



JDK packages in Fedora and RHEL

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Index

- 1) Fedora
- 2) RHEL
- 3) Packages structures
- 4) Multiple installs
- 5) Debug packages
- 6) Proprietary JDKS in fedora
- 7) Plugin and its life in multiple installations
- 8) Security updates

Fedora

- GNU classpath (java-1.5.0-gcj)
 - Introduced FC7
 - main JDK since FC9 to FC10 (**main** == used in **buildroot**)
 - Killed F20 (!!!!)
- java-1.6.0-openjdk - tahnx to GNU classpath and IcedTea project regular opensource JDK
 - Main JDK in fedora since F10
 - Killed F17
- java-1.7.0-openjdk
 - Tech preview - F16
 - Main JDK - F17
 - Killed F21
- java-1.8.0-openjdk
 - Tech preview - F19
 - Main JDK - F21
 - Will be only orphaned
- Java-1.9.0-openjdk
 - Techpreview since F22 or F23
 - Main - no longer then in start of 2017

Red Hat Enterprise Linux

■ RHEL 5

- gcj
- IBM 1.4.2, 5, 6, 7
- Oracle JDK 6, 7
- OpenJDK 6, 7

■ RHEL 6

- gcj
- IBM 5, 6, 7, 7.1
- Oracle JDK 6, 7, 8
- OpenJDK 6, 7, 8
 - 6 – main since 6.0 to 6.4
 - 7 – introduced 6.3, main since 6.5
 - 8 – introduced 6.6 main ???

■ RHEL 7

- No more GCJ! Yipii!
- Oracle 6, 7, 8
- IBM 6, 7.1
- OpenJDK 6, 7, 8

Packages structures

- The naming conventions in Fedora/RHEL are
 - **java-x.y.z-vendor**{,-subpackage}
 - Where x.y.z are now mostly 1.7.0, 1.8.0...
 - Vendor is one of oracle, ibm, **openjdk**
 - Subpackages are (depending on vendor and architecture)
 - Jre without X (openjdk 7+ only) support is in
 - Java-1.{7,8}.0-openjdk-**headless**
 - Jre is in main package Java-x.y.z-vendor
 - Jdk is in devel subpackage, java-x.y.z-vendor-**devel**
 - javadoc – java-x.y.z-vendor-**javadoc**
 - sources– java-x.y.z-vendor-**src**
 - demos – java-x.y.z-vendor-**demo** (whats that??)
 - vendor specific:
 - java-x.y.z-vendor-**accessibility**
 - java-x.y.z-vendor-**jdbc**
 - java-x.y.z-vendor-**plugin**

Multiple installs

- Fedora
 - Regular jdk + techpreview and/or legacy one
- RHEL
 - Really a lot of them

- Since beginning need to swap them
 - Alternatives did the job
 - Java
 - Javac
 - Unluckily few more... (jre/java-1.X.Y,java-oracle,ibm,openjdk...)
 - Cool but one can get lost

- Since F19 and RHEL 7 (and partially since 6.6) extended to support - allow installations of **same** jdk several times (on level of release)
 - Excellent for bug hunting
 - Excellent for performance tuning
 - Have hidden packaging issues
- <http://fedora.cz/radosti-a-strasti-s-javou-a-jejim-pluginem-12/>

Debug builds

- Why somebody want to debug JDK itself?
 - JDK is program like any other
 - They even do exist people programming it
- To debug jdk itslef, normal build (even with debuginfo) is often not enough
 - With multiple installs the possibility of dual build and install appeared
 - Since F22 (but will go to F21)
 - Build is done in loops - once normally and once with **fullddebug** on
 - All packages are build java-1.8.0-openjdk(-subpakcage)
 - And java-1.8.0-openjdk(-subpakcage)-debug
 - Opportunity to debug hotspot
 - Print compiled (and optimized!) byte code
 - See the machine instructions
 - Get verbose output from internal classes
 - Generally really interesting, and simply switchable via alternatives

Proprietary JDKs in Fedora

- Long story short, don't use them



Proprietary JDKs in Fedora

- Ok if you need
 - IBM – using visual tool (with possible headless mode)
 - Which unzip jdk to temp, use it to install another jdk
 - :)
 - Luckily, they have dont-touch-system option
 - Oracle – have simple tarball to unzip
- Alternatives or similar will not work
- No full sources
- Uncertain plugin
- No updates
- much more
- <http://fedora.cz/radosti-a-strasti-s-javou-a-jejim-pluginem-23/>

Plugin and its life in multiple installations

- For OpenJDK the plugin is in package **IcedTea-Web**
 - Works fine with Oracle JRE too
 - Works mostly also with IBM JRE

- On RHEL, unluckily, the key to switch plugin is via **libjavaplugin.so[.arch]**
 - See <http://fedora.cz/radosti-a-strasti-s-javou-a-jejim-pluginem-33/>
 - Origin of this heresy is IBM java, which sometimes had javaws, but not plugin, sometimes vice versa, sometimes none, sometimes both. And so javaws was included in jJRE
 - Old sin:(

- IcedTea-Web also contains **javaws**
 - and a bit more.... see Saturday talk!

Security updates

- Every 3 months drops from upstream patches fixing known or possible security issues
 - Your packagers get them, verify, test and deliver immediately after embargo is lifted
 - In past those updates were known to break a lot of things
 - Both packagers and upstream made a long way and it should not happen anymore
 - ... still can ...

Questions, Opinions

- Slides in <https://jvanek.fedorapeople.org/devconf/2015>