

What's New in SIMUL8 2007

Below are details on all the fantastic new features that have been added in SIMUL8 2007.

Input Summary

See: Objects/ Input Summary

Name	Index	Position		Rule	Timing				Distribution	High Volume	Replicate	Routing In
		From Left	From Top		P1	P2	P3	P4				
MODU work	64	267	69	Standard	lbl_work	0	0	0	Fixed	<input type="checkbox"/>	1	Priority
LIV work	67	263	130	Standard	lbl_work	0	0	0	Fixed	<input type="checkbox"/>	1	Priority
RDV work	70	259	184	Standard	lbl_work	0	0	0	Fixed	<input type="checkbox"/>	1	Priority
PR work	73	257	242	Standard	lbl_work	0	0	0	Fixed	<input type="checkbox"/>	1	Priority
PCTU work	76	259	295	Standard	lbl_work	0	0	0	Fixed	<input type="checkbox"/>	1	Priority
RDVMEG work	79	258	351	Standard	lbl_work	0	0	0	Fixed	<input type="checkbox"/>	1	Priority
Tech1 work	82	259	411	Standard	lbl_work	0	0	0	Fixed	<input type="checkbox"/>	1	Priority
Tech2 work	85	257	476	Standard	lbl_work	0	0	0	Fixed	<input type="checkbox"/>	1	Priority
MODU dummy	93	131	69	Standard	0	0	0	0	Fixed	<input type="checkbox"/>	1	Priority
LIV dummy	101	128	130	Standard	0	0	0	0	Fixed	<input type="checkbox"/>	1	Priority
RDV dummy	103	127	184	Standard	0	0	0	0	Fixed	<input type="checkbox"/>	1	Priority
PCTU dummy	107	127	295	Standard	0	0	0	0	Fixed	<input type="checkbox"/>	1	Priority
RDVMEG dummy	109	127	351	Standard	0	0	0	0	Fixed	<input type="checkbox"/>	1	Priority
Tech1 dummy	111	129	411	Standard	0	0	0	0	Fixed	<input type="checkbox"/>	1	Priority
Tech2 dummy	113	127	476	Standard	0	0	0	0	Fixed	<input type="checkbox"/>	1	Priority
Dummy	339	195	21	Standard	0	0	0	0	Fixed	<input type="checkbox"/>	1	Priority
Schedule	341	304	21	Standard	lbl_Activi	0	0	0	Fixed	<input type="checkbox"/>	3	Expired On
None work	64	262	552	Standard	lbl_work	0	0	0	Fixed	<input type="checkbox"/>	1	Priority
None dummy	93	131	552	Standard	0	0	0	0	Fixed	<input type="checkbox"/>	1	Priority
PR dummy	103	126	242	Standard	0	0	0	0	Fixed	<input type="checkbox"/>	1	Priority

The Input Summary provides a summary of all the objects in your simulation. Each object type is displayed on a separate tab as the properties of the objects are quite different.

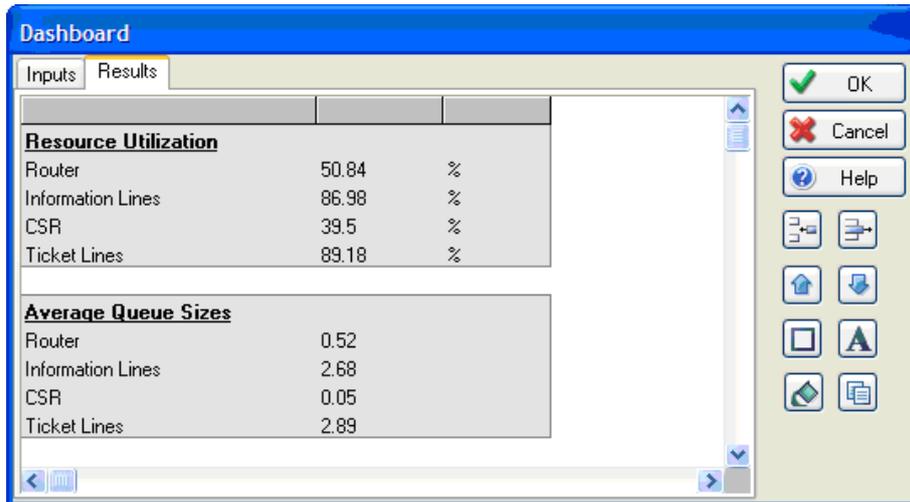
Double click on a cell and it will open the relevant dialog for the object.

Customizable Results Summary

See Results / SIMUL8 Dashboard

We've added a Results Tab to the Dashboard. You can add any result from the Result Summary and then use the formatting tools to customize the display, change the order of items and add additional text. You hide columns so you don't need to see SIMUL8's name for the results if you don't want to.

You can set this to be displayed at the end of a trial instead of the results summary.



Define Your Own Charts

See Results/Charts.

Flexibility to customize their display:

