

# **Eden Screen Editor Users Guide**

Version 4.0 Level U

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## Overview

The Eden Screen editor is an easy to use graphical interface designed to work with the Eden Server and Eden Client products. The Eden Screen editor will allow you to produce greatly enhanced interfaces for standard BMS map based CICS applications.

The Eden Screen editor's capabilities extend far beyond the basic capabilities of a full-screen BMS map painter by adding the ability to assign extended properties to fields and text as well as to add extended GUI's and display items to maps.

The editor is compatible with standard mainframe based BMS assembler macros statements, allowing easy migration of previously mainframe based applications to the Eden Server environment.

As the Eden Server system is a CICS / BMS based system at it's core, users wishing to develop entire new applications or make extensive changes to existing applications should posses a basic working knowledge of the basics of BMS. For this, programmers and developers should consult IBM or other third party documentation for instruction. This document assumes the reader is familiar with BMS.

The process of simply enhancing existing maps to include graphical gadgets and displays, however, requires no special knowledge or CICS or BMS. Generally only a working knowledge of the application screens being enhanced is required to produce improved and enhanced user interfaces; even when changing the most basic 'green screen' applications.

Because of the high level of integration with the Eden Client, the resulting code runs directly and does not suffer the performance problems related to many screen-scraping or middle-ware approaches. Within the Eden Server system, all user interface programs, those defined via BMS assembler macros as well as those defined via the Eden Screen editor are compiled and linked to native .dll formats and do not require run-time interpretation or translation routines.

Further, the Eden Screen editor provides the ability to provide enhanced graphical screens while at the same time and with no additional effort, continue to provide the original unchanged character screen images to those individual end-users that may feel more comfortable with traditional character screens.

Overall the features provided and their ease of use allow nearly any CICS / BMS application to be rapidly updated, given a new look and feel and added functionality without changes to underlying application programs. Most screens can be completely updated in a few hours or less.

## Eden BMS Support

Basic Mapping Support, a.k.a. “BMS”, is an IBM developed system that allows CICS programs to send formatted displays to and receive input from CICS terminals. In a broad interpretation, BMS can be thought of as the screen IO piece of a CICS application.

Within the Eden system, BMS is supported at several different levels. First, the Eden Screen editor and the batch mode BMS preprocessor both accept native mainframe type BMS Assembler Macro statements as input. Within applications, Eden also supports native 3270 data-streams for both input and output operations, however the use of 3270 data-streams may limit the enhancements that may be made to a screen display.

Eden supports BMS at the ‘Standard’ level (as defined by IBM’s three levels of BMS support; Minimum, Standard and Full). Note, that a number of features normally only found in Full BMS are however present and supported under Eden. An example is BMS paging, which Eden supports, but IBM supports only at the ‘Full’ level.

When using the Eden Screen editor, it should be noted that the resulting screens must adhere to normal BMS conventions, including:

- Screens consist of attributes and data as do normal BMS maps.
- Each field or constant (output only text) starts with an attribute which is displayed on the physical screen as a space which directly proceeds the field or text in question.
- Unprotected fields should be ‘stopped’ by way of defining at least a 1 byte ‘null’ field directly following the field in question. This ‘null’ field, or ‘stopper byte’ as it is also referred to, should have either the “Protected” or “Autoskip” attribute. Fields that are not ‘stopped’ will appear on the screen as being larger than their defined lengths. The Eden Screen editor will visually highlight such fields by displaying “?” characters in each ‘unstopped’ character position of the field. Similarly, fields that are ‘stopped’ prematurely, for example by an incorrectly positioned stopper byte, are considered to be ‘clipped’. No visual indication of a clipped field is given, however the condition is indicated in the editors Status Line message area.
- Eden supports a screen size of up to 133 columns and up to 66 lines. Applications that use different screen sizes from one transaction to another need to be aware of how Eden Client handles screen sizing: Eden Client automatically upon startup assumes a 24 by 80 screen size. Processing of a CICS SEND MAP command that includes a map whose size is different than the current screen size will cause Eden Client to automatically resize it’s window (and or font point size) if the SEND included the ERASE parameter. Without the ERASE parameter the new maps size is compared to the existing window size, if the new map is smaller than the existing window the SEND is processed as requested. If the new screen size is larger than the existing window, the transaction is abended by Eden Client with an CICS

INVMP5Z abend condition.

