Report Composer Version 6.0

What's New

Canam Software

Contents

Introduction to Version 6.0

Introduction

Canam Software is pleased to announce the availability of Report Composer Version 6.0 as of **September 1, 2004**. There are many, many improvements in version 6, but perhaps the most dramatic change is the new report designer for plain text and graphical reports. The new designer looks dramatically different, and includes extensive new features for building sophisticated graphical reports in C, COBOL and Java languages.

All of your existing Report Composer repositories will be automatically converted to the version 6.0 schema and to the Jet 4.0 database engine format when you first use them. There is no need for a separate conversion utility to convert your version 5 repositories.

This document has been prepared to introduce you to the new features of Version 6.0. The following sections will describe the many new features. Report Composer Version 6.0 is available as a free upgrade (not including Crystal Reports software) to all licensed customers of Report Composer with fully paid maintenance fees. Please contact us or your local distributor to receive your new CD-ROM containing the upgrade. Upgrade requests may be made directly via our web site at www.canamsoftware.com.

User Manual

As with the release of previous versions, a ***printed*** user manual will not be provided. Instead, the full user manual will be shipped as a Microsoft Word document on the CD-ROM. Licensed users are free to print or make available to their developers on networks or workstations all or part of this document as they see fit. Our online help and the manual contents match, they are both generated from the same source material. This paperless approach to documentation enables us to keep the materials up to date and available via our web site.

Customer Communications & Support

Many of you have recently received our Canam Software e-Newsletter. We will continue to publish this e-newsletter periodically. It will contain information about the many features and improvements that we continually put into all of our products. These e-Newsletters are posted on our web site (www.Canamsoftware.com) for future reference. In addition, levelset history for all currently supported versions of Report Composer is available on the Report Composer pages of the web site.

If you have any questions of a general nature, or require technical support, please contact us via email at support@canamsoftware.com, or by telephone at 1-905-712-3840.

Terminology Changes

There are a few key terminology changes you should be aware of as you continue to read this document, and as you work with Report Composer Version 6. We formerly referred to reports designed with Crystal as "GUI" reports – in Version 6 we refer to them as "Crystal" reports. We formerly referred to reports built with the Canam report designer as "block mode" reports, and web reports as block mode reports with markup. We now refer to them as "Canam" reports, which come in two types: plain text or graphical.

Unless otherwise mentioned in the text, all references to AllFusion Gen apply equally to earlier versions of Advantage Gen.

Conversion from Previous Versions

Converting from earlier versions to 6.0

Installation

All of the components, including the runtime components (Canamvu32 and Canamcr232) have been upgraded, and modules other than runtime support modules have been renamed so as to clearly differentiate them from the v5 versions. The key Report Composer components are listed below

RC50.EXE becomes **RC60.EXE**

CANAMVU32.EXE retains the same name

CANAMCR132.EXE is now obsolete – its functions are now part of the generated EAB code

CANAMCR232.EXE retains the same name

RC50RM.EXE becomes **RC60RM.EXE**

RC50UT.EXE is now obsolete – its functions are now part of the main workstation tool

RC50.MDB becomes **RC60.MDB**

RC50RP.MDB becomes **RC60RP.MDB**

In addition, many supporting DLL's and OCX's have also changed. Make sure to follow the installation provided on the CD.

We recommend that you install Report Composer v6.0 into the same directory as you currently have version 5. The installation process will install a new local repository (RC60.MDB). The first time Report Composer 6 is executed, if it finds an existing local v5 repository (RC50.MDB) in the target directory it will ask you if you want to convert it to version 6. The version 6 repository is a JET4 Microsoft Access compatible database. **Note: Your existing version 5 repository will not be affected.**

If your RC50 database is in a different directory than your application, you can select it by clicking on the browse button on the Logon window. You will be able to select any local repository from this window, be it version 5 (RC50.MDB) or version 6 (RC60.MDB)

The installation process will allow you to repeat the same procedure for Canam's Repository Manager software. When you open a version 5 shared repository with Repository Manager 6.0, you will be given the option to convert the shared repository to Version 6.0 Jet 4.0 database engine format. The conversion process creates a new version 6.0 shared repository (RC60RP.MDB) without affecting your existing version 5 shared repository (RC50RP.MDB).

Note: Once a repository (local or shared) has been converted to v6.0 format, it cannot be used by any Report Composer v5 program.

The version 6.0 installation process will also place DLL's, OCX's and some other supporting files into your Windows\System or WinNT\System32 directory as required. It will not replace a component if a newer version already exists on your workstation.

Conversion of Crystal Reports

With this new version of Report Composer, we no longer distribute any version of Crystal Reports as a no-charge part of our product. We do however sell Crystal 10 single user copies or site licenses for use with Report Composer at an extra charge. You must contact our sales department to make arrangements to get this software directly from Canam Software. Alternatively, we will support version 8.5, 9 and 10 of Crystal Reports that you provide yourself, running as stand-alone licenses.

Our runtime environment will continue to run any existing Crystal 7 reports you may have, but you will not be able to perform version control or build new Crystal 7 reports with Report Composer version 6. If you need to continue using Crystal Reports with Report Composer, there are four alternatives:

- Continue to maintain these EAB definitions with Report Composer 5 and Crystal Reports 7 for Report Composer
- Redesign these reports using the new Report Composer 6 Canam graphical reports
- Purchase Crystal 10 licenses from Canam Software and convert your Crystal 7 reports to Crystal 10
- Use Crystal 8.5, 9, or 10 licenses you have acquired from somewhere other than Canam Software and convert your Crystal 7 reports to that version

Please contact us for further information on Crystal licensing.

Runtime Considerations

You will be able to run Report Composer v5 EAB's on the same workstation as V6.0 EAB's. There is no need to convert all of your existing EAB's. Version 5 EAB's will invoke the V5 runtime components or backward compatible version 6 components, and version 6.0 EAB's will invoke the v6.0 runtime components.

Comment: There will only be one copy of canamvu32 or canamcr232 on the machine. The new v6 versions of these components are backwardly to version 5 EAB's but the v5 versions of these components are NOT forwardly compatible with version 6 EAB's

Conversion of Web Reports

Version 5 web reports were implemented using pre-tags and post-tags. In Report Composer version 6, the markups have been implemented as properties of each report object. Since users are free to modify these tags as they see fit there is no algorithmic mechanism by which the pre-tags and post-tags from version 5 can be converted to version 6 report object properties. Hence all existing markup strings are converted as pre-tags and post-tags for each field. The effect on the appearance of the report however, will remain the same.

It is recommended that users review each of their marked up web reports after the conversion and manually convert the pre-tags and post-tags to actual Report Composer report object properties. This will ensure the integrity of their report design going forward.

New Report Designer

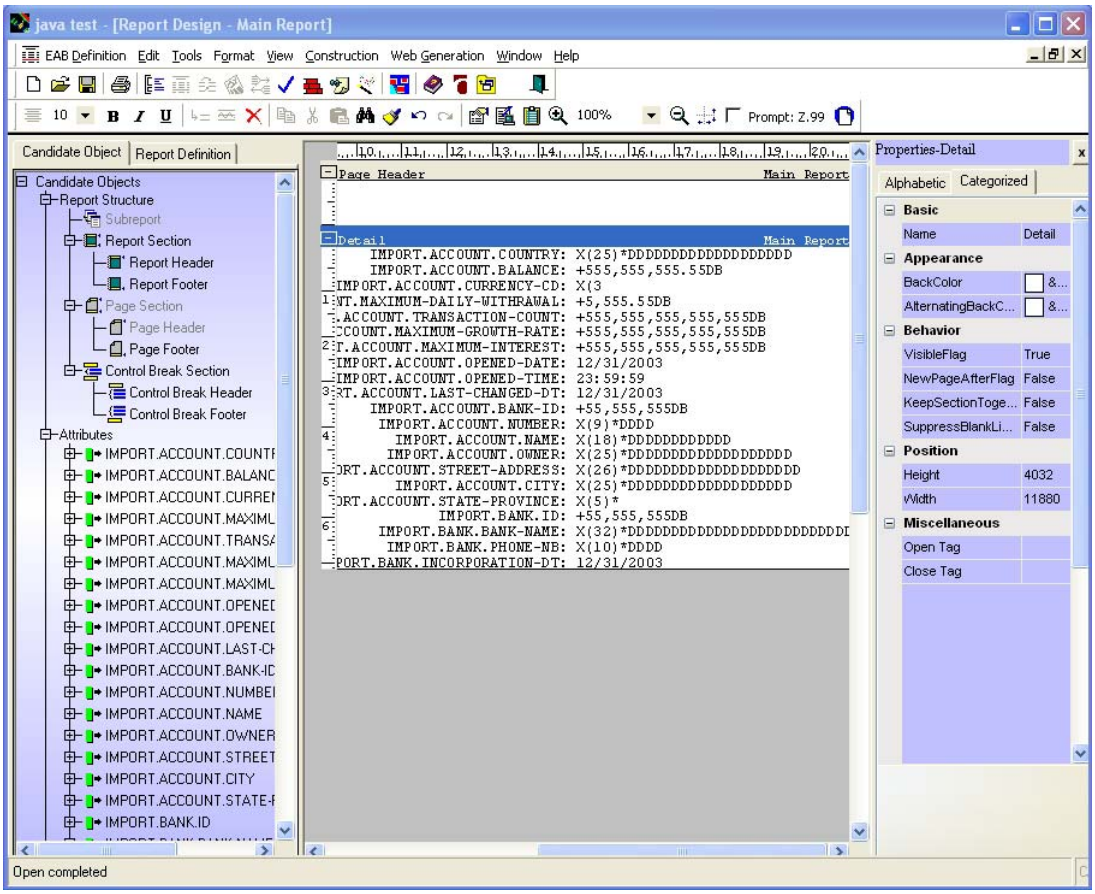
Report Designer Overview

The Report Composer version 5 block mode report designer, and the additional web report designer, have been combined into a single state-of-the-art report design tool with an extensive list of improvements and new capabilities. The new integrated designer has been re-invented from the ground up, eliminating the need to go to a second designer tool for the addition of graphical elements to plain text (block mode) reports. The report designer operates in two modes: plain text and graphical. A quick mouse-click switches you back and forth between the two modes, and the underlying report objects are the same. In plain text mode, graphical objects and properties are simply not visible, although they are still there as part of the design. When you generate code, you choose whether to generate code for the plain text or graphical version of the report.

The new designer is completely graphical, and the window is divided into three smaller windows:

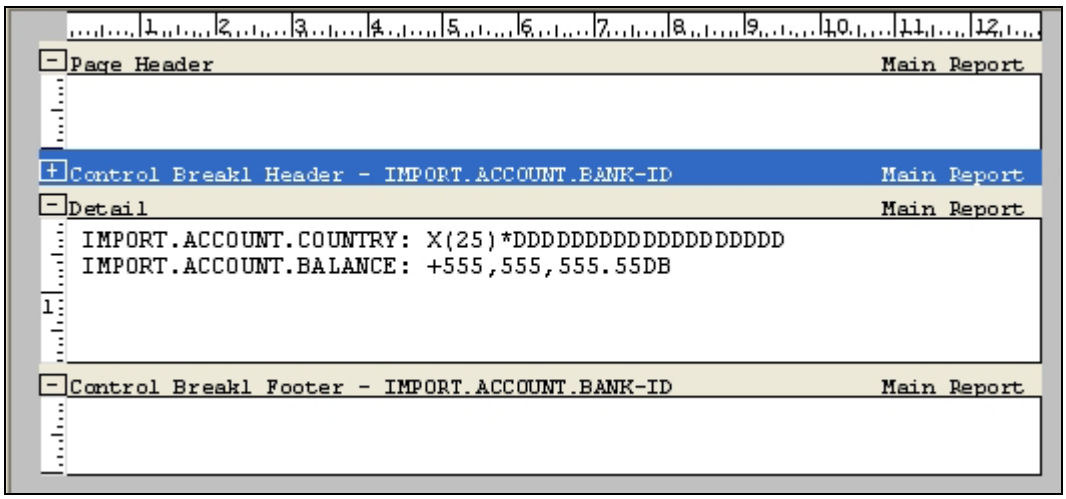
- Candidate object tree and report definition tree window on the left (switch between them using a tab at the top of the pane)
- The design window in the middle
- The property sheet window on the right

These three areas can be resized with the mouse by dragging the vertical bar separating them. The property window can be closed completely, or made to hide and automatically re-appear when the mouse hovers over the right edge of the window.



The new candidate object tree window is used as a toolbox for all sections and objects used to design a report. Each section or object of the reports has properties set easily in a property window, similar to the style of Visual Basic. The report designer has complete undo and redo support, making it much easier to use. Extensive new support for vertical and horizontal alignment, object sizing and automatic spacing has been added. An optional underlying alignment grid, plus optional horizontal and vertical rulers, are customizable, along with optional alignment bars while moving objects. A new ability to zoom in and out enables fine adjustments to object placement in the design window.

