BPS15 - Chart UI Usability Enhancements

Functional Specifications

Draft 1.9: Dec. 5, 2006

Abstract

This document lists a number of various enhancements of the chart builder UI in order to improve its usability

Document Revisions

Draft	Date	Primary Author(s)	Description of Changes
1.0	July 24, 2006	Yulin Wang	Initial draft
1.1	July 25, 2006	Yulin Wang	Updated some cases
1.2	July 27, 2006	Yulin Wang	Added case 2.9
1.3	July 31, 2006	Yulin Wang	Added case 2.10, 2.11
1.4	Aug. 2, 2006	Yulin Wang	Added case 2.12, 2.13
1.5	Aug. 22. 2006	Yulin Wang	Updated case 2.7
1.6	Sep.20, 2006	Nina Li	Added case 2.14
1.7	Sep 29, 2006	David Michonneau	Removed Future from Error reporting and legend interactivity. Added 2.12.3
1.8	Oct 19, 2006	David Michonneau	Removed #invalid message in 2.1
1.9	Dec 5. 2006	Nina Li	Added case 2.15 – 2.19
1.10	Dec 28, 2006	David Michonneau	Reorganized document

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1. Introduction

There are some usability issues in chart builder baffling users making full use of chart functionality. The goal of this specification is to solve those issues by enhancing or reorganizing the various components of the builder user interface. The key factors driving those changes are

- Expose commonly used settings up front, and hide the advanced ones.
- Change technical strings to user-friendly ones
- Improve general flow of the UI for typical use cases.
- Add functionalities to save time for the user
- Add more automatic behavior
- Re-organize components for a better task-oriented UI

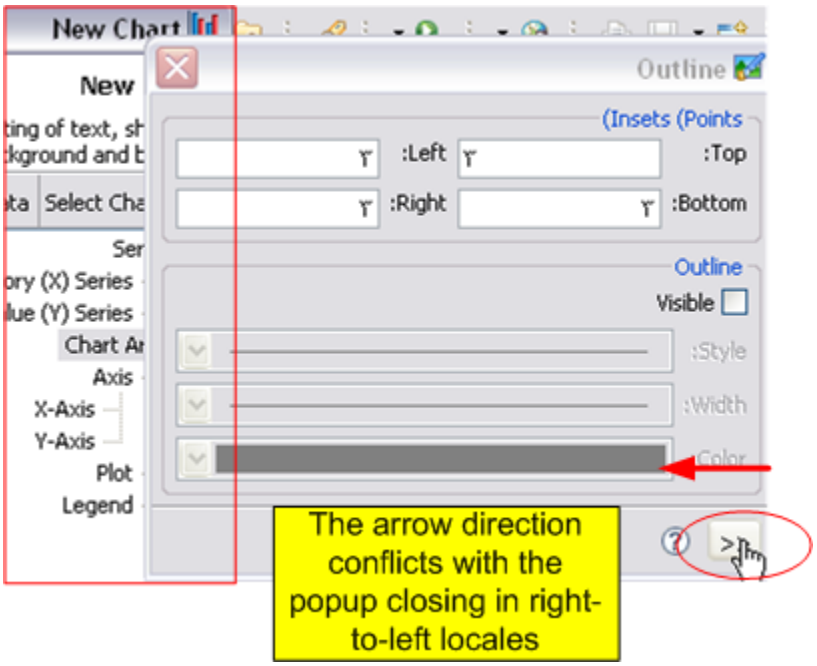
2. General improvements

2.1 Popup dialogs

Available in version: 2.2 M1

Description: Currently, the close button of popup dialog uses the arrow character. In right-to-left locale, these characters will be changed according to the direction, but they conflict with the real location of the dialog. It's better to use a static icon to replace the character.

Screenshot:

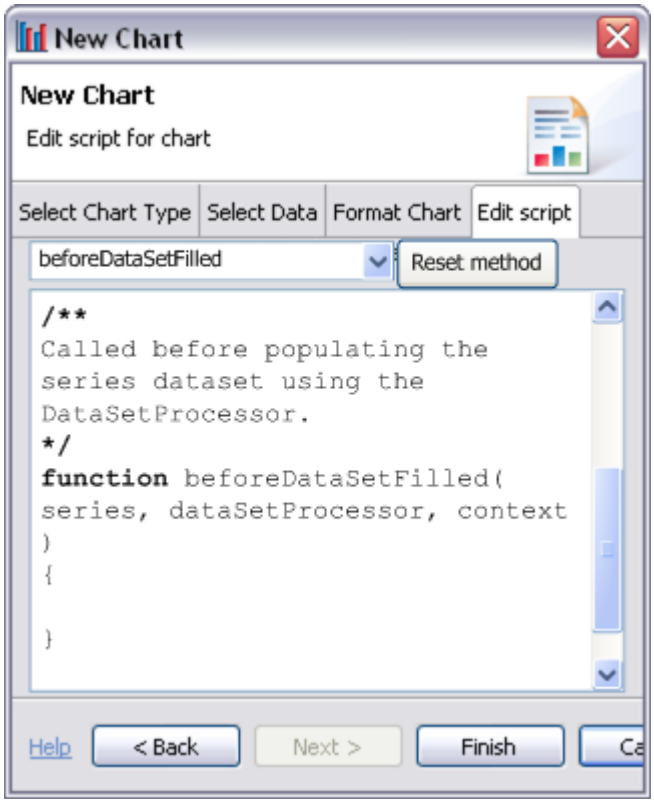


2.2 Script editor in chart builder

Available in version: Future

Description: Currently, users have to edit script outside the chart builder. Besides of inconvenience, if editing chart in standalone mode, users are unable to edit script for chart. It's supposed to add a script editor in chart builder. The script editor may provide such functionalities: highlight, code assistance…

Screenshot:



2.3 Saving temporarily in chart builder

Available in version: 2.2 M1

Description: Currently, chart model is only saved when finishing the chart builder. If users want to save some settings before further operations, they have to close the chart builder. Otherwise, if having some mistakes, they may lose all settings by canceling chart builder. Adding the "Apply" button to save chart temporarily can solve this issue. If pressing the "Apply" button, setting some chart attributes, and pressing "Cancel", chart builder will rollback the chart model to the last point pressing "Apply".

If current chart is not modified yet, "Apply" button will be disabled.