- Eden supports individual field sizes in BMS maps up to the total size of the screen, however regardless of field size, a maximum of 255 characters may be entered as initial (i.e., INITIAL=) text.
- While Eden does support the use of 3270 data-streams, it should be noted that there are two limitations on their use that must be considered; First, as Eden is an ASCII based system the use of certain 3270 orders is restricted, for example the SFE (Start Field Extended) order is not supported. (Note this is an IBM imposed limitation present in all ASCII based implementations of BMS.) Second, the use of 3270 data streams, for example to 'save and restore' screen images while perhaps displaying help text, may alter the screen image upon restoring the screen if the screen image contains extended GUI items, such as buttons, HTML links and other gadgets. For complete information on using 3270 data-stream programming in ASCII based systems, consult the IBM manual: 3270 Information Display System Data Stream Programmers Reference, part number GA23-0059-07.

## **Eden Screen Files**

### **Dual mode screen definitions**

It is possible, and very simple to use EScreen to build 'dual mode' screens, where a BMS map will appear in 3270 mode as a standard BMS map, but when the user toggles their Eden Client image from character to GUI, the screen may include additional gadgets to help the user navigate through data entry. An example of such a screen might be a data entry screen where an experienced user knows all the potentially cryptic codes' to enter, but an in-experienced user would benefit from a descriptive list of choices, such as a drop-down list. EScreen provides the ability to define your new maps, and easily update your existing BMS maps to include these features, and more. Additionally, for more advanced screens, the Eden Server pre-processor for COBOL/CICS programs includes a number of enhancements to the BMS send and receive API's which enable a wide range of program control over the displayed GUI's.

## Display Window Types

When creating or updating BMS maps using the Eden Screen editor, it is possible to define maps and mapsets in several important, but non-standard ways. First, remember that Eden Client is a fully capable graphical interface, and as such it has the ability to support not just standard 24 by 80 BMS maps, but also pop-up dialog boxes as well as tabbed notebook-like displays.

By selecting the appropriate Window Type, BMS maps may be defined as used as either Normal BMS maps, Dialog Boxes or Tabbed displays. Note that regardless of which window type is chosen, the underlying BMS processing still takes place as expected. The only changes required from the COBOL programmers standpoint include:

- Add support for new EIBAID values generated when the user clicks on a tab, in a tabbed display.
- Verify program logic supports map 01's for maps in a tab enabled mapset, as NON-redefining.

## Supported GUI 's

The Eden Screen editor supports the addition of a number of extended properties to be attached to existing BMS maps and BMS fields. Two separate categories of properties may be added to maps; a) replacement of BMS fields with a GUI gadget and b) the addition of non-field related gadgets.

BMS Fields may be 'replaced' by GUI's. Such replacement is visual only, as the underlying BMS fields including attributes and values all remain intact. Field replacements may be made as follows:

- Push Buttons
- Enhanced text fields
- Radio Buttons
- Check Boxes
- Combo Boxes
- List Boxes

Non-field related items may also be added to screen definitions. Addition of such items, collectively referred to as 'Extended Properties', does not directly affect the underlying BMS, however the functionality provided allows for enhanced display and user interaction by providing:

- Text buttons
- Html / Document links
- Group Boxes
- Bitmaps



## **Field replacement GUI's**

Field replacement GUI's are capable of being used to replace the visual display for an existing field with an graphical representation / gadget. For example a menu screen with a 1 character 'Function' field on it that accepts a value of 'A', 'B', 'C' or 'D' for Add, Browse Change or Delete might be replaced with a Combo Box (i.e., Drop Down List) containing the actual words Add, Browse, Change and Delete, thus eliminating the need for the user to memorize cryptic and sometimes less meaningful codes than this examples A, B, C, D values.

As mentioned previously, while the Eden Screen editor does allow for dramatic enhancements to existing applications, as well as the creation of new applications, the underlying systems are still based upon standard CICS and BMS concepts which therefore do require a basic understanding of BMS concepts.

It should be noted, though, that unless field size or placement changes are made to existing maps, there generally is no need for any changes to the underlying CICS programs, as all GUI processing takes place at the display level only.

The following pages describe each type of available field replacement GUI as well as their most effective uses in enhancing BMS screens.

## Push Buttons

A push button, shown below in figure 1, provides the ability to replace a field with a graphical representation as well as the ability to trigger the generation of simulated keystrokes at the user interface level.



Figure 1 – Field replacement pushbutton

The size and positioning of push buttons may be specified either directly on the Display tab, as shown below in figure 2, or the Move and Size buttons on the Field Properties window may be used to drag and drop the button to its desired location and or new size.

