**Phil Weinstein / Accomplishments -- September 2015 -- Edit 10-02-2015 (a)**

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| **General Development Accomplishments** |

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[I.A] New/Enhanced Software / TVA Slot Work  
   Slot Groups on Data Objects  
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Development for user-defined Slot Groups on Data Objects was started in August and completed in September. Development this month included:

1. Required enhancements to custom simulation object slot ordering, and to the reordering operations.
2. Slot clipboard support for Slot Groups, and related implementation of Slot Group Copy/Paste/Duplicate operations.
3. Enhancement of the new high-level "Copy Slots to (Multiple) Data Objects" operation to support also Slot Groups.

This feature is described in this document:

* **Data Object Slot Groups for RiverWare 6.8 -- Feature Description** [9-15-2015, 12 pp.]  
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[I.A] New/Enhanced Software / TVA Slot Work  
   SCT Custom Slot/Timestep Cell Colors  
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The SCT's series slot table now supports the application of custom text (foreground) and background colors to arbitrary sets of slot/timestep cells. This overrides the cell background colors which indicate the series timestep flag.

A new configuration dialog for an SCT's Custom Slot/Timestep Cell Colors is accessible from the SCT Configuration dialog's "Flags" tab. The defined foreground/background color pairs are assigned to slot/timestep cells in the series data table via context menu operations. Both the definition of a prescribed set of custom color items and the association of those definitions to particular slot/timestep cells are stored in the SCT configuration -- not within the RiverWare model.

This feature is described in this document:

* **SCT Custom Slot/Timestep Cell Colors / RiverWare 6.8** [9-28-2015, 6 pp.]R:\doc\sct\2015\SctCustomColors-2015-Sep.docx    
  R:\doc\sct\2015\SctCustomColors-2015-Sep-Phil-9-28.pdf

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| **Maintenance Accomplishments / September 2015** |

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[II] RiverWare Software Maintenance / Software Updates / Bug Fixes  
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The following bugs were fixed:

* Bug 5671: Teacup Legend could not be added to Output Canvas
* Bug 5673: Data Object default slot naming problem, pasting slots.

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[II] RiverWare Software Maintenance / Software Updates / Qwt Plotting Library  
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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.

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