JDK-8317042	21	G1: Make TestG1ConcMarkStepDurationMillis use createTestJvm	PSU
JDK-8317188	21	G1: Make TestG1ConcRefinementThreads use createTestJvm	PSU
JDK-8317218	21	G1: Make TestG1HeapRegionSize use createTestJvm	PSU
JDK-8317228	21	GC: Make TestXXXHeapSizeFlags use createTestJvm	PSU
JDK-8317299	22	safepoint scalarization doesn't keep track of the depth of the JVM state	PSU
JDK-8317300	21	javac erroneously allows "final" in front of a record pattern	PSU
JDK-8317307	11, 17, 21	test/jdk/com/sun/jndi/ldap/LdapPoolTimeoutTest.java fails with ConnectException: Connection timed out: no further information	PSU
JDK-8317316	21	G1: Make TestG1PercentageOptions use createTestJvm	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8317317	21	G1: Make TestG1RemSetFlags use createTestJvm	PSU
JDK-8317343	21	GC: Make TestHeapFreeRatio use createTestJvm	PSU
JDK-8317347	21	Parallel: Make TestInitialTenuringThreshold use createTestJvm	PSU
JDK-8317358	21	G1: Make TestMaxNewSize use createTestJvm	PSU
JDK-8310380	17	Handle problems in core-related tests on macOS when codesign tool does not work	PSU
JDK-8317522	21	Test logic for BODY_CF in AbstractThrowingSubscribers.java is wrong	PSU
JDK-8317535	21	Shenandoah: Remove unused code	PSU
JDK-8317603	17	Improve exception messages thrown by sun.nio.ch.Net native methods (win)	PSU
JDK-8317771	17, 21	[macos14] Expand/collapse a JTree using keyboard freezes the application in macOS 14 Sonoma	PSU
JDK-8317804	21, 22	com/sun/jdi/JdwpAllowTest.java fails on Alpine 3.17 / 3.18	PSU
JDK-8317960	17	[17u] Excessive CPU usage on AbstractQueuedSynchronized.isEnqueued	PSU
JDK-8318082	21	ConcurrentModificationException from IndexWriter	PSU
JDK-8318154	11, 17, 21	Improve stability of WheelModifier.java test	PSU
JDK-8318157	21	RISC-V: implement ensureMaterializedForStackWalk intrinsic	PSU
JDK-8318158	21, 22	RISC-V: implement roundD/roundF intrinsics	PSU
JDK-8318183	17	C2: VM may crash after hitting node limit	PSU
JDK-8318410	11, 17, 21	jdk/java/lang/instrument/BootClassPath/BootClassPathTest.sh fails on Japanese Windows	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8318490	17, 21	Increase timeout for JDK tests that are close to the limit when run with libgraal	PSU
JDK-8318562	17	Computational test more than 2x slower when AVX instructions are used	PSU
JDK-8318590	21	JButton ignores margin when painting HTML text	PSU
JDK-8318603	11, 17, 21, 22	Parallelize sun/java2d/marlin/ClipShapeTest.java	PSU
JDK-8318613	21	ChoiceFormat patterns are not well tested	PSU
JDK-8318689	17, 21	jtest is confused when folder name is the same as the test name	PSU
JDK-8318696	21, 22	Do not use LFS64 symbols on Linux	PSU
JDK-8318736	11, 17	com/sun/jdi/JdwpOnThrowTest.java failed with "transport error 202: bind failed: Address already in use"	PSU
JDK-8304314	11	StackWalkTest.java fails after CODETOOLS-7903373	PSU
JDK-8318809	21	java/util/concurrent/ConcurrentLinkedQueue/WhiteBox.java shows intermittent failures on linux ppc64le and aarch64	PSU
JDK-8318889	11	C2: add bailout after assert Bad graph detected in build_loop_late	PSU
JDK-8318951	11, 17	Additional negative value check in JPEG decoding	PSU
JDK-8318955	11, 17	Add ReleaseIntArrayElements in Java_sun_awt_X11_XlibWrapper_SetBitmapShape XlibWrapper.c to early return	PSU
JDK-8318957	17	Enhance agentlib:jdwp help output by info about allow option	PSU
JDK-8318964	21	Fix build failures caused by 8315097	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8318971	11, 17, 21	Better Error Handling for Jar Tool When Processing Non-existent Files	PSU
JDK-8318983	11, 17, 21	Fix comment typo in PKCS12Passwd.java	PSU
JDK-8319103	21	Popups that request focus are not shown on Linux with Wayland	PSU
JDK-8319124	11, 17, 21	Update XML Security for Java to 3.0.3	PSU
JDK-8319136	21	Skip pkcs11 tests on linux-aarch64	PSU
JDK-8319137	21	release _object in ObjectMonitor dtor to avoid races	PSU
JDK-8319213	17, 21	Compatibility.java reads both stdout and stderr of JdkUtils	PSU
JDK-8319372	21	C2 compilation fails with "Bad immediate dominator info"	PSU
JDK-8319382	21, 22	com/sun/jdi/JdwpAllowTest.java shows failures on AIX if prefixLen of mask is larger than 32 in IPv6 case	PSU
JDK-8319456	11, 17, 21	jdk/jfr/event/gc/collection/TestGCCauseWith[Serial Parallel].java : GC cause 'GCLocker Initiated GC' not in the valid causes	PSU
JDK-8319548	21	Unexpected internal name for Filler array klass causes error in VisualVM	PSU
JDK-8319633	21	runtime/posixSig/TestPosixSig.java intermittent timeouts on UNIX	PSU
JDK-8319668	11, 17, 21	Fixup of jar filename typo in BadFactoryTest.sh	PSU
JDK-8319879	21	Stress mode to randomize incremental inlining decision	PSU
JDK-8319883	21	Zero: Use atomic built-ins for 64-bit accesses	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8319897	21	Move StackWatermark handling out of LockStack::contains	PSU
JDK-8319922	17	libCreationTimeHelper.so fails to link in JDK 21	PSU
JDK-8319938	21	TestFileChooserSingleDirectorySelection.java fails with "getSelectedFiles returned empty array"	PSU
JDK-8319961	17	JvmtiEnvBase doesn't zero _ext_event_callbacks	PSU
JDK-8320001	11, 17	javac crashes while adding type annotations to the return type of a constructor	PSU
JDK-8320052	21	Zero: Use __atomic built-ins for atomic RMW operations	PSU
JDK-8320145	21	Compiler should accept final variable in Record Pattern	PSU
JDK-8320206	21	Some intrinsics/stubs missing vzeroupper on x86_64	PSU
JDK-8320208	11, 17, 21	Update Public Suffix List to b5bf572	PSU
JDK-8320300	17, 21	Adjust hs_err output in malloc/mmap error cases	PSU
JDK-8320309	21	AIX: pthreads created by foreign test library don't work as expected	PSU
JDK-8320363	11, 17	ppc64 TypeEntries::type_unknown logic looks wrong, missed optimization opportunity	PSU
JDK-8320383	21	refresh libraries cache on AIX in VMError::report	PSU
JDK-8320597	8, 11, 17, 21	RSA signature verification fails on signed data that does not encode params correctly	PSU
JDK-8320798	11, 17, 21	Console read line with zero out should zero out underlying buffer	PSU
JDK-8320807	21	[PPC64][ZGC] C1 generates wrong code for atomics	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8320830	21	[AIX] Dont mix os::dll_load() with direct dlclose() calls	PSU
JDK-8320877	21	Shenandoah: Remove ShenandoahUnloadClassesFrequency support	PSU
JDK-8320888	21	Shenandoah: Enable ShenandoahVerifyOptoBarriers in debug builds	PSU
JDK-8320890	21, 22	[AIX] Find a better way to mimic dl handle equality	PSU
JDK-8320907	21	Shenandoah: Remove ShenandoahSelfFixing flag	PSU
JDK-8320937	11, 17, 21	support latest VS2022 MSC_VER in abstract_vm_version.cpp	PSU
JDK-8320943	21	Files/probeContentType/Basic.java fails on latest Windows 11 - content type mismatch	PSU
JDK-8321120	21	Shenandoah: Remove ShenandoahElasticTLAB flag	PSU
JDK-8321122	21	Shenandoah: Remove ShenandoahLoopOptsAfterExpansion flag	PSU
JDK-8321131	21	Console read line with zero out should zero out underlying buffer in JLine	PSU
JDK-8321151	11, 17, 21, 22	JDK-8294427 breaks Windows L&F on all older Windows versions	PSU
JDK-8321164	21	javac with annotation processor throws AssertionError: Filling jrt:/... during JarFileObject[/...]	PSU
JDK-8321215	11, 17, 21	Incorrect x86 instruction encoding for VSIB addressing mode	PSU
JDK-8321269	21	Require platforms to define DEFAULT_CACHE_LINE_SIZE	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8321409	21	Console read line with zero out should zero out underlying buffer in JLine (redux)	PSU
JDK-8321542	21	C2: Missing ChaCha20 stub for x86_32 leads to crashes	PSU
JDK-8321582	21	yield <primitive-type>.class not parsed correctly.	PSU
JDK-8321599	17, 21	Data loss in AVX3 Base64 decoding	PSU
JDK-8321619	21	Generational ZGC: ZColorStoreGoodOopClosure is only valid for young objects	PSU
JDK-8315602	11, 17, 21	Open source swing security manager test	PSU
JDK-8321815	17, 22	Shenandoah: gc state should be synchronized to java threads only once per safepoint	PSU
JDK-8315726	21	Open source several AWT applet tests	PSU
JDK-8321972	17, 21, 22	test runtime/Unsafe/InternalErrorTest.java timeout on linux-riscv64 platform	PSU
JDK-8321974	21	Crash in ciKlass::is_subtype_of because TypeAryPtr::_klass is not initialized	PSU
JDK-8322040	21	Missing array bounds check in ClassReader.parameter	PSU
JDK-8322098	17, 21, 22	os::Linux::print_system_memory_info enhance the THP output with /sys/kernel/mm/transparent_hugepage/hpage_pmd_size	PSU
JDK-8322159	21, 22	ThisEscapeAnalyzer crashes for erroneous code	PSU
JDK-8322163	22	runtime/Unsafe/InternalErrorTest.java fails on Alpine after JDK-8320886	PSU
JDK-8322178	11	Error. can't find jdk.testlibrary.SimpleSSLContext in test directory or libraries	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8315891	21	java/foreign/TestLinker.java failed with "error occurred while instantiating class TestLinker: null"	PSU
JDK-8322255	21	Generational ZGC: ZPageSizeMedium should be set before MaxTenuringThreshold	PSU
JDK-8316961	21	Fallback implementations for 64-bit Atomic::{add,xchg} on 32-bit platforms	PSU
JDK-8322279	21	Generational ZGC: Use ZFragmentationLimit and ZYoungCompactionLimit as percentage instead of multiples	PSU
JDK-8322282	21	Incorrect LoaderConstraintTable::add_entry after JDK-8298468	PSU
JDK-8322321	17, 21	Add man page doc for -XX:+VerifySharedSpaces	PSU
JDK-8322417	11, 17, 21, 22	Console read line with zero out should zero out when throwing exception	PSU
JDK-8322512	21	StringBuffer.repeat does not work correctly after toString() was called	PSU
JDK-8322583	17, 21	RISC-V: Enable fast class initialization checks	PSU
JDK-8322752	11	[11u] GetStackTraceAndRetransformTest.java is failing assert	PSU
JDK-8322772	11, 17, 21, 22	Clean up code after JDK-8322417	PSU
JDK-8322783	17, 21, 22	prioritize /etc/os-release over /etc/SuSE-release in hs_err/info output	PSU
JDK-8322790	21, 22	RISC-V: Tune costs for shuffles with no conversion	PSU
JDK-8322957	21	Generational ZGC: Relocation selection must join the STS	PSU
JDK-8322968	17	[17u] Amend Atomics gtest with 1-byte tests	PSU
JDK-8318737	21	Fallback linker passes bad JNI handle	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8323021	17, 21, 22	Shenandoah: Encountered reference count always attributed to first worker thread	PSU
JDK-8323065	21, 22	Unnecesary CodeBlob lookup in CompiledIC::internal_set_ic_destination	PSU
JDK-8323086	17, 21, 22	Shenandoah: Heap could be corrupted by oom during evacuation	PSU
JDK-8323101	21	C2: assert(nin(0) == nullptr) failed: divisions with zero check should already have bailed out earlier in split-if	PSU
JDK-8323154	21, 22	C2: assert(cmp != nullptr && cmp->Opcode() == Op_Cmp(bt)) failed: no exit test	PSU
JDK-8323170	22	j2dbench is using outdated javac source/target to be able to build by itself	PSU
JDK-8319314	21	NMT detail report slow or hangs for large number of mappings	PSU
JDK-8323210	22	Update the usage of cmsFLAGS_COPY_ALPHA	PSU
JDK-8323331	17, 21, 22	fix typo hpage_pdm_size	PSU
JDK-8319777	21	Zero: Support 8-byte cmpxchg	PSU
JDK-8320303	21	Allow PassFailJFrame to accept single window creator	PSU
JDK-8320582	21	Zero: Misplaced CX8 enablement flag	PSU
JDK-8321660	17, 21	[CRaC] Trim native heap before checkpoint to decrease image size	PSU
JDK-8323428	17, 21, 22	Shenandoah: Unused memory in regions compacted during a full GC should be mangled	PSU
JDK-8021961	8	setAlwaysOnTop doesn't behave correctly in Linux/Solaris under certain scenarios	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8023735	8	[TESTBUG][macosx] runtime/XCheckJniJsig/XCheckJSig.java fails on MacOS X	PSU
JDK-8155590	8	Dubious collection management in sun.net.www.http.KeepAliveCache	PSU
JDK-8183503	8	Update hotspot tests to allow for unique test classes directory	PSU
JDK-8186095	8	upgrade to jtreg 4.2 b08	PSU
JDK-8208655	8	use JTreg skipped status in hotspot tests	PSU
JDK-8208701	8	Fix for JDK-8208655 causes test failures in CI tier1	PSU
JDK-8208706	8	compiler/tiered/ConstantGettersTransitionsTest.java fails to compile	PSU
JDK-8213410	8	UseCompressedOops requirement check fails fails on 32-bit system	PSU
JDK-8222323	8	ChildAlwaysOnTopTest.java fails with "RuntimeException: Failed to unset alwaysOnTop"	PSU
JDK-8224768	8	Test ActalisCA.java fails	PSU
JDK-8323640	8, 11, 17, 21	[TESTBUG]testMemoryFailCount in jdk/internal/platform/docker/TestDockerMemory Metrics.java always fail because OOM killed	PSU
JDK-8323659	21	LinkedTransferQueue add and put methods call overridable offer	PSU
JDK-8323664	21, 22	java/awt/font/JNICheck/FreeTypeScalerJNICheck. java still fails with JNI warning on some Windows configurations	PSU
JDK-8268678	8	LetsEncryptCA.java test fails as Let's Encrypt Authority X3 is retired	PSU

