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This Is Not A Drill

Prepare For JDK 9

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Safe Harbor Statement

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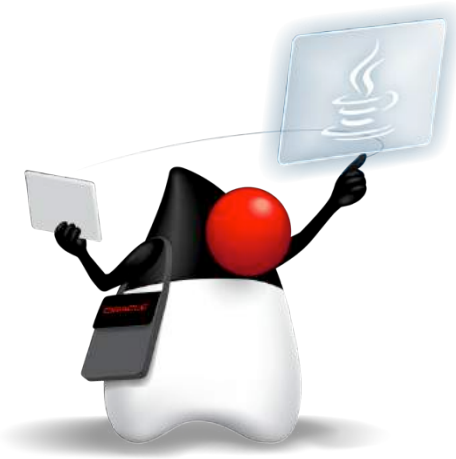
Program Agenda

1. Prepare for JDK 9
2. Q & A



“plus ça change, plus c'est la même chose”

– Jean-Baptiste Alphonse Karr (1808-1890)

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Prepare for JDK 9

Categories of JDK-internal APIs

http://openjdk.java.net/jeps/260

- Non-critical
  - No evidence of use outside of JDK
  - or used only for convenience
- Critical
  - Functionality that would be difficult, if not impossible, to implement outside of the JDK

JEP 260 Proposal

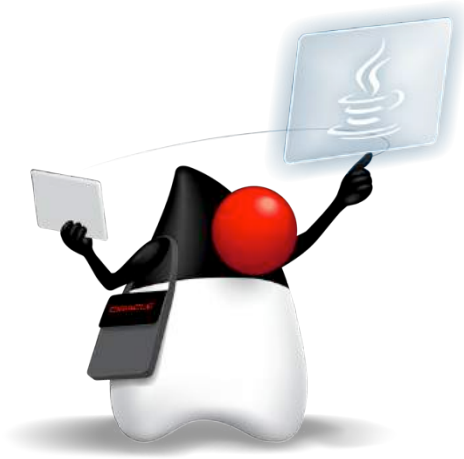
http://openjdk.java.net/jeps/260

- Encapsulate all non-critical internal APIs by default
- Encapsulate all critical internal APIs for which supported replacements exist in JDK 8
- Do not encapsulate critical internal APIs
  - Deprecate them in JDK 9
  - Plan to remove in JDK 10
  - Provide a workaround via command-line flag

JEP 260 Proposal

http://openjdk.java.net/jeps/260

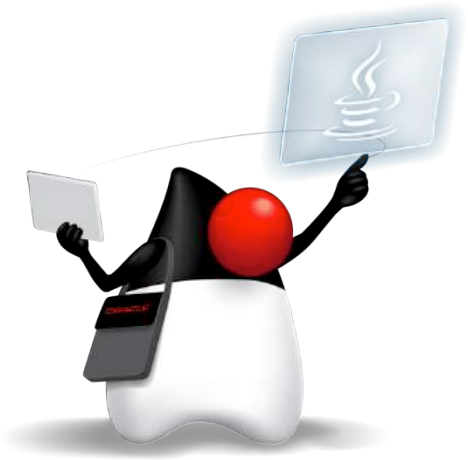
- Propose as critical internal APIs
  - sun.misc.Unsafe
  - sun.misc.{Signal,SignalHandler}
  - sun.misc.Cleaner
  - sun.reflect.Reflection::getCallerClass
  - sun.reflect.ReflectionFactory



Finding uses of JDK-internal APIs

http://openjdk.java.net/jeps/260

- jdeps tool in JDK 8, improved in JDK 9
- Maven JDeps Plugin



Removed 6 deprecated methods

http://openjdk.java.net/jeps/162

- Flagged for removal in JSR 337, and JEP 162
- Removed
  - java.util.logging.LogManager::addPropertyChangeListener
  - java.util.logging.LogManager::removePropertyChangeListener
  - java.util.jar.Pack200.Packer::addPropertyChangeListener
  - java.util.jar.Pack200.Packer::removePropertyChangeListener
  - java.util.jar.Pack200.Unpacker::addPropertyChangeListener
  - java.util.jar.Pack200.Unpacker::removePropertyChangeListener