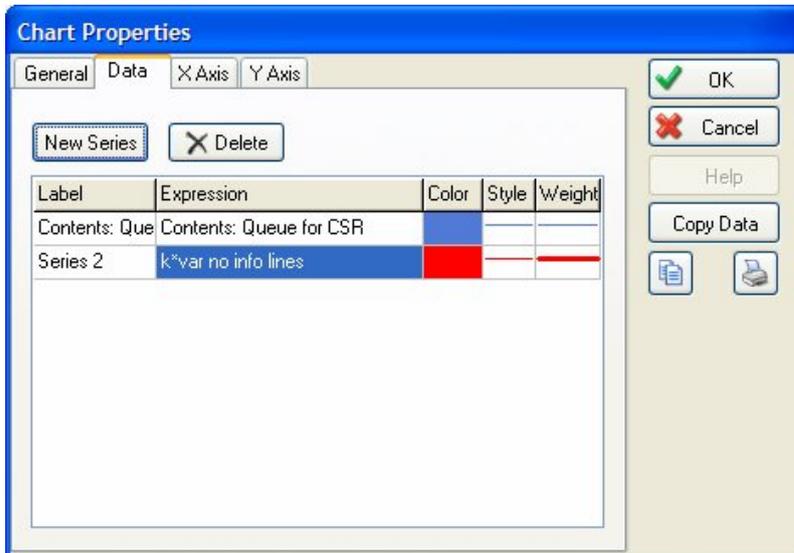
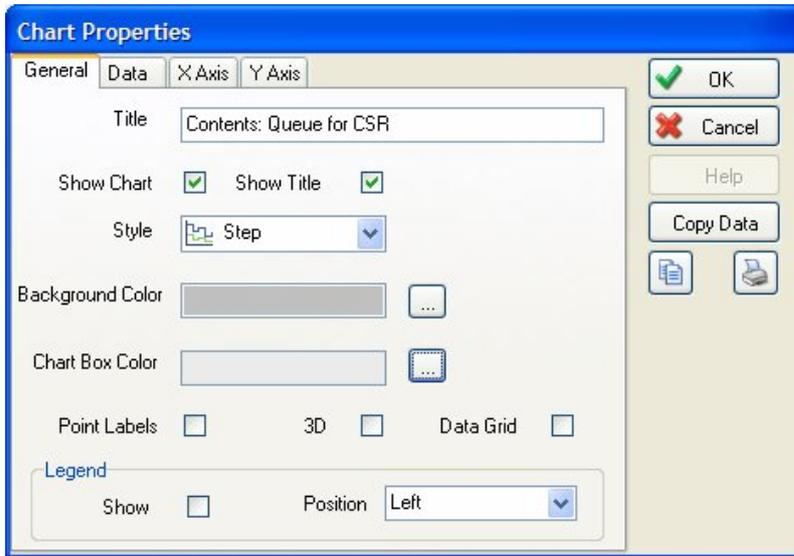
- Change the chart type (bar, line, step, pie etc.).
- Choose between a 2D and 3D display.
- Display grid lines.
- Choose colors for backgrounds, graph lines and chart data.
- Display point labels.
- Display a data table.
- Option to fix axis scales rather than redraw so can specify min and max, SIMUL8 will resize if data goes out with bounds.
- Define axis labels
- Add constant lines such as upper and lower bounds.

Ability to Use Chart Image:

- Print charts.
- Copy to chart to clipboard as image.

Define your own charts:

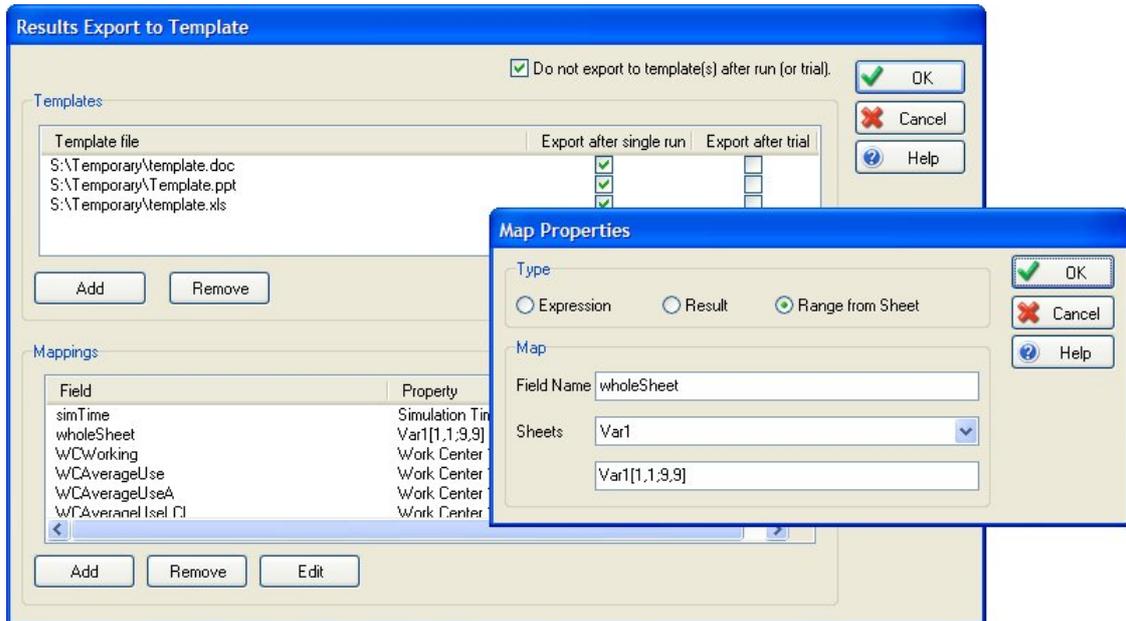
- Ability to chart any expression on a time series chart.
- Chart multiple series on one chart.



Export to Results Template Enhanced

See Results / Export to Template

Feature extended can now export directly to Excel and PowerPoint as well and can also export spreadsheet ranges as tables.



Add Button to Toolbar

Right Click on the toolbar and select Feature Buttons.

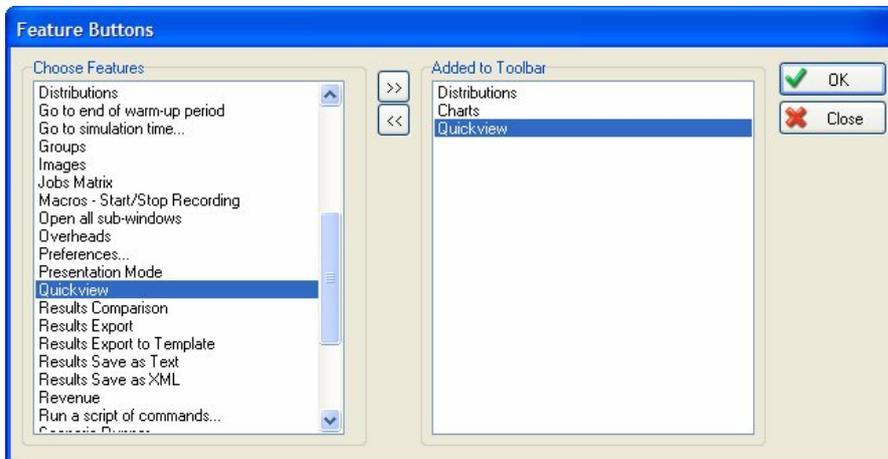
Add a shortcut to SIMUL8 menu options:

- Add button to Toolbar for any menu item, for example distributions or labels.
- A separate toolbar where these buttons will be placed will be created.
- Added buttons will be remembered by SIMUL8 and are not specific to a model file.
- Specify your own bitmap for the button.

