

Jump-Start Tutorial For ProcessModel



ProcessModel Jump-Start Tutorial

This tutorial provides step-by-step instructions for creating a process model, running the simulation, and viewing the output reports and graphs. It is designed as a 'learning by doing' exercise which can be followed using the software. In this tutorial you will build a model of a familiar business process—a phone support desk. You will model the support desk, run the simulation, evaluate the effectiveness of your model, and modify the model to better reflect its operation in the real world. The more accurate model will give you better information to improve that operation. By working through this tutorial, you will be able to:

- Quickly gain confidence and save time in building models
- Design a simple model of a business process—a telephone support desk
- Locate techniques in the on-line manual to design more complex models
- Incorporate models in your business decisions

Tutorial Overview

The tutorial consists of the following steps:

Step 1. **Define Process Flow**

Step 2. **Define Resource Assignments**

Step 3. **Enter Process Information**

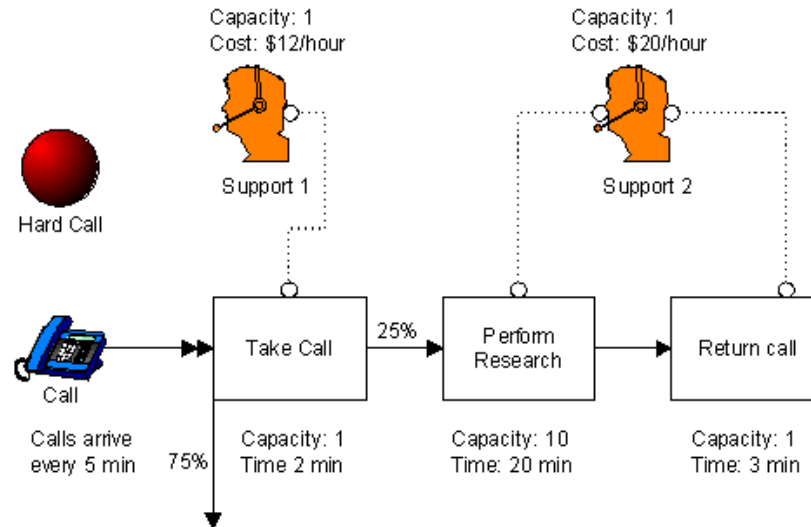
Step 4. **Simulate your ProcessModel**

Step 5. **View Output**

To create the phone support desk model you will 1) define all objects and activities in the process flow, 2) identify the resources used during the process, and 3) include information about the stages and timing of the process as well as the resources that support the process. You will then be able to 4) run the simulation, monitoring it visually, and follow the on-screen counters and system statistics as they compile information. After the simulation runs, you will 5) view the output about the operation in the form of statistics and graphs.

Step 1 - Process Description

The model you will build in this tutorial is a familiar business process—a Help Desk. It illustrates the power and simplicity of creating a working model using ProcessModel. The purpose of the model is to show how ideas for improvement can be tested using ProcessModel. This diagram shows the model you will create.



In the phone support centre, incoming calls arrive about every 5 minutes and a support representative evaluates the nature of each problem. The representative is able to resolve 75% of the calls immediately. However, 25% of the calls require the other support representative to complete some research and make a return call to the customer.

Step by Step

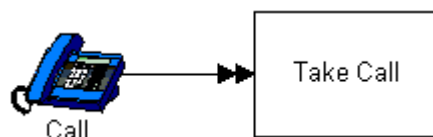
1. Click on the telephone symbol (to represent the calls) in the shape palette to select it.



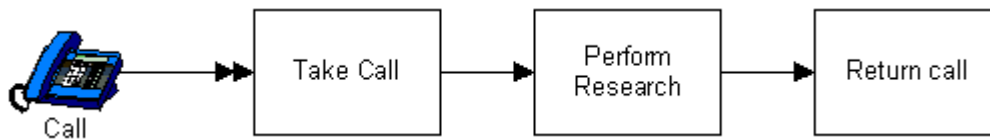
2. Move to the left of layout and click to place the shape. Repeat steps 1 and 2 but this time select a coloured ball from the shape palette. Click on the ball (once it's on the layout) and type **Hard Call**.

3. Now select the rectangle called Process from the shape palette. Click on the Call shape you just placed on the layout and drag to the right. (A new shape is placed on the layout with a connection between it and Call. If you do not drag the shape, the connection will not be made and you will have to create it manually or delete the new shape and try again.)