Change the binary structure of the JRE and JDK

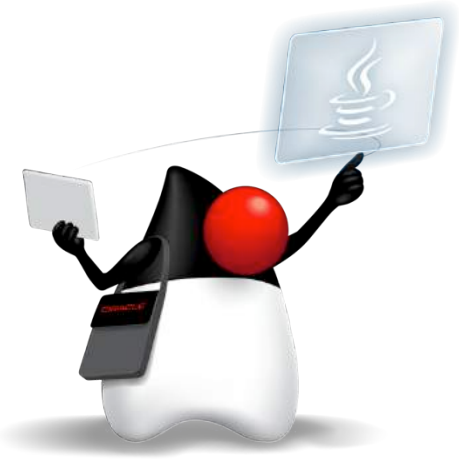
http://openjdk.java.net/jeps/220

- Motivation
- Not an API but still a disruptive change
- Details in JEP 220
- In JDK 9 since late 2014 to give lots of time for the tools to catch up

Removed

http://openjdk.java.net/jeps/220

- Endorsed standards override mechanism
- Extension mechanism



Other changes

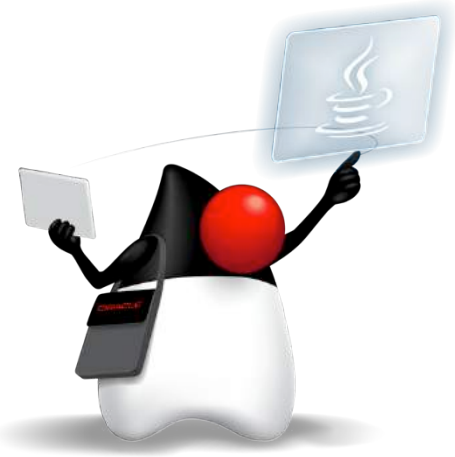
http://openjdk.java.net/jeps/261

- Application and extension class loaders are no longer instances of java.net.URLClassLoader
- Removed: -Xbootclasspath and -Xbootclasspath/p are removed
- Removed: system property sun.boot.class.path
- JEP 261 has the full list of the issues that we know about

New version-string scheme

http://openjdk.java.net/jeps/223

- Old versioning format is difficult to understand
- New format addresses these problems
- Impacts java -version and related properties



New version-string format : Hypothetical Examples

Release type	Old format Long form	Old format Short form		New format Long form	New format Short form
Early Access	1.9.0-ea-b19	9-ea	->	9-ea+19	9-ea
Major	1.9.0-b100	9	->	9+100	9
CPU	1.9.0_5-b20	9u5	->	9.0.1+20	9.0.1
Minor	1.9.0_20-b62	9u20	->	9.1.2+62	9.1.2

What can you do to prepare?

https://wiki.openjdk.java.net/display/Adoption/JDK+9+Outreach

- Check code for usages of JDK-internal APIs with jdeps
- If you develop tools then check code for a dependency on rt.jar or tools.jar or the runtime-image layout
- Check code that might be sensitive to the version change
- Check code for uses of underscore as an identifier
- Check code for uses of unrecognized VM options such as -XX:MaxPermSize
- Test the JDK 9 EA builds and Project Jigsaw EA builds

Thank you!