The text displayed on the button, which is always centered across the button face, may only be entered or changed by using the Text field on the Display tab as shown below.

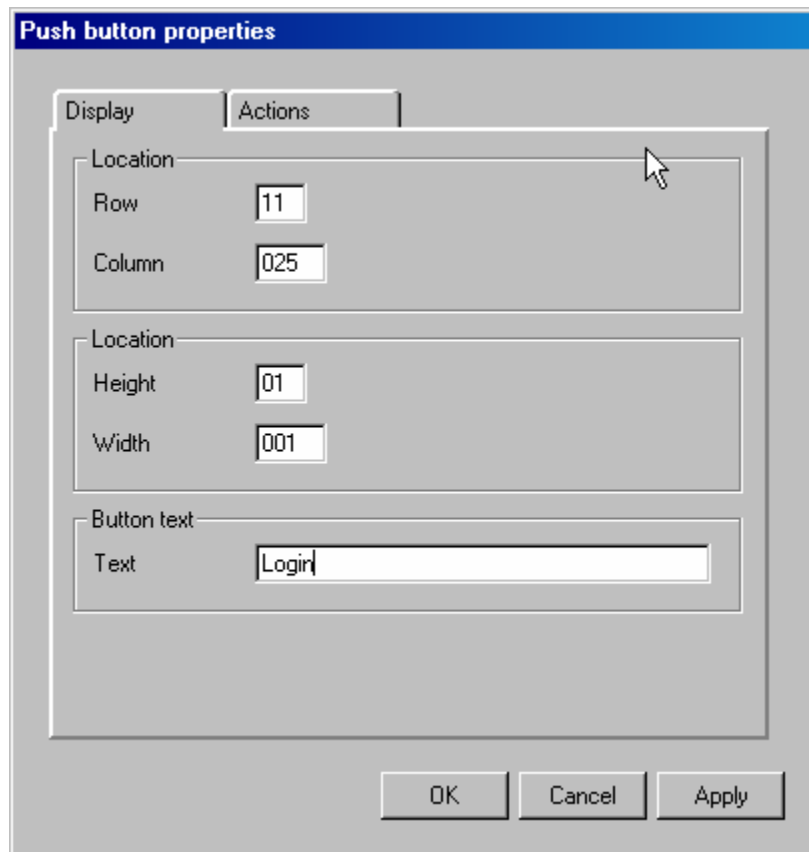


Figure 2 – Pushbutton properties Display tab

Field replacement Push Buttons may be positioned anywhere on the screen, regardless of the location of the field being replaced. The initial position, however, will be the row and column of the field being replaced.

Once positioned and sized, Push Button keyboard actions may be defined to provide functionality to the button.

The available actions that may be defined are:

- Generation of text keystrokes at a given screen row and column.
- Generation of a BMS AID key.

Both sets of actions are defined on the Actions tab as shown below in figure 3.