Sections in the design window are separate areas, and show the section name and sub-report name they belong to (see figure below). Control break headers and footers show the names of breaking attributes, where space permits. Any section can be collapse to hide it from view, using the minus sign in the top left corner of the section. Clicking the plus sign in the same place will expand it again.



A new tree view, called the report definition tree, shows the report's sections and objects. It allows easy copying, pasting and deleting of one or more objects between report sections and even different sub-reports.

Many objects are available to be placed on graphical reports for the web, including customizable html tables, boxes and horizontal/vertical lines, checkboxes and radio buttons, hyperlinks and images. Images can be set at design time, or a path to the image can be provided at runtime from a text attribute in your AllFusion Gen application.

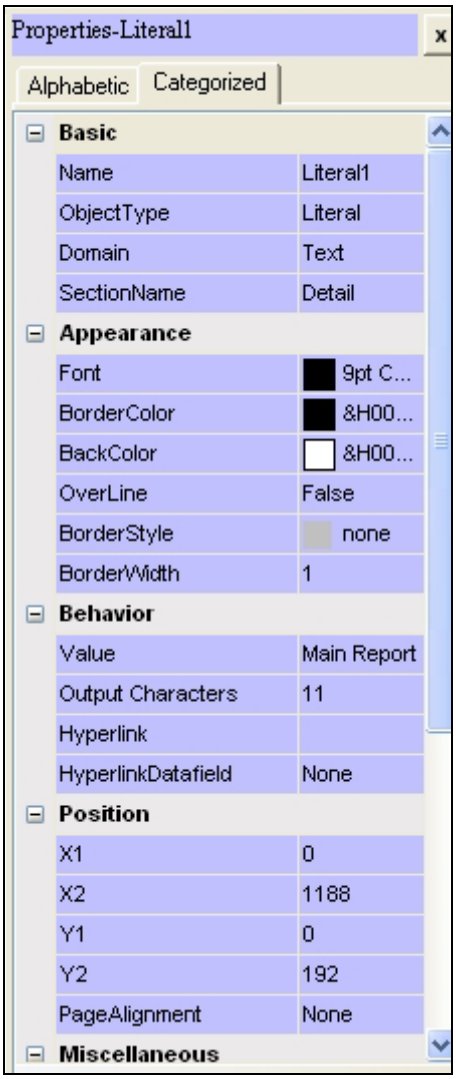
Since graphical reports are viewed in a browser, images and literals can have hyperlinks, set either at design time or dynamically at runtime from a text attribute in your AllFusion Gen application. Graphical reports rendered in Java ('web' reports) can also have charts, as well as developer-defined formula fields with an extensive scripting language and convenient pre-defined functions.

Extensive graphical formatting properties are available, including background color, font (including typeface, point size, strikethrough, underline, bold, italics, and overline), borders, border style, color and width. A new format painter tool enables you to pick up properties from one object and instantly apply them to another object.

Property Sheet

Properties for report sections and objects are now viewed and set on a new property sheet (see sample below), similar to that found in Microsoft Visual Studio, eliminating tedious dialog with the developer. Properties of objects are easily viewed and set at any time. By default the property sheet is displayed with the properties organized into convenient categories, but there is also an option to list

them in alphabetic order if desired. When displayed by category, the details of each category can be contracted or expanded if desired.



When more than one object is selected in the design window, the property sheet will be adjusted to show only those properties that are common to all the selected objects. Common properties that are editable can then be changed easily for all the selected objects at once.

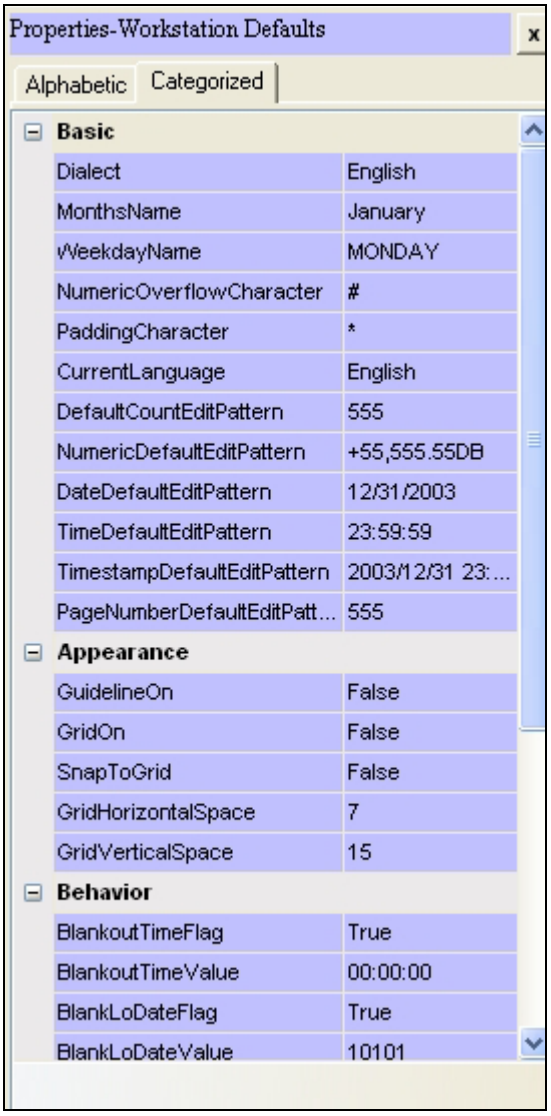
The property sheet can be hidden completely to make more room in the design window – redisplay the property sheet by clicking the icon on the toolbar or the Properties menu item on the View menu. You can also set it to hide and appear

automatically by setting the AutohidPropertyWindow property to true in the workstation defaults property sheet.

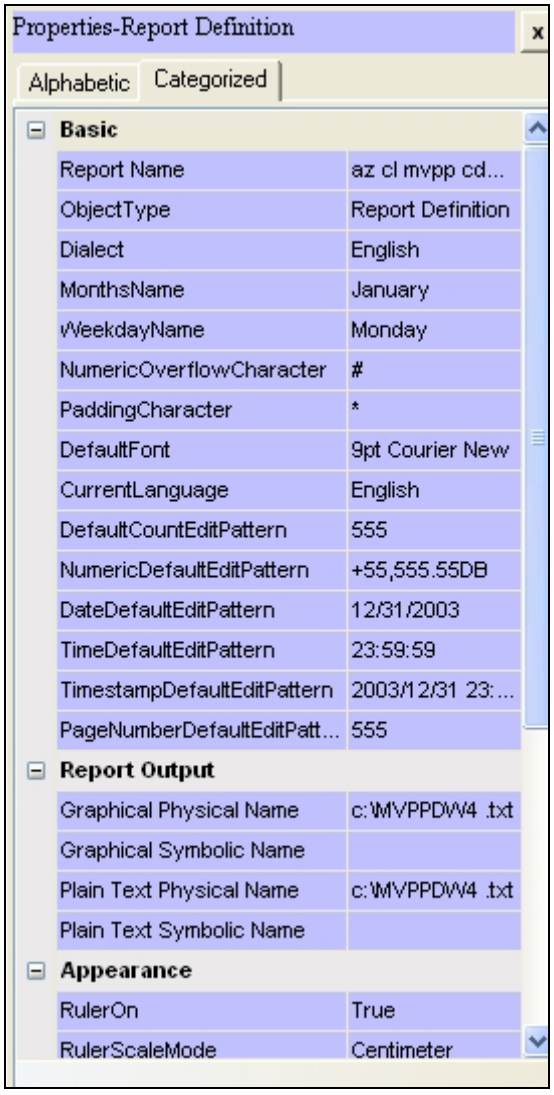
Workstation Defaults, Report Definition Defaults Property Sheets

Many defaults for the report designer are stored at the workstation level – too many to display in the general Report Composer Options window. A special property sheet exists to view and edit them. Also, each report definition has its own defaults at the report level. These are initialized from the workstation defaults when a new report definition is created. The report definition property sheet is used to view and edit them. The two special property sheets can be accessed from icons on the toolbar (see figure below).

The workstation property sheet is partially illustrated below.

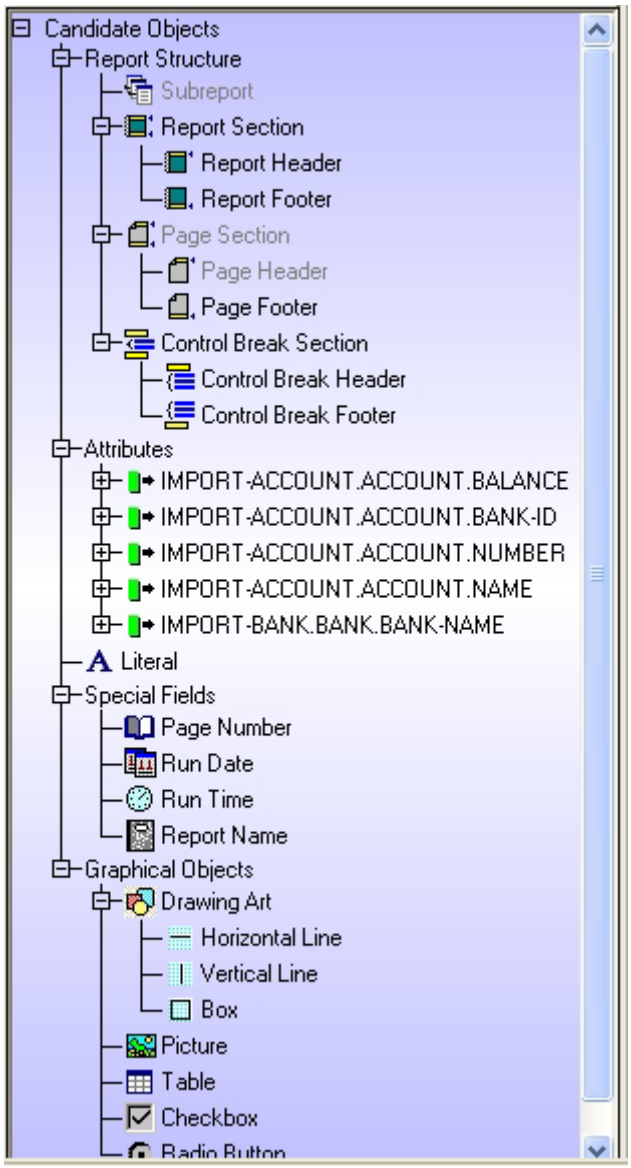


The report definition property sheet is partially illustrated below:



Candidate Object Tree

All the building blocks that are used to design a report are provided together in a tree called the candidate object tree (see sample below). From here, sections are dragged onto the report design, and attributes from your EAB views are dragged into sections. You can also drag special fields, images, lines, boxes, hyperlinks and many more design objects and drop them where you want them on the report layout.



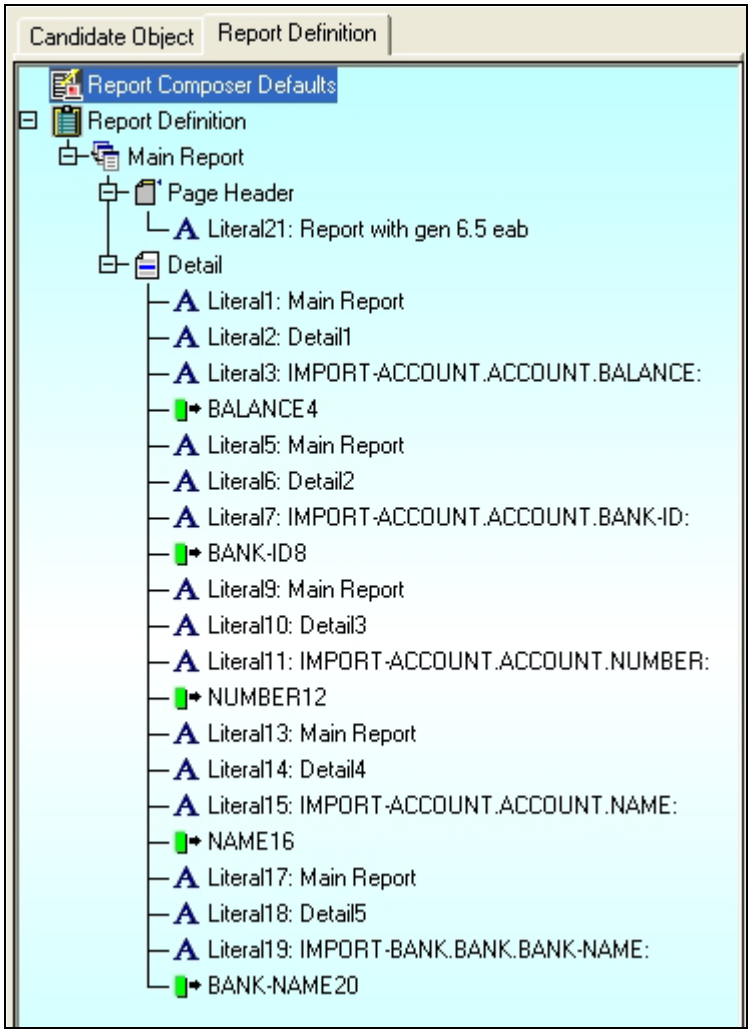
The tree contains report structure objects at the top, and all the other report objects below. The report structure objects are those that define the structure and sections of the report, including sub-reports, report header/footers, page headers/footers, and control break header/footers. These can be added to the report by dragging them from the candidate object tree and dropping them on the report design window. For section objects, you can drag the header or footer individually, or you can drag both at once. For example, to add both a page header and footer at the same time, simply drag the page header icon onto the design window.