Right Click on the toolbar and select Visual Logic Buttons.

Button to Open Visual Logic for edit:

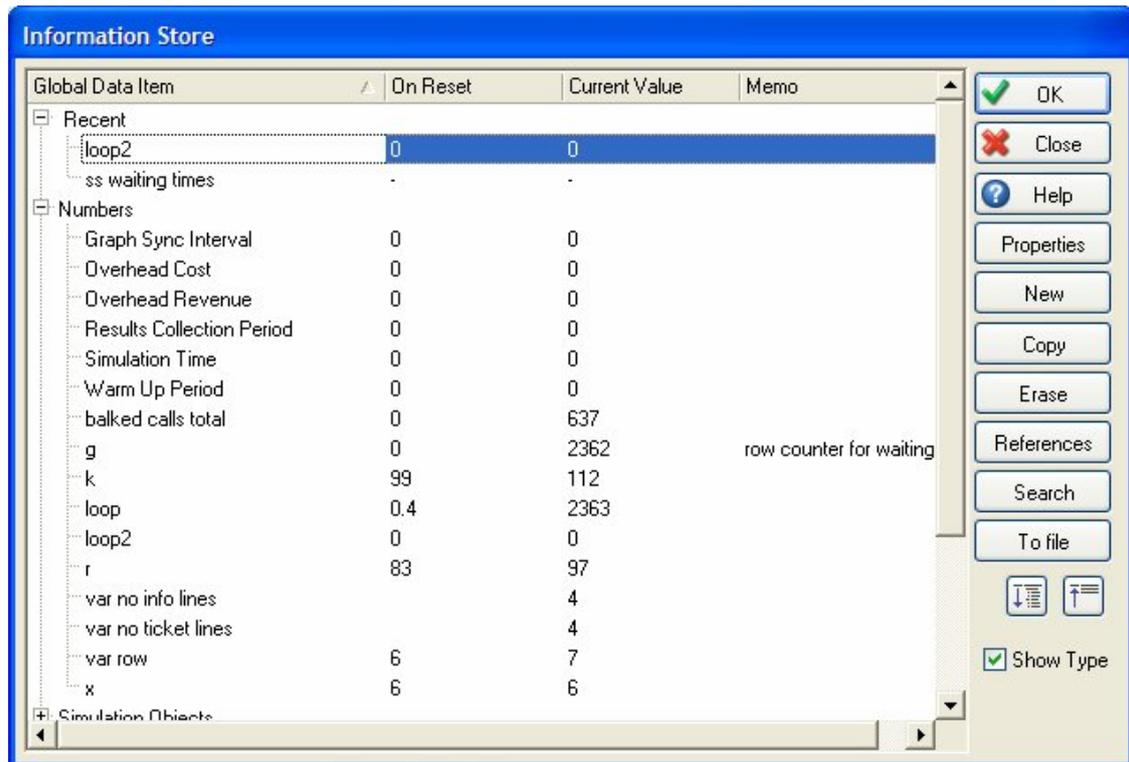
- User can add a button to the toolbar which when pressed will open a specified Visual Logic section.
- User can specify their own bitmap for button.
- Will only be remembered by file that it will not appear whenever SIMUL8 is run.



New Information Store

The Information Store now allows you to see all the values of the Global Data Items on the same window without having to drill down into each individual item.

Global Data Items can be sorted by type, and the displayed order can be sorted by name, rest or current value or memo.

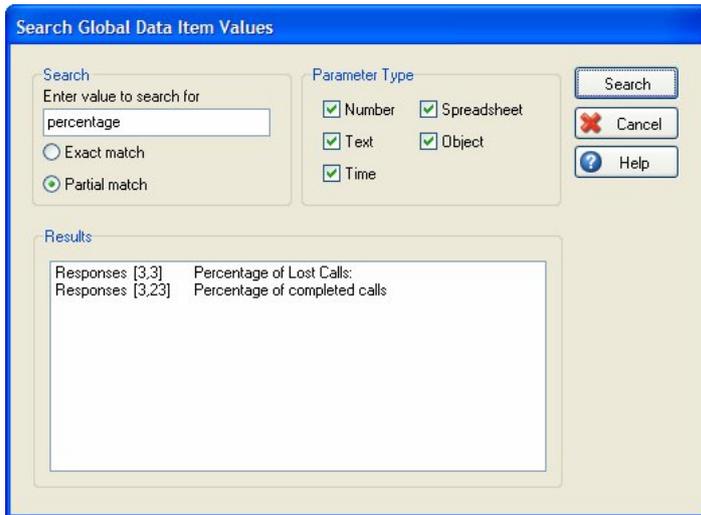


The screenshot shows the 'Information Store' window with a table of Global Data Items. The table has four columns: 'Global Data Item', 'On Reset', 'Current Value', and 'Memo'. The 'Recent' folder is expanded, showing 'loop2' selected. The 'Numbers' folder is also expanded, showing various simulation parameters and their values.

