



Zulu Community Release Notes

Zulu Release: 14.29 (14.0.2), 13.33 (13.0.4), 13.32 (13.0.3.0.101), 11.41 (11.0.8), 11.40 (11.0.7.0.101), 8.48 (8u262, 8u265), 8.47 (8u261), 7.40 (7u272), and 7.39 (7u271).

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Revision History

Revision	Date	Description
1.0	July 14, 2020	Initial document version
1.1	July 17, 2020	Updated sections: Release Details, CVE Fixes, OpenJDK Bug Fixes
1.2	July 22, 2020	Zulu 8.48 (8u262 b19) Release
1.3	July 23, 2020	Updated sections: Zulu Bug Fixes
1.4	July 31, 2020	Zulu 8.48 (8u265 b11) Release
1.5	August 5, 2020	Updated the title page and links in What's New, Zulu 8.48 (8u265 b11) Release, Zulu 8.48 (8u262 b19) Release, and Tested and Validated Platforms sections.

Revision History	2
Azul Zulu Overview	5
What's New	6
Target Operating Environments	10
Tested and Validated Platforms	11
System Requirements	13
Zulu Supported Platforms	14
Deployment Architectures, JDK Versions, and Hardware	15
Deployment Architecture	15
JDK Versions	15
Hardware	15
Running Zulu	16
Deployment Targets	16
Performance and Standards	16
Zulu Commercial Compatibility Kit	16
Troubleshooting Tips	17
Preparation Tips	17
VM Property Override	17
JRE-only Tips	17
Tomcat Advisory	17
Cassandra Issue	17
Time Zone Data Update	17
Azul Repository Tips	18
Creating a Symlink to the jvm-exports Directory	18

Running Java Flight Recording in Zulu 8	18
CKR_SAVED_STATE_INVALID exception on Solaris 10	18
Open Product Issues	19
Support Information	20
Release Details	21
Zulu 8.48 (8u265 b11) Release	21
Zulu 8.48 (8u262 b19) Release	22
Zulu 14.29 (14.0.2+12), 13.33 (13.0.4+8), 13.32 (13.0.3.0.101+5), 11.41 (11.0.8+10), 11.40 (11.0.7.0.101+5), 8.48 (8u262 b19), 8.47 (8u261 b09), 7.40 (7u272 b10), 7.39 (7u271 b07) Release	23
Common Vulnerabilities and Exposures Fixes	25
In-Depth Non-CVE Security Fixes	27
Zulu Bug Fixes	29
Other OpenJDK Bug Fixes	30
Other OpenJFX Bug Fixes	93

Azul Zulu Overview

Azul® Zulu® is a Java Development Kit (JDK), and a compliant implementation of the Java Standard Edition (SE) specification that contains all the Java components needed to build and run Java SE applications. Zulu has been verified by passing all tests of the OpenJDK Community Technology Compatibility Kit (TCK) as available for each respective Java SE version.

Java SE Certified is a certification mark of the Java Community Project.

What's New

July 31, 2020

PSU Releases

Zulu 8.48 (8u265 b11) release is based on Zulu 8.48 (8u262 b19) and incorporates changes associated with OpenJDK 8u265 release.

Please note, that Zulu 8.48 (8u262 b19) already contains a fix that eliminates regression in ForkJoinPool behavior [JDK-8249677](#) (Regression in 8u after [JDK-8237117](#): Better ForkJoinPool behavior).

July 22, 2020

PSU Releases

Zulu 8.48 (8u262 b19) is based on Zulu 8.48 (8u262 b18) and incorporates a fix for a regression in a ForkJoinPool behavior introduced by the upstream OpenJDK 8u262 in all OpenJDK 8u262 distributions, including Zulu 8.48.0.50 and 8.48.0.49. The regression could lead to potential issues with the Hadoop clusters and other pooled IO workers.

July 14, 2020

CPU Releases

Security-only updates that bring the associated Zulu releases to July 2020 CPU security update level.

CPU releases are available in SA and NV distributions.

Note: 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.

Zulu 13.32 (13.0.3.0.101+5) is based on Zulu 13.31 (13.0.3+3) with only security fixes applied.

Zulu 11.40 (11.0.7.0.101+5) is based on Zulu 11.39 (11.0.7+10) with only security fixes applied.

Zulu 8.47 (8u261 b09) is based on Zulu 8.46 (8u252 b14) with only security fixes applied.

Zulu 7.39 (7u271 b07) is based on Zulu 7.38 (7u262 b10) with only security fixes applied.

Zulu 13.32 (13.0.3.0.101+5) with JavaFX 13 API is based on Zulu 13.31 (13.0.3+3) and JavaFX 13 with only security fixes applied.

Zulu 11.40 (11.0.7.0.101+5) with JavaFX 11 API is based on Zulu 11.39 (11.0.7+10) and JavaFX 11 with only security fixes applied.

Zulu 8.47 (8u261 b09) with JavaFX 8 API is based on Zulu 8.46 (8u252 b14) and JavaFX 8 with only security fixes applied.

PSU Releases

PSU releases are generally scheduled, quarterly Patch Set Update releases that incorporate both security fixes and other accumulated changes that align the release contents with the associated OpenJDK project July 2020 quarterly release.

PSU releases are available in SA, NV, and CA distributions.

Zulu 14.29 (14.0.2+12) is based on Zulu 14.28 (14.0.1+8) and incorporates additional non-security changes associated with the July 2020 OpenJDK 14.0.2 release contents.

Zulu 13.33 (13.0.4+8) is based on Zulu 13.32 (13.0.3.0.101+5) and incorporates additional non-security changes associated with the July 2020 OpenJDK 13.0.4 release contents.

Zulu 11.41 (11.0.8+10) is based on Zulu 11.40 (11.0.7.0.101+5) and incorporates additional non-security changes associated with the July 2020 OpenJDK 11.0.8 release contents.

Zulu 8.48 (8u262 b18) is based on Zulu 8.47 (8u261 b09) and incorporates additional non-security changes associated with the July 2020 OpenJDK 8u262 release contents.

Zulu 7.40 (7u272 b10) is based on Zulu 7.39 (7u271 b07) and incorporates Zulu with additional non-security changes associated with the July 2020 OpenJDK 7u272 release contents.

ZuluFX 14.29.21 (14.0.2+12) is based on Zulu 14.28 (14.0.1+8) and incorporates Zulu with additional non-security changes and JavaFX 14 (14.0.2+100).

ZuluFX 13.33.23 (13.0.4+8) is based on Zulu 13.32 (13.0.3.0.101+5) and incorporates Zulu with additional non-security changes and JavaFX 14 (14.0.2+100).

ZuluFX 11.41.21 (11.0.8+10) is based on Zulu 11.40 (11.0.7.0.101+5) and incorporates Zulu with additional non-security changes and JavaFX 14 (14.0.2+100).

ZuluFX 8.48 (8u262 b18) is based on Zulu 8.47 (8u261 b09) with JavaFX 8 API and incorporates additional non-security changes for Zulu and JavaFX 8.

New IANA time zone data version

This release of Zulu comes with IANA time zone data version 2020a. For more information, see [Timezone Data Versions in the JRE Software](#).

Zulu 8.48 full TLSv1.3 support

Starting with Zulu 8.48, Zulu 8 supports TLSv1.3 by default and follows the API changes introduced by Maintenance Release 3 to the Java SE 8 specification. For more details, refer to JDK-8248721: [Backport TLSv1.3 protocol implementation](#).

TLSv1.3 support is now included in the default (SunJSSE) JSSE provider in Zulu 8. In addition to the default JSSE provider, Zulu 8 releases also include a non-default Legacy8uJSSE provider containing the prior, 8u252 JSSE provider implementation (with no TLSv1.3 support) as a fallback measure, as well as the non-default OpenJSSE provider previously included in Zulu packages for non-default support for TLSv1.3.

Zulu 8 currently supports the following bundled modes for JSSE:

Default mode: SunJSSE provider, including SSLv3.0, TLSv1, TLSv1.1, TLSv1.2, and TLSv1.3 protocols support. This mode is enabled by default.

By default, TLSv1.3 is disabled on the client side. You can enable it via the existing **Note:** `SSLContext/SSLEngine/SSLParameters/SSLContext` API, `jdk.tls.client.protocols` or `https.protocols` properties.

Fallback mode: using the bundled Legacy8uJSSE provider, which includes the prior, 8u252 JSSE provider implementation (with no TLSv1.3 support). This mode may be useful if any application issues are introduced by the new TLS 1.3 support in the default JSSE provider. To enable the fallback mode, set the `-XX:+UseLegacy8uJSSE` flag in the Java options.

OpenJSSE mode: using the OpenJSSE provider, which includes a TLSv1.3 protocol implementation. This mode has been included in Zulu 8 since Zulu 8.40. and may be useful for prior users of the OpenJSSE provider that wish to keep using it in place of the new default SunJSSE provider (even tho the new default provider now includes all functionality previously covered by the OpenJSSE provider). For example, applications that chose to use `org.openjsse` APIs directly may want to keep using the OpenJSSE mode. To enable the OpenJSSE mode, set the `-XX:+UseOpenJSSE` flag in the Java options.

Layered Zulu Packages

Starting with July 2020 release, Zulu installers for the Linux systems are provided via the new layered-type repositories. Now you can install Zulu with desired functionality (for example: `zulu8-jdk`, `zulu8-jre`, or `zulu8-jre-headless`). Please see the Installation Guide for the details.

Switching to the latest OpenJFX release for Zulu 14, 13, and 11

Starting with July 2020 release, we use the latest version of OpenJFX for ZuluFX 11 and later. So in this release, ZuluFX 14.29, ZuluFX 13.33, and ZuluFX 11.41 include OpenJFX 14.0.2 + 100.

New Format of Release Notes

Starting from July 2020, Release Notes contain information only about the current release. Details about the previous quarterly updates are available in separate documents: April 2020, January 2020, and one consolidated volume for all previous releases.

Target Operating Environments

In order to remain current, each Zulu release targets reasonably current Microsoft® Windows®, Linux, and Apple® macOS® operating environments.

Most of the Zulu JDK is "pure" OpenJDK native binary with direct dependence on the underlying operating system. The chief dependence is on the native OS runtime and processor family architecture. Java API class library portions and sample applications are common to all operating environments. You must select the Zulu architecture to match your OS architecture, download either the zip or install package for that platform, and run the Zulu installer package or unpack the zip file.

In general, Zulu 14.x provides a Java Standard Edition 14 package, Zulu 13.x provides a Java Standard Edition 13 package, Zulu 12.x provides a Java Standard Edition 12 package, Zulu 11.x provides a Java Standard Edition 11 package, Zulu 8.x provides a Java Standard Edition 8 package, Zulu 7.x provides a Java Standard Edition 7 package, and Zulu 6.x provides a Java Standard Edition 6 package, each with associated Java source compiler, runtime JVM, API classfile hierarchy, and JDK tools. Zulu as a whole is targeted as a self-contained complete package suitable for deployment into modern, production-grade server OS environments, many popular desktop OS configurations, and virtualized OS contexts running under hypervisors provisioned on premise or in the cloud. Functionality meets the corresponding OpenJDK version and update level for the respective Java Standard Edition.

There are many different implementations of kernel, core OS, and patches atop a variety of Windows, Linux, and macOS operating system distributions. Azul focuses testing on a handful of popular combinations of operating systems and deployment contexts; these are our reference platforms. Zulu undoubtedly runs fine in many operating environments beyond the reference platforms Azul tests as long as Zulu architecture matches OS architecture. However, since we do not systematically test them, we cannot vouch for them. Problems encountered when running Zulu on a non-reference platform might not be immediately rejected, though those recreated on a reference platform will be given higher priority than problems with running Zulu outside reference platforms. Note: Application Guard contexts through paid support are considered equal in priority to reference platforms.

Tested and Validated Platforms

Zulu is tested and validated on the following reference platforms (this list is updated over the course of the release cycle):

Note: Select Zulu 8 community distributions support JavaFX on all tested and verified platforms except Oracle Solaris Operating Systems.

The following platforms are to be retired due to their EOL:

Note:

- Windows Client 7 (January 2021)
- Windows Server 2008 R2 (January 2021)

- **Windows Operating Systems**

- Windows Server versions: 2019, 2016, and 2012 R2
- Windows Client versions: 10, 8.1, and 7 (to be retired in January 2021)
- Hardware: x86 64-bit and 32-bit
- Zulu architecture: Java SE 14 64-bit and 32-bit, Java SE 13 64-bit and 32-bit, Java SE 11 64-bit and 32-bit, Java SE 8 64-bit and 32-bit, Java SE 7 64-bit and 32-bit, and Java SE 6 64-bit and 32-bit

- **Red Hat Enterprise Linux Operating Systems**

- RHEL versions: 8.2, 7.2, 6.6, 5.11
- Hardware: x86 64-bit and 32-bit
- Zulu architecture: Java SE 14 64-bit and 32-bit, Java SE 13 64-bit and 32-bit, Java SE 11 64-bit and 32-bit, Java SE 8 64-bit and 32-bit, Java SE 7 64-bit and 32-bit, and Java SE 6 64-bit and 32-bit

- **SUSE Linux Enterprise Server Operating Systems**

- SLES versions: 15 and 12 SP4
- Hardware: x86 64-bit and 32-bit
- Zulu architecture: Java SE 14 64-bit and 32-bit, Java SE 13 64-bit and 32-bit, Java SE 11 64-bit and 32-bit, Java SE 8 64-bit and 32-bit, Java SE 7 64-bit and 32-bit, and Java SE 6 64-bit and 32-bit

- **Ubuntu Long Term Support Operating Systems**

- Ubuntu LTS versions: 20.04 and 18.04
- Hardware: x86 64-bit and 32-bit
- Zulu architecture: Java SE 14 64-bit and 32-bit, Java SE 13 64-bit and 32-bit, Java SE 11 64-bit and 32-bit, Java SE 8 64-bit and 32-bit, Java SE 7 64-bit and 32-bit, Java SE 6 64-bit and 32-bit

- **Debian Operating Systems**

- Debian versions: 10.x and 9.x
- Hardware: x86 64-bit and 32-bit
- Zulu architecture: Java SE 14 64-bit and 32-bit, Java SE 13 64-bit and 32-bit, Java SE 11 64-bit and 32-bit, Java SE 8 64-bit and 32-bit, Java SE 7 64-bit and 32-bit

- **Alpine Linux Operating Systems**

- Alpine Linux versions: 3.5 and later
- Hardware: x86 64-bit
- Zulu architecture: Java SE 14 64-bit, Java SE 13 64-bit, Java SE 11 64-bit, and Java SE 8 64-bit

- **Apple macOS Operating Systems**

- macOS versions: 10.15 (Catalina) and 10.14 (Mojave)
- Hardware: x86 64-bit
- Zulu architecture: Java SE 14 64-bit, Java SE 13 64-bit, Java SE 11 64-bit, Java SE 8 64-bit, and Java SE 7 64-bit

- **Solaris Operating Systems**

- Solaris versions: 11, 10
- Hardware: x86 64-bit and 32-bit, SPARC v9
- Zulu architecture: Java SE 11 64-bit (Solaris 11.3 and later), Java SE 8 64-bit, Java SE 7 64-bit and 32-bit, and Java SE 6 64-bit and 32-bit.

System Requirements

Zulu is a full Java SE Development Kit, consisting of a Java language source compiler (javac), Java Class Libraries, a Java Virtual Machine (HotSpot) and a Java runtime (JRE) with Java monitoring tools. Zulu can run Java SE applications in a headless server mode or headful graphical mode. Zulu runs on Windows Server, Windows Client, on Linux server variants, and on macOS, in each of bare OS, virtualized, and cloud deployment topologies.

Zulu Supported Platforms

Zulu is tested and validated on the following reference platforms (this list is updated over the course of the release cycle):

- **Linux:**
 - RHEL 8, 7, 6
 - CentOS 8, 7, 6
 - Oracle Linux 7 and 6
 - SLES 15, 12, SLES 11
 - Ubuntu 18.04 LTS, 16.04 LTS
 - Debian 9.0, 8.0
 - Amazon Linux AMI
 - Container Linux by CoreOS
 - Fedora
- **Windows Server:** 2019, 2016, 2012, and 2008 R2
- **Windows Client:** 10, 8, and 7
- **macOS:** 10.15 (Catalina), 10.14 (Mojave)
- **Solaris:** 10 and 11

Minimum platform versions: Linux with glibc 2.5, Windows Server 2008 R2, Windows Client 7, or Mac OS X 10.10 Yosemite, Solaris 10.

The following platforms are to be retired due to their EOL:

- Note:**
- Windows Client 7 (January 2021)
 - Windows Server 2008 R2 (January 2021)
-

Deployment Architectures, JDK Versions, and Hardware

Zulu works with the deployment architectures, JDK versions, and hardware listed below.

