

CADSWES Maintenance Accomplishment Report Compilation -- May 2015

Phil, Original Draft: 6-5-2015; Confirmed 6-22-2015.

May 2015 Maintenance Highlights:

1. One RiverWare patch release: 6.6.6, and three 6.7 development snapshots.
2. Eight (8) RiverWare bug fixes.
3. Fundamental limit on time series length in RiverWare model file removed [5643].
4. Ongoing: Monitoring and maintaining daily RiverWare regression tests.
5. Ongoing: Installation Process and Licensing development and administration.

Report contributors:

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

(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

(II.A) Releases, Patches and Snapshots

The following releases were generated this month:

- Patch Release 6.6.6 / 5-18-2015, *see details below*.
- Release 6.7 Development Snapshots: 5-6-2015, 5-12-2015, 5-14-2015.

SUMMARY OF CHANGES IN RIVERWARE PATCH RELEASE 6.6.6**Distributed MRM Excel Generation:**

Distributed Multiple Run Management can generate Excel files from output RDF files. It was previously set to only generate .xls files. The controller was enhanced to now generate .xlsx output files based on the version of Excel found on the system. This can dramatically reduce the size of output

Excel files.

Temporary Control File—Executable DMI Files:

When running control file-executable DMIs, RiverWare may create temporary files, especially when converting line endings. This process was improved to be more robust; now a guaranteed unique temporary file name is created. This prevents potential contention problems when running multiple DMIs.

Bugs -- The following bugs were fixed:

- 5638 - RiverWare could not plot a timeseries beyond year 3000.
- 5641 - In Model Report or Script configurations, selecting the first item in a pull-down setting menu did not always work.
- 5644 - Specifying Plant Power Limit in the Plant Power Equation method could lead to a crash.

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

The following bugs were fixed:

- Bug 5638: RiverWare can't plot a timeseries beyond the year 3000.
- Bug 5639: Core dump on clear workspace or RiverWare exit.
- Bug 5641: In Model Report or Script configurations, selecting the first item in a pull-down setting menu did not always work.
- Bug 5643: Unable to load a model with extremely long time range*
- Bug 5644: Specifying Plant Power Limit in the Plant Power Equation method could lead to a crash.
- Bug 5645: RPL analysis does not add columns for ascending/descending tabs.
- Bug 5648: RPL OptValue predefined function sometimes incorrectly aborts run when debugger is enabled
- Unfiled – User gets Trace 1 data for all traces when executing a Trace Directory DMI from RiverSMART

*Bug 5643: Unable to load a model with extremely long time range. This is an improved solution to a problem originally documented as Gnats 5634; a 210,000 timestep model (20 years of hourly data) exceeded the capacity of a line buffer, preventing the model from loading. The short term solution was to double that capacity (from 2MB to 4MB). But ultimately we enhanced the model loading mechanism to dynamically grow this line buffer as needed. For practical purposes, there is no longer a fundamental limit to the length of time series saved in a RiverWare model file.

RiverWare Unit Conversion Utility API Maintenance

Significant Unit Conversion maintenance was done in the prior month (April, 2015). In May, one problem was found and fixed. Also, the definition of the Time Aggregation Series Slot in user

documentation was reviewed and clarified with respect to computations involving unit conversion. Similar clarifications were applied to the related source code. See also notes for Gnats 5614.

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

None reported for May 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:
 - Researched and addressed questions (from Bill) regarding:
 - Can RiverWare installation exit gracefully while trying to write to the registry database without the system administrative privileges? The test results show an error message will be displayed when install is trying to create the registry key without the system administrative privileges. User can choose to finish the installation without setting the registry key, or to quit the installation so RiverWare is not installed.
 - Can RiverWare installation set the value of a registry key to the RiverWare install directory? Yes. The value for the key can be set to the directory path entered during the installation, which is a variable named INSTALLDIR - the default product destination folder.

(II.F) Updates to license software/procedures

- Maintaining RiverWare licenses for internal development systems. This is an ongoing task.
- Reprise:
 - Setting up Reprise Activation Pro License Center and database.
 - Setting up the product definition database for all types of RiverWare licenses. Currently 9 product definitions have been set up. Working with Reprise support regarding how to set up some customized product definitions, especially for the floating licenses (because we allow users to customize the configuration of their multi licenses).
 - Testing includes setting up the product definitions, creating license activation keys, activating the license key, and verifies the licenses activated can start RiverWare.
 - Setting up RLM License Generation (rlmgen) tool.

- This tool is for in-house use only. The purpose is to provide an optional automated tool to generate simple license key for users by any CADSWES personnel.
- Ten product definitions are set up so far. The node-locked full and Viewer license files that were sent out to commercial users and sponsor users this month were created by this tool. Other product definitions include floating 5-seat licenses, CPLEX licenses, roaming license, and VM-enabled license.
- Updating the instruction file "rlmgen instructions."
- Updated document "RiverWare License File Creation Guide." This procedure document is for internal use only.

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

None reported for May 2015.

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

None reported for May 2015.

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