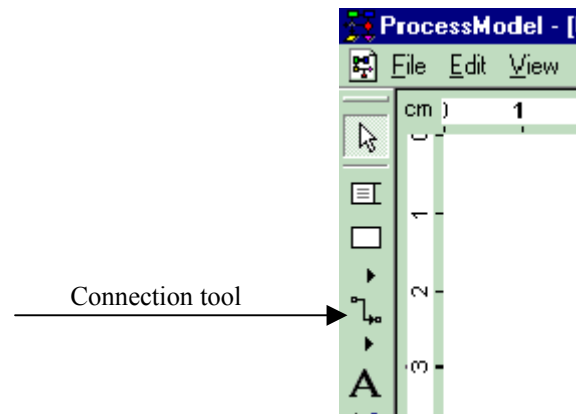
4. With the rectangular shape selected (just click on it to select it), type **Take Call**.



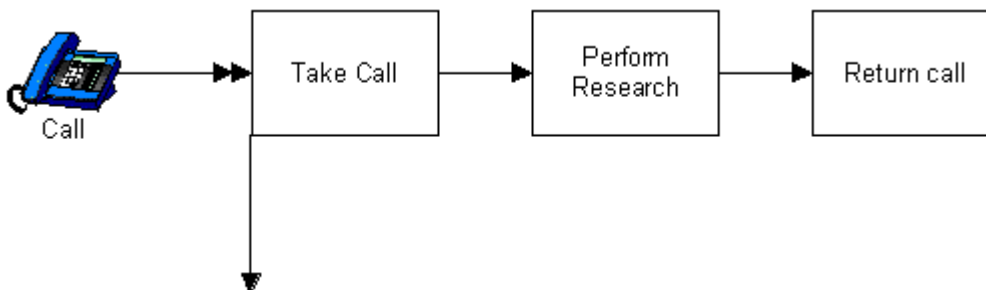
5. Click on the rectangle shape tool again. Repeat steps 4 and 5 to create the **Perform Research** and **Return Call** activities and connections as shown below.



6. Now create an exit routing for the 75% of the calls that the Support 1 representative can handle immediately. To create this routing, first find the connection (line) tool that appears on the left toolbar.



7. Click on the connection (line) tool and drag a line from **Take Call** as shown below.



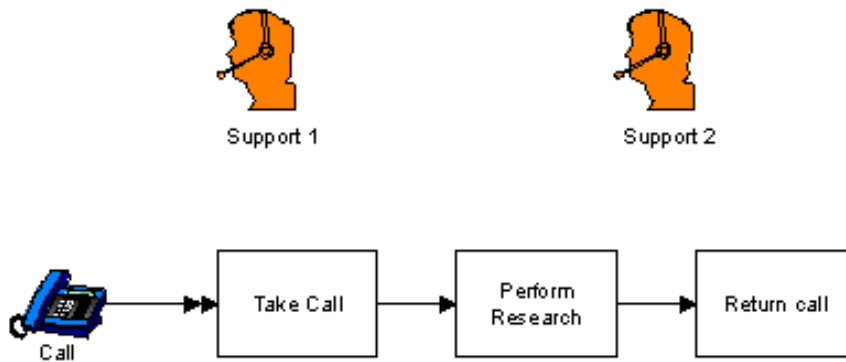
The exit from **Take Call** will route the 75% of support 1 answered calls out of the system, while the level 2 calls continue through to the **Return Call** activity before exiting. (The actual percentages will be entered later.)

Step 2 - Define Resource Requirements

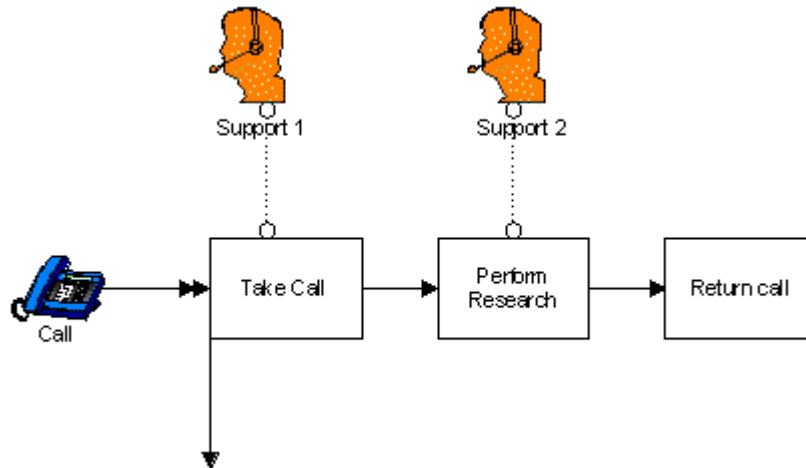
You need to define two customer support representatives, one to answer calls and one to do research and return calls. To define these resources, follow these steps:

1. First you will define the support representative that takes calls. Select the person wearing the headset (to represent the support rep) from the shape palette.