Deployment Architecture

- **Bare OS:** server, desktop, and laptop
- **Hypervisors:** Docker, VMware, Hyper-V, KVM
- **Cloud:** Microsoft Azure (VM and VHD) and Azure Stack, Amazon AWS (EC2 and S3), Rackspace, Google Cloud Platform

JDK Versions

- Java SE 14: Linux, Windows, and macOS installations
- Java SE 13: Linux, Windows, and macOS installations
- Java SE 12: Linux, Windows, and macOS installations
- Java SE 11: Linux, Windows, and macOS installations
- Java SE 10: Linux, Windows, and macOS installations
- Java SE 9: Linux, Windows, and macOS installations
- Java SE 8: Linux, Windows, macOS, and Solaris installations
- Java SE 7: Linux, Windows, macOS, and Solaris installations

Hardware

- Intel and AMD x86-64 and x86-32
- Arm 64-bit v8
- SPARC v9

Running Zulu

Deployment Targets

Zulu offers a stable JDK development kit, and runtime JVM runtime for server applications authored in Java. For production environments, Zulu works in bare OS, virtualized OS, or cloud hosted contexts. Zulu implements the Java SE standard, so can be used in any application architecture that likewise adheres to Java SE standards. Zulu does not implement the Java Enterprise Edition (JEE) specification; however Zulu can be used as runtime core for containers and services that do implement JEE functionality. Zulu also does not implement Java Platform, Micro Edition (Java ME) and it does not have a browser plugin or Java Network Launching Protocol (JNLP).

In development or testing environments, Zulu supplies base tools for debugging and runtime inspection, as well as the Java source code compiler (javac). Configure Zulu to host your target under test to further ensure consistency with your production deployments.

Cloud deployments in both Azure (VM and VHD) and Amazon (EC2 or S3) involve installing Zulu onto hosted virtual machine instances. Once you create a virtual machine instance, you can clone the VM and reuse Zulu in each instance. In Azure, Zulu systems appear in the Azure portal as Gallery items, able to instantiate new virtual machines with Zulu preinstalled. Zulu also is an installable component within the Azure Web Platform Installer (WebPI) configuration tool. Further, Zulu is a selectable deployment target when using an Eclipse workbench that has the Azure SDK plugin installed. See the [Zulu Installation Guide](#) for more cloud deployment details.

Performance and Standards

JVM runtime performance varies with workload and set of enabled flags, but in general should match OpenJDK and remain comparable to other OpenJDK derived JVMs. Other vendor specific optimizations, extensions, or responses based on non-standard X or XX variables have no guarantee of working inside Zulu unless they already also work in base OpenJDK.

Zulu Commercial Compatibility Kit

The Zulu Commercial Compatibility Kit (Zulu CCK) provides non-open source enhancements to Zulu 8, Zulu 7, Zulu 6. It includes its own licensing. Zulu CCK features include support for Monotype fonts, Rhino JavaScript Engine (for Java 7). See the [Zulu Installation Guide](#) for more Zulu CCK details. You can [download the CCK here](#).

Troubleshooting Tips

The Azul Community site contains a running list of recent tips. The following is a brief list of common trouble points:

Preparation Tips

Ensure your `PATH` and `JAVA_HOME` variables are set accurately in the shell or context of your runtime application. Crosstalk with other installed JVMs leads to aberrant, often random unwanted behaviors.

Ensure you have the proper Zulu architecture for your OS and kernel. Using incorrect processor type or bitness may fail to operate at all.

VM Property Override

Some applications may expect particular VM property string values, such as `vendor`, set to values different from OpenJDK defaults. Zulu provides the `XX:+OverrideVMProperties` argument to allow new property values. Use `-XX:+OverrideVMProperties` with a `-D` option for the property to be overridden. For example:

```
-XX:+OverrideVMProperties -Djava.vm.vendor="CompanyName"
```

JRE-only Tips

Zulu builds are generally visible to monitoring tools by default. In JRE-only Zulu builds, Java may be invisible to monitoring tools. This is due to the `-XX:-UsePerfData` flag default setting to off for JRE-only builds.

To resolve this issue, run the target JRE with `-XX:+UsePerfData`. This enables monitoring tools to see the Java instance.

Tomcat Advisory

To avoid unexpected failures of Zulu 8, it is recommended to upgrade your Tomcat 6 to the version 6.0.37 or higher, and Tomcat 7 to the version 7.0.34 or higher.

Cassandra Issue

Cassandra 3.7 cannot start with Zulu 8.27 because of the known dependencies on some JDK internal classes and interfaces that have been changed in Java SE 8, update 162. See [CASSANDRA-14173](#).

Time Zone Data Update

The [ZIUpdater](#) tool does not support Zulu version 9 and later versions of Zulu.

Azul Repository Tips

Azul provides many Linux binaries on the Azul Repository. They remain predominantly compatible for x86-64. To install Arm packages from the repository using APT, run the following command with the term “embedded” in the package name:

```
$ sudo apt-get install zulu-embedded-8
```

The Azul repository can determine whether your Arm processor is hard-float or soft-float, and whether it is 32-bit or 64-bit.

Notice how this differs from the command for x86-64 which omits “embedded” in the package name:

```
$ sudo apt-get install zulu-8
```

All other APT commands are applicable to all platforms. Review [Installation on Linux Using an APT Repository](#) for more on installing Zulu through APT.

Creating a Symlink to the `jvm-exports` Directory

While installing Zulu on RPM systems, the installer adds it to the `/usr/lib/jvm/zulu-8/` directory. Certain tools, such as `ant` expects Java executable to be present from the following location `/usr/lib/jvm-exports`. To avoid error messages, you need to create a symlink to the `jvm-exports` directory after Zulu installation. For example, assume that Zulu is installed in `/usr/lib/jvm/zulu-8-x86`. Perform the following steps to create a symlink:

```
$cd /usr/lib/jvm-exports
$ln -s /usr/lib/jvm/zulu-8-x86 zulu-8-x86
```

To verify the symlink, run:

```
$ ls -lart | grep -i "zulu-8-x86"
```

You should expect the following output:

```
0 lrwxrwxrwx 1 root root 34 Sep 29 18:22 zulu-8-x86 -> /usr/lib/jvm/zulu-8-x86
```

Running Java Flight Recording in Zulu 8

Zulu 8 inherits the implementation of Java Flight Recorder (JFR) from OpenJDK 11.

To use JFR on an active Zulu java process no command-line option is necessary, just run `jcmd JAVAPID JFR.start` to enable recording when needed. The overhead of JFR before it gets activated with `JFR.start` is negligible since none of the events get sent and no JFR java classes get loaded (JFR java classes undergo class transformation during the load time). Alternatively, you can enable recording directly on the launch of the Java process by adding and configuring `-XX:StartFlightRecording`. Setting `-XX:-FlightRecorder` on the command line prevents JFR from being enabled during runtime. It gives absolutely no performance benefit.

CKR_SAVED_STATE_INVALID exception on Solaris 10

Zulu 8 might throw `CKR_SAVED_STATE_INVALID` exception due to issues in Solaris 10 (see [JDK-2209405](#)).

Workaround

Disable broken mechanisms by updating the configuration file `$JAVA_HOME/jre/lib/security/sunpkcs11-solaris.cfg` and including the following entries into the list of disabled mechanisms:

```
CKM_SHA256
CKM_SHA384
CKM_SHA512
```

Open Product Issues

- **Windows:** Observed hang issue with Maven projects launched under Eclipse. See the [detailed explanation and workaround](#) for the Eclipse bug. Applies to: all Zulu releases.
- **Zulu RPM Installers on SLES 11.3:** Using the Zulu `.rpm` installer on a SLES 11.3 system requires RPM version 4.8 or later. Workaround: Use the Zulu `.zip` installer or upgrade your RPM to 4.8 or later.
- **Zulu 8.14, 7.16, and 6.14 cannot be downgraded** to the earlier versions by using an RPM package.

Workaround: Uninstall Zulu 8.14, 7.16, or 6.14 and then install an earlier version of Zulu.

- **CoreOS:** CoreOS cannot transfer zero-length packets using datagram sockets. See more details in <https://github.com/coreos/bugs/issues/1834>.

Workaround: Upgrade CoreOS to the kernel version 4.9.9 or higher.

- **OpenJSSE:** The following algorithms are not supported by default by Zulu11.41 on Solaris 11.4: `SSL_RSA_EXPORT_WITH_DES40_CBC_SHA` and `SSL_DHE_RSA_EXPORT_WITH_DES40_CBC_SHA`.

Workaround:

1. Open the `$JAVA_HOME/jre/lib/security/java.security` file.
2. Find the following entry:

```
security.provider.1=OracleUcrypto
security.provider.2=SunPKCS11 ${java.home}/conf/security/sunpkcs11-
solaris.cfg
security.provider.3=SUN
```

3. Replace the value for `security.provider.2:` .

```
security.provider.2=SUN
```

4. After the change, the entry should look like this:

```
security.provider.1=OracleUcrypto
security.provider.2=SUN
security.provider.3=SUN
```

Support Information

For more information on Zulu, please visit the Azul website at one of the following locations:

- Zulu Installation Guide: <http://docs.azul.com/zulu/zuludocs/>
- Zulu Community Forum: <http://zulu.org/forum/>
- Zulu Enterprise Support: <https://www.azul.com/support/>

Release Details

The table below explains how versions of Java SE, JDK, Java update type, and Zulu match. A critical patch update (CPU) release of Zulu contains security and critical bug fixes only. A patch set updates (PSU) release of Zulu incorporates all CPU bug fixes, non-critical bug fixes, and new features.

Java SE Version	JDK Version	Java Update Type	Zulu Version
14	14.0.2	PSU	14.29
13	13.0.4	PSU	13.33
13	13.0.3.0.101	CPU	13.32
11	11.0.8	PSU	11.41
11	11.0.7.0.101	CPU	11.40
8	8u262	PSU	8.48
8	8u261	CPU	8.47
7	7u272	PSU	7.40
7	7u271	CPU	7.39

The following subsections provide a summary of the enhancements applied to each release.

Note: Maintenance fixes are cumulative within each major Java release family.

- [Zulu 8.48 \(8u265 b11\) Release](#)
- [Zulu 8.48 \(8u262 b19\) Release](#)
- [Zulu 14.29 \(14.0.2+12\), 13.33 \(13.0.4+8\), 13.32 \(13.0.3.0.101+5\), 11.41 \(11.0.8+10\), 11.40 \(11.0.7.0.101+5\), 8.48 \(8u262 b19\), 8.47 \(8u261 b09\), 7.40 \(7u272 b10\), 7.39 \(7u271 b07\) Release](#)

Zulu 8.48 (8u265 b11) Release

Released July 31, 2020

PSU Releases

Zulu 8.48 (8u265 b11) release is based on Zulu 8.48 (8u262 b19) and incorporates changes associated with OpenJDK 8u265 release.

Resolved Issues

The following tables list OpenJDK and Zulu issues resolved in the July 31, 2020 release of Zulu 8.48 (8u265 b11).

OpenJDK Bug Fixes

	Applicable JDK Levels	Synopsis	CPU/PSU
JDK-8250546	8	Expect changed behaviour reported in JDK-8249846	PSU
JDK-8249677	8	Regression in 8u after JDK-8237117 : Better ForkJoinPool behavior	PSU

Zulu Bug Fixes

	Applicable JDK Levels	Synopsis	CPU/PSU
ZULU-13879	8	Remove NONEwithDSAinP1363Format from the default enabled set	PSU
ZULU-13894	8	Change list of the client enabled CustomizedTLSContext cipher suites	PSU

Zulu 8.48 (8u262 b19) Release

Released July 22, 2020

PSU Releases

Zulu 8.48 (8u262 b19) is based on Zulu 8.48 (8u262 b18) and incorporates a fix for a regression in a ForkJoinPool behavior introduced by the upstream OpenJDK 8u262 in all OpenJDK 8u262 distributions, including Zulu 8.48.0.50 and 8.48.0.49. The regression could lead to potential issues with the Hadoop clusters and other pooled IO workers.

Resolved Issues

The following table lists OpenJDK issues resolved in the July 22, 2020 release of Zulu 8.48 (8u262 b19).

Issue #	Applicable JDK Levels	Synopsis	CPU/PSU
JDK-8249677	8	Regression in 8u after JDK-8237117 : Better ForkJoinPool behavior	PSU

Zulu 14.29 (14.0.2+12), 13.33 (13.0.4+8), 13.32 (13.0.3.0.101+5), 11.41 (11.0.8+10), 11.40 (11.0.7.0.101+5), 8.48 (8u262 b19), 8.47 (8u261 b09), 7.40 (7u272 b10), 7.39 (7u271 b07) Release

Released July 14, 2020

CA, NV, and SA Zulu Distributions

SA are tested, certified, and commercially supported builds of Zulu whereby Azul ensures that software that uses the Accessible APIs of the product is not required to carry a specific license and that such use does not contaminate the code or intellectual property of such software with any license requirements.

NV are tested, certified, and commercially supported builds of Zulu.

CA are unsupported community builds of Zulu.

CPU Releases - July 2020

Security-only updates that bring the associated Zulu releases to July 2020 CPU security update level.

CPU releases are available in SA and NV distributions.

CPU releases are generally based on prior-cycle PSU releases, with only security fixes applied. **Note:** They provide a low-risk vehicle for the potentially urgent deployment of security fixes when issues of sufficient severity arise.

Zulu 13.32 (13.0.3.0.101+5) is based on Zulu 13.31 (13.0.3+3) with only security fixes applied.

Zulu 11.40 (11.0.7.0.101+5) is based on Zulu 11.39 (11.0.7+10) with only security fixes applied.

Zulu 8.47 (8u261 b09) is based on Zulu 8.46 (8u252 b14) with only security fixes applied.

Zulu 7.39 (7u271 b07) is based on Zulu 7.38 (7u262 b10) with only security fixes applied.

Zulu 13.32 (13.0.3.0.101+5) with JavaFX 13 API is based on Zulu 13.31 (13.0.3+3) and JavaFX 13 with only security fixes applied.

Zulu 11.40 (11.0.7.0.101+5) with JavaFX 11 API is based on Zulu 11.39 (11.0.7+10) and JavaFX 11 with only security fixes applied.

Zulu 8.47 (8u261 b09) with JavaFX 8 API is based on Zulu 8.46 (8u252 b14) and JavaFX 8 with only security fixes applied.

PSU Releases - July 2020

PSU releases are generally scheduled, quarterly Patch Set Update releases that incorporate both security fixes and other accumulated changes that align the release contents with the associated OpenJDK project July 2020 quarterly release.

PSU releases are available in SA, NV, and CA distributions.

Zulu 14.29 (14.0.2+12) is based on Zulu 14.28 (14.0.1+8) and incorporates additional non-security changes associated with the July 2020 OpenJDK 14.0.2 release contents.

Zulu 13.33 (13.0.4+8) is based on Zulu 13.32 (13.0.3.0.101+5) and incorporates additional non-security changes associated with the July 2020 OpenJDK 13.0.4 release contents.

Zulu 11.41 (11.0.8+10) is based on Zulu 11.40 (11.0.7.0.101+5) and incorporates additional non-security changes associated with the July 2020 OpenJDK 11.0.8 release contents.

Zulu 8.48 (8u262 b18) is based on Zulu 8.47 (8u261 b09) and incorporates additional non-security changes associated with the July 2020 OpenJDK 8u262 release contents.

Zulu 7.40 (7u272 b10) is based on Zulu 7.39 (7u271 b07) and incorporates additional non-security changes associated with the July 2020 OpenJDK 7u272 release contents.

ZuluFX 14.29.21 (14.0.2+12) is based on Zulu 14.28 (14.0.1+8) and incorporates Zulu with additional non-security changes and JavaFX 14 (14.0.2+100).

ZuluFX 13.33.23 (13.0.4+8) is based on Zulu 13.32 (13.0.3.0.101+5) and incorporates Zulu with additional non-security changes and JavaFX 14 (14.0.2+100).

ZuluFX 11.41.21 (11.0.8+10) is based on Zulu 11.40 (11.0.7.0.101+5) and incorporates Zulu with additional non-security changes and JavaFX 14 (14.0.2+100).

ZuluFX 8.48 (8u262 b18) is based on Zulu 8.47 (8u261 b09) with JavaFX 8 API and incorporates additional non-security changes for Zulu and JavaFX 8.

Known Issues

NOTE: The upstream OpenJDK 8u262 appears to have introduced a serious regression (that, e.g., breaks Hadoop clusters and potentially all sorts of other pooled IO workers). This is currently a generic, upstream OpenJDK 8u262 issue that is being worked on, and affects all OpenJDK 8u262 distributions. It affects Zulu 8.48.0.50 and 8.48.0.49 as well. We'll make a fix available in the next Zulu 8.48 updates.