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JDK-8270280	8	security/infra/java/security/cert/CertPathValidator/certification/LetsEncryptCA.java OCSP response error	PSU
JDK-8323806	17	[17u] VS2017 build fails with warning after 8293117.	PSU
JDK-8272708	8	[Test]: Cleanup: test/jdk/security/infra/java/security/cert/CertPathValidator/certification/BuypassCA.java no longer needs ocspEnabled	PSU
JDK-8323964	21, 22	runtime/Thread/ThreadCountLimit.java fails intermittently on AIX	PSU
JDK-8287113	11	JFR: Periodic task thread uses period for method sampling events	PSU
JDK-8288132	8	Update test artifacts in QuoVadis CA interop tests	PSU
JDK-8289764	11, 17	gc/lock tests failed with "OutOfMemoryError: Java heap space: failed reallocation of scalar replaced objects"	PSU
JDK-8297955	8	LDAP CertStore should use LdapName and not String for DN's	PSU
JDK-8301310	8, 11, 17, 21	The SendRawSysErrorMessage test may cause a JVM crash	PSU
JDK-8307123	11	Fix deprecation warnings in DPrinter	PSU
JDK-8308336	11, 17	Test java/net/URLConnection/URLConnectionExpectContinueTest.java failed: java.net.BindException: Address already in use	PSU
JDK-8308592	8	Framework for CA interoperability testing	PSU
JDK-8309697	21	[TESTBUG] Remove "@requires vm.flagless" from jtreg vectorization tests	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8324280	17, 21, 22	RISC-V: Incorrect implementation in VM_Version::parse_satp_mode	PSU
JDK-8311893	21	Interactive component with ARIA role 'tabpanel' does not have a programmatically associated name	PSU
JDK-8312126	8	NullPointerException in CertStore.getCRLs after 8297955	PSU
JDK-8313670	21	Simplify shared lib name handling code in some tests	PSU
JDK-8315415	11	OutputAnalyzer.shouldMatchByLine() fails in some cases	PSU
JDK-8315731	11, 17, 21	Open source several Swing Text related tests	PSU
JDK-8315757	8	[8u] Add cacerts JTREG tests to GHA tier1 test set	PSU
JDK-8316028	11, 17, 21	Update FreeType to 2.13.2	PSU
JDK-8324530	8	Build error with gcc 10	PSU
JDK-8324647	17, 21, 22	Invalid test group of lib-test after JDK-8323515	PSU
JDK-8318468	11, 17, 21	compiler/tiered/LevelTransitionTest.java fails with -XX:CompileThreshold=100 -XX:TieredStopAtLevel=1	PSU
JDK-8318607	11, 17, 21	Enable parallelism in vmTestbase/nsk/stress/jni tests	PSU
JDK-8318608	11, 17, 21	Enable parallelism in vmTestbase/nsk/stress/threads tests	PSU
JDK-8320168	17, 21	handle setsockopt return values	PSU
JDK-8321410	21	Shenandoah: Remove ShenandoahSuspendibleWorkers flag	PSU
JDK-8321480	11, 17, 21, 22	ISO 4217 Amendment 176 Update	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8317144	17, 21	Exclude sun/security/pkcs11/sslecc/ClientJSSEServerJSS E.java on Linux ppc64le	PSU
JDK-8322883	11, 17, 21	[BACKOUT] 8225377: type annotations are not visible to javac plugins across compilation boundaries	PSU
JDK-8323243	11, 17, 21	JNI invocation of an abstract instance method corrupts the stack	PSU
JDK-8323657	22	Compilation of snippet results in VerifyError at runtime with --release 9 (and above)	PSU
JDK-8323717	21	Introduce test keyword for tests that need external dependencies	PSU
JDK-8324041	22	ModuleOption.java failed with update release versioning scheme	PSU
JDK-8324347	11, 17, 21, 22	Enable "maybe-uninitialized" warning for FreeType 2.13.1	PSU
JDK-8324598	21, 22	use mem_unit when working with sysinfo memory and swap related information	PSU
JDK-8324637	21, 22	[aix] Implement support for reporting swap space in jdk.management	PSU
JDK-8324753	21, 22	[AIX] adjust os_posix after JDK-8318696	PSU
JDK-8324858	21	[vectorapi] Bounds checking issues when accessing memory segments	PSU
JDK-8324874	21	AArch64: crypto pmull based CRC32/CRC32C intrinsics clobber V8-V15 registers	PSU
JDK-8325096	8, 11, 17, 21	Test java/security/cert/CertPathBuilder/akiExt/AKISeria INumber.java is failing	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8325203	22	System.exit(0) kills the launched 3rd party application	PSU
JDK-8325254	21	CKA_TOKEN private and secret keys are not necessarily sensitive	PSU
JDK-8325326	22	[PPC64] Don't relocate in case of allocation failure	PSU
JDK-8305900	17	Use loopback IP addresses in security policy files of httpclient tests	PSU
JDK-8310923	17, 21	Refactor Currency tests to use JUnit	PSU
JDK-8311663	21	Additional refactoring of Locale tests to JUnit	PSU
JDK-8306014	17	Update javax.net.ssl TLS tests to use SSLContextTemplate or SSLEngineTemplate	PSU
JDK-8314333	21	Update com/sun/jdi/ProcessAttachTest.java to use ProcessTools.createTestJvm(..)	PSU
JDK-8319569	21	Several java/util tests should be updated to accept VM flags	PSU
JDK-8320898	21	exclude compiler/vectorapi/reshape/TestVectorReinterpret.java on ppc64(le) platforms	PSU
JDK-8322418	21	Problem list gc/TestAllocHumongousFragment.java subtests for 8298781	PSU
JDK-8322985	17, 21	[BACKOUT] 8318562: Computational test more than 2x slower when AVX instructions are used	PSU
JDK-8067651	11	LevelTransitionTest.java, fix trivial methods levels logic	PSU
JDK-8325496	21, 22	Make TrimNativeHeapInterval a product switch	PSU
JDK-8325313	22	Header format error in TestIntrinsicBailOut after JDK-8317299	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8325590	22	Regression in round-tripping UTF-16 strings after JDK-8311906	PSU
JDK-8325672	21, 22	C2: allocate PhaseIdealLoop::_loop_or_ctrl from C ₀ comp_arena()	PSU
JDK-8325585	17	Remove no longer necessary calls to set/unset-in-asgct flag in JDK 17	PSU
JDK-8321408	8, 11, 17, 21, 22	Add Certainly roots R1 and E1	PSU
JDK-8322750	8, 11, 17, 21	Test "api/java_awt/interactive/SystemTrayTests.html" failed because A blue ball icon is added outside of the system tray	PSU
JDK-8325876	21, 22	crashes in docker container tests on Linuxppc64le Power8 machines	PSU
JDK-8325470	21, 22	[AIX] use fclose after fopen in read_psinfo	PSU
JDK-8326000	17, 21, 22	Remove obsolete comments for class sun.security.ssl.SunJSSE	PSU
JDK-8326101	22	[PPC64] Need to bailout cleanly if creation of stubs fails when code cache is out of space	PSU
JDK-8326109	11	GCC 13 reports maybe-uninitialized warnings for jni.cpp with dtrace enabled	PSU
JDK-8009550	21	PlatformPCSC should load versioned so	PSU
JDK-8054022	11, 17	URLConnection timeouts with Expect: 100-Continue and no chunking	PSU
JDK-8294158	11, 17	HTML formatting for PassFailJFrame instructions	PSU
JDK-8295343	21	sun/security/pkcs11 tests fail on Linux RHEL 8.6 and newer	PSU

