



Shards of java-dev-room Fosdem

Devconf Feb. 2015

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The State of OpenJDK

Mark Reinhold

- JEP 2.0
 - New version of JDK Enhancement Proposal
 - Probably everything in jdk9 will be tracked via this new, better specified, with cleaner ecosystem proposals
 - New evaluation schema of proposals
 - <http://cr.openjdk.java.net/~mr/jep/jep-2.0-02.html>
 - Introduced main JDK9 projects
 - introducing all of them is out of scope
 - <http://openjdk.java.net/projects/jdk9/>
 - Presented so-big-project community issues/solutions
 - Held “Meet the Governing board” with rest of members at the end
 - <http://openjdk.java.net/groups/gb/>
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Java 9: Make Way for Modules!

Mark Reinhold

- Not much new told
 - Jigsaw is already merged to JDK9 main trees
 - Surprisingly apps still seems to work
- Highlighted removals of deprecated APIs
- Highlighted closure of sun.* and *.internal.*
- Comparison of current (JDK8) profiles x jigsaw
- Noted \$JAVA_HOME/conf as main config for modules
- Mentioned new URI for jars - `jrt:/[$MODULE[$PATH]]`

Sustaining the zero assembler port in OpenJDK: An inside perspective of CPU specific issues

Severin Gehwolf

- Zero
 - Assembler-less (c++ templates) VM for java
 - OpenJDK
 - Previously only x86, x86_64 and SPARK
 - Recently added ppc64le, aarch64,
 - S390, s390x, ppc32, all still running zero

 - Shark - broken JIT for zero

 - Talk went quite into details of Zero
https://jerboaa.fedorapeople.org/presentations/OpenJDK_Zero_FOSDEM_2015-02-01.pdf
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The ARM microJIT, a JIT for the IoT

Edward Nevill

- Zero is cool....
 - ... but terribly slow
 - Template port for AARCH64 exists, why not for arm32?
 - Full JIT for arm32 just landed
 - <http://openjdk.linaro.org/arm32jit/fosdem15.pdf>
+ A binary of the JIT for R. PI is available at
 - <http://openjdk.linaro.org/arm32jit/images/arm32jit.tgz>
And for most curious ones, the patch:
 - <http://mail.openjdk.java.net/pipermail/distro-pkg-dev/2015-January/030392.html>
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What Lies Beneath?: Lessons learned hacking the OpenJDK interpreter/compiler

Roman Kennke, Andrew Dinn, Andrew Haley, Christine Flood

- Very understandable
 - Byte code optimization
 - Byte-code -> machine code translation
 - C1 x C2, differences, settings, usages
 - Really one of the best “human readable” in this topic
 - Tmp copy of slides:
 - <https://jvanek.fedorapeople.org/fosdem/adinn/whatliesbeneath-1.pdf>
 - Slides should be: https://fosdem.org/2015/schedule/event/hacking_openjdk/
 - Watch <https://lists.fosdem.org/pipermail/java-devroom/> for updates
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JFree - The Long and Winding Road (Ahead)

David Gilbert

- Jfreechart for javafx
- Optimized svg exports
- Orson-charts
 - Really fancy library for 3D graphs
 - Open-sourced 31.1.2015:)
 - <https://github.com/jfree/orson-charts>
 - Based on live demos, so wait for recording

Java restart with WebFX

Nikita Lipsky

- Plugin sucks, javaws sucks, html 5 actually too...
 - Own technology to replace it all
Nobody supports this technology? Who cares...
 - Own browser with support for this technology
- If nothing else, then definitely interesting show what can be
 - Done during polar night
 - Proof of concept how to replace this technologies
- Currently no focus to security
- <http://www.slideshare.net/nikitalipsky94/java-restart>

Open Heart Surgery: HotSpot Debugging at the OS Level

Volker Simonis

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- Presentation about debugging hotspot
 - Even more, about debugging generated machine code
 - Practical examples with gdb
 - Presented live use-cases of small bug in hotspot
 - Remember usage of debug-built of OpenJDK
 - Packed for Fedora 22+-1
 - With “What lies beneath” excellent introduction inside JVM
 - <http://progdoc.de/papers/Joker2014/joker2014.html#%281%29>

Life in the trenches

Andrew Haley

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- Focused on developers experience with contributions to OpenJDK
 - Its hard to make a contribution
 - Not only because of code complexity (which is huge)
 - But also because of infrastructure
 - Also even find from which to create, where to post, the patch is confusing!
 - Surprisingly the result was that it really get better
And developers feel moreover ok
 - <http://people.redhat.com/aph/Agony%20and%20Ecstasy.pdf>
 - Held “Meet the Governing board” with rest of members at the end
 - ...guarding community
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Shenandoah - Project overview

Roman Kennke, Christine Flood

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- Summary of current state of new, pause-less GC for JVM
 - Good introduction why there is need for new GC
 - Really big heaps and GC not having its own threads
 - Graphical design of this new GC and differences/similarities with current GC
 - Detailed descriptions of individual parts of design
 - Pretty complex and hard presentation at the end
 - Current status is
 - It works!
 - Is efficient, but not enough
 - Have big customers for testing
 - And the goal is clear
 - Stabilize
 - And be as pause-less es expected
 - <https://rkennke.files.wordpress.com/2015/02/shenandoah.pdf>
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The Wisdom Of Crowd Testing OpenJDK

Dalibor Topić, Rory O'Donnell

- Surprisingly good discussion about finding the bugs before the JDK is released
 - Golden ratio:
 - To run most complex java programs on pre-release versions
 - That is, surprisingly not running pure java programs, but
 - Scala
 - Groovy
 - Clojure
 - Jruby or Jython
 - JVM based languages are testing VM much more
- Currently those runs are run by communities around those languages
 - Attempts to make those automated
- Last covered topic was usefulness of JIRA in tracking such issues
 - "groovy-found"
 - "scala-interest"
- Still keeping in touch among those communities is best way to go for fix

Side step to Elasticsearch

- Ongoing effort to pack ES for fedora (two years now!)
 - https://bugzilla.redhat.com/show_bug.cgi?id=902086
 - <https://fedoraproject.org/wiki/Changes/Elasticsearch>
- Upstream seems to not (never ever) going to support this initiative
- The excuse was more then suspicious
 - “That... ”
 - They support custom all-deps rpms...

Questions, Opinions

- Slides in <https://jvanek.fedorapeople.org/devconf/2015>
- Full schedule <https://fosdem.org/2015/schedule/track/java/>
- More slides, specifications, examples ...<https://lists.fosdem.org/pipermail/java-devroom/>
- Recording done - videos not yet available (but always was in reasonable time)