2. Move the mouse above **Take Call** and click to place the shape on the layout, then type **Support 1**. Do the same thing above **Perform Research** and type **Support 2**.

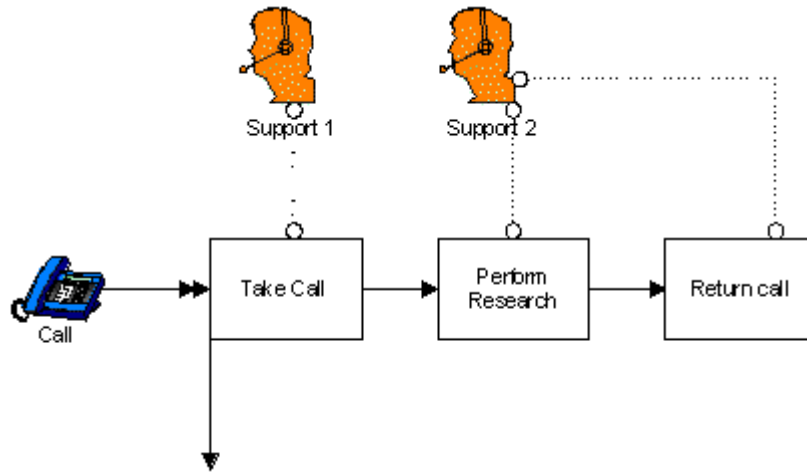


3. Now both resources need to be connected to the activities. Click on the Line Tool in the Toolbox. Drag a connection from **Support 1** to **Take Call**, and then drag a connection from **Support 2** to **Perform Research**. Note the dashed lines, indicating that they are resource connections.



If your diagram doesn't have the connection as shown above, then the symbol you chose was not a resource shape. This can be easily corrected by either deleting the symbol and choosing the resource symbol as shown above or by changing the object type to **Resource** in the object's Properties Dialog.

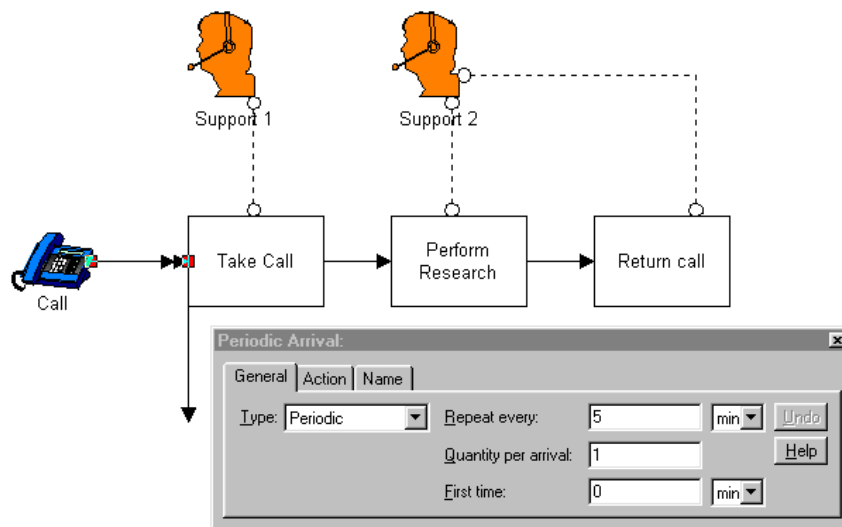
4. **Support 2** also returns calls and has to be connected to that activity. Draw a connection from **Support 2** to **Return Call**.



