Enterprise Architect

User Guide Series

Roadmap Diagrams

Use Roadmap diagrams in Sparx Systems Enterprise Architect to map model elements against a Timeline to provide time based views such as concurrent support for multiple platforms. The Timeline is displayed on screen, on saved images and when printed.

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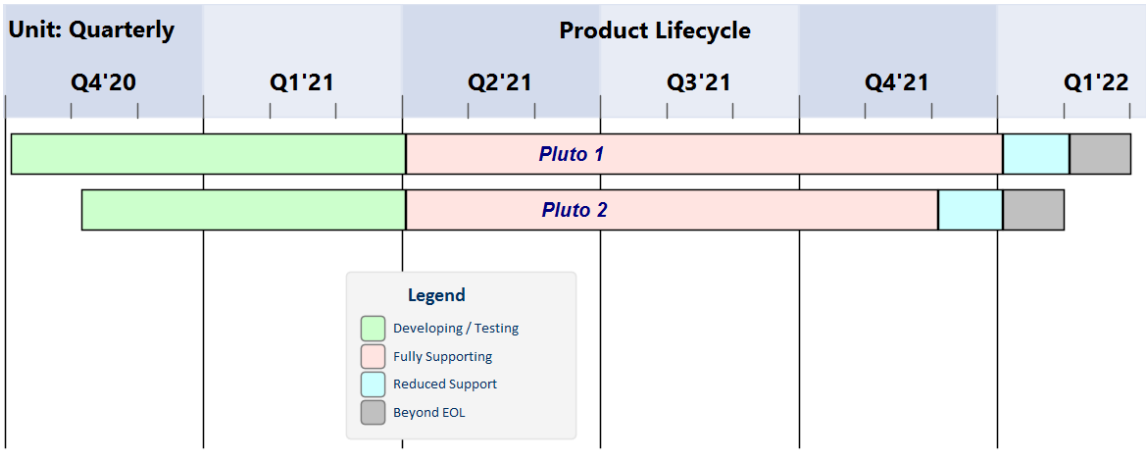
Roadmap Diagrams

Roadmap diagrams help you to map existing elements against a timeline. This is useful for visualizing how a system changes over time, planning a migration of responsibility between two teams, documenting the concurrent support for multiple platforms or representing just about any time based data. To ensure the modeler and viewer always have appropriate context, the timeline is always displayed on screen, on any saved images and when printed.

Changes of phase or state of each element can be represented in Roadmap diagrams using a dedicated notation of a bar divided into colored segments representing each state. The states available, the order they appear in and the colors used are controlled by a Diagram Legend. Each element displayed then shows the length of each segment (and hence duration of each state), and also provides the ability to hide individual segments on that element.

Creating a Roadmap Diagram

This diagram shows an example Roadmap that documents the planned lifecycle for two products through development, release, support and retirement, by quarter over a period of one and a half years.



You can develop this diagram as the example for the guided procedure in the *Setting up a Roadmap Diagram* table. To create the initial, basic diagram:

1. Right-click on its parent Package and select the 'Add Diagram' option.
2. On the 'New Diagram' dialog, in the 'Diagram' field type in the diagram name, such as 'Example Roadmap'.
3. Click on the drop-down arrow in the 'Type' header and select the 'Construction > Project Management' Perspective group, and then click on 'Project Management' in the panel beneath the header.
4. The 'Diagram Types' panel lists the diagram types - Project Management, Roadmap and Backlog. Click on the Roadmap diagram type.
5. Click on the OK button. The system opens the diagram in the central work area.

