

CADSWES Maintenance Accomplishment Report Compilation -- January 2015

Edit: 2-10-2015 (Phil)

Report contributors:

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

(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

January 2015 Release Overview::

- Release 6.6 -- 1-08-2015.
- Release 6.6.1 -- 1-30-2015.
- 6.7 Development Snapshots: 1-16-2015 and 1-30-2015.

RiverWare 6.6 Release was released on Jan 8, 2015. Release notes can be found on the RiverWare.org website.

RiverWare 6.6.1 was released on January 30, 2015 with the following release notes.

This Initialization Rules Set Scalar Slots

Initialization Rules can now assign values to Scalar Slots along with Series Slots and Table Slots. The structure to set a scalar slot is: `Object.ScalarSlot[] = <numeric expr>`

Bugs

The following bugs were fixed:

- 5523: In RPL Sets, numeric value editing was not correctly honoring users' increased precision

configuration.

- 5532: The Priority-Oriented Optimization Solution Analysis Tool window didn't raise if already opened.
- 5548: The DSS dataset file selector unnecessarily asked about replacing the DSS file for an input DMI.
- 5575/5581: Right clicking in an SCT series cell in certain circumstances could cause a crash.
- 5577: The Tabular Series Slot Report did not support monthly timestep slots in a daily model.
- 5578: On data object table slots, five column menu operations were not being shown.
- 5579: The DMI connection with DSS was sometimes refused.
- 5580: On the SCT and slot dialogs, the tool tip and right-click context menu to see which rule set the value was not working correctly. The correct information is now available after a run and, in most cases, for a saved model without re-running. Note, with this patch, rulebased models saved in 6.6.1 will not open in RiverWare 6.6.

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

The following bugs were fixed:

- Bug 5476: Model report preview not working for some RPL sets.
/ Enum rwSetting enhancement.
- Bug 5511: Plot Date/Time on Y-axis*
- Bug 5523: Increasing precision in ruleset and editing always reverts to 8 digits of precision.
- Bug 5532: Optimization Solution Analysis Tool (POSAT) window doesn't raise if already opened.
- Bug 5548: DSS dataset file selector unnecessarily asked about replacing the DSS file for an input DMI.
- Bug 5575/5581: Right clicking in an SCT series cell in certain circumstances could cause a crash.
- Bug 5577: Tabular Series Slot Report didn't support Monthly Timestep in Daily Model.
- Bug 5578: Data Object Table Slots: several available column operations are not being shown (e.g. Insert Column).
- Bug 5579: DMI connection to DSS refused
- Bug 5580: SCT 'Init Rules' series timestep cell Tooltip and Context Menu Problems.

*Additional notes on these bugs are provided below.

Initial analysis was done for the following bugs:

- Bug 5572: legal WITH expression paste invalidates expression.
- Bug 5588: Java DSS server times out

Gnats 5511: Plot Date/Time on Y-axis

Plotting of Date/Time values had partially been implemented before, but this support was mostly incomplete *and unstable*. One fundamental problem was that date/time slot values were not consistently being converted from a number of seconds (since the beginning of year 1800) to a "julian" fractional number of days -- the time units required for our plots' date/time axis engine.

Now, all five supported curve types' `updateCurveData()` methods correctly convert date/time slot values from seconds to julian fractional days. These all plot correctly with slots having the DATETIME unit type. (Only the 'FullDateTime' unit is well supported. Partial date/times generally show dates in the year 1804, the first leap year of our supported date/time range).

1. SeriesSlotCurve
2. TableSlotCurve
3. TableSlotContourCurve
4. PeriodicSlotCurve
5. ParametricSlotCurve

Investigation: "Enable Rules Model Run Analysis" configuration checkbox.

There is a configuration checkbox in the Rulebased Simulation Run Parameters dialog labelled "Enable Rules Model Run Analysis" which doesn't actually need to be checked in order for the main part of that analysis data to be supported. A code analysis was done to determine what exactly depends on that setting. It turns out that the effect of this toggle applies to only the data shown in the Run Analysis "Rules Effects" detail panel, and the rationale for conditionally computing that data may not be sound. We may choose to remove this checkbox from RiverWare 6.7.

The analysis document is available here:

- **Where is the "Enable Rules Model Run Analysis" checkbox state used?**
R:\doc\runAnalysis\Rules\2015\Analysis-EnableRulesModelRunAnalysisOption-Jan2015.docx
R:\doc\runAnalysis\Rules\2015\Analysis-EnableRulesModelRunAnalysisOption-Jan2015-30.pdf

During this analysis, a serious performance bug was discovered in the Rules Effects panel when used with a large ruleset (e.g. over 1100 rules causing a 30 second delay in a release build). This performance bug was addressed for both 6.6.2 and 6.7 development as Gnats 5582 in early February 2015.

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

None reported for January 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:
 - Updated the new project files for building the 6.6 release 32-bit and 64-bit install files.
 - Set up new project files for generating snapshot 6.7 64-bit and 32-bit releases.
- Reorganized the content of the release 32-bit and 64-bit directories. These two directories contain the release files for building the release 32-bit and 64-bit install files. The 2 directories now contain only the files that will be included in the setup files. All other administrative files have been moved to other folders.
- Updated development area to version 6.7. Updated regression test to version 6.7.

(II.F) Updates to license software/procedures

- Maintaining RiverWare licenses for internal development systems. This is an ongoing task.
- Updated the Copyright year to 2015 in Q3Gui/AboutDlg.cpp files in development and releases areas, and in the license.rdf file for InstallShield project files.
- Reprise:
 - Setting up Reprise Activation Pro License Center and database: Setting up the product definition files for RiverWare Viewer licenses and the activation key for it. Very little progress for this task this month.
 - Started Working on upgrading to the 11.2 release, which includes few bug fixes for roaming license. Working on the configuration in order to build our customized version.
 - Testing the failover server license. The failover license is a backup license which provides the capability for a different license server to take over the license service when the primary license server has gone down.
 - Testing the failover server license.
 - Created failover license template file.
 - Working on creating the failover license install instructions.

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

None reported for January 2015

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

None reported for January 2015

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