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JDK-8314164	11, 17, 21, 22	java/net/URLConnection/URLConnectionExpectContinueTest.java fails intermittently in timeout	PSU
JDK-8315042	8, 11, 17, 21	NPE in PKCS7.parseOldSignedData	PSU
JDK-8316001	11, 17, 21	GC: Make TestArrayAllocatorMallocLimit use createTestJvm	PSU
JDK-8325074	21, 22	ZGC fails assert(index == 0 is_power_of_2(index)) failed: Incorrect load shift: 11	PSU
JDK-8326360	22	Update the Zlib version in open/src/java.base/share/legal/zlib.md to 1.3	PSU
JDK-8326503	11	[11u] java/net/URLConnection/URLConnectionExpectContinueTest.java fail because of package org.junit.jupiter.api does not exist	PSU
JDK-8207855	11	Make applications/jcstress invoke tests in batches	PSU
JDK-8326638	22	Crash in PhaseldealLoop::remix_address_expressions due to unexpected Region instead of Loop	PSU
JDK-8327036	17	[macosx-aarch64] SIGBUS in MarkActivationClosure::do_code_blob reached from Unsafe_CopySwapMemory0	PSU
JDK-8327391	11, 17, 21, 22	Add SipHash attribution file	PSU
JDK-8322142	21	JFR: Periodic tasks aren't orphaned between recordings	PSU
JDK-8323515	11, 17, 21, 22	Create test alias "all" for all test roots	PSU
JDK-8324050	21, 22	Issue store-store barrier after re-materializing objects during deoptimization	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8276125	17	RunThese24H.java SIGSEGV in JfrThreadGroup::thread_group_id	PSU
JDK-8324307	11	[11u] hotspot fails to build with GCC 12 and newer (non-static data member initializers)	PSU
JDK-8324514	17, 21	ClassLoaderData::print_on should print address of class loader	PSU
JDK-8319128	21	sun/security/pkcs11 tests fail on OL 7.9 aarch64	PSU
JDK-8074860	8	Structured Exception Catcher missing around CreateJavaVM on Windows	PSU
JDK-8319436	17	Proxy.newProxyInstance throws NPE if loader is null and interface not visible from class loader	PSU
JDK-8186199	8	[windows] JNI_DestroyJavaVM not covered by SEH	PSU
JDK-8079441	8	Intermittent failures on Windows with "Unexpected exit from test [exit code: 1080890248]" (0x406d1388)	PSU
JDK-8321489	22	Update LCMS to 2.16	PSU
JDK-8322945	22	Problemlist runtime/CompressedOops/CompressedClassPointers.java on AIX	PSU
JDK-8198668	11	MemoryPoolMBean/isUsageThresholdExceeded/isExceeded001/TestDescription.java still failing	PSU
JDK-8281377	11, 17	Remove vmTestbase/nsk/monitoring/ThreadMXBean/ThreadInfo/Deadlock/JavaDeadlock001/TestDescription.java from problemlist.	PSU
JDK-8306683	11	Open source several clipboard and color AWT tests	PSU
JDK-8263622	8	The java.awt.color.ICC_Profile#setData invert the order of bytes for the "head" tag	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8168518	8	rcache interop with krb5-1.15	PSU
JDK-8211978	11	Move testlibrary/jdk/testlibrary/SimpleSSLContext.java and testkeys to network testlibrary	PSU
JDK-8288846	17	misc tests fail "assert(ms < 1000) failed: Un- interruptable sleep, short time use only"	PSU
JDK-8290203	17	ProblemList vmTestbase/nsk/jvmti/scenarios/capability/CM03 /cm03t001/TestDescription.java on linux-all	PSU
JDK-8265349	11	vmTestbase/./stress/compiler/deoptimize/Test.ja va fails with OOME due to CodeCache exhaustion.	PSU
JDK-8289948	11	Improve test coverage for XPath functions: Node Set Functions	PSU
JDK-8271828	11	mark hotspot runtime/classFileParserBug tests which ignore external VM flags	PSU
JDK-8271829	11	mark hotspot runtime/Throwable tests which ignore external VM flags	PSU
JDK-8271890	11	mark hotspot runtime/Dictionary tests which ignore external VM flags	PSU
JDK-8272291	11	mark hotspot runtime/logging tests which ignore external VM flags	PSU
JDK-8272551	11	mark hotspot runtime/modules tests which ignore external VM flags	PSU
JDK-8272552	11	mark hotspot runtime/cds tests which ignore external VM flags	PSU
JDK-8278312	17	Update SimpleSSLContext keystore to use SANs for localhost IP addresses	PSU