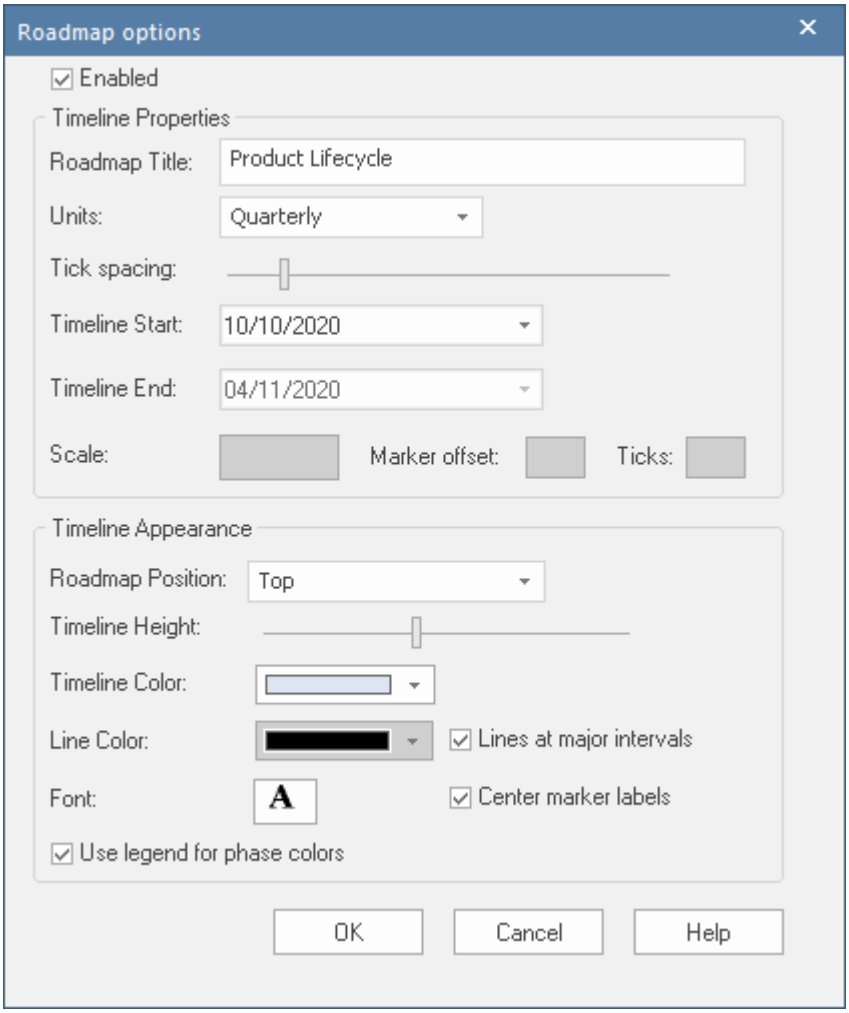
You can also generate one of the pre-designed Roadmap diagrams from the Patterns provided by Enterprise Architect, to tailor the Roadmap for any of a range of areas of work. To access these Patterns, select the 'Design > Package > Model Wizard' ribbon option, then on the 'Create

from Pattern' tab (Model Wizard) select the 'Construction > Project Management' Perspective. If necessary, expand the 'Roadmaps' group.

Select the required Roadmap(s) and click on the Create Model(s) button. Each Roadmap is automatically created within its own Package.

Access

To begin setting up the diagram you have just generated, on the open diagram display the 'Roadmap Options' dialog using one of the methods described here.



Ribbon	Design > Diagram > Manage > Roadmap
Context Menu	In the diagram, right-click on the background | Roadmap

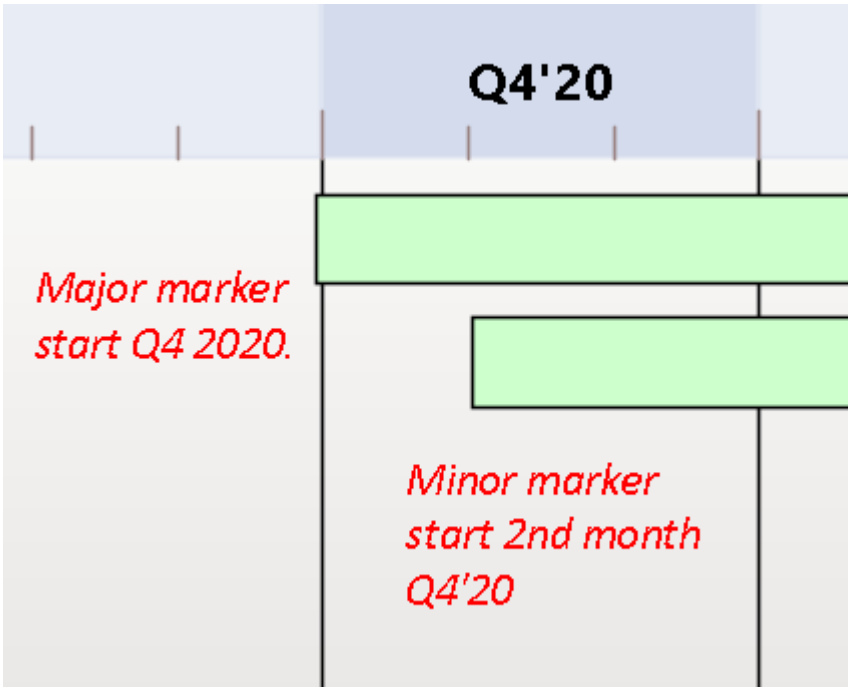
Setting up a Roadmap Diagram

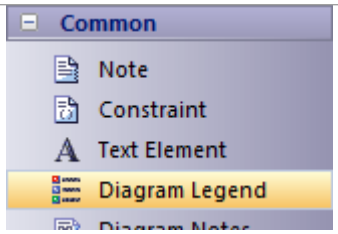
Starting with the 'Roadmap options' dialog, follow these steps to set up the Roadmap diagram. The fields are