Global Data Item	On Reset	Current Value	Memo
Recent			
loop2	0	0	
ss waiting times	-	-	
Numbers			
Graph Sync Interval	0	0	
Overhead Cost	0	0	
Overhead Revenue	0	0	
Results Collection Period	0	0	
Simulation Time	0	0	
Warm Up Period	0	0	
balked calls total	0	637	
g	0	2362	row counter for waiting
k	99	112	
loop	0.4	2363	
loop2	0	0	
r	83	97	
var no info lines		4	
var no ticket lines		4	
var row	6	7	
x	6	6	
Simulation Objects			

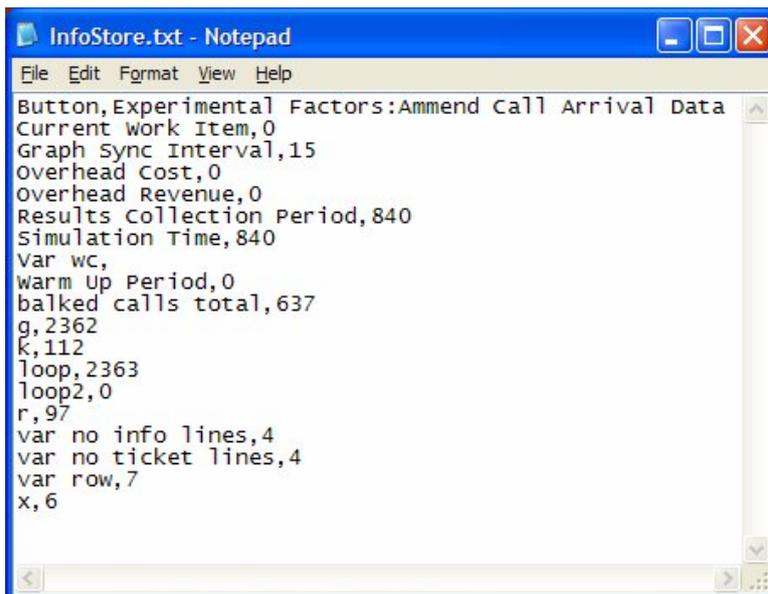
Search

Search all the values stored in the Global Data Item to find the ones containing the values you need. This is really useful in large simulations where lots of data is being dynamically changed or when you're taking over a simulation from another user.



To File

Quickly export all your Global Data Items and their values to a notepad file.



Copy

Individual or multiple variables in the information store can be copied to clipboard and pasted into other simulations along with their definitions.

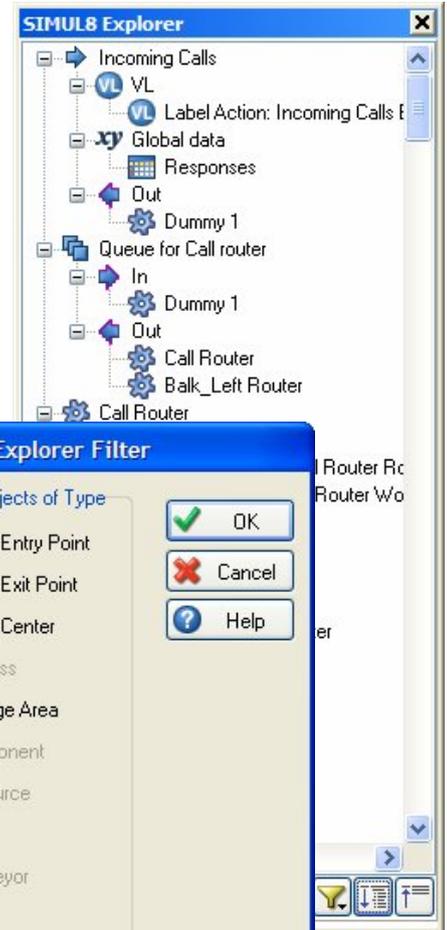
SIMUL8 Explorer

The SIMUL8 Explorer has been extended to now show:

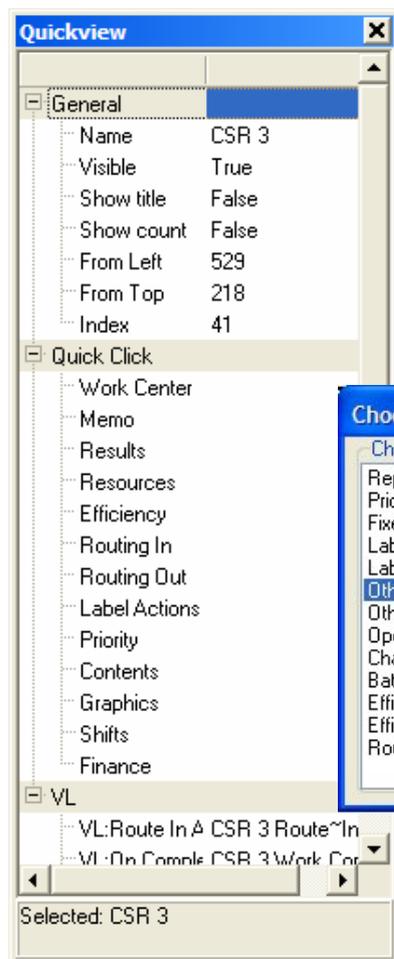
- All objects routing out from an object.
- All objects routing into an object.
- All Global Data Items referenced by the object.

In addition we've added functionality to let you:

- Sort the explorer alphabetically, by type of object, or date of creation.
- Filter the display to only show objects of specified types.
- Expand all nodes.
- Collapse all nodes.

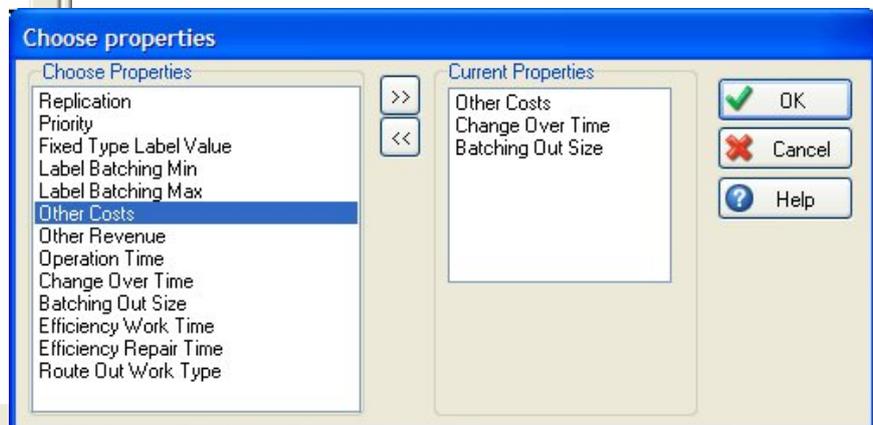


QuickView



You can now choose to add many additional properties to QuickView.

We've also added a Quick Click list which lets you get straight into the dialog you need for the selected objects, removing the need for endless clicks.



