RiverWare SCT: Object Dispatch Status Display

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This document describes an enhancement to the RiverWare 5.1 SCT Run Status Panel to indicate the existence of non-dispatched or unsolved simulation objects after a model run. This status is indicated *textually* with non-dispatched and unsolved object counts, and *graphically* with an icon button which brings up the Run Analysis Dialog, scrolled to a relevant timestep and object.

1.0 Current Capabilities

In RiverWare 5.0.x, during and after a model run, the "Selection Status Panel" at the bottom of the SCT is temporarily replaced with a "Run Status Panel" which includes a "progress bar" and other dynamic run controller status. The Selection Status Panel is restored when the user clicks the Dismiss button or clicks within the SCT table.



2.0 Proposed Enhancements

2.1 Add "Show Model Run Analysis..." to the SCT's "Run" menu.

2.2 SCT Run Status Panel Enhancements

- 1. Add an icon button indicating, after a model run, whether any simulation objects have not dispatched or solved at all run-period timesteps. The icon is set each time the run controller stops, i.e. entering the "Finished", "Stopped", "Aborted" or "Paused" states.
- 2. Change the Run "State" message text for the "Finished" state, replacing the Timestep indication with text describing the number of objects which (1) did not dispatch at all run-period timesteps, and (2) did not completely solve at all run-period timesteps.

Simulation objects for which dispatching is disabled are not considered in either of those indications, except that if all dispatch-enabled objects completely solved, the number of excluded objects is indicated it the "State" message text. See sample messages, below.

The icon button icon is shown according to the following criteria.

1. When a run is started (showing the Run Status Panel), the icon is initialized to all-green.

Then, when the run controller enters the "Finished", "Stopped", "Aborted", or Paused" states, one of the following icons is displayed.

- 2. If there are no dispatch-enabled objects in the model, the icon remains all-green.
- 3. Otherwise, if there was at least one dispatch-enabled object which did not dispatch at one or more timesteps within the run period, the "Did Not Dispatch" icon is shown.
- 4. Otherwise, if there was at least one dispatch-enabled object which did not solve at one or more timesteps within the run period, the "Did Not Solve" icon is shown.
- 5. Otherwise, being that all dispatch-enabled objects dispatched and solved at all run-period timesteps, the "Dispatched and Solved" icon is shown.



REVISION NOTE: The word **"fully"** will be added to the messages illustrated above to modify the words "dispatched" and "solved". For example, "All objects fully dispatched and solved". (The idea being that all dispatchenabled objects must dispatch and solve *at every timestep within the run period* to be regarded as being fully dispatched and fully solved).

Clicking on the icon button shows the Run Analysis Dialog (in the mode appropriate for the selected Run Controller, i.e. Simulation-Only, or Rules Simulation).

The Run Analysis Dialog "grid" display is scrolled to the first timestep for which a dispatch-enabled object didn't dispatch or solve, and to the first such object. (Priority is given to non-dispatched "events" over "non-solved" events).

See images of the current SCT and enhanced SCT (mock-up) on the following page.

SCT Bartlett Reservoir Slo	ts (Basin[Data.mdl.g	gz)	r				
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Series Slots Scalar Slots Other Slots								
Slot Label	Units	12/31/95 Sun	1/1/96 Mon	1 <i>/2/</i> 96 Tue				
🕅 Bartlett Reservoir.Inflow	cfs	NaN	233.88	242.55				
🕅 Bartlett Reservoir.Outflow	cfs	NaN	350.00	350.00				
🕅 Bartlett Reservoir.Storage	acre-feet	218793.01	218562.69	218349.57				
Bartlett Reservoir.Pool Elevation	ft	6226.99	6226.94	6226.89				
🕅 Bartlett Reservoir.Flow FROM Pumped Storage	cfs	NaN			Ţ			
Run: 60% Dismiss								
State: Running; Timestep: June 14, 1996								

SCT Bartlett Reservoir Slots (BasinData.mdl.gz)									
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Bartlett Reservoir.Inflow	cfs	NaN	233.88	242.55					
Bartlett Reservoir.Outflow	cfs	NaN	350.00	350.00					
Bartlett Reservoir.Storage	acre-feet	218793.01	218562.69	218349.57					
🕅 Bartlett Reservoir.Pool Elevation	ft	6226.99	6226.94	6226.89					
🕅 Bartlett Reservoir.Flow FROM Pumped Storage	cfs	NaN			$\overline{\nabla}$				
Run: 100% Dismiss State: Finished; All objects dispatched and solved. (2 disabled).									

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