described in greater detail in the *Roadmap Diagram Options* topic. This procedure includes using a Diagram Legend to automatically divide an element into phase segments in different colors. The steps lead you to create the diagram shown at the start of this topic.

Step	Action
1	Select the 'Enabled' checkbox, to enable the timeline on the diagram.
2	In the 'Roadmap Title' field, type a title for the diagram such as 'Product Lifecycle'. (The title is optional, and you can leave the field blank if you prefer.)
3	In the 'Units' field, click on the drop-down arrow and select 'Quarterly'. The major sections are displayed in alternating light/dark shades to make it easy to distinguish between adjacent sections. The 'Units' field offers a wide range of pre-defined units for the scale of the Timeline, and you can define your own customized units. You can also change the section display color using the 'Timeline color' field in the 'Timeline Appearance' panel.
4	Click on the 'Tick Spacing' slider and drag it left or right to scale the timeline to a size that is appropriate for your diagram.

5	In the 'Timeline Start' field, click on the drop-down arrow and click on the date on which the Roadmap Timeline is to start. (For the example, select October 10th 2020; the exact value doesn't matter, as long as it is within the quarter you want to start in.) The 'Timeline End' field is disabled for date unit scales (that is, years, quarterly, months and days).
6	Adjust the appearance settings: • In the 'Roadmap Position' field, select the 'Top' option to position the roadmap timeline headers at the top of the diagram • Drag the 'Timeline Height' slider about half way across the bar • In the 'Line Color' field click on the drop-down arrow and select a dark color such as charcoal • Select the 'Lines at major intervals' checkbox • Select the 'Use legend for phase colors' checkbox
7	Click on the OK button to save the settings and close the dialog.
8	In the Diagram Toolbox, switch to the Class pages and drag two Class elements onto the diagram. Give them the names 'Pluto 1' and 'Pluto 2'. Move and resize 'Pluto 1' so that its left edge is on the Q4'20 major marker line (the start of October

	2020), and its right edge is just under the second Q1'22 minor marker (the end of February 2022). Move and resize 'Pluto 2' so that its left edge is under the first Q4'20 minor marker (November 2020) and its right edge is under the first Q1'22 minor marker (the end of January 2022).  (Note: The diagram has been annotated to show the element positions; this text is not generated on the actual diagram.)
9	(This step is a 'placeholder' to show where in the process you add a Diagram Legend and roughly what you do. The actual procedures are in the linked Help topics in the 'See also' column.) From the 'Common' page of the Diagram Toolbox, drag a 'Diagram Legend' icon onto the diagram.

	 You will use this to add and format the phase segments on the two elements. Double-click on the Diagram Legend to display its 'Properties' dialog, and define how the Legend element itself will be displayed and how the phase segments will be applied. In the example, you will define these four phases: • Developing/Testing • Fully Supporting • Reduced Support • Beyond EOL For each phase, type the name in the 'Value' field, select a display color in the 'Fill color' field and click on the Save button to save the phase definition. Select the 'Apply auto color' and 'Apply Fill' checkboxes, and then click on the OK button to save the settings and close the dialog.
10	You now have two elements on the Timeline, each with four colored segments of equal length that represent the product lifecycle phases as indicated in the Diagram Legend. To set the duration of each phase, click on the dividing line between two phases and drag it to the

	appropriate point relative to the scale on the Timeline. You have now created a Roadmap diagram resembling the example shown at the start of this topic.