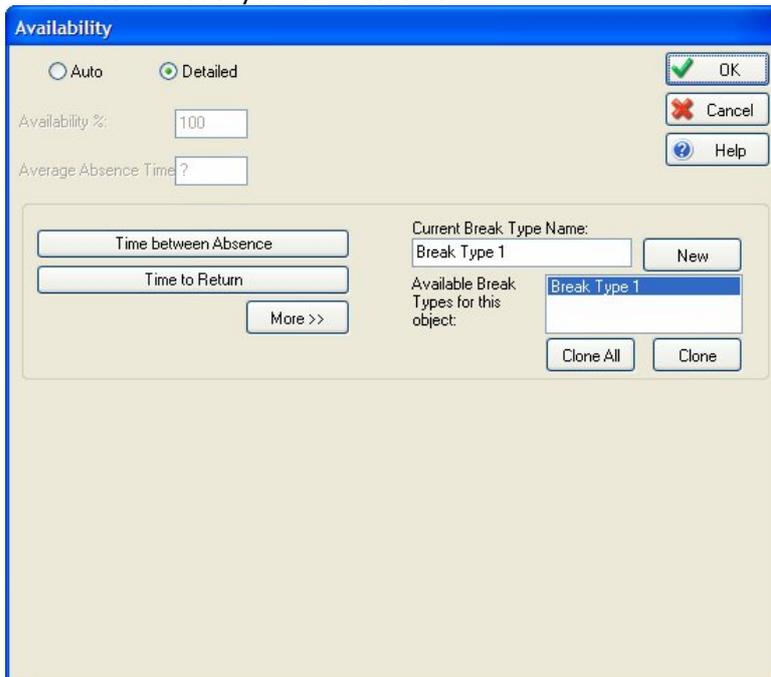
Resource Enhancements

Keep Resources

Work centers now have a resource option "keep resource while there is still work to do"

Detailed Availability Options

You can now specify detailed information about Resource Availability. They can have different types of breaks with different occurrence and absence rates. This is particular useful when using Resources to model your staff behavior.

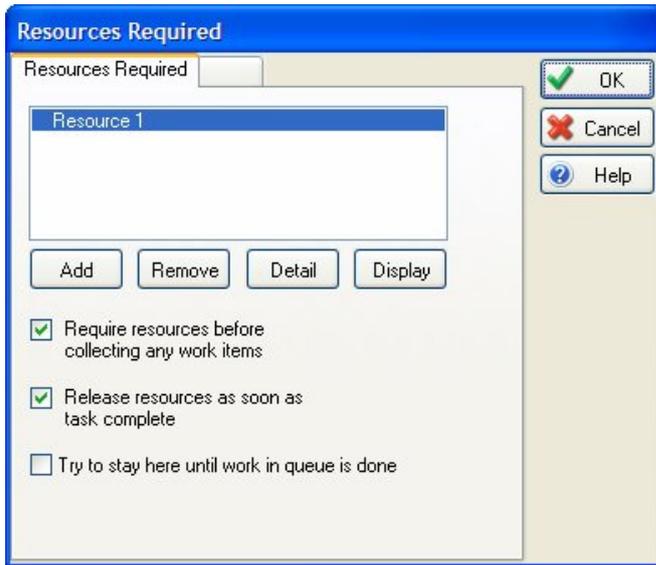


The screenshot shows a dialog box titled "Availability". It has two radio buttons: "Auto" (unselected) and "Detailed" (selected). Below these are two input fields: "Availability %:" with the value "100" and "Average Absence Time:" with a question mark. On the right side, there are three buttons: "OK" (with a green checkmark), "Cancel" (with a red X), and "Help" (with a blue question mark). The main area of the dialog is divided into two sections. The left section has two buttons: "Time between Absence" and "Time to Return", with a "More >>" button below them. The right section is titled "Current Break Type Name:" and contains a text input field with "Break Type 1" and a "New" button. Below this is a list box titled "Available Break Types for this object:" containing "Break Type 1". At the bottom right of this section are "Clone All" and "Clone" buttons.

Remain at work center until feeding queues cleared option

A work center can now try to hold onto a resource until all the work in a feeding queue has been completed.

Also can be controlled through Visual Logic as well so e.g. if Feeding_Queue.count contents <5, release resource. So resource is not attached to item but attached to work center.



Resource Traveling Detail Results

Now see exactly how much time a resource has spent traveling between different objects.

Resource 1

Utilization: 9 %

Traveling: 0 %

Graph

Sync with

Plot every

Units of Resource i

Currently:

Minimum:

Average:

Maximum:

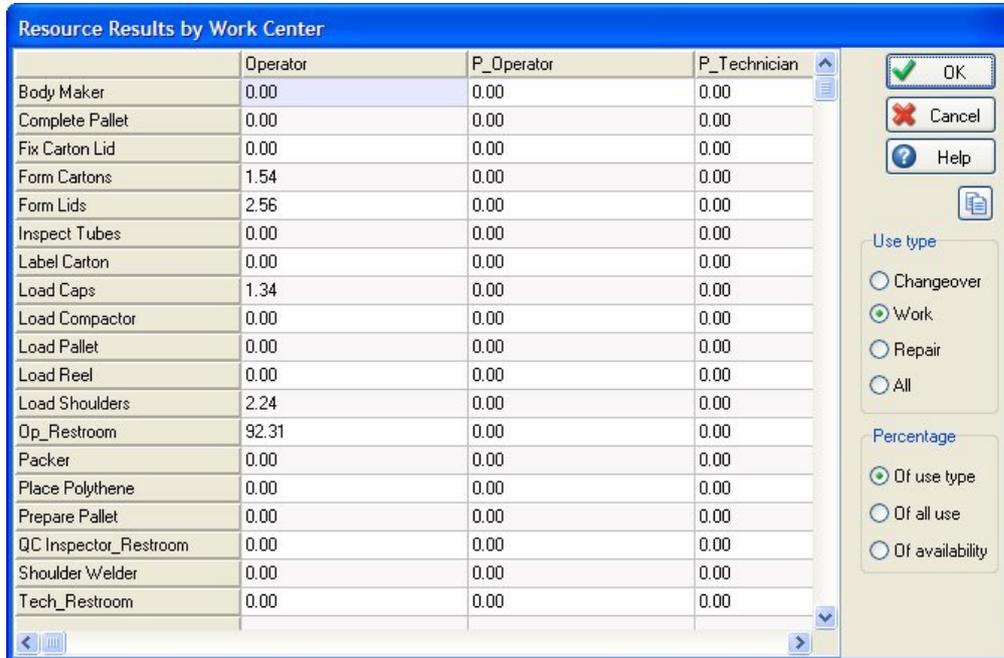
Record data for int

Technician Journey Time: Total Traveling Results (Time units)