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JDK-8016451	8	Scary messages emitted by build.tools.generatenimbus.PainterGenerator during build	PSU
JDK-8292182	11	[TESTLIB] Enhance JAXPPolicyManager to setup required permissions for jtrex version 7 jar	PSU
JDK-8309203	21	C2: remove copy-by-value of GrowableArray for InterfaceSet	PSU
JDK-8307299	11	Move more DnD tests to open	PSU
JDK-6928542	11, 17, 21	Chinese characters in RTF are not decoded	PSU
JDK-7132796	11, 17	[macosx] closed/javaw/swing/JComboBox/4517214/bug4517214.java fails on MacOS	PSU
JDK-7148092	11, 17	[macosx] When Alt+down arrow key is pressed, the combobox popup does not appear.	PSU
JDK-7167356	17	(javac) investigate failing tests in JavacParserTest	PSU
JDK-8054572	11, 17	[macosx] JComboBox paints the border incorrectly	PSU
JDK-8058176	11	[mlvm] tests should not allow code cache exhaustion	PSU
JDK-8068225	11	nsk/jdi/EventQueue/remove_l/remove_l005 intermittently times out	PSU
JDK-8077371	21	Binary files in JAXP test should be removed	PSU
JDK-8156889	11	ListKeychainStore.sh fails in some virtualized environments	PSU
JDK-8166275	11	vm/mlvm/meth/stress/compiler/deoptimize keeps timeouting	PSU
JDK-8166554	11	Avoid compilation blocking in OverloadCompileQueueTest.java	PSU
JDK-8169475	11, 17, 21	WheelModifier.java fails by timeout	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8180266	11	Convert sun/security/provider/KeyStore/DKSTest.sh to Java Jtreg Test	PSU
JDK-8186610	11	move ModuleUtils to top-level testlibrary	PSU
JDK-8192864	11	defmeth tests can hide failures	PSU
JDK-8192931	8	Regression test java/awt/font/TextLayout/CombiningPerf.java fails	PSU
JDK-8193543	11	Regression automated test '/open/test/jdk/java/awt/TrayIcon/SystemTrayInst ance/SystemTrayInstanceTest.java' fails	PSU
JDK-8202282	11	[TESTBUG] appcds TestCommon.makeCommandLineForAppCDS() can be removed	PSU
JDK-8202790	11	DnD test DisposeFrameOnDragTest.java does not clean up	PSU
JDK-8202931	11	[macos] java/awt/Choice/ChoicePopupLocation/ChoicePo pupLocation.java fails	PSU
JDK-8205076	17	[17u] Inet6AddressImpl.c: <code>lookupIfLocalHost</code> accesses <code>int</code> <code>InetAddress.preferIPv6Address</code> as a boolean	PSU
JDK-8207211	11	[TESTBUG] Remove excessive output from CDS/AppCDS tests	PSU
JDK-8207214	11	Broken links in JDK API serialized-form page	PSU
JDK-8208243	11	vmTestbase/gc/lock/jni/jnilock002/TestDescriptio n.java fails in jdk/hs nightly	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8208278	11	[mlvm] [TESTBUG] vm.mlvm.mixed.stress.java.findDeadlock.INDIFY_Test Deadlocked threads are not always detected	PSU
JDK-8208623	11	[TESTBUG] runtime/LoadClass/LongBCP.java fails in AUFS file system	PSU
JDK-8208699	11	remove unneeded imports from runtime tests	PSU
JDK-8208704	11	runtime/appcds/MultiReleaseJars.java timed out often in hs-tier7 testing	PSU
JDK-8208705	11	[TESTBUG] The -Xlog:cds,cds+hashtables vm option is not always required for appcds tests	PSU
JDK-8209549	11	remove VMPropsExt from TEST.ROOT	PSU
JDK-8209595	11, 17, 21	MonitorVmStartTerminate.java timed out	PSU
JDK-8209946	11	[TESTBUG] CDS tests should use "@run driver"	PSU
JDK-8210410	17, 21	Refactor java.util.Currency.i18n shell tests to plain java tests	PSU
JDK-8211438	11	[Testbug] runtime/XCheckJniJsig/XCheckJSig.java looks for libjsig in wrong location	PSU
JDK-8213622	11	Windows VS2013 build failure - "snprintf: identifier not found"	PSU
JDK-8213926	11	WB_EnqueueInitializerForCompilation requests compilation for NULL	PSU
JDK-8213927	11	G1 ignores AlwaysPreTouch when UseTransparentHugePages is enabled	PSU
JDK-8214908	11	add ctw tests for jdk.jfr and jdk.management.jfr modules	PSU
JDK-8214915	11	CtwRunner misses export for jdk.internal.access	PSU
JDK-8216408	11	XMLStreamWriter setDefaultNamespace(null) throws NullPointerException	PSU

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JDK-8217475	11	Unexpected StackOverflowError in "process reaper" thread	PSU
JDK-8218754	11	JDK-8068225 regression in JDIBreakpointTest	PSU
JDK-8219475	11	javap man page needs to be updated	PSU
JDK-8219585	11	[TESTBUG] sun/management/jmxremote/bootstrap/JMXInterfaceBindingTest.java passes trivially when it shouldn't	PSU
JDK-8219612	11	[TESTBUG] compiler.codecache.stress.Helper.TestCaseImpl can't be defined in different runtime package as its nest host	PSU
JDK-8225377	11, 17	type annotations are not visible to javac plugins across compilation boundaries	PSU
JDK-8225471	11	Test utility jdk.test.lib.util.FileUtils.areAllMountPointsAccessible needs to tolerate duplicates	PSU
JDK-8226706	11	(se) Reduce the number of outer loop iterations on Windows in java/nio/channels/Selector/RacyDeregister.java	PSU
JDK-8226905	11	unproblem list applications/ctw/modules/* tests on windows	PSU
JDK-8227438	11	[TESTLIB] Determine if file exists by Files.exists in function FileUtils.deleteFileIfExistsWithRetry	PSU
JDK-8231585	11	java/lang/management/ThreadMXBean/MaxDepthForThreadInfoTest.java fails with java.lang.NullPointerException	PSU

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JDK-8232839	11	JDI AfterThreadDeathTest.java failed due to "FAILED: Did not get expected IllegalThreadStateException on a StepRequest.enable()"	PSU
JDK-8233453	11	MLVM deoptimize stress test timed out	PSU
JDK-8234309	11	LFGarbageCollectedTest.java fails with parse Exception	PSU
JDK-8237222	11	[macos] java/awt/Focus/UnaccessibleChoice/AccessibleChoiceTest.java fails	PSU
JDK-8237777	11	"Dumping core ..." is shown despite claiming that "# No core dump will be written."	PSU
JDK-8237834	11	com/sun/jndi/ldap/LdapDnsProviderTest.java failing with LDAP response read timeout	PSU
JDK-8238274	11	(sctp) JDK-7118373 is not fixed for SctpChannel	PSU
JDK-8239801	11	[macos] java/awt/Focus/UnaccessibleChoice/AccessibleChoiceTest.java fails	PSU
JDK-8244679	11	JVM/TI GetCurrentContendedMonitor/contmon001 failed due to "(IsSameObject#3) unexpected monitor object: 0x0000000562336DBA8"	PSU
JDK-8246222	11	Rename javac test T6395981.java to be more informative	PSU
JDK-8247818	11	GCC 10 warning stringop-overflow with symbol code	PSU
JDK-8249087	11	Always initialize _body[0..1] in Symbol constructor	PSU
JDK-8251155	8	HostIdentifier fails to canonicalize hostnames starting with digits	PSU

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JDK-8251349	11	Add TestCaseImpl to OverloadCompileQueueTest.java's build dependencies	PSU
JDK-8251904	11	vmTestbase/nsk/sysdict/vm/stress/btree/btree010/btree010.java fails with ClassNotFoundException: nsk.sysdict.share.BTree0LLRLRLRRLR	PSU
JDK-8253543	11	sanity/client/SwingSet/src/ButtonDemoScreenshotTest.java failed with "AssertionError: All pixels are not black"	PSU
JDK-8253739	11	java/awt/image/MultiResolutionImage/MultiResolutionImageObserverTest.java fails	PSU
JDK-8253820	11	Save test images and dumps with timestamps from client sanity suite	PSU
JDK-8255277	11	randomDelay in DrainDeadlockT and LoggingDeadlock do not randomly delay	PSU
JDK-8255546	11	Missing coverage for javax.smartcardio.CardPermission and ResponseAPDU	PSU
JDK-8255743	11	Relax SIGFPE match in runtime/ErrorHandler/SecondaryErrorTest.java	PSU
JDK-8257505	11	nsk/share/test/StressOptions stressTime is scaled in getter but not when printed	PSU
JDK-8259801	11	Enable XML Signature secure validation mode by default	PSU
JDK-8261404	17	Class.getReflectionFactory() is not thread-safe	PSU
JDK-8261837	17, 21	SIGSEGV in ciVirtualCallTypeData::translate_from	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8263256	17, 21	Test java/net/Inet6Address/serialize/Inet6AddressSerializationTest.java fails due to dynamic reconfigurations of network interface during test	PSU
JDK-8264135	11	UnsafeGetStableArrayElement should account for different JIT implementation details	PSU
JDK-8264899	21	C1: -XX:AbortVMOnException does not work if all methods in the call stack are compiled with C1 and there are no exception handlers	PSU
JDK-8269025	11	jsig/Testjsig.java doesn't check exit code	PSU
JDK-8269077	11	TestSystemGC uses "require vm.gc.G1" for large pages subtest	PSU
JDK-8269258	17	java/net/httpclient/ManyRequestsLegacy.java failed with connection timeout	PSU
JDK-8271094	11	runtime/duplAttributes/DuplAttributesTest.java doesn't check exit code	PSU
JDK-8271118	17	C2: StressGCM should have higher priority than frequency-based policy	PSU
JDK-8271224	11	runtime/EnclosingMethodAttr/EnclMethodAttr.java doesn't check exit code	PSU
JDK-8271616	17	oddPart in MutableBigInteger::mutableModInverse contains info on final result	PSU
JDK-8272335	11	runtime/cds/appcds/MoveJDKTest.java doesn't check exit codes	PSU
JDK-8272811	17	Document the effects of building with _GNU_SOURCE in os_posix.hpp	PSU
JDK-8272853	17	improve <code>JavadocTester.runTests</code>	PSU
JDK-8273454	17	C2: Transform $(-a)*(-b)$ into $a*b$	PSU