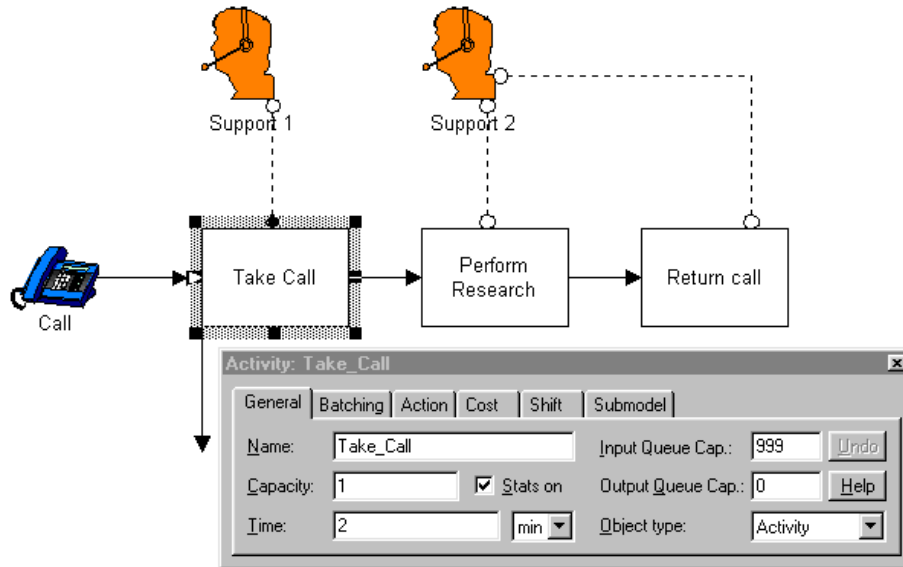
Step 3: Enter Process Information

You now need to complete the process information for the model. The Properties Dialog on the screen contains the information pertaining to the activities and connection in the model. When an activity is selected, the Properties Dialog reflects the process information for that activity. In this step, you will define the frequency of arrivals, enter activity times for the **Take Call** and **Perform Research** activities and define the percentage of calls that go to **Perform Research** and that exit the system. Finally, you will add cost information for the resources.

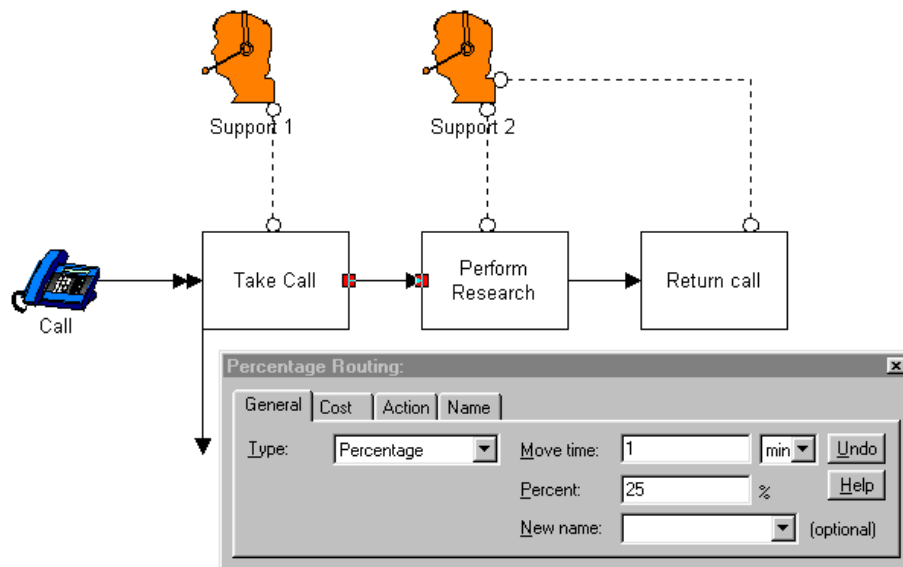
1. The next step is to define the way calls are coming into the system. Since calls arrive every five minutes, select (double click) the arrival connection between the **Call** entity and the **Take Call** activity. In the Properties Dialog, select **Periodic** from the Type field and type **5** into the field labeled **Repeat every** (i.e., repeat this arrival every 5 minutes).



2. The duration of the **Take Call** activity is 2 minutes. To enter this time, select (double click) the **Take Call** activity. Move the cursor to the Properties Dialog. Click in the field labeled **Time**, delete the default time value of 1, and enter **2**. The default time units are in minutes.



3. The next step is to define the percentage of the calls that go to **Perform Research**, which is 25%. Click on the connection between **Take Call** and **Perform Research**. In the Properties Dialog, change the **Percent** field to **25**.