Time From\To	Technician	Load Reel	Body Maker	Load Compactor	St
Technician		0.08333	0	0	0
Load Reel	0		0.03333	0	0.
Body Maker	0	0		0	0.
Load Compactor	0	0	0		0
Shoulder Welder	0	0.85	0.31673	0	
Packer	0	0	0.03333	0	0.
Inspect Tubes	0	0	0	0	0
Load Shoulders	0	0	0	0	0
Load Caps	0	0	0	0	0
Form Cartons	0	0	0	0	0
Form Lids	0	0	0	0	0
Load Pallet	0	0	0	0	0
Place Polythene	0	0	0	0	0

Resource Results by Work Center

Get the time each resource has spent at each work center being, split by use type if required.



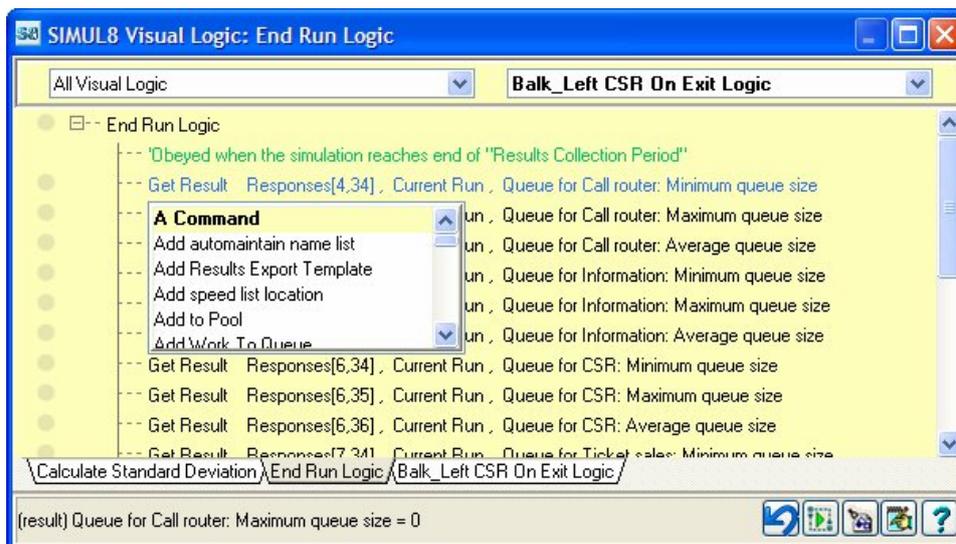
	Operator	P_Operator	P_Technician
Body Maker	0.00	0.00	0.00
Complete Pallet	0.00	0.00	0.00
Fix Carton Lid	0.00	0.00	0.00
Form Cartons	1.54	0.00	0.00
Form Lids	2.56	0.00	0.00
Inspect Tubes	0.00	0.00	0.00
Label Carton	0.00	0.00	0.00
Load Caps	1.34	0.00	0.00
Load Compactor	0.00	0.00	0.00
Load Pallet	0.00	0.00	0.00
Load Reel	0.00	0.00	0.00
Load Shoulders	2.24	0.00	0.00
Op_Restroom	92.31	0.00	0.00
Packer	0.00	0.00	0.00
Place Polythene	0.00	0.00	0.00
Prepare Pallet	0.00	0.00	0.00
QC Inspector_Restroom	0.00	0.00	0.00
Shoulder Welder	0.00	0.00	0.00
Tech_Restroom	0.00	0.00	0.00

Control Panel:
OK, Cancel, Help
Use type:
 Changeover
 Work
 Repair
 All
Percentage:
 Of use type
 Of all use
 Of availability

Visual Logic Improvements

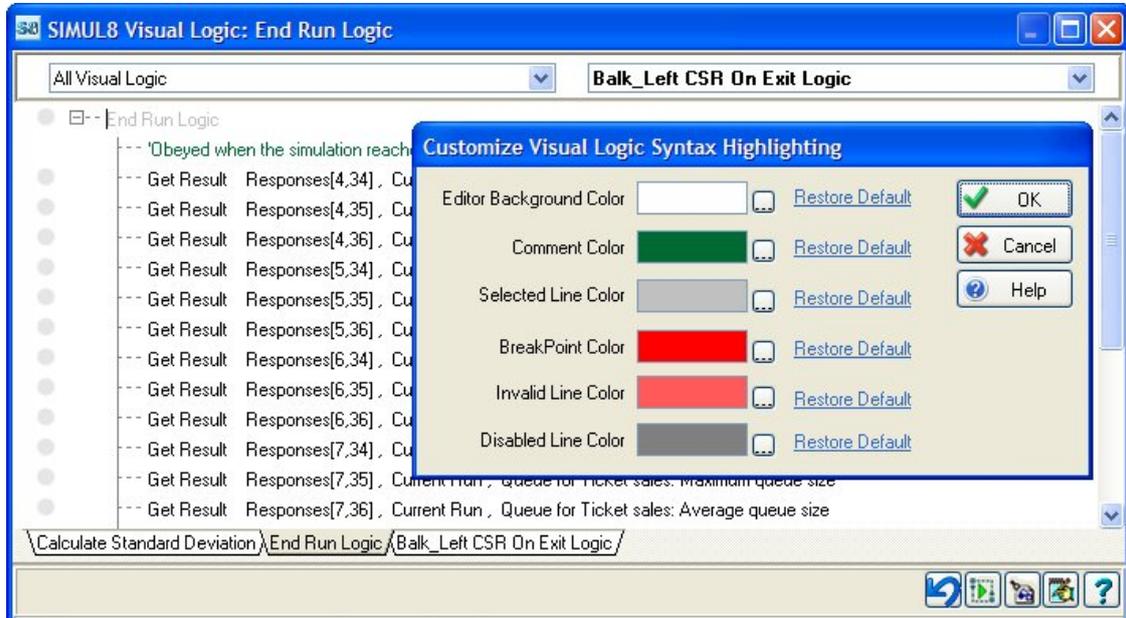
Predictive Text

No more double clicking to write Visual Logic code. Type directly in the Visual Logic Editor and let it predict what you're trying to type.