Report structure objects can also be added to the design by double-clicking them in the report object tree. The nodes on the tree will become disabled if the structure is already on the report, or in the case of the sub-report node, if the special SUBREPORT-CODE attribute is not in the import views of the EAB. The detail section is not represented on the tree because it is always required, and is therefore added by default to any report or sub-report, and cannot be removed.

The remaining report objects can be added to the report simply by dragging them with the mouse from the tree and dropping them onto the desired report section in the design window. Alternatively, they can also be added from the Edit menu.

Report Definition Tree

There is also another tree, which provides a hierarchical view of the report design. This tree gives another convenient view of the complete report design, including the main report and each sub-report, showing sections and objects within each one. It provides an alternate way to select, copy, move and delete objects from one area of the report to another.



The objects on the tree and the objects in the design window are linked – selecting an object on the tree automatically selects it on the design window, and vice-versa.

Find

This new feature helps you to quickly find a text string somewhere on the report. It is invoked from the menu or toolbar, and will display the dialog box below.

You can enter a text string, and find a single occurrence or all occurrences, on the currently displayed sub-report or all sub-reports. Each occurrence found is selected on the report design window and the report definition tree. Once selected, they can be deleted, moved or copied as a group with ease.

Undo/Redo

The new report designer has an extensive undo and redo facility. The designer remembers a deep list of actions, and permits you to sequentially undo, and then optionally redo, these actions.

Object Naming

As each object or section is added, it is given a unique name, based on what type of object it is, and a unique number. You can see the object names on the candidate object tree, on the property sheet when the object is selected, and also by hovering the mouse over the object in the design window. The object names are used in the formula editor, if formula fields are used in Java graphical reports.

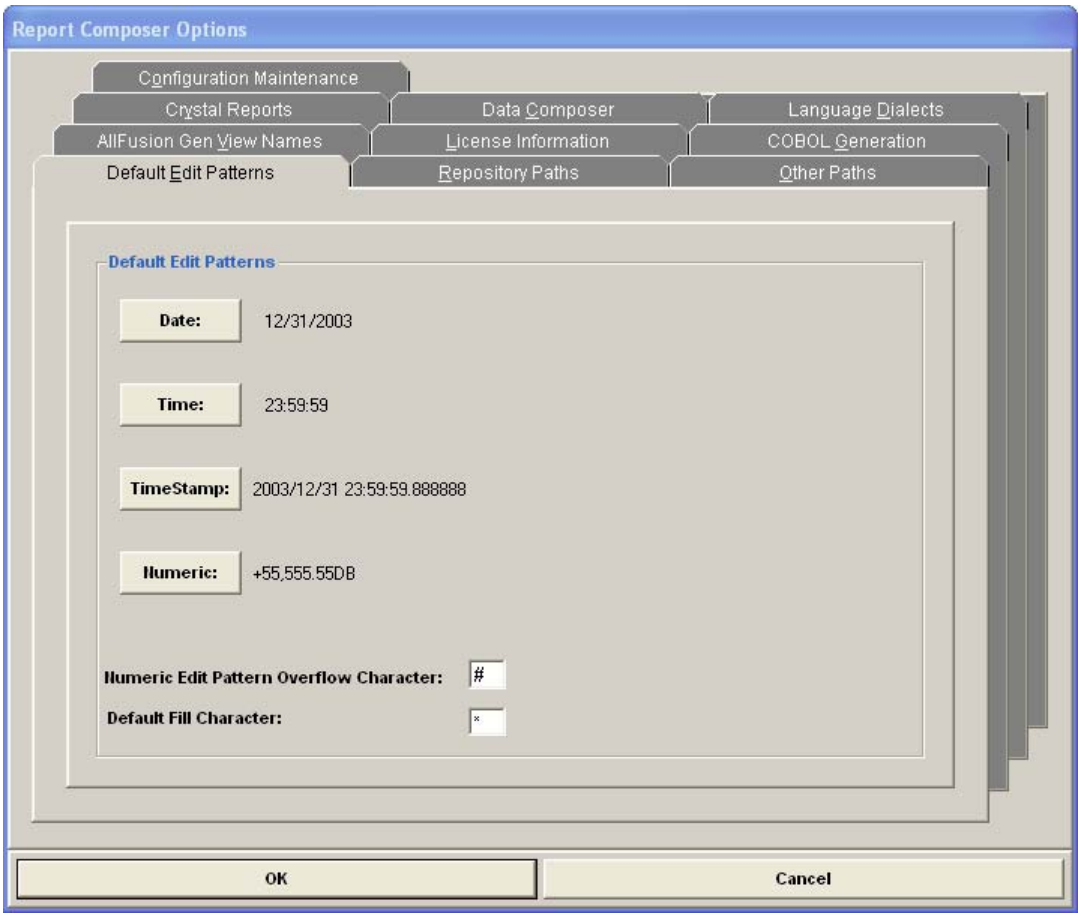
Enhanced Edit patterns for Dates, Times, Timestamps, Numbers

The edit pattern support for these domains has been dramatically improved to enable virtually any kind of formatting you wish. Day of week is now possible for dates, and all separators are user-specified. Numbers can now have decimal separator and thousands separator characters completely user specified, and currency symbol is both user specified and now can be set individually for different numbers if desired. Numbers can also have both leading and trailing positive and negatives symbols of

one or more characters each. Automatic prefix and suffix properties can be added, and the am/pm notation for times is also user specified. New options for capitalization of month names are available, and ordinals (e.g. May 31st) can now be output automatically if desired.

All edit pattern dialog boxes show the resulting edit pattern at the bottom of the window, so you can see what it will look like and how much space it will take in the design window. The report object is displayed on the report design window using the edit pattern.

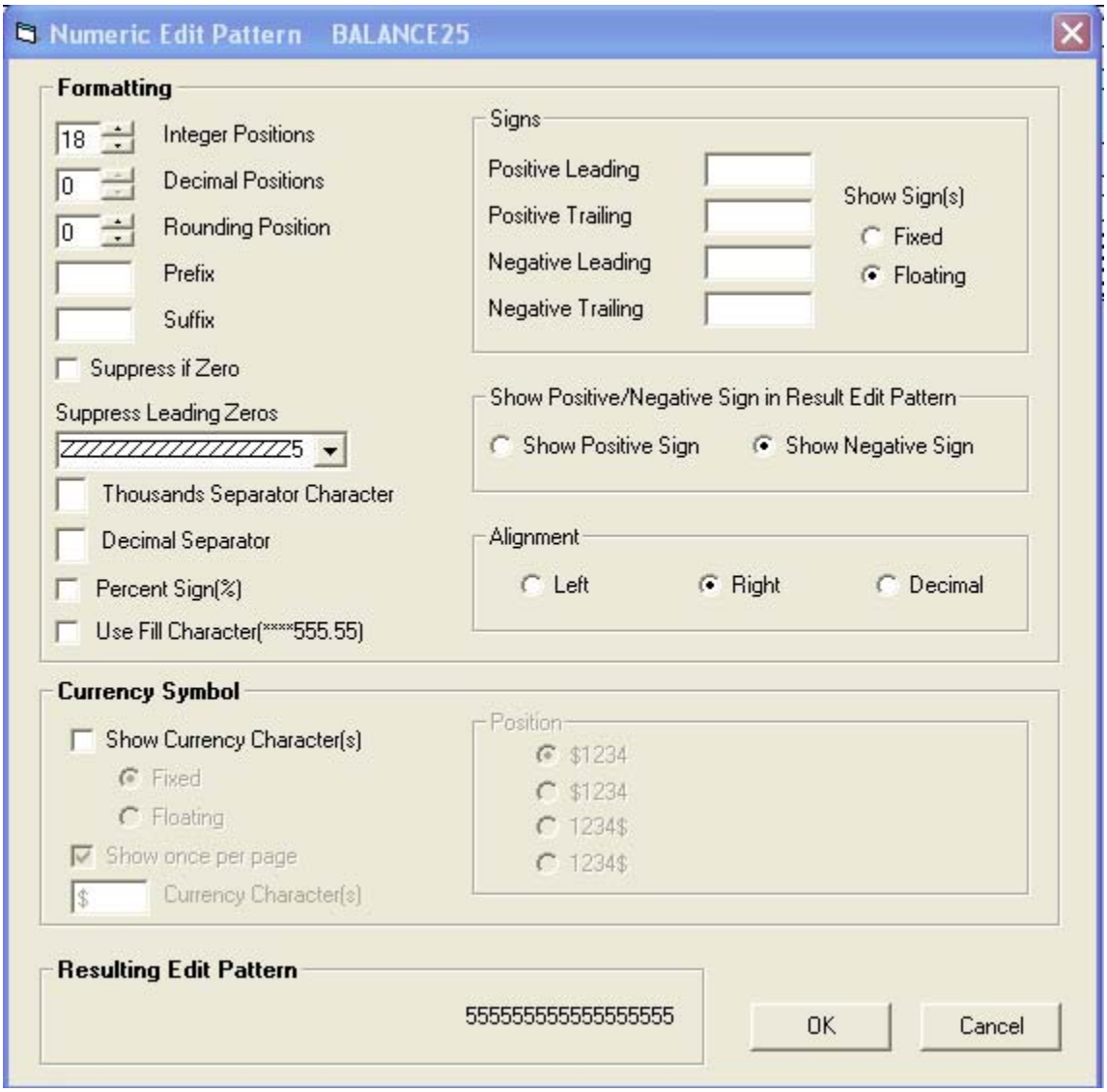
Default edit patterns for dates, times, timestamps and numbers are set on the options window (see figure below). These will be used by default whenever an edit pattern is required, and may be subsequently changed for the object.



Numeric Domain Edit Patterns

Numeric edit patterns are specified using the dialog box below. Set the integer positions and decimal positions as desired. If you do not want rounding, leave the rounding position value at zero. Round in the first decimal position by setting the rounding position to 1. Round in the third integer position (to the nearest thousand) by setting the rounding position to -3, and so on.

A prefix and suffix are optional. Any text may be used, and it will automatically be added at the beginning or end of the resulting formatted output. Suppress zero valued numbers by setting the 'Suppress if Zero' option. Treatment of leading zeros in the integer portion of a number is specified using the drop down list box. Three options are available – suppress all leading zeros up to the decimal separator, suppress all except the first integer position, or do not suppress any leading zeros.



The thousands separator is optional, and is specified here. It can be different from one report object to another. The decimal separator is also specified here. If no decimal separator is desired, leave this field empty. You can still have decimals even without outputting a decimal separator. If you desire to output a number with no decimal places, you can output it with or without a decimal separator by including it here or leaving it empty.

A percent sign can be automatically output if desired by setting the option here. Also, the fill character can be optionally used if desired. The fill character will

automatically pad high order integer positions, replacing leading zeros. The fill character itself cannot be changed from one field to the next – it is common to the report definition and is set in the report definition defaults.

Numeric signs representing the positive or negative value of the number are completely customizable for each numeric output field. You can specify what character, or characters, to use for positive values and for negative values, and this can be specified as a leading character, trailing character, or both. For example, to represent negative number in brackets such as (12.45), set the negative leading sign to "(" and the negative trailing sign to ")". In addition, the signs can be either fixed or floating, with respect to leading zeros in the integer portion of the output. Numbers with a value of zero will display neither positive nor negative formatting.

Since the edit pattern is actually displayed on the report design window, you have the option of specifying whether to use a negative or positive number as the sample on the design window.