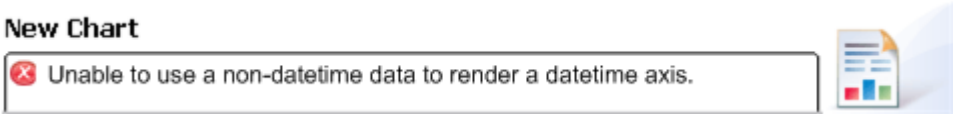
Screenshot:

2.4 New error reporting mechanism

Available in version: Future

Description: Adopting eclipse wizard framework to report error message in chart builder. When exception is thrown from chart engine or else, chart build will display the error message in the message area.

Screenshot:



3. "Select Chart Type" UI

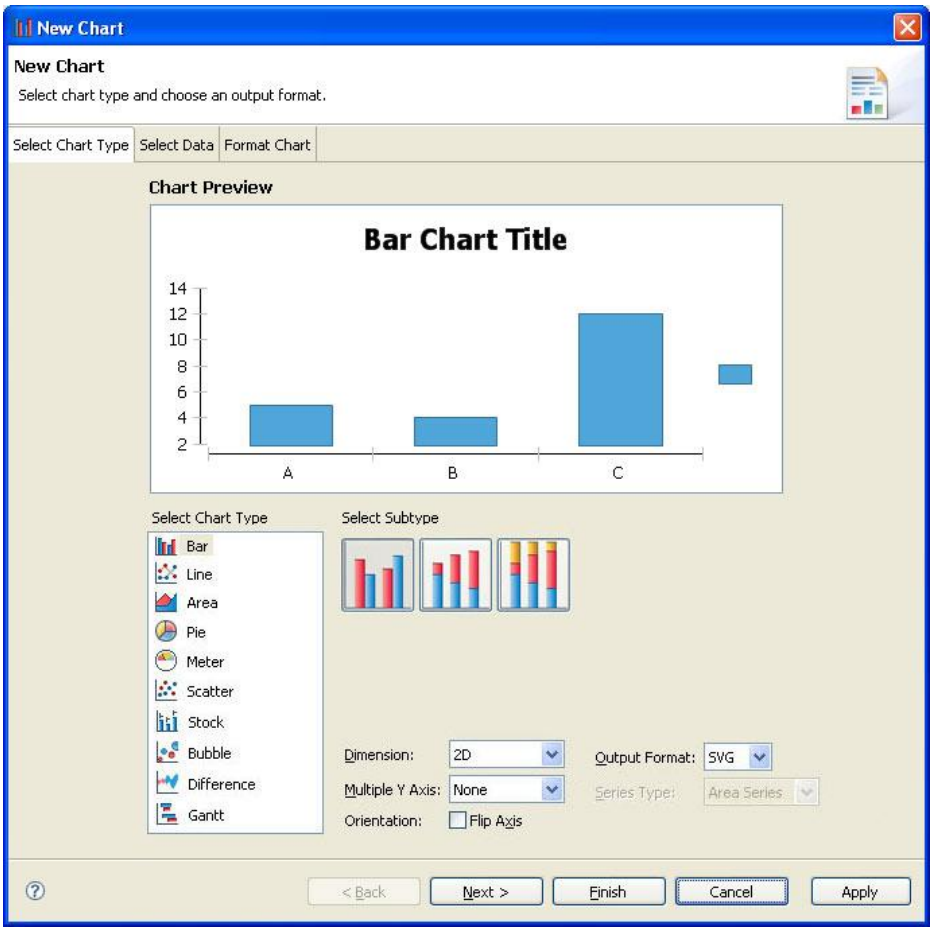
3.1 Re-organize Select Chart Type tab

Available in version: 2.2 M4

Description:

- Use the vertical aligned icon instead of the horizontal aligned icon to represent Bar Chart.
- The scrolling of 'Select Chart Type" should not be there. Move the dimension, multiple Y Axis dropdown boxes and orientation checkbox into right area in order to accommodate all the chart types without scrolling.
- Do not have to repeat 'Chart' in all chart types (Bar Chart, Line Chart etc). Just the type of chart is explanatory enough (Bar, Line, Area etc).
- Increase the vertical spaces between each chart type.

Screenshot:



4. "Select Data" UI

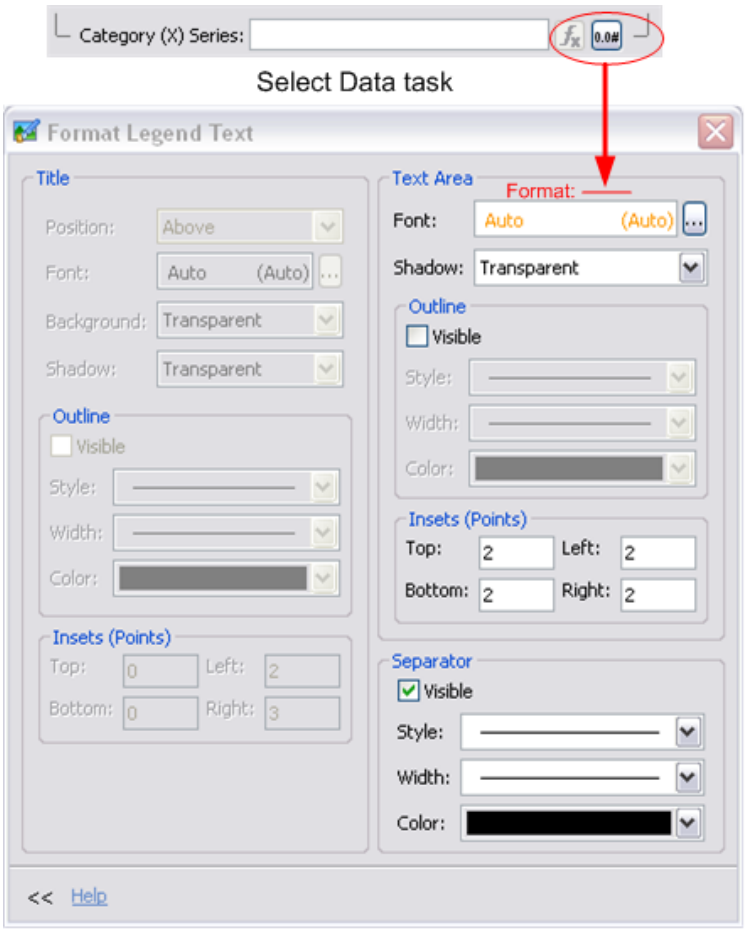
4.1 Add format specifier of base series

Available in version: 2.2 M1

Description: Format specifier of base series is applied to category values of Legend, so it's better to display it beside Legend text area.