Quality Outreach effort wiki:

https://wiki.openjdk.java.net/display/quality/Quality+Outreach

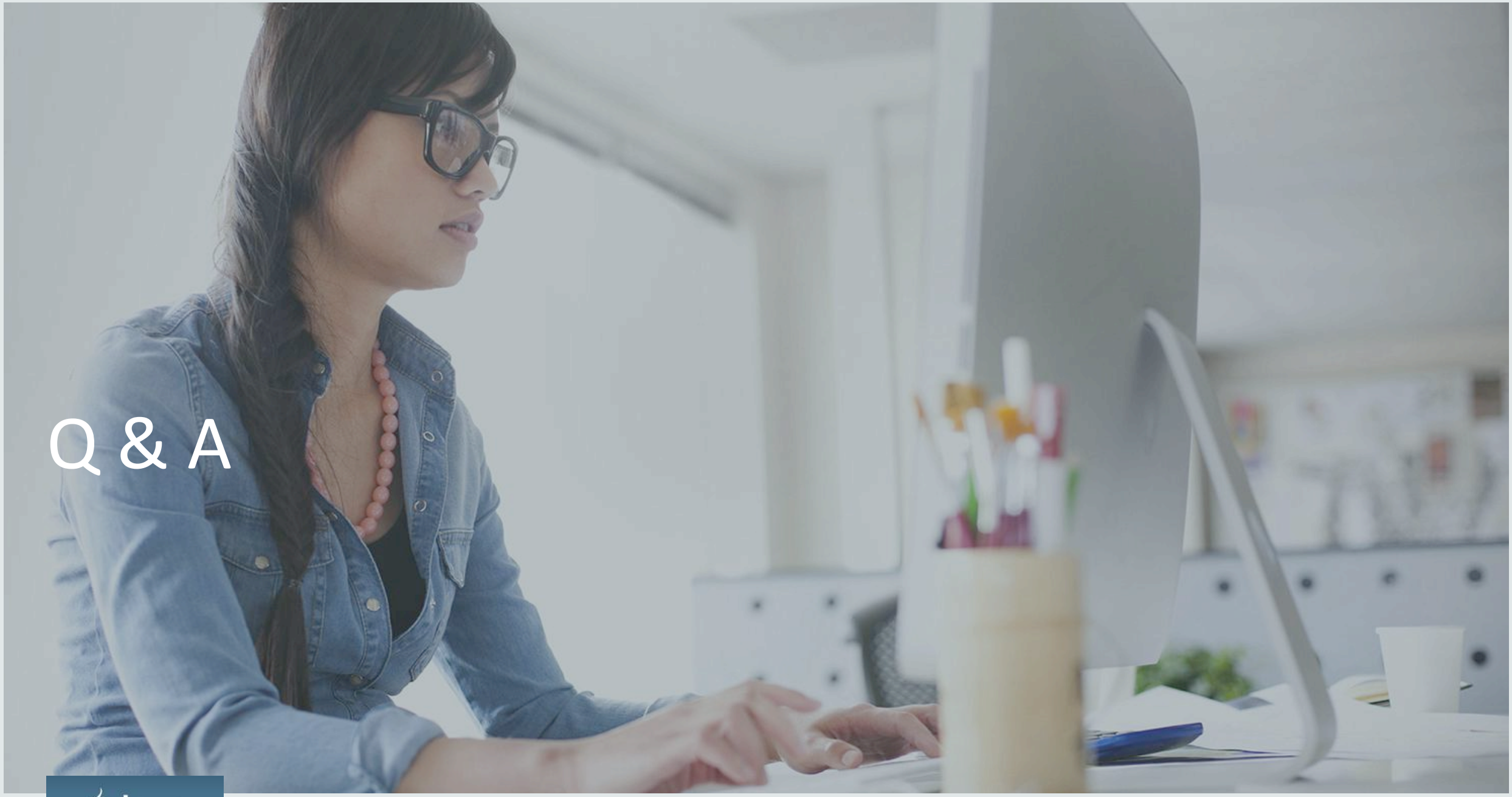
The following testers who submitted significant bug reports deserve special mention:

Apache Lucene, JaCoCo, Apache Groovy , Hazelcast & Apache Ant.

Valuable reports were also received from :

Gradle, Jitwatch, AssertJ, Apache JMeter & ElasticSearch.

(from **Quality Outreach report Sept '2015**)



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