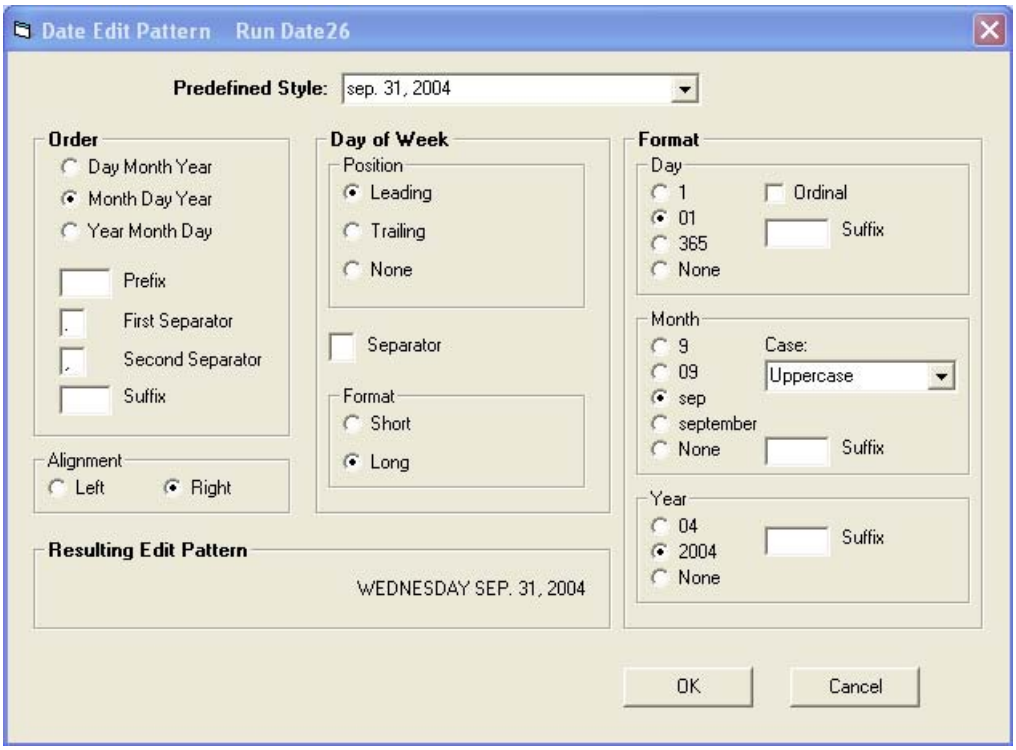
Numbers can be aligned automatically within their reserved output width, either left, right or decimal place aligned.

Currency character formatting is optional, you specify the desired currency character, or characters, here. There is a default for the report definition, which in turn is taken from the workstation defaults, but it can be different for each report object if desired. The currency character can be fixed or floating, leading or trailing, and inside or outside of the numeric sign characters. You can also specify that it should only be output once per page for a particular report object.

Date Domain Edit Patterns

Date edit patterns are set using the dialog box below. There are a number of predefined date format styles – you can select one from the drop down box. The properties in the remainder of the dialog box are automatically set to match the selected predefined style. You can then alter some of the properties if the style is not exactly what you want.

Begin by setting the order of the three parts of the date – the day, month and year. You can then set an optional text prefix, a suffix, and the two separators to be used between the first, second and third parts of the date. The day of the week can also be added, either leading or trailing the entire other three parts of the date, and there is an optional separator for it. Put a space in the separator to leave a space, or any other characters. The day of the week can be the full day, or a three character abbreviation.

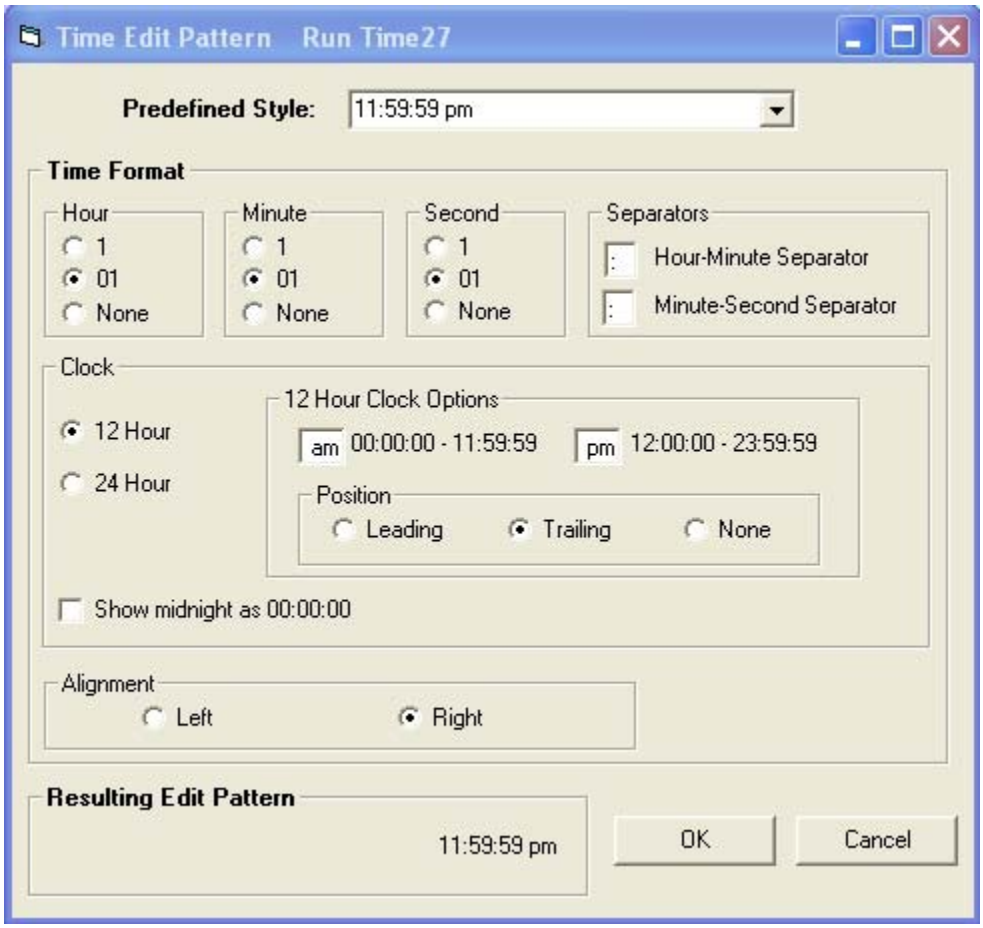


Each of the main three parts of the date (day, month and year) can be formatted in a variety of ways. Finally, alignment of left or right can be specified. Alignment is necessary because the space reserved for the formatted date in the output is always reserved to the maximum size, taking into account differences in the length of different month names, for example. So dates with shorter month names will occupy less space in the output – therefore you can have the result right or left justified. Centering within the date output is not supported.

Time Domain Edit Patterns

Time edit patterns are set using the dialog box below. There are a number of predefined time format styles – you can select one from the drop down box. The properties in the remainder of the dialog box are automatically set to match the selected predefined style. You can then alter some of the properties if the style is not exactly what you want.

Set the format of each of the three parts of the time – hours, minutes and seconds. If you do not want one of these parts to be output, you can set it to 'none. You can also set the two separators that separate the three parts. You can delete the separator and having nothing there if you do not wish it to appear in the output. You will definitely want to do this if you omit one or two parts of the time output.

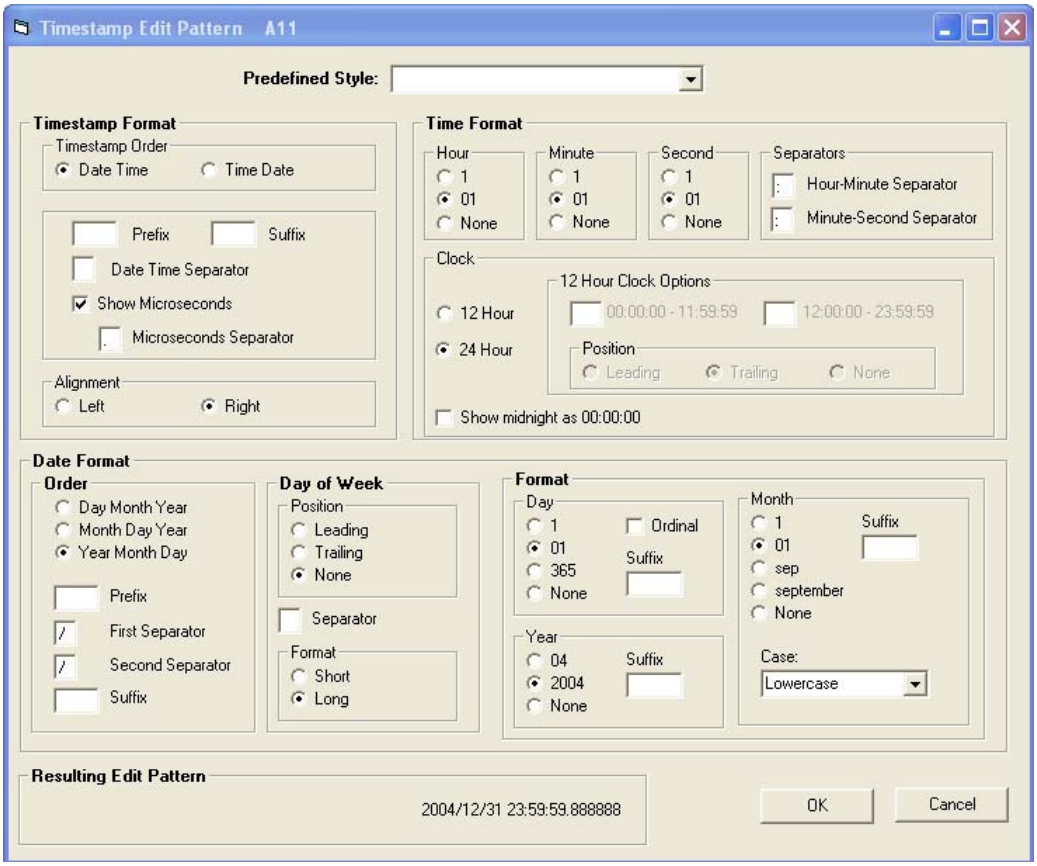


You can also set the edit pattern to use a 12 or 24 hour clock. This controls whether 1:00 in the afternoon will be output as 1:00 or 13:00. You can optionally use the am and pm notation, specifying it to be leading or trailing the rest of the formatted time components. If you wish to use notation other than the letters 'am' and 'pm', you can customize these also.

There is an option to control how midnight should appear – either as 24:00:00 or 00:00:00. And finally, the alignment can be left or right within the maximum sized output field. Similar to dates, this is to control where the formatted time appears when allowing for smaller outputs when single digit formats for hours, minutes or seconds are used.

Timestamp Domain Edit Patterns

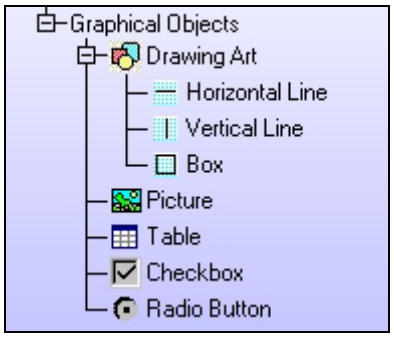
Timestamp edit patterns are set using the dialog box below. There are a number of predefined timestamp format styles – you can select one from the drop down box. The properties in the remainder of the dialog box are automatically set to match the selected predefined style. You can then alter some of the properties if the style is not exactly what you want.



The timestamp edit pattern is the most complicated of all the domains, since it has so many components. It is basically a combination of all the formatting options for times and dates, plus the additional microseconds. You can select whether to have the date part or the time part first, but the microseconds are always last, or they can be omitted entirely. You can specify a prefix and suffix for the whole thing, as well as unique separators between the date, time and microseconds components.

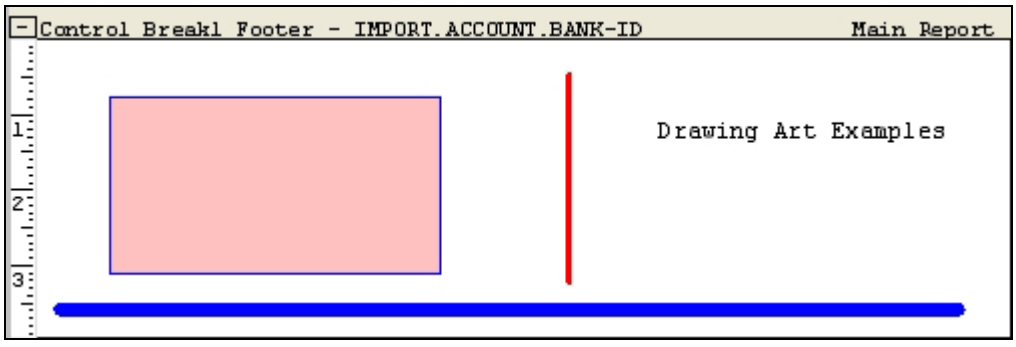
New Graphical Design Objects For All Generated Programming Languages

There are a variety of graphical report objects that can be added to reports in graphical mode. These objects are ignored by the text only designer, and code is not generated for them when code is generated for the text only version of the report.



Drawing Art

You can add vertical lines, horizontal lines and boxes to the report design (see figure below). Left-mouse click the desired object on the candidate object tree, or insert it using the menu. The icon will change to a pencil shape. Click and drag with the mouse to draw the object to the size desired. Immediately after drawing the object, it will be selected. You can then change its properties on the property sheet to set the color of the lines, the background color, the width of the line, and the line style.