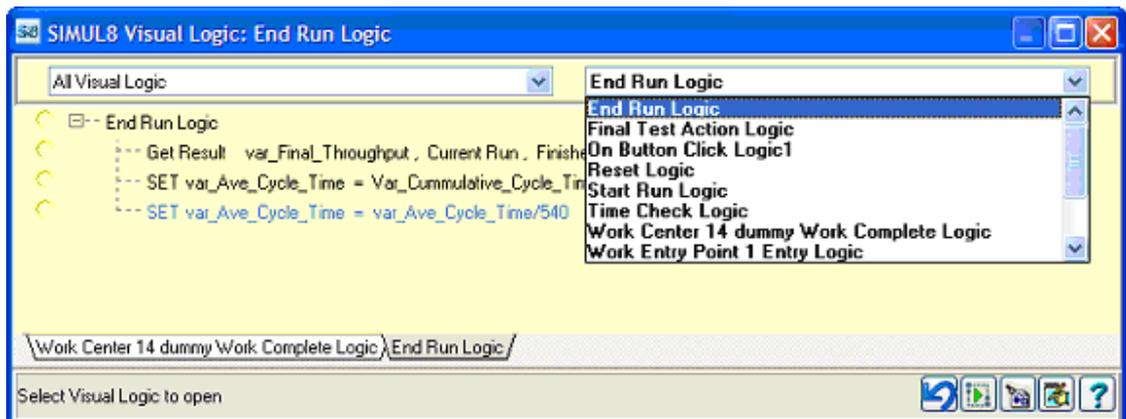
Customize the Visual Logic Editor

Change the colors of the Visual Logic Editor to get it the way you like.



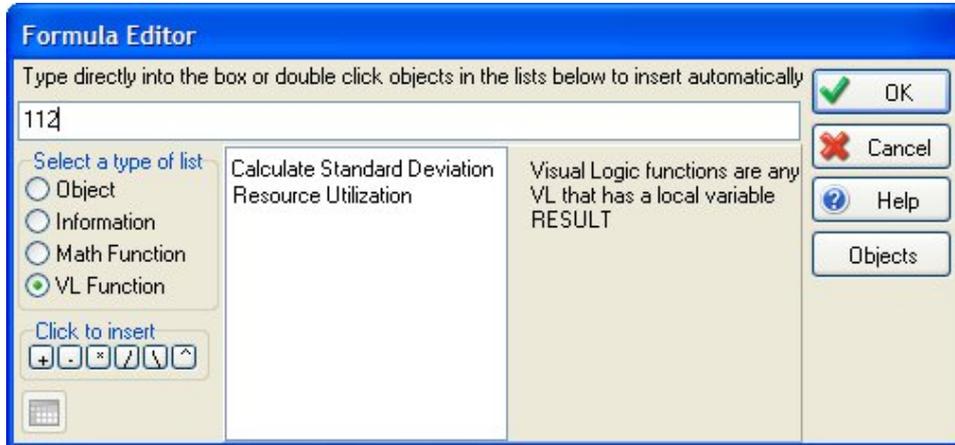
Drop Down Access

Access the Visual Logic you want through drop down lists, separated by object and simulation events.



Visual Logic Functions

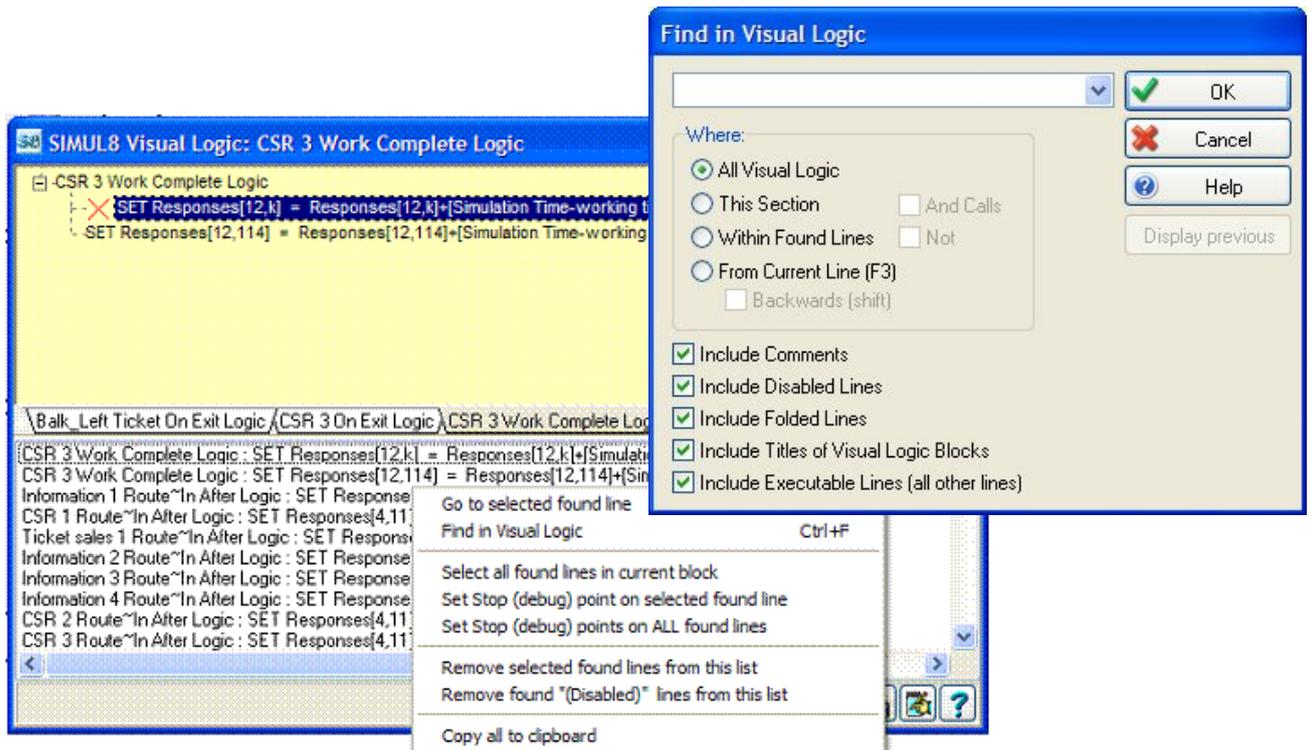
You can now have Visual Logic Function routines. Just create a local variable 'Results' and then your Visual Logic can be called in any SET line as the right hand side.