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JDK-8273803	11	Zero: Handle "zero" variant in CommandLineOptionTest.java	PSU
JDK-8274060	17	C2: Incorrect computation after JDK-8273454	PSU
JDK-8274122	11, 17, 21	java/io/File/createTempFile/SpecialTempFile.java fails in Windows 11	PSU
JDK-8274621	11, 17	NullPointerException because listenAddress[0] is null	PSU
JDK-8274632	17	Possible pointer overflow in PretouchTask chunk claiming	PSU
JDK-8274634	17	Use String.equals instead of String.compareTo in java.desktop	PSU
JDK-8276123	17	ZipFile::getEntry will not return a file entry when there is a directory entry of the same name within a Zip File	PSU
JDK-8276139	8	TestJpsHostName.java not reliable, better to expand HostIdentifierCreate.java test	PSU
JDK-8276796	11	gc/TestSystemGC.java large pages subtest fails with ZGC	PSU
JDK-8278028	17	[test-library] Warnings cleanup of the test library	PSU
JDK-8278363	17	Create extented container test groups	PSU
JDK-8280007	11	Enable Neoverse N1 optimizations for Arm Neoverse V1 & N2	PSU
JDK-8280241	17	(aio) AsynchronousSocketChannel init fails in IPv6 only Windows env	PSU
JDK-8281149	11	(fs) java/nio/file/FileStore/Basic.java fails with java.lang.RuntimeException: values differ by more than 1GB	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8281543	17	Remove unused code/headerfile dtraceAttacher.hpp	PSU
JDK-8281585	17	Remove unused imports under test/lib and jtreg/gc	PSU
JDK-8281717	11	Cover logout method for several LoginModule	PSU
JDK-8282665	11	[REDO] ByteBufferTest.java: replace endless recursion with RuntimeException in void ck(double x, double y)	PSU
JDK-8283400	17	[macos] a11y : Screen magnifier does not reflect JRadioButton value change	PSU
JDK-8283626	17	AArch64: Set relocInfo::offset_unit to 4	PSU
JDK-8283994	17	Make Xerces DatatypeException stackless	PSU
JDK-8284090	11	com/sun/security/auth/module/AllPlatforms.java fails to compile	PSU
JDK-8285785	11	CheckCleanerBound test fails with PasswordCallback object is not released	PSU
JDK-8285867	11	Convert applet manual tests SelectionVisible.java to Frame and automate	PSU
JDK-8286312	17	Stop mixing signed and unsigned types in bit operations	PSU
JDK-8286846	11, 17	test/jdk/javafx/swing/plaf/aqua/CustomComboBoxFocusTest.java fails on mac aarch64	PSU
JDK-8286969	11	Add a new test library API to execute kinit in SecurityTools.java	PSU
JDK-8287832	17	jdk/jfr/event/runtime/TestActiveSettingEvent.java failed with "Expected two batches of Active Setting events"	PSU
JDK-8288663	17	JFR: Disabling the JfrThreadSampler commits only a partially disabled state	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8289511	11	Improve test coverage for XPath Axes: child	PSU
JDK-8290041	17	ModuleDescriptor.hashCode is inconsistent	PSU
JDK-8290399	11, 17	[macos] Aqua LAF does not fire an action event if combo box menu is displayed	PSU
JDK-8290909	11	MemoryPoolMBean/isUsageThresholdExceeded tests failed with "isUsageThresholdExceeded() returned false, and is still false, while threshold = MMMMMMMM and used peak = NNNNNNNN"	PSU
JDK-8292458	17	Atomic operations on scoped enums don't build with clang	PSU
JDK-8292946	11, 17	GC lock/jni/jnilock001 test failed "assert(gch->gc_cause() == GCause::_scavenge_alot !gch->incremental_collection_failed()) failed: Twice in a row"	PSU
JDK-8293117	17	Add atomic bitset functions	PSU
JDK-8293547	17	Add relaxed add_and_fetch for macos aarch64 atomics	PSU
JDK-8293819	11	sun/util/logging/PlatformLoggerTest.java failed with "RuntimeException: Retrieved backing PlatformLogger level null is not the expected CONFIG"	PSU
JDK-8294254	11, 17	[macOS] javax/swing/plaf/aqua/CustomComboBoxFocusTest.java failure	PSU
JDK-8294402	11	Add diagnostic logging to VMProps.checkDockerSupport	PSU
JDK-8294535	11, 17	Add screen capture functionality to PassFailJFrame	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8295068	17	SSLEngine throws NPE parsing CertificateRequests	PSU
JDK-8295124	17	Atomic::add to pointer type may return wrong value	PSU
JDK-8295274	17	HelidonAppTest.java fails "assert(event.should_commit()) failed: invariant" from compiled frame"	PSU
JDK-8296083	11	javax/swing/JTree/6263446/bug6263446.java fails intermittently on a VM	PSU
JDK-8296384	11	[TESTBUG] sun/security/provider/SecureRandom/AbstractDrbg/SpecTest.java intermittently timeout	PSU
JDK-8296631	17, 21	NSS tests failing on OL9 linux-aarch64 hosts	PSU
JDK-8297968	17	Crash in PrintOptoAssembly	PSU
JDK-8298087	17	XML Schema Validation reports an required attribute twice via ErrorHandler	PSU
JDK-8299494	11, 17	Test vmTestbase/nsk/stress/except/except011.java failed: ExceptionInInitializerError: target class not found	PSU
JDK-8300269	11, 17	The selected item in an editable JComboBox with titled border is not visible in Aqua LAF	PSU
JDK-8300727	11	java/awt/List/ListGarbageCollectionTest/AwtListGarbageCollectionTest.java failed with "List wasn't garbage collected"	PSU
JDK-8301306	17	java/net/httpclient/* fail with -Xcomp	PSU
JDK-8301377	11	adjust timeout for JLI GetObjectSizeIntrinsicsTest.java subtest again	PSU
JDK-8301787	17	java/net/httpclient/SpecialHeadersTest failing after JDK-8301306	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8301846	11, 17	Invalid TargetDataLine after screen lock when using JFileChooser or COM library	PSU
JDK-8302017	8, 11, 17	Allocate BadPaddingException only if it will be thrown	PSU
JDK-8302109	11	Trivial fixes to btree tests	PSU
JDK-8302149	11, 17	Speed up compiler/jsr292/methodHandleExceptions/TestAMENotNPE.java	PSU
JDK-8302607	11	increase timeout for ContinuousCallSiteTargetChange.java	PSU
JDK-8303605	17	Memory leaks in Metaspace gtests	PSU
JDK-8304020	21	Speed up test/jdk/java/util/zip/ZipFile/TestTooManyEntries.java and clarify its purpose	PSU
JDK-8304074	11, 17	[JMX] Add an approximation of total bytes allocated on the Java heap by the JVM	PSU
JDK-8304292	21	Memory leak related to ClassLoader::update_class_path_entry_list	PSU
JDK-8304696	17	Duplicate class names in dynamicArchive tests can lead to test failure	PSU
JDK-8304725	11	AsyncGetCallTrace can cause SIGBUS on M1	PSU
JDK-8305356	17	Fix ignored bad CompileCommands in tests	PSU
JDK-8305502	11	adjust timeouts in three more M&M tests	PSU
JDK-8305505	11	NPE in javazic compiler	PSU
JDK-8305971	21	NPE in JavacProcessingEnvironment for missing enum constructor body	PSU
JDK-8305972	11, 17	Update XML Security for Java to 3.0.2	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8306072	11	Open source several AWT MouseInfo related tests	PSU
JDK-8306076	11	Open source AWT misc tests	PSU
JDK-8306409	11	Open source AWT KeyBoardFocusManger, LightWeightComponent related tests	PSU
JDK-8306640	11	Open source several AWT TextArea related tests	PSU
JDK-8306652	11	Open source AWT MenuItem related tests	PSU
JDK-8306681	11	Open source more AWT DnD related tests	PSU
JDK-8306752	11	Open source several container and component AWT tests	PSU
JDK-8306753	11	Open source several container AWT tests	PSU
JDK-8306755	11	Open source few Swing JComponent and AbstractButton tests	PSU
JDK-8306812	11	Open source several AWT Miscellaneous tests	PSU
JDK-8306871	11	Open source more AWT Drag & Drop tests	PSU
JDK-8306922	21	IR verification fails because IR dump is chopped up	PSU
JDK-8306996	11	Open source Swing MenuItem related tests	PSU
JDK-8307130	11	Open source few Swing JMenu tests	PSU
JDK-8307185	17	pkcs11 native libraries make JNI calls into java code while holding GC lock	PSU
JDK-8307311	11	Timeouts on one macOS 12.6.1 host of two Swing JTableHeader tests	PSU
JDK-8307381	11	Open Source JFrame, JIF related Swing Tests	PSU
JDK-8307408	21	Some jdk/sun/tools/jhsdb tests don't pass test JVM args to the debuggee JVM	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8307683	11	Loop Predication should not hoist range checks with trap on success projection by negating their condition	PSU
JDK-8307926	17	Support byte-sized atomic bitset operations	PSU
JDK-8307955	17	Prefer to PTRACE_GETREGSET instead of PTRACE_GETREGS in method 'ps_proc.c::process_get_lwp_regs'	PSU
JDK-8307990	17	jspawnhelper must close its writing side of a pipe before reading from it	PSU
JDK-8308043	11, 17	Deadlock in TestCSLocker.java due to blocking GC while allocating	PSU
JDK-8308116	11	jdk.test.lib.compiler.InMemoryJavaCompiler.compile does not close files	PSU
JDK-8308223	11	failure handler missed jcmd.vm.info command	PSU
JDK-8308232	11	nsk/jdb tests don't pass -verbose flag to the debuggee	PSU
JDK-8309104	11	[JVMCI] compiler/unsafe/UnsafeGetStableArrayElement test asserts wrong values with Graal	PSU
JDK-8309119	11	[17u/11u] Redo JDK-8297951: C2: Create skeleton predicates for all If nodes in loop predication	PSU
JDK-8309302	17, 21	java/net/Socket/Timeouts.java fails with AssertionError on test temporal post condition	PSU
JDK-8309305	17	sun/security/ssl/SSLSocketImpl/BlockedAsyncClose.java fails with jtreg test timeout	PSU
