ProcessView™

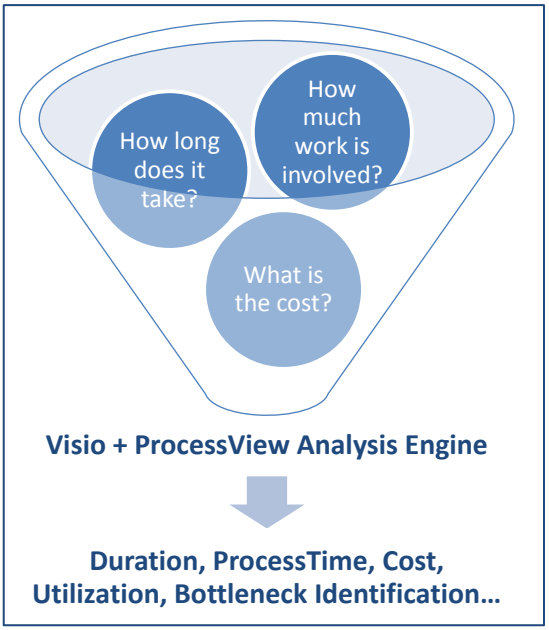
Hands-On Lab Exercise

Introduction to ProcessView

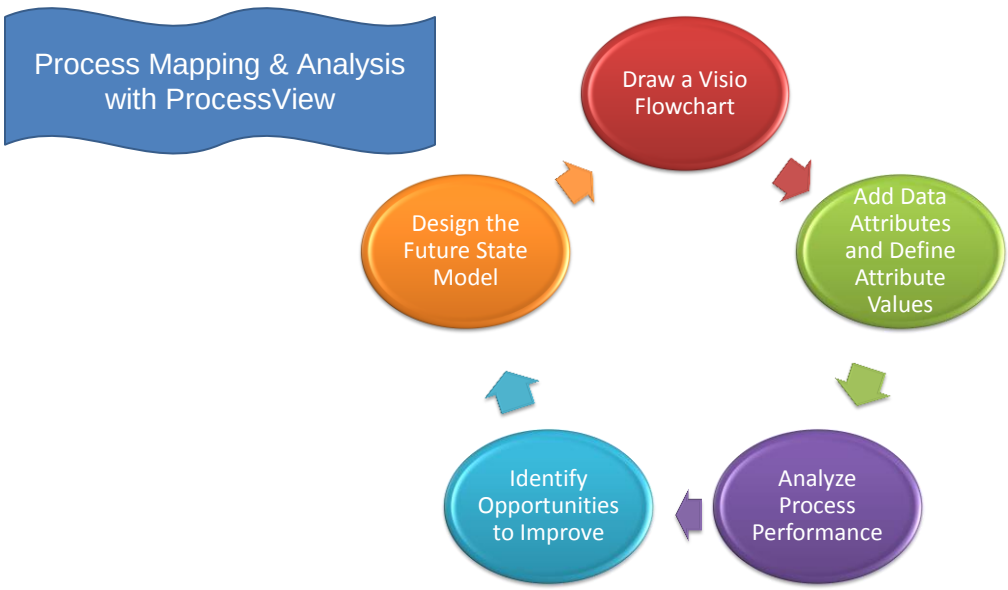
ProcessView is a static modeling tool designed to allow business people, process improvement professionals, and executives to work together to understand and improve key business processes.

Once the scope of an analysis event is clearly defined, ProcessView can be used to answer a number of fundamental questions about a business process.

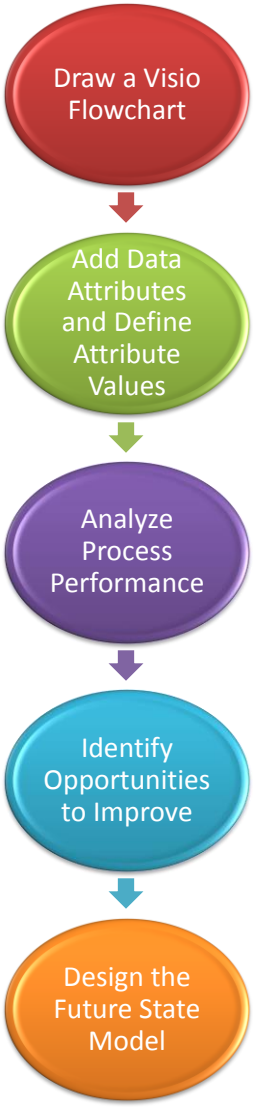
- How long does it take? How much work is involved to process an item? How many resources are required to support the demand? How much does it cost to get an item through the process?
- Where should improvement actions be focused to obtain the greatest impact on process performance?
- If the mix of items being processed changes, what is the impact on service? How much demand can be handled with existing capacity? Do I need to outsource demand? If so, how much?
- If I invest in new equipment or additional resources, how many do I need to handle the anticipated demand? Will the investment bring the desired level of service?



- What is the impact of rework? How much time is spent on non-value added activities? How often do we get it right the first time?
- If I invest in new technology, how much manual effort can be eliminated? Will it reduce cost? If so, how much hard savings will be gained?



Introduction to ProcessView



ProcessView works with native Visio diagrams and does not require the use of any specific drawing templates or shape stencils for map construction.

ProcessView makes it easy to quickly configure the process shapes with shape data input fields (attributes)… to describe the time, cost and resources involved…

ProcessView provides a number of pre-configured analysis reports, written to Microsoft Excel and PowerPoint, to summarize process performance information.

Once ProcessView analysis is used to determine where improvement action should be focused, improvement opportunities, plans, and actions can be captured in the context of the process model.

Once a current state model is composed, future state models can be easily constructed and quantitatively compared to the current state to estimate the impact of proposed process changes.

The ProcessView Environment

ProcessView sits on top of Microsoft Visio 2007, 2010, or 2013 (standard, professional or premium), utilizing the Microsoft .NET 2.0 framework. Both Microsoft Visio and the .NET 2.0 framework must be installed before ProcessView can be utilized.

ProcessView requires Microsoft Excel 2007, 2010, or 2013 for analytics. ProcessView analyzes your process flowcharts and automatically exports the resulting analytics to Microsoft Excel. Microsoft PowerPoint 2007, 2010, or 2013 is required for generating the Management Outbrief Report.

The ProcessView Toolbar

New Drawing – Allows the user to choose from several templates to create a new drawing

Validate Map/Data – Prompts ProcessView to analyze the structure of a process map and existing shape data for issues

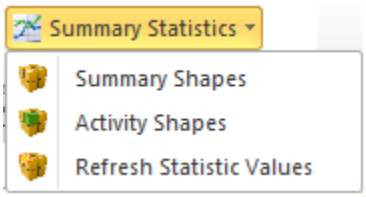
Define Attributes – Allows the user to add or update the shape data attributes to be used in calculations and analysis

Costing Rates – Allows you to define the costs of resources or custom, user-defined properties on a time or quantity basis (i.e. cost per minute, per hour, per pound, etc.)

Enter Data – The Enter Data button opens the Enter Data user interface. This interface facilitates defining values for the standard ProcessView data attributes in map shapes

Analyze – Provides access to ProcessView analysis output reports

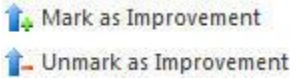
Paths, Parallel Paths (Extract Paths, Extract Parallel Paths) – Provides access to ProcessView direct and parallel path report options



Summary Shapes (Define Process Level Summary Statistics) – Allows calculated process performance statistics to be written to a shape or to the page properties

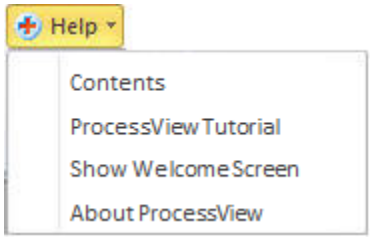
Activity Shapes (Define Activity Level Summary Statistics) – Allows calculated activity node performance statistics to be written to a shape or to the page properties

Refresh Statistic Values (Update ProcessView Summary Statistics) – Updates any summary statistics written to a shape or on the drawing page



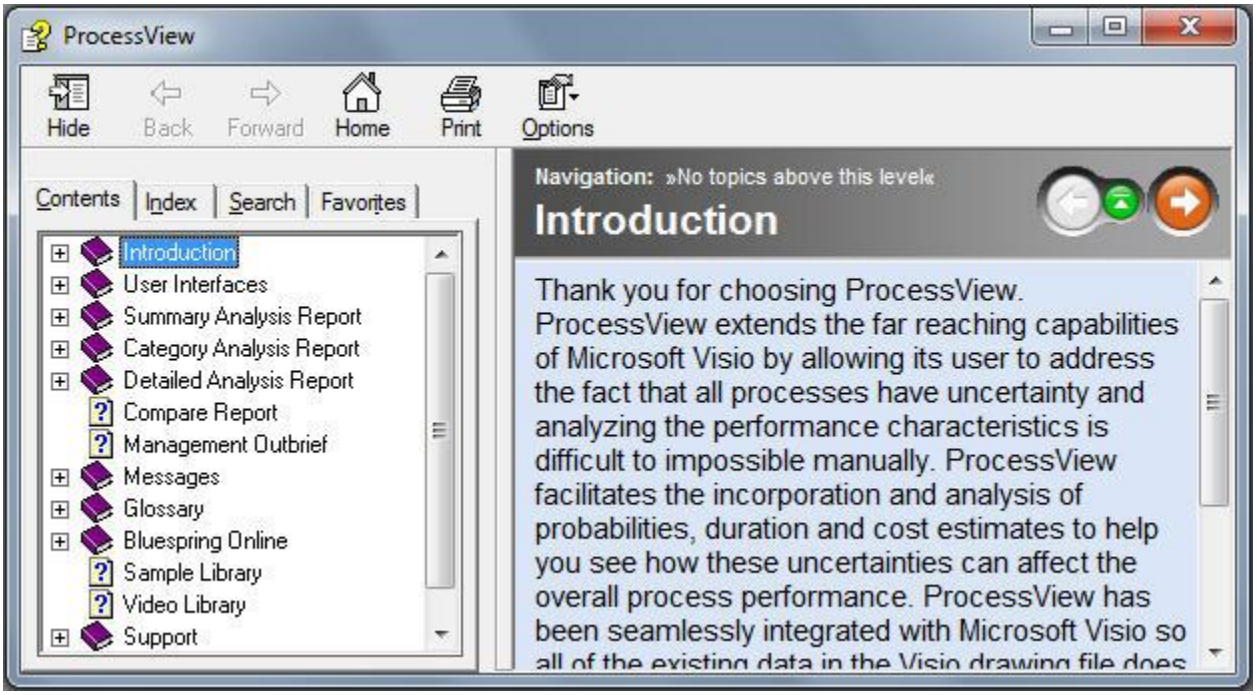
Mark as Improvement / Unmark as Improvement – Allows the user to identify a shape in the drawing page as an 'Improvement Opportunity' shape where information about proposed improvement activities will be stored. This designation may also be removed from the shape as desired using the 'Unmark…' option.

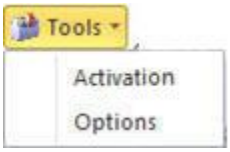
The ProcessView Toolbar



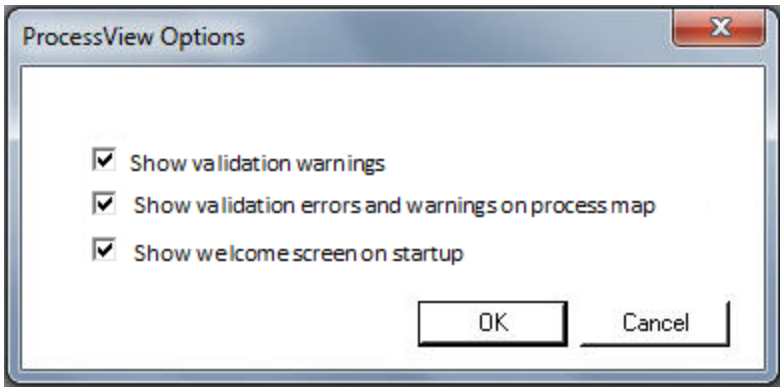
Help – Provides access to the ProcessView help material *Contents*, a *Getting Start Tutorial*, and information *About ProcessView* (such as version etc.). Additionally, this can be used to open the ProcessView Welcome Screen; the welcome screen provides access to online resources, a library of sample process models, and the ProcessView support team.

The **Contents…** link provides access to a comprehensive help module. Expanding and clicking on a topic on the left will reveal in-depth assistance on the right. ProcessView help contents is indexed and searchable and can be easily navigated using the 'Back' and 'Forward' buttons.

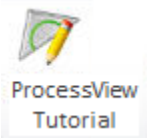




Tools – Provides access to the ProcessView *Activation* window (for upgrading an existing license) and to a number of *Options*, shown below.



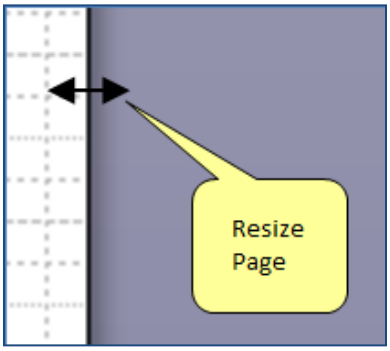
Upgrade – Provides access to the Bluespring website where trial users may acquire a permanent license or Standard users can upgrade to Professional



ProcessView Tutorial – Provides access to a tutorial to help users become familiar with ProcessView

Pages in ProcessView

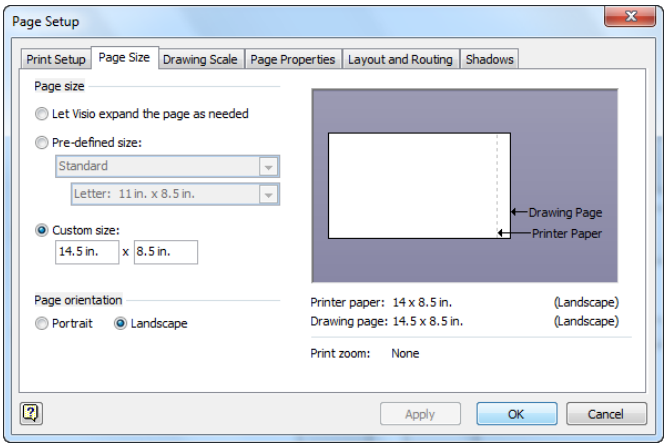
ProcessView works on the Pages concept. That is, ProcessView will analyze the selected page on the Visio diagram. Each Page can contain its own properties independent of other pages. Alternatively, if a page has no properties, it can utilize properties from the "primary" page (the leftmost tab or page of the Visio drawing).



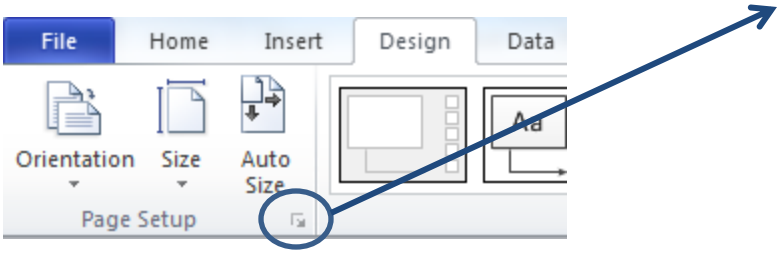
Note that ProcessView does not traverse pages. That is, it only analyzes the current page and does not follow off-page connectors. As Microsoft Visio allows the page size to be edited, the size of a page may be increased to accommodate larger flowcharts.

`How do I increase the page size??`

To increase the drawing canvas in Visio 2007, 2010, or 2013; hold down the CTRL key and place the cursor over the edge of the drawing canvas. Notice, the cursor will change appearance to look like a double-sided arrow. ↔ While continuing to hold the CTRL key and left mouse button, drag the edge of the canvas to increase or decrease the size as desired.



The page design properties may also be edited by clicking the Page Setup on the Design tab of the Visio 2010 or 2013 ribbon. This will launch the Page Setup dialog where page size and drawing scale can be edited.



NOTE: In Visio 2007, the Page Setup dialog is accessed through the Visio File menu. File → Page Setup.

ProcessView Terminology

What is a `NODE`?

1. A `NODE` is simply a shape on the process map used to depict an activity, a decision or the start or end point of a process. Nodes are divided into 3 categories: Start Nodes, End Nodes and Activity Nodes.

   a. What is a `Start Node`?

      A start node is the very first shape (or shapes) in the process flow. ProcessView can identify a Start Node, regardless of the shape used, because a Start Node will have only outbound connectors. Note that a process flow may have more than one start node. For example, in a customer support setting, you may have incoming emails and incoming phone calls.

      Start nodes are typically represented using the oval "Start/End" (Terminator) shape located in the Basic Flowchart Shapes stencil.

      Start nodes have specialized data associated with them to denote the demand that triggers the start of the process. We will discuss demand (arrival rate) in later sections.

   b. What is an `End Node`?

      As the name implies, an end node is the last reachable activity or connected shape on a process map. ProcessView can identify an End Node, regardless of the shape used, because End Nodes will have only inbound connectors. A process flow diagram may have multiple end nodes to represent different ways for process activity to cease.

ProcessView Terminology

c. What is an `Activity Node`?

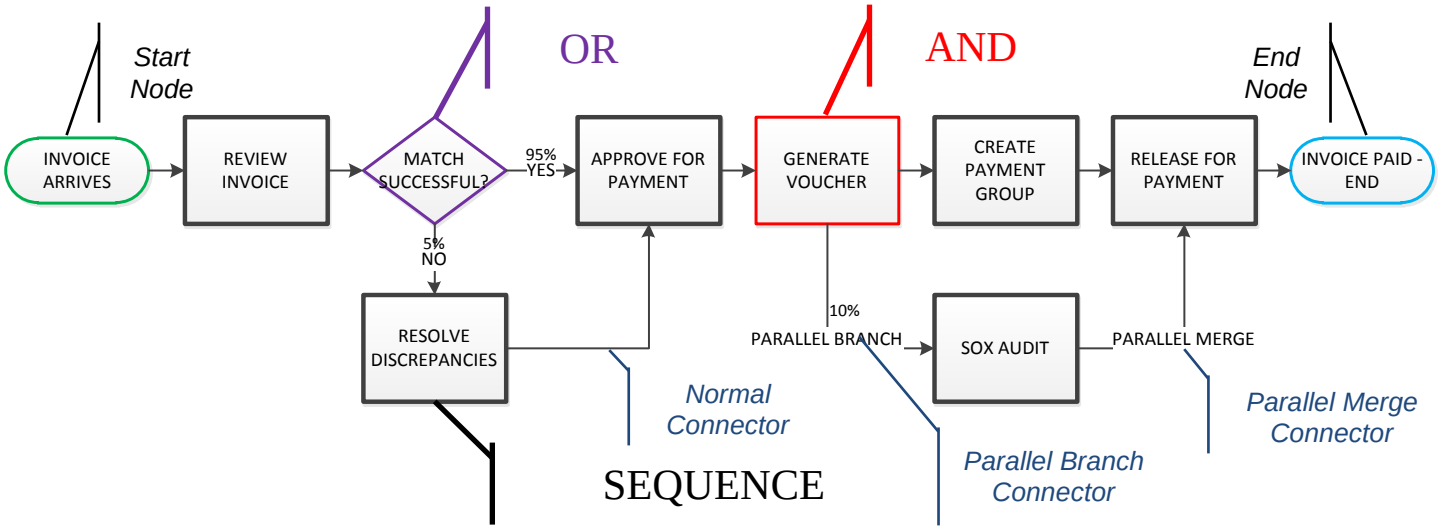
An activity node is just that, anywhere that work is being done and/or delay time will occur in the process. Activities will have both inbound and outbound connectors. Note that, in ProcessView, start and end nodes are not considered activities, and this has some implications when representing data in a ProcessView model. Those implications will be addressed in later sections.