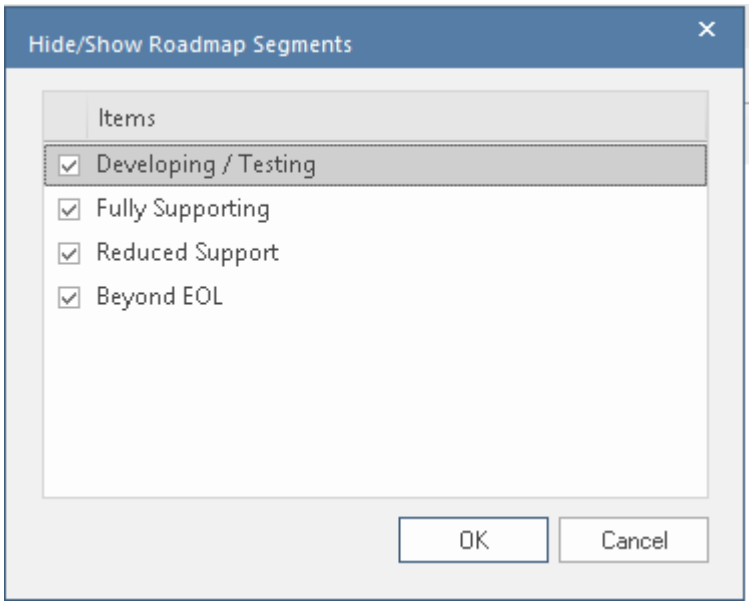
Hide and Show Segments

When you set up a Legend to apply segments to the elements on a Roadmap, every element on the Roadmap has all the defined segments. However, certain segments might not be relevant to particular elements, in which case you can hide those segments on those elements. Should a hidden segment be relevant to an element, you can show it.

A new element added to the diagram will show all the segments. However, if you add a new segment to an existing element, that segment is automatically hidden and - if it is to be displayed - should be set as described here.

To hide or redisplay segments on an element:

1. Right-click on the element and select the 'Hide/Show Roadmap Segments' option. The 'Hide/Show Roadmap Segments' dialog displays, listing the segments defined in the Legend. Each segment has a checkbox.



2. For each segment to show on the element, select the checkbox. For each segment to hide on the element, deselect the checkbox.
3. Click on the OK button. The selected segments on the element display on the diagram.

When a segment is hidden, the most directly-affected visible segment automatically occupies the space of the hidden segment. This is generally the segment immediately to the right (the chronologically later segment) except where the final segment in the element is hidden, when the segment to the left extends to fill the space. The overall length of the element does not change, and neither do the lengths of the remaining segments in the element; if they do need to be adjusted, drag the separator lines to the appropriate time line.

When a hidden segment is made visible, it occupies the first time unit of the next segment in the chronological sequence (or, if it has been added to the end of the element, the final time unit of the previous segment). Again, the total length of

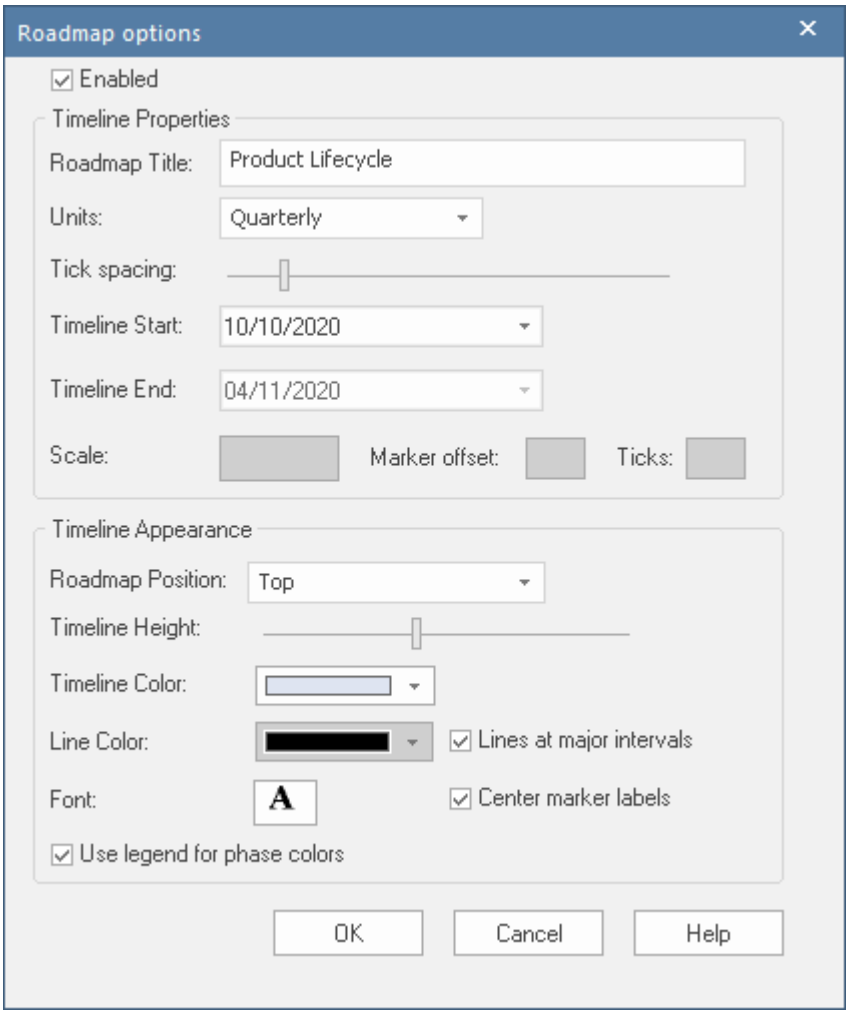
the element is not affected, not are the lengths of the other segments in the element. You can make manual adjustments to set the length of the new segment and any other segments that need to be adjusted to accommodate it.