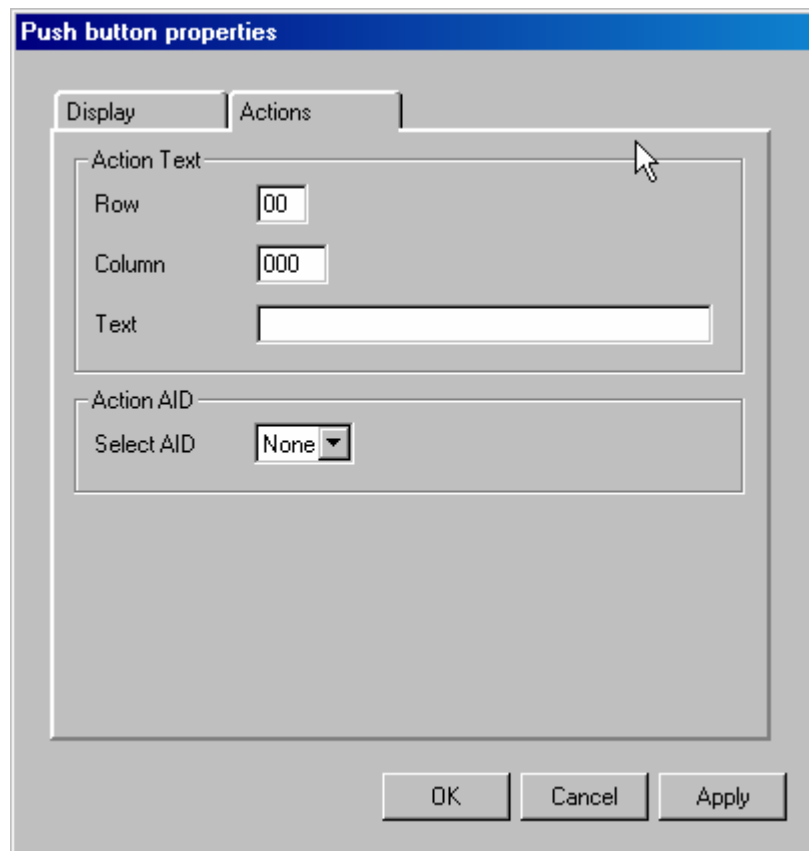


Figure 3 – Pushbutton properties Actions tab

During use, when a defined Push Button is either clicked with the mouse or the Enter key is hit while the button has Input Focus, the client interface reads the button properties as defined in figure 3, and simulates cursor positioning and keystroke generation.

If a Row and Column value are entered in the Action Text area, the text present in the associated Text field will be 'typed', character by character at the indicated screen position. Keystrokes will be accepted processed by the client software regardless of the existing text and or state of the Insert key. Text generated in such a manner may not, however, be defined to be 'keyed' into a protected field or undefined screen location.

If a value other than None is selected in the Action Aid area, the client software will generate the indicated AID keystroke. AID keystrokes that may be defined are:

- PF1 through PF24
- PA1 through PA3
- Enter
- Clear (escape)

Note, while the number of practical applications for replacing a text BMS field with a Push Button may be limited, due to the limited number of resulting actions that can be associated with the button, the use of such a replacement can be valuable when it is used to replace a field, especially protected message fields used for "PF key" type messages.

For example, many CICS applications use line24 to display the applications available PF keys and functions, i.e., "PF2=CANCEL PF3=UPDATE". By replacing the message field with a Push Button whose text reads "Cancel" and Action Aid is F2, as well as adding further non-field associated Text Button for F3 and Update, a more up-to-date appearance for the application screen can be achieved very easily without any program changes and while still maintaining 100 percent of the original character based screen's functionality.

## **Enhanced text fields**

Enhanced text fields are available only with version 3.1 of the Eden Screen Editor.

## Radio Buttons

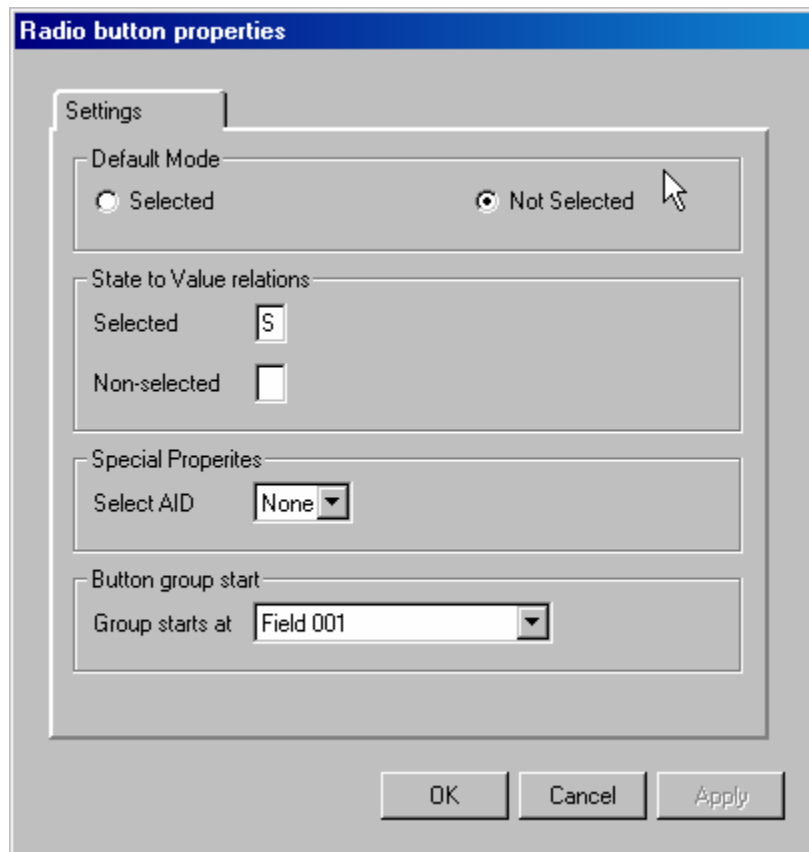
A radio button, as shown below in figure 6, provides the ability to replace a series of fields with a group of Radio Buttons.