Activities are divided into 3 categories: Sequence, Or, And.

i. A **`Sequence`** activity is a shape with only 1 inbound and 1 outbound connector.

ii. An **`Or`** activity, often called a decision, is typically represented with the diamond decision shape. A decision is an activity node with at least one inbound connector and two or more normal outbound connectors attached to it. The outbound connections from an 'Or' activity represent unique options; when an 'Or' activity is completed, an item of demand will travel down only 1 of the outbound connectors.

iii. An **`And`** activity, often called a parallel branch, is typically represented with the rectangular process shape. A parallel branch is an activity node with at least one inbound connector, one normal outbound connector, and one or more parallel branch connectors attached to it. The outbound connections from an 'And' activity represent the beginning of one or more parallel activity paths; when an 'And' activity is completed, an item of demand will travel down 1 of the normal outbound connectors and a 'copy' will be sent down all parallel branch connectors.



ProcessView Terminology

What is a `LINEAR PATH`?

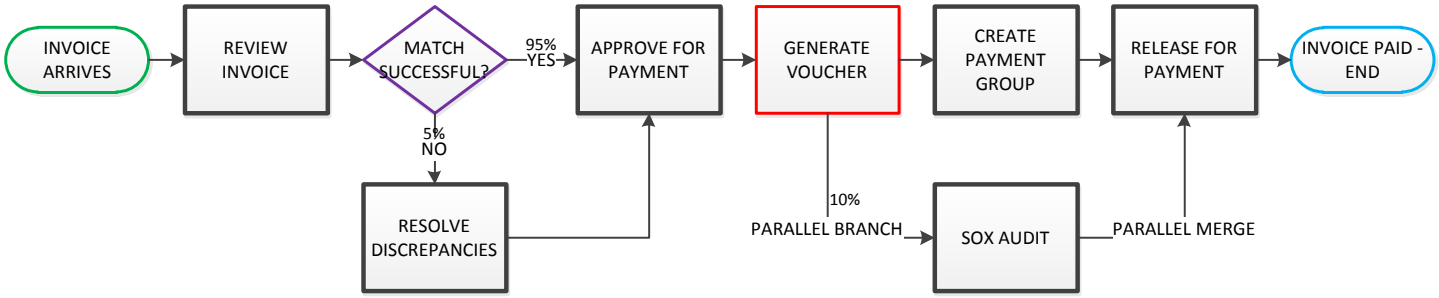
A linear path or workflow is a linear sequence of activities that describes the actions taken to move a demand item from start to finish. A linear path will have no decisions or branch points (like a value stream map).

After a decision (an 'Or' activity), work tends to follow only one of the outbound connectors down a particular path. ProcessView has the ability to determine the likelihood or relative frequency that work will follow any one outbound connector, thus identifying critical paths or workflows in the network. The ability to correctly identify those processes that are part of the critical workflow is a powerful and key component of process improvement.

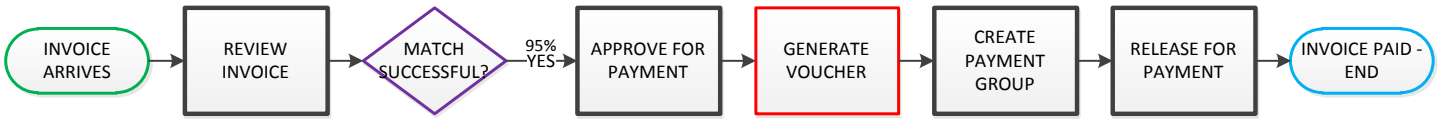
What is a `PARALLEL PATH`?

A parallel linear path or workflow is a linear sequence of activities that describe work performed in parallel with the primary or 'normal' activity paths. A parallel linear path begins with a parallel branch (an 'And' activity) and may or may not end with a merge back into the primary or 'normal' activity paths.

PROCESS FLOWCHART



LINEAR PATH 1



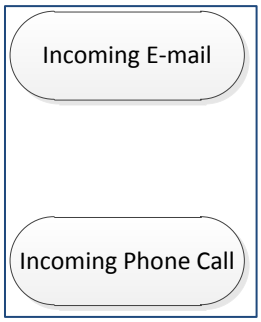
LINEAR PATH 2

PARALLEL PATH

Reviewing the Customer Support Example

For the purposes of this exercise, we are going to use a vastly simplified version of a customer support or customer service process flow. Launch Microsoft Visio and open the *Customer Service Example_0.vsd* provided.

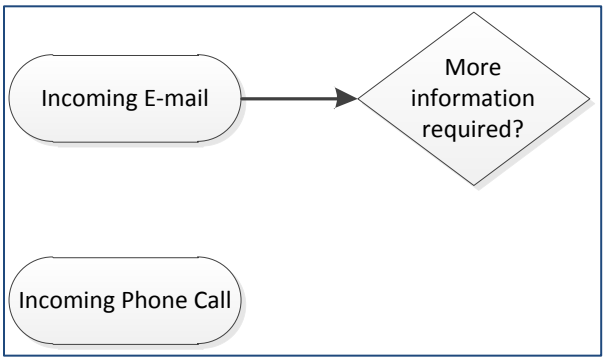
Let's begin by reviewing the Process Flow Chart.



1. Start Nodes:

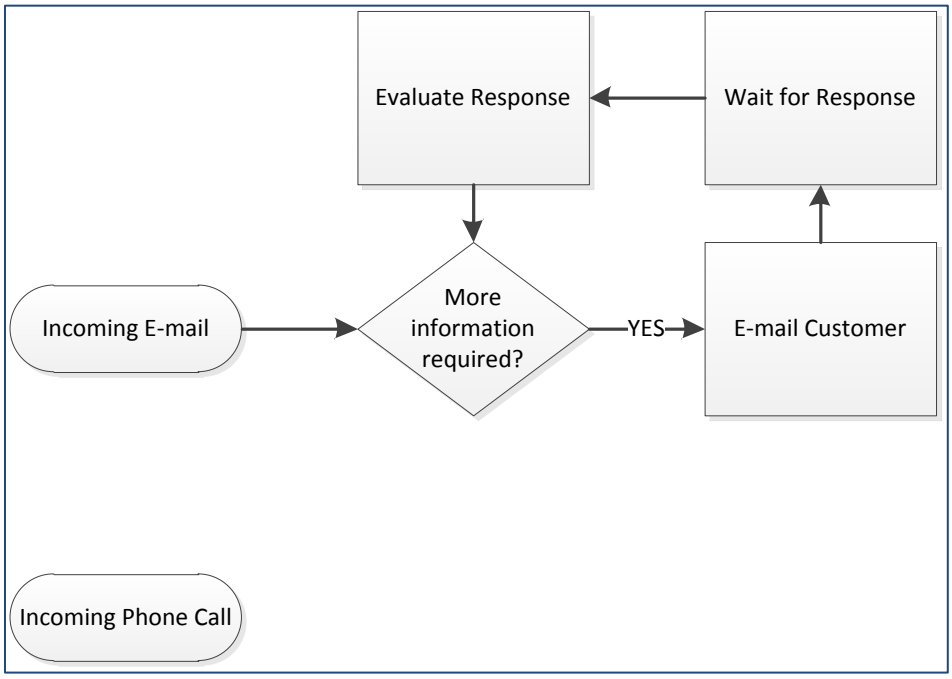
   In our example, customers can reach our support department either by emailing in their request, or by calling a support telephone line.

2. Activity Nodes:

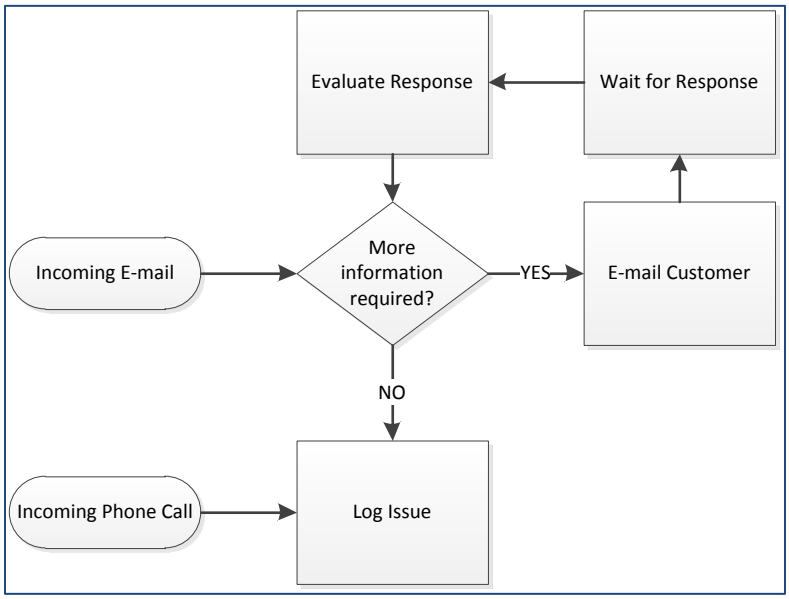


When a customer service representative opens an incoming email, he makes a decision as to whether or not additional information is needed.

It makes sense, now, that we should have a "Yes" or "No" possibility following our "More info required" decision. First, for the "Yes" path, we need to email the customer and wait for a customer response. Once we receive the response, we would need to evaluate it, and then ask again if more information is required.

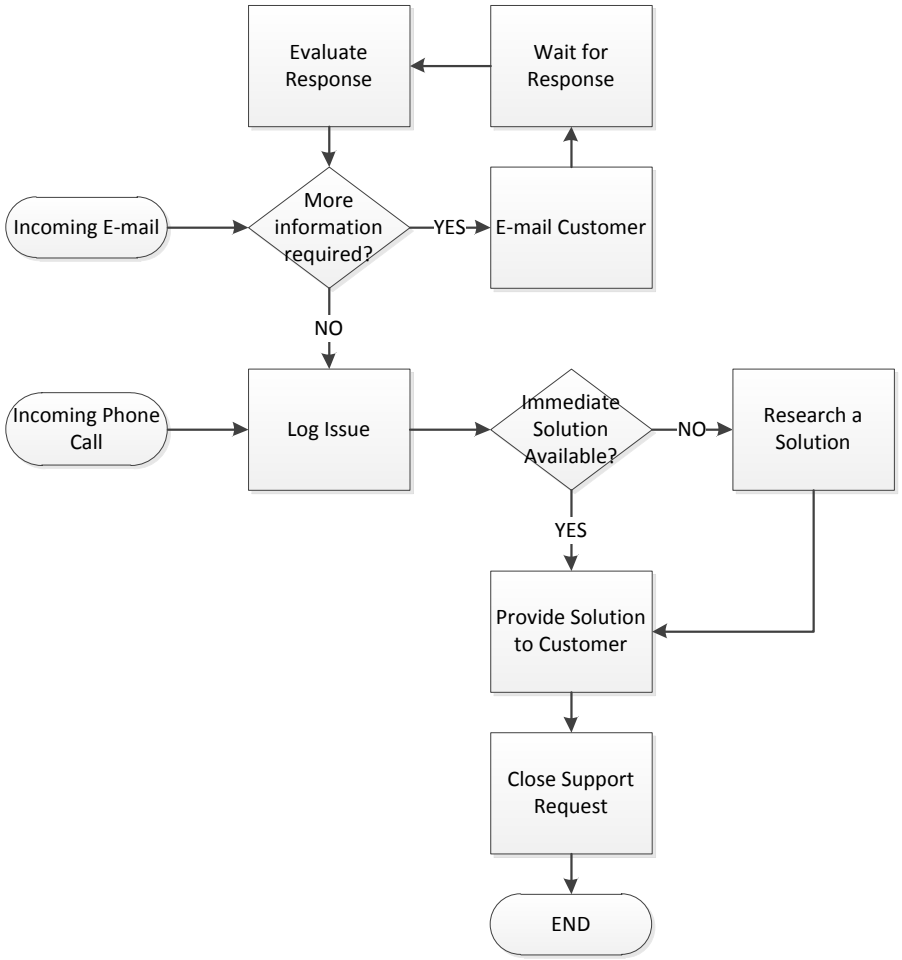


If no additional information is needed from the customer, we are going to log the issue into our computer system. Coincidentally, this is the step that follows our "Incoming Phone Call" start node. Since we are already on the phone with the customer, we can communicate directly to gather what information we need, therefore eliminating the "More info required" decision. At this point, our paths from both start nodes merge together.



At this point, we have another decision to make. We need to determine whether an immediate solution to the customer issue is available. If it is, then we give the solution to the customer and close the support request. If an immediate solution is not available, we will need to research the solution, and then give the solution to the customer.

This is how the complete drawing should look:

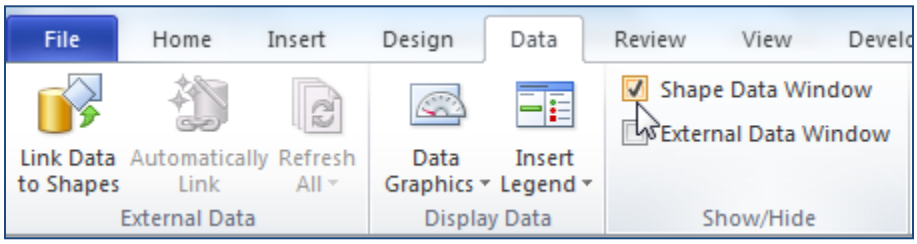


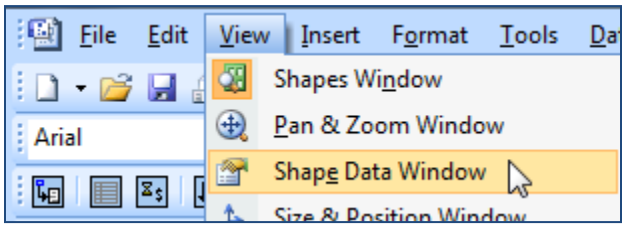
Assigning Attributes to a Process Flowchart

Currently, you have nothing more than a process flowchart drawing and it contains no usable intelligence.

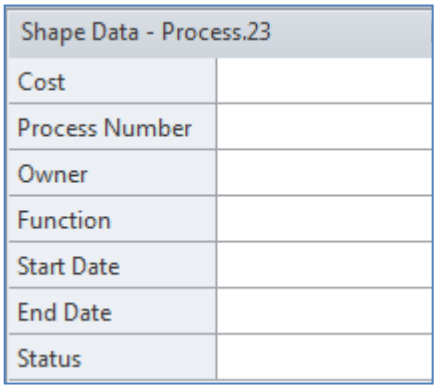
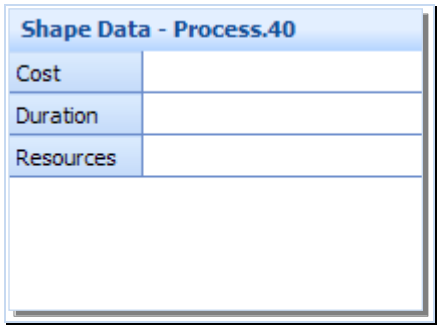
To begin working with some of the data that is typically associated with our Customer Support requests, we need to create data points in our flowchart to document things like process times, probabilities at decisions and arrival rates, etc… These data points are called ***attributes***.

First, let's open the Shape data window, to view data associated with the shapes in our flowchart. In Visio 2010 or 2013, navigate to the Data tab and ensure the Shape Data Window is checked. In Visio 2007, navigate to the View menu and choose Shape Data Window.





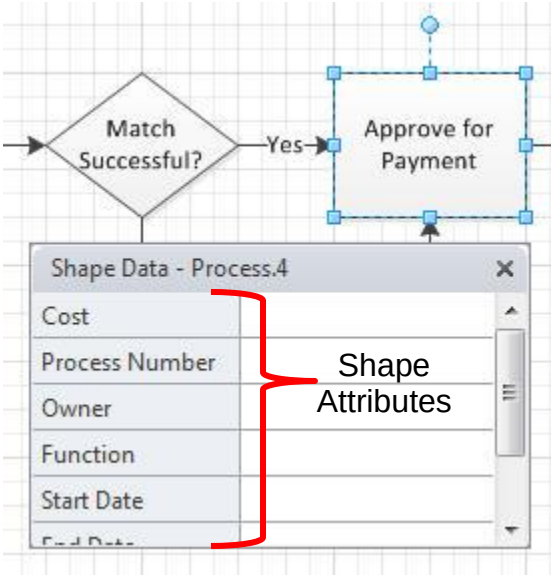
This will open the Shape Data Window:

Visio 2010, 2013	Visio 2007
	

NOTE: ProcessView will add, but will never remove attributes from a Visio shape. To remove attributes, right-click in the shape data window and choose to 'Define Shape Data'. Use the Visio Define Shape Data dialog to remove any unwanted shape data attributes.

The shape data window can be repositioned as desired.

Note that if you click on any shape on the map, the shape data window will display the shape attributes.



The standard Visio 2007 flowcharting shapes include cost, duration and resources. The standard Visio 2010 , 2013 flowcharting shapes include cost, process number, owner, function, start date, end date and status. We will want to add additional data points to be able to better analyze our process flow charts.

Note that, if the ProcessView drawing templates and shape stencil are used to create a process flow diagram, the necessary attributes will already exist for the drawing page and shapes.

To configure our map for data collection, we use the "Define Attributes" button.