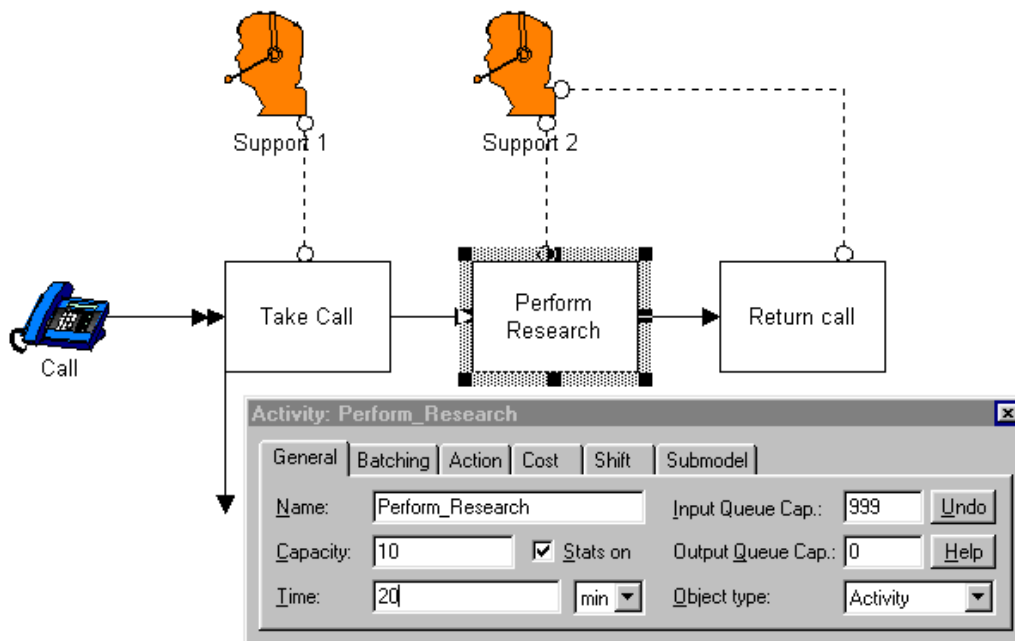


While you are in the percentage dialog box you can separate the statistics for calls requiring research from normal Calls. This means that all of the easy call statistics (the ones that can be dealt with in less than two minutes) won't be lumped together with hard calls. You will be able to see what is happening to customers requiring advanced help. In the New Name field, click the drop down arrow and select **Hard_Call**. Just by selecting a new name the statistics will automatically be separated for any entity that follows this path. The animation will change too.



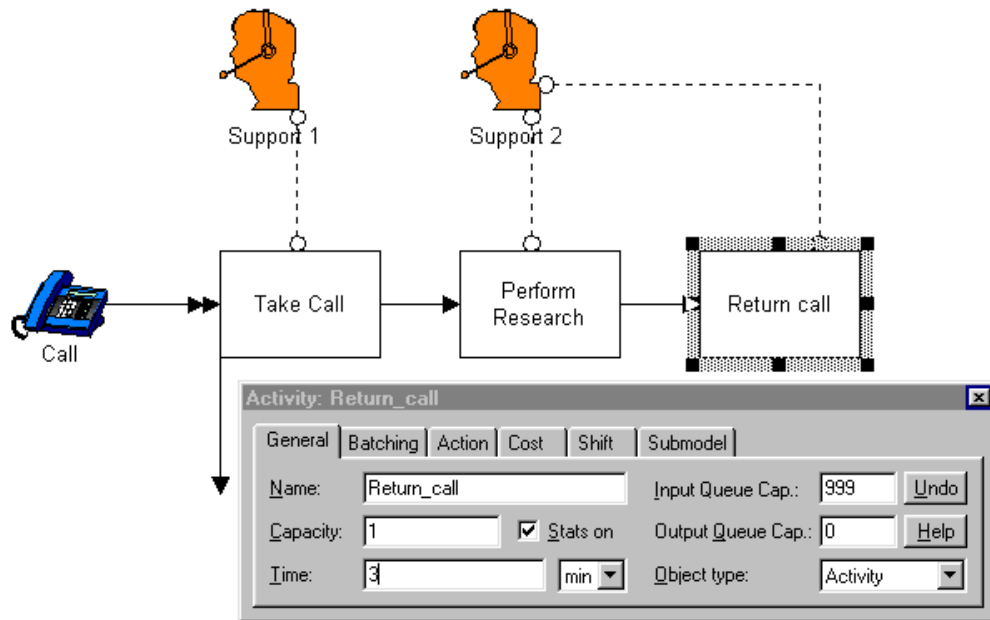
The percentage routing to exit is automatically updated to 75% since there are only two percentage routings from **Take Call**.

4. The **Perform Research** activity takes **20 minutes**. To enter this time, click on the **Perform Research** activity. In the Properties Dialog, click in the field labelled **Time** and enter **20**. The default units are in minutes.



