LIBREOFFICE EXTENSIONS
WITH JAVA MODULE SUPPORT

CIB software GmbH

LibreOffice Conference, October 2020
What’s new?

• Java 9 introduced a new module system „Jigsaw“
• `module-info.java`:

```java
module org.codefx.foo {
    requires org.codefx.bar;
    exports org.codefx.foo.api;
}
```
Java Modules in LibreOffice

• **Problem (tdf#117331)**

  **Florian Beetz** 2018-04-29 13:52:05 UTC

  **Description**
  The Java libraries ridl, unoil, juh, and jurt all export the package 'com.sun.star'.
  This makes them incompatible with the Java 9 module system.

  **Steps to Reproduce:**
  1. Add at least two libraries to the module path.
  2. Compile.

  **Actual Results:**
  Compilation fails with
  - error: the unnamed module reads package com.sun.star.security from both unoil and ridl
  - error: the unnamed module reads package com.sun.star.task from both unoil and ridl
  - error: the unnamed module reads package com.sun.star.util from both unoil and ridl
  - error: the unnamed module reads package com.sun.star.script from both unoil and ridl
  - error: the unnamed module reads package com.sun.star.uno from both jurt and ridl
Java Modules in LibreOffice – Solution Part #1

• Fix the „split package issue“ by merging jurt.jar and unoil.jar into ridl.jar

```
commit ae65bf4e163ff64d94cfcc34aff8e37abdb5518d  [log]
committer Stephan Bergmann <sbergman@redhat.com> Tue Feb 04 22:03:54 2020 +0100
tree 8f76e77ef1d0f720d1bcf7
parent 404092dc0f256cd04db973d6f76f1df720d1bcf7 [diff]

tdf#117331 Merge jurt and unoil into ridl

jurt.jar and unoil.jar are kept as effectively empty jars, each with a
Class-Path: ridl.jar

in their meta-inf/manifest.mf, so that 3rd-party code loading them (with or
without also loading ridl.jar) will still have access to their content.
```
Java Modules in LibreOffice – Solution Part #2

- Create **libreoffice.jar** as single source of truth

```
commit 35518c92365cc183ba6ccee2a4d284a130c0ca13f [log]
author Samuel Mehrbrodt <Samuel.Mehrbrodt@cib.de> Thu Mar 26 15:04:47 2020 +0100
committer Stephan Bergmann <sbergman@redhat.com> Wed May 06 14:48:21 2020 +0200
tree 3de8bdec831ce933126036cf701dcafe9b662
parent 6bf3517d6b272bdec878bb6d3b92a47b45a3f866 [diff]

Move all public Java classes to libreoffice.jar

This moves the classes from juh.jar and ridl.jar to libreoffice.jar

The goal is to have one single jar (and Java module, will be added later) which developers can include to work with LO.

juh.jar and ridl.jar are kept as basically empty jars with libreoffice.jar on its classpath to keep backwards compatibility.

This is a continuation of ae05bf46163ff64d94cfc34aff6e37e4d5518d and a preparation to have Java 9 module support.
```
Create module info for libreoffice.jar and unoloader.jar

```java
module org.libreoffice.uno {
    requires org.libreoffice.unoloader;

    exports com.sun.star.accessibility;
    exports com.sun.star.animations;
    exports com.sun.star.auth;
    exports com.sun.star.awt;
    exports com.sun.star.awt.grid;
    exports com.sun.star.awt.tab;
    exports com.sun.star.awt.tree;
    exports com.sun.star.beans;
    exports com.sun.star.bridge;
    exports com.sun.star.bridge.oleautomation;
    exports com.sun.star.chart;
    exports com.sun.star.chart2;
    exports com.sun.star.chart2.data;
    exports com.sun.star.comp.bridgefactory;
    exports com.sun.star.comp.connections;
}```
Java Modules in LibreOffice

- Available since LibreOffice 7.0
  - [https://wiki.documentfoundation.org/ReleaseNotes/7.0 #API_changes](https://wiki.documentfoundation.org/ReleaseNotes/7.0 #API_changes)

Java support

- The four Java jars `juh.jar`, `jurt.jar`, `ridl.jar`, and `unoil.jar` are now combined into a single `libreoffice.jar`. The four jars provided classes in overlapping packages, so could not be used with the Java module system. For backwards compatibility, `juh.jar`, `jurt.jar`, `ridl.jar`, and `unoil.jar` are still present as empty stubs referencing the combined `libreoffice.jar`. [tdf#117331](https://wiki.documentfoundation.org/tdf#117331) (Stephan Bergmann; Samuel Mehrbrodt, CIB)

- Java Modules are now supported (using JRE >= 9). The following modules are available:
  - `libreoffice.jar`: `org.libreoffice.uno`
  - `unoloader.jar`: `org.libreoffice.unoloader`
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OUR PRODUCTS:
https://libreoffice.cib.de