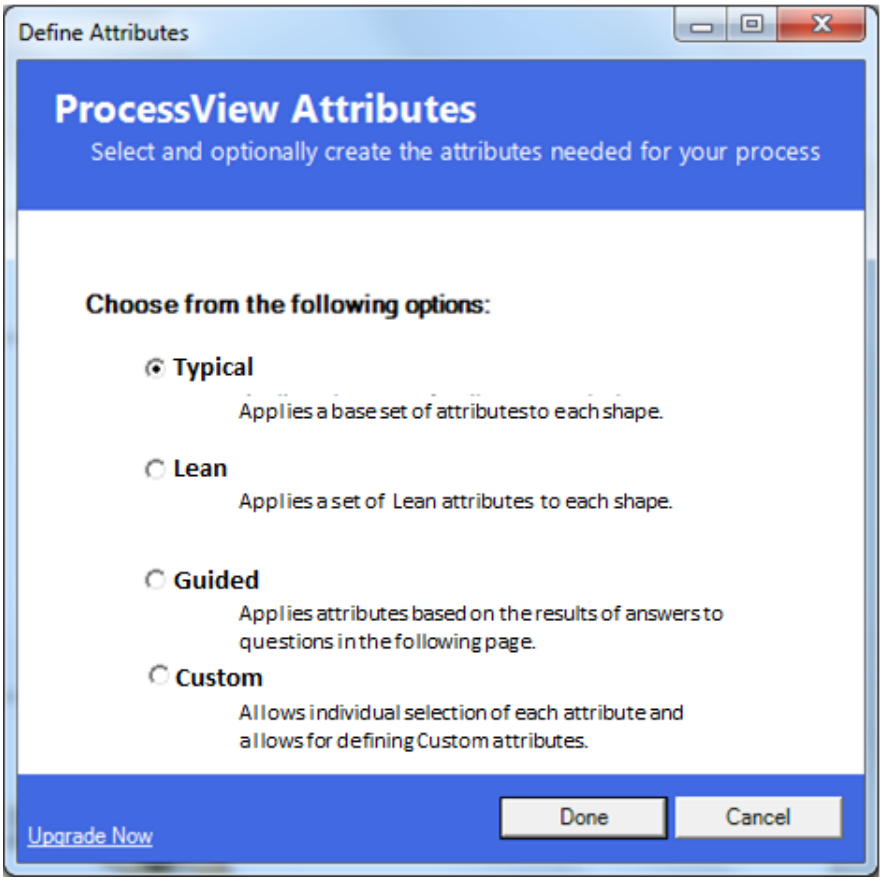
Clicking on this button will open the Define Attributes window where we may identify the attributes we need to capture data for analysis. This window provides four options: Typical, Lean, Guided, and Custom.

The '**Typical**' option will apply the ProcessView default attributes to the page and map shapes.

The '**Lean**' option will apply Lean attributes to the page and map shapes.

The '**Guided**' option allows the user to select from a list of analysis questions to identify the information they'd like to obtain from the ProcessView reports.

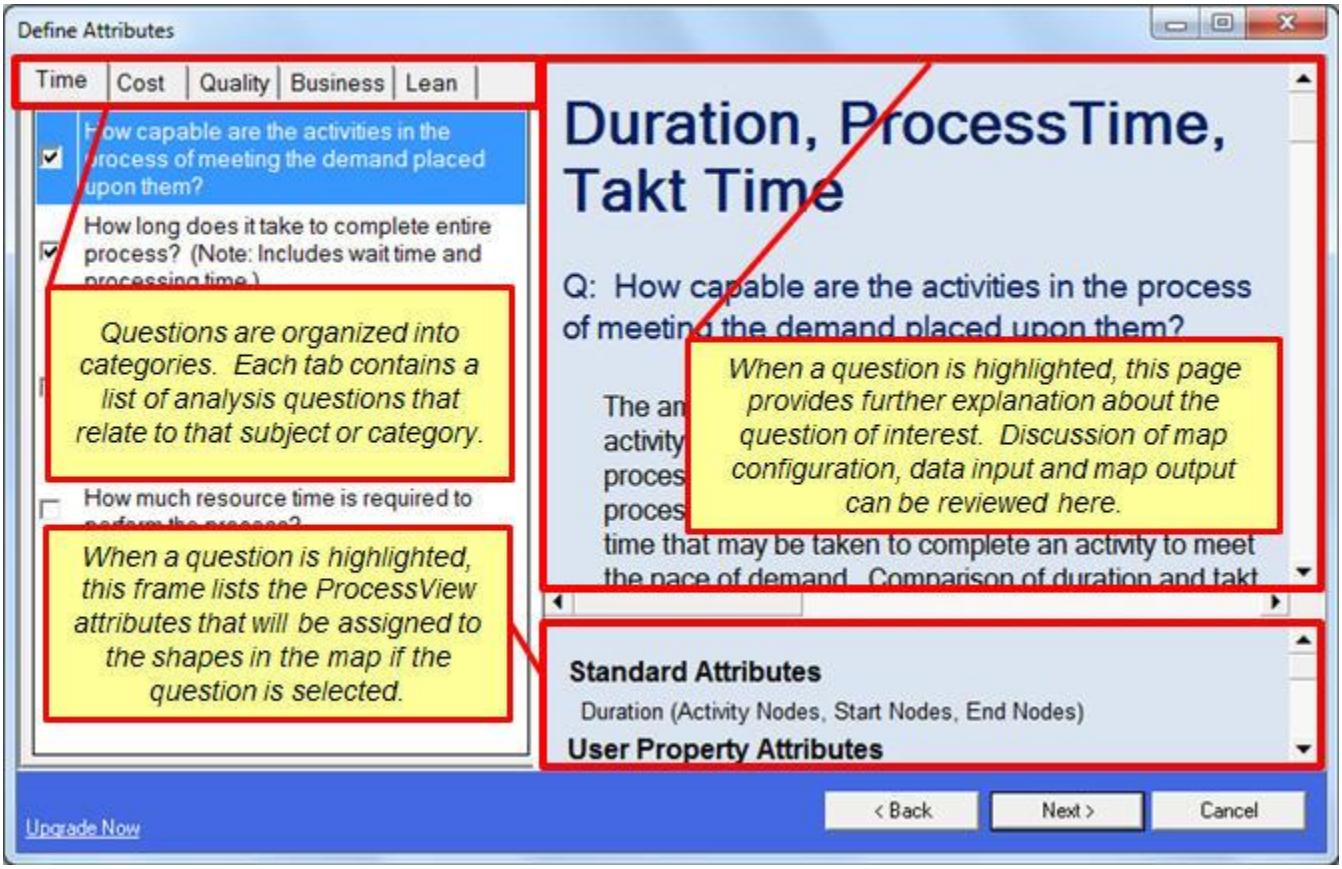
The '**Custom**' option allows the user to select from a list of default and standard attributes as well as to create custom attributes.
Select the 'Guided' option and click 'Next >'.



Select the 'Guided' option and click 'Next >'.

In the window that appears after the 'Guided' option is selected, we will choose the questions that we would like to answer using this process model.

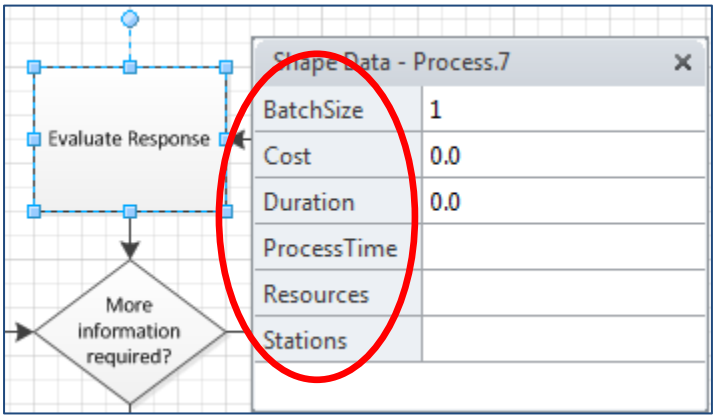
The process analysis questions that appear are organized by category. The name of each tab defines a category of analysis questions that relate to that subject. When you select a question, you will notice an explanatory web page appears to the right. This frame will provide discussion about the question being asked to help you determine if the question is appropriate for your process and goals. Below this, is an additional web page describing the attributes that ProcessView will add to the map shapes to facilitate data collection.



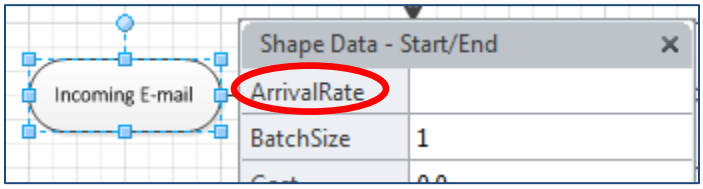
To begin, select all of the questions on the Time tab.

After selecting the questions of interest, clicking 'Next >' and 'Done' will tell ProcessView to add the necessary attributes to the appropriate shapes in the drawing.

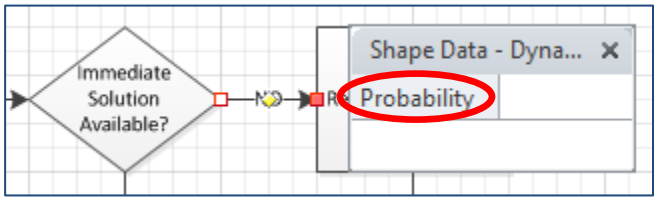
Once attributes have been successfully applied, click on an activity shape and review the contents of the Visio shape data window. Notice that "Cost, Duration, ProcessTime, Resources, BatchSize, and Stations" attributes are now available.



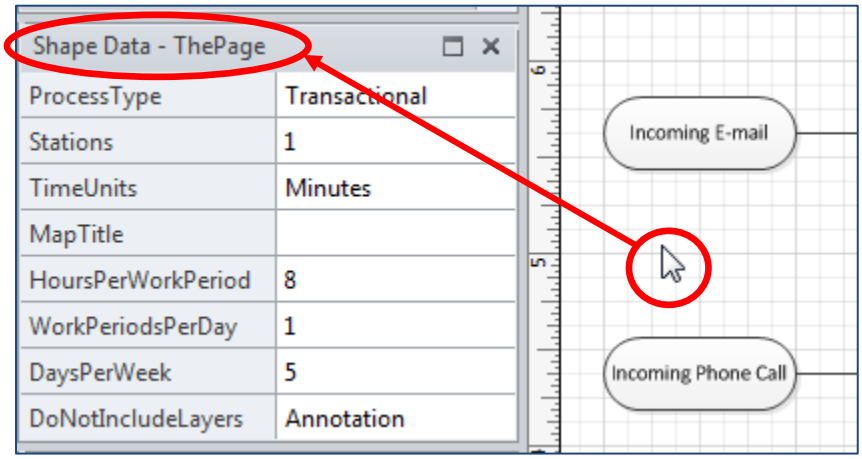
If you click on a start node, you will notice that "ArrivalRate" appears in the shape data window.



If you click on a connector, you will notice that a "Probability" attribute is available.



Finally, if you click anywhere in the drawing page, you will notice Page properties have also been added.



Each of these attributes are described in this section. Additionally, attribute definitions and sample data may always be reviewed in the ProcessView Help Contents.

The attributes listed below are standard, or ProcessView default attributes that will be added when you choose to Define Attributes in your process map, even if you have not selected any questions in the Define Attributes 'Guided' wizard.

Process Map (Page) properties are associated with the drawing page and can be viewed by clicking inside the empty space in the drawing canvas.

- Default Page Attributes:

    - ProcessType – a fixed list of options Transactional, Procedure and Production; selections in this drop-down list will determine how ProcessView will calculate the queue time (calculated wait or delay time) during analysis
        - Transactional Process – typically defined as a series of processes that require multiple resources or work areas to perform the tasks. Typically, work is passed off from resource to resource or area to area and may encounter some waiting time in between tasks.
        - Procedure – typically defined as a series of activities performed by the same resource or set of resources. The procedure is completed in one pass and there is no wait time between tasks. If a line forms for service, it happens at the start of the procedure.
        - Production – used to define a process where the arriving items are combined to exit as an assembled unit of demand. In a Production process, the arrivals are assumed to be synchronized. As in a Transaction, in a production process, activities are performed by multiple resources at different stations and internal activity queuing occurs. (waiting time in between tasks)
    - Stations – In a Procedure, this indicates the number of resource sets available to perform a procedure simultaneously. In a Transaction or Production process, this value is used as the default number of Stations, when the Stations attribute is not defined in a start node, end node or activity node.
    - Time Units – ProcessView handles Seconds, Minutes, Hours, WorkPeriods, Days, and Weeks; the time units selected for the Page will be used for time-based attributes when time units are not defined in a start node, activity node or end node
    - DaysPerWeek, HoursPerWorkPeriod, WorkPeriodsPerDay… are used to describe the available work time and for making conversions between time units
    - DoNotIncludeLayers – this is used to define a list of the Visio layer(s) that contain shapes to be ignored during ProcessView analysis (often used to tell PV to ignore notes and annotation shapes that are intentionally isolated from the flow)

The default attributes assigned to the start nodes, activity nodes and end nodes are the same, excepting ArrivalRate, which is unique to start nodes…

- Default Node Attributes:

    - Arrival Rate – used to describe the pace of arriving demand...
        - Acceptable input formats: 10 per hour, 20 per 2 hours, 10… if time units are not incorporated in the attribute value, the default time units selected in the Map (Page) Properties will be used

- Default Node Attributes Cont'd.:

  - Cost – used to describe a fixed expense incurred each time an activity is executed
    - Acceptable input formats: 5, $5, $5.00… use the currency symbol is optional…
      - Constant: 10
      - Range: (Min,Max)… ($5,$15)
      - Estimate: Mode,(Min,Max)…10,(5,15)
  - Duration – used to define the elapsed time that is exhausted to execute an activity once; this will include both work time and any delay time
    - Acceptable input formats: Constant, Range, Estimate… if time units are not incorporated in the attribute value, the default time units selected in the Map Properties will be used
  - Resources – used to define the type and quantity of resources, human and/or machine, that are needed to complete an activity
    - Acceptable input formats:
      - Operator
      - Operator, Auditor(0.5)
        - the quantity of resources required is enclosed in parenthesis behind the resource name; this value is multiplied by the process time attribute value to determine the total resource time at an activity… if the process time for this step is 10 minutes, this says I have 15 minutes of total resource time… 10 minutes of Operator time and 5 minutes of Auditor time
      - Nurse, Tech (2), Physician (0.25)
        - If the process time for this step is 10 minutes, the total resource time is 32.5 minutes… 10 minutes of Nurse time, 20 minutes of Tech time and 2.5 minutes of Physician time…
  - ProcessTime – this is used to describe the actual elapsed work or 'touch' time required to complete an activity (this does not include delay time), work time to process a batch
    - Acceptable input formats: Constant, Range, Estimate… if time units are not incorporated in the attribute value, the default time units selected in the Map Properties will be used
  - BatchSize – this is used to describe the number of arriving items that are processed as a batch, bunch or group in the process time defined
    - Acceptable input formats : Although this is typically a whole number value, ProcessView will interpret values entered as a Constant, Range, or Estimate…
  - Stations – this is used to describe the number of an activity that can be performed in parallel and helps describe the capacity for the activity to handle arriving demand…
    - Acceptable input formats: Although this is typically a whole number value, ProcessView will interpret values entered as a Constant, Range, or Estimate…

      (NOTE: The Stations value may be limited by the number of human or machine resources available to perform an activity and/or by the number of physical work stations available/configured to support the activity… If the activity is 'paint bike', I may want to consider the number of painters and the number of paint booths… If the activity is 'triage', I will need to know the number of Triage Nurse + Triage Bay resource sets are available; if I have 5 Triage nurses, but only 4 bays to serve patients, then the number of stations is 4…)

- Default Connector Attribute:

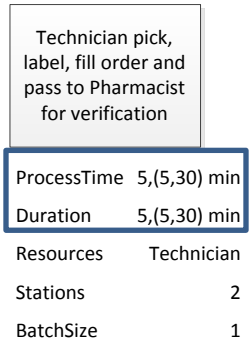
    - Probability – this is used to describe the likelihood a connector will be traveled
        - Acceptable input formats: 0.2, 20% - Both decimal and percent format are accepted.
        - For connectors leaving a decision point, ProcessView uses a 'sum-to-one' rule; if there are two outbound normal connectors leaving a decision and no values are defined for the probability, ProcessView will assume a 50%/50% split… if there are 4 outbound connectors, ProcessView will assume they are each 25%...

ProcessView Attribute Behavior

Before defining attribute values in the Customer Service map, some attribute behavior should be reviewed.

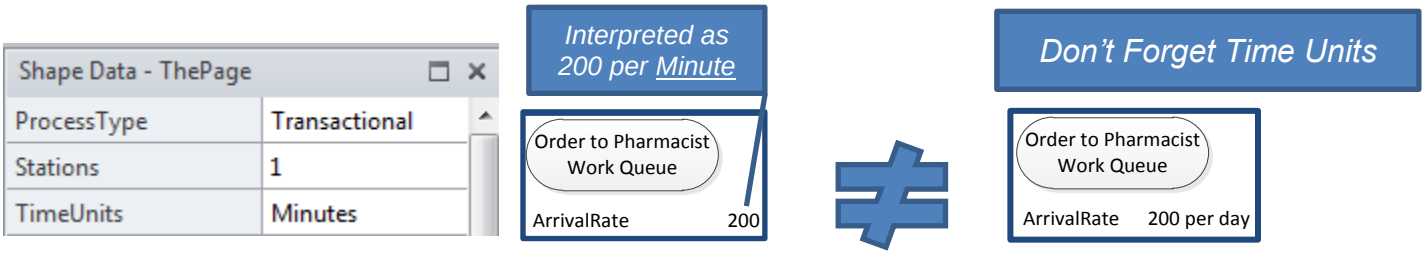
If the value for an attribute is the same in one or more map shapes, an attribute value can be assigned for more than one shape at a time. Also, attribute values may be copied and pasted; short-cut keys can be used in the Visio shape data fields and the ProcessView Enter Data windows – CTRL+C to copy and CTRL+V to paste.

If the attribute value for Duration and ProcessTime are the same (there is no delay or wait time at the activity), there is no need to define both attributes. If Duration is defined, but ProcessTime is undefined or blank, ProcessView will assume the ProcessTime is equal to the Duration. Similarly, if only the ProcessTime is defined and Duration is blank, ProcessView will assume the Duration is equal to the ProcessTime. If the Duration and ProcessTime values are equal and only one of them will be defined, it is best practice to define the Duration and leave the ProcessTime undefined. Note, if data graphics will be used to display attribute values, it may be desirable to define both attributes as shown at right.



When defining time-based attributes like ProcessTime and Duration in the Visio shape data window, if time units are not defined, ProcessView will look to the Page Properties for the default units. It is good practice to include the time units when defining ArrivalRate, Duration and ProcessTime values. Again, if data graphics will be used to display values on the drawing page, it may be desirable to incorporate time units.

Note that, if you use the ProcessView Enter Data windows, time units will always be included in the definition.



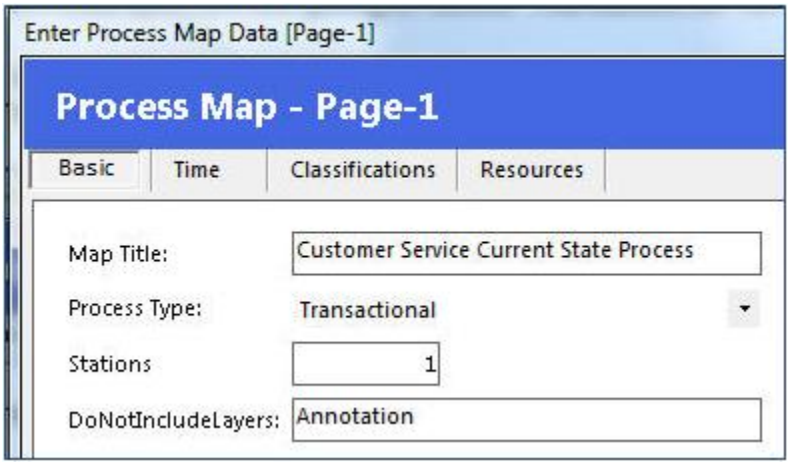
Page Data

Note that Page Properties can be defined in the shape data window or within the ProcessView Enter Data dialog.