Common Vulnerabilities and Exposures Fixes

This section summarizes JDK Common Vulnerabilities and Exposure (CVE) fixes reflecting July 2020 OpenJDK changes implemented for the following Zulu levels:

- Zulu 14
- Zulu 13
- Zulu 11
- Zulu 8
- Zulu 7

July 2020 CVE Fixes

CVSS VERSION 3.0 RISK														
CVE #	Component	Protocol	Remote Exploit without Auth.	Base Score	Attack Vector	Attack Complex	Privs Req'd	User Interact	Scope	Confidentiality	Integrity	Availability	Supported Zulu Versions Affected	Notes
CVE-2020-14664	JavaFX	Multiple	Yes	8.3	Network	High	None	Required	Changed	High	High	High	14, 13, 11, 8	Note 1
CVE-2020-14583	Libraries	Multiple	Yes	8.3	Network	High	None	Required	Changed	High	High	High	14, 13, 11, 8, 7, 6	Note 1
CVE-2020-14593	2D	Multiple	Yes	7.4	Network	Low	None	Required	Changed	None	High	None	14, 13, 11, 8, 7, 6	Note 1
CVE-2020-14621	JAXP	Multiple	Yes	5.3	Network	Low	None	None	Unchanged	None	Low	None	14, 13, 11, 8, 7, 6	Note 2
CVE-2020-14562	ImageIO	Multiple	Yes	5.3	Network	Low	None	None	Unchanged	None	None	Low	14, 13, 11	Note 2
CVE-2020-14556	Libraries	Multiple	Yes	4.8	Network	High	None	None	Unchanged	Low	Low	None	14, 13, 11, 8	Note 3
CVE-2020-14581	2D	Multiple	Yes	3.7	Network	High	None	None	Unchanged	Low	None	None	14, 13, 11	Note 3

July 2020 CVE Fixes

CVSS VERSION 3.0 RISK														
CVE #	Component	Protocol	Remote Exploit without Auth.	Base Score	Attack Vector	Attack Complex	Privs Req'd	User Interact	Scope	Confidentiality	Integrity	Availability	Supported Zulu Versions Affected	Notes
CVE-2020-14579	Libraries	Multiple	Yes	3.7	Network	High	None	None	Unchanged	None	None	Low	8, 7, 6	Note 3
CVE-2020-14578	Libraries	Multiple	Yes	3.7	Network	High	None	None	Unchanged	None	None	Low	8, 7, 6	Note 3
CVE-2020-14577	JSSE	TLS	Yes	3.7	Network	High	None	None	Unchanged	Low	None	None	14, 13, 11, 8, 7, 6	Note 3
CVE-2020-14573	Hotspot	Multiple	Yes	3.7	Network	High	None	None	Unchanged	None	Low	None	N/A	Note 3

Base and Impact Metric:

Metrics	Values
Attack Vector	Network (N), Adjacent (A), Local (L), and Physical (P)
Attack Complexity	Low (L) and High (H)
Privileges Required	None (N), Low (L), and High (H)
User Interaction	None (N) and Required (R)
Scope	Unchanged (U) and Changed (C)
Confidentiality Impact	High (H), Low (L), and None (N)
Integrity Impact	High (H), Low (L), and None (N)

Availability Impact	High (H), Low (L), and None (N)
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Notes:

ID	Notes
1	This vulnerability applies to Java deployments that load and run untrusted code (e.g., code that comes from the internet) and rely on the Java sandbox for security. This vulnerability does not apply to Java deployments, typically in servers, that load and run only trusted code (e.g., code installed by an administrator).
2	This vulnerability can only be exploited by supplying data to APIs in the specified Component without using untrusted code executed under Java sandbox restrictions, such as through a web service.
3	This vulnerability applies to client and server deployment of Java. This vulnerability can be exploited through untrusted code executed under Java sandbox restrictions. It can also be exploited by supplying data to APIs in the specified Component without using untrusted code executed under Java sandbox restrictions, such as through a web service.

In-Depth Non-CVE Security Fixes

The following table lists in-depth non-CVE security fixes implemented specifically for Zulu 14, 13, 11, 8, 7.

July 2020 Non-CVE Security Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	Java Update Type
JDK-8230613	14, 13, 11, 8, 7, 6	Better ASCII conversions	CPU
JDK-8231800	14, 13, 11, 8, 7, 6	Better listing of arrays	CPU
JDK-8232014	14, 13, 11, 8, 7	Expand DTD support	CPU

July 2020 Non-CVE Security Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	Java Update Type
JDK-8233234	14, 13, 11	Better Zip naming	CPU
JDK-8233255	14, 13, 11, 8, 7, 6	Better Swing Buttons	CPU
JDK-8234032	14, 13, 11, 8, 7, 6	Improve basic calendar services	CPU
JDK-8234042	14, 13, 11, 8, 7, 6	Better factory production of certificates	CPU
JDK-8234418	14, 13, 11, 8, 7, 6	Better parsing with CertificateFactory	CPU
JDK-8234836	14, 13, 11, 8, 7, 6	Improve serialization handling	CPU
JDK-8236191	14, 13, 11, 8, 7, 6	Enhance OID processing	CPU
JDK-8238013	14, 13, 11	Enhance String writing	CPU
JDK-8238804	14, 13, 11, 8, 7, 6	Enhance key handling process	CPU
JDK-8238843	14, 13, 11, 8, 7, 6	Enhanced font handing	CPU
JDK-8238925	14, 13, 11, 8, 7, 6	Enhance WAV file playback	CPU
JDK-8239966	14, 13, 11, 8	Enhance XML handling	CPU
JDK-8240482	14, 13, 11, 8, 7	Improved WAV file playback	CPU
JDK-8241108	14, 13, 11, 8	Glib improvements	CPU

July 2020 Non-CVE Security Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	Java Update Type
JDK-8241379	14, 13, 11, 8, 7, 6	Update JCEKS support	CPU
JDK-8241522	14, 13, 11, 8, 7	Manifest improved jar headers redux	CPU

Zulu Bug Fixes

The following table lists Zulu fixes implemented specifically for Zulu 14, 13, 11, 8, 7.

July 2020 Zulu Bug Fixes

Bug ID	JDK Levels Applicable in Zulu	Synopsis	Java Update Type
ZULU-10501	8	gently handle deadlocks between FileSystems.getDefault and System.loadLibrary	PSU
ZULU-11206	8	[etnaviv] blit via glDrawPixels is not working	PSU
ZULU-11207	8	[etnaviv] blit via texture sometimes produces a blank window	PSU
ZULU-11208	8	[etnaviv] blit via texture is not working for large images	PSU
ZULU-11209	8	[etnaviv] switch to scratch surface may result in black window	PSU
ZULU-12373	8	Safe comparison of tooltip text	PSU

July 2020 Zulu Bug Fixes

Bug ID	JDK Levels Applicable in Zulu	Synopsis	Java Update Type
ZULU-12591	8	move bin/jfr to jre image for Zulu8	PSU
ZULU-12599	8	Restrict TLS signature schemes and named groups	PSU
ZULU-12614	8	[TLSv1.3] LegacyJSSE provider hook	PSU
ZULU-12618	8	Using incorrect format when printing hotspot flags	PSU
ZULU-13144	8	Add LegacyJSSE provider	PSU
ZULU-13897	8	Zulu 8.48.0.50 failed tests from ISV luceneunittests	PSU

Other OpenJDK Bug Fixes

The following table lists other OpenJDK bug fixes.