Hyperlink

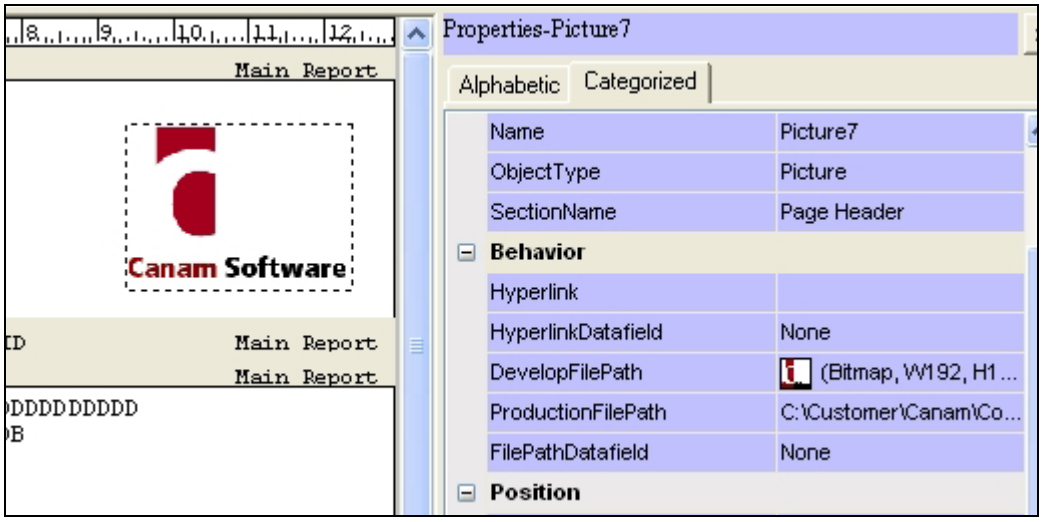
Since you will be viewing graphical reports with a browser, it is also possible to add hyperlinks, such that when the report created at runtime is viewed in a browser, you can click on the image and jump to a specified location.

There are two types of hyperlinks that can be added: images and literals. The hyperlinks can be inserted directly, by dragging them from the candidate object tree or inserting them using the menu, or, you can insert a literal or image object, and add the hyperlink data afterwards using the property sheet. Literal hyperlinks change color and are underlined on the design window, differentiating them from regular literals.

The hyperlink data can be set up in two ways – either by coding the location at design time into the Hyperlink property, or by assigning a text domain attribute as the source for the link location at execution time using the HyperlinkDatafield property. HyperlinkDatafield can only be set to text domain attributes in the import views of the EAB – if there are no text domain attributes, then this property cannot be used.

Picture

A picture, or image, can be added to the any section on the report. Left-mouse click the picture object on the candidate object tree, or insert it using the menu. The icon will change to a pencil shape. Click and drag with the mouse to draw a rectangle indicating the size of the picture to be inserted. This rectangle is a place-holder for the image. Immediately after drawing the object, it will be selected. You can then change its properties on the property sheet to select the desired image. Select the DevelopmentFilePath property, and navigate to the desired image. The image will automatically be adjusted to fit the size of the rectangular place-holder you drew previously. At the same time, the ProductionFilePath property will also be set to match the DevelopmentFilePath property. You can change it if you need the image to be sourced from a different location when the generated code is executed.



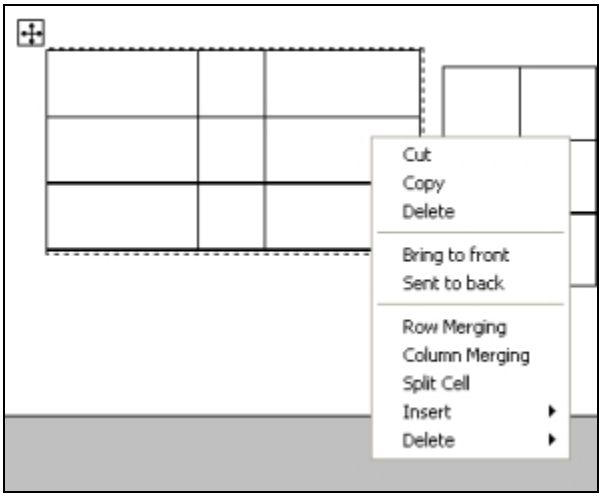
Further flexibility for the source of the image is provided by the FilePathDatafield property. You can optionally set this equal to one of the text domain attributes from your EAB, and the image will be sourced from the location or path provided in the data in that text attribute at runtime. This is very useful if your database has paths to images on disk or at some URL on the internet, and you want to use those in your report dynamically at execution time.

Finally, any image can have hyperlink information added to it so that it will behave as an active link when the generated report is viewed in a browser. See the section on hyperlinks above for further details.

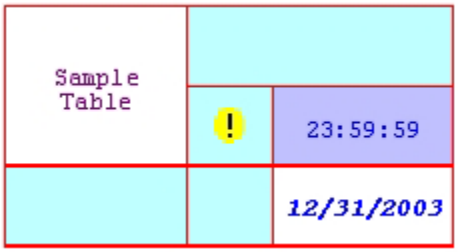
Table

Table objects provide a sophisticated option for presenting data in a grid with rows and columns. Insert a table by a left-click on the table object in the candidate object tree, or selecting it from the insert menu. The mouse icon will change to a pencil shaped, enabling you to draw an initial size for the table. By default, a table with three rows and three columns is always drawn when a table is first inserted.

You may then modify the table to the desired size and shape by clicking and dragging the lines between rows and columns. The mouse cursor will change shape when it hovers over the correct location. Right-click the mouse on the table to display a menu of additional table functions. You can also modify the number of rows and columns on directly on the table property sheet.



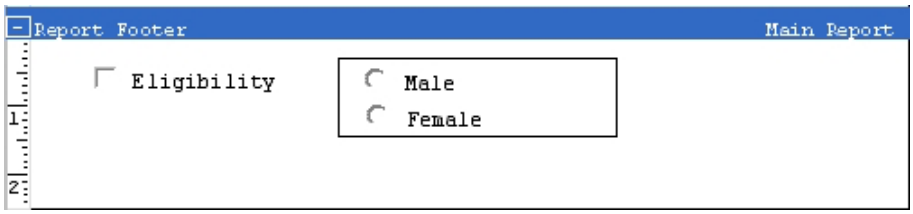
From the pop-up menu, you can insert and delete rows and columns. You can also split a cell, or merge rows and columns to provide interesting tables like this one. The table borders can be set to a particular border color and width, and each can have its own background color. The objects placed in the cell will also have their own colors and display properties.



Each cell can have one object inserted into it, including literals, attributes, special fields, pictures and so forth.

Checkbox and Radio Button

Since reports are not interactive in nature, the uses for checkbox and radio button objects are limited. However, they can make an attractive presentation option for printed report data, with their state set by the value of attributes in your EAB. To insert one of these objects, left-click with the mouse on the candidate object tree and drag it to the desired location, or insert it using the insert menu.

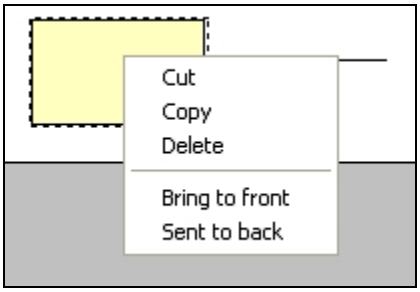


The default caption will be set to 'Checkbox' or 'Radio Button'. After inserting it, you can change its properties on the property sheet. You can change appearance properties to set the font, border color, background color, border style and width. You can also change the caption by setting the Caption property, changing the default value from 'Checkbox' or 'Radio Button'. If desired, the caption can actually be set dynamically, using the value of any text domain attribute in the EAB import views, by setting it with the CaptionDatafield property.

The caption can be on the left or right, set this using the DisplayOnLeftFlag. The StateFlag property is set to true or false, depending on whether you want the checkbox or radio button to show as selected or not. But more likely, you will want this to be determined at execution time based on the value of an attribute. To do this, set the property ValueDatafield to the attribute whose value will determine the setting of the checkbox/radio button. Next, you must indicate what value for the attribute sets what state value. Set the property UserValue to the desired value, and the property StateFlag to the state of the checkbox or radio button (true or false) that should be set when the attribute has that UserValue at execution time. For example, if you want the checkbox to be checked when the attribute IMPORT.MYDATA.X = 7, set ValueDatafield to IMPORT.MYDATA.X, UserValue to "7", and StateFlag to True.

Layering

In graphical mode, objects are permitted to overlap one another. Objects behind other objects may be completed or partially obscured. To change the layering, right-click the mouse on an object. A menu will be displayed enabling you to move the object to the front or to the back.

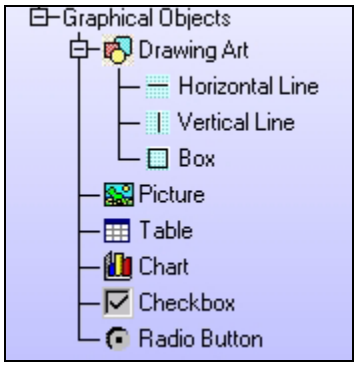


NOTE: Objects in plain text mode may not overlap, and code generation for plain text only reports with overlaps will be prevented by a consistency check error.

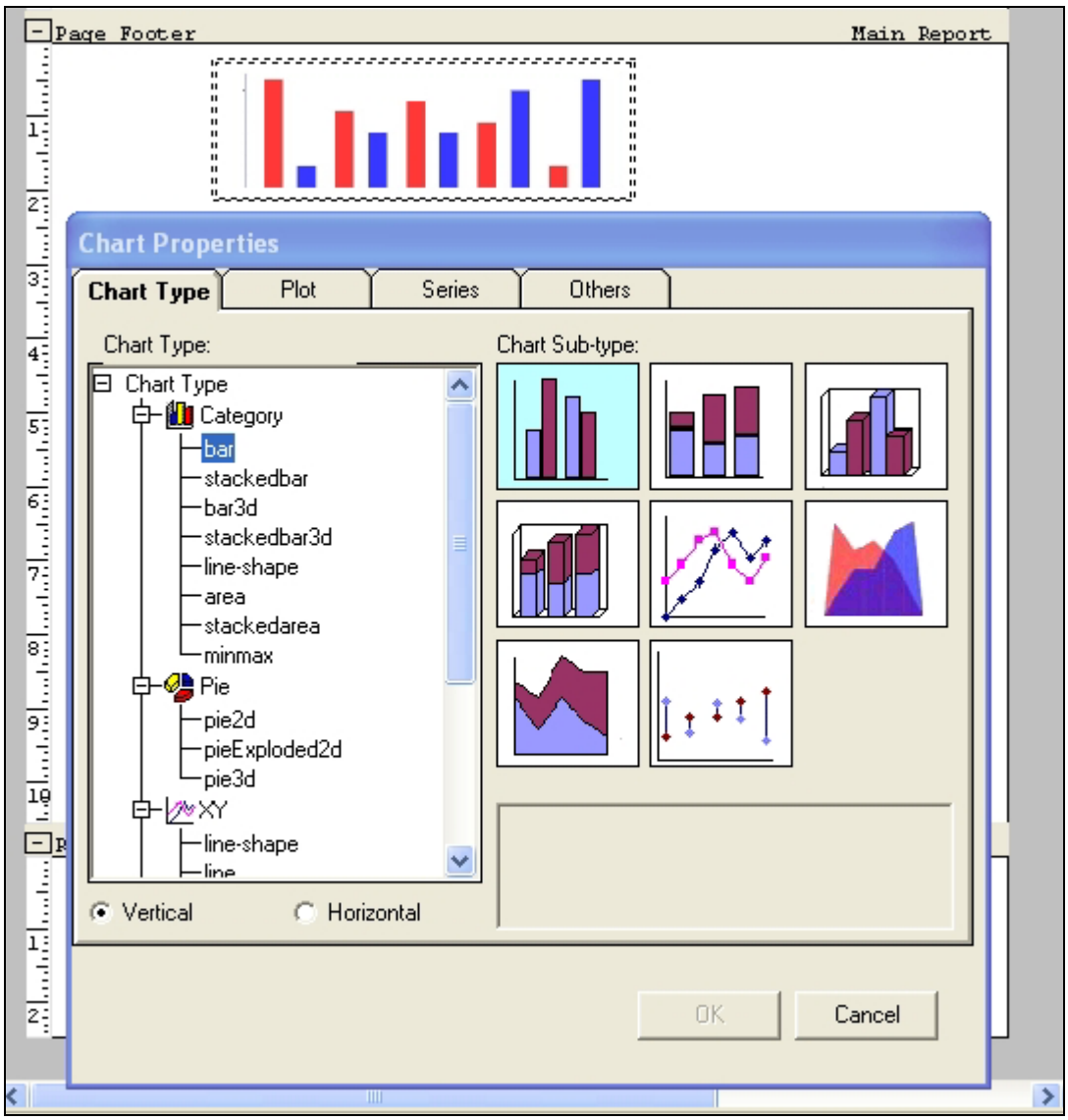
New Graphical Design Objects For Java Only

Charts

Chart objects are supported for Java environments only. The candidate object tree will show the chart object (see figure below) if the EAB source language is Java, or if it has been created using the Gen plug-in feature. If a chart is created in an EAB definition created from the plug-in, you will not be able to generate code to target languages other than Java – a consistency check error will occur.