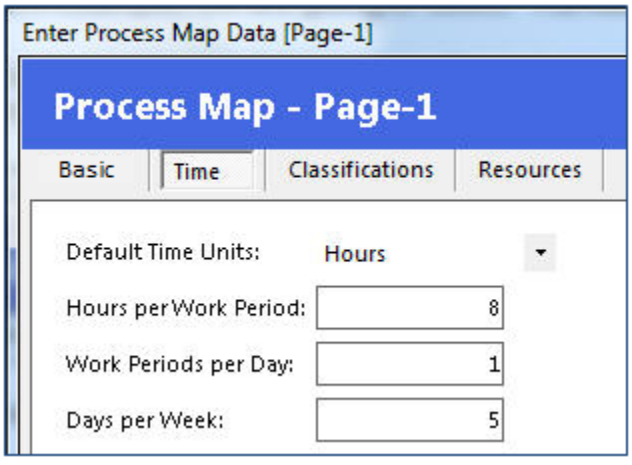
Click on the page (drawing canvas) and select the Enter Data button on the ProcessView toolbar.

On the "Basic" tab, you will see a dropdown with three options for the ProcessType: Transactional, Production and Procedural. Transactional is selected by default. A Transactional Process is typically defined as a series of processes that require multiple resources or work areas to perform the necessary tasks; work is transferred from resource to another or from one area to another and may encounter some waiting time in between tasks. For our customer service department example, we are going to select "Transactional" for the process type.

Enter "Customer Service Current State Process" for the Map Title. This Map Title will appear at the top of any reports generated with the ProcessView analytics engine.



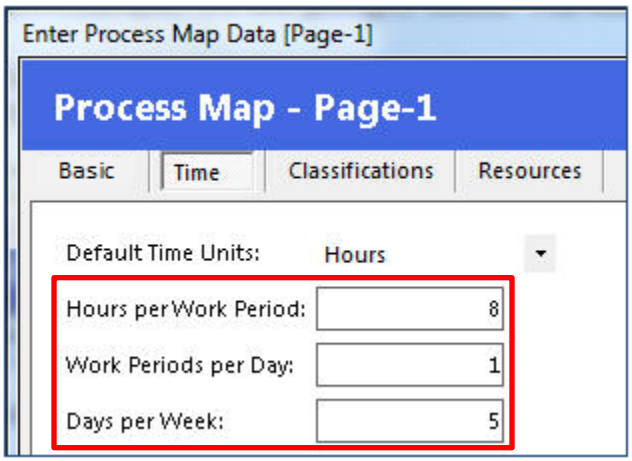
Now, let's take a look at the "Time" tab. The first item is our default time units. As mentioned on the previous page, the default time units are what will be used if you omit the time units when defining any of the time-based attributes in the Visio shape data window. For our customer service example, we will select "Hours".



Page Data

The Time tab in the Page or Process Map Properties is also where the Work Time is described. This defines the average available hours per work period, the work periods per day and the days per work week. Work periods per day may be 2 if you are operating a call center for 2 shifts a day. If you are working Monday through Saturday, you may have 6 days per week, etc.

Note that the Work Time values described here will be used to make time unit conversions for the purposes of reporting. [Using the default values, we have: 60 Seconds Per Minute, 60 Minutes Per Hour; 8 Hours Per WorkPeriod, 1 WorkPeriod Per Day, 8 Hours Per Day, 5 Days Per Week, 40 Hours Per Week, etc.]



Stations and Classifications concepts will not be discussed in the lab exercise; use the default values for the remaining Page Properties.

Click 'Apply' in the Enter Data window. Now, left-click anywhere on the drawing canvas in your process map, and you will see the selected data is displayed in your Shape Data window.

Shape Data - ThePage

ProcessType	Transactional
Stations	1
TimeUnits	Hours
MapTitle	Customer Service Current State Process
HoursPerWorkPeriod	8
WorkPeriodsPerDay	1
DaysPerWeek	5
DoNotIncludeLayers	Annotation

Customer Demand

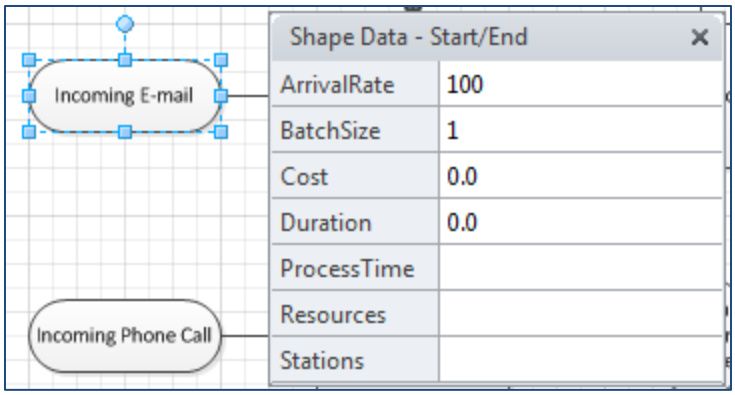
Customer Demand is simply the number of units you need to produce, or services you need to provide, over a period of time; it is what the *customer demands* of you.

In ProcessView, we term this Arrival Rate. At what rate are items of demand arriving at the start of a process? This demand is what triggers the activities in the process to begin and therefore, must be defined at all start nodes in our process. Note that, if you are working in the Visio shape data window, Arrival Rates can be entered in several formats:

<Number>

In this example, we can simply enter a number, for example 100.

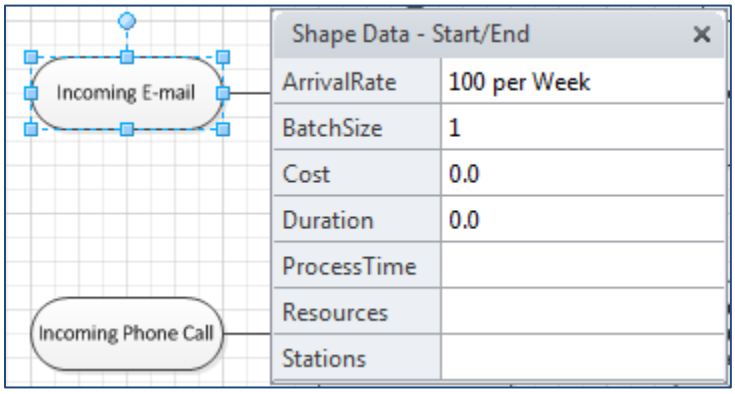
Note that by doing so, ProcessView uses the default time units, which we defined to be Hours. So this entry means 100 per Hour.



<Number>* per *<time units>

We may want to further qualify our entry, and not use the default time units. Perhaps we get 100 emails in every week.

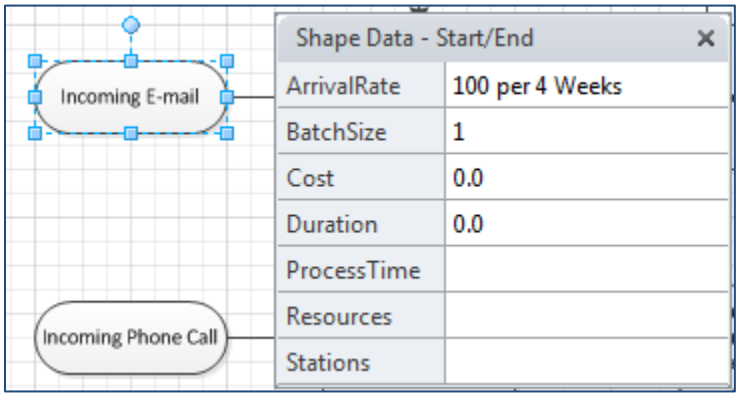
In this case, we would enter “100 per Week” or “100 per Wk” or “100 Week” or “100 Wk”.



<Number>* per *<Number> <time units>

There are instances where we want to put our arrival rate in terms of a number of time units. For example, we may want to say we get 100 every 4 weeks.

In this case, we could enter “100 per 4 Weeks” or “100 per 4 Wk”.



[EXERCISE]

1. Select the start node for incoming emails and access the Enter Data button on the ProcessView toolbar. Enter an arrival rate of 40 per 1 day. Click Apply.
2. Select the start node for incoming phone calls and enter an arrival rate of 14 per 1 day.

[END OF EXERCISE]

Defining Default Activity Data

To begin defining the default activity data, let's gather more information about our process. Let's suppose it takes a customer service operator between 3 and 5 minutes to determine if more information is required to log in an issue received via e-mail. If more information is required, is takes a customer service operator 10 to 15 minutes to e-mail the customer a request for additional information. The customer service representative then waits 1 day before taking 10 minutes to evaluate the response. Once all of the information needed is obtained, a customer service operator spends between 10 and 15 minutes logging in the issue. The customer service representative will then spend 10 to 20 minutes determining if there is an immediate solution available. If there is no immediate solution, a resolution specialist will work for 1 hour to research a solution. It usually takes about 3 hours from the time it is determined research is necessary until the time the solution may be sent to the customer, but could take anywhere from 2 to 5 hours. The customer service representative will take 5 to 10 minutes to send a solution to the customer and another 3 minutes to close the support request.

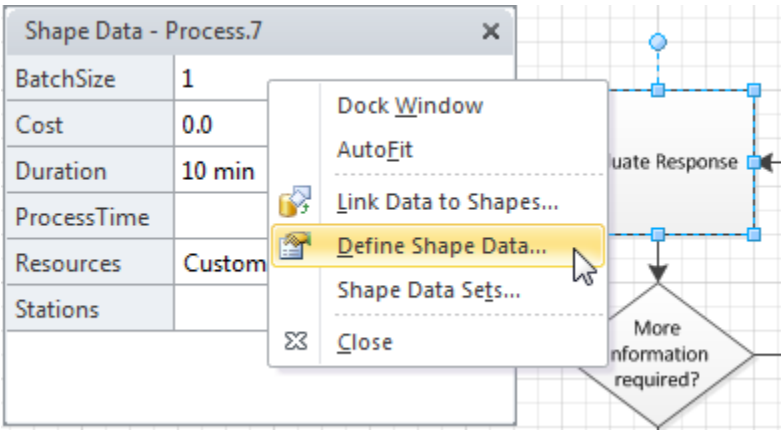
To reflect this information, we need to use the ProcessView Enter Data Basic tab to define the "Duration" and "ProcessTime" attributes in the Activity Nodes as summarized in the table below.

Note that, when entering the Resources attribute, you can define an attribute value for multiple shapes at once by using the Cntrl key to select the desired shapes before entering the attribute value in the Visio shape data window. If using the ProcessView Enter Data Resources tab, attributes will be defined one shape at a time. Once a Resource has been defined in one shape, this resource name will be available for selection from a pick-list in the Enter Data Resources tab. This helps ensure that multiple names are not created for the same resource (Customer Service Rep, Customer Service Representative, CS Rep).

Activity	Duration	ProcessTime	Resources
More Information Required?	(3,5) min	""	Customer Service Rep.
E-mail Customer	(10,15) min	""	Customer Service Rep.
Wait for Response	1 day	0	Customer Service Rep.
Evaluate Response	10 min	""	Customer Service Rep.
Log Issue	(10,15) min	""	Customer Service Rep.
Immediate Solution Available?	(10,20) min	""	Customer Service Rep.
Research Solution	3,(2,5) hours	1 hour	Resolution Specialist
Provide Solution to Customer	(5,10) min	""	Customer Service Rep.
Close Support Request	3 min	""	Customer Service Rep.

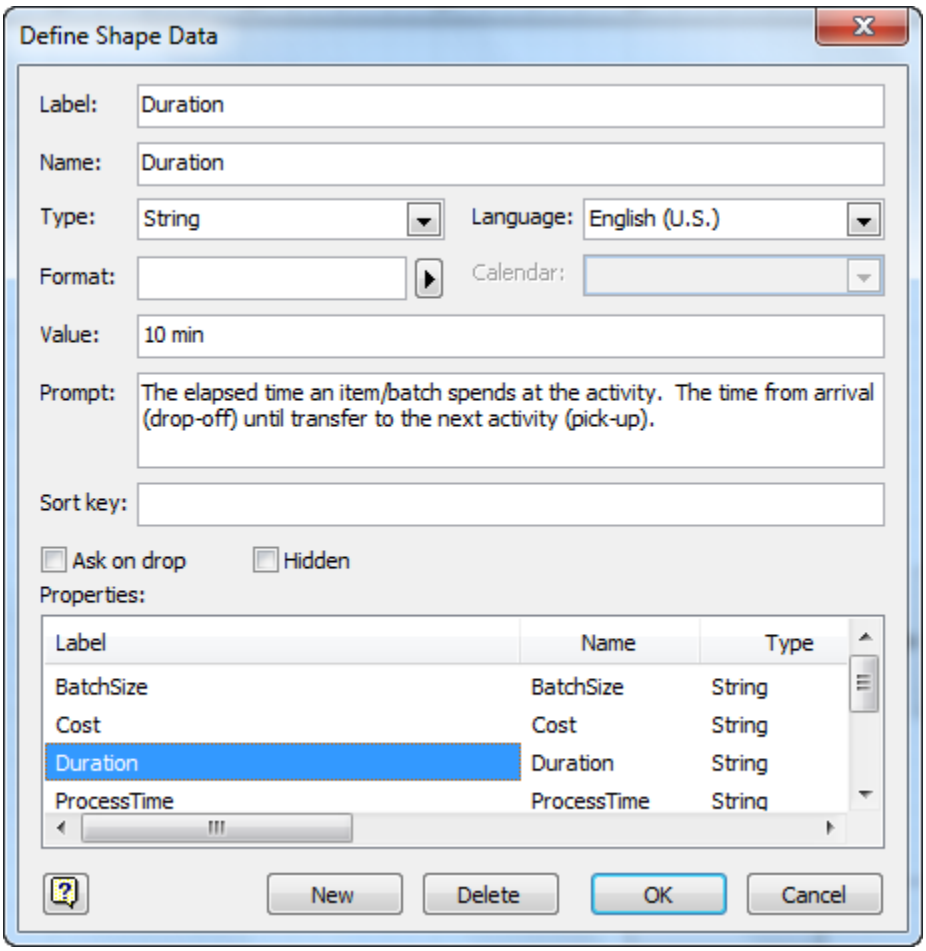
NOTE: The BatchSize and Stations attributes will not be used in this exercise; use the default values for these attributes.

Notice that if you right click on the *Shape Data* window and select the *Define Shape Data*, a dialog box opens revealing the format(s) of the attribute(s).



Duration is in string format.
Selecting ProcessTime reveals that the format for ProcessTime is also string. This designation is what prepares Visio to accept the combination of numeric and alphabetic characters.

This why, when entering the elapsed time values, we can utilize the Duration and ProcessTime attributes provided by ProcessView to handle range and estimate expressions, with or without time units.



To enter "Resources", we simply type the name of the Resource. For our example, this will be a Customer Service Representative or a Resolution Specialist. The activities we have mapped only require the use of one resource at a time. Though what we've entered may be "Resolution Specialist", ProcessView reads this as Resolution Specialist (1) meaning it requires 1 Resolution Specialist 1 hour to perform this activity.

Shape Data - Process.37

Cost	
Duration	3,(2,5) hours
Resources	Resolution Specialist
ProcessTime	1 hour

What if it requires 2 Resolution Specialists to *Research a Solution*?

We would enter "Resolution Specialist (2)" for the Resources and "1 hour" for the ProcessTime.

Shape Data - Process.37

Cost	
Duration	3,(2,5) hours
Resources	Resolution Specialist(2)
ProcessTime	1 hour

What if it takes both a Customer Service Representative and a Resolution Specialist 1 hour to *Research a Solution* together?

We would enter "Resolution Specialist, Customer Service Representative" for the Resources and "1 hour" for the ProcessTime.

Shape Data - Process.37

Cost	
Duration	3,(2,5) hours
Resources	Resolution Specialist, Customer Service Representative
ProcessTime	1 hour

What if it takes 0.5 hours from a Customer Service Representative and 1 hour from the Resolution Specialist to Research a Solution together?

We would enter "Customer Service Representative (0.5), Resolution Specialist" for Resources and "1 hour" for the ProcessTime.

Shape Data - Process.37

Cost	
Duration	3,(2,5) hours
Resources	Resolution Specialist, Customer Service Representative(0.5)
ProcessTime	1 hour

What if it takes 0.5 hours from a Customer Service Representative, 1 hour from the Resolution Specialist, and 0.25 hours from a Subject Matter Expert (SME) to Research a Solution together?

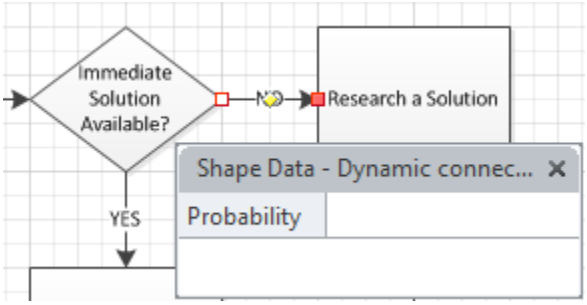
We would enter "Customer Service Representative (0.5), Resolution Specialist, SME (0.25)" for Resources and "1 hour" for the ProcessTime.

What if it takes 0.5 hours from a Customer Service Representative, 1 hour from the Resolution Specialist, and 0.5 hours from a Subject Matter Expert (SME) to Research a Solution and the work is performed in series?

We would enter "Customer Service Representative (0.25), Resolution Specialist (0.5), SME (0.25)" for Resources and "2 hours" for the ProcessTime.

Quantities entered within the resources field should represent the proportion of process time a resource is involved, NOT the probability that they are involved.

Representing Work Flows / Decision Paths



In our example customer service department, we have represented how decisions affect the flow in our diagram, and then added default ProcessView attributes to our flowchart. We now need to decide what percentages are associated with our decision branch points. We can do this by using the "Probability" attribute that ProcessView added to our connectors.

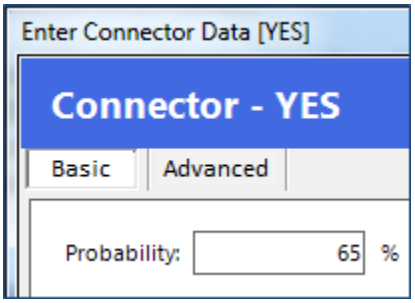
`Probability`: The percentage (number of items out of 100) that follow a given path in the flowchart. This value allows ProcessView to determine the critical work flows in your flowchart.