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8248715	8	[8262] New JavaTimeSupplementary localisation for 'in' installed in wrong package	PSU
JDK-8248505	14, 13, 11, 8	Unexpected NoSuchAlgorithmException when using secure random impl from BCFIPS provider	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8248406	13	Some zipfs tests fail with AccessControlException	PSU
JDK-8248399	8	[8u262] Build installs jfr binary when JFR is disabled	PSU
JDK-8247560	14	Shenandoah: heap iteration holds root locks all the time	PSU
JDK-8247474	14	Shenandoah: Windows build warning after JDK-8247310	PSU
JDK-8247358	14	Shenandoah: reconsider free budget slice for marking	PSU
JDK-8247310	14	Shenandoah: pacer should not affect interrupt status	PSU
JDK-8246613	14, 13, 11, 8	Choose the default SecureRandom algo based on registration ordering	PSU
JDK-8246342	14	Shenandoah: remove unused ShenandoahIsMarkedNextClosure	PSU
JDK-8246223	8	Windows build fails after JDK-8227269	PSU
JDK-8246162	14	Shenandoah: full GC does not mark code roots when class unloading is off	PSU
JDK-8246100	14	Shenandoah: walk roots in more efficient order	PSU
JDK-8246097	14	Shenandoah: limit parallelism in CLDG root handling	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8246031	14, 13, 11, 8	SSLSocket.getSession() doesn't close connection for timeout/ interrupts	PSU
JDK-8245825	14	Shenandoah: Remove diagnostic flag ShenandoahConcurrentScanCodeRoots	PSU
JDK-8245814	14	Shenandoah: reconsider format specifiers for stats	PSU
JDK-8245812	14	Shenandoah: compute root phase parallelism	PSU
JDK-8245757	14	Shenandoah: AlwaysPreTouch should not disable heap resizing or uncommits	PSU
JDK-8245754	14	Shenandoah: ditch ShenandoahAlwaysPreTouch	PSU
JDK-8245726	14	Shenandoah: lift/cleanup ShenandoahHeuristics names and properties	PSU
JDK-8245649	11	Revert 8245397 backport of 8230591	PSU
JDK-8245527	13, 11, 8	LDAP Channel Binding support for Java GSS/Kerberos	PSU
JDK-8245463	14	Shenandoah: refine ShenandoahPhaseTimings constructor arguments	PSU
JDK-8245461	14	Shenandoah: refine mode name()-s	PSU
JDK-8245167	8	Top package in method profiling shows "null" in JMC	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8245047	14, 11	[PPC64] C2: ReverseBytes + Load always match to unordered Load (acquire semantics missing)	PSU
JDK-8244951	13, 11	Missing entitlements for hardened runtime	PSU
JDK-8244853	14, 11	The static build of libextnet is missing the JNI_OnLoad_extnet function	PSU
JDK-8244843	8	[JDK 8u] JapanEraNameCompatTest fails	PSU
JDK-8244821	14	Shenandoah: disarmed_value is initialized at wrong place	PSU
JDK-8244777	11, 8	ClassLoaderStats VM Op uses constant hash value	PSU
JDK-8244740	14	Shenandoah: rename ShenandoahNormalMode to ShenandoahSATBMode	PSU
JDK-8244739	14	Shenandoah: break superclass dependency on ShenandoahNormalMode	PSU
JDK-8244737	14	Shenandoah: move mode code to gc/shenandoah/mode	PSU
JDK-8244732	14	Shenandoah: move heuristics code to gc/shenandoah/heuristics	PSU
JDK-8244730	14	Shenandoah: gc/shenandoah/options/TestHeuristicsUnlock.java should only verify the heuristics	PSU
JDK-8244721	14	CTW: C2 (Shenandoah) compilation fails with "unexpected infinite loop graph shape"	PSU
JDK-8244663	14	Shenandoah: C2 assertion fails in Matcher::collect_null_checks	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8244551	14	Shenandoah: Fix racy update of update_watermark	PSU
JDK-8244548	8	JDK 8u: sun.misc.Version.jdkUpdateVersion() returns wrong result	PSU
JDK-8244520	11	problemlist java/awt/font/Rotate/RotatedFontTest.java on linux	PSU
JDK-8244461	8	[JDK 8u] Build fails with glibc 2.32	PSU
JDK-8244420	14	Shenandoah: Ensure _disarmed_value offset < 128	PSU
JDK-8244407	13, 11, 8	JVM crashes after transformation in C2 IdealLoopTree::split_fall_in	PSU
JDK-8244328	14	Shenandoah: move ShenandoahThreadLocalData::_disarmed_value initialization	PSU
JDK-8244326	14	Shenandoah: global statistics should not accept bogus samples	PSU
JDK-8244226	14	Shenandoah: per-cycle statistics contain worker data from previous cycles	PSU
JDK-8244200	14	Shenandoah: build breakages after JDK-8241743	PSU
JDK-8244180	14	Shenandoah: carry Phase to ShWorkerTimingsTracker explicitly	PSU
JDK-8243848	14	Shenandoah: Windows build fails after JDK-8239786	PSU
JDK-8243578	14	Shenandoah: Cleanup ShenandoahStringDedup::parallel_oops_do()	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8243573	14	Shenandoah: rename GCParPhases and related code	PSU
JDK-8243541	14, 13, 11, 8, 7, 6	(tz) Upgrade time-zone data to tzdata2020a	CPU
JDK-8243539	13, 11, 8	Copyright info (Year) should be updated for fix of 8241638	PSU
JDK-8243495	14	Shenandoah: print root statistics for concurrent weak/strong root phases	PSU
JDK-8243494	14	Shenandoah: set counters once per cycle	PSU
JDK-8243487	14	Shenandoah: make _num_phases illegal phase type	PSU
JDK-8243478	14	Shenandoah: avoid implicit worker_id = 0	PSU
JDK-8243474	8	[TESTBUG] removed three tests of 0 bytes	PSU
JDK-8243465	14	Shenandoah: ditch unused pause_other, conc_other counters	PSU
JDK-8243464	14	Shenandoah: print statistic counters in time order	PSU
JDK-8243463	14	Shenandoah: ditch total_pause counters	PSU
JDK-8243460	14	Shenandoah: purge init_update_refs_prepare counter	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8243395	14	Shenandoah: demote guarantee in ShenandoahPhaseTimings::record_workers_end	PSU
JDK-8243307	14	Shenandoah: remove ShCollectionSet::live_data	PSU
JDK-8243301	14	Shenandoah: ditch ShenandoahAllowMixedAllocs	PSU
JDK-8243291	14	Shenandoah: no need to retire TLABs at Init Update Refs	PSU
JDK-8243238	14	Shenandoah: explicit GC request should wait for a complete GC cycle	PSU
JDK-8243059	14, 13, 11, 8	Build fails when --with-vendor-name contains a comma	PSU
JDK-8243008	14	Shenandoah: TestVolatilesShenandoah test failed on aarch64	PSU
JDK-8242883	8	Incomplete backport of JDK-8078268: backport test part	PSU
JDK-8242788	8	Non-PCH build is broken after JDK-8191393	PSU
JDK-8242641	14	Shenandoah: clear live data and update TAMS optimistically	PSU
JDK-8242638	14	Shenandoah: restore heap logging for uncommit	PSU
JDK-8242626	13, 11	enhance posix print_rlimit_info	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8242625	14	Shenandoah: restore heap logging for Degenerated/Full cycles	PSU
JDK-8242541	13, 11	Small charset issues (ISO8859-16, x-eucJP-Open, x-IBM834 and x-IBM949C)	PSU
JDK-8242498	14, 13, 11, 8, 7	Invalid "sun.awt.TimedWindowEvent" object leads to JVM crash	PSU
JDK-8242470	14, 13, 11	Update Xerces to Version 2.12.1	PSU
JDK-8242430	14	Correct links in javadoc of OperatingSystemMXBean	PSU
JDK-8242400	14	Shenandoah: Restore logging to pre-jdk8241984 format	PSU
JDK-8242379	14, 13, 11	[TESTBUG] compiler/loopopts/TestLoopUnswitchingLostCastDependency.java fails with release VMs	PSU
JDK-8242375	14	Shenandoah: Remove ShenandoahHeuristic::record_gc_start/end methods	PSU
JDK-8242365	14	Shenandoah: use uint16_t instead of jushort for liveness cache	PSU
JDK-8242353	14	Shenandoah: micro-optimize region liveness handling	PSU
JDK-8242316	14	Shenandoah: Turn NULL-check into assert in SATB slow-path entry	PSU
JDK-8242301	14	Shenandoah: Inline LRB runtime call	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8242294	13, 11, 8	JSSE Client does not throw SSLException when an alert occurs during handshaking	PSU
JDK-8242283	14	Can't start JVM when java home path includes non-ASCII character	PSU
JDK-8242273	14	Shenandoah: accept either SATB or IU barriers, but not both	PSU
JDK-8242271	14	Shenandoah: add test to verify GC mode unlock	PSU
JDK-8242267	14	Shenandoah: regions space needs to be aligned by os::vm_allocation_granularity()	PSU
JDK-8242239	11	[Graal] javax/management/generified/GenericTest.java fails: FAILED: queryMBeans sets same	PSU
JDK-8242229	14	Shenandoah: inline ShenandoahHeapRegion liveness-related methods	PSU
JDK-8242228	14	Shenandoah: remove unused ShenandoahCollectionSet methods	PSU
JDK-8242227	14	Shenandoah: transit regions to cset state when adding to collection set	PSU
JDK-8242217	14	Shenandoah: Enable GC mode to be diagnostic/experimental and have a name	PSU
JDK-8242213	14	Shenandoah: remove ShenandoahHeuristics::_bytes_in_cset	PSU
JDK-8242212	14	Shenandoah: initialize ShenandoahHeuristics::_region_data eagerly	PSU
JDK-8242211	14	Shenandoah: remove ShenandoahHeuristics::RegionData::_seqnum_last_alloc	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8242174	13, 11	[macos] The NestedModelessDialogTest test make the macOS unstable	PSU
JDK-8242154	11	Backport parts of JDK-4947890 to OpenJDK 11u	PSU
JDK-8242141	13, 11, 8	New System Properties to configure the TLS signature schemes	PSU
JDK-8242130	14	Shenandoah: Simplify arraycopy-barrier dispatching	PSU
JDK-8242114	14	Shenandoah: remove ShenandoahHeapRegion::reset_alloc_metadata_to_shared	PSU
JDK-8242108	13, 11	Performance regression after fix for JDK-8229496	PSU
JDK-8242107	14	Shenandoah: Fix aarch64 build after JDK-8242082	PSU
JDK-8242101	14	Shenandoah: coalesce and parallelise heap region walks during the pauses	PSU
JDK-8242089	14	Shenandoah: per-worker stats should be summed up, not averaged	PSU
JDK-8242083	14	Shenandoah: split "Prepare Evacuation" tracking into cset/freeset counters	PSU
JDK-8242082	14	Shenandoah: Purge Traversal mode	PSU
JDK-8242075	14	Shenandoah: rename ShenandoahHeapRegionSize flag	PSU
JDK-8242054	14	Shenandoah: New incremental-update mode	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8242042	14	Shenandoah: tune down ShenandoahGarbageThreshold	PSU
JDK-8242041	14	Shenandoah: adaptive heuristics should account evac reserve in free target	PSU
JDK-8242040	14	Shenandoah: print allocation failure type	PSU
JDK-8241996	11	on linux set full relro in the linker flags	PSU
JDK-8241985	14	Shenandoah: simplify collectable garbage logging	PSU
JDK-8241984	14	Shenandoah: enhance GCTimer and JFR support	PSU
JDK-8241983	14	Shenandoah: simplify FreeSet logging	PSU
JDK-8241948	11	enhance list of environment variables printed in hs_err file	PSU
JDK-8241926	14	Shenandoah: only print heap changes for operations that directly affect it	PSU
JDK-8241902	8	AIX Build broken after integration of JDK-8223147 (JFR Backport)	PSU
JDK-8241900	14, 13, 11	Loop unswitching may cause dependence on null check to be lost	PSU
JDK-8241888	11	Mirror jdk.security.allowNonCaAnchor system property with a security one	PSU
JDK-8241845	14	Shenandoah: align ShenandoahHeapRegions to cache lines	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8241844	14	Shenandoah: rename ShenandoahHeapRegion::region_number	PSU
JDK-8241842	14	Shenandoah: inline ShenandoahHeapRegion::region_number	PSU
JDK-8241841	14	Shenandoah: ditch one of allocation type counters in ShenandoahHeapRegion	PSU
JDK-8241838	14	Shenandoah: no need to trash cset during final mark	PSU
JDK-8241808	13, 11	[TESTBUG] The JDK-8039467 bug appeared on macOS	PSU
JDK-8241765	14	Shenandoah: AARCH64 need to save/restore call clobbered registers before calling keepalive barrier	PSU
JDK-8241750	14, 13, 8	x86_32 build failure after JDK-8227269	PSU
JDK-8241748	14	Shenandoah: inline MarkingContext TAMS methods	PSU
JDK-8241743	14	Shenandoah: refactor and inline ShenandoahHeap::heap()	PSU
JDK-8241740	14	Shenandoah: remove ShenandoahHeapRegion::_heap	PSU
JDK-8241700	14	Shenandoah: Fold ShenandoahKeepAliveBarrier flag into ShenandoahSATBarrier	PSU
JDK-8241692	14	Shenandoah: remove ShenandoahHeapRegion::_reserved	PSU
JDK-8241675	14	Shenandoah: assert(n->outcnt() > 0) at shenandoahSupport.cpp:2858 with java/util/Collections/FindSubList.java	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8241673	14	Shenandoah: refactor anti-false-sharing padding	PSU
JDK-8241668	14	Shenandoah: make ShenandoahHeapRegion not derive from ContiguousSpace	PSU
JDK-8241660	13, 11	Add virtualization information output to hs_err file on macOS	PSU
JDK-8241638	13, 11, 8	launcher time metrics always report 1 on Linux when _JAVA_LAUNCHER_DEBUG set	PSU
JDK-8241603	14	ZGC: java/lang/management/MemoryMXBean/MemoryTestZGC.sh crashes on macOS	PSU
JDK-8241586	14, 13, 11	compiler/cpuflags/TestAESIntrinsicsOnUnsupportedConfig.java fails on aarch64	PSU
JDK-8241583	14	Shenandoah: turn heap lock asserts into macros	PSU
JDK-8241568	14, 13, 11	(fs) UserPrincipalLookupService.lookupXXX failure with IOE "Operation not permitted"	PSU
JDK-8241556	13, 11	Memory leak if -XX:CompileCommand is set	PSU
JDK-8241534	14	Shenandoah: region status should include update watermark	PSU
JDK-8241520	14	Shenandoah: simplify region sequence numbers handling	PSU
JDK-8241464	11	[11u] Backport: make rehashing be a needed guaranteed safepoint cleanup action	PSU
JDK-8241458	11	[JVMCI] add mark value to expose CodeOffsets::Frame_Complete	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8241445	14, 13, 11	Fix copyrights after JDK-8240629 change	PSU
JDK-8241444	8	Metaspace::_class_vsm not initialized if compressed class pointers are disabled	PSU
JDK-8241435	14	Shenandoah: avoid disabling pacing with "aggressive"	PSU
JDK-8241351	14	Shenandoah: fragmentation metrics overhaul	PSU
JDK-8241296	14, 13	Segfault in JNIHandleBlock::oops_do()	PSU
JDK-8241144	14	Javadoc is not generated for new module jdk.nio.mapmode	PSU
JDK-8241142	14	Shenandoah: should not use parallel reference processing with single GC thread	PSU
JDK-8241139	14	Shenandoah: distribute mark-compact work exactly to minimize fragmentation	PSU
JDK-8241093	14	Shenandoah: editorial changes in flag descriptions	PSU
JDK-8241081	14	Shenandoah: Do not modify update-watermark concurrently	PSU
JDK-8241062	14	Shenandoah: rich asserts trigger "empty statement" inspection	PSU
JDK-8240972	14, 13, 11	macOS codesign fail on macOS 10.13.5 or older	PSU
JDK-8240948	14	Shenandoah: cleanup not-forwarded-objects paths after JDK-8240868	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8240917	14	Shenandoah: Avoid scanning thread code roots twice in all root scanner	PSU
JDK-8240915	14	Shenandoah: Remove unused fields in init mark tasks	PSU
JDK-8240905	13, 11	assert(mem == (Node*)1 mem == mem2) failed: multiple Memories being matched at once?	PSU
JDK-8240873	14	Shenandoah: Short-cut arraycopy barriers	PSU
JDK-8240872	14	Shenandoah: Avoid updating new regions from start of evacuation	PSU
JDK-8240868	14	Shenandoah: remove CM-with-UR piggybacking cycles	PSU
JDK-8240827	11	Downport SSLSocketImpl.java from "8221882: Use fiber-friendly java.util.concurrent.locks in JSSE"	PSU
JDK-8240824	13, 11	enhance print_full_memory_info on Linux by THP related information	PSU
JDK-8240786	13, 11	[TESTBUG] The test java/awt/Window/GetScreenLocation/GetScreenLocationTest.java fails on HiDPI screen	PSU
JDK-8240750	14	Shenandoah: remove leftover files and mentions of ShenandoahAllocTracker	PSU
JDK-8240749	14	Shenandoah: refactor ShenandoahUtils	PSU
JDK-8240725	14	Some functions might not work with CJK character	PSU
JDK-8240711	11	TestJstatdPort.java failed due to "ExportException: Port already in use:"	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8240671	14	Shenandoah: refactor ShenandoahPhaseTimings	PSU
JDK-8240629	14, 13, 11	argfiles parsing broken for argfiles with comment cross 4096 bytes chunk	PSU
JDK-8240603	11	Windows 32bit compile error after 8238676	PSU
JDK-8240589	14	OtherRegionsTable::_num_occupied not updated correctly	PSU
JDK-8240576	13, 11, 8	JVM crashes after transformation in C2 IdealLoopTree::merge_many_backedges	PSU
JDK-8240534	14	Shenandoah: ditch debug safepoint timeout adjustment	PSU
JDK-8240529	13, 11	CheckUnhandledOops breaks NULL check in Modules::define_module	PSU
JDK-8240518	13, 11	Incorrect JNU_ReleaseStringPlatformChars in Windows Print	PSU
JDK-8240511	14	Shenandoah: parallel safepoint workers count should be ParallelGCThreads	PSU
JDK-8240375	8	Disable JFR by default for July 2020 release	PSU
JDK-8240360	14, 13, 11	NativeLibraryEvent has wrong library name on Linux	PSU
JDK-8240315	14	Shenandoah: Rename ShLBN::get_barrier_strength()	PSU
JDK-8240286	14, 13, 11	[TESTBUG] Test command error in hotspot/jtreg/compiler/loopopts/superword/SumRedAbsNeg_Float.java	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8240227	14, 11	Loop predicates should be copied to unswitched loops	PSU
JDK-8240223	14, 13, 11	Use consistent predicate order in and with PhaseldealLoop::find_predicate	PSU
JDK-8240220	14, 13, 11	IdealLoopTree::dump_head predicate printing is broken	PSU
JDK-8240217	14	Shenandoah: remove ShenandoahEvacAssist	PSU
JDK-8240216	14	Shenandoah: remove ShenandoahTerminationTrace	PSU
JDK-8240215	14	Shenandoah: remove ShenandoahAllocationTrace	PSU
JDK-8240202	13, 11	A few client tests leave mouse buttons pressed	PSU
JDK-8240197	14, 11	Cannot start JVM when \$JAVA_HOME includes CJK characters	PSU
JDK-8240076	14	Shenandoah: pacer should cover reset and preclean phases	PSU
JDK-8240073	11	Fix 'test-make' build target in 11u	PSU
JDK-8240070	14	Shenandoah: remove obsolete ShenandoahCommonGCStateLoads	PSU
JDK-8240069	14	Shenandoah: turn more flags diagnostic	PSU