Please note that this attribute is only available when users have set "color by" as "categories" in Series subtask. It will be disabled if the format specifier is invalid.

Screenshot:



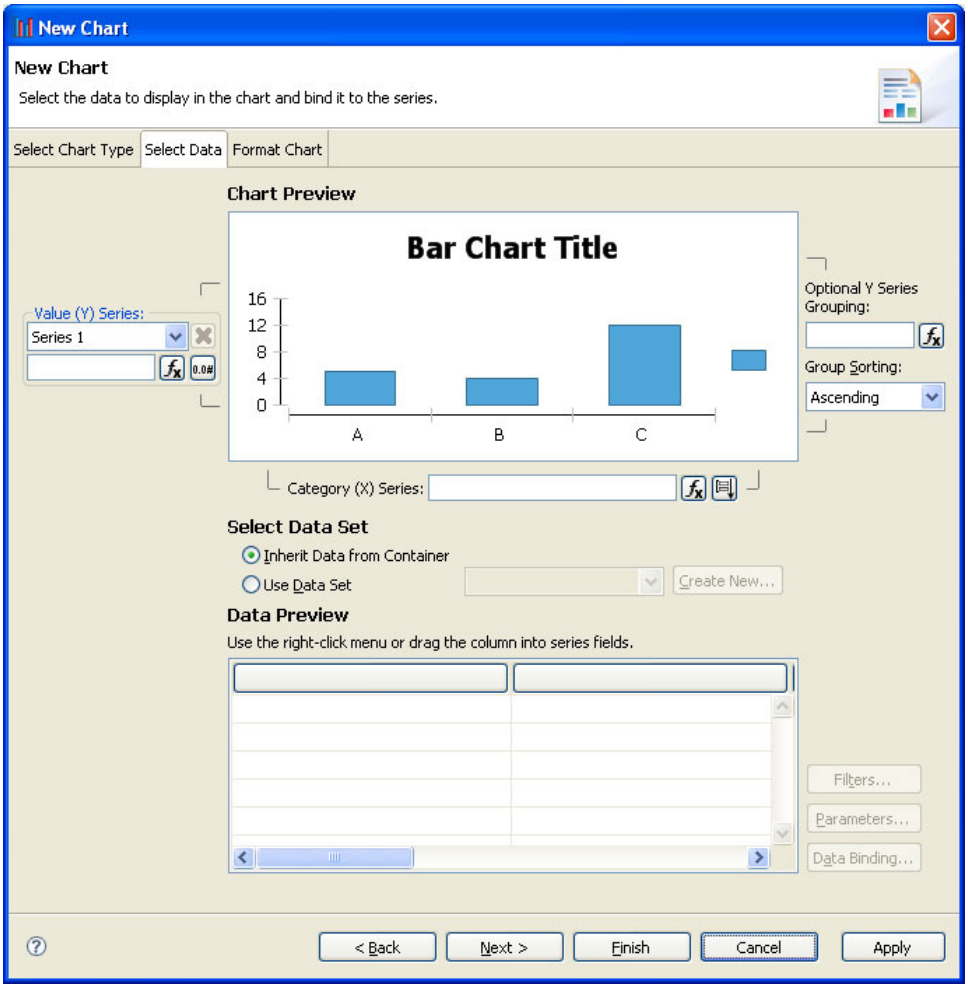
Text Format of Legend subtask

4.2 Data Preview

Available in version: 2.2 M4

Description: Move the instructions regarding Binding the data column below the Title 'Data Preview' and reduce the length of the description. It makes more sense for the user to read the instructions beforehand than struggling/ not knowing that the columns can be dragged and dropped to take effect.

Screenshot:

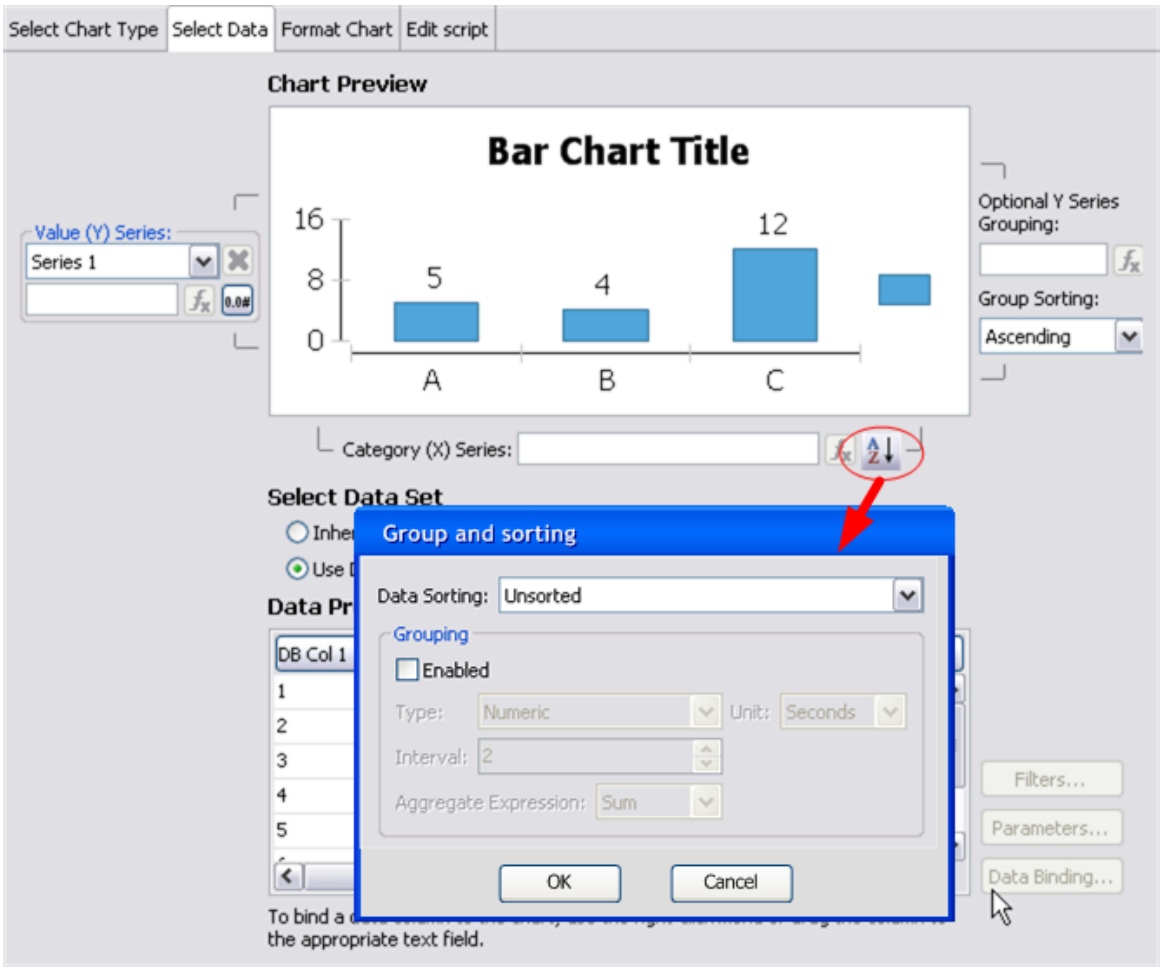


4.3 Grouping

Available in version: 2.2 M1

Description: Group and sorting are date related. Better to display it in “Select Data” task. (Replaced button of format specifier is moved to being beside Legend text area. Please see it in 2.4.2)

Screenshot:



5. "Format Chart" UI

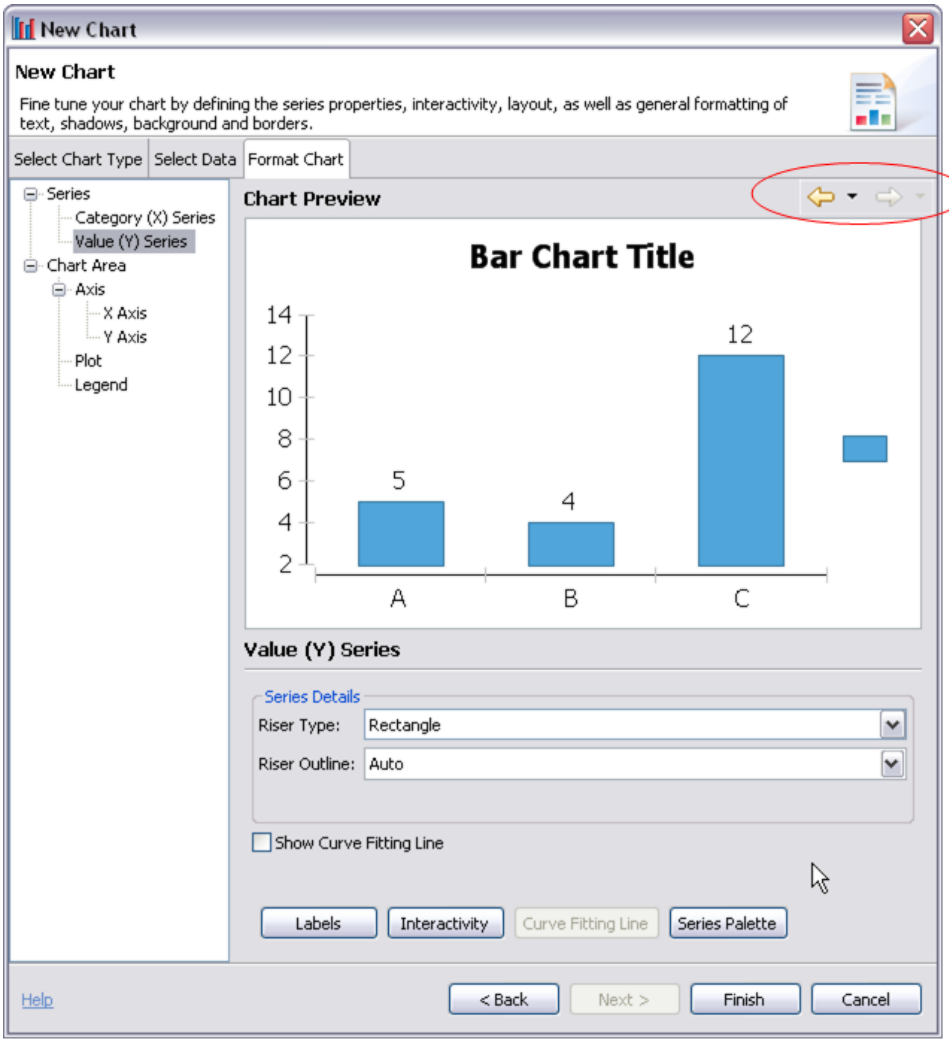
5.1 Navigation bars for subtasks

Available in version: 2.2 M1

Description: Add a navigation bar for the subtasks in format chart tab. The navigation bar includes two buttons with drop-down list for moving forward or backward the subtask selection separately. If clicking the arrow-down button of the bar, user can see the history list of the subtask selection.

If some history entries are out of date (e.g. Axis subtask won't exist in pie chart), they will not be displayed.

Screenshot:



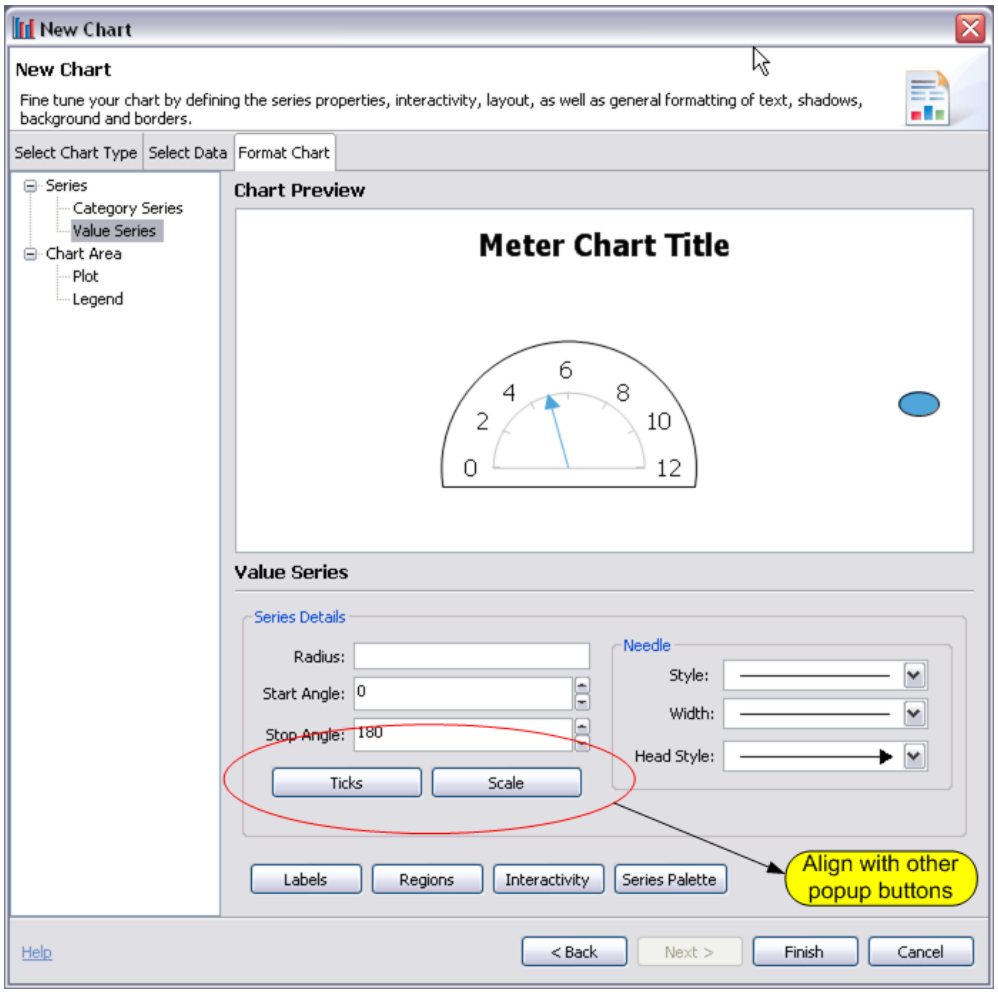
5.2 Meter series

Available in version: 2.2 M1

Description: Move “ticks” and “scale” buttons into popup buttons bar, and make the dialogs act as other modeless pop-ups as well.

Besides, move "minor grid count" from scale sheet to ticks sheet, since it's related with minor ticks.

Screenshot:



5.3 Interactivity dialog

5.3.1 Auto saving for interactivity settings

Available in version: 2.2 M1

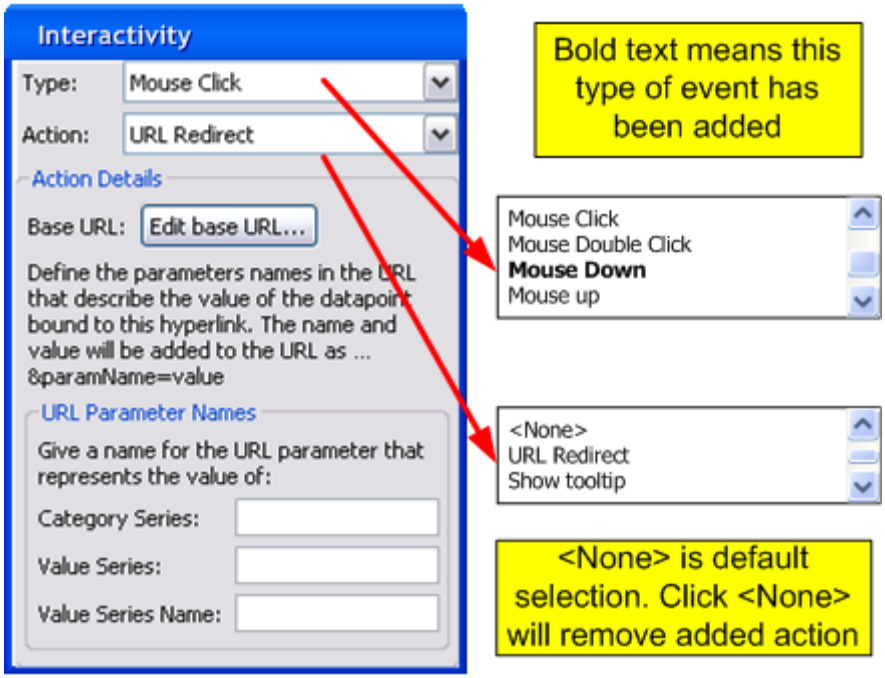
Description: Currently, users have to click “update” button to update interactivity settings. Users usually forget to click this so that they will lose the change. In V2.2, all settings in interactivity dialog will be saved automatically once they are changed.

5.3.2 Prevent adding several actions on the same event

Available in version: 2.2 M1

Description: Currently, several actions on the same event are not supported in chart engine, so if users added one interactivity action and selected a event of the same type, Add button will be disabled.

Screenshot:

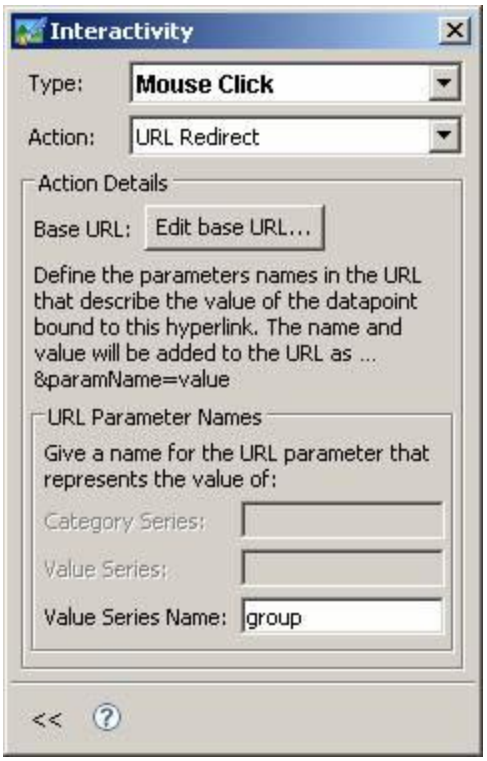


5.3.3 Legend Interactivity URL Parameter

Available in version: Future

Description: Enable the SeriesValue parameter particularly for legend interactivity, for when rendering the legend entry, it will know which series it belongs to. So the user can access this value via url parameter. The change only affects the legend interactivity.