Figure 6 – Field replacement Radio Button

Note that unlike other GUI gadgets, a single Radio Button provides no usable functionality; only when a group of Radio Buttons are defined do the buttons provide any usefulness. This requirement stems from the basic functioning of Radio Buttons, where, within a group of buttons, only one button may be 'selected' (as shown above) at a time; whenever an un-selected button is clicked or selected, any currently selected button is un-selected prior to the new button being selected.

Defining the properties for a Radio Button is accomplished entirely on the Settings tab of the Radio Button properties notebook as shown below in figure 7.



The screenshot shows the 'Radio button properties' dialog box. The title bar is blue and contains the text 'Radio button properties'. Below the title bar is a tab labeled 'Settings'. The dialog is divided into four sections:

- Default Mode:** Two radio buttons are present. The first is labeled 'Selected' and is unselected. The second is labeled 'Not Selected' and is selected. A mouse cursor is pointing at the 'Not Selected' radio button.
- State to Value relations:** Two input fields are shown. The first is labeled 'Selected' and contains the letter 'S'. The second is labeled 'Non-selected' and is empty.
- Special Properties:** A dropdown menu labeled 'Select AID' is set to 'None'.
- Button group start:** A dropdown menu labeled 'Group starts at' is set to 'Field 001'.

At the bottom of the dialog are three buttons: 'OK', 'Cancel', and 'Apply'.

Figure 7 – Radio Button notebook

Due to the differences between a BMS text field, which theoretically can hold any single character as a value, and a Radio Button which is capable of displaying what is a visual interpretation of an 'on' or 'off' value, translations must be provided so that the resulting Eden Client screen program can properly display and process the Radio Button. During processing of a screen that contains Radio Buttons, Eden Client performs translations between the BMS value and the Radio Button state (on/selected and off/un-selected) during SEND and RECEIVE BMS operations.

The state of a Radio Button following a SEND is controlled both by settings on this notebook tab as well as the contents of the underlying BMS field.

The Selected and Not Selected settings in the Default Mode area control whether or not the Radio Button's selected state is on or off when the BMS field contains spaces or is null (i.e., low-values).

The State to Value relations fields allow for the equating of specific BMS values to either a selected or un-selected state for the button. For example, the button defined above in figure 7, upon completion of an EXEC CICS SEND MAP command would be un-selected if the BMS field contained spaces or low-values. This is due to the Default Mode setting being set to 'Not Selected'. If however, the BMS field contained an upper-case "S", the Radio Button would be selected.

During RECEIVE operations, normal BMS processing for modified fields applies, that is, fields whose FSET attribute bit is not set are not returned to the CICS program. Actions taken with the button, i.e., selecting or un-selecting it during screen input operations by the terminal user, will set the FSET bit and cause a translation based upon the values entered in the State to Value relations area to be used according to the new state of the button.

So, for example if the above button were included in a map and the BMS field contained low-values during the SEND operation the button would be un-selected. If the user subsequently clicked or selected the button, the underlying BMS field would contain an "S" after completion of a RECEIVE operation.

Beyond the Default and State-to-Value relations definitions, Radio Buttons must be defined as part of either an existing group or as the first button in a new group. The combo box "Group starts at" provides all valid choices for defining which group the current button belongs to.

Although it varies slightly from customary GUI design practices, Radio Buttons in Eden may be defined to generate BMS AID keys; typically Radio Buttons only provide a

choice, which is subsequently 'read' in many cases as the result of a Push Button action, for example a "Continue" button. Any standard BMS AID key may be defined for a given Radio Button, including:

- PF1 through PF24
- PA1 through PA3
- Enter
- Clear (escape)

Note that care should be taken when defining Radio Buttons so that after completion of a SEND MAP command by an application program, only one Radio Button per group will have a 'selected' state. The Eden Client software does not perform checking of buttons within a group to ensure that output operations from application programs do not set more than one Radio Button. This processing is included in Eden Client to ensure that any possible un-expected BMS display data received from an application program does not cause BMS data to be translated to a selected/un-selected Radio Button state which might subsequently be re-translated back to a different BMS value when the terminal user presses Enter or otherwise generating a BMS AID key.

## Check Boxes

A Check Box, as shown below in figure 6, provides the ability to replace a field with a simple 'Yes' or 'No' type GUI gadget.