JDK-8239976	13, 11	Put JDK-8239965 on the ProblemList.txt	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8239965	13, 11	XMLEncoder/Test4625418.java fails due to "Error: Cp943 - can't read properly"	PSU
JDK-8239931	14, 13, 11	[win][x86] vtable stub generation: assert failure (code size estimate) follow-up	PSU
JDK-8239926	14	Shenandoah: Shenandoah needs to mark nmethod's metadata	PSU
JDK-8239915	13, 11	Zero VM crashes when handling dynamic constant	PSU
JDK-8239904	14	Shenandoah: accumulated penalties should not be over 100% of capacity	PSU
JDK-8239893	13, 11	Windows handle Leak when starting processes using ProcessBuilder	PSU
JDK-8239868	14	Shenandoah: ditch C2 node limit adjustments	PSU
JDK-8239867	8	correct over use of INCLUDE_JFR macro	PSU
JDK-8239856	13	[ntintel] asserts about copying unaligned array element	PSU
JDK-8239852	14, 13, 11, 8	java/util/concurrent tests fail with -XX:+VerifyGraphEdges: assert(!VerifyGraphEdges) failed: verification should have failed	PSU
JDK-8239819	13, 11	XToolkit: Misread of screen information memory	PSU
JDK-8239798	14, 13, 8	SSLSocket closes socket both socket endpoints on a SocketTimeoutException	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8239787	14, 11	AArch64: String.indexOf may incorrectly handle empty strings.	PSU
JDK-8239786	14	Shenandoah: print per-cycle statistics	PSU
JDK-8239557	13, 11	[TESTBUG] VeryEarlyAssertTest.java validating "END." marker at lastline is not always true	PSU
JDK-8239479	8	minimal1 and zero builds are failing	PSU
JDK-8239476	8	8238589: broke windows build by moving OrderedPair	PSU
JDK-8239462	11	jdk.hotspot.agent misses some ReleaseStringUTFChars calls in case of early returns	PSU
JDK-8239457	13, 11	call ReleaseStringUTFChars before early returns in Java_sun_security_pkcs11_wrapper_PKCS11_connect	PSU
JDK-8239456	14, 13, 11	[win][x86] vtable stub generation: assert failure (code size estimate)	PSU
JDK-8239385	8	Support the 'canonicalize' setting (krb5.conf) in the Kerberos client	PSU
JDK-8239365	11	ProcessBuilder test modifications for AIX execution	PSU
JDK-8239354	14	Shenandoah: minor enhancements to traversal GC	PSU
JDK-8239351	13, 11	Give more meaningful InternalError messages in Deflater.c	PSU
JDK-8239224	13, 11	libproc_impl.c previous_thr may be used uninitialized warning	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8239142	14, 13, 11	C2's UseUniqueSubclasses optimization is broken for array accesses	PSU
JDK-8239140	8	Backport JFR to OpenJDK 8	PSU
JDK-8239091	13, 11	Reversed arguments in call to strstr in freetype "debug" code.	PSU
JDK-8239081	14	Shenandoah: Consolidate C1 LRB and native barriers	PSU
JDK-8239055	13, 11, 8	Wrong implementation of VMState.hasListener	PSU
JDK-8239005	14, 13	[TESTBUG] test/hotspot/jtreg/runtime/StackGuardPages/TestStackGuardPages.java: exeinvoke.c: must initialize static state before calling do_overflow()	PSU
JDK-8239000	11	handle ContendedPaddingWidth in vm_version_ppc	PSU
JDK-8238985	13, 11	[TESTBUG] The arrow image is blue instead of green	PSU
JDK-8238942	13, 11	Rendering artifacts with LCD text and fractional metrics	PSU
JDK-8238898	13, 11	Missing hash characters for header on license file	PSU
JDK-8238851	14	Shenandoah: C1: Resolve into registers of correct type	PSU
JDK-8238842	14, 13, 11, 8, 7, 6	AIOOBE in GIFImageReader.initializeStringTable	CPU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8238811	14, 13	C2: assert(i >= req() i == 0 is_Region() is_Phi()) with -XX:+VerifyGraphEdges	PSU
JDK-8238765	13, 11	PhaseCFG::schedule_pinned_nodes cannot handle precedence edges from unmatched CFG nodes correctly	PSU
JDK-8238756	14, 13, 11	C2: assert(((n) == __null !VerifyIterativeGVN !(n->is_dead())) failed: can not use dead node	PSU
JDK-8238738	13, 11	AudioSystem.getMixerInfo() takes about 30 sec to report a gone audio device	PSU
JDK-8238721	14, 13, 11	Add failing client jtreg tests to the Problem List	PSU
JDK-8238676	11	jni crashes on accessing it from process exit hook	PSU
JDK-8238591	13	CTW: Split applications/ctw/modules/jdk_localedata.java	PSU
JDK-8238590	8	Enable JFR by default during compilation in 8u incubator	PSU
JDK-8238589	8	Necessary code cleanup in JFR for JDK8u	PSU
JDK-8238575	13, 11	DragSourceEvent.getLocation() returns wrong value on HiDPI screens (Windows)	PSU
JDK-8238555	11, 8	Allow initialization of SunPKCS11 with NSS when there are external FIPS modules in the NSSDB	PSU
JDK-8238534	14, 13	Deep sign macOS bundles before bundle archive is being created	PSU
JDK-8238502	13	sunmscapi.dll causing EXCEPTION_ACCESS_VIOLATION	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8238452	13, 11, 8, 7	Keytool generates wrong expiration date if validity is set to 2050/01/01	PSU
JDK-8238438	14, 13	SuperWord::co_locate_pack picks memory state of first instead of last load	PSU
JDK-8238385	14	CTW: C2 (Shenandoah) compilation fails with "Range check dependent CastII node was not removed"	PSU
JDK-8238366	14, 13	CTW runner closes standard output on exit	PSU
JDK-8238356	14, 13, 11	CodeHeap::blob_count() overestimates the number of blobs	PSU
JDK-8238247	14, 13	CTW runner should sweep nmethods more aggressively	PSU
JDK-8238190	14, 13, 11	[JVMCI] Fix single implementor speculation for diamond shapes.	PSU
JDK-8238076	8	Fix OpenJDK 7 Bootstrap Broken by JFR Backport	PSU
JDK-8237977	8	Further update javax/net/ssl/compatibility/Compatibility.java	PSU
JDK-8237962	13, 11	give better error output for invalid OCSP response intervals in CertPathValidator checks	PSU
JDK-8237951	14, 13, 11	CTW: C2 compilation fails with "malformed control flow"	PSU
JDK-8237945	14, 13	CTW: C2 compilation fails with assert(just_allocated_object(alloc_ctl) == ptr) failed: most recent allo	PSU
JDK-8237879	14, 13	make 4.3 breaks build	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8237869	13	exclude jtreg test security/infra/java/security/cert/CertPathValidator/certification/LuxTrustCA.java because of instabilities	PSU
JDK-8237859	14, 11	C2: Crash when loads float above range check	PSU
JDK-8237837	14	Shenandoah: assert(mem == __null) failed: only one safepoint	PSU
JDK-8237821	14	Shenandoah: build broken after JDK-8237637 (Remove dubious type conversions from oop)	PSU
JDK-8237780	14	Shenandoah: More reliable nmethod verification	PSU
JDK-8237632	14	Shenandoah: accept NULL fwdptr to cooperate with JVMTI and JFR	PSU
JDK-8237543	14	Shenandoah: More asserts around code roots	PSU
JDK-8237508	13	Simplify JarFile.isInitializing	PSU
JDK-8237474	14, 13, 11, 8	Default SSLEngine should create in server role	PSU
JDK-8237396	13, 11	JvmtiTagMap::weak_oops_do() should not trigger barriers	PSU
JDK-8237217	14, 13	Incorrect G1StringDedupEntry type used in StringDedupTable destructor	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8237192	14, 13, 11	Generate stripped/public pdbs on Windows for jdk images	PSU
JDK-8237086	13, 11	assert(is_MachReturn()) running CTW with fix for JDK-8231291	PSU
JDK-8237055	13, 11	[TESTBUG] compiler/c2/TestJumpTable.java fails with release VMs	PSU
JDK-8237045	13, 11	JVM uses excessive memory with -XX:+EnableJVMCI -XX:JVMCICounterSize=2147483648	PSU
JDK-8236996	13, 11, 8	Incorrect Roboto font rendering on Windows with subpixel antialiasing	PSU
JDK-8236953	13, 11	[macos] JavaFX SwingNode is not rendered on macOS	PSU
JDK-8236921	11	Add build target to produce a JDK image suitable for a Graal/SVM build	PSU
JDK-8236873	13	Worker has a deadlock bug	PSU
JDK-8236851	14	Shenandoah: More details in Traversal GC event messages	PSU
JDK-8236759	14, 13, 11	ShouldNotReachHere in PhaseIdealLoop::verify_strip_mined_scheduling	PSU
JDK-8236709	13	struct SwitchRange in HS violates C++ One Definition Rule	PSU
JDK-8236700	13, 11	Upgrading JSZip from v3.1.5 to v3.2.2	PSU
JDK-8236545	13, 11	Compilation error in mach5 java/awt/FileDialog/MacOSGoToFolderCrash.java	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8236488	13	Support for configure option --with-native-debug-symbols=internal is impossible on Windows	PSU
JDK-8236470	13, 11	Deal with ECDSA using ecdsa-with-SHA2 plus hash algorithm as AlgorithmId	PSU
JDK-8236211	11	[Graal] compiler/graalunit/GraphTest.java is skipped in all testing	PSU
JDK-8236179	13	C1 register allocation failure with T_ADDRESS	PSU
JDK-8236174	8	[JFR Backport] Should update javadoc since tags.	PSU
JDK-8236140	13	assert(!VerifyHashTableKeys _hash_lock == 0) failed: remove node from hash table before modifying it	PSU
JDK-8236074	8	[JFR Backport] Missed package-info.	PSU
JDK-8236039	14, 8	JSSE Client does not accept status_request extension in CertificateRequest messages for TLS 1.3	PSU
JDK-8236008	8	[JFR Backport] Some backup files were accidentally left in the hotspot tree	PSU
JDK-8236002	8	[JFR Backport] CSR for JFR backport suggests not leaving out the package-info	PSU
JDK-8235998	13	[C2] Memory leaks during tracing after "8224193: stringStream should not use Resource Area".	PSU
JDK-8235984	13, 11	C2: assert(out->in(PhiNode::Region) == head out->in(PhiNode::Region) == slow_head) failed: phi must be either part of the slow or the fast loop	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8235908	11	omit ThreadPriorityPolicy warning when value is set from image	PSU
JDK-8235904	13	Infinite loop when rendering huge lines	PSU
JDK-8235874	13, 11, 8	The ordering of Cipher Suites is not maintained provided through "jdk.tls.client.cipherSuites" and "jdk.tls.server.cipherSuites" system property.	PSU
JDK-8235834	13, 11	IBM-943 charset encoder needs updating	PSU
JDK-8235813	8	System property fullCipherSuites is not used by javax/net/ssl/compatibility/Compatibility.java	PSU
JDK-8235762	11	JVM crash in SWPointer during C2 compilation	PSU
JDK-8235744	13	PIT: test/jdk/javaw/swing/text/html/TestJLabelWithHTMLText.java times out in linux-x64	PSU
JDK-8235739	13, 11	Rare NPE at WComponentPeer.getGraphics()	PSU
JDK-8235686	13, 11	Add more custom hooks in Bundles.gmk	PSU
JDK-8235671	13	enhance print_rlimit_info in os_posix	PSU
JDK-8235638	13, 11	NPE in LWWindowPeer.getOnscreenGraphics()	PSU
JDK-8235637	13	jhsdb jmap from OpenJDK 11.0.5 doesn't work if prelink is enabled	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8235620	13, 11	Broken merge between JDK-8006406 and JDK-8003559	PSU
JDK-8235585	13	Enable macOS codesigning for all libraries and executables	PSU
JDK-8235584	11	UseProfiledLoopPredicate fails with <code>assert(_phase->get_loop(c) == loop)</code> failed: have to be in the same loop	PSU
JDK-8235563	13	[TESTBUG] <code>apccds/CommandLineFlagComboNegative.java</code> does not handle archive mapping failure	PSU
JDK-8235510	13	<code>java.util.zip.CRC32</code> performance drop after 8200067	PSU
JDK-8235489	13	handle return values of <code>scanf</code> calls in hotspot	PSU
JDK-8235452	13, 11	Strip mined loop verification fails with <code>assert(is_OuterStripMinedLoop())</code> failed: invalid node class	PSU
JDK-8235403	13	Further cleanup to test <code>serviceability/sa/CIhsdbCDSCore.java</code>	PSU
JDK-8235383	13	C1 compilation fails with <code>-XX:+PrintIRDuringConstruction -XX:+Verbose</code>	PSU
JDK-8235332	14, 13, 11	<code>TestInstanceCloneAsLoadsStores.java</code> fails with <code>-XX:+StressGCM</code>	PSU
JDK-8235325	13	build failure on Linux after 8235243	PSU
JDK-8235311	13, 11, 8	Tag mismatch may alert <code>bad_record_mac</code>	PSU
JDK-8235288	13	AVX 512 instructions inadvertently used on Xeon for small vector width operations	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8235263	13, 11, 8	Revert TLS 1.3 change that wrapped IOExceptions	PSU
JDK-8235255	13	ProblemList javax/net/ssl/templates/SSLSocketSSLEngineTemplate.java	PSU
JDK-8235243	13	handle VS2017 15.9 and VS2019 in abstract_vm_version	PSU
JDK-8235183	11, 8	Remove the "HACK CODE" in comment	PSU
JDK-8235153	13, 11	[TESTBUG] [macos 10.15] java/awt/Graphics/DrawImageBG/SystemBgColorTest.java fails	PSU
JDK-8234968	13, 11	check calloc rv in libinstrument InvocationAdapter	PSU
JDK-8234824	13	java/nio/channels/SocketChannel/AdaptSocket.java fails on Windows 10	PSU
JDK-8234809	13	set relro in linker flags when building with gcc	PSU
JDK-8234786	13	Fix for JDK-8214578 breaks OS X 10.12 compatibility	PSU
JDK-8234779	11	Provide idiom for declaring classes noncopyable	PSU
JDK-8234769	13	Duplicate attribution in freetype.md	PSU
JDK-8234741	13	enhance os::get_core_path on macOS	PSU
JDK-8234728	13, 11, 8	Some security tests should support TLSv1.3	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8234727	13, 11, 8	sun/security/ssl/X509TrustManagerImpl tests support TLSv1.3	PSU
JDK-8234725	8	sun/security/ssl/SSLContextImpl tests support TLSv1.3	PSU
JDK-8234724	13, 8	javax/net/ssl/templates/SSLSocketSSLEngineTemplate.java supports TLSv1.3	PSU
JDK-8234723	13, 8	javax/net/ssl/TLS tests support TLSv1.3	PSU
JDK-8234696	13, 11	tools/jlink/plugins/VendorInfoPluginsTest.java times out	PSU
JDK-8234691	11	Potential double-free in ParallelSPCCleanupTask constructor	PSU
JDK-8234625	13	hs test serviceability/sa/CIhsdbCDSCore.java fails on macOS 10.15	PSU
JDK-8234617	13	C1: Incorrect result of field load due to missing narrowing conversion	PSU
JDK-8234522	13, 11	[macos] Crash with use of native file dialog	PSU
JDK-8234501	13	remove obsolete NET_ReadV	PSU
JDK-8234466	13	Class loading deadlock involving X509Factory#commitEvent()	PSU
JDK-8234423	13	Modifying ArrayList.subList().subList() resets modCount of subList	PSU
JDK-8234398	13, 11	Replace ID2D1Factory::GetDesktopDpi with GetDeviceCaps	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8234397	13	add OS uptime information to <code>os::print_os_info</code> output	PSU
JDK-8234386	13	[macos] NPE was thrown at expanding Choice from maximized frame	PSU
JDK-8234339	13	replace <code>JLI_StrTok</code> in <code>java_md_solinux.c</code>	PSU
JDK-8234332	13, 11	[TESTBUG] <code>java/awt/Focus/DisposedWindow/DisposeDialogNotActivateOwnerTest/DisposeDialogNotActivateOwnerTest.java</code> fails on linux-x64 nightly	PSU
JDK-8234323	13	NULL-check return value of <code>SurfaceData_InitOps</code> on macosx	PSU
JDK-8234321	13	Call cache flush after generating trampoline.	PSU
JDK-8234288	13	Turkey Time Zone returns incorrect time zone name	PSU
JDK-8234270	13, 11	[REDO] <code>JDK-8204128</code> NMT might report incorrect numbers for Compiler area	PSU
JDK-8234184	13, 11	[TESTBUG] <code>java/awt/Mouse/EnterExitEvents/ModalDialogEnterExitEventsTest.java</code> fails in Windows	PSU
JDK-8234146	14, 11	<code>compiler/jsr292/ContinuousCallSiteTargetChange.java</code> times out on SPARC	PSU
JDK-8234137	13, 11	The " <code>AutoTestOnTop.java</code> " test may run external applications	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8233954	8	UnsatisfiedLinkError or NoSuchAlgorithmException after removing sunec.dll	PSU
JDK-8233920	13, 11	MethodHandles::tryFinally generates illegal bytecode for long/double return types	PSU
JDK-8233880	11, 8	Support compilers with multi-digit major version numbers	PSU
JDK-8233839	13	aarch64: missing memory barrier in NewObjectArrayStub and NewTypeArrayStub	PSU
JDK-8233820	13	Test crashed with assert(phi->operand_count() != 1 phi->subst() != phi) failed: missed trivial simplification	PSU
JDK-8233707	13, 11	systemScale.cpp could not compile with VS2019	PSU
JDK-8233696	13, 11	[TESTBUG]Some jtreg tests fail when CAPS_LOCK is ON	PSU
JDK-8233657	13	Intermittent NPE in Component.validate()	PSU
JDK-8233649	13	Update ProblemList.txt to exclude failing headful tests on macos	PSU
JDK-8233621	13, 11	Mismatch in jsse.enableMFLNExtension property name	PSU
JDK-8233608	13, 11	Minimal build broken after JDK-8233494	PSU
JDK-8233573	13, 11	Toolkit.getScreenInsets(GraphicsConfiguration) may throw ClassCastException	PSU
JDK-8233548	13	Update CUP to v0.11b	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8233494	13, 11	Avoid calling MallocTracker::record_malloc and record_free when NMT is off	PSU
JDK-8233491	13	Crash in AdapterHandlerLibrary::get_adapter with CDS due to code cache exhaustion	PSU
JDK-8233466	13	aarch64: remove unnecessary load of mdo when profiling return and parameters type	PSU
JDK-8233383	13	Various minor fixes	PSU
JDK-8233364	13, 11	Fix undefined behavior in Canonicalizer::do_ShiftOp	PSU
JDK-8233291	13, 11	[TESTBUG] tools/jlink/plugins/VendorInfoPluginsTest.java fails with debug or non-server VMs	PSU
JDK-8233197	13, 11	Invert JvmtiExport::post_vm_initialized() and Jfr:on_vm_start() start-up order for correct option parsing	PSU
JDK-8233137	13, 11	runtime/ErrorHandling/VeryEarlyAssertTest.java fails after 8232080	PSU
JDK-8233081	13	C1: PatchingStub for field access copies too much	PSU
JDK-8233075	13	JFR - nmethods - misspelled in several places	PSU
JDK-8233033	13, 11	C2 produces wrong result while unswitching a loop due to lost control dependencies	PSU
JDK-8233019	13	java.lang.Class.isPrimitive() (C1) returns wrong result if Klass* is aligned to 32bit	PSU