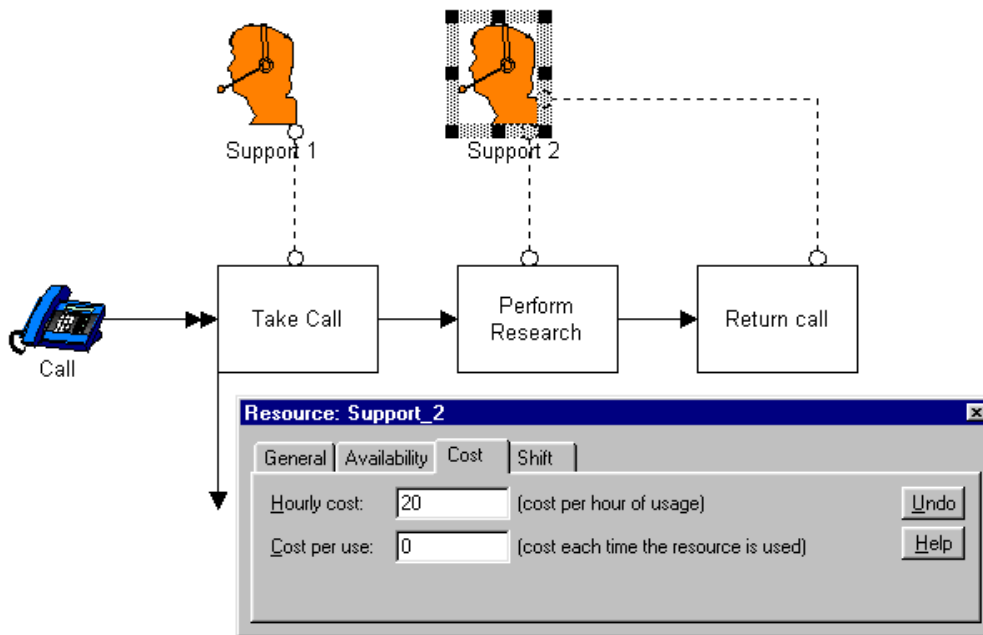
This would be a good time to further explain the Activity Dialog general tab. In this dialog there is an **Input Queue**, a **Capacity** and an **Output Queue**. You can think of these as a desk containing an inbox, a work area and an outbox. The default setting is to provide a large inbox, a work area for 1 entity and no outbox. Since you will add staff at a later time, set the capacity, or the available workspace, to **10** as shown in the dialog box above.

5. The Return Call activity takes 3 minutes. To enter this time, click on the **Return Call** activity. In the Properties Dialog, click in the field labelled **Time** and enter **3**.

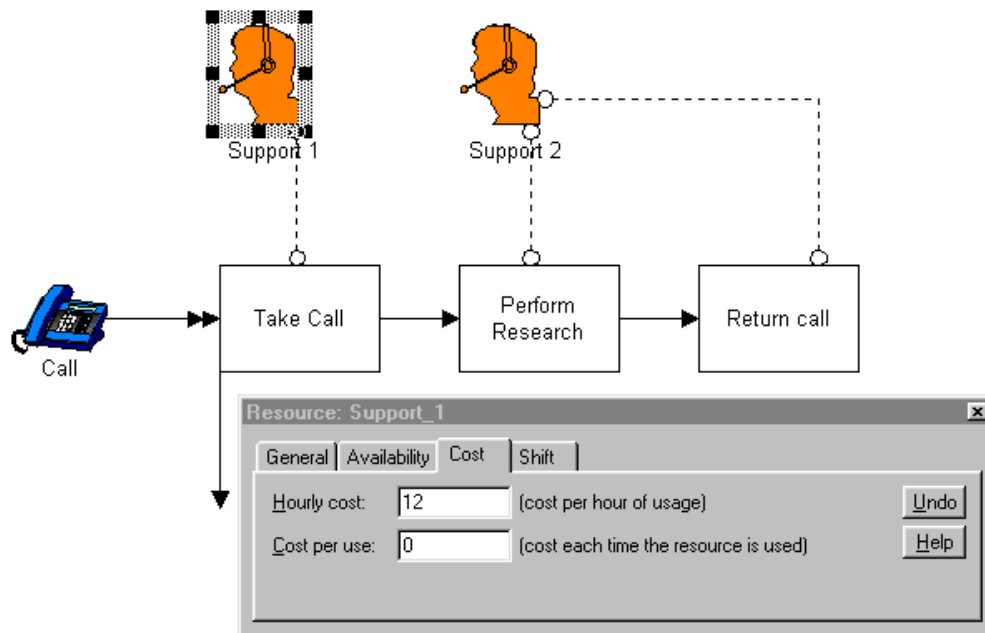


The **Return Call** capacity is left at the default value of 1. The other Properties Dialogs do not require any editing. The same goes for the routing connection between **Perform Research** and **Return Call**.

6. To enter cost information, select **Support 2**. Highlight the **Cost** tab in the Activity box. In the **Hourly Cost** field, enter **20** (for £20 per hour).



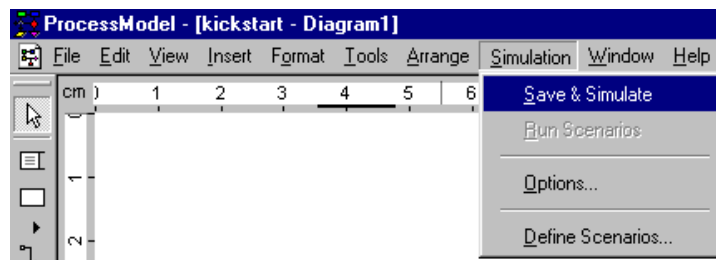
7. Select **Support 1**. Notice that the Hourly Cost tab remains selected. In the Hourly Cost field, enter **12**.