Figure 6 – Field replacement Check Box

Defining the properties for a Check Box is accomplished entirely on the Settings tab of the Check Box properties notebook as shown below in figure 7.

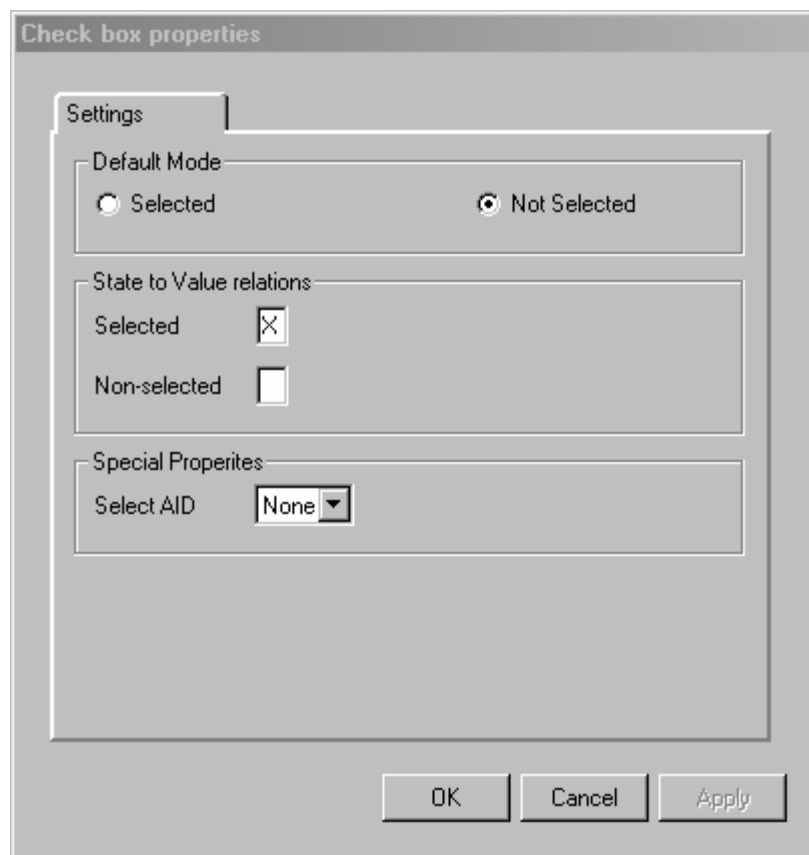


Figure 7 – Check Box notebook

Due to the differences between a BMS text field, which theoretically can hold any single character as a value, and a Check Box which is capable of displaying what is a visual interpretation of an 'on' or 'off' value, translations must be provided so that the resulting Eden Client screen program can properly display and process the Check Box. During processing of a screen that contains Check Boxes, Eden Client performs translations between the BMS value and the Check Box state (on/selected and off/un-selected) during SEND and RECEIVE BMS operations.

The state of a Check Box following a SEND is controlled both by settings on this notebook tab as well as the contents of the underlying BMS field.

The Selected and Not Selected default mode settings control whether or not the Check Box's selected state is on or off when the BMS field contains spaces or is null (i.e., low-values).

The State to Value relations fields allow for the equating of specific BMS values to either a selected or un-selected state for the button. For example, the Check Box defined above in figure 7, upon completion of an EXEC CICS SEND MAP command would be un-selected if the BMS field contained spaces or low-values. This is due to the Default Mode setting being set to 'Not Selected'. If however, the BMS field contained a capital "X", the Check Box would be selected.

During RECEIVE operations, normal BMS processing for modified fields applies, that is, fields whose FSET attribute bit is not set are not returned to the CICS program. Actions taken with the button, i.e., selecting or un-selecting it during screen input operations by the terminal user, will set the FSET bit and cause a translation based upon the values entered in the State to Value relations area to be used according to the new state of the button.

So, for example if the above Check Box were included in a map and the BMS field contained low-values during the SEND operation the button would be un-selected. If the user subsequently clicked or selected the Check Box the underlying BMS field would contain an "X" after completion of a RECEIVE operation.

Although it varies slightly from customary GUI design practices, Check Boxes in Eden may be defined to generate BMS AID keys; typically Check Boxes only provide a choice, which is subsequently 'read' in many cases as the result of a Push Button action, for example a "Continue" Push Button. Any standard BMS AID key may be defined for a given Check Box, including:

- PF1 through PF24
- PA1 through PA3
- Enter
- Clear (escape)

## Combo Boxes

A Combo Box, sometimes also referred to as a 'Drop Down' or 'Pop Up' List, as shown below in figure 8, provides the ability to either replace or enhance an existing Entry Field.