JDK-8233018	13	Add a new test to verify that DatagramSocket is not interruptible	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8232880	13	Update test documentation with additional settings for client UI tooltip tests	PSU
JDK-8232846	13, 11	ProcessHandle.Info command with non-English shows question marks	PSU
JDK-8232834	13	RunTest sometimes fails to produce valid exitcode.txt	PSU
JDK-8232806	13	Introduce a system property to disable eager lambda initialization	PSU
JDK-8232748	13, 11	Build static versions of certain JDK libraries	PSU
JDK-8232713	13	Update BCEL version to 6.3.1 in license file	PSU
JDK-8232692	13	[TESTBUG] compiler/aot/fingerprint/SelfChangedCDS.java fails when cds is disabled	PSU
JDK-8232634	13, 11	Problem List ICMColorDataTest.java	PSU
JDK-8232592	13	<Unknown compiled code> is shown in jstack mixed mode	PSU
JDK-8232572	13, 11	Add hooks for custom output dir in Bundles.gmk	PSU
JDK-8232571	13	new sun.misc.Signal("INFO") throws IllegalArgumentException since JDK11	PSU
JDK-8232433	13	[macos 10.15] java/awt/Window/LocationAtScreenCorner/LocationAtScreenCorner.java may fail	PSU
JDK-8232370	13	Refactor some com.sun.jdi tests to enable IDE integration	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8232357	13, 11	Compare version info of Santuario to legal notice	PSU
JDK-8232226	13, 11, 8, 7	[macos 10.15] test/jdk/java/awt/color/EqualityTest/EqualityTest.java may fail	PSU
JDK-8232207	13	Linux os::available_memory re-reads cgroup configuration on every invocation	PSU
JDK-8232200	13	[macos 10.15] Windows in fullscreen tests jumps around the screen	PSU
JDK-8232178	13	MacVolumesTest failed after upgrade to MacOS Catalina	PSU
JDK-8232170	13	FSInfo#getJarClassPath throws an exception not declared in its throws clause	PSU
JDK-8232167	13	Visual Studio install found through --with-tools-dir value is discarded	PSU
JDK-8232134	11	Change to Visual Studio 2017 15.9.16 for building on Windows at Oracle	PSU
JDK-8232106	11	[x86] C2: SIGILL due to usage of SSSE3 instructions on processors which don't support it	PSU
JDK-8232080	13, 11	jlink plugins for vendor information and command-line options	PSU
JDK-8232056	13	GetOwnedMonitorInfoWithEATest.java fails with ZGC: Heap too small	PSU
JDK-8232052	13	use string literal for format string when handling PauseAtStartupFile	PSU
JDK-8232003	13	(fs) Files.write can leak file descriptor in the exception case	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8231863	13, 11	Crash if classpath is read from @argument file and the main gets option argument	PSU
JDK-8231810	13, 8	javax/net/ssl/templates/SSLSocketSSLEngineTemplate.java fails intermittently with "java.lang.Exception: Unexpected EOF"	PSU
JDK-8231779	13, 11, 8	crash HeapWord*ParallelScavengeHeap::failed_mem_allocate	PSU
JDK-8231720	13, 11	Some perf regressions after 8225653	PSU
JDK-8231713	13	x86_32 build failures after JDK-8226721 (Missing intrinsics for Math.ceil, floor, rint)	PSU
JDK-8231671	13, 11	Fix copyright headers in hotspot (missing comma after year)	PSU
JDK-8231631	13, 11	sun/net/ftp/FtpURLConnectionLeak.java fails intermittently with NPE	PSU
JDK-8231584	13	Deadlock with ClassLoader.findLibrary and System.loadLibrary call	PSU
JDK-8231572	14, 13, 11	Use -lobjc instead of -fobjc-link-runtime in libosxsecurity	PSU
JDK-8231564	13, 11	setMaximizedBounds is broken with large display scale and multiple monitors	PSU
JDK-8231550	13, 11	C2: ShouldNotReachHere() in verify_strip_mined_scheduling	PSU
JDK-8231503	13	[TESTBUG] compiler/{jvnci,aot} tests should not run with GCs that do not support JVMCI/AOT	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8231445	13	check ZALLOC return values in awt coding	PSU
JDK-8231438	13, 11	[macOS] Dark mode for the desktop is not supported	PSU
JDK-8231430	13	C2: Memory stomp in max_array_length() for T_ILLEGAL type	PSU
JDK-8231387	13, 8	java.security.Provider.getService returns random result due to race condition with mutating methods in the same class	PSU
JDK-8231351	13	Add notes for PKCS11 tests in the test doc	PSU
JDK-8231296	13	ZGC: vmTestbase/nsk/jvmti/Allocate/alloc001/ fails	PSU
JDK-8231294	13	ZGC: vmTestbase/nsk/jvmti/ResourceExhausted/resexhausted002 fails	PSU
JDK-8231254	13	(fs) Add test for macOS Catalina changes to protect system software	PSU
JDK-8231243	13, 11	[TESTBUG] CustomFont.java cannot find font file	PSU
JDK-8231223	13	C2's conditional move optimization fails with assert(bol->Opcode() == Op_Boot) failed	PSU
JDK-8231213	13, 11	Migrate SimpleDateFormatConstTest to JDK Repo	PSU
JDK-8231201	13	hs_err should print coalesced safepoint operations in Events section	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8231124	13	Missing closedir call with JDK-8223490	PSU
JDK-8231118	14, 11	ARM32: Math tests failures	PSU
JDK-8231081	13	TestMetadataRetention fails due to missing symbol id	PSU
JDK-8231025	13	Incorrect method tag offset for big endian platform	PSU
JDK-8230926	13	[macosx] Two apostrophes are entered instead of one with "U.S. International - PC" layout	PSU
JDK-8230910	13	libsspi_bridge does not build on Windows 32bit	PSU
JDK-8230901	13	missing ReleaseStringUTFChars in serviceability native code	PSU
JDK-8230900	13	missing ReleaseStringUTFChars in java.desktop native code	PSU
JDK-8230881	13	serviceability/sa/TestJmapCore tests fail with java.lang.RuntimeException: Could not find dump file	PSU
JDK-8230856	13	Java_java_net_NetworkInterface_getByName0 on unix misses ReleaseStringUTFChars in early return	PSU
JDK-8230853	14	Shenandoah: replace leftover assert(is_in(...)) with rich asserts	PSU
JDK-8230813	13	Add JDK-8010500 to compiler/loopopts/superword/TestFuzzPreLoop.java bug list	PSU
JDK-8230782	8	Robot.createScreenCapture() fails if "awt.robot.gtk" is set to false	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8230769	13, 8	BufImg_SetupICM add ReleasePrimitiveArrayCritical call in early return	PSU
JDK-8230711	13	ConnectionGraph::unique_java_object(Node* N) return NULL if n is not in the CG	PSU
JDK-8230677	13	Should disable Escape Analysis if JVMTI capability can_get_owned_monitor_info was taken	PSU
JDK-8230624	13	[TESTBUG] Problemlist JFR compiler/TestCodeSweeper.java	PSU
JDK-8230611	13	infinite loop in LogOutputList::wait_until_no_readers()	PSU
JDK-8230591	11	AArch64: Missing intrinsics for Math.ceil, floor, rint	PSU
JDK-8230480	13	check malloc/calloc results in java.desktop	PSU
JDK-8230466	13	check malloc/calloc results in jdk.hotspot.agent	PSU
JDK-8230431	13	Move G1 trace code from gcTrace* to G1 directory	PSU
JDK-8230400	13	Missing constant pool entry for a method in stacktrace	PSU
JDK-8230398	13	Remove NULL checks before FREE_C_HEAP_ARRAY	PSU
JDK-8230390	13	Problemlist SA tests with AOT	PSU
JDK-8230388	13	Problemlist additional compiler/rtm tests	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8230376	13	[TESTBUG] runtime/StackTrace/HiddenFrameTest.java fails with release VM	PSU
JDK-8230363	13	C2: Let ConnectionGraph::not_global_escape(Node* n) return false if n is not in the CG	PSU
JDK-8230238	13	Add another regression test for JDK-8134739	PSU
JDK-8230079	13	Update test document by changing "TIMEOUT" to "TIMEOUT_FACTOR"	PSU
JDK-8230004	13	jdk/internal/jimage/JImageOpenTest.java runs no test	PSU
JDK-8229994	13	assert(false) failed: Bad graph detected in get_early_ctrl_for_expensive	PSU
JDK-8229899	13, 8	java.io.File.isInvalid() is racy	PSU
JDK-8229888	13, 8	(zipfs) Updating an existing zip file does not preserve original permissions	PSU
JDK-8229873	8	8229401 broke jdk8u-jfr-incubator	PSU
JDK-8229855	13, 11	C2 fails with assert(false) failed: bad AD file	PSU
JDK-8229810	13	[macos] NullPointerException getting bounds of GraphicsConfiguration	PSU
JDK-8229708	8	JFR backport code does not initialize	PSU
JDK-8229701	13	aarch64: C2 OSR compilation fails with "shouldn't process one node several times" in final graph reshaping	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8229515	13	[macos] access to window property of NSView on wrong thread	PSU
JDK-8229483	13	Sinking load out of loop may trigger: assert(found_sfpt) failed: no node in loop that's not input to safepoint	PSU
JDK-8229421	13, 11	The logic of java/net/ipv6tests/TcpTest.java is flawed	PSU
JDK-8229420	13	[Redo] jstat reports incorrect values for OU for CMS GC	PSU
JDK-8229406	13	ZGC: Fix incorrect statistics	PSU
JDK-8229352	13	Use of an uninitialized register in 32-bit ARM template interpreter	PSU
JDK-8229345	13	Memory leak due to vtable stubs not being shared on SPARC	PSU
JDK-8229236	13	CriticalJNINatives: dll handling should be done in native thread state	PSU
JDK-8229169	13	False failure of GenericTaskQueue::pop_local on architectures with weak memory model	PSU
JDK-8229158	13, 11	make UseSwitchProfiling non-experimental or false by-default	PSU
JDK-8229156	13	ProblemList gc/stress/gclocker/TestExcessGCLockerCollections.java	PSU
JDK-8229022	13	BufferedReader performance can be improved by using StringBuilder	PSU
JDK-8229020	13	Failure on CPUs allowing loads reordering: assert(_tasks[t] == 1) failed: What else?	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8228902	13	add os::dll_load to the unified logging os category	PSU
JDK-8228888	13	C2 compilation fails with assert "m has strange control"	PSU
JDK-8228772	13	C2 compilation fails due to unschedulable graph if DominatorSearchLimit is reached	PSU
JDK-8228757	13, 11, 8	Fail fast if the handshake type is unknown	PSU
JDK-8228725	13	AArch64: Purge method call format support	PSU
JDK-8228687	13	[TESTBUG] exclude Container tests from hotspot_misc group	PSU
JDK-8228625	13	[TESTBUG] sun/tools/jhsdb/JShellHeapDumpTest.java fails with RuntimeException 'JShellToolProvider' missing from stdout/stderr	PSU
JDK-8228613	13, 8	java.security.Provider#getServices order is no longer deterministic	PSU
JDK-8228596	13	Class redefinition fails when condy instructions are removed	PSU
JDK-8228501	13	java_props_macosx.c - provide missing CFRelease for CFLocaleCopyCurrent	PSU
JDK-8228482	11	fix xlc16/xlclang comparison of distinct pointer types and string literal conversion warnings	PSU
JDK-8228479	13	Correct the format of ColorChooserDemoTest	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8228407	11	JVM crashes with shared archive file mismatch	PSU
JDK-8228400	13	Remove built-in AArch64 simulator	PSU
JDK-8228368	13	avoid incompatible pointer to integer conversion initializing gint in gtk2_interface	PSU
JDK-8227834	13	build.log output from failing commands : include the hs_error file path in case of crashes in build	PSU
JDK-8227645	13	Some tests in serviceability/sa run with fixed -Xmx values and risk running out of memory	PSU
JDK-8227632	13, 11	Incorrect PrintCompilation message: made not compilable on levels 0 1 2 3 4	PSU
JDK-8227539	13	Replace wildcard address with loopback or local host in tests - part 20	PSU
JDK-8227439	13	Turn off AOT by default	PSU
JDK-8227411	13	TestTimeMultiple.java failed "assert(!lease()) failed: invariant"	PSU
JDK-8227397	13	Add --with-extra-asflags configure option	PSU
JDK-8227338	13	templateInterpreter.cpp: copy_table() needs to be safer	PSU
JDK-8227324	13	Upgrade to freetype 2.10.1	PSU
JDK-8227269	14, 13, 8	Slow class loading when running with JDWP	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8227086	13	Use AS_NO_KEEPALIVE loads in HeapDumper	PSU
JDK-8227035	13	JVM::printFlags fails in native OOM situations	PSU
JDK-8227032	13	MetaspaceUtils::print_report crashes when called before initialization	PSU
JDK-8227031	13	Print NMT statistics on fatal errors	PSU
JDK-8226899	13	Problemlist compiler/rtm tests	PSU
JDK-8226892	13	ActionListeners on JRadioButtons don't get notified when selection is changed with arrow keys	PSU
JDK-8226879	13, 11	Memory leak in Type::hashcons	PSU
JDK-8226806	13, 11	[macOS 10.14] Methods of Java Robot should be called from appropriate thread	PSU
JDK-8226798	13	JVM crash in klassItable::initialize_itable_for_interface(int, InstanceKlass*, bool, Thread*)	PSU
JDK-8226779	13	[TESTBUG] Test JFR API from Java agent	PSU
JDK-8226721	13	Missing intrinsics for Math.ceil, floor, rint	PSU
JDK-8226409	13	Enable argument profiling for sun.misc.Unsafe.put*/get*	PSU
JDK-8226253	13, 11, 8	JAWS reports wrong number of radio buttons when buttons are hidden	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8226198	11	use of & instead of && in LibraryCallKit::arraycopy_restore_alloc_state	PSU
JDK-8225797	13	OldObjectSample event creates unexpected amount of checkpoint data	PSU
JDK-8225789	11	Empty method parameter type should generate ClassFormatError	PSU
JDK-8225783	13, 11	Incorrect use of binary operators on booleans in type.cpp	PSU
JDK-8225766	8	Curve in certificate should not affect signature scheme when using TLSv1.3	PSU
JDK-8225715	13	jhsdb jmap fails to write binary heap dump of a jshell process	PSU
JDK-8225694	13	Destination option missing in FlightRecorderMXBeanImpl	PSU
JDK-8225653	13, 11	Provide more information when hitting SIGILL from HaltNode	PSU
JDK-8225644	13	C1 dumps incorrect class name in ClassCastException message	PSU
JDK-8225636	13	SA can't handle prelinked libraries	PSU
JDK-8225622	11	[AOT] runtime/SharedArchiveFile/TestInterpreterMethodEntries.java crashed with AOTed java.base	PSU
JDK-8225435	13	Upgrade IANA Language Subtag Registry to the latest for JDK14	PSU
JDK-8225430	13	Replace wildcard address with loopback or local host in tests - part 14	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8225325	11	Add tests for redefining a class' private method during resolution of the bootstrap specifier	PSU
JDK-8225216	14	gc/logging/TestMetaSpaceLog.java doesn't work for Shenandoah	PSU
JDK-8225130	13	Add exception for expiring Comodo roots to VerifyCACerts test	PSU
JDK-8225128	13	Add exception for expiring DocuSign root to VerifyCACerts test	PSU
JDK-8225126	13, 11	Test SetBoundsPaintTest.html failed on Windows when desktop is scaled	PSU
JDK-8225101	13	Crash at sun.awt.X11.XlibWrapper.XkbGetUpdatedMap when change keyboard map	PSU
JDK-8225069	14, 13, 11, 8	Remove Comodo root certificate that is expiring in May 2020	PSU
JDK-8225068	14, 13, 11, 8	Remove DocuSign root certificate that is expiring in May 2020	PSU
JDK-8224997	13	ChaCha20-Poly1305 TLS cipher suite decryption throws ShortBufferException	PSU
JDK-8224931	11	disable JAOTC invokedynamic support until 8223533 is fixed	PSU
JDK-8224851	13	AArch64: fix warnings and errors with Clang and GCC 8.3	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8224847	11	gc/stress/TestReclaimStringsLeaksMemory.java fails with reserved greater than expected	PSU
JDK-8224793	11	os::die() does not honor CreateCoredumpOnCrash option	PSU
JDK-8224632	11	testbug: java/awt/dnd/RemoveDropTargetCrashTest/RemoveDropTargetCrashTest.java fails on MacOS	PSU
JDK-8224475	13	JTextPane does not show images in HTML rendering	PSU
JDK-8224157	13	BCEL: update to version 6.3.1	PSU
JDK-8224109	13, 11	Text spaced incorrectly by drawString under rotation with fractional metrics	PSU
JDK-8223940	8	Private key not supported by chosen signature algorithm	PSU
JDK-8223935	14, 13, 11	PIT: java/awt/font/WindowsIndicFonts.java fails on windows10	PSU
JDK-8223769	13	Assert triggers with -XX:+StressReflectiveCode	PSU
JDK-8223727	13	com/sun/jndi/ldap/privconn/RunTest.java failed due to hang in LdapRequest.getReplyBer	PSU
JDK-8223697	13	jfr tool can't format duration values greater than 1 minute	PSU
JDK-8223558	13	Java does not render Myanmar script correctly	PSU
JDK-8223490	13	Optimize search algorithm for determining default time zone	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8223482	8	Unsupported ciphersuites may be offered by a TLS client	PSU
JDK-8223260	13	NamingManager should cache InitialContextFactory	PSU
JDK-8223158	13	Docked MacBook cannot start any Java Swing applications	PSU
JDK-8223147	8	JFR Backport	PSU
JDK-8223108	13, 11	Test java/awt/EventQueue/NonComponentSourcePost.java is unstable	PSU
JDK-8221823	11	Requested JDialog width is ignored	PSU
JDK-8221741	14, 13, 11	ClassCastException can happen when fontconfig.properties is used	PSU
JDK-8221710	8	[TESTBUG] more configurable parameters for docker testing	PSU
JDK-8221482	11	Initialize VMRegImpl::regName[] earlier to prevent assert during PrintStubCode	PSU
JDK-8221445	11	FastSysexMessage constructor crashes MIDI reception thread	PSU
JDK-8221312	13	test/jdk/sanity/client/SwingSet/src/ColorChooserDemoTest.java failed	PSU
JDK-8221270	8	Duplicated synchronized keywords in SSLSocketImpl	PSU
JDK-8221253	8	TLSv1.3 may generate TLSInnerPlainText longer than 2 ¹⁴ +1 bytes	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8220503	14	Move definition of ShenandoahTerminatorTerminator::should_exit_termination() to .cpp file	PSU
JDK-8220479	13	java/nio/channels/Selector/SelectWithConsumer.java failed at testTwoChannels()	PSU
JDK-8220348	13	[ntintel] asserts about copying unaligned array	PSU
JDK-8220165	8	Encryption using GCM results in RuntimeException: input length out of bound	PSU
JDK-8219991	11	New fix of the deadlock in sun.security.ssl.SSLSocketImpl	PSU