Looking at our decision "More Info Required?", we need to determine what percentage of the time items follow the "Yes" branch, and how likely it is that an item follows the "No" branch.

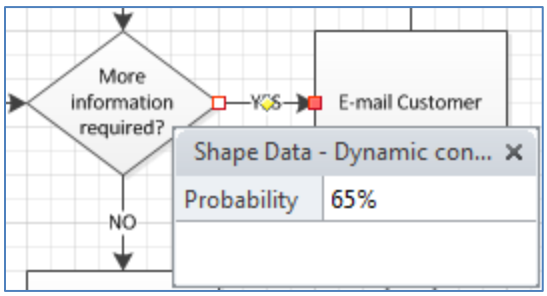
Since these are incoming emails, quite often we will need to gather additional information from the customer in order to solve their issue. For this exercise, let's say that 65% of incoming issues require additional information.

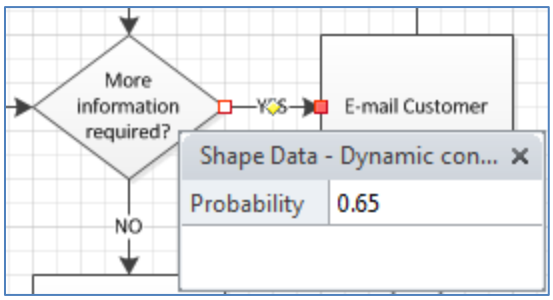
`Sum to One Rule`: The Sum to One Rule states that the sum of the probabilities for all outbound connectors from a decision should equal One (1) or 100%. In other words, if our Yes branch has a percentage of 65% (or .65), then our No branch should have a percentage of 35% (or .35), which equals a total of 100% (or 1). You should note that, as with most rules, there is an exception: parallelism. We will discuss parallelism a little later.

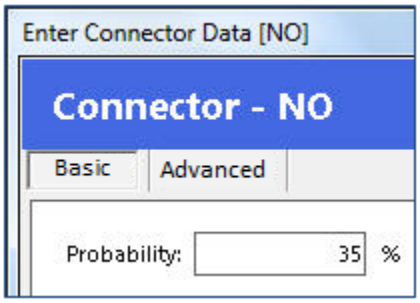
Make sure to highlight or select the "Yes" connector. Then, click the ProcessView Enter Data button, enter a probability of 65% on the Basic tab, and click 'Apply'.



`Important Note`: If using the Visio shape data window instead of the ProcessView Enter Data window, make sure to include the "%" symbol when entering probabilities. Without this, ProcessView will interpret "65" as 6500%. If using Visio shape data, it is also acceptable to enter this value as ".65". Whether you choose percent or decimal format, it is best to remain consistent throughout your flow chart.



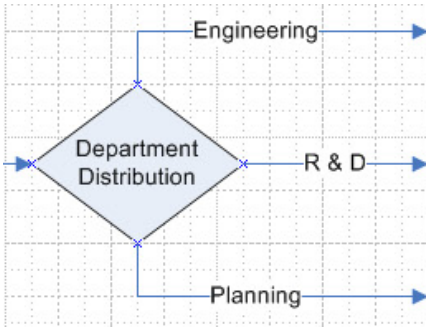




Strictly speaking, we would be able to leave the Probability for our "No" connector blank, and ProcessView will compute is as 35% (100% - 65% from our "Yes" Connector).

For completeness, let's select the "No" connector, and enter a value of 35% for its Probability attribute.

`Sum to One Rule (for blank Probabilities)`: If we leave the probabilities blank on all outbound connectors from a decision, ProcessView will equally distribute the probabilities so they sum them to 100%. In our "More Info Required" example, ProcessView would assign 50% to the "Yes" connector and 50% to the "No" connector.



Similarly, if we had three outbound connectors as in the example on the left, ProcessView would assign each 33.33…%, so that the sums of all connectors equal 100%. If we were to assign the "Engineering" branch 50% and leave the others blank, ProcessView would assign equal weights to the others such that the sum of all three connector probabilities is 100%. In this case, ProcessView would assign 25% to R&D and 25% to Planning.

[EXERCISE]:

For the decision "Immediate Solution Available", 30% of those items need further research to find a solution. Enter the appropriate Probabilities for the "Yes" and "No" connectors after this decision.

[END OF EXERCISE]

Now that we've defined the page properties, the arrival rate at the start node, durations at our activities and connected all of these shapes appropriately with dynamic connectors, we have satisfied the minimum requirements to obtain analysis output from ProcessView. In addition to the minimum requirements, we have added resources and process times to the activities and defined probabilities on our connectors.

Resources Costing Rate List

To summarize, we have now defined:

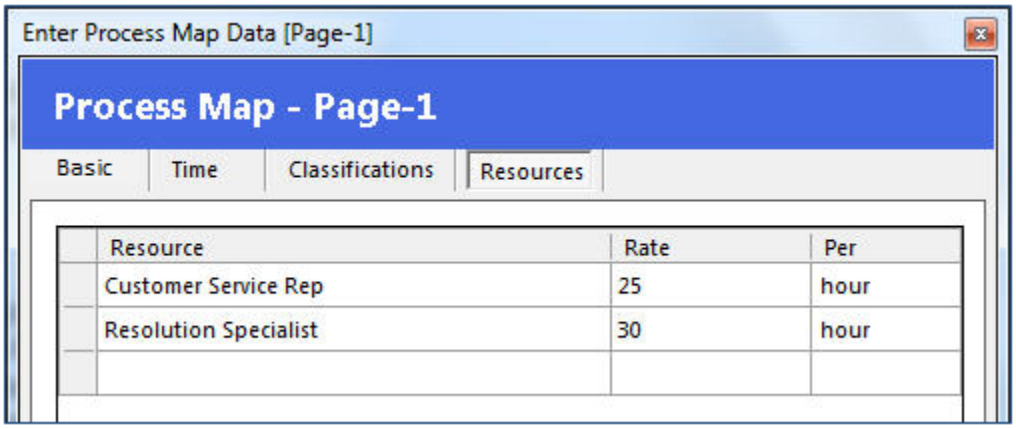
- Arrival Rate
- Duration
- ProcessTime
- Resources

We are in a position to obtain time and resource information about the process as a whole and about individual workflow paths, resources and activities. To complete the representation of this process, let's add the cost element.

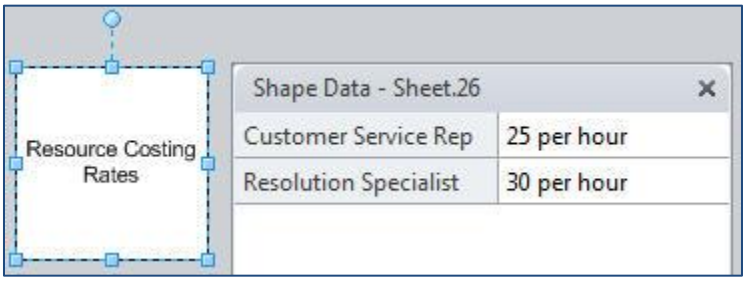
We defined the Customer Service Representative and Resolution Specialist resources within our activities already. In order to capture the cost associated with the work time required from these resources, we must provide ProcessView with the cost per unit of time associated with each resource.

Click on the drawing page (canvas), select the ProcessView Enter Data button, and navigate to the Resources tab. Note that ProcessView has compiled a list of all of the Resources we have defined for the shapes in the page.

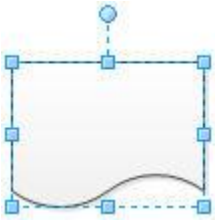
Let's suppose the Customer Service Representative costs $25.00 per hour and a Resolution Specialist costs $30.00 per hour. As ProcessView recognizes seconds, minutes, hours, days, workperiods, and weeks as time units, we can enter the rate using any of these accepted time units. Notice that it is not necessary to enter the "$" sign when defining the costing rate. ProcessView recognizes that these are some quantity of currency per unit of time and will report accordingly.



Once costing rates have been defined in the Enter Data Process Map properties window and the 'Apply' button is used, ProcessView automatically adds a costing rate shape above the drawing to store this information.

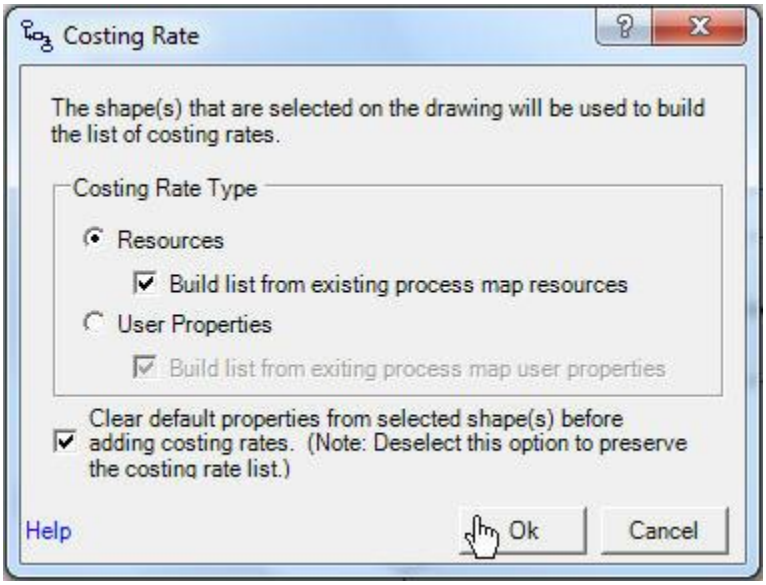


Note that these costing rate shapes may be created manually using the Costing Rates button on the ProcessView toolbar. To use this feature, simply drag and drop any 2-dimensional Visio shape onto the page and, with this Document shape highlighted, click the Costing Rate button.



The Costing Rate dialog box will appear. There are two types of lists that may be constructed, Resource and User Properties.

ProcessView Standard and Professional users can use this option to create costing rates for time-based and quantity-based user properties as desired.

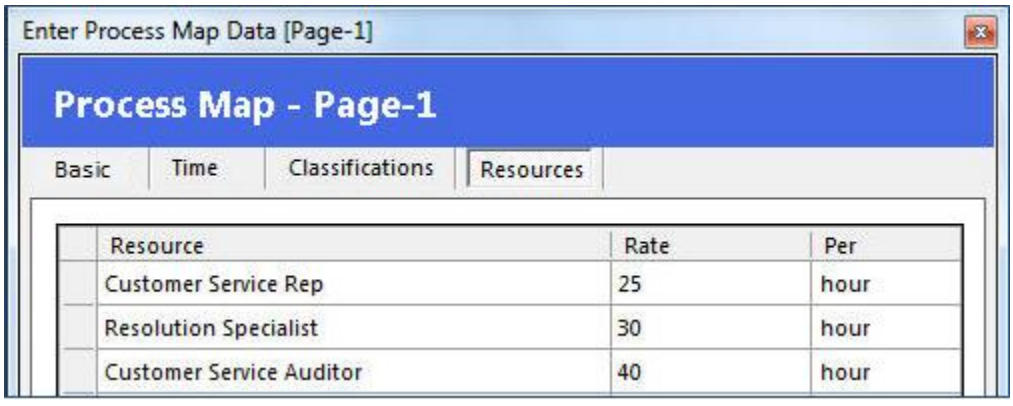


For more information about user properties or costing rates, access the ProcessView online resources at http://www.bluespringonline.com/ProcessView/default.aspx and review the Tips & Tricks.

Updating a Resources Costing Rate List

What if after careful review of the map with a customer service representative, we determine that it is not a customer service representative who closes the support request, but a customer service auditor? If we redefine the resource attribute in the Close Support Request activity to reflect "Customer Service Auditor," how do we add the cost of this resource to our list?

Once you've changed the resource responsible for the Close Support Request activity, open the Enter Data window for the Process Map and navigate to the Resources tab. Let's assume an auditor costs $40.00 per hour and enter this into the window.

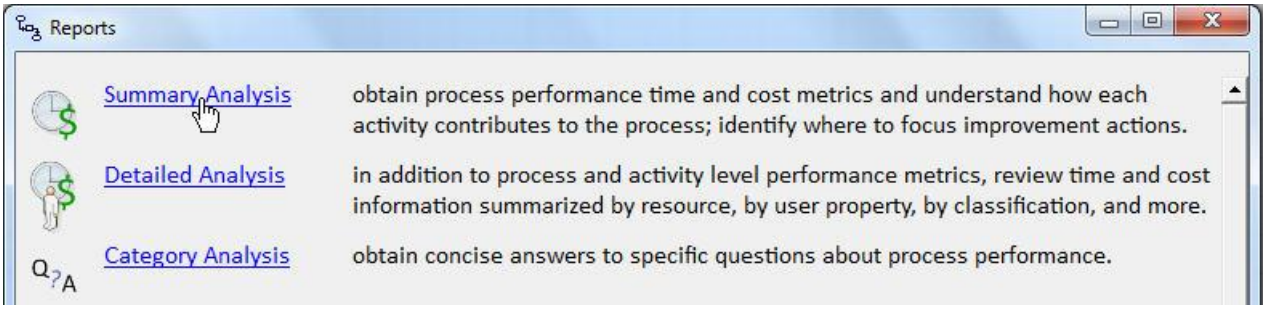


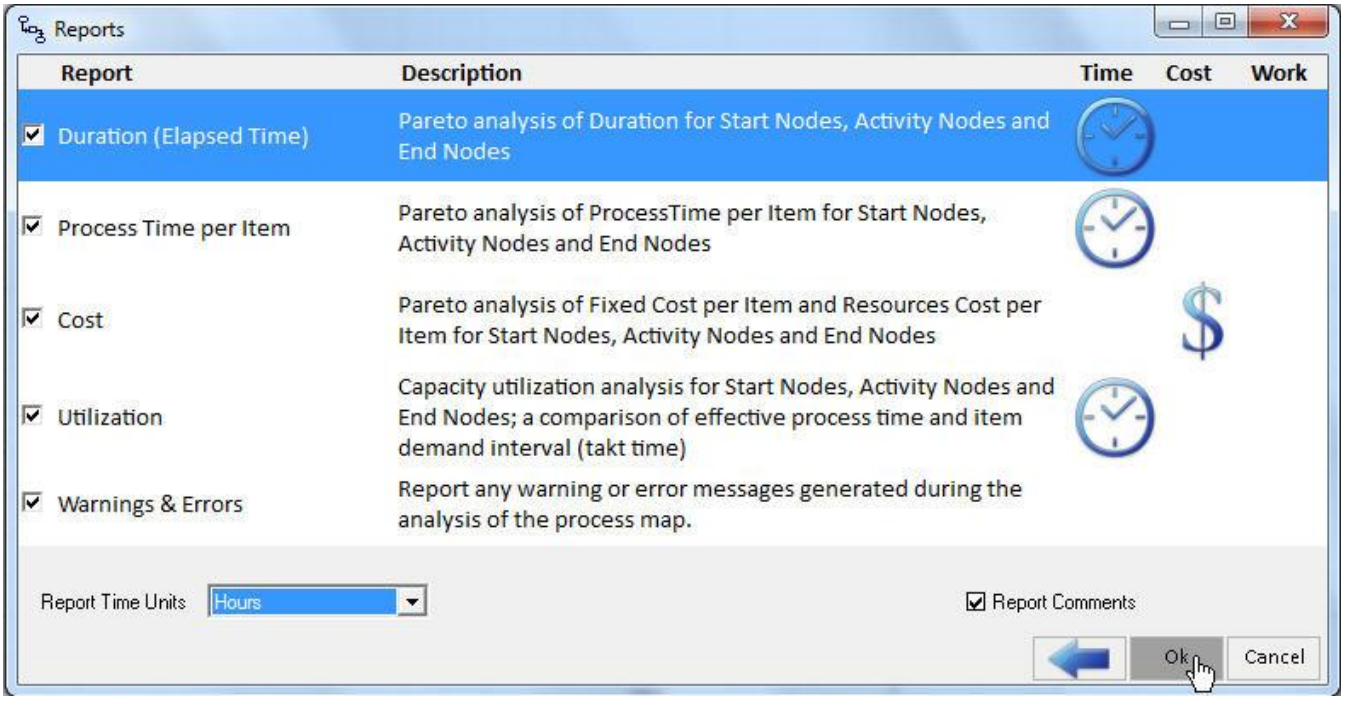
Alternatively, you may select the Resources Costing Rate shape and click the Costing Rate button, and enter the new costing rate into the Visio shape data window.

Summary Analysis Report

Now that we've defined the page properties, the arrival rate at the start node, and durations at our activities, we have satisfied the minimum requirements to obtain a report from ProcessView. In addition to the minimum requirements, we have added resources and process times to the activities and developed a resources costing rate. To generate a Summary Analysis Report, select the Analyze button on the ProcessView toolbar.

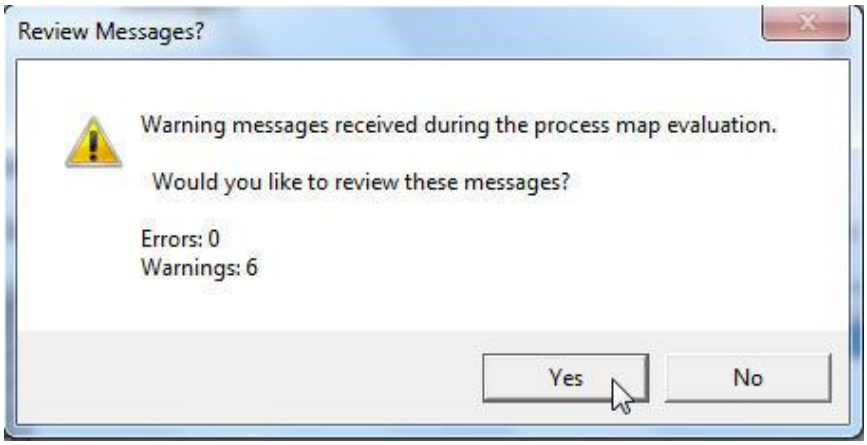
The Reports dialog shown below will be presented. Select the Summary Analysis Report, choose to include all worksheets, and select Hours as the time units for reporting.



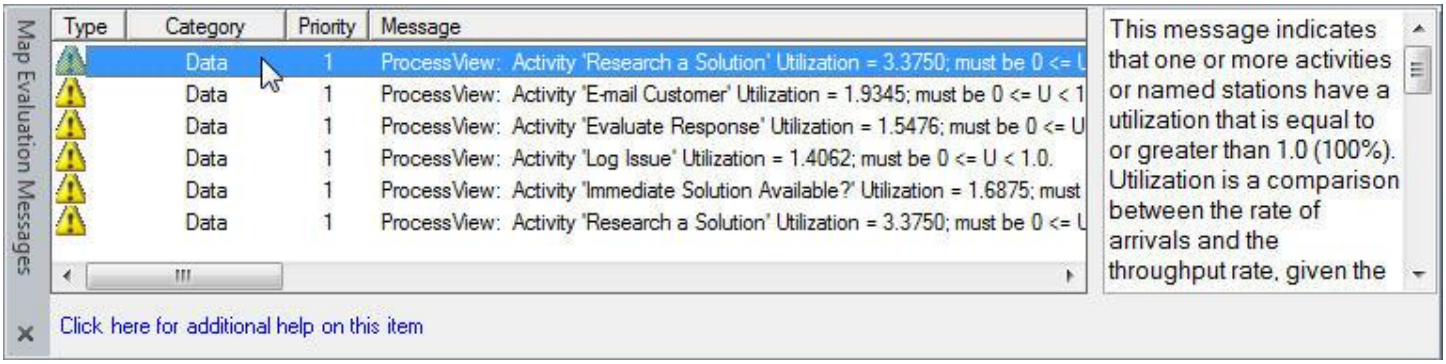


Summary Analysis Report Cont'd.