Notes

- The Timeline and the text displayed on it are always shown, as you scroll the diagram up or down
- You can apply further grouping or categorization of the elements on the Roadmap, by defining horizontal Swimlanes for the diagram

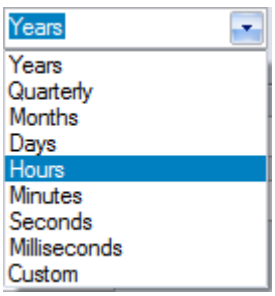
Roadmap Diagram Options

This topic describes each of the options available on the 'Roadmap options' dialog, which you use to define a Roadmap Timeline on a diagram. The process of creating a Roadmap diagram is described in the *Roadmap Diagrams* topic.



Roadmap Options

Option	Description

Enabled	Select this checkbox to show the Roadmap Timeline and associated features on the diagram. Clear the checkbox to hide the Roadmap on the diagram (which will hide Roadmap features derived from a Legend, but not element features applied by a Legend independent of the Roadmap).
Roadmap Title	Type in an appropriate name or title for the Roadmap, or leave blank if no title is required.
Units	Click on the drop-down arrow and select the appropriate unit of time for the Timeline.  You can also select 'Custom' and define your own scale of measurement; see *Setting up a Custom Scale* at the end of this topic. The selected unit is automatically identified in the top left corner of the Timeline, and the appropriate sequence of units displays along the width of the

	Timeline. Each standard time unit is automatically divided into the appropriate number of smaller divisions by separators (or 'ticks'); each Quarter is divided into three months, each year has twelve divisions, each day has 24 divisions, and so-on. To see some of the finer divisions (such as seconds in a minute) you might have to set the 'Tick spacing' slider to the left hand end, which minimizes the width of the labeled units so that you can see more of them on the screen.
Tick spacing	Click on the slider and drag it left or right to decrease or increase the width of the scale divisions in the Timeline. If you change this setting after positioning elements on the diagram, those elements are shortened or lengthened automatically to maintain their relationship to the scale divisions.
Timeline Start	If the 'Units' field is set to 'Years', 'Quarterly', 'Months' or 'Days', this field defaults to today's date. To change this either click on the section of the date and overtype it, or click on the drop-down arrow and select another date from the

	calendar. For smaller units of time and for the 'Custom' setting, the field is blank and you can set a start value. If you do not set a start value, the first marker on the diagram defaults to 0. The start date or value is shown as the label of the first major section on the Timeline.
Timeline End	If the 'Units' field is set to 'Years', 'Quarterly', 'Months' or 'Days', this field is disabled and the Timeline is indefinite. For smaller units of time and for the 'Custom' setting, the field is blank and you can set an end value. If you do not define an end value, the unit count increments up to the marker containing the right edge of the rightmost element. When an end value is defined and that end is reached, the timeline loops back to the 'Timeline Start' value. This allows the single timeline to be extended using the diagram width instead of the height, documenting a different set of elements against the same timeline.
Scale	This field is enabled when you select 'Custom' in the 'Units' field. Type in the

	appropriate scale unit; the value is displayed in the top left corner of the Timeline as the Unit. See *Setting up a Custom Scale* at the end of this topic.
Marker offset	This field is enabled when you select 'Custom' in the 'Units' field. Type in the number of units that each major segment of the scale represents. See *Setting up a Custom Scale* at the end of this topic.
Ticks	This field is enabled when you select 'Custom' in the 'Units' field. Type in the number of 'ticks' to subdivide each major segment of the Timeline. See *Setting up a Custom Scale* at the end of this topic.
Roadmap Position	Click on the drop-down arrow and select whether to show the Timeline at the top of the Diagram View or the bottom, or in both places. ('Top & Bottom' is particularly useful if your diagram fills the screen height.)
Timeline Height	Click on the slider and drag it to the left or right to decrease or increase the depth of the Timeline ribbon. The optimum depth keeps all the Timeline text separate and distinct without hiding too much of