Screenshot:

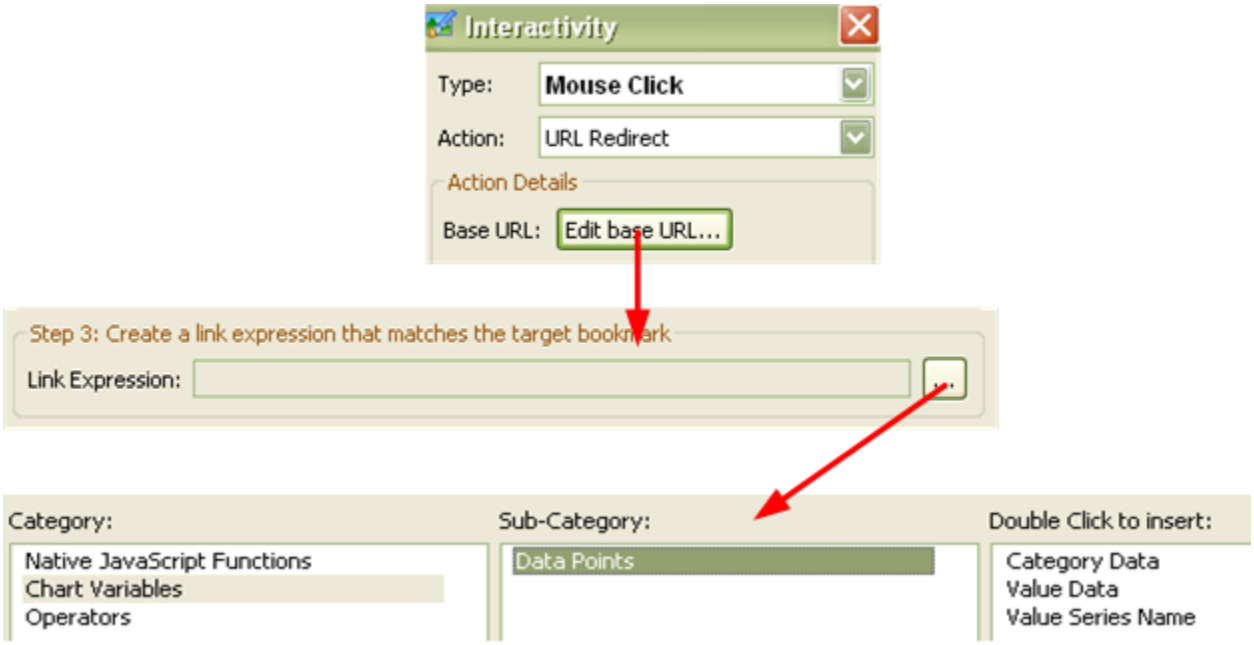


5.3.4 Access chart variables for Hyperlink expressions

Available in version: Future

Description: When editing base URL in URL redirect action of interactivity dialog, it's hard to input an expression with chart variables. Enhance the expression builder inside hyperlink builder by adding the category "chart variables" in it.

Screenshot:

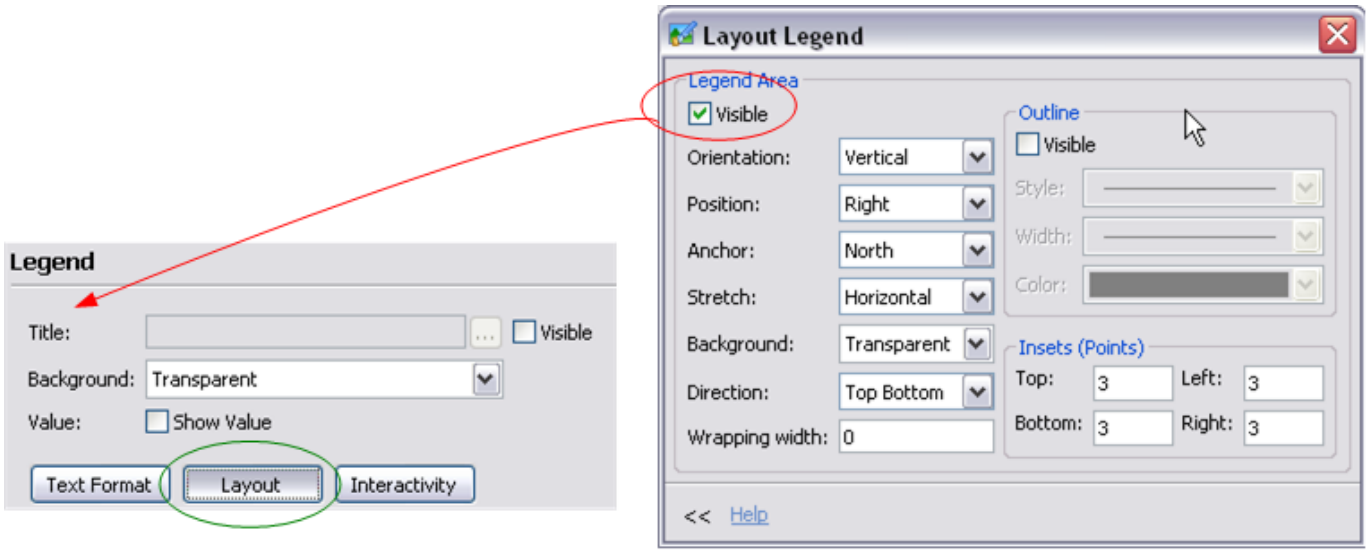


5.4 Easy to hide Legend block

Available in version: 2.2 M1

Description: As a common block, Legend is supposed to hide/display easily. It's better to display the checkbox for Legend visibility in the Legend subtask.

Screenshot:



5.5 Axis title/label

5.5.1 Easy to make Axis title visible

Available in version: 2.2 M1

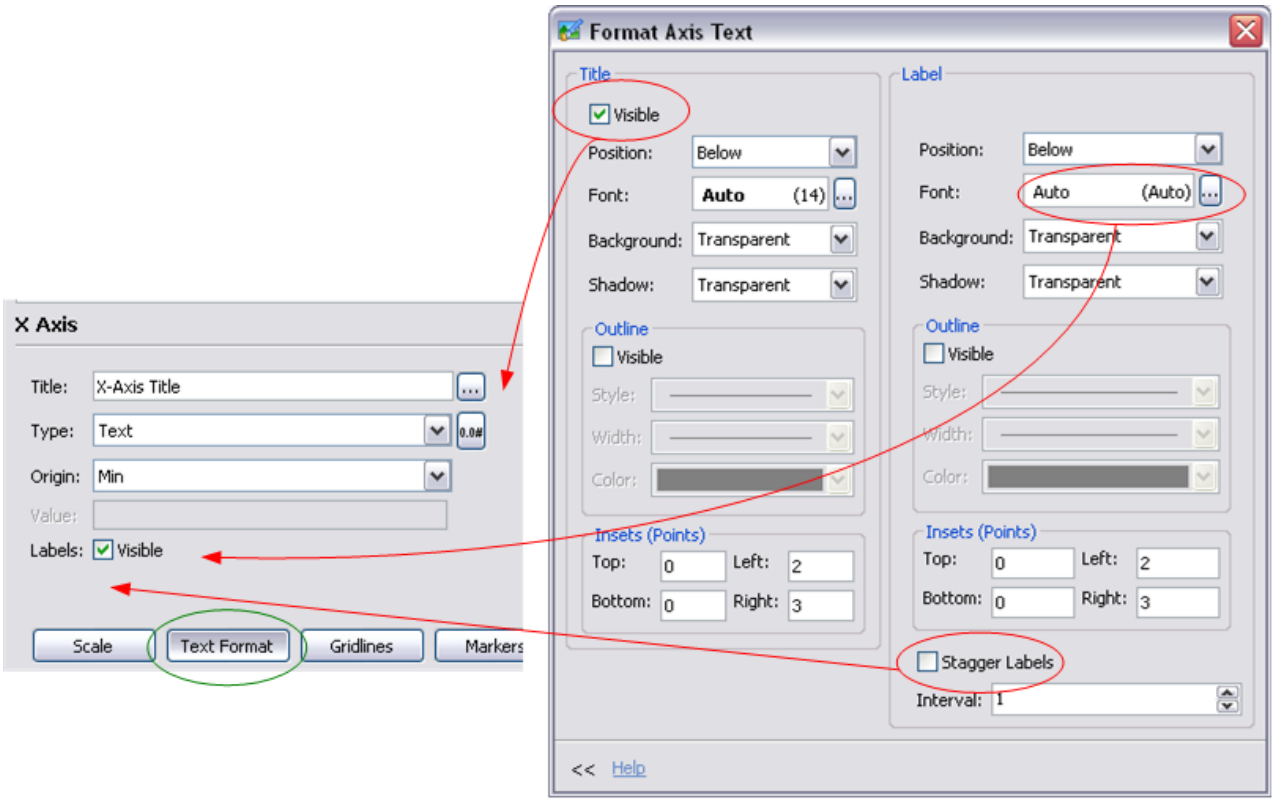
Description: In X/Y/Z axis subtask, Axis Title is invisible by default, so the change to Title text is not obvious in chart preview. It's better to display the checkbox for Axis Title visibility in X/Y/Z axis subtask. If Axis Title is invisible, Title text will be disabled.

5.5.2 Easy to rotate/stagger Axis label

Available in version: 2.2 M1

Description: Move font button of Axis Label and stagger checkbox from popup to Axis subtask.

Screenshot :

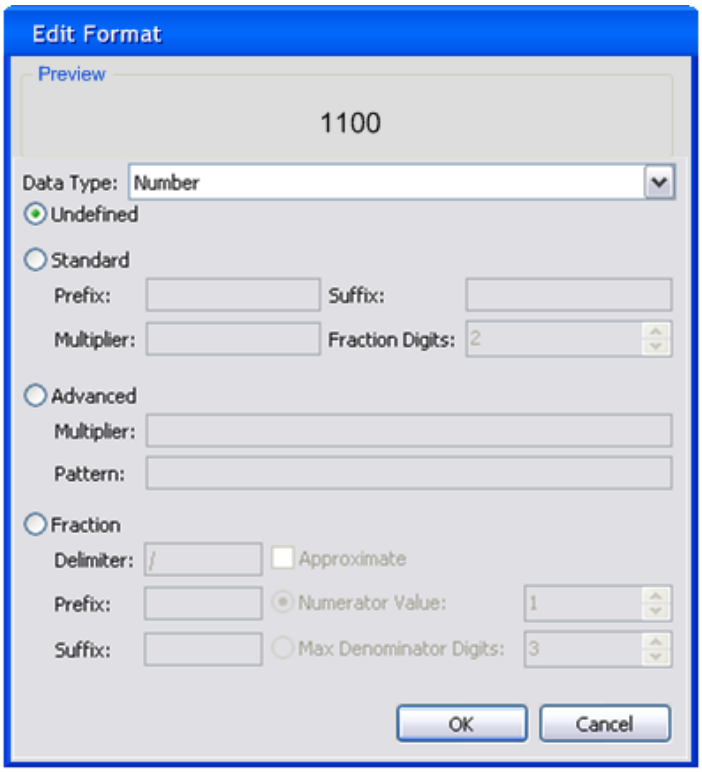


5.6 Support of format preview

Available in version: 2.2 M1

Description: Preview current format setting when users are editing.

Screenshot:



5.7 Axis types

5.7.1 Consistency of Format data type with Axis type

Available in version: 2.2 M1

Description: Main idea is to add constraints of Format data type to force keeping the data type consistent with Axis type. “Data type” combo in format specifier dialog only contains supported type items according to following support matrix.

Format type \ Axis type	Linear/ Logarithmic	Datetime	Text
Number	√	×	×
Date/Time	×	√	×
String(future)	×	×	√

Additionally, if users selected different axis type after updating format specifier, the former format attributes of axis will be cleaned, as well as the format attributes of Marker Line/Marker Range of current axis.

5.7.2 Removing unsupported choices in Y axis

Available in version: 2.2 M1

Description: Text axis type will never be supported in Y axis, so remove this choice.

5.7.3 Automatic Axis type selection

Available in version: 2.2 M1

Description: When an expression is bound to a Series, the Axis type will automatically change to fit the expression value type. This applies to both X and Y Axes and also takes the grouping aggregate function into account.