JDK-8219904	13, 11	ClassCastException when calling FlightRecorderMXBean#getRecordings()	PSU
JDK-8219597	8, 7	(bf) Heap buffer state changes could provoke unexpected exceptions	PSU
JDK-8219389	8	Delegated task created by SSLEngine throws BufferUnderflowException	PSU
JDK-8219214	11	Infinite Loop in CodeSection::dump()	PSU
JDK-8218889	8	Improperly use of the Optional API	PSU
JDK-8218807	11	Compilation database (compile_commands.json) may contain obsolete items	PSU
JDK-8218268	13	Javac treats Manifest Class-Path entries as Paths instead of URLs	PSU
JDK-8217610	8	TLSv1.3 fail with ClassException when EC keys are stored in PKCS11	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8217606	13, 11	LdapContext#reconnect always opens a new connection	PSU
JDK-8217579	8	TLS_EMPTY_RENEGOTIATION_INFO_SCSV is disabled after 8211883	PSU
JDK-8217447	11	Develop flag TracelCs is broken	PSU
JDK-8217404	11	--with-jvm-features doesn't work when multiple features are explicitly disabled	PSU
JDK-8217230	11	assert(t == t_no_spec) failure in NodeHash::check_no_speculative_types()	PSU
JDK-8216977	13	ShowHiddenFrames use in java_lang_StackTraceElement::fill_in appears broken	PSU
JDK-8216541	11	CompiledIC Holders of VM locked unloaded nmethods are released too late	PSU
JDK-8216472	13	(se) Stack overflow during selection operation leads to crash (win)	PSU
JDK-8216354	13	Syntax error in toolchain_windows.m4	PSU
JDK-8216326	8	SSLSocket stream close() does not close the associated socket	PSU
JDK-8216154	11	C4819 warnings at HotSpot sources on Windows	PSU
JDK-8216151	11	[Graal] Module jdk.internal.vm.compiler.management has not been granted accessClassInPackage.org.graalvm.compiler.debug	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8216064	8	-XX:StartFlightRecording:settings= doesn't work properly	PSU
JDK-8216045	8	The size of key_exchange may be wrong on FFDHE	PSU
JDK-8215790	8	Delegated task created by SSLEngine throws java.nio.BufferUnderflowException	PSU
JDK-8215711	13, 11, 8	Missing key_share extension for (EC)DHE key exchange should alert missing_extension	PSU
JDK-8215555	11	TieredCompilation C2 threads can excessively block handshakes	PSU
JDK-8215551	11	Missing case label in nmethod::reloc_string_for()	PSU
JDK-8215524	8	Finished message validation failure should be decrypt_error alert	PSU
JDK-8215369	11	JCStress pollute /var/tmp with temporary files.	PSU
JDK-8215355	13	Object monitor deadlock with no threads holding the monitor (using jemalloc 5.1)	PSU
JDK-8214904	13	Test8004741.java failed due to "Too few ThreadDeath hits; expected at least 6 but saw only 5"	PSU
JDK-8214862	11	assert(proj != __null) at compile.cpp:3251	PSU
JDK-8214856	11	Errors with JSZip in web console after upgrade to 3.1.5	PSU
JDK-8214688	8	TLS 1.3 session resumption with hello retry request failed with "illegal_parameter"	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8214578	13	[macos] Problem with backslashes on macOS/JIS keyboard: Java ignores system settings	PSU
JDK-8214571	11	-Xdoclint of array serialField gives "error: array type not allowed here"	PSU
JDK-8214481	13, 11	freetype path does not disable TrueType hinting with AA+FM hints	PSU
JDK-8214469	13	[macos] PIT: java/awt/Choice/ChoiceKeyEventReaction/ChoiceKeyEventReaction.java fails	PSU
JDK-8214444	11	Wrong strncat limits in dfa.cpp	PSU
JDK-8214440	11	ldap over a TLS connection negotiate failed with "javax.net.ssl.SSLPeerUnverifiedException: hostname of the server " does not match the hostname in the server's certificate"	PSU
JDK-8214339	8	SSLSocketImpl erroneously wraps SocketException	PSU
JDK-8214321	8	Misleading code in SSLCipher	PSU
JDK-8214129	8	SSL session resumption/SNI with TLS1.2 causes StackOverflowError	PSU
JDK-8214098	8	sun.security.ssl.HandshakeHash.T12HandshakeHash constructor check backwards.	PSU
JDK-8213947	11	ARM32: failed check_simd should set UsePopCountInstruction to false	PSU
JDK-8213782	8	NullPointerException in sun.security.ssl.OutputRecord.changeWriteCiphers	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8213734	8	SAXParser.parse(File, ..) does not close resources when Exception occurs.	PSU
JDK-8213583	7	Error while opening the JFileChooser when desktop contains shortcuts pointing to deleted files	PSU
JDK-8213561	13	ZipFile/MultiThreadedReadTest.java timed out in tier1	PSU
JDK-8213250	11	CDS archive creation aborts due to metaspace object allocation failure	PSU
JDK-8213202	8	Possible race condition in TLS 1.3 session resumption	PSU
JDK-8212986	13, 11	Make Visual Studio compiler check less strict	PSU
JDK-8212933	11	Thread-SMR: requesting a VM operation whilst holding a ThreadsListHandle can cause deadlocks	PSU
JDK-8212885	8	TLS 1.3 resumed session does not retain peer certificate chain	PSU
JDK-8212738	8	Incorrectly named signature scheme ecdsa_secp512r1_sha512	PSU
JDK-8212167	11	JShell : Stack trace of exception has wrong line number	PSU
JDK-8212154	11	[TESTBUG] CheckArchivedModuleApp fails with NPE when JVMCI is absent	PSU
JDK-8211866	8	TLS 1.3 CertificateRequest message sometimes offers disallowed signature algorithms	PSU
JDK-8211806	8	TLS 1.3 handshake server name indication is missing on a session resume	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8211743	11	[AOT] crash in ScopeDesc::decode_body() when JVMTI walks AOT frames	PSU
JDK-8211392	11	compiler/profiling/spectrapredefineclass_classloaders/Launcher.java times out in JDK12 CI	PSU
JDK-8211339	11, 8	NPE during SSL handshake caused by HostnameChecker	PSU
JDK-8211332	11	code_size2 (defined in stub_routines_x86.hpp) is too small on new Skylake CPUs	PSU
JDK-8211301	11	[macos] support full window content options	PSU
JDK-8210989	8	RSASSA-PSS certificate cannot be selected for client auth on TLSv1.2	PSU
JDK-8210985	8	Update the default SSL session cache size to 20480	PSU
JDK-8210974	8	No extensions debug log for ClientHello	PSU
JDK-8210846	8	TLSv. 1.3 interop problems with OpenSSL 1.1.1 when used on the client side with mutual auth	PSU
JDK-8210788	11	Javadoc for Thread.join(long, int) should specify that it waits forever when both arguments are zero	PSU
JDK-8210776	8	Upgrade X Window System 6.8.2 to the latest XWD 1.0.7	PSU
JDK-8210632	8	Add key exchange algorithm to javax/net/ssl/TLSCommon/CipherSuite.java	PSU
JDK-8210515	11	[TESTBUG]CheckArchivedModuleApp.java needs to check if EnableJVMCI is set	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8210334	8	TLS 1.3 server fails if ClientHello doesn't have pre_shared_key and psk_key_exchange_modes	PSU
JDK-8210303	11	VM_HandshakeAllThreads fails assert with "failed: blocked and not walkable"	PSU
JDK-8210284	11	"assert((av & 0x00000001) == 0) failed: unsupported V8" on Solaris 11.4	PSU
JDK-8210147	11, 8	adjust some WSAGetLastError usages in windows network coding	PSU
JDK-8210058	13	Algorithmic Italic font leans opposite angle in Printing	PSU
JDK-8209965	8	The "supported_groups" extension in ServerHellos	PSU
JDK-8209960	8	-Xlog:jfr* doesn't work with the JFR parser	PSU
JDK-8209916	8	NPE in SupportedGroupsExtension	PSU
JDK-8209824	13	Improve the code coverage for ThreadLocal	PSU
JDK-8209802	13	Garbage collectors should register JFR types themselves to avoid build errors.	PSU
JDK-8209534	11	[TESTBUG]runtime/appcds/cacheObject/ArchivedModuleCompareTest.java fails with EnableJVMCI	PSU
JDK-8209439	11	C2 library_call can potentially ignore Math.pow intrinsic or use null pointer	PSU
JDK-8209333	11, 8	Socket reset issue for TLS 1.3 socket close	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8209113	13, 11	Use WeakReference for lastFontStrike for created Fonts	PSU
JDK-8208277	11	Code cache heap (-XX:ReservedCodeCacheSize) doesn't work with 1GB LargePages	PSU
JDK-8208166	8	Still unable to use custom SSLEngine with default TrustManagerFactory after JDK-8207029	PSU
JDK-8207392	8	[PPC64] Implement JFR profiling.	PSU
JDK-8207317	8	SSLEngine negotiation fail exception behavior changed from fail-fast to fail-lazy	PSU
JDK-8207237	8	SSLSocket#setEnabledCipherSuites is accepting empty string	PSU
JDK-8207223	8	SSL Handshake failures are reported with more generic SSLException	PSU
JDK-8207029	8	Unable to use custom SSLEngine with default TrustManagerFactory after updating to JDK 11 b21	PSU
JDK-8207009	8	TLS 1.3 half-close and synchronization issues	PSU
JDK-8206929	8	Check session context for TLS 1.3 session resumption	PSU
JDK-8206925	8	Support the certificate_authorities extension	PSU
JDK-8206355	8	SSLSessionImpl.getLocalPrincipal() throws NPE	PSU
JDK-8206179	11	com/sun/management/OperatingSystemMXBean/GetCommittedVirtualMemorySize.java fails with Committed vir-	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
		tual memory size illegal value	
JDK-8206176	8	Remove the temporary tls13VN field	PSU
JDK-8205653	11, 8	test/jdk/sun/management/jmxremote/bootstrap/RmiRegistrySslTest.java and RmiSslBootstrapTest.sh fail with handshake_failure	PSU
JDK-8205399	11	Set node color on pinned HashMap.TreeNode deletion	PSU
JDK-8204963	11	javax.swing.border.TitledBorder has a memory leak	PSU
JDK-8204834	11	Fix confusing "allocate" naming in OopStorage	PSU
JDK-8203929	8	Limit amount of data for JFR.dump	PSU
JDK-8203921	8	JFR thread sampling is missing fixes from JDK-8194552	PSU
JDK-8203687	8	javax/net/ssl/compatibility/Compatibility.java supports TLS 1.3	PSU
JDK-8203672	11	JNI exception pending in PlainSocketImpl.c	PSU
JDK-8203664	8	JFR start failure after AppCDS archive created with JFR StartFlightRecording	PSU
JDK-8203346	8	JFR: Inconsistent signature of jfr_add_string_constant	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8203287	8	Zero fails to build after JDK-8199712 (Flight Recorder)	PSU
JDK-8201633	8	Problems with AES-GCM native acceleration	PSU
JDK-8201349	13	build broken when configured with --with-zlib=bundled on gcc 7.3	PSU
JDK-8200701	11	jdk/jshell/ExceptionsTest.java fails on Windows, after JDK-8198801	PSU
JDK-8200550	8	Xcode 9.3 produce warning -Wexpansion-to-defined	PSU
JDK-8200313	8	java/awt/Gtk/GtkVersionTest/GtkVersionTest.java fails	PSU
JDK-8199712	8	Flight Recorder	PSU
JDK-8199215	8	Re-examine getFreePort method in test infrastructure library	PSU
JDK-8198339	11	Test javax/swing/border/Test6981576.java is unstable	PSU
JDK-8198001	11	java/awt/Menu/WrongParentAfterRemoveMenu/WrongParentAfterRemoveMenu.java debug assert on Windows	PSU
JDK-8198000	11	java/awt/List/EmptyListEventTest/EmptyListEventTest.java debug assert on Windows	PSU
JDK-8196969	8	JTreg Failure: serviceability/sa/ClhsdbJstack.java causes NPE	PSU
JDK-8196584	8	TLS 1.3 Implementation	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8196467	13	javax/swing/JInternalFrame/Test6325652.java fails	PSU
JDK-8196181	13, 11	sun/java2d/GdiRendering/InsetClipping.java fails	PSU
JDK-8196019	13, 11	java/awt/Window/Grab/GrabTest.java fails on Windows	PSU
JDK-8195819	8	Remove recording=x from jcmd JFR.check output	PSU
JDK-8194944	13	Regression automated test 'open/test/jdk/javax/swing/JInternalFrame/8145896/TestJInternalFrameMaximize.java' fails	PSU
JDK-8193879	11	Java debugger hangs on method invocation	PSU
JDK-8193596	13	java/net/DatagramPacket/ReuseBuf.java failed due to timeout	PSU
JDK-8193325	13	StackFrameInfo::getByteCodeIndex returns wrong value if bci > 32767	PSU
JDK-8193042	13	NativeLookup::lookup_critical_entry() should only load shared library once	PSU
JDK-8191930	11	[Graal] emits unparseable XML into compile log	PSU
JDK-8191393	8	Random crashes during cfree+0x1c	PSU
JDK-8191169	13, 11	java/net/Authenticator/B4769350.java failed intermittently	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8189633	13	Missing -Xcheck:jni checking for DeleteWeakGlobalRef	PSU
JDK-8187078	11	-XX:+VerifyOops finds numerous problems when running JPRT	PSU
JDK-8186057	8	TLS interoperability testing between different Java versions	PSU
JDK-8184157	13	(ch) AsynchronousFileChannel hangs with internal error when reading locked file	PSU
JDK-8183369	14, 13, 11	RFC unconformity of HttpURLConnection with proxy	PSU
JDK-8181841	8, 7, 6	A TSA server returns timestamp with precision higher than milliseconds	CPU
JDK-8179098	8	Crypto AES/ECB encryption/decryption performance regression (introduced in jdk9b73)	PSU
JDK-8178374	8	Problematic ByteBuffer handling in CipherSpi.bufferCrypt method	PSU
JDK-8177784	8	Use CounterMode intrinsic for AES/GCM	PSU
JDK-8176837	13	SunPKCS11 provider needs to check more details on PKCS11 Mechanism	PSU
JDK-8176359	13, 11	Frame#setMaximizedbounds not working properly in multi screen environments	PSU
JDK-8176182	8	4 security tests are not run	PSU
JDK-8175984	13, 11	ICC_Profile has un-needed, not-empty finalize method	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8172559	8	[PIT][TEST_BUG] Move @test to be 1st annotation in java/awt/image/Raster/TestChildRasterOp.java	PSU
JDK-8171934	8	ObjectSizeCalculator.getEffectiveMemoryLayoutSpecification() does not recognize OpenJDK's HotSpot VM	PSU
JDK-8166148	8	Fix for JDK-8165936 broke Solaris builds	PSU
JDK-8165936	8	Potential Heap buffer overflow when seaching timezone info files	PSU
JDK-8165275	8	Replace the reflective call to the implUpdate method in HandshakeMessage::digestKey	PSU
JDK-8163251	13, 8	Hard coded loop limit prevents reading of smart card data greater than 8k	PSU
JDK-8156207	13, 11	Resource allocated BitMaps are often cleared unnecessarily	PSU
JDK-8153430	13, 11, 8	TESTBUG: jdk regression test javax/management/loading/MletParserLocaleTest.java reduce default timeout	PSU
JDK-8150986	8	serviceability/sa/jmap-hprof/JMapHProfLargeHeapTest.java failing because expects HPROF JAVA PROFILE 1.0.1 file format	PSU
JDK-8149338	8	JVM Crash caused by Marlin renderer not handling NaN coordinates	PSU
JDK-8148886	8	SEGV in sun.java2d.marlin.Renderer._endRendering	PSU
JDK-8146612	8	C2: Precedence edges specification violated	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8146238	13	[macosx] Java2D Queue Flusher crash on OSX after switching between user accounts	PSU
JDK-8146215	8	(fs) java/nio/file/Files/probeContentType/Basic.java failed frequently on Solaris-sparc with Unexpected type: text/plain	PSU
JDK-8146090	11	java/lang/ref/ReachabilityFenceTest.java fails with -XX:+DeoptimizeALot	PSU
JDK-8145854	8	SSLContextImpl.statusResponseManager should be generated if required	PSU
JDK-8141056	8	Erroneous assignment in HeapRegionSet.cpp	PSU
JDK-8140436	8	Negotiated Finite Field Diffie-Hellman Ephemeral Parameters for TLS	PSU
JDK-8139876	11	Exclude hanging nsk/stress/stack from execution with deoptimization enabled	PSU
JDK-8134672	13	[TEST_BUG] Some tests should check isDisplayChangeSupported	PSU
JDK-8130737	8	[macosx] AffineTransformOp can't handle child raster with non-zero x-offset	PSU
JDK-8080353	11	JShell: Better error message on attempting to add default method	PSU
JDK-8076475	8	Misuses of strncpy/strncat	PSU
JDK-8072452	8	Support DHE sizes up to 8192-bits and DSA sizes up to 3072-bits	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8062808	8	Turn on the -Wreturn-type warning	PSU
JDK-8051349	11	nsk/jvmti/scenarios/sampling/SP06/sp06t003 fails in nightly	PSU
JDK-8048556	13	Unnecessary GCLocker-initiated young GCs	PSU
JDK-8048215	11	[TESTBUG] java/lang/management/ManagementFactory/ThreadMXBeanProxy.java Expected non-null LockInfo	PSU
JDK-8046321	8	JEP 249: OCSP Stapling for TLS	PSU
JDK-8046274	8	Removing dependency on jakarta-regexp	PSU
JDK-8044365	14, 11, 8, 7	(dc) MulticastSendReceiveTests.java failing with ENOMEM when joining group (OS X 10.9)	PSU
JDK-8042383	13	[TEST_BUG] Test javax/swing/plaf/basic/BasicMenuUI/4983388/bug4983388.java fails with shortcuts on menus do not work	PSU
JDK-8041915	8	Move 8 awt tests to OpenJDK regression tests tree	PSU
JDK-8040630	13, 11	Popup menus and tooltips flicker with previous popup contents when first shown	PSU
JDK-8039082	11	[TEST_BUG] Test java/awt/dnd/BadSerializationTest/BadSerializationTest.java fails	PSU
JDK-8037866	8	Replace the Fun class in tests with lambdas	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8035493	8	JVMTI PopFrame capability must instruct compilers not to prune locals	PSU
JDK-8030680	8	292 cleanup from default method code assessment	PSU
JDK-8028591	8, 7, 6	NegativeArraySizeException in sun.security.util.DerInputStream.getUnalignedBitString()	CPU
JDK-8028518	8	Increase the priorities of GCM cipher suites	PSU
JDK-8028431	8, 7, 6	NullPointerException in DerValue.equals(DerValue)	CPU
JDK-8022574	13, 11	remove HaltNode code after uncommon trap calls	PSU
JDK-8016914	13	CoreDocumentImpl.setXmlVersion NPE	PSU
JDK-8006205	8	[TESTBUG] NEED_TEST: please JTREGIFY test/compiler/7177917/Test7177917.java	PSU
JDK-8003209	8	JFR events for network utilization	PSU
JDK-7143743	13	(zipfs) Potential memory leak with zip provider	PSU
JDK-7124307	13, 11	JSpinner and changing value by mouse	PSU
JDK-7092821	8	java.security.Provider.getService() is synchronized and became scalability bottleneck	PSU
JDK-7065233	7	To interpret case-insensitive string locale independently	PSU

