**CADSWES Maintenance Accomplishment Report Compilation -- September 2015**
Phil, edit 10-7-2015.

**September 2015 Maintenance Highlights:**

1. RiverWare 6.7.1 Release
2. Four (4) bug fixes.
3. Qwt Plotting Library Upgrade Research
4. Ongoing: Monitoring and maintaining daily RiverWare regression tests.
5. Ongoing: Installation Process and Licensing development and administration.

Report contributors:

- Substantive content from: Jessica, Phil, David.
- Bug fix items from: Phil (2), David (1), Neil/Bill (1).
- Indicated that they had no *maintenance* accomplishments to report this month: Patrick, Tim, Mitch.

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(II) RiverWare Software Maintenance

    A. Releases, Patches and Snapshots
    B. Software Updates, Bug fixes (not associated with new development)
    C. Development tool improvements; issue tracking software; modelcomp
    D. Enhancements or changes to regression tests (not part of development tasks)
    E. Download, Install and Release Processes
    F. Updates to license software/procedures
    G. Updates to download/install/configure user documentation
    H. Modification to Web pages for downloads and installs

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## (II.A) Releases, Patches and Snapshots

The following releases were generated this month:

- One RiverWare 6.8 development snapshot -- 9-01-2015.
- RiverWare 6.7.1 patch release was released on 9-04-2015. Release notes are as follows:

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Bugs
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The following bugs were fixed:

- 5665: When copying slots on an Aggregate Object and then pasting them to a Data Object, the pasted slot names were not correct.
- 5667: An internal warning message was posted when editing certain Script Action settings.
- 5669: Database DMIs to DSS were not correctly writing the Units or Datatype.

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- 5670: Under certain circumstances, the Water User Soil Moisture Methods did not correctly run in 6.7.
- 5671: On the Output Canvas, a Teacup Legend could not be added.

## (II.B) Software Updates, Bug fixes (not associated with new development)

**The following bugs were fixed:**

- Bug 5669: DSS DMI not writing data type or units to the DSS file
- Bug 5671: Teacup Legend could not be added to Output Canvas
- Bug 5673: Data Object default slot naming problem, pasting slots.
- Bug 5680: Equal Priority water rights algorithm was stuck in a loop. The issue was analyzed, diagnostics were created to find the problem, and then a work-around was implemented in the model. Additional information was added to the bug report on the real issue.

**Qwt Plotting Library Upgrade Research**

Qwt is the open source C++/Qt library used in RiverWare to implement plot dialogs. At the end of September (and completed on October 1), an analysis was done on the APIs (application programming interfaces) of Qwt 5.2.3 (currently used in RiverWare 6.7) and Qwt 6.1.2, with an eye towards: (a) assessing the difficulty in porting RiverWare to the newer Qwt version, and (b) identifying new capabilities in Qwt 6.1.2 which would be valuable for future feature development. It was found that the port would not be very difficult (perhaps four days of work), and that new capabilities in Qwt 6.1.2 would be of benefit. In fact, this Qwt port is a prerequisite for porting RiverWare from Qt 4.8.5 to Qt 5 (currently at Qt 5.5) which we hope to handle within the next half-year.

To assess the ease of the port, the Qwt 6.1.2 library source code was obtained and built, the RiverWare build configuration was modified to use that new library, and the build was attempted, making rough (but not technically valid) changes to RiverWare source to advance the success of the build.

## (II.C) Development tool improvements; issue tracking software; modelcomp

None reported for September 2015.

## (II.D) Enhancements or changes to regression tests (not part of development tasks)

The regression tests continue to be maintained on a daily basis. This involves updating the regression tests to exercise new developments in the code. Also, as new code is added to the development area, the model comparisons performed in the nightly regression tests usually show differences (for example, because a new method category may have been added). When this occurs, the regression tests need to be updated to reflect the current state of the development area so model comparisons do not fail. In addition, every week, the daily history of each regression test is analyzed to determine if the run time or model size has significantly changed because of new development.

## (II.E) Download, Install and Release Processes

- InstallShield project files:
    - Found and fixed error, the RiverWare image wasn't showing up in the dialogs InstallWelcome and SetupCompleteSuccess in all three 32-bit project files. They are caused by the incorrect path to the image file.
- Updated the release version number to 6.7.1 Patch for all prerel regression test files.

## (II.F) Updates to license software/procedures

- Maintaining RiverWare licenses for internal development systems. This is an ongoing task.
- Reprise:
    - Tested and verified the procedure for upgrading RLM to a new version in RiverWare for floating license users. Compared the old RLM version to the new RLM version in RiverWare to identify the changes and differences in the new RLM version.
    - Continued working on setting up and testing the Reprise Activation Pro License Center and database. Worked on implementing the online page and user instructions. The current procedure is very tedious and has too many steps. Working on simplify the procedure for users.

## (II.G) Updates to download/install/configure user documentation

- Added a new section "Upgrade RLM to a new version" to the online document RIVERWARE LICENSE SERVER CONFIGURATION GUIDE.  It contains the detailed instructions for the current floating license user to upgrade their current RLM license server to a new RLM version.
- Created a step-by-step instruction document for floating license users to upgrade to a new version of RLM. This is separate from the new section added to the online document RIVERWARE LICENSE SERVER CONFIGURATION GUIDE. This document is to be sent only to the floating license users in an email when a RiverWare release incorporated a new version of RLM.

## (II.H) Modification to Web pages for downloads and installs

None reported for September 2015.

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10-07-2015