



ProModel



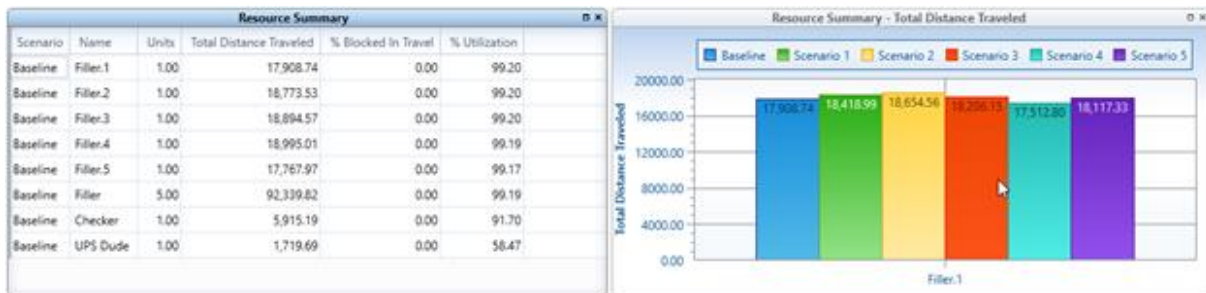
MedModel

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## Resource Distance Traveled Statistics

The distance your resources travel over the course of a simulation is now collected and reported in Output Viewer. It is displayed as Total Distance Traveled in Resource Summary reports and tracks the overall distance traveled for individual units.



## Identify Captured Resource Units

In addition to determining which resource you've captured, you can now find out the specific unit of that resource as well. With the new OwnedResourceUnit() function, you can get the unit number of any resource owned by an entity. This is useful when collecting custom resource statistics at the individual unit level.

## In-Process Resource Utilization Statistics

Access the utilization of your resources at any time during simulation. Using the newly modified PercentUtil() function, you can find out the utilization of individual units of a resource or a summary of all units of a given resource type. This allows you to make dynamic logical decisions or write out custom statistics to a CSV or Excel file.

### Utilization for a specific resource unit

```
Logic
1 Real util4Filler5
2
3 util4Filler5 = PercentUtil(Filler, 5)
4
5 Write extFile, "Filler.5"
6 Writeline extFile, util4Filler5
```

### Utilization of all units for a resource type

```
Logic
1 Real util4AllFillers
2
3 util4AllFillers = PercentUtil(Filler)
4
5 Write extFile, "All Fillers"
6 Writeline extFile, util4AllFillers
```



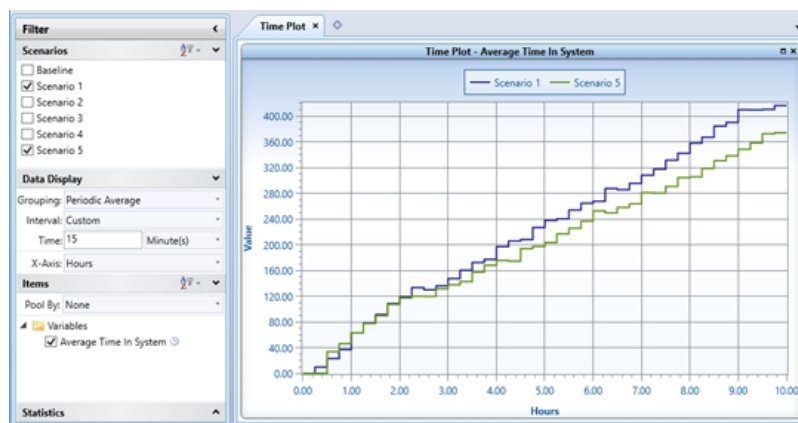
## Quickly Access Element Definitions

Have you ever been writing or viewing logic, and wanted to quickly see the definition (or details) of a specific subroutine, array, location, etc.? Well, now you can! Simply highlight that model element in logic, press the F12 key, and you will be taken to that element's specific record in its edit table. For example, if you highlight a subroutine name in logic and press F12, you will be taken to its exact record in the Subroutine table.

## Programmatic Export of Statistics

The statistical results of your simulation runs can be programmatically accessed through a new API to Output Viewer. You can get the raw data, down to the individual replication, or have it summarized or grouped (just like in Output Viewer) prior to accessing it. Either way, you can access your results, for example to load into Excel or a database, for analysis outside of Output Viewer.

As an example, this is a Time Plot in Output Viewer where the time series data is averaged over a custom period of 15 minute intervals.

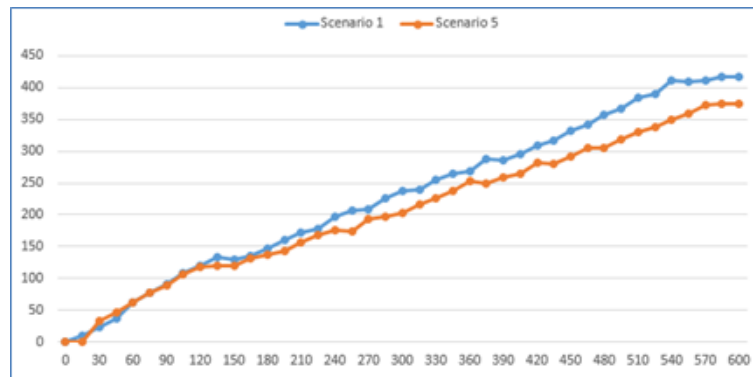


Using the new API, you can have Output Viewer summarize the data into 15 minute intervals prior to exporting it to Excel.

	A	B	C	D	E
1	Time Plot - Average Time In System (Avg. Reps)				
2					
3	<b>Scenario</b>	<b>Replication</b>	<b>Element</b>	<b>Date/Time</b>	<b>Value</b>
4	Scenario 1	Periodic Avg	Average Time In System	0	0.00
5	Scenario 1	Periodic Avg	Average Time In System	15	9.74
6	Scenario 1	Periodic Avg	Average Time In System	30	23.00
7	Scenario 1	Periodic Avg	Average Time In System	45	36.98
8	Scenario 1	Periodic Avg	Average Time In System	60	63.01
9	Scenario 1	Periodic Avg	Average Time In System	75	78.22
10	Scenario 1	Periodic Avg	Average Time In System	90	91.49
11	Scenario 1	Periodic Avg	Average Time In System	105	108.45



The exported format makes it easy to create a Pivot table and Pivot chart in Excel.



## Enhancements

- When exporting Array data at the end of simulation, the replication number is no longer written out in the Excel Sheet name if "Export after final replication only" is checked.
- Minitab version 17.3 is now supported