JDK-8309462	11, 17	[AIX] vmTestbase/nsk/jvmti/RunAgentThread/agentthr001/TestDescription.java crashing due to empty while loop	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8309733	17	[macOS, Accessibility] VoiceOver: Incorrect announcements of JRadioButton	PSU
JDK-8309778	11	java/nio/file/Files/CopyAndMove.java fails when using second test directory	PSU
JDK-8309870	11, 17	Using -proc:full should be considered requesting explicit annotation processing	PSU
JDK-8310031	21	Parallel: Implement better work distribution for large object arrays in old gen	PSU
JDK-8310106	11, 17	sun.security.ssl.SSLHandshake.getHandshakeProducer() incorrectly checks handshakeConsumers	PSU
JDK-8305906	17	HttpClient may use incorrect key when finding pooled HTTP/2 connection for IPv6 address	PSU
JDK-8305962	17, 21	update jcstress to 0.16	PSU
JDK-8310238	11, 17, 21	[test bug] javax/swing/JTableHeader/6889007/bug6889007.java fails	PSU
JDK-8310308	21	IR Framework: check for type and size of vector nodes	PSU
JDK-8310551	11	vmTestbase/nsk/jdb/interrupt/interrupt001/interrupt001.java timed out due to missing prompt	PSU
JDK-8310629	21	java/security/cert/CertPathValidator/OCSP/OCSP Timeout.java fails with RuntimeException Server not ready	PSU
JDK-8310631	17, 21	test/jdk/sun/nio/cs/TestCharsetMapping.java is spuriously passing	PSU
JDK-8310807	11, 17, 21	java/nio/channels/DatagramChannel/Connect.java timed out	PSU
JDK-8310838	17	Correct range notations in MethodTypeDesc specification	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8310844	17, 21	[AArch64] C1 compilation fails because monitor offset in OSR buffer is too large for immediate	PSU
JDK-8310919	21	runtime/ErrorHandling/TestAbortVmOnException.java times out due to core dumps taking a long time on OSX	PSU
JDK-8311081	11, 17, 21	KeytoolReaderP12Test.java fail on localized Windows platform	PSU
JDK-8311160	17	[macOS, Accessibility] VoiceOver: No announcements on JRadioButtonMenuItem and JCheckBoxMenuItem	PSU
JDK-8311279	21	TestStressIGVNAandCCP.java failed with different IGVN traces for the same seed	PSU
JDK-8311511	11	Improve description of NativeLibrary JFR event	PSU
JDK-8311581	17, 21	Remove obsolete code and comments in TestLVT.java	PSU
JDK-8311585	11	Add JRadioButtonMenuItem to bug8031573.java	PSU
JDK-8311588	21	C2: RepeatCompilation compiler directive does not choose stress seed randomly	PSU
JDK-8311645	17	Memory leak in jspawnhelper spawnChild after JDK-8307990	PSU
JDK-8311986	17, 21	Disable runtime/os/TestTracePageSizes.java for ShenandoahGC	PSU
JDK-8311992	21	Test java/lang/Thread/virtual/JfrEvents::testVirtualThreadPinned failed	PSU
JDK-8312136	21	Modify runtime/ErrorHandling/TestDwarf.java to split dwarf and decoder testing	PSU
JDK-8312416	21	Tests in Locale should have more descriptive names	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8312428	17, 21	PKCS11 tests fail with NSS 3.91	PSU
JDK-8312434	17	SPECjvm2008/xml.transform with CDS fails with "can't seal package nu.xom"	PSU
JDK-8312916	21	Remove remaining usages of -Xdebug from test/hotspot/jtreg	PSU
JDK-8313081	11, 17	MonitoringSupport_lock should be unconditionally initialized after 8304074	PSU
JDK-8313164	11	src/java.desktop/windows/native/libawt/windows/awt_Robot.cpp GetRGBPixels adjust releasing of resources	PSU
JDK-8313206	17	PKCS11 tests silently skip execution	PSU
JDK-8313229	21	DHEKeySizing.java should be modified to use TLS versions TLSv1, TLSv1.1, TLSv1.2	PSU
JDK-8313252	11	Java_sun_awt_windows_ThemeReader_paintBackground release resources in early returns	PSU
JDK-8313507	21	Remove pkcs11/Cipher/TestKATForGCM.java from ProblemList	PSU
JDK-8313575	17	Refactor PKCS11Test tests	PSU
JDK-8313621	17, 21	test/jdk/jdk/internal/math/FloatingDecimal/TestFloatingDecimal should use RandomFactory	PSU
JDK-8313638	21	Add test for dump of resolved references	PSU
JDK-8313643	11, 17	Update HarfBuzz to 8.2.2	PSU
JDK-8313720	21	C2 SuperWord: wrong result with -XX:+UseVectorCmov -XX:+UseCMoveUnconditionally	PSU
JDK-8313816	11, 17, 21	Accessing jmethodID might lead to spurious crashes	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8313854	21	Some tests in serviceability area fail on localized Windows platform	PSU
JDK-8314144	11	gc/g1/ihop/TestIHOPStatic.java fails due to extra concurrent mark with -Xcomp	PSU
JDK-8314220	17, 21	Configurable InlineCacheBuffer size	PSU
JDK-8314275	22	Incorrect stepping in switch	PSU
JDK-8314283	21	Support for NSS tests on aarch64 platforms	PSU
JDK-8314320	21	Mark runtime/CommandLine/ tests as flagless	PSU
JDK-8314513	21	[IR Framework] Some internal IR Framework tests are failing after JDK-8310308 on PPC and Cascade Lake	PSU
JDK-8314578	21	Non-verifiable code is emitted when two guards declare pattern variables in colon-switch	PSU
JDK-8314610	21	hotspot can't compile with the latest of gtest because of <iomanip>	PSU
JDK-8314612	21	TestUnorderedReduction.java fails with -XX:MaxVectorSize=32 and -XX:+AlignVector	PSU
JDK-8314629	21	Generational ZGC: Clearing All SoftReferences log line lacks GCId	PSU
JDK-8309109	21	AArch64: [TESTBUG] compiler/intrinsics/sha/cli/TestUseSHA3Intrinsics OptionOnSupportedCPU.java fails on Neoverse N2 and V1	PSU
JDK-8314829	21	serviceability/sa/jmap-hprof/JMapHProfLargeHeapTest.java ignores vm flags	PSU
JDK-8314830	17, 21	runtime/ErrorHandler/ tests ignore external VM flags	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8314831	21	NMT tests ignore vm flags	PSU
JDK-8314835	21	gtest wrappers should be marked as flagless	PSU
JDK-8314837	21	5 compiled/codecache tests ignore VM flags	PSU
JDK-8314838	21	3 compiler tests ignore vm flags	PSU
JDK-8314883	11	Java_java_util_prefs_FileSystemPreferences_lockFile0 write result errno in missing case	PSU
JDK-8314990	21	Generational ZGC: Strong OopStorage stats reported as weak roots	PSU
JDK-8315034	11, 17, 21	File.mkdirs() occasionally fails to create folders on Windows shared folder	PSU
JDK-8315097	21	Rename createJavaProcessBuilder	PSU
JDK-8315241	21	(fs) Move toRealPath tests in java/nio/file/Path/Misc.java to separate JUnit 5 test	PSU
JDK-8315406	21	[REDO] serviceability/jdwp/AllModulesCommandTest.java ignores VM flags	PSU
JDK-8315594	11, 17, 21	Open source few headless Swing misc tests	PSU
JDK-8315600	11, 17, 21	Open source few more headless Swing misc tests	PSU
JDK-8315606	11	Open source few swing text/html tests	PSU
JDK-8315611	11, 17, 21	Open source swing text/html and tree test	PSU
JDK-8315680	11, 17, 21	java/lang/ref/ReachabilityFenceTest.java should run with -Xbatch	PSU
JDK-8315721	21	CloseRace.java#id0 fails transiently on libgraal	PSU
JDK-8315761	11, 17, 21	Open source few swing JList and JMenuBar tests	PSU
JDK-8285756	11	clean up use of bad arguments for <code>@clean</code> in langtools tests	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8315920	17	C2: "control input must dominate current control" assert failure	PSU
JDK-8315986	11, 17, 21	[macos14] javax/swing/JMenuItem/4654927/bug4654927.java: component must be showing on the screen to determine its location	PSU
JDK-8315988	21	Parallel: Make TestAggressiveHeap use createTestJvm	PSU
JDK-8316030	11, 17	Update Libpng to 1.6.40	PSU
JDK-8316106	11, 17, 21	Open source few swing JInternalFrame and JMenuBar tests	PSU
JDK-8316132	21	CDSProtectionDomain::get_shared_protection_domain should check for exception	PSU
JDK-8316229	21	Enhance class initialization logging	PSU
JDK-8316304	17	(fs) Add support for BasicFileAttributes.creationTime() for Linux	PSU
JDK-8316309	21	AArch64: VMError::print_native_stack() crashes on Java native method frame	PSU
JDK-8316319	21	Generational ZGC: The SoftMaxHeapSize might be wrong when CDS decreases the MaxHeapSize	PSU
JDK-8316392	17, 21	compiler/interpreter/TestVerifyStackAfterDeopt.java failed with SIGBUS in PcDescContainer::find_pc_desc_internal	PSU
JDK-8316410	21	GC: Make TestCompressedClassFlags use createTestJvm	PSU
JDK-8316414	17	C2: large byte array clone triggers "failed: malformed control flow" assertion failure on linux-x86	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8316415	17	Parallelize sun/security/rsa/SignedObjectChain.java subtests	PSU
JDK-8316418	17	containers/docker/TestMemoryWithCgroupV1.java get OOM killed with Parallel GC	PSU
JDK-8316445	17, 21	Mark com/sun/management/HotSpotDiagnosticMXBean/CheckOrigin.java as vm.flagless	PSU
JDK-8316446	21	4 sun/management/jdp tests ignore VM flags	PSU
JDK-8316447	21	8 sun/management/jmxremote tests ignore VM flags	PSU
JDK-8316462	21	sun/jvmsstat/monitor/MonitoredVm/MonitorVmStartTerminate.java ignores VM flags	PSU
JDK-8316464	21	3 sun/tools tests ignore VM flags	PSU
JDK-8316562	21	serviceability/sa/jmap-hprof/JMapHProfLargeHeapTest.java times out after JDK-8314829	PSU
JDK-8316594	21	C2 SuperWord: wrong result with hand unrolled loops	PSU
JDK-8316661	21	CompilerThread leaks CodeBlob memory when dynamically stopping compiler thread in non-product	PSU
JDK-8316679	17	C2 SuperWord: wrong result, load should not be moved before store if not comparable	PSU