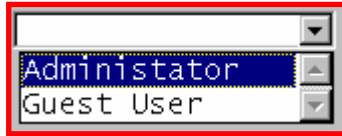


Figure 8 – Field Replacement Combo Box

As can be seen from the image above, a Combo Box actually consists of four separate gadgets; 1) the original entry field with 2) a button appended to the right side that opens 3) a list box that contains 4) the allowable choices.

In addition to providing the functionality of a standard Combo Box, Eden provides a number of options and choices that can allow a wide range of uses for the Combo Box.

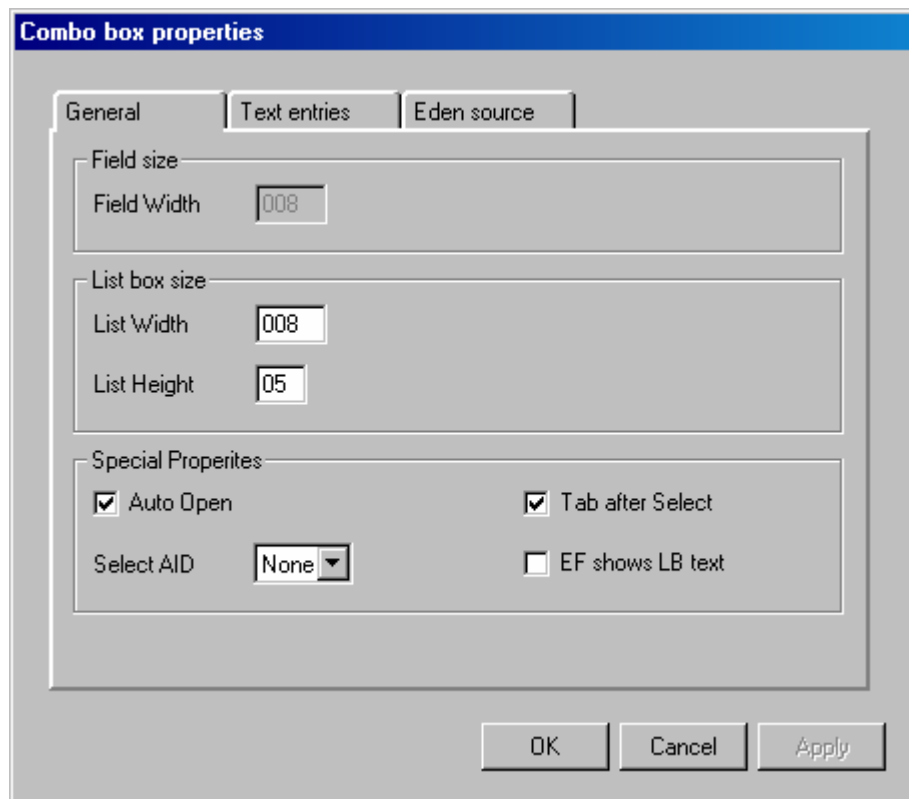


Figure 9 – Combo Box notebook, General Tab

Definition of the size, type and other properties for Combo Boxes are all made via the Combo Box notebook as shown above in figure 9.

Combo Box position always follows the position of the field being replaced, however the size of the Entry Field portion of the Combo Box is dependent upon whether or not the Entry Field (EF) portion of the gadget is to display the actual BMS text or the text from the List Box portion of the Combo Box. This is controlled by the EF shows LB text control as shown above. When this feature is selected, the displayed combo box will behave as a standard Windows combo box, where a choices must be made from the items in the list. Data entry in this type combo box is not allowed. When not activated, the combo box will allow a user to key text directly into the entry field portion of the gadget. A combo box such as this is termed a 'dual mode combo box' and behaves essentially like a standard entry field, except that by using the drop down list portion of the gadget, pre-defined choices may be selected.

Regardless of which type of combo box is being defined, additional special properties may also be defined, including the ability to:

- Have the combo box automatically open when tabbed to, if the entry field portion is empty.
- Have the combo box generate a Tab key after a selection is made from the drop down list portion.
- Have the combo box generate any standard BMS AID key after a selection is made from the drop down list portion.