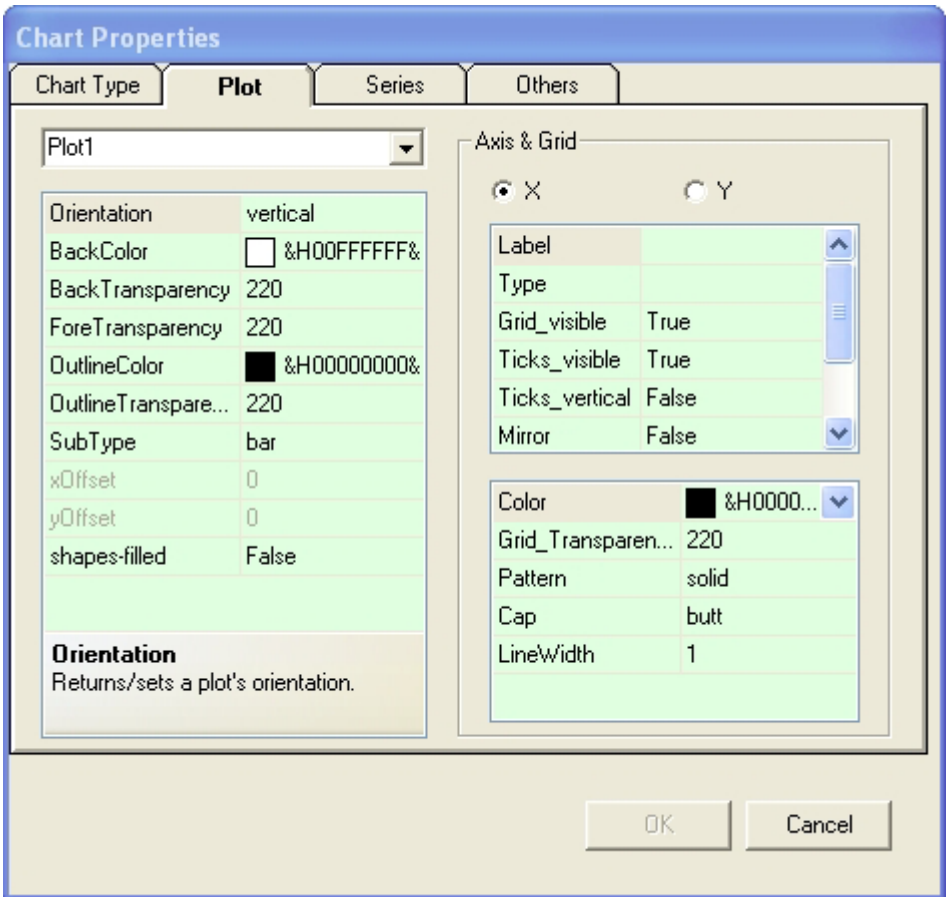


Charts of different types can be created, including pie, bar, line, area and many more. To insert a chart object into the report design, use the mouse to click the chart object on the candidate object tree. Then move the mouse over the design window – the mouse icon will change to a pencil, and you can draw a rectangle to define the space where the chart will be. A chart property dialog box will be presented (see figure below), with four tabs that will take you through the various properties for defining the chart.

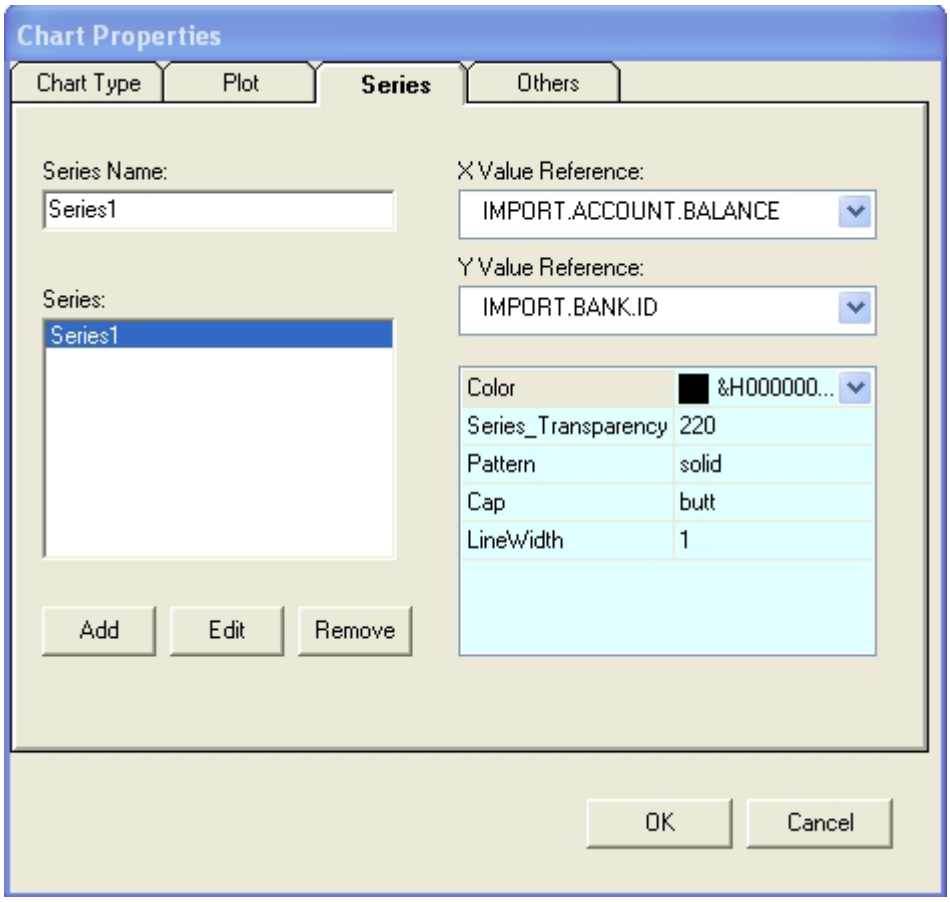


There are numerous properties to be set depending on the type of chart. Select the chart type on the first tab. You can click the name from the tree on the left, or click the corresponding thumbnail sample of the desired chart on the right. Certain charts can be presented in either a vertical or horizontal mode – click the radio button below the chart type tree to see the alternatives.

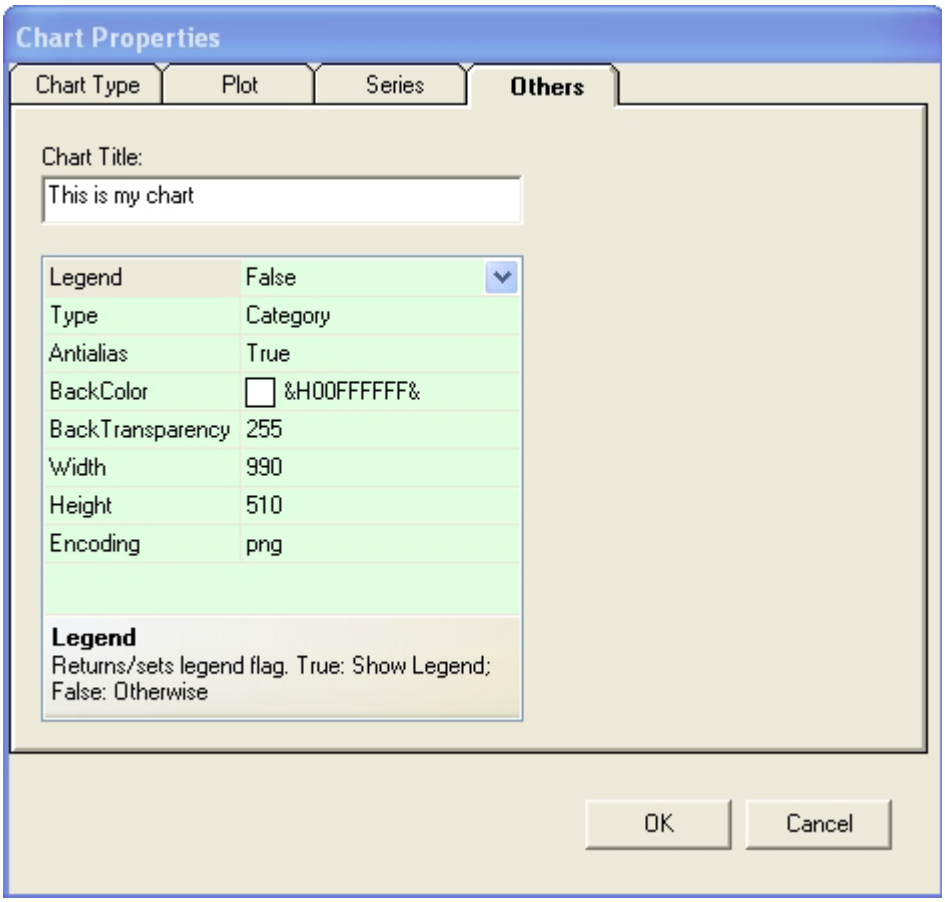
After selecting the chart type, click the Plot tab (see figure below), and make any desired changes to these properties.



Next, click the Series tab (see figure below), and set the source of the data to be used for the chart. Depending on the chart type, some charts have only one data source, while others have two. The X value reference and Y value reference drop down lists will allow you to choose the data sources from the attributes in your EAB's import views.

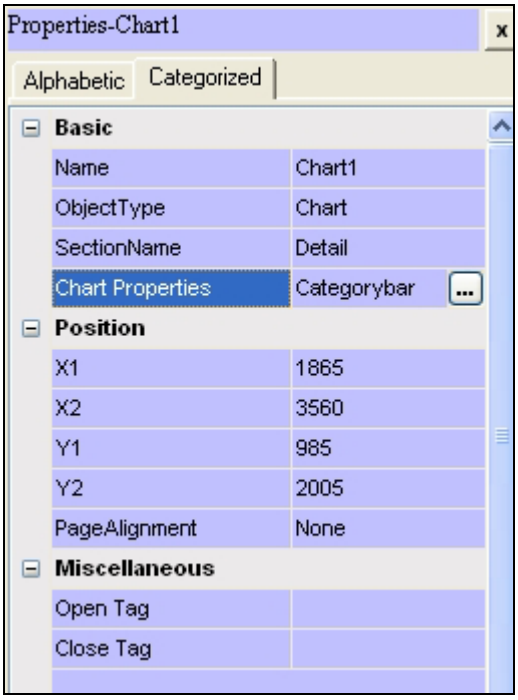


Click the fourth tab, Others, to set the remaining properties for the chart (see figure below).



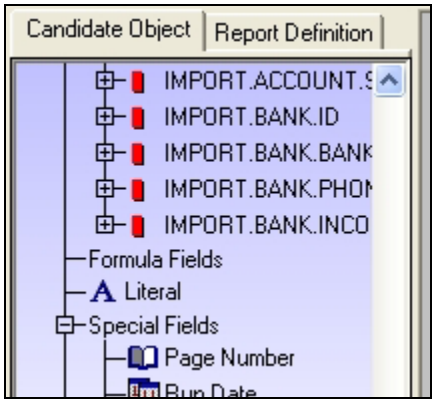
Finally, click the OK button to complete the specification of properties and the adding of the chart to the report design A representative picture of a chart will be shown in the report designer. It will not reflect the properties you specified for your report – those will only be rendered when the report is created at execution time.

The report can be resized on the design window by dragging its borders with the mouse. You can also change the reports properties by selecting Chart Properties on the chart objects property sheet, as shown below.