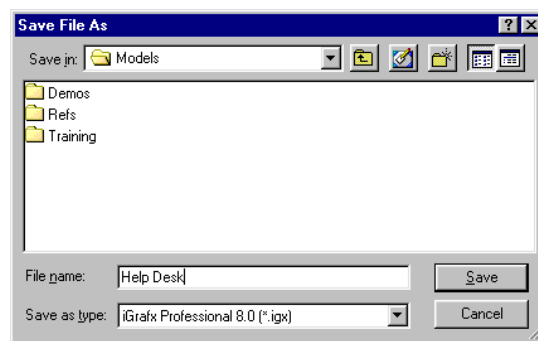
Step 4: Simulate Your Process Model

Congratulations and well done. Your model is now complete and you are ready to run the simulation. Simulating your diagram is easy. With the click of your mouse, ProcessModel transforms this flowchart into an animated process simulation.

1. Simply click on the **Simulation** pull-down menu and select **Save & Simulate**.

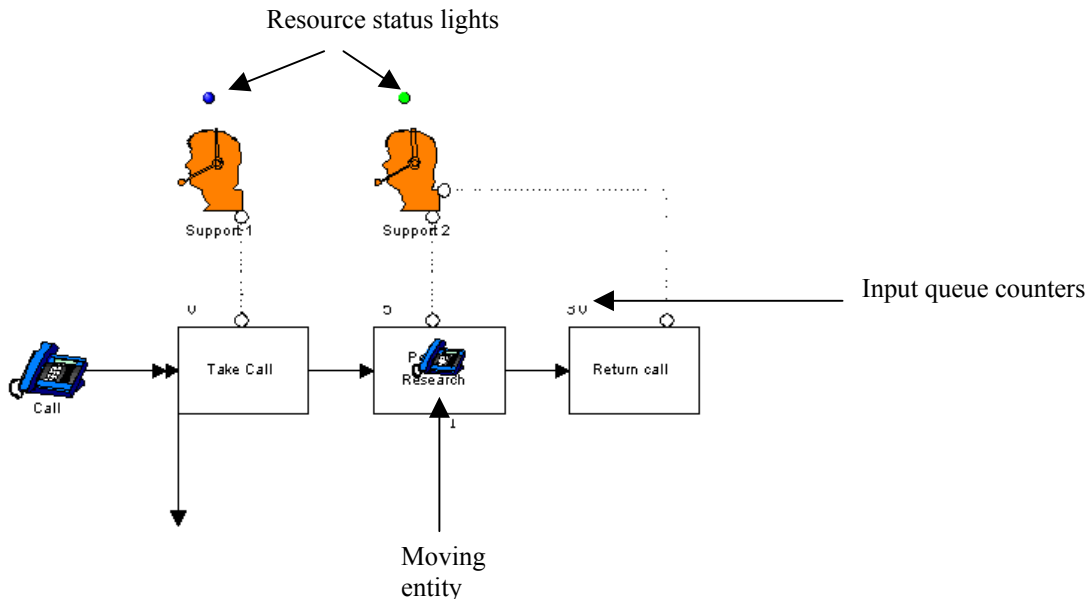
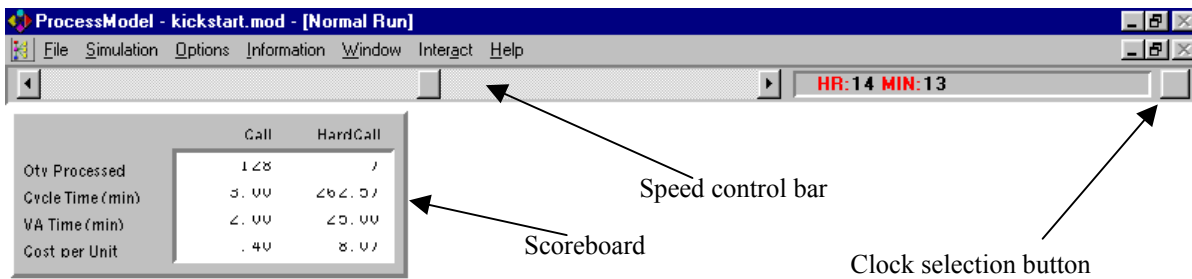


3. You will be prompted to save your process model. Type in the name of your ProcessModel file as **Help Desk**.



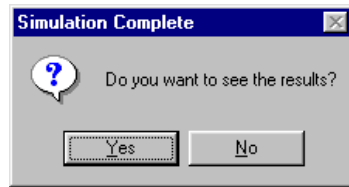
After the file has been saved the simulation will begin to run and the simulation window appears. As you are watching the simulation, you may want to take note of the following items:

- Telephone calls moving through the flowchart provide visual feedback of calls flowing through the process.
- Resources have a status light associated with them indicating when they are in operation. The status light is green when the resource is being utilized and blue is when it is idle.
- Counters are located above and to the left of each activity. They represent the number of calls waiting to process.
- An on-screen scoreboard keeps track of system statistics such as Quantity Processed, Cycle Time, Value Added Time, and Cost per Unit.

