Phil Weinstein / Accomplishments -- May 2015 -- Edit 6-02-2015

General Development Accomplishments

[I.A] New/Enhanced Software / BOR-UC [Discretionary Development]
   MRM (Multiple Run Management) Configuration Script Actions (7)

The following seven new MRM configuration-related script action types have been developed for RiverWare 6.7. These new actions all modify a named MRM configuration within the current RiverWare model.

1. Set MRM Descriptor -- Keyword/Value Pair.
2. Configure MRM Output -- RDF Control File and other output format options.
3. Set MRM Run Range -- Start and End Date/Times
4. Set MRM Ruleset -- Ruleset file path
5. Configure MRM Index Sequential -- Number of Runs, Initial Offset, Interval count.
6. Configure MRM Input DMI -- Repeat counts for configured DMIs
7. Enable MRM Distributed Runs -- enable/disable

Changes made to MRM configurations by these script actions are immediately reflected in open configuration dialogs for affected MRMs. Any unapplied changes in such dialogs are implicitly applied before the MRM configuration script action is executed.

These new script actions are described in more detail in this document:

- **RiverWare 6.7 MRM Configuration Script Action Support / May 2015**
    R:\doc\ScriptManager\2015\MrmScriptActions-May2015.docx
    R:\doc\ScriptManager\2015\MrmScriptActions-May2015-18.pdf

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[I.A] New/Enhanced Software / BOR-UC [Discretionary Development]
   DMI Excel Dataset Configuration Script Action

Development for this overall feature was substantially completed this month (May 2015). Some architectural adjustments are underway (in June) for delivery in RiverWare 6.7.

This development provides three new capabilities:

1. User-defined list of common Single Run Names in RiverWare Excel Datasets.
2. "Configure Excel Dataset Run Name" RiverWare Script Action -- *still under development in June.*
3. New RiverWare utility dialog: String List Editor

(1) The **Excel Dataset Configuration** has been enhanced to support a **user-configurable "common" list of Single Run Names.** The "Single Run Name" line entry widget has been replaced with an option menu showing those standard names. The user can still directly edit the Single Run Name text without regard to the standard name list.

(2) The new **"Configure Excel Dataset Run Name" script action** modifies the following two properties of a named Excel Dataset configuration within the current RiverWare model:

1. Run Name Type, with three options:
    a. Single Run Name
    b. Run with MRM number
    c. Trace with MRM trace number

2. Single Run Name (text string)

The Single Run Name can be directly edited, or selected from the common run names defined in the Excel Dataset Configuration (presented in an option menu). These properties are configurable in the Script Editor dialog. The Single Run Name is also editable (and selectable) in the Script Dashboard.

Note: In June, we decided to change the name of this new script action to "*Set* Excel Dataset Run Name".

(3) A general purpose dialog class supporting the editing of a string list was developed for RiverWare 6.7. The **String List Editor** supports two dialog modes:

1. Full List Editing
2. List Reordering (Only)

The first application of this dialog class, in Full List Editing mode, is support for the common list of Single Run Names in an Excel Dataset configuration.

These three new capabilities are described further in the following two documents:

- **RiverWare 6.7 DMI Configuration Script Action Support / May 2015**
  R:\doc\ScriptManager\2015\DmiScriptActions-May2015.docx
  R:\doc\ScriptManager\2015\DmiScriptActions-May2015-28.pdf

- **Utility Dialog: String List Editor / RiverWare 6.7 / May 2015**
  R:\doc\guiGeneral\Utilities\StringListEditor-May2015.docx
  R:\doc\guiGeneral\Utilities\StringListEditor-May2015-31.pdf

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[I.A] New/Enhanced Software / BOR-ABQ #6
   Display RPL Predefined Function Help Content in RiverWare 6.7

Two months prior (in March 2015) RiverWare enhancements and publishing tools were developed to display RPL Predefined Function Online Help Content in RiverWare for those functions. In May, the following fixes and enhancements were applied:

1. When RPL Debugging is enabled, the RPL Predefined Function dialog now again shows a RPL Frame (which had previously been replaced with an HTML help content panel) to support **Debugger Breakpoint controls.**
2. In the initial development, the "Show: [x] Diagnostic Settings" checkbox had mistakenly been removed from the RPL Predefined Function dialog (as that had been managed in parallel with a panel which had been removed). That checkbox has been restored.
3. A special and unique section in the middle of the Function sections of the RPL Predefined Function Help user documentation was incorrectly appearing in the content for the preceding function. Specifically, the "Hypothetical Simulation Overview" section, which came between "HydropowerRelease" and "HypSim" functions was showing up as the last part of the former ("HydropowerRelease") function. Our Python-language script which processes HTML content exported from FrameMaker was enhanced to detect and omit that section.

[I.B] New/Enhanced Software / Unfunded Development
   Import Paste: Recognize "accounting" negation parenthesis (e.g. from Excel).

   Negative numbers in Excel are sometimes indicated with enclosing parenthesis instead of a negative sign. An enhancement was made to the Import Paste preview dialog -- used by the Open Slot dialogs and the SCT -- to recognize these character strings as negative numbers. Before this enhancement, such cell strings weren't being recognized as numbers at all.

> **Maintenance Accomplishments / May 2015**

[II] RiverWare Software Maintenance / Software Updates / Bug Fixes
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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: Combo Box Settings (e.g. in Model Reports or Scripts config): Selecting first item doesn't always work.
- Bug 5643: Unable to load a model with extremely long time range*
- Bug 5645: RPL analysis does not add columns for ascending/descending tabs.

This bug was filed against new RiverWare 6.7 development and was fixed:

- Bug 5647: RiverWare crashes when run aborts.

*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.

[II] RiverWare Software Maintenance / Software Updates / Other Maintenance
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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. [David and Phil].

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