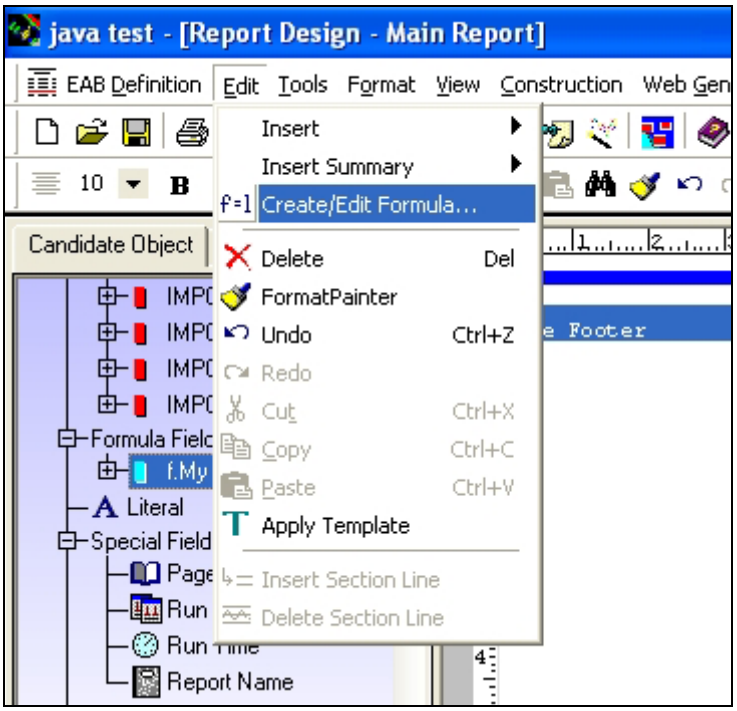


Formula Fields

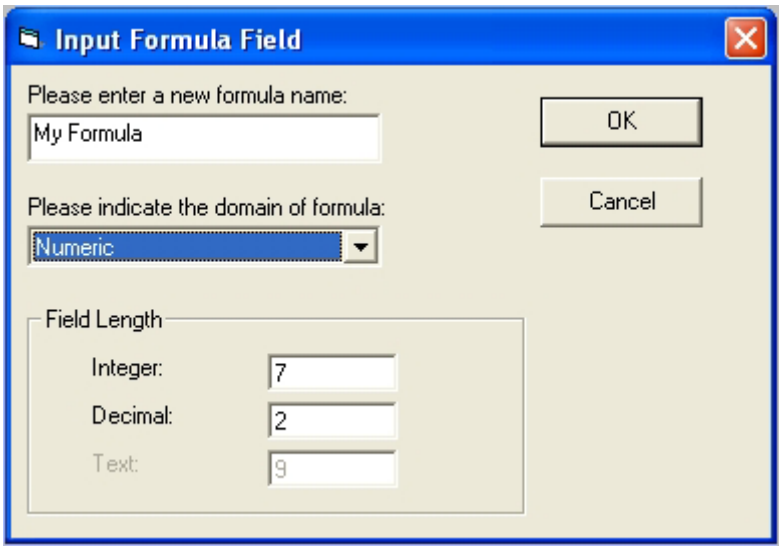
Formula fields enable you to create a formula to derive a value at execution time, based upon a formula you write in the designer. Each formula field is defined with a length and one of the basic supported domains (text, numeric, date, time, timestamp). Formula field objects are supported for Java environments only. The candidate object tree will show the formula field object (see figure below) if the EAB source language is Java, or if it has been created using the Gen plug-in feature. If a formula field is created in an EAB definition created from the plug-in, you will not be able to generate code to target languages other than Java – a consistency check error will occur.



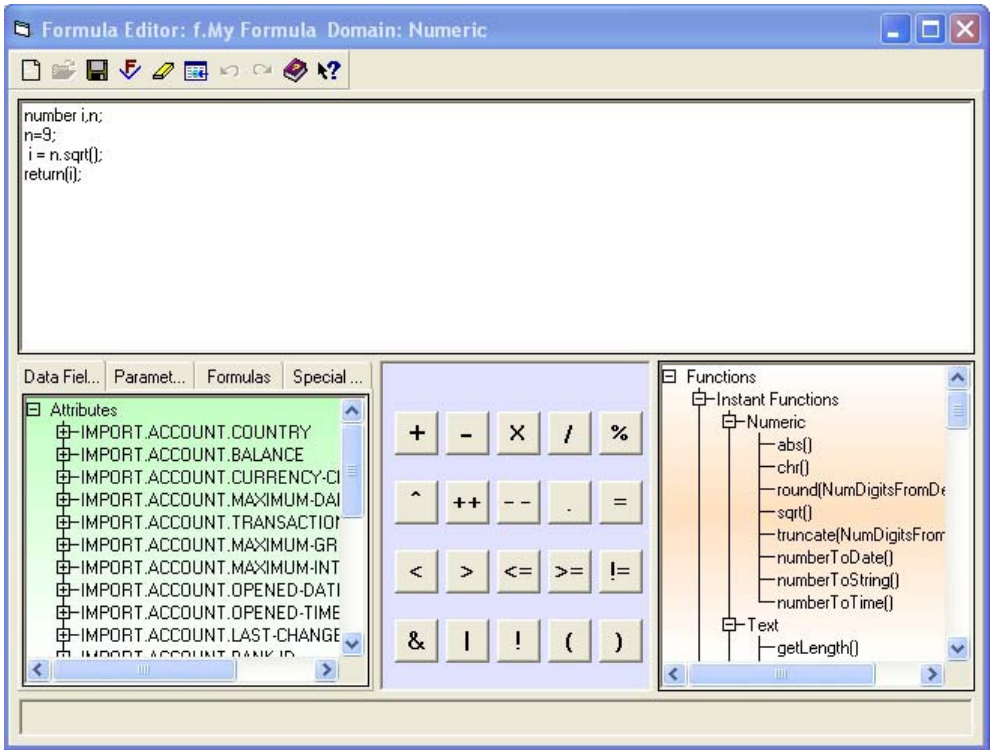
To create a new formula field, double-click the Formula Fields icon in the candidate object tree, or select the Create/Edit Formula menu item from the Edit menu, as shown below.



The dialog box below will be displayed to allow you to define the formula name, its domain, and for numeric and text domains, the length of the formula results. The length of the field can be changed later from an icon on the formula editor toolbar.



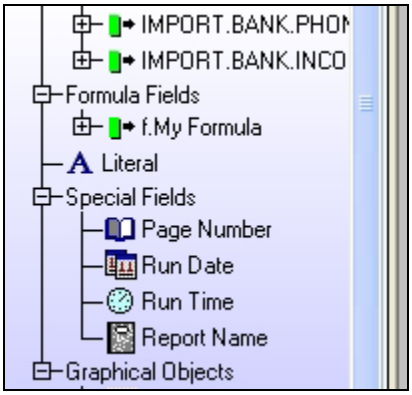
When you OK this, you will be presented with the formula editor dialog box. The formula editor provides a place for you to write the necessary script to derive the formula field value you need.



The editor window provides a data entry area at top, wherein the formula, simple or complex, can be written. Below, you can see the list of data objects available to use in the formulas, a 'keypad' with common functions, and a list of functions supported in the scripting language.

The formula must return a value consistant with the domain selected earlier when the formula was first created. It may be many lines long, including comments. The formula will be checked for correctness before allowing you to save changes. In the example above, two numeric variables called 'I' and 'n' are created. Then N is set to a value of 9, and I is set to the square root of n using the sqrt function. Finally, the value of I, which will be 3, is returned as the value of the function. This is all calculated at execution time.

After the formula is created, is will be available on the candidate object tree (see figure below) as a new object available to be used anywhere on the report design. Simply drag it from the candidate object tree, the same way you would an attribute, and drop it where desired.



When placing the formula, recall that it has a domain you defined for it when you created the new formula. When placed on the report, this object will now have edit pattern support for that domain. It will automatically be placed with the default edit pattern for that domain, which can then be changed in the usual way.

If at any point you need to edit the formula itself, this can be done by double-clicking on the formula in the candidate object tree, to display the formula editor. Alternately, you can select the formula in the candidate object tree, and then use the Edit menu to select the Create/Edit Formula. Changing the formula will not require changes to any placements of that formula on the report, unless you want to change the edit pattern for some reason. You cannot change a formula's domain after you create it. If you need to do this, you must create another new formula with the desired domain.

The formulas will be calculated at execution time, depending on where they are placed in the various sections of the report.

New Graphical Object Properties

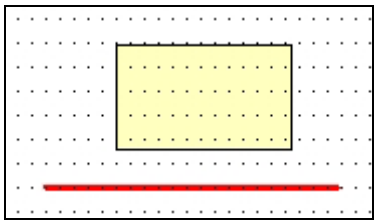
When in graphical design mode, objects have a number of properties that can be set to define their appearance. Some objects have all of these properties, while others may only have a subset of the properties. The properties include foreground color, background color, font (which includes font, font style, size, effects and color), border color, border style, border width, line style, line width and overline.

Most of these properties will display as set in the report designer. In some cases, the report designer cannot show them exactly as they will be in the finished report. Clicking the web report preview button on the toolbar, shown in the figure below, will show you the actual result that will occur at execution time.

New Layout Tools

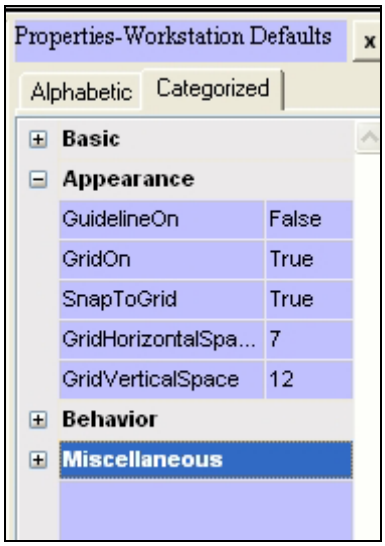
Layout Grid

When in graphical design mode, there is an optional grid that can be turned on or off. The grid is drawn on the design window within each section.



The spacing of the points in the grid can be set in workstation defaults. When the grid is turned on, you can also turn on or off the SnapToGrid property. When turned

on, objects moved on the design window will automatically snap to align with the grid points.



Horizontal/Vertical Alignment

New functions are available in the designer to help you align objects with one another. Simply select several objects, then use either the Format menu, or right-click one of the selected objects to display a pop-up menu, and choose the Align option. You can align the objects using left, center, right, top, middle or bottom. The last object selected will be used as the anchor point to which all the other objects will be aligned.

Make Same Size

New functions are available in the designer to help you make objects the same size. Select several objects, then use either the Format menu, or right-click one of the selected objects to display a pop-up menu, and choose the Make Same Size option. You can make them the same size in height, width or both.

Note that this only applies where it makes sense. You cannot use it with attributes for example, since their size depends on their edit patterns. You can use it with primarily with drawing art. Images can also be used, but in order to keep proper aspect ratio for the image, it will only make the object the same size in one direction.

Horizontal /Vertical Spacing

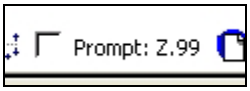
New functions are available in the designer to help you with spacing objects. Select several objects, then use either the Format menu, or right-click one of the selected objects to display a pop-up menu, and choose the Horizontal Spacing or Vertical Spacing option. You can elect to make the spacing between the objects equal, or to increase or decrease it. The amounts will be determined automatically by Report Composer.

Format Painter

In graphical design mode, objects have many formatting properties such as color, font, border properties, and so on. The format painter tool, located on the toolbar (see the icon that looks like a paintbrush in the figure below) or on the format menu, provides a convenient way to quickly set the format properties of a selected object to be the same as the format properties of some other object. To use it, simply click the object whose format you want to copy, and then click the format painter tool. The icon will change to a paintbrush, which you then move and click on the object to which the format should be copied.

Automatic Prompt Generation

When inserting attributes, you can set a new option that will automatically insert the attribute name (viewname.entityname.attributename) as a literal prompt for the attribute, then insert the attribute. The prompt will be automatically inserted on the left of the attribute when attributes are placed individually. This option can be turned on from a checkbox icon on the toolbar (see below), from the View menu, or from the PromptFlag property in the report definition properties sheet.



Multiple Attribute Insert

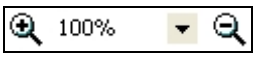
When more than one attribute is selected on the candidate object tree, they can all be dragged at once and placed onto the report design. The order in which they are placed on the design window corresponds to the order in which they were selected on the candidate object tree.

Before dragging the selected attributes, right-click the mouse on one of them. An option to insert them vertically or horizontally is presented. Inserting vertically will

drop them onto the design moving down the section. Inserting horizontally will drop them onto the design moving across the section. If automatic prompt generation is turned on, the prompts are also inserted appropriately. When inserting vertically, prompts are automatically inserted to the left of the attribute. When inserting horizontally, prompts are automatically inserted above each attribute as they are dropped horizontally across the page from left to right.

Zoom In/Out

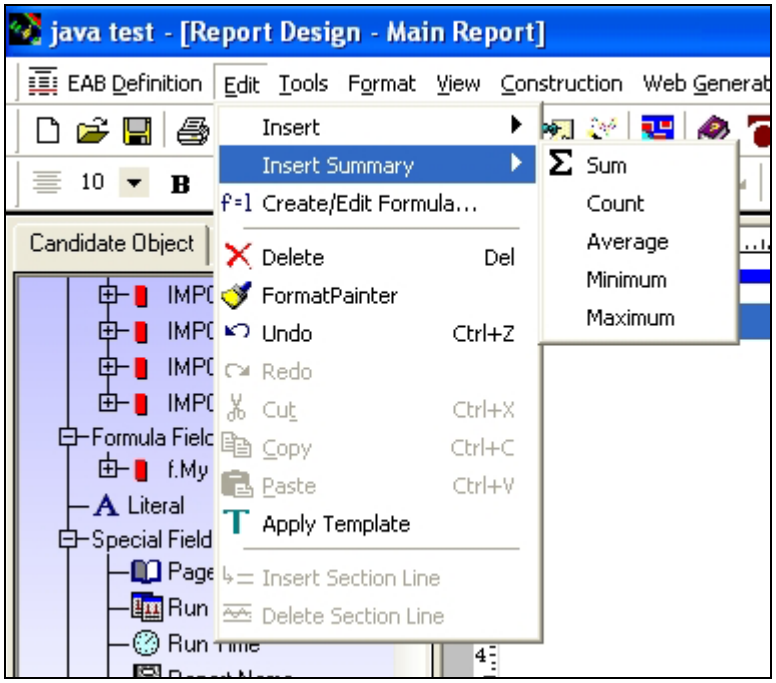
The designer defaults to resolution at 100%, but you have the ability to zoom in closer, in amounts up to 400%. This can be very helpful when fine alignment is required. The zoom in and zoom out tools are located on the toolbar (see below), and also on the View menu.