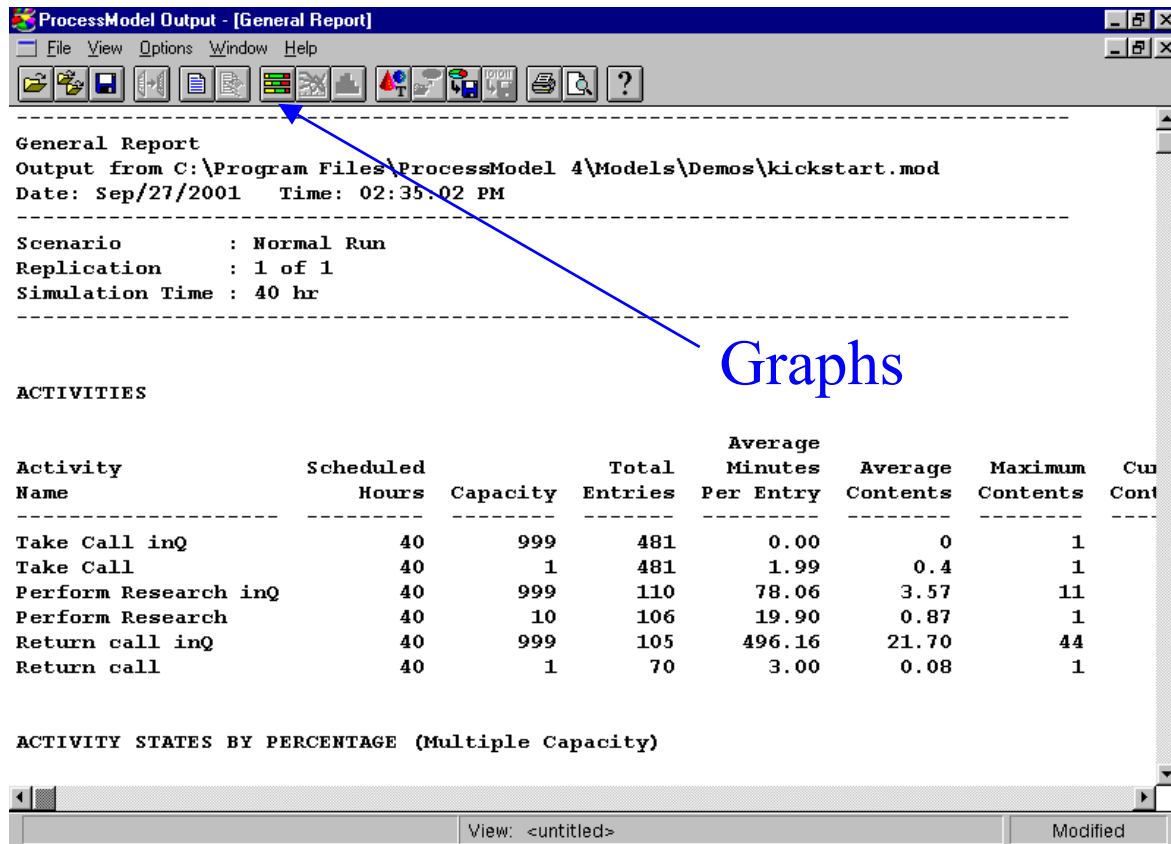


Step 5: View Output

1. When the simulation run ends, a Yes/No question box pops up on the screen asking if you want to see the results of the simulation. Click on **Yes** and the Output Module is displayed with the results file opened. You can then create specific reports as well as bar graphs and pie charts.



The Output Module appears with the general statistics report opened as shown below:



To access the graphs simply click the button indicated on the toolbar above.

Go to the online manual to continue the remainder of the tutorial. Return to your desktop menu. Click **START** then **PROGRAMS** then **ProcessModel 4** then **ONLINE USER'S GUIDE**. Go to Chapter 1 – Getting Started with ProcessModel, Section 5 (ProcessModel Basic Tutorial), page 66 and carry on with your tutorial.

We hope you have enjoyed the tutorial. Good luck with your models.

BlueOrange Team