

Removal of Multiply Defined .dummy Symbols Emitted by ecj1

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(Dated: July 15, 2014)

In the ongoing fight against bug https://gcc.gnu.org/bugzilla/show_bug.cgi?id=42143 of the gcj compiler, the source code of `GCCMain.java` has been ported back to its state before a dummy insertion in the ZIP entries was introduced, and rebundled with an (obsolete) 3.2 version of the eclipse library.

This back-porting has already been done in some Fedora bundles, but is apparently not making its way into the gcj itself—although it should.

I. SOURCES

The source code of the ecj library is available from the eclipse platform under <http://download.eclipse.org/eclipse/downloads/>. Because the class `GCCMain.java` which we will patch is not part of that library but a single piece of code from elsewhere, we actually need to move back to version 3.2 of the eclipse package because `GCCMain.java` uses a class derived (in the objec-oriented sense) from `Main` of the eclipse project, and because the versions 3.3 up to the current 4.4 of eclipse use a `SimpleJavaFileObject` class which is not known in the current gcj libraries.

We only need the JDTC Core Batch Compiler that was (then 2006) bundled in `ecjsrc.jar`, taken from <http://archive.eclipse.org/eclipse/downloads/drops/R-3.2-200606291905/> and which can be decomposed with

```
jar xf ecjsrc.jar
```

The source code of `GCCMain.java` is from <https://github.com/sjnewbury/multilib-overlay/blob/master/dev-java/eclipse-ecj/files/eclipse-ecj-gcj-3.3.0.patch> or http://ecj.sourceforge.com/documentation/3.5.1-1/GCCMain_8java-source.html

and added to the `org/eclipse/jdt/internal/compiler/batch` directory.

Then the file `org/eclipse/jdt/core/JDTCompiler*` is removed because it needs parts of the Apache library which we do not need to deal with.

II. PATCHING GCCMAIN

- The master patch is that the roughly two times ten lines in `GCCMain.java` that argue that the JDK needs at least one entry in the zip stream are removed.
- Because its base class in the old eclipse library does not have the `handleWarningToken` member function, the associated call in `GCCMain` is commented out.
- Because its base class in the old eclipse library does not have the `disableAll` member function, the call in `GCCMain` is replaced by a `disableWarnings` call.
- Because there is no `setDestinationPath` function in `GCCMain` or its parent class, this is replaced by a simple assignment to `destinationPath`. In a similar manner, the vector `destinationPaths` is just reduced to a single variable, effectively skipping a loop of assignments in `GCCMain`.
- Because there is no variable `maxRepetition` in the base class, the variable `repetitions` is used instead.
- Because the interface to `AccessRuleSet` differs, the `GCCMain` now uses a simple dummy second argument of `null` at one place.
- Finally, in a simple hack to avoid launching an exception higher up into some tool chain, a try-catch block is cast around a `getCompilationUnit` of the super class.

*URL: <http://www.mpia.de/~mathar>

III. RECOMPILATION

In the top directory, then a JDK compiler is called with

```
javac -cp . org/eclipse/jdt/**/*.java org/eclipse/jdt/**/*.java org/eclipse/jdt/**/*.java
```

and everything is packed with

```
jar cf ecj-3.2.1.jar org/eclipse
```

and made available in <http://www.mpia-hd.mpg.de/homes/mathar/progs/ecj-3.2.1.jar>.

The patch to the gcj then is to move this ecj-3.2.1.jar into

```
${HOME}/share/java/ecj-3.2.1.jar
```

to make it available as a “standard” ecj.jar with

```
ln -s ecj-3.2.1.jar ecj.jar
```

and to recompile the local ecj1 with

```
gcj -o${HOME}/bin/ecj1 --main=org.eclipse.jdt.internal.compiler.batch.GCCMain ${HOME}/share/java/ecj.jar
```

supposing that `${HOME}/bin` is in the search path while compiling with gcj.