If ProcessView identifies problems in the model, you will be asked whether or not you wish to review these error and warning messages.

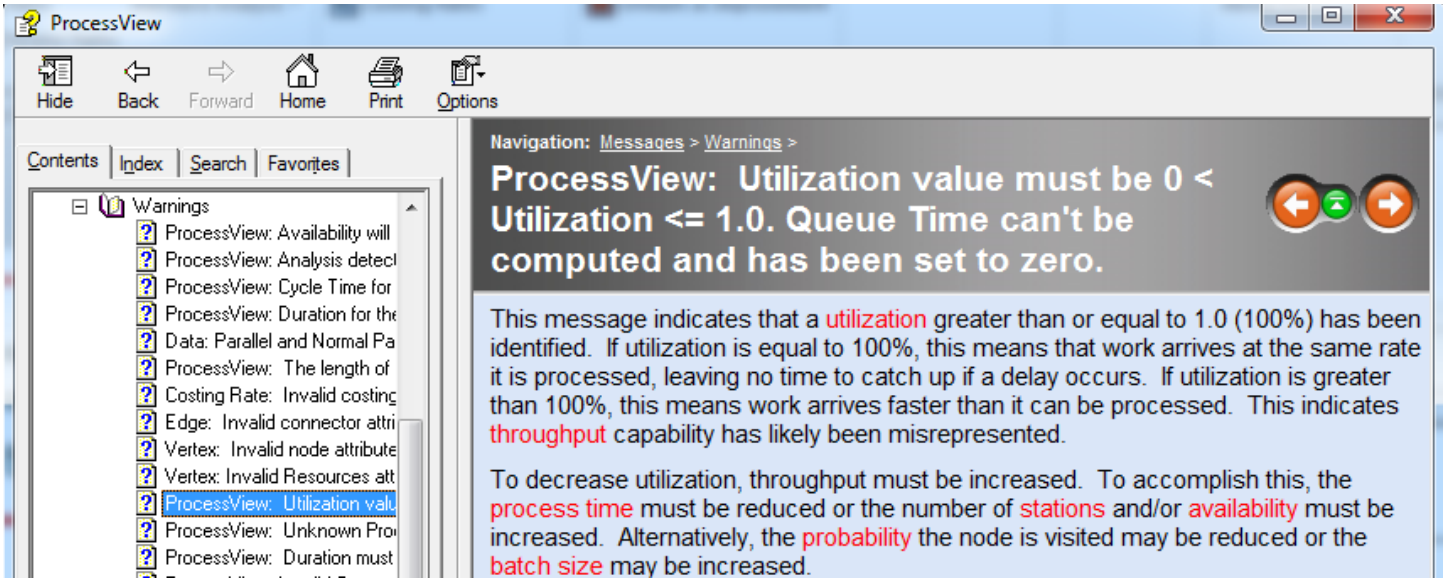


Click "Yes" to receive an Errors and Warnings window like the one shown below.



ProcessView indicates that a number of activities have a utilization value that is greater than 100%.

Selection of an error or warning message will highlight the shape(s) of concern to indicate where necessary corrections should be made. Clicking the blue text in the bottom of the dialog opens a Help menu explanation of the message as shown below.

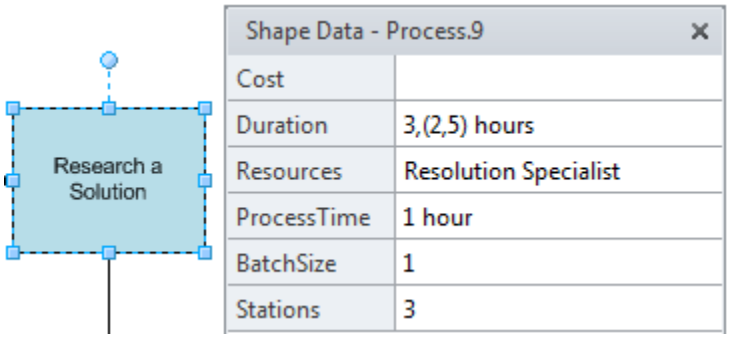


Summary Analysis Report Cont'd.

As the Help text indicates, activity Utilization is a comparison of how fast things arrive and how fast they can be processed at an activity. Utilization values should be greater than zero (0.0) and less than or equal to 100% (1.0). 0% < Utilization ≥ 100%

If utilization is greater than 100%, the activity is overwhelmed with work and will not be able to keep pace with the rate of arriving items. To decrease activity utilization, the work must be accomplished in less time (decrease process time) or more items have to be worked on at the same time (increase stations and/or batch size).

To resolve these warnings, change the Stations attribute value in the 'Research a Solution' activity to '3'. This indicates that there is capacity to perform 'Research a Solution' activities simultaneously. (This triples the throughput at this activity and will cut the utilization by a third.)



Change the stations attribute value for the 'E-mail Customer' activity to 2.

Also change the stations value for the 'Immediate Solution Available?' decision and for the 'Evaluate Response' and 'Log Issue' activities as shown below.

Activity	Utilization	Process Time	Batch Size	Stations	Effective Process Time
Immediate Solution Available?	84%	0.25	1.00	2.00	0.1
Evaluate Response	77%	0.17	1.00	2.00	0.0
Log Issue	70%	0.21	1.00	2.00	0.1
E-mail Customer	97%	0.21	1.00	2.00	0.1

Once these adjustments have been made in the Visio diagram, generate a new Summary Analysis Report.

Summary Analysis Report Cont'd.

The Summary Analysis Report is based on the attributes of each of the shapes found within the process map. With this report, you will be able to assess how long the process takes, how much work is involved, how much cost is incurred, and more.

What you should note about the reporting is that it is dynamic in that it is based on the input attributes found in the process map. The more data defined in the process map, the more robust the report will become. So, for instance, if no fixed costs or resource costing rate is defined for the process map, then the Cost worksheet will not be included in the Summary Analysis Report.

Since the Summary Analysis Report is written to Microsoft Excel, its data is presented in the Excel Worksheets. Each worksheet is designed to provide information that allows the user to focus improvement actions based on the kind of improvement needed. If, for instance, the improvement priority is to reduce cost, the Cost worksheet would be referenced. If the priority is to reduce the elapsed time to complete an item, the Duration worksheet would be referenced. The roadmap below describes the information contained in each of the worksheets that may be produced.

Summary Analysis Report Roadmap

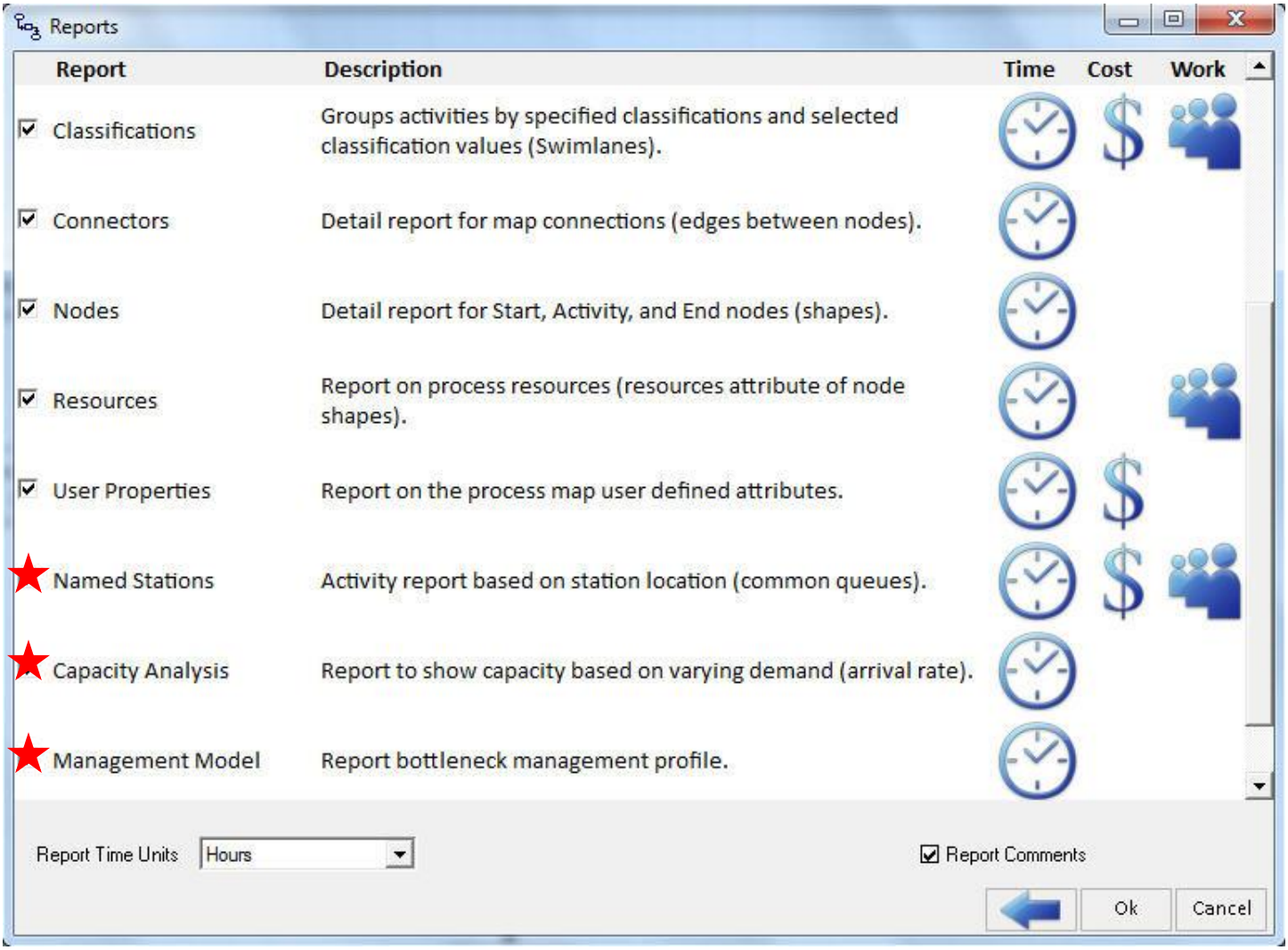
The Summary Analysis Report contains the following worksheets:

- Map Profile Worksheet - shows a snapshot of the process map's performance as a whole.
- Duration (Elapsed Time) Worksheet – answers the question 'how long does it take to move an item from the start to the finish of the process' , provides the activity durations sorted from largest to smallest
- Process Time per Item Worksheet – answers the question 'how much work does it take to process an item', provides the processing time prorated based on the batch size for processing in each of the activities in the process; these values are sorted from largest to smallest contribution to the overall prorated process time per item
- Cost Worksheet – answers the question 'how much does it cost to process an item', provides the activity fixed cost and resource cost, if any, prorated based on the batch size for processing in each of the activities in the process; these values are sorted from largest to smallest contribution to the total process cost
- Utilization Worksheet – answers the question 'what is the utilization at the busiest activity', provides the activity utilization sorted from largest to smallest to identify the activities that dictate the process's ability to meet demand
- Costing Rates Worksheet – displays the cost per unit of time (costing rate) defined for resources in the process
- Errors & Warnings Worksheet – provides any errors or warnings encountered during analysis of the process

Detailed Analysis Report

In addition to the Summary Analysis Report, ProcessView Standard and Professional also provide a Detailed Analysis Report.

To generate this report, select the Analyze button on the ProcessView ribbon and choose the Detailed Analysis Report. A Reports dialog will open to allow selection of the worksheets to be included in the report and the time units to be used.



★ Worksheets marked with a red star are only available in ProcessView Professional. ProcessView Standard users will receive sample data.

Detailed Analysis Report Cont'd.

Select all of the worksheets, choose 'Hours' for the Report Time Units, and click Ok.

The Detailed Analysis Report workbook that is created contains Map Profile, Nodes, Resources and Connectors Worksheets and provides time data in Hours, the time units selected in the Reports dialog.

The Detailed Analysis Report, like the Summary Report, may be used to answer fundamental questions about process performance: How long does it take? How much does it cost? How much work is involved in terms of resources? The Detailed Analysis Report consists of several worksheets written to Microsoft Excel designed to provide these answers and many more in a user-friendly format.

The amount of information to be gained from this report is directly related to the amount of data provided for analysis within shape data and attributes. A report may be generated as long as the basic requirements of a start node with arrival rate, an activity node with duration and an end node, with all nodes connected appropriately, are satisfied. If the user does not utilize the Classifications attribute, the Classifications worksheet described below will not be generated. Similarly, if costing rates are not defined, resource costs and/or user property costs cannot be reported. As ProcessView attributes are added to a process flow diagram, this report becomes more robust.

Before diving into the Detailed Analysis Report, it is important to understand that some worksheets will be divided into two sections, Probability Weighted and Baseline. Baseline Statistics reflect the data entered by the user. **Probability Weighted Statistics reflect baseline statistics that are weighted based on their frequency of occurrence. Baseline Statistics assume that all activities and transfers in a process will occur 100% of the time**. The use of Baseline Statistics in assessing the performance of a process i.e. the time, work and cost to perform the process, will result in artificially inflated values. Probability Weighted Statistics provide a more realistic view of process performance because they take into account the relative frequency of occurrence of activities and transfers. ProcessView's application of probability factors and its analysis of Relative Frequency will result in more accurate representations of the time, work and cost characteristics of a process.

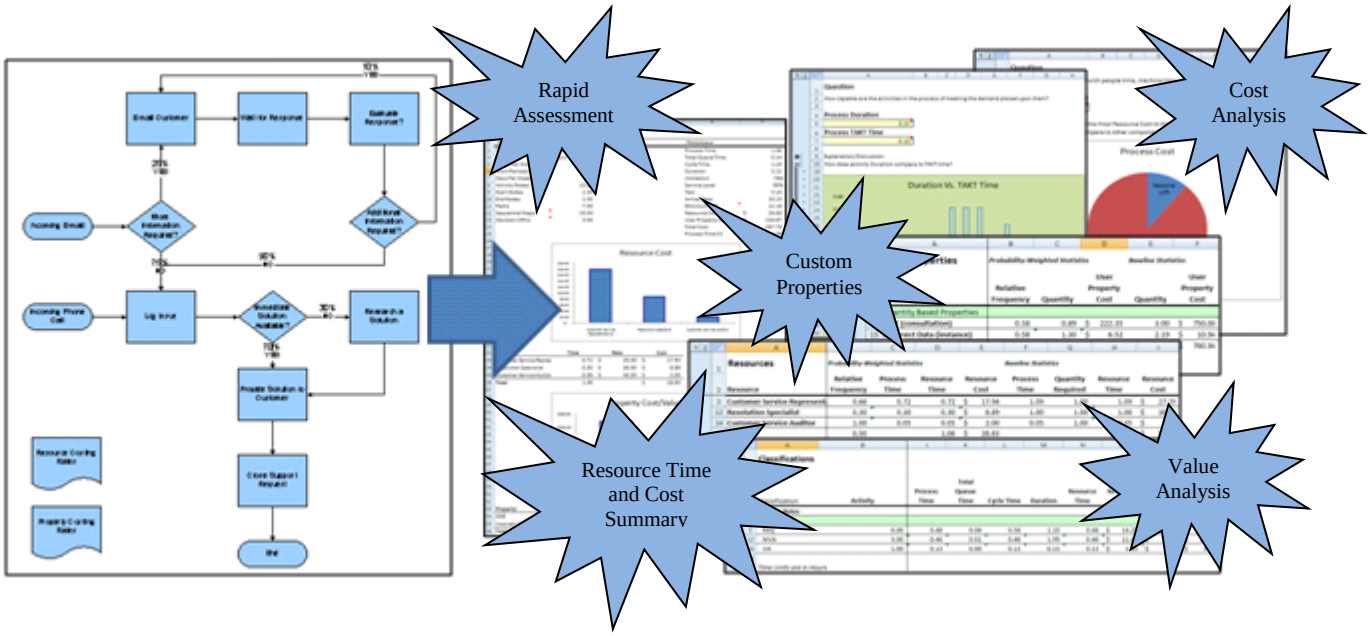
Detailed Analysis Report Worksheet Roadmap

The Detailed Analysis Report includes all of the worksheets from the Summary Analysis Report plus the following worksheets:

- Map Profile – provides a snap shot of process performance with map parameters as well as time, resource, and cost information
- Classifications – provides performance metrics for categories and their member activities

Detailed Analysis Report Worksheet Roadmap Cont'd.

