OpenJDK / JCP Interaction

Architecture Review

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Agenda

- JSR-376 vs JEPs
- Progress of JSR 376 milestones
- Activity of JSR 376 E.G.
- Number of open issues
- Real world testing

JSR376 vs JEPs

- While the JEPs used by the OpenJDK project are actively maintained, the scope of the JEPs fails to cover the originally state scope of the JSR
  - JEP-162, 200, 201, 220, 260, 261, 275, 282 make up the JSR-376 features according to http://openjdk.java.net/projects/jigsaw/
  - Java EE modules are not mentioned anywhere in the JEPs
    - Except for a static java.se.ee aggregator module mentioned that extends the java.se module with Java SE platform packages that overlap with the Java EE platform.
  - OSGi bundles are not mentioned anywhere in the JEPs
  - More generally, the current implementation fails to adequately support dynamic programming paradigms which are widely used in server side development.
    - This is only now starting to be discussed by EG

JSR376 Timeline

- Approval ballot completed Dec 2014
- Renewal ballot completed Nov 2015
    - Should have early draft by Aug 10 2016 (9 months after renewal)
- Still no early draft review available as of Sep 2016, at least on month late
    - While the OpenJDK website has some documents, nothing has been released via the JCP to allow proper flow of IP
- Lack of dissemination via the JCP causes other consuming specs to be unaware of impact
    - Unless you have a OpenJDK facing team, your likely unaware of current jigsaw focus on static deployment scenarios

Activity of JSR376 EG

- The JSR376 expert group (EG) has seen inadequate discussion with regard to issues that impact the use of jigsaw modules with Java EE and OSGi environments.
- When such issues were raised on the EG, they were either ignored, rejected out of hand or insufficiently discussed
- APIs like java.lang.reflect.Layer - are only defined by the javadoc for the classes in Jigsaw and one minimal example of how it can be used. There has been no discussion on the EG list of whether this is an appropriate or adequate API for the needs of EE and OSGi.
- The primary OSGi expert on the EG has not been very active. When another OSGi expert asked to join, he was rejected by the spec lead because there was already one OSGi member.

Number of Jigsaw Open Issues

- The open issues page: http://openjdk.java.net/projects/jigsaw/spec/issues/ defines a large number of concerns that have been raised regarding the current Jigsaw implementation.
- Many have incomplete or no resolution
  - The most recent activity just prior to JavaOne has seen radical changes
- There has been little testing of any of these in Java EE or OSGi environments due to issues with running jigsaw in these environments
- JavaIDEs struggle to provide working environments due to lack of stability

Real World Testing

- Jigsaw early access builds are providing access to the frequently changing implementation, which is good
- However, without stable specs things are breaking constantly
  - Java IDEs still have difficulty just compiling basic Java9 programs
  - JavaEE/OSGi frameworks have trouble running due to basic issues with reflection
- We are seeing new proposals that are radically different from the previous implementation from just months ago
  - Great for prototyping, bad for sorting out the impact on downstream frameworks

redhat.

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