Find

Find has been enhanced to include many more options to customize your search:

- Remove comments from found list
- Remove disabled lines of code from found searches
- Search only this section can now be extended to also search anything called by the current block.
- Search from current line option (with F3 short cut that works from the dialog setting up a new search string)
- Find within the recently found lines (sub set of previous find) (and also "not within")
- Show Previous Search
- Select multiple found lines in list
- Automatically remove selected lines from found list, means you could use it almost like a To Do List, so for example if you need to make sure you've checked every occurrence of set var1 = 10 then you can remove each found line as you go through checking
- If a line is disabled in the code it says [Disabled] beside the line
- Drop down box of recently used search text



New Visual Logic Commands

- Use Resources "Resource Type", NumberRequested
- Release Resources "Resource Type", NumberReleased
- Set Process Step Route Probability
- Select View
- "Close main sheet and generate event" allows sheets to be displayed like a series of hyperlinked web pages - see example in Sheets folder
- Next Spreadsheet Print Shows Print Setup
- Set Window Name VL command
- BeepOnComplete option in "results collection period" dialog now (for R14) only beeps at the end of non-trial runs and the last run of a trial
- Create Distribution
- Copy Distribution
- "Run Later" allows user to set up a series of experiments to be run at a later time or date (e.g. overnight or at the weekend when the PC is not in use)
- Print Spreadsheet - Prints a SIMUL8 spreadsheet using its current print settings and current printer
- Set Next Spreadsheet Print Area - Set the Print Area for the next Spreadsheet print action
- Print spreadsheet Area
- Set the Print Page Fitting for the next Spreadsheet print action

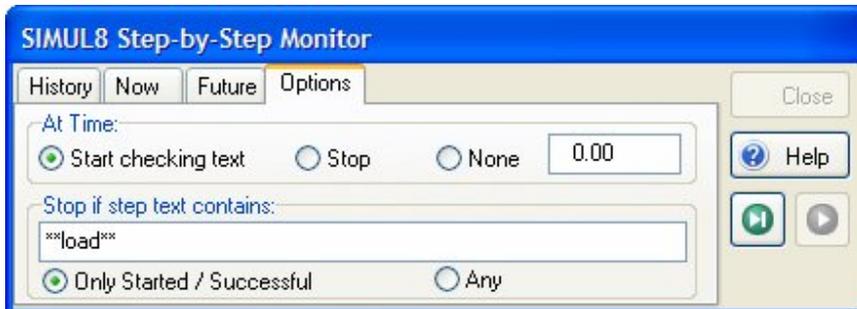
Other Visual Logic Improvements:

- New debugging option to "Stop if line contains text xxx"
- Click RIGHT on the tabs in VL editor now shows all tabs in a menu so even long lines can be read

- "References" feature (what calls this code) can now be accessed directly inside the VL editor
- Calls Tree feature shows all the code a VL block calls (and all the call from within any calls too)
- The VL status bar, when showing a variable value, now say if the variable is a "local"
- The VL status bar, when showing a variable value, now also shows any memo associated with the variable
- One-click delete of all Watch Items from Watch-Window
- VL stop debug improvements
 - No longer "stops" on comment lines
 - Can now stop if code tries to reference an "invalid" spreadsheet location (e.g. mysheet[0,3])
 - warning in when breakpoints are all disabled, but a new one is added
- Every executed line of VL can now be logged to a text file (VL Services/Line by Line logging)
- Any block of VL can be executed directly from the VL List
- Call Stack Tracking can now be switched on/off from the Speed Analysis dialog
- CallVL dialog allows you to paste and typing of the name of the logic for quick finding in long lists
- Drag to copy/move VL code now protected to make accidental movement of lines impossible (can be switched off if preferred)
- VL Editor in debug mode has blue arrow to indicate the current execution line
- Navigation through multiple VL blocks now supports BACK and FORWARD to easily move to logic under review (click right menu and also CTRL-B and CTRL-H) We hope also to add back/forward buttons on the bottom of the vl window to make it more obvious
- VL Tabs now remembered when you save/reopen a file
- New Shortcuts:
 - VL has short cut key D to disable and enable code lines
 - VL has short cut key C to add a comment
 - VL has short cut key F3 to "find again from current line within this block"
 - VL has short cut key SHIFT-F3 to "find backwards from current line within this block"
 - Ctrl – Doubleclick on a CALL in Visual Logic navigates to that Visual Logic section.
 - CTRL-HOME and CTRL-END now work in the VL editor (go to top line, go to bottom line)

Clock Monitor Wildcards

Simulation Monitor "Stop when event contains text" now allows wildcards in the text



Miscellaneous

- Weibull and Beta distributions now have a 4th parameter.
- Route-in collect mode on work centers now supports "all" in addition to a specific number of work items - "all" means "collect all the work immediately available in the queue".
- When you double click on reference if it's an object, dist, visual logic section or a group now opens properties.
- File/Pref/Compatibility/Excel has open to auto-open excel sheets.
- The Links dialog now automatically updates the Quickview panel as you browse the linked objects for easier debugging.
- Copy entire content of watch window and paste all watch items between simulation files.