OpenJFX Fixes and Enhancements

The following table describes the JavaFX changes implemented in this release.

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8318614	8, 11, 17, 21, 22	Update WebKit to 617.1	CPU,PSU
JDK-8324337	8, 11, 17, 21, 22	Cherry-pick WebKit 617.1 stabilization fixes	CPU,PSU
JDK-8325258	8, 11, 17, 21, 22	Additional WebKit 617.1 fixes from WebKitGTK 2.42.5	CPU,PSU
JDK-8314147	17, 21, 22	Updated the PhongMaterial documentation	PSU
JDK-8320260	8	WebView: Update Public Suffix List to b5bf572	PSU
JDK-8318624	17, 21, 22	API docs specify incorrect default value for nodeOrientation property	PSU
JDK-8087368	17, 21	java runtime environment error when trying to execute showAndWait() function	PSU
JDK-8087700	17, 21	[KeyCombination, Mac] KeyCharacterCombinations behave erratically	PSU
JDK-8159048	17, 21	Animation and AnimationTimer methods must be called on JavaFX Application thread	PSU
JDK-8185831	17, 21	Pseudo selectors do not appear to work in Node.lookupAll()	PSU
JDK-8187314	17, 21	All Cells: must show backing data always	PSU
JDK-8189282	17, 21	JavaFX: Invalid position of candidate pop-up of InputMethod in Hi-DPI on Windows	PSU
JDK-8199216	17, 21	Quadratic layout time with nested nodes and pseudo-class in style sheet	PSU
JDK-8205067	17, 21	Resizing window with TextField hides text value	PSU
JDK-8221261	8, 11, 17, 21	Deadlock on macOS in JFXPanel app when handling IME calls	PSU
JDK-8222209	17, 21	JavaFX is rendered blurry on systems with monitors in different configuration	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8248914	17, 21	Javafx TextField positions the cursor incorrectly after pressing DEL key	PSU
JDK-8254126	17, 21	the position of Chinese Input Method candidates window is wrong	PSU
JDK-8255079	17, 21	RobotTest::testPixelCaptureAverage fails intermittently on Windows with HiDPI scaling	PSU
JDK-8255835	17, 21	[macOS] Undecorated stage cannot be maximized	PSU
JDK-8260342	17, 21	FXMLLoader fails to load a sub layout using fx:include with the resources attribute	PSU
JDK-8262518	17, 21	SwingNode.setContent does not close previous content, resulting in memory leak	PSU
JDK-8269921	17, 21	TextFlow: listeners on bounds can throw NPE while computing text bounds	PSU
JDK-8323880	8, 17, 21, 22	Caret rendered at wrong position in case of a click event on RTL text	PSU
JDK-8274932	17, 21	Render scales in EmbeddedWindow are not properly updated	PSU
JDK-8274967	17, 21	KeyCharacterCombinations for punctuation and symbols fail on non-US keyboards	PSU
JDK-8282290	17, 21	TextField Cursor Position one off	PSU
JDK-8283401	17, 21	ArrayIndexOutOfBoundsException when disconnecting screen(s)	PSU
JDK-8283675	17, 21	Line not removed from LineChart when series cleared	PSU
JDK-8284445	17, 21	macOS 12 prints a warning when a function key shortcut is assigned to a menu	PSU
JDK-8285700	17, 21	[TreeTableView] graphic property of TreeItem is still visible after collapsing tree	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8298500	17, 21	Create test to initially show stage with various attributes (iconified, maximized, full screen)	PSU
JDK-8301219	17, 21	JavaFX crash when closing with the escape key	PSU
JDK-8301302	17, 21	Platform preferences API	PSU
JDK-8301893	17, 21	IME window position is off on secondary screen	PSU
JDK-8303478	17, 21	DatePicker throws uncatchable exception on tab out from garbled text	PSU
JDK-8303826	17, 21	Add FX test for JDK-8252255	PSU
JDK-8305675	17, 21	[macos] Stage set to iconified before being shown is displayed on screen	PSU
JDK-8305709	17, 21	[testbug] Tree/TableViewResizeColumnToFitContentTest fails with fractional screen scale	PSU
JDK-8306083	17, 21	Text.hitTest is incorrect when more than one Text node in TextFlow	PSU
JDK-8307176	17, 21	Monkey Tester Application Part 2	PSU
JDK-8307316	17, 21	Let JavaFX be built on unknown architectures	PSU
JDK-8308608	17, 21	[testbug] Use Util::waitForIdle instead of Toolkit::firePulse in system tests	PSU
JDK-8309558	17, 21	Create implementation of NSAccessibilityCheckBox protocol	PSU
JDK-8309629	17, 21	Create implementation of NSAccessibilityRadioButton protocol	PSU
JDK-8324233	17, 21, 22	Update JPEG Image Decoding Software to 9f	PSU
JDK-8310666	17, 21	gradle validateSourceSets task not run when TEST_ONLY=true	PSU
JDK-8310847	17, 21	[Mac] Silence OpenGL deprecation warnings	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8310885	17, 21	Width/height of window is not set after calling <code>sizeToScene</code>	PSU
JDK-8311216	17, 21	DataURI can lose information in some charset environments	PSU
JDK-8311806	17, 21	Class <code>ButtonAccessibility</code> is implemented twice	PSU
JDK-8311983	17, 21	<code>ListView</code> sometimes throws an <code>IndexOutOfBoundsException</code>	PSU
JDK-8312058	17, 21	Documentation improvements for subscription based listeners	PSU
JDK-8312528	17, 21	Move Subscription interface from <code>javafx.beans</code> to <code>javafx.util</code>	PSU
JDK-8313227	17, 21	Correct attenuation indicator for removed lights	PSU
JDK-8313628	17, 21	Column drag header, overlay and line are not correctly aligned	PSU
JDK-8313651	17, 21	Add 'final' keyword to public property methods in controls	PSU
JDK-8313799	17, 21	Remove <code>lockItemOnEdit</code> flag from <code>(Tree)TableCell</code>	PSU
JDK-8313956	17, 21	<code>focusWithin</code> on parents of a newly-added focused node is not updated	PSU
JDK-8314064	17, 21	Enable building JavaFX on native Windows AArch64 (ARM64)	PSU
JDK-8314141	17, 21	Missing default for switch in <code>CreateBitmap</code>	PSU
JDK-8314149	17, 21	Clipboard does inexact string comparison on mime type	PSU
JDK-8314266	17, 21	Several test failures after fix for <code>JDK-8159048</code>	PSU
JDK-8314589	17, 21	javadoc build only shows the first 100 warnings and errors	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8314597	17, 21	Deprecate for removal protected access methods in converters	PSU
JDK-8314779	17, 21	[testbug] Add test to all the XYCharts to check if chart components are removed when series is cleared	PSU
JDK-8314906	17, 21	[testbug] Create behavior tests for text input controls	PSU
JDK-8315317	17, 21	Add test for JDK-8262518	PSU
JDK-8315569	17, 21	Tests for the contract of SkinBase.layoutChildren(..)	PSU
JDK-8315728	17, 21	[testbug] SystemMenuBarTest prints "FAILED IS: false"	PSU
JDK-8316419	17, 21	[macos] Setting X/Y makes Stage maximization not work before show	PSU
JDK-8316423	17, 21	[linux] Secondary Stage does not respect Scene's dimensions when shown	PSU
JDK-8316518	17, 21	javafx.print.Paper getWidth / getHeight rounds values, causing errors.	PSU
JDK-8316590	17, 21	Rendering artifact after JDK-8311983	PSU
JDK-8316781	17, 21	Legal, Monarch paper sizes are incorrect in javafx.print.Paper	PSU
JDK-8316892	17, 21	Skip failing IconifyTestcanIconifyDecoratedStage on Linux	PSU
JDK-8317308	17, 21	JavaFX Developer build broken on Windows - NativeLibrary file contains invalid character ':'	PSU
JDK-8317836	17, 21	FX nodes embedded in JFXPanel need to track component orientation	PSU
JDK-8318059	17, 21	Typo is javafx.scene.Node.usesMirroring comment	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8318204	17, 21	Use new EventTarget methods in ListenerHelper	PSU
JDK-8318388	8, 17, 21	Update libxslt to 1.1.39	PSU
JDK-8318630	17, 21	TextAreaBehaviorRobotTest.testNonMacBindings fails on Linux	PSU
JDK-8318841	17, 21	macOS: Memory leak with MenuItem when Menu.useSystemMenuBar(true) is used	PSU
JDK-8319147	17, 21	Add regression test for JDK-8317836	PSU
JDK-8319341	17, 21	[Linux] Remove operation to show or hide children because it is unnecessary	PSU
JDK-8320359	17, 21	ImageView: add styleable fitWidth, fitHeight, preserveRatio, smooth properties	PSU
JDK-8320444	17, 21	Column drag header is positioned wrong for nested columns	PSU
JDK-8320773	17, 21	[macOS] All IME input blocked	PSU
JDK-8321434	17, 21	Update Gradle to 8.5	PSU
JDK-8321435	17, 21	Update boot JDK to 21.0.1	PSU
JDK-8321573	17, 21	Improve Platform.Preferences documentation	PSU
JDK-8321626	17, 21	[testbug] Mark DualWindowTest and ContextMenuNPETest unstable on Linux	PSU
JDK-8321636	17, 21	[testbug] Skip failing 3D lighting tests on macOS 14 / aarch64	PSU
JDK-8321638	17, 21	Update to SWT 4.30	PSU
JDK-8321722	11, 17, 21	Tab header flickering when dragging slowly other tabs and reordering uncompleted	PSU
JDK-8321902	17, 21	Robot-based Behavior tests must be under test.robot hierarchy	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8321970	17, 21	New table columns don't appear when using fixed cell size unless refreshing tableView	PSU
JDK-8322703	8, 11, 17, 21, 22	Intermittent crash in WebView in a JFXPanel from IME calls on macOS	PSU
JDK-8322795	17, 21	CSS performance regression up to 10x	PSU
JDK-8323077	17, 21	C type error (incompatible function pointer) in X11GLContext.c	PSU
JDK-8323078	17, 21	Incorrect length argument to g_utf8_strlen in pango.c	PSU
JDK-8323543	17, 21	NPE when table items are set to null	PSU
JDK-8324658	17, 21	Allow animation play/start/stop/pause methods to be called on any thread	PSU
JDK-8324879	17, 21	Platform-specific preferences keys are incorrect for Windows toolkit	PSU
JDK-8325154	17, 21, 22	resizeColumnToFitContent is slower than it needs to be	PSU
JDK-8282386	11	JavaFX media stubs rely on libav.org	PSU
JDK-8325550	17, 21, 22	Grammatical error in AnchorPane.setLeftAnchor (and other setters) javadoc	PSU
JDK-8326989	8, 11, 17, 21, 22	Text selection issues on WebView after WebKit 617.1	PSU
JDK-8327177	11, 17, 21, 22	macOS: wrong GlobalRef deleted in GlassMenu	PSU
JDK-8322215	17, 21	[win] OS events that close the stage can cause Glass to reference freed memory	PSU
JDK-8323879	8, 17, 21, 22	constructor Path(Path) which takes another Path object fail to draw on canvas html	PSU
JDK-8265469	8	Allow to build media and webkit for Linux-AArch64	PSU