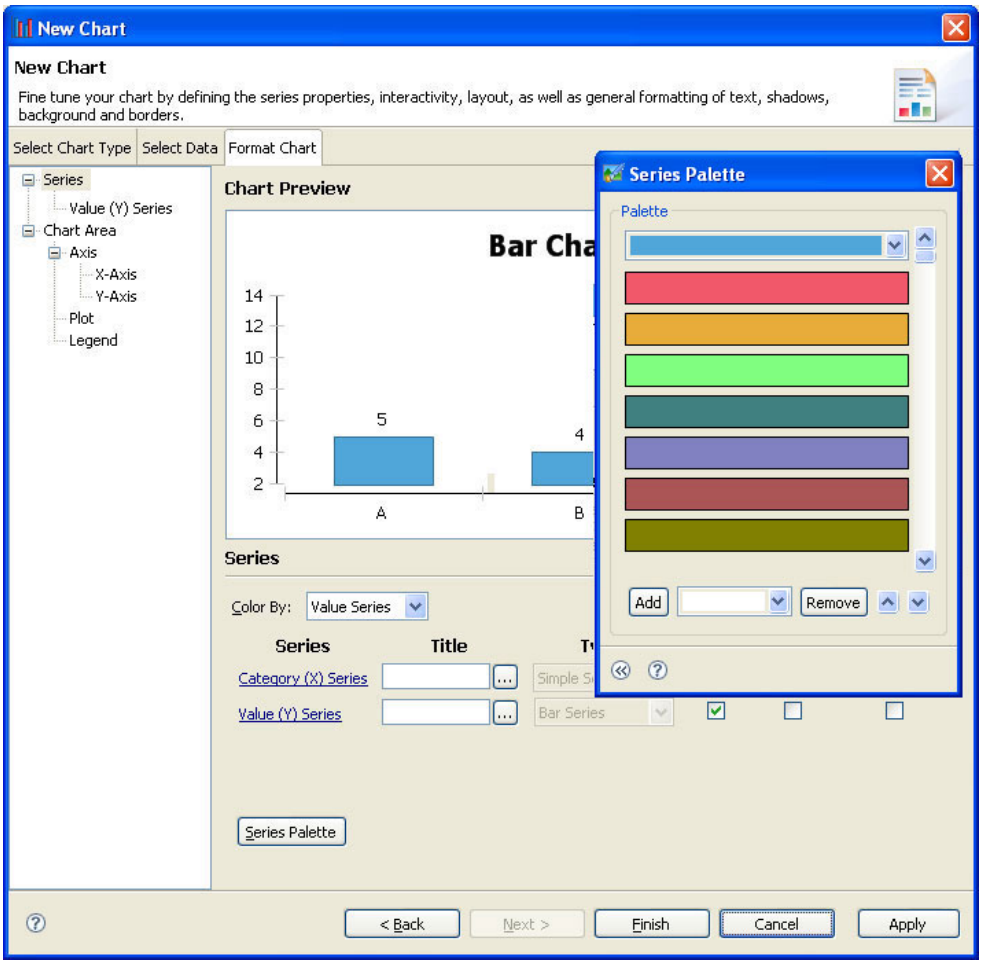
5.8 Series Palette

Available in version: 2.2 M4

Description: The current UI has the option changing palette colors, Category series and Value series. Move the series palette button to the main 'Series' pane. Hide the internal logic to place only a dialog in the Series sheet where user can change the series colors.

Delete Category (X) Series sheet from the tree, because there is nothing in the sheet after the "Series Palette" button is removed.

Screenshot:

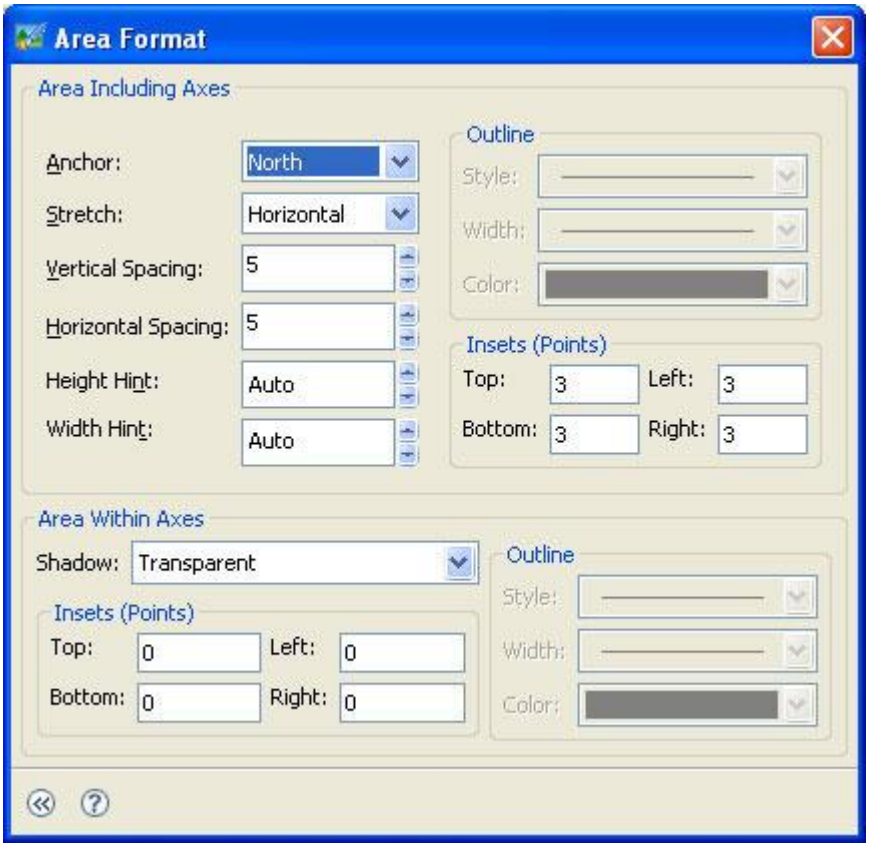


5.9 Area Format popup sheet

Available in version: 2.2 M4

Description: Use the up and down arrow to control ‘Height Hint’ and ‘Width Hint’ values, and Set the default value as “Auto” instead of “-1”

Screenshot:



5.10 Title Format popup sheet

Available in version: 2.2 M4

Description: The 'Anchor' field should have the options of placement as Top, Top-left, Top-Right, Bottom, Bottom-Left etc. instead of north South etc. It is easy to understand top, bottom than north, south.

Screenshot:

Title Format
Title Area
Anchor:
Top
Stretch:
Horizontal
Background:
Transparent
Outline
Visible
Style:
Width:
Color:
Insets (Points)
Top:
3
Left:
3
Bottom:
3
Right:
3
Text
Font:
Auto
(16)
Background:
Transparent
Shadow:
Transparent
Outline
Visible
Style:
Width:
Color:
Insets (Points)
Top:
0
Left:
2
Bottom:
0
Right:
3