July 2020 OpenJDK Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-6933331	11	(d3d/ogl) java.lang.IllegalStateException: Buffers have not been created	PSU
JDK-4949105	13	Access Bridge lacks html tags parsing	PSU
JDK-4919790	8	Errors in alert ssl message does not reflect the actual certificate status	PSU
JDK-4811968	6	ASN.1 (X509Certificate) implementations don't handle large OID components	PSU

Other OpenJFX Bug Fixes

The following table lists other OpenJFX bug fixes.

July 2020 OpenJFX Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8247360	14, 8	Add missing license file for Microsoft DirectShow Samples	PSU
JDK-8247163	14	JFXPanel throws exception on click when no Scene is set	PSU
JDK-8246348	14	Crash in libpango on Ubuntu 20.04 with some unicode chars	PSU
JDK-8246195	14	ListViewSkin/Behavior: misbehavior on switching skin	PSU
JDK-8246099	14	Intermittent test failures in SandboxAppTest	PSU

July 2020 OpenJFX Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8245634	14	[TestBug] Enable and fix tests ignored with message "impl_cssSet API removed"	PSU
JDK-8245601	14	[TESTBUG] Disable TabPaneDragPolicyTest on Mac until JDK-8213136 is fixed and fix ISE	PSU
JDK-8245457	14	[TestBug] Enable and fix ignored tests in ButtonBaseTest & ButtonTest	PSU
JDK-8245282	14	Button/Combo Behavior: memory leak on dispose	PSU
JDK-8245183	14	Two fxml unit tests log warnings about deprecated escape sequences	PSU
JDK-8244824	14	TableView : Incorrect German translation	PSU
JDK-8244657	14	ChoiceBox/ToolBarSkin: misbehavior on switching skin	PSU
JDK-8244579	14, 8	Windows "User Objects" leakage with WebView	PSU
JDK-8244531	14	Tests: add support to identify recurring issues with controls et al	PSU
JDK-8244487	14	One Windows 10 SDK file missing from FX build	PSU
JDK-8244418	14	MenuBar: IOOB exception on requestFocus on empty bar	PSU

July 2020 OpenJFX Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8244417	14	support static build for Windows	PSU
JDK-8244195	14	[TEST_BUG] Convert the system tests TabPanePermuteGetTabsTest to unit test	PSU
JDK-8244112	14	Skin implementations: must not violate contract of dispose	PSU
JDK-8244110	14	NPE in MenuButtonSkinBase change listener	PSU
JDK-8243255	14	Font size is large in JavaFX app with enabled Monocle on Raspberry Pi	PSU
JDK-8243112	14	Skip failing test SVGTest.testSVGRenderingWithPattern	PSU
JDK-8243110	14	SVGTest.testSVGRenderingWithPattern fails intermittently	PSU
JDK-8242892	14	SpinnerValueFactory has an implicit no-arg constructor	PSU
JDK-8242577	14	Cell selection fails on iOS most of the times	PSU
JDK-8242548	14	Wrapped labeled controls using -fx-line-spacing cut text off	PSU
JDK-8242530	14, 8	[macos] Some audio files miss spectrum data when another audio file plays first	PSU

July 2020 OpenJFX Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8242508	14	Upgrade to Visual Studio 2019 version 16.5.3	PSU
JDK-8242507	14	Add support for Visual Studio 2019	PSU
JDK-8242505	14	Some WebKit tests might fail because Microsoft libraries are not loaded	PSU
JDK-8242490	14, 8	Upgrade to gcc 9.2 on Linux	PSU
JDK-8242489	14	ChoiceBox: initially toggle not sync'ed to selection	PSU
JDK-8242209	14, 8	Increase web native thread stack size for x86 mode	PSU
JDK-8242106	14, 8	[macos] Remove obsolete GlassView2D.m class	PSU
JDK-8242077	14	Add information about HTTP/2 and HttpClient usage in WebEngine	PSU
JDK-8242001	14	ChoiceBox: must update value on setting SelectionModel, part 2	PSU
JDK-8241999	14	ChoiceBox: incorrect toggle selected for uncontained selectedItem	PSU
JDK-8241737	14	TabPaneSkin memory leak on replacing selectionModel	PSU
JDK-8241710	14	NullPointerException while entering empty submenu with "arrow right"	PSU

July 2020 OpenJFX Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8241629	14, 8	[macos 10.15] Long startup delay playing media over https on Catalina	PSU
JDK-8241476	14, 8	Linux build warnings issued on gcc 9	PSU
JDK-8241474	14, 8	Build failing on Ubuntu 20.04	PSU
JDK-8241455	14	Memory leak on replacing selection/focusModel	PSU
JDK-8241370	14, 8	Crash in JPEGImageLoader after fix for JDK-8212034	PSU
JDK-8241249	14	NPE in TabPaneSkin.perfromDrag	PSU
JDK-8240832	14	Remove unused applecoreaudio.md third-party legal file	PSU
JDK-8240694	14, 8	[macos 10.15] JavaFX Media hangs on some video files on Catalina	PSU
JDK-8240631	14	Create release notes for JavaFX 14	PSU
JDK-8240542	14	Switch FX build to use JDK 14 as boot JDK	PSU
JDK-8240539	14	Upgrade gradle to version 6.3	PSU
JDK-8240466	14	AppJSCallback* apps launched by ModuleLauncherTest intermittently hang	PSU

July 2020 OpenJFX Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8240451	14	JavaFX javadoc build fails with JDK 14	PSU
JDK-8240265	14	iOS: Unnecessary logging on pinch gestures	PSU
JDK-8240262	14	iOS refresh rate is capped to 30 Hz	PSU
JDK-8240218	14	IOS Webkit implementation broken	PSU
JDK-8240211	14	Stack overflow on Windows 32-bit can lead to crash	PSU
JDK-8239822	14	Intermittent unit test failures in RegionCSSTest	PSU
JDK-8239454	14	LLIntData : invalid opcode returned for 16 and 32 bit wide instructions	PSU
JDK-8239109	14	Update SQLite to version 3.31.1	PSU
JDK-8239107	14, 13, 11, 8	Update libjpeg to version 9d	CPU
JDK-8239095	14	Upgrade libFFI to the latest 3.3 version	PSU
JDK-8238526	14	Cherry pick GTK WebKit 2.26.3 changes	PSU
JDK-8238434	14, 8	Ensemble: Update version of Lucene to 7.7.2	PSU
JDK-8238249	14, 8	GetPrimitiveArrayCritical passed with hardcoded FALSE value	PSU

July 2020 OpenJFX Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8237944	14, 8	webview native cl "-m32" unknown option for windows 32-bit build	PSU
JDK-8237926	14	Potential memory leak of model data in javafx.scene.control.ListView	PSU
JDK-8237889	14, 13, 11, 8	Update libxml2 to version 2.9.10	CPU
JDK-8237833	14, 8	Check glyph size before adding to glyph texture cache.	PSU
JDK-8237823	14	Mark TextTest.testTabSize as unstable	PSU
JDK-8237782	14, 8	Only read advances up to the minimum of the numHorMetrics or the available font data.	PSU
JDK-8237770	14	Error creating fragment phong shader on iOS	PSU
JDK-8237602	14	TabPane doesn't respect order of TabPane.getTabs() list	PSU
JDK-8237504	14	Update copyright header for files modified in 2020	PSU
JDK-8237503	14	Update copyright header for files modified in 2020	PSU
JDK-8237469	14	Inherited styles don't update when node is moved	PSU
JDK-8237453	14	[TabPane] Incorrect arrow key traversal through tabs after reordering	PSU

July 2020 OpenJFX Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8237372	14	NullPointerException in TabPaneSkin.stopDrag	PSU
JDK-8237078	14, 8	[macOS] Media build broken on XCode 11	PSU
JDK-8237003	14	Remove hardcoded WebAnimationsCSSIntegrationEnabled flag in DumpRenderTree	PSU
JDK-8236971	14, 8	[macos] Gestures handled incorrectly due to missing events	PSU
JDK-8236840	14	Memory leak when switching ButtonSkin	PSU
JDK-8236839	14	System menubar removed when other menubars are created or modified	PSU
JDK-8236832	14	[macos 10.15] JavaFX Application hangs on video play on Catalina	PSU
JDK-8236798	14	Enhance FX scripting support	PSU
JDK-8236733	14	Change JavaFX release version to 15	PSU
JDK-8236685	14, 8	[macOs] Remove obsolete file dialog subclasses	PSU
JDK-8236648	14	javadoc warning on Text::tabSizeProperty method	PSU

July 2020 OpenJFX Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8236626	14	Update copyright header for files modified in 2019	PSU
JDK-8236484	14	Compile error in monocle dispman	PSU
JDK-8236448	14	Remove unused and repair broken Android/Dalvik code	PSU
JDK-8235627	14	Blank stages when running JavaFX app in a macOS virtual machine	PSU
JDK-8235480	14	Regression: [RTL] Arrow keys navigation doesn't respect TableView orientation	PSU
JDK-8235364	14	Update copyright header for files modified in 2019	PSU
JDK-8235151	14	Nonexistent notifyQuit method referred from iOS GlassHelper.m	PSU
JDK-8235150	14	IOSApplication does not pass the required object in _leaveNestedEventLoopImpl	PSU
JDK-8234959	14	FXMLLoader does not populate ENGINE_SCOPE Bindings with FILENAME and ARGV	PSU
JDK-8234916	14, 8	[macos 10.15] Garbled text running with native-image	PSU
JDK-8234876	14	Unit test classes should not extend Application	PSU

July 2020 OpenJFX Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8234704	14	Fix attribution in libxslt.md	PSU
JDK-8234593	14	Mark LeakTest.testGarbageCollectability as unstable	PSU
JDK-8234540	14	javafx.web LeakTest.testGarbageCollectability fails intermittently	PSU
JDK-8234474	14, 8	[macos 10.15] Crash in file dialog in sandbox mode	PSU
JDK-8234471	14	Canvas in webview displayed with wrong scale on Windows	PSU
JDK-8234303	14	[TEST_BUG] Correct ignored tag in graphics unit tests	PSU
JDK-8234239	14	[TEST_BUG] Reenable few ignored web tests	PSU
JDK-8234194	14	[TEST_BUG] Reenable few graphics unit tests	PSU
JDK-8234189	14	[TEST_BUG] Remove ignored and invalid graphics unit tests	PSU
JDK-8234174	14	Change IDEA VCS mapping to Git	PSU
JDK-8234150	14	Address ignored tests in ComboBoxTest, LabeledTest, HyperLinkTest and TextInputControlTest	PSU
JDK-8234110	14	SwingFXUtilsTest is unsuitable for unit test framework	PSU

July 2020 OpenJFX Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8234056	14	Upgrade to libxslt 1.1.34	PSU
JDK-8233942	14	Update to 609.1 version of WebKit	PSU
JDK-8233798	14	Ctrl-L character mistakenly removed from gstreamer.md	PSU
JDK-8233747	14	JVM crash in com.sun.webkit.dom.DocumentImpl.createAttribute	PSU
JDK-8233421	14	Upgrade to Visual Studio 2017 version 15.9.16	PSU
JDK-8233420	14	Upgrade to gcc 8.3 on Linux	PSU
JDK-8233338	14	FX javadoc headings are out of sequence	PSU
JDK-8233040	14	ComboBoxPopupControl: remove eventFilter for F4	PSU
JDK-8232943	14	Gesture support is not initialized on iOS	PSU
JDK-8232824	14	Removing TabPane with strong referenced content causes memory leak from weak one	PSU
JDK-8232811	14, 8	Dialog's preferred size no longer accommodates multi-line strings	PSU
JDK-8232589	14	Remove CoreAudio Utility Classes	PSU

July 2020 OpenJFX Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8232522	14	FX: Update copyright year in docs, readme files to 2020	PSU
JDK-8232214	14	Improved internal validations	PSU
JDK-8232210	14	Update Mesa 3-D Headers to version 19.2.1	PSU
JDK-8232158	14	[macOS] Fallback to command line tools if xcode is missing	PSU
JDK-8232128	14	Better formatting for numbers	PSU
JDK-8232121	14	Better numbering system	PSU
JDK-8232064	14	Switch FX build to use JDK 13.0.1 as boot JDK	PSU
JDK-8232063	14	Upgrade gradle to version 6.0	PSU
JDK-8231870	14	CrossLibs script for armv6hf toolchain download fails	PSU
JDK-8231854	14	Change Mercurial to git in various README files	PSU
JDK-8231735	14	gradle checkrepo is obsolete and doesn't work with git	PSU
JDK-8231692	14	Test Infrastructure: enhance KeyEventFirer to inject keyEvents into scene	PSU

July 2020 OpenJFX Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8231590	14	Update location of jfx repo to GitHub in third-party legal files	PSU
JDK-8231513	14	JavaFX cause Keystroke Receiving prompt on MacOS 10.15 (Catalina)	PSU
JDK-8231326	14	Update README and CONTRIBUTING docs for Skara	PSU
JDK-8231310	14	Add .jcheck/conf to jfx git repo	PSU
JDK-8231188	14	Update SQLite to version 3.30.1	PSU
JDK-8231126	14	libxslt.md has incorrect version string	PSU
JDK-8230809	14	HTML editor formatting lost when selecting all (CTRL-A)	PSU
JDK-8230610	14	Upgrade GStreamer to version 1.16.1	PSU
JDK-8230609	14	Upgrade glib to version 2.62.2	PSU
JDK-8230492	14	font-family not set in HTML editor if font name has a number in it	PSU
JDK-8228867	14	Fix mistakes in FX API docs	PSU
JDK-8228766	14	Platform.startup() deadlock on mac when called from class initializer	PSU

July 2020 OpenJFX Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8227808	14	Make GTK3 libraries mandatory for building on Linux	PSU
JDK-8227619	14	Potential memory leak in <code>javafx.scene.control.ListView</code>	PSU
JDK-8227540	14	Add README.md and CONTRIBUTING.md to jfx repo	PSU
JDK-8227473	14	Improve gstreamer media support	PSU
JDK-8227425	14	Add support for e-paper displays on i.MX6 devices	PSU
JDK-8227402	14	Improve XSLT processing	PSU
JDK-8227367	14	Missing <code>@Override</code> annotations in <code>javafx-graphics/src/main/java/com/sun/prism/*</code>	PSU
JDK-8227366	14	Wrong stage gets focused after modal stage creation	PSU
JDK-8226850	14	Use an EnumSet for DirtyBits instead of an ordinal-based mask	PSU
JDK-8226789	14	Path rendered incorrectly when it goes outside the clipping region	PSU
JDK-8226754	14	FX build fails using gradle 5.6+ or 6	PSU
JDK-8226365	14	Change JavaFX release version to 14	PSU

July 2020 OpenJFX Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8225571	14	Port Linux glass drag source (DND) to use gtk instead of gdk	PSU
JDK-8224636	14	CSS "pointer-events" property "stroke" is not respected for SVG renderings	PSU
JDK-8223722	14	Cleanup .gitignore file	PSU
JDK-8223298	14, 8	SVG patterns are drawn wrong	PSU
JDK-8223296	14	NullPointerException in GlassScene.java at line 325	PSU
JDK-8222912	14	Websocket client doesn't work in WebView	PSU
JDK-8221334	14	TableViewSkin: must initialize flow's cellCount in constructor	PSU
JDK-8220722	14	ProgressBarSkin: adds strong listener to control's width property	PSU
JDK-8220396	14	Bindings class gives a lot of unneeded 'select-binding' log messages	PSU
JDK-8218640	14	Update ICU4C to version 64.2	PSU
JDK-8214699	14	Node.getPseudoClassStates must return the same instance on every call	PSU

July 2020 OpenJFX Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8212034	14, 8	Potential memory leaks in jpegLoader.c in error case	PSU
JDK-8211308	14	Support HTTP/2 in WebView	PSU
JDK-8210955	14	DOMTest::testEventListenerCascade fails	PSU
JDK-8208761	14	Update constant collections to use the new immutable collections	PSU
JDK-8208169	14	can not print selected pages of web page	PSU
JDK-8207957	14	TableSkinUtils should not contain actual code implementation	PSU
JDK-8207774	14	TextField: must not forward ENTER if actionHandler consumed the actionEvent	PSU
JDK-8207759	14	VK_ENTER not consumed by TextField when default Button exists	PSU
JDK-8202393	8	App Transport Security blocks http media on macOS with JDK build using new compilers	PSU
JDK-8202296	14	Monocle MouseInput doesn't send keyboard modifiers in events.	PSU
JDK-8200224	14	First mouse press each time JFXPanel gains focus is triggered twice	PSU
JDK-8198402	14	ToggleButton.setToggleGroup causes memory leak when button is	PSU

July 2020 OpenJFX Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
		removed via ToggleGroup.getToggles()	
JDK-8196587	14	Remove use of deprecated finalize method from JPEGImageLoader	PSU
JDK-8196586	14	Remove use of deprecated finalize methods from javafx property objects	PSU
JDK-8193911	14	Create README file to document bumping the version number	PSU
JDK-8193445	14	JavaFX CSS is applied redundantly leading to significant performance degradation	PSU
JDK-8191758	14	Match WebKit's font weight rendering with JavaFX	PSU
JDK-8189092	14, 8	ArrayIndexOutOfBoundsException on Linux in getCachedGlyph	PSU
JDK-8185937	14	Spinner with Double/Integer value factory ignores up/down arrow keys	PSU
JDK-8181476	8	[macos] Stages with StageStyle.UTILITY are always on-top when initialized without an owner	PSU
JDK-8179097	14	NPE in MenuButtonSkinBase class	PSU
JDK-8176499	14	Dependence on java.util.Timer freezes screen when OS time resets backwards	PSU

July 2020 OpenJFX Bug Fixes

Patch ID in OpenJDK Bug DB	JDK Levels Applicable in Zulu	Synopsis	CPU/PSU
JDK-8175358	14	Memory leak when moving MenuButton into another Scene	PSU
JDK-8172658	8	Need to check the return value of GetPrimitiveArrayCritical before using it	PSU
JDK-8166194	14	JavaFX: poor printing quality for Region nodes	PSU
JDK-8157224	14	isNPOTSupported check is too strict	PSU
JDK-8130738	14	Add tabSize property to Text and TextFlow	PSU
JDK-8092352	14	Skip event dispatch if there are no handlers/filters	PSU
JDK-8089828	14	RTL Orientation, the flag of a mnemonic is not placed under the mnemonic letter.	PSU
JDK-8089134	14	[2D traversal, RTL] TraversalEngine only handles left/right key traversal correctly in RTL for top-level engine in ToolBar	PSU
JDK-8088198	14	Exception thrown from snapshot if dimensions are larger than max texture size	PSU
JDK-8087980	14	Add property to disable Monocle cursor	PSU
JDK-8087555	14	[ChoiceBox] uncontained value not shown	PSU