	the diagram itself.
Timeline Color	Click on the drop-down arrow and select from the standard palette the color in which to display the Timeline. The display alternates between a lighter and darker shade of the color to help distinguish between the individual segments. This shading is less clear with dark or vibrant colors. If you want to select a color other than those in the standard palette, click on the More Colors button and select or define the required color.
Line Color	It is possible to display vertical guidelines to the diagram, issuing from the main segment boundaries (see the 'Lines at major intervals' option). Click on the drop-down arrow and select from the standard palette the color in which to display these lines. If you want to select a color other than those in the standard palette, click on the More Colors button and select or define the required color.
Font	Click on the **A** icon to display the 'Font' dialog, and select the font type, style,

	size, color and effects to apply to the text of the Timeline.
Lines at major intervals	Select the checkbox to display vertical lines across the diagram, to mark the major segments of the Timeline. Deselect the checkbox to hide the lines. On the example diagram, the lines separate the quarters and are shown in black.
Center marker labels	Select this checkbox to display the segment labels in the center of the segment. Clear the checkbox to display the segment labels straddling the left edge of the segment.
Use legend for phase colors	Select this checkbox to apply the roadmap notation of a bar divided into colored segments representing phases to all elements. This requires a legend with 'Apply auto color' enabled to exist on the diagram. Each property color you define in the Legend is represented by a color band in each element in the Roadmap. When you have set up the Legend and the Roadmap, resize the elements to span the appropriate number of unit segments that they map to. Within each element, drag

	the left and/or right boundary of each color segment so that they also span the number of unit segments that they align to, as illustrated in the example Roadmap.
OK	Click on this button to close the dialog and apply any changes you made to the settings.
Cancel	Click on this button to close the dialog and abort any changes you made to the settings.

Setting up a Custom Scale

A Custom scale gives you the ability to create a Roadmap diagram for a process that is not mapped against time, or to give a different scale to a unit of time. For example, you might want to show the consumption of raw materials in tons over several stages, or the progress of a step taking two minutes where the changes in flow are better mapped at 10 second intervals than at 1 second intervals.

To set up a Custom scale on a Roadmap diagram, set the fields on the 'Roadmap Options' dialog as described in the previous *Roadmap Options* table, but provide specific values for the fields described in this table.

Field	Action
Units	Click on the drop-down arrow and select 'Custom'. This setting enables the 'Scale', 'Marker offset' and 'Ticks' fields, and clears the 'Timeline Start' and 'Timeline End' fields for free-text input.
Timeline End	In the blank field, type the end, cut-off or target value for the scale. For example, a target revenue or a maximum cost, period or capacity. When an end value is defined and that end is reached, the timeline shows the 'Timeline Start' value again and increments from there. You can use this repeated scale to set up a different group of elements under the same timeline. If you do not define an end value, the unit count increments up to the marker containing the right edge of the rightmost element.
Scale	Type in the required unit of measurement, in numerals, text or both; you might specify, for example, units of distance, weight or monetary value, or a percentage. The value is displayed in the top left corner of the Timeline as the

	Unit.
Timeline Start	In the blank field, type the start value for the scale. For example, any wait period at the start of the process, or minimum balance or brought-forward balance for accounting scenarios. The Timeline then increments from that value. If you do not specify a value, the Timeline starts at 0.
Marker offset	Type in the number of units that each *major* segment of the scale represents. You set this value in combination with the 'Scale' field; you might, for example, set the scale to '$US 1000' and the offset to '1', or the scale to simply '$US' and the offset to '1000'. The offset can also represent the natural unit of progression, so if one output delivers two units you might set the offset to 2 and the scale reads '2, 4, 6, 8' and so on, or if the delivery is 3 units set an offset of 3 and the scale reads '3, 6, 9, 12' and so on.
Ticks	Type in the number of separators (or 'ticks') you want to display to subdivide each major segment of the Timeline. The number of ticks is 1 less than the number

	of subdivisions. For example, in the 'Year' unit there are 11 ticks giving 12 subdivisions, one for each month of the year.