Insert Summaries

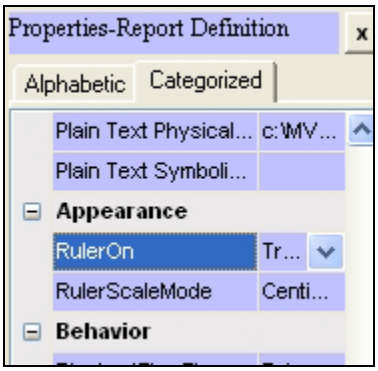
Summary fields can be created in two ways. You can place an attribute on the report, and then go to its properties and set the Usage property to Sum, Minimum, Maximum, Average or Count. When the attribute is first inserted by dragging it from the candidate object tree, its Usage will be set to Display.

Alternatively, you can select the desired attribute on the candidate object tree. Then, instead of dragging it onto the report design, use the Edit menu and select Insert Summary. You will be able to insert the desired summary from the menu – when you click it, the mouse icon will change to an image of the attribute default edit pattern, which you can then drag and click to drop where desired. The objects Usage property will have been set to the desired type.

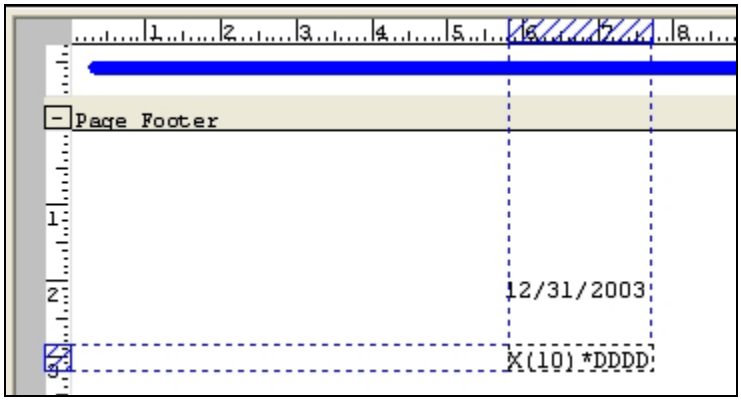


Object Placement Guides and Rulers

To assist in placing objects exactly where desired, object placement guides and rulers are available. These can be turned on or off from View menu. The rulers can be turned on and off for each EAB report definition. To change the ruler properties, access the report definition properties from the toolbar, or the top of the report explorer tree. The ruler properties are under the Appearance category. You can turn them on or off, and also set the scale to centimeters, inches, pixels or twips.

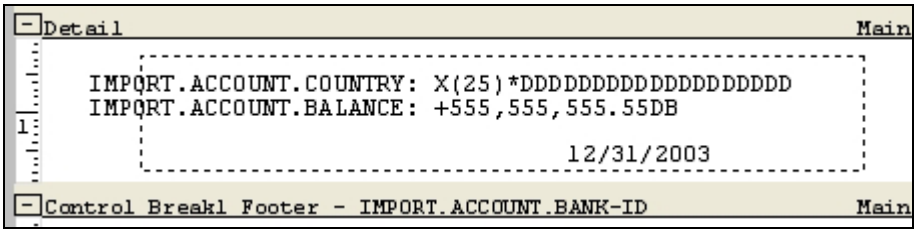


The placement guides are shown only when a single object is being dragged on the design window. The guides show dotted lines extending to the horizontal and vertical rulers at the edge of the designer, and also color a blocked area on the ruler representing the exact height and width of the object. This allows for precise placement of the object.



Rubber Band object selection

Multiple report objects can now be selected on the design window using the mouse. Simply left-click and drag the mouse in the design window, and a rubber band box will expand. Release the button to automatically select all objects that were totally enclosed in the box. Report sections cannot be selected in this way. You can see the dotted line rectangle representing the rubber band in the figure below.



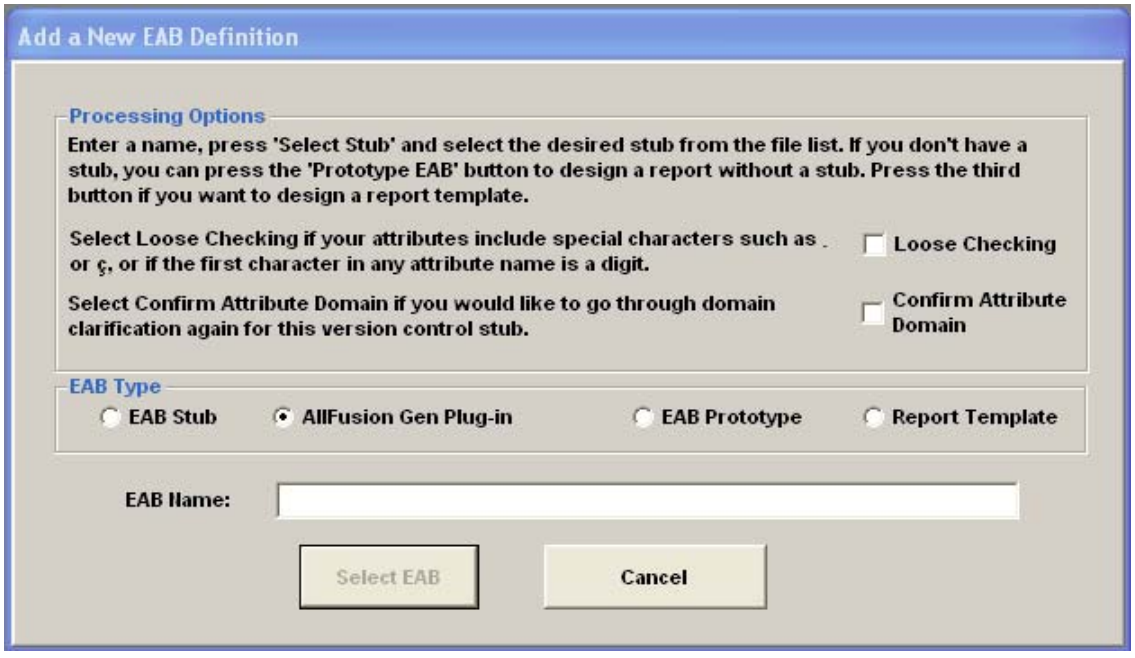
Alternately, multiple objects can be selected by holding down the CTRL key while clicking objects on the designer or attributes on the candidate object tree.

Other New Features

AllFusion Gen & Plug-In Support

Support for AllFusion Gen 7 and Advantage Gen 6 Plug-ins will be available in Report Composer 6. With this feature, the user will have the choice to define new EAB definitions in Report Composer using the Gen plug-in feature instead of analyzing generated source code stubs is now supported. This in turn enables Report Composer to achieve 100% accuracy for domain properties automatically and allow the cross generation of EAB's into different languages without the need to perform version control.

In order to use the Plug-In feature, the user must have version 6.5 service pack 2 of Advantage Gen (or higher) installed and the AllFusion Gen model open on their desktop.



When creating a new EAB definition, select the 'AllFusion Gen Plug-in" as the source instead of an EAB stub, and Report Composer will automatically interrogate the currently open Advantage Gen or AllFusion Gen model and provide a list of External Action Blocks to choose from. It will then create an EAB definition from the selected EAB, eliminating the need to examine the stub source code generated by Gen.

New Support For Crystal Reports

Crystal Reports can now be more tightly integrated into Report Composer – this is one of several new Crystal licensing options. Our CANAMCR132 runtime executable is no longer necessary and has been completely eliminated from the runtime architecture, resulting in one less object to manage for deployment, and improving overall runtime performance. As a result, the EAB generated for Crystal reports will be a C++ EAB rather than an ANSI C EAB. The user must compile the EAB using the appropriate methods. All other C-language Report Composer EAB's will continue to be generated in ANSI C.

Improvements in CANAMCR232 provide improved control of the runtime Crystal Report preview window and printing functions. Crystal Reports version 10 is supported by Report Composer 6, and is optionally available for purchase directly from Canam Software.

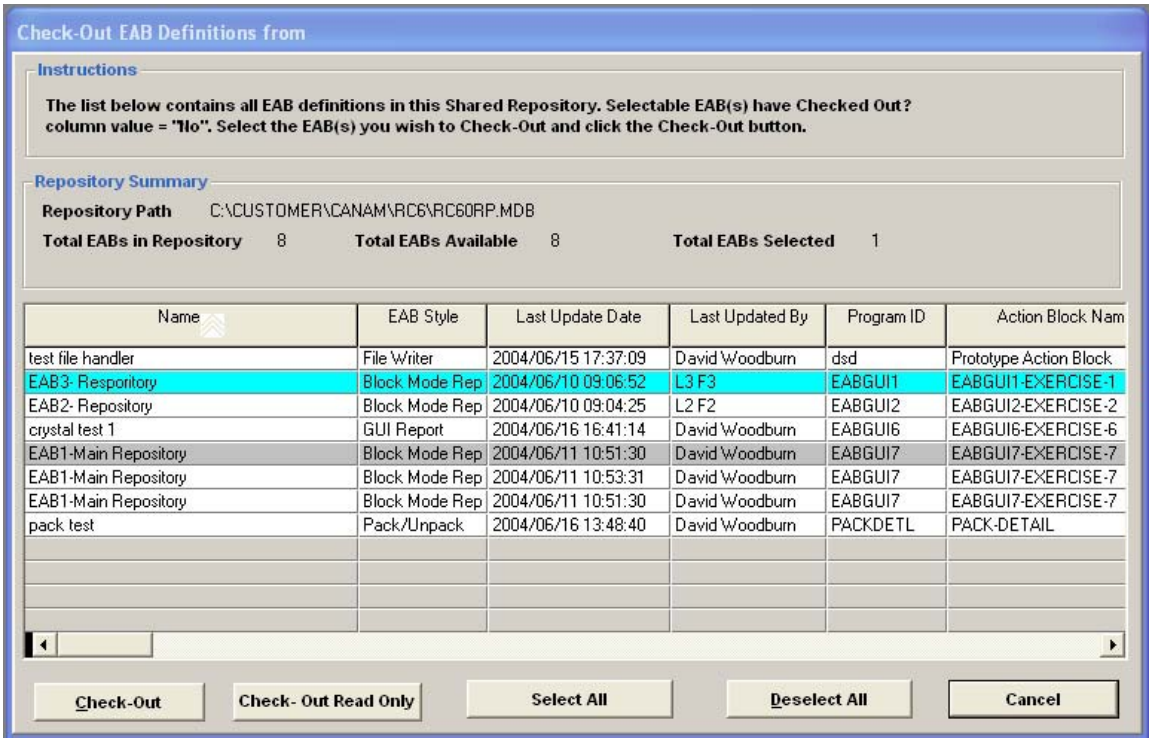
In addition, the .rpt file is now saved in the Report Composer repository. It is automatically unloaded from the repository when the EAB definition is opened, so that you can work on it with the Crystal Reports designer. When the EAB definition is saved, it is also saved in the repository. It will automatically be checked in and out from the shared repository as well, along with the rest of the EAB definition.

Repository Manager and Development Coordination

The workstation and shared repositories have both been simplified, reducing their internal table count from 12 tables to 2. The physical size of the repository will also be reduced . The smaller number of tables will significantly improve the speed of the save, load, checkin and checkout processes. Improvements have also been made to the checkin and checkout processes to reduce the chances of update failures and repository corruption.

The underlying database technology is upgraded to Jet 4, and support for binary objects allows us to save the Crystal .rpt files, images used on Canam Reports and certain Java files, directly in the repository. You no longer need to manage these separately outside the Report Composer repositories. The checkin and checkout functions include the coordination of these objects.

A new read-only checkout option allows EAB definitions to be checked out to workstations where they can be viewed but not changed. This facilitates code-generation-only capability as well, providing new options for development coordination. On the check-out window, there is a new option to select a read-only checkout. In addition, an attempt to check-out an EAB definition already checked out will downgrade to a read-only check-out.



Design Wizard Changes

The design wizard has been restricted to use only for file handlers. You can no longer use it to lay out reports.