OpenJDK Patch ID	Azul Zulu Version	Synopsis	CPU/PSU
JDK-8309374	8	Accessibility Focus Rectangle on ListItem is not drawn when ListView is shown for first time	PSU
JDK-8311492	8, 17, 21, 22	FontSmoothingType LCD produces wrong color when transparency is used	PSU

Fixes and Enhancements Specific to Azul Zulu Builds of OpenJDK

The following table describes the Azul Zulu changes implemented in this release.

Issue ID	Azul Zulu Version	Synopsis	CPU/PSU
ZULU-56533	6	Do selective changes re: transfer of LT and LV currencies to EUR	CPU,PSU
ZULU-56542	6, 7, 8, 11, 17, 21, 22	Fix TPL	CPU,PSU
ZULU-57791	6, 7, 8	update external FreeType to 2.13.2	CPU,PSU
ZULU-59478	17	[Regression] 39 tests fail because of JVM crash on Ubuntu in Zulu 17.49+12 CPU intermediate build	CPU,PSU
ZULU-59482	17	some of JCK17 vm and lang tests completed with error status against Zulu 17.49+12	CPU,PSU
19405	6	zulu6 aborted with SIGSEGV on sles12-sp4 when gets LocalGraphicsEnvironment	CPU,PSU
ZULU-33491	8	jinfo tool fails with java.lang.InternalError: Metadata does not appear to be polymorphic for SA build of 8 Linux-Arm32/64	PSU
ZULU-39745	21	Support custom security providers	PSU

Issue ID	Azul Zulu Version	Synopsis	CPU/PSU
ZULU-48356	17	Failure in com/sun/management/DiagnosticCommandMBean/DcmdMBeanPermissionsTest.java - SecurityException: ("java.lang.RuntimePermission" "getClassLoader")	PSU
ZULU-53738	17	Fix backport of ZULU-52102 into Zulu 21	PSU
ZULU-54094		MSI: set icon in add/remove programs	PSU
ZULU-55352	17, 21	CRaC tests cannot run in parallel	PSU
ZULU-55363	17	Backport test fixes from upstream	PSU
ZULU-55558		CRaC does not have meaningful process name after restore	PSU
ZULU-55846	17, 21, 22	CRaC: JVM log prevents checkpoint	PSU
ZULU-56030	8, 11, 17, 21	CRS: fastdebug build assertion error	PSU
ZULU-56417		JFX: add linux-aarch64 build configuration	PSU
ZULU-56435	21	Improve Zulu / CRaC CI	PSU
ZULU-56440	17, 21	Fix Gitlab CI in zulu21-crac	PSU
ZULU-56451	17, 21	[CRaC] 2 tests fail on Windows with timeout on build zulu-21.32.13-dev-20231227190516-CRaC	PSU
ZULU-56460		zulu8 linux aarch64 gov doesn't have 'fips' in product.dependencies.json	PSU
ZULU-56475	17, 21	Checkpoint call may sometimes hang	PSU
ZULU-56573	8	QNX7.0 aarch32/libfontmanager.so: Library cannot be found (libfreetype.so.25 unable to load)	PSU
ZULU-56726	17, 21	Support enabling JMX when it was not up before checkpoint	PSU
ZULU-56729	11, 17	Add BCFIPS version in TPL	PSU
ZULU-57058	8	get_source.sh doesn't init submodules	PSU

Issue ID	Azul Zulu Version	Synopsis	CPU/PSU
ZULU-57068	17, 21, 22	[CRaC] jdk/crac/recursiveCheckpoint/Test.java test fails on macosx in all 2024-Winter-CRaC-mac-win builds	PSU
ZULU-57166	8	Implement CompilerCommand,excludefullopt	PSU
ZULU-57177	8, 11, 17	Change to Xcode 12.3 for building on macOS	PSU
ZULU-58711	8	QNX71 asynchronous socket failure	PSU
ZULU-58789	21	[CRaC] jdk/crac/CracVersionTest.java test fails because of the compilation error in build 21.34+12	PSU
ZULU-59007	17, 21	Update CRaC from OpenJDK	PSU
ZULU-59204	22	runtime/Unsafe/InternalErrorTest.java test fails on alpine-aarch64 in build 22.28+90-GA-cpe-jdk-64-sa	PSU
ZULU-59230	11	fastdebug build fails on solaris	PSU
ZULU-59242	17, 21, 22	Print RESTORE_SETTABLE marker	PSU
ZULU-59317		build-rpm.sh fails for crac	PSU
ZULU-59414	17	jdk/crac/jdwp/JdwpTransportTest.java fails	PSU
ZULU-59423		CRaC DEB & RPM installer names: features in names are not in BOM order	PSU
ZULU-59425	17, 21, 22	jdk/internal/jrtfs/Basic.java test fails on all platforms in builds 22.28+92-GA and 22.28+91-GA with CRaC	PSU
ZULU-59438	8, 11, 17, 21	CRS supporting JVM requirements for April 2024 release	PSU
ZULU-59585	8	mips32sf JCK runtime-ui api/java_awt/Color Invalid profile data	PSU

Fixes and Enhancements Specific to Azul Zulu Builds of OpenJDK With JavaFX

The following table describes the Azul Zulu changes implemented in this release.

Issue ID	Azul Zulu Version	Synopsis	CPU/PSU
ZULU-38524	8, 11, 17, 21, 22	[FX][WEBKIT] unit test javafx.scene.web.MiscellaneousTest.testFontFace fail on win32	CPU,PSU
ZULU-38525	8, 11, 17, 21, 22	[jfx][webkit] test avafx.scene.web.FileReaderTest hang on win32	CPU,PSU
ZULU-55581	8, 11, 17, 21	win32: glib build is broken after JDK-8318386	CPU,PSU
ZULU-56532	8, 11, 17, 21, 22	tests for testRT18097 fail with bundled jfx	CPU,PSU
ZULU-57795	11	control tests are broken after JDK-8311127	CPU,PSU
ZULU-58163	17, 21, 22	VersionInfoTest fails with bundled jfx	CPU,PSU
ZULU-58936	8	linux: glib build is broken after JDK-8318386	CPU,PSU
ZULU-55389	8	jfx8: typo in Mesa 3-D Graphics Library version	PSU
ZULU-56899	17, 21	jfx version for 22 GA	PSU

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