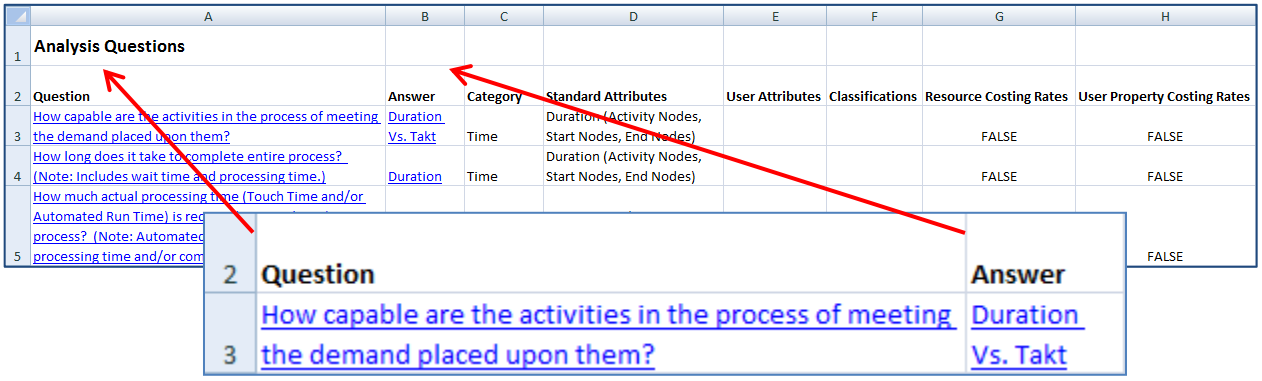
- User Properties – provides performance metrics for custom time and/or quantity-based properties created by the user
- Resources – provides the time and cost associated with the resources involved in the process
- Nodes – provides performance metrics on an activity-by-activity basis
- Connectors – provides performance metrics for connectors within the model
- Costing Rates – reports the costing rates defined by the user for resources and user properties in the process

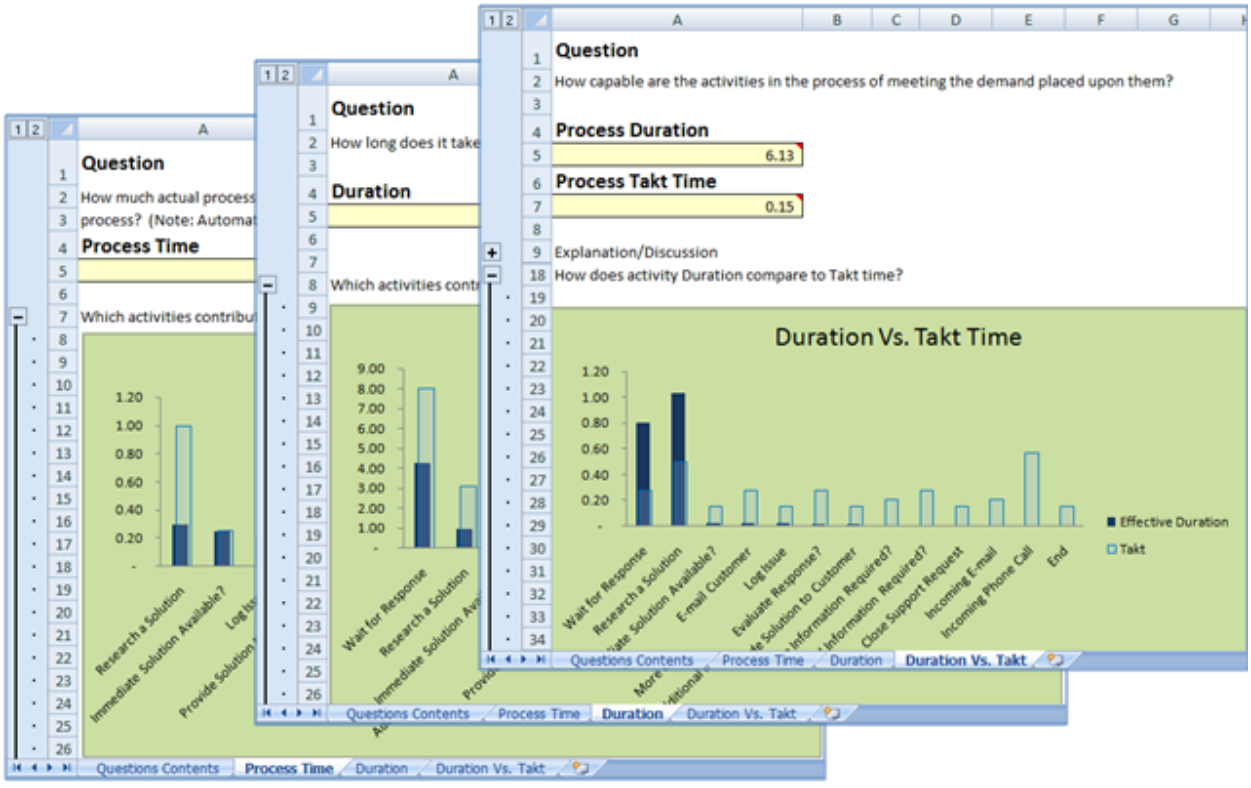


Category Analysis Report

Though the interpretation of output metrics will not be covered in depth in this lab, it is important to recognize that you may obtain robust analysis utilizing only the most basic attributes. To further illustrate this point, access the Analyze button again, and choose the Category Analysis Report.

Within this workbook, worksheets are generated with information designed to specifically answer each question selected within the Define Attributes Guided wizard. Like the Detailed Analysis, this report contains both Baseline and Probability-Weighted performance statistics.





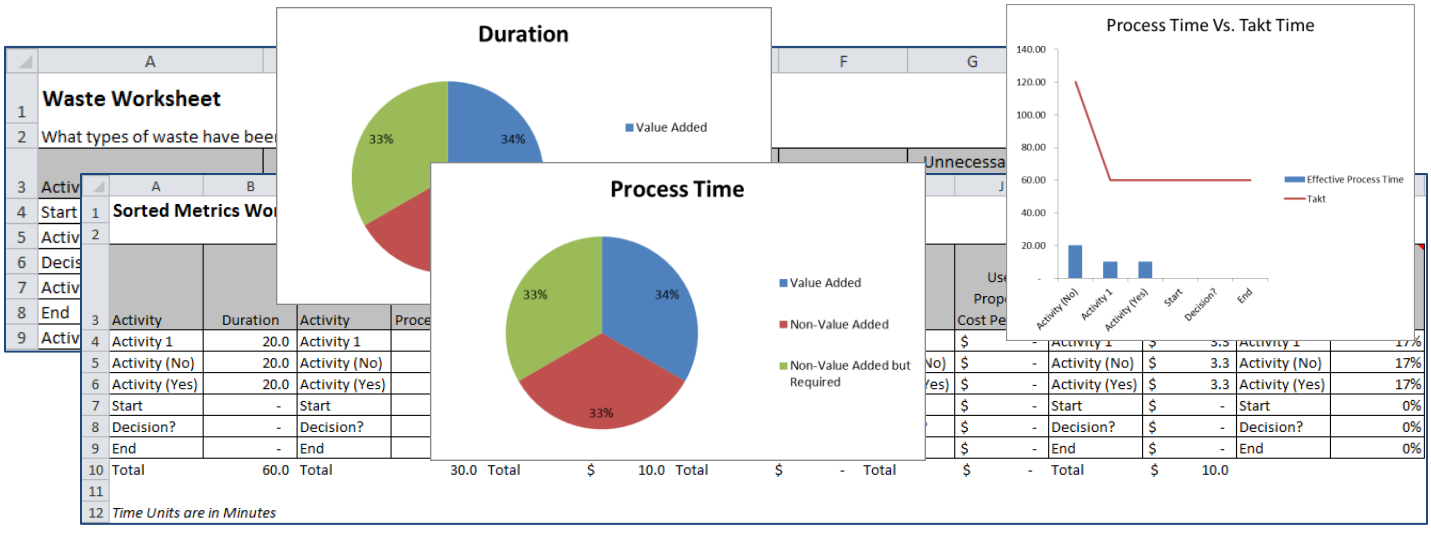
Lean Analysis Report

In addition to the Summary, Detailed, and Category Analysis reports; ProcessView provides a report for Lean practitioners to identify waste, evaluate process capability, and review performance drivers.

To generate a Lean Analysis Report, click the Analyze button on the ProcessView ribbon and choose the Lean Analysis option. A new Excel workbook will be created containing the worksheets described below.

Lean Analysis Report Worksheets

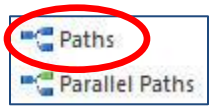
- Map Profile – provides a snap shot of process performance with map parameters as well as time, resource, and cost information
- Sorted Metrics – provides a priority sequence for process improvements; activities are listed in order of contribution to each of six performance metrics: Duration, ProcessTime per Item, Resource Cost per Item, Fixed Cost per Item, User Property Cost per Item, and Total Cost per Item; allows the user to determine which activities are the performance drivers for the process performance metrics of interest
- Value Class – provides data and graphs to summarize how much time and cost falls into each of the classification categories: Value Added, Non-Value Added, Non-Value Added but Required
- Takt Analysis – allows the user to measure the capability of the activities to handle the pace of demand placed upon them
- Waste – allows the user to identify the presence of the major forms of waste
- Costing Rates – this worksheet indicates the cost per unit of time associated with time-based properties, like Resource Time, as well as the cost per quantity associated with any quantity-based custom properties that may have been defined in the model



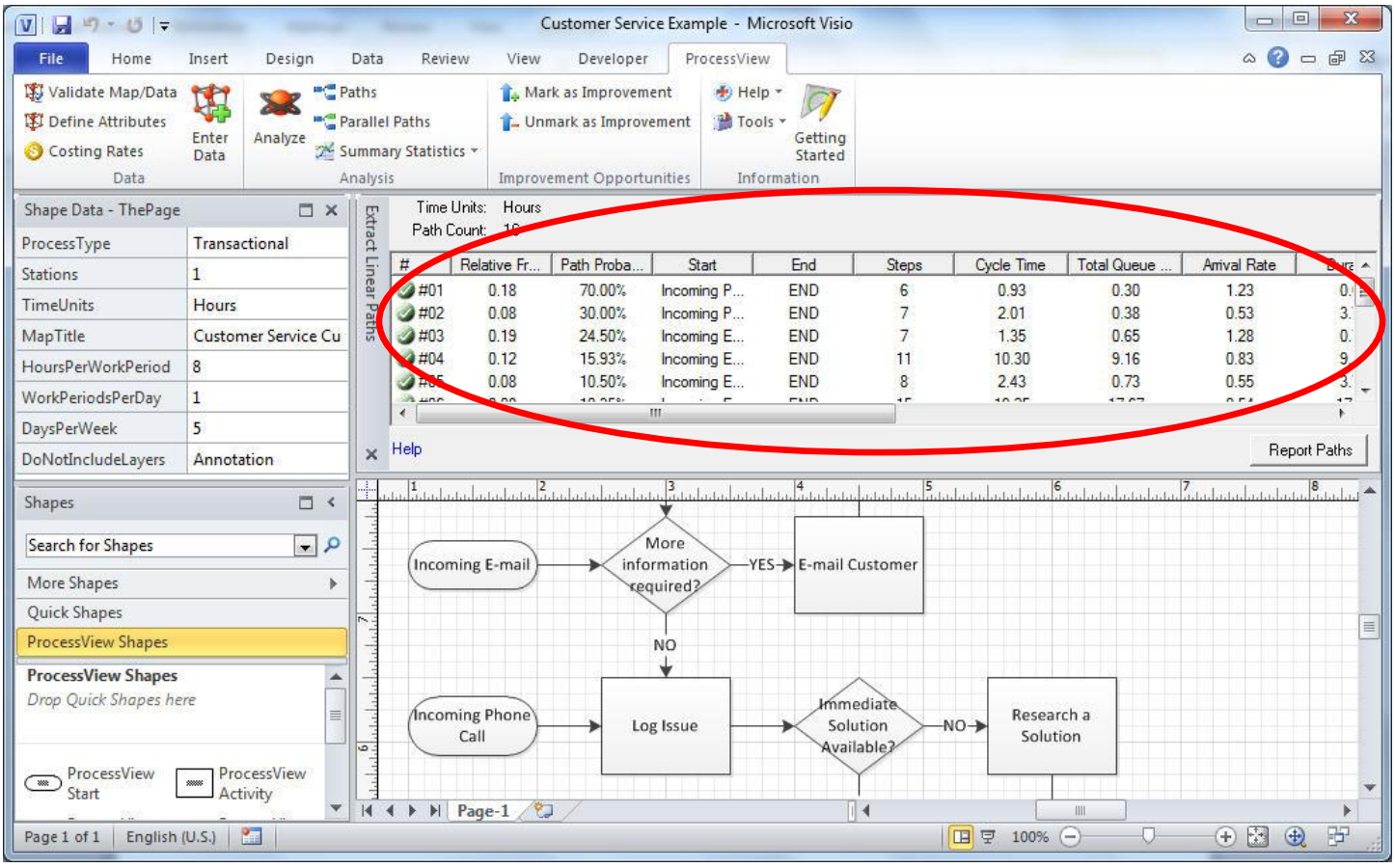
Extracting Linear Paths

Once we've completed representing our flow chart, not only can we obtain information about process performance, but we can extract the critical workflows from our process map. That is, ProcessView can tell you which flow through the process map occurs most frequently, and which occurs the least.

To do this, we need to use the Paths button.



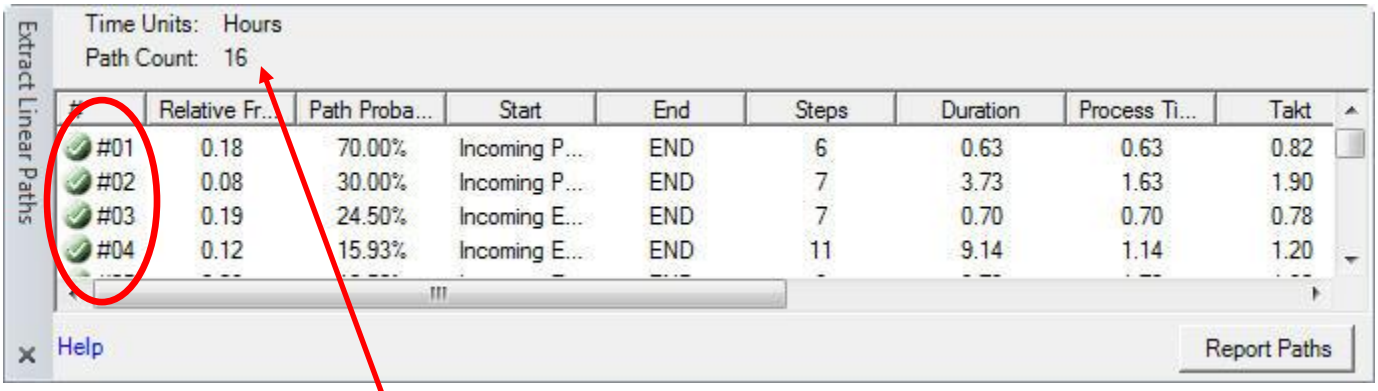
Once you click the Paths button, ProcessView will analyze your process flowchart and show all of the individual workflows:



You will notice that ProcessView lists each workflow path, based on its path probability in descending order.

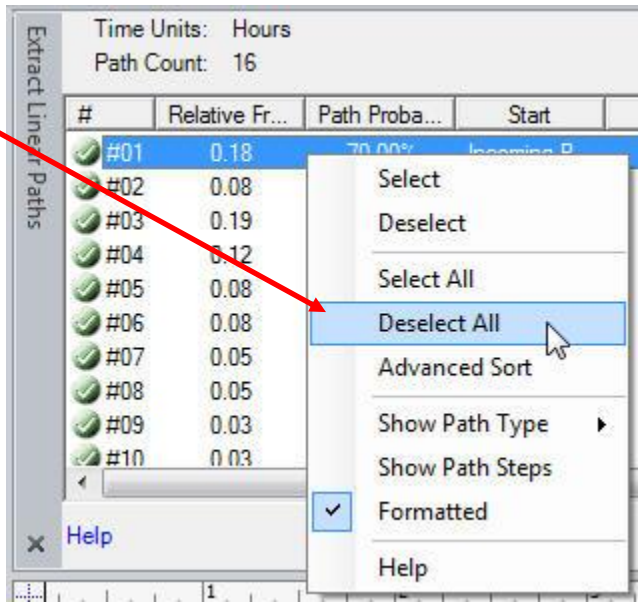
Navigating Linear Paths

You can click on each row to select or deselect a path. Notice that the green check mark disappears when you've deselected a path.

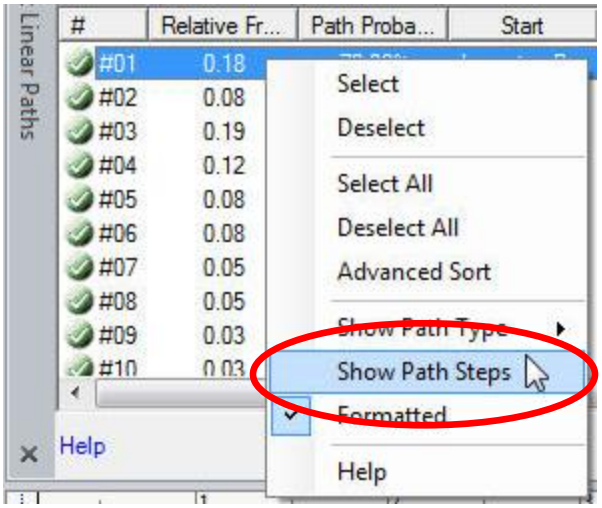


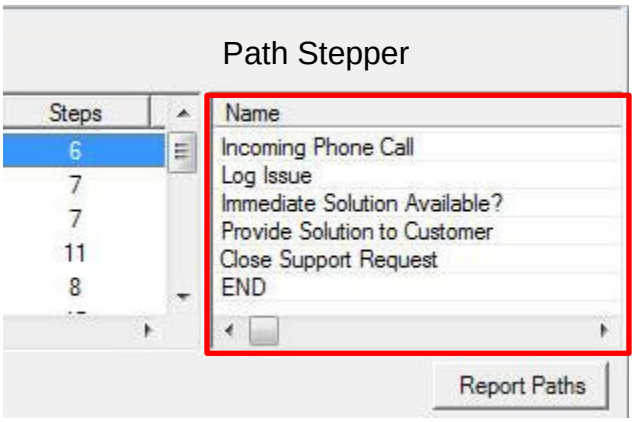
You should also see a Path Count, which counts the number of selected paths in the dialog.

You can also right click on the dialog and select or deselect all of the paths:



The "Show Path Steps" option brings up a dialog to the right called the `Path Stepper` which displays all of the steps in the highlighted path.





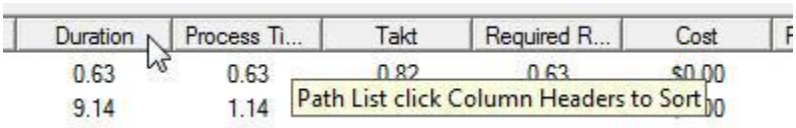
You can click on any one of these items in the list, and ProcessView will direct you to that step on the process flowchart.

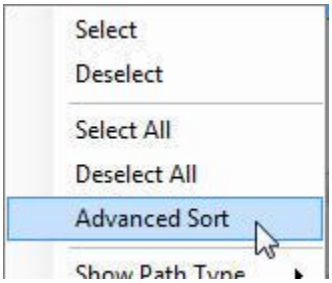
[EXERCISE]:

1. Right click on the paths and choose “Deselect All”.
2. Right click and make sure the “Show Path” option is checked.
3. Highlight the path with the highest relative frequency.
4. Click on each step in the Path Stepper list, in order, while watching the flowchart.

[END OF EXERCISE]

In addition to the path selection options in the extract paths context menu, ProcessView also provides path sorting options. Clicking on the column headings in the extract paths dialog will sort the list in ascending or descending order. For advanced sorting options use the “Advanced Sort” option in the context menu.





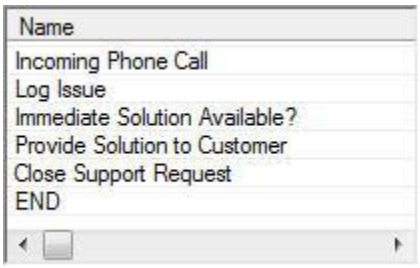
Path Statistics

In the paths dialog, a number of performance metrics are reported for each path. While most of the performance metrics will be discussed in detail in a later section, it is important at this point to understand the difference between relative frequency and path probability. The Path Probability represents the likelihood that the described path is taken, given that it started at the ‘Start’ listed. The Relative Frequency represents the likelihood that the reported path is taken, given all other paths.

Consider Path #01. The relative frequency is 18% and the path probability is 70%.

#	Relative Frequency	Path Probability	Start	End
#01	0.18	70.00%	Incoming Phone Call	END

Following the path, 100% of the demand that begins as an ‘Incoming Phone Call’ is logged in to the system. For this path, there is an immediate solution available that is provided to the customer and the report is closed. (70%) The likelihood that an immediate solution is available is 70%. (Path Probability = 70%)



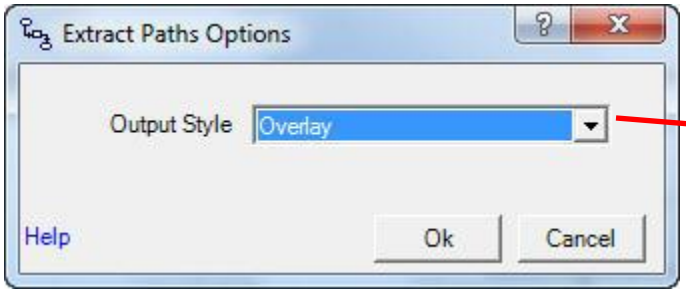
Consider, however, that only 25.9% of the demand begins as a phone call. (14/54 = 25.9%) The likelihood that this path is taken is therefore 18%. (Relative Frequency = 25.9% * 70% = 18.15%)

Note that ProcessView only reports paths with a path probability of 1% or greater, using the default settings.

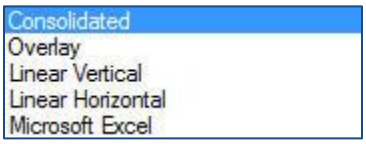
Reporting Paths

Now we can create reports on individual paths or work flows in a number of different formats. First, Right Click on the paths and choose "Deselect All". Then, select the path with the highest relative frequency.

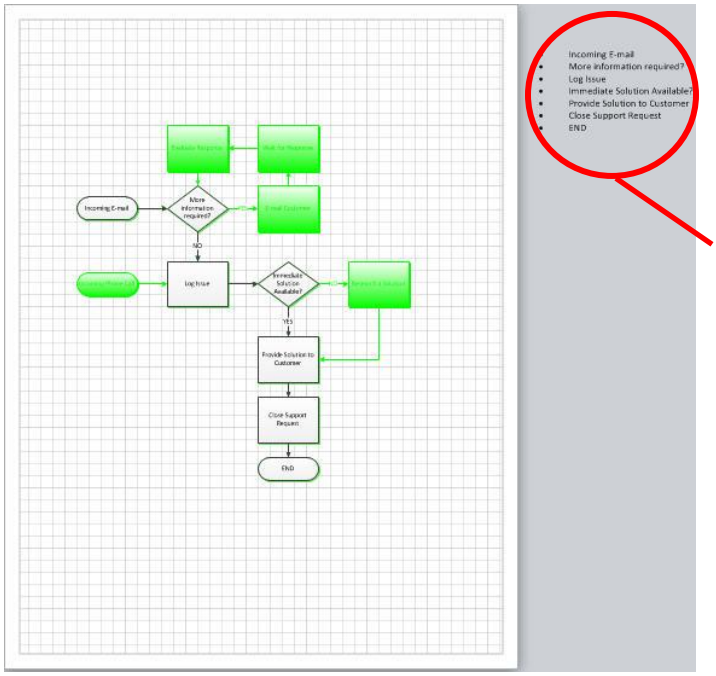
Now click the "Report Paths" button. You will get the "Report Paths" dialog:



You have several options for reporting:



The first four options output your path in Microsoft Visio. A Consolidated Report will put all of the selected paths in the same Visio page. The Overlay, Linear Horizontal, and Linear Vertical reports will place each selected path on it's own drawing page. The 4th option gives you an Excel workbook with path data. Select the option for "Overlay" and click the "Ok" button.



You will get a separate Microsoft Visio Flowchart, where the selected path is in light blue/grey and the remainder of the process (not used in this path) is in green (background).

Note in the upper right hand corner ProcessView outlines the Procedural Steps for this work flow or path.

This can be extremely beneficial when constructing procedural documentation and training materials for a process. Most importantly, this data can be generated on the fly. This means you can make changes to your process map, and regenerate the documentation with a few clicks.

[EXERCISE]

1. Select multiple paths at the same time and report in Overlay mode
2. Report paths using each selection in the Extract Paths dialog

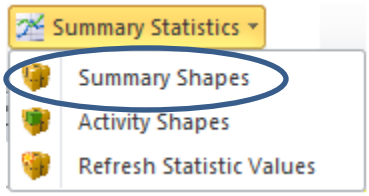
[END OF EXERCISE]

Writing Shape Statistics

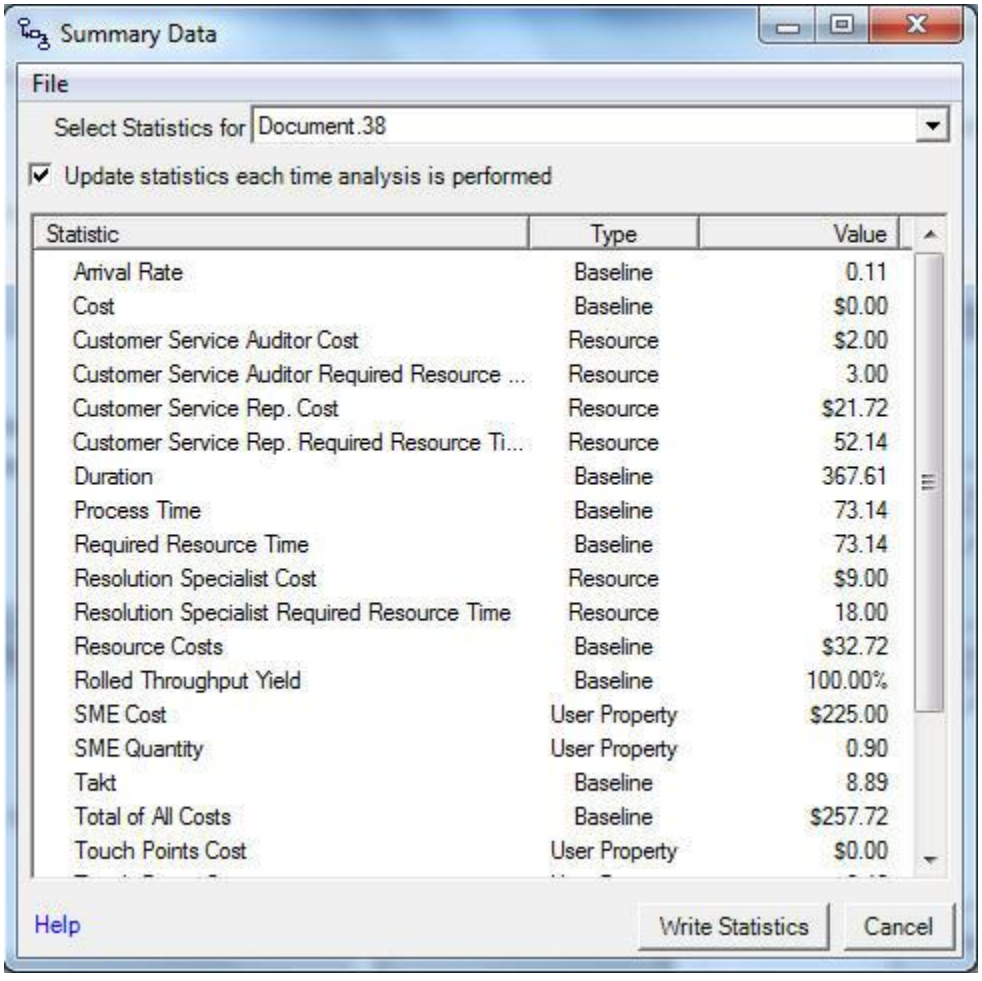
ProcessView provides the ability to write process statistics to the shape data window of a Visio shape or the drawing page. Why is this useful?

Once map statistics have been written, they may be updated using the ProcessView auto update function without generating a full Excel report to determine the effects of changes made to the process flow diagram.

To use this capability, we will write statistics to a shape. In the Customer Support Example, drag and drop a shape onto the page. With this new shape highlighted, press the Summary Statistics menu in the ProcessView toolbar and select the "Summary Shapes" option.

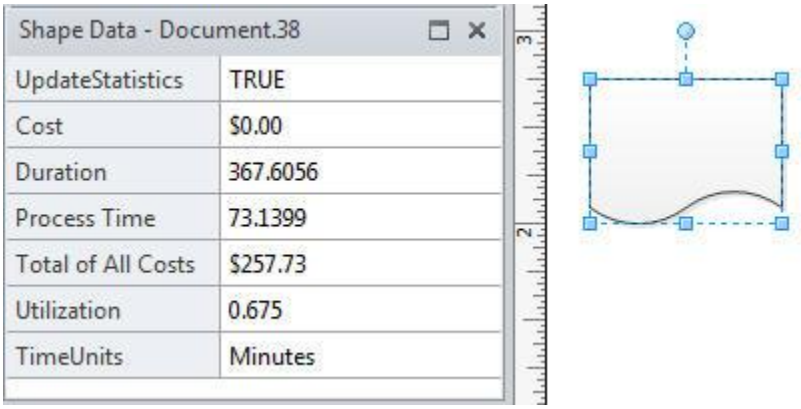


A new dialog box will appear prompting the user to select the statistics of interest to be written to the shape.



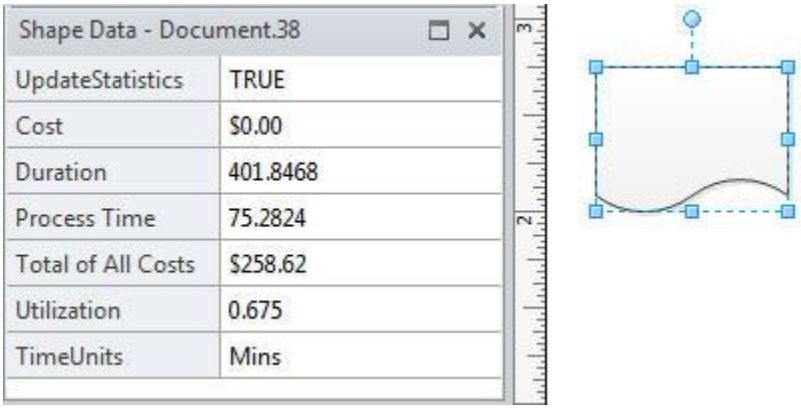
Writing Shape Statistics Cont'd.

Select a few statistics from the list and click *Write Statistics*. Notice that the selected statistics are now reported in the shape data window of the shape chosen.



Now that we've written some of our process statistics to this shape, let's make a few changes to our map and update those statistics. Change the Arrival Rate at the Start Node and the default Time Units on the page. Then, select the summary statistics menu on the ProcessView toolbar and choose "Refresh Statistic Values".

Notice that the shape data window of our summary shape reflects the changes we've made.



This allows you to rapidly assess the impact of proposed process changes on process performance to prioritize improvement actions.

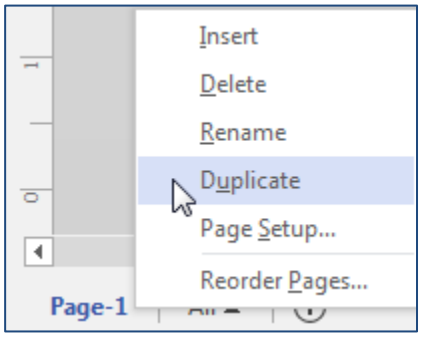
Compare Report

The purpose of creating a ProcessView model is to gain an understanding about process performance and behavior. A model, once composed, can be used as a predictive tool; after all, it is less expensive and less disruptive to experiment with changes to a process model than it is to experiment with the real world process.

Once a map has been created, validated and analyzed, it can be easily manipulated to represent alternative scenarios. To determine the impact of proposed process changes, multiple alternative process scenarios may be created. To measure the difference between the current state or baseline performance and an alternative state scenario, the information in the Compare Report should be used.

To experiment with the Compare Report, first create a new model to be compared to the existing Customer Service process diagram.

[EXERCISE]:



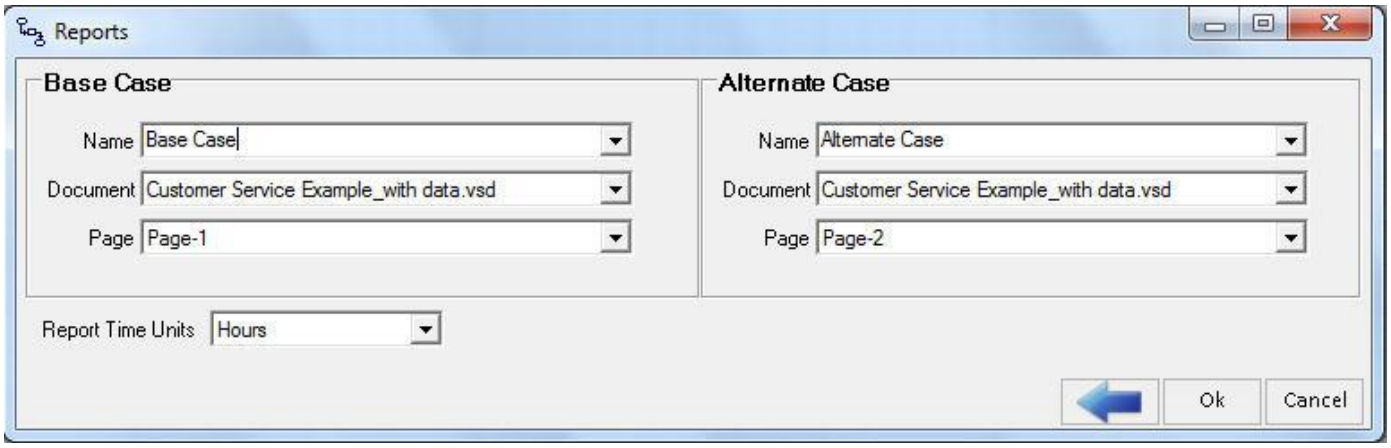
1. For Visio 2013 users, right-click on the existing page and choose to 'Duplicate'.
    a. If working in Visio 2010, access the Visio Home tab and select the Copy button. In Visio 2007, access the Edit menu and select 'Copy Drawing'.
    b. In Visio 2010, use the New Page button in the Visio task bar to insert a new page. If working in Visio 2007, access the Insert menu and select 'New Page'.
    c. Visio 2007 and 2010 users, paste the clipboard contents into the new page.
2. All Visio users, make a few changes to the attribute values in the map on Page-2.
3. Access the ProcessView Analyze button and select the Compare Report.

Compare Report Cont'd.

[EXERCISE]:

4. Select the file name and identify the pages to be compared. (NOTE: drawings being compared may exist within the same Visio file, but this is not required.)

5. Select Hours as the Report Time Units and click Ok.



[END OF EXERCISE]

The Compare Report provides the flat difference and percent difference between the key performance indicators of any two process flow diagrams. (NOTE: The performance statistics reported will be different for ProcessView Standard and ProcessView Professional users.)

Comparison

Profile	Base Case	Alternate Case
Map Type	Transactional	Transactional
Arrival Rate	6.75	6.75
Hours Per Work Period	8	8
Work Periods Per Day	1	1
Days Per Week	5	5
Activity Nodes	9.00	9.00
Start Nodes	2.00	2.00
End Nodes	1.00	1.00
Paths	16.00	8.00

Performance	Base Case	Alternate Case	Difference	% Difference
Process Time	1.59	1.09	(0.50)	-31%
Required Resource Time	2.94	1.94	(1.00)	-34%
Duration	13.22	3.70	(9.53)	-72%
Cost	$ -	$ -	$ -	-
Resource Costs	$ 42.01	$ 29.54	$ (12.46)	-30%
User Property Costs	$ -	$ -	$ -	-
Total of All Costs	$ 42.01	$ 29.54	$ (12.46)	-30%
Rolled Throughput Yield	100%	100%	0%	0%

Time Units are in Hours

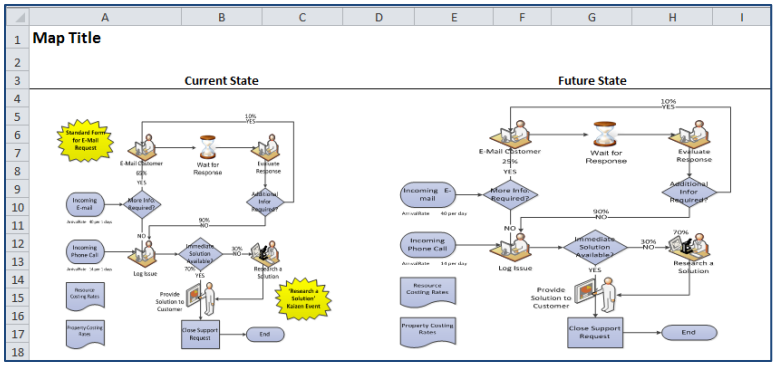
A3 Report

The ProcessView A3 Report provides a quick and easy way to summarize the performance metrics as well as the improvement opportunities associated with any two models.

To generate an A3 Report, click the Analyze button on the ProcessView ribbon and choose the A3 option. A window will be presented so that the user may identify the files and pages containing the models of interest.

Once these selections have been made, a new Excel workbook will be created to show the quantitative difference between the two models as well as a summary of any improvement opportunities that may have been incorporated.

Pictures of each of the models being analyzed will appear at the top of the worksheet. Beneath the images of the process models, a quantitative comparison of the primary performance metrics will be provided. Depending upon the ProcessView license being utilized, the performance metrics presented will vary. Finally, at the base of the worksheet, a summary of any improvement opportunities captured in the models will be presented.



Performance	Current State	Future State	Difference	% Difference
Process Time	73.14	64.42	(8.72)	-12%
Required Resource Time	73.14	64.42	(8.72)	-12%
Total Queue Time	257.57	3.83	(253.74)	-99%
Cycle Time	330.71	68.25	(262.47)	-79%
Duration	367.61	182.86	(184.75)	-50%
Utilization	68%	68%	0%	0%
Service Level	72%	86%	14%	14%
Minimum WIP	37.21	7.68	(29.53)	-79%
Cost	$ -	$ -	$ -	0%
Resource Costs	$ 32.72	$ 29.09	$ (3.64)	-11%
User Property Costs	$ 233.39	$ 231.59	$ (1.80)	-1%
Total of All Costs	$ 266.12	$ 260.68	$ (5.44)	-2%
Rolled Throughput Yield	100%	100%	0%	0%

Time Units are in Minutes

Performance metrics outlined in blue are only available to ProcessView Professional users.

Improvement Opportunities

Name	Type	Description	Rating	Start	End
Standard Form for E-Mail Request	Event	Build a standard form for the submittal of request for resolution. Devise	Possible	10/10/2011	11/10/2011
'Research a Solution' Kaizen Event	Project	Perform kaizen event to investigate improvement opportunities in the	Possible	10/31/2011	12/21/2011