The width of the entry field portion of the combo box will vary with the type of control, i.e., dual-mode or standard. For dual mode fields the displayed entry field size will match that of the underlying BMS field. For standard combo boxes the width of the entry field will match that of the mapped-to GUI text. For both types of gadgets, the height of the displayed list box portion will be the lesser of the number of available entries or the defined List Height.

The physical display and processing characteristics of the combo box are of course, only part of the definitions required. The data / text to display in the combo box must be defined as well.

As of version 3.01 of Eden Server, combo box data may be defined either as static text entries, or from data retrieved from Eden Server controlled CICS based indexed data files.

Static text entries are defined using the Text tab of the combo box notebook as shown below in figure 10.

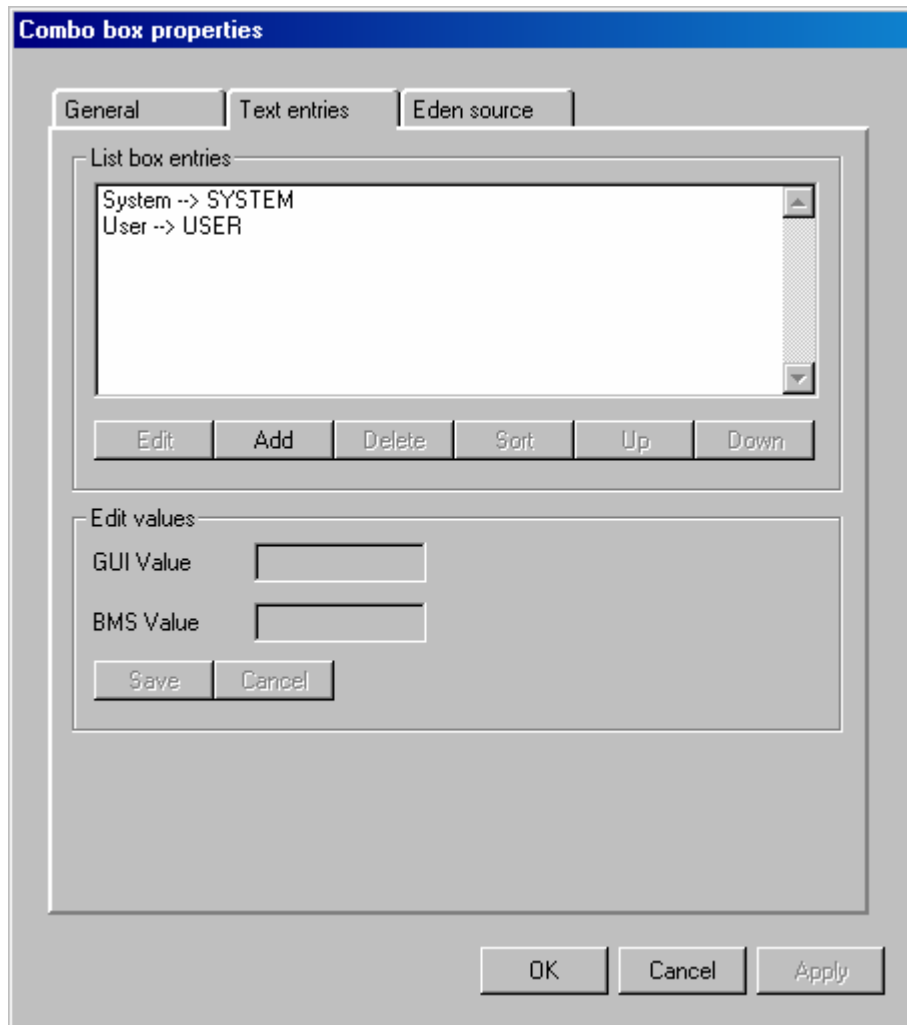


Figure 10 – Combo Box Text tab

The Text entries tab allows pre-defined values for the combo box to be created and maintained. The text entries shown in the List Box Entries area of the notebook tab are used to create the list box choices for the combo box as well as in translation between GUI and BMS values during send and receive BMS operations. Entries are maintained by highlighting them and then using the appropriate push button. Using static text entries in combo box definitions is helpful when either a finite set of possible values are accepted by a field. The previous example of a one character screen field that determines a function of 'A', 'B', 'C' or 'D' for Add, Browse, Change and Delete could be accomplished easily with text entries.

Text entries may also be used in combination with the second combo box data source; Eden Server data files. By using the Eden Source tab of the Combo box notebook, as shown below in figure 11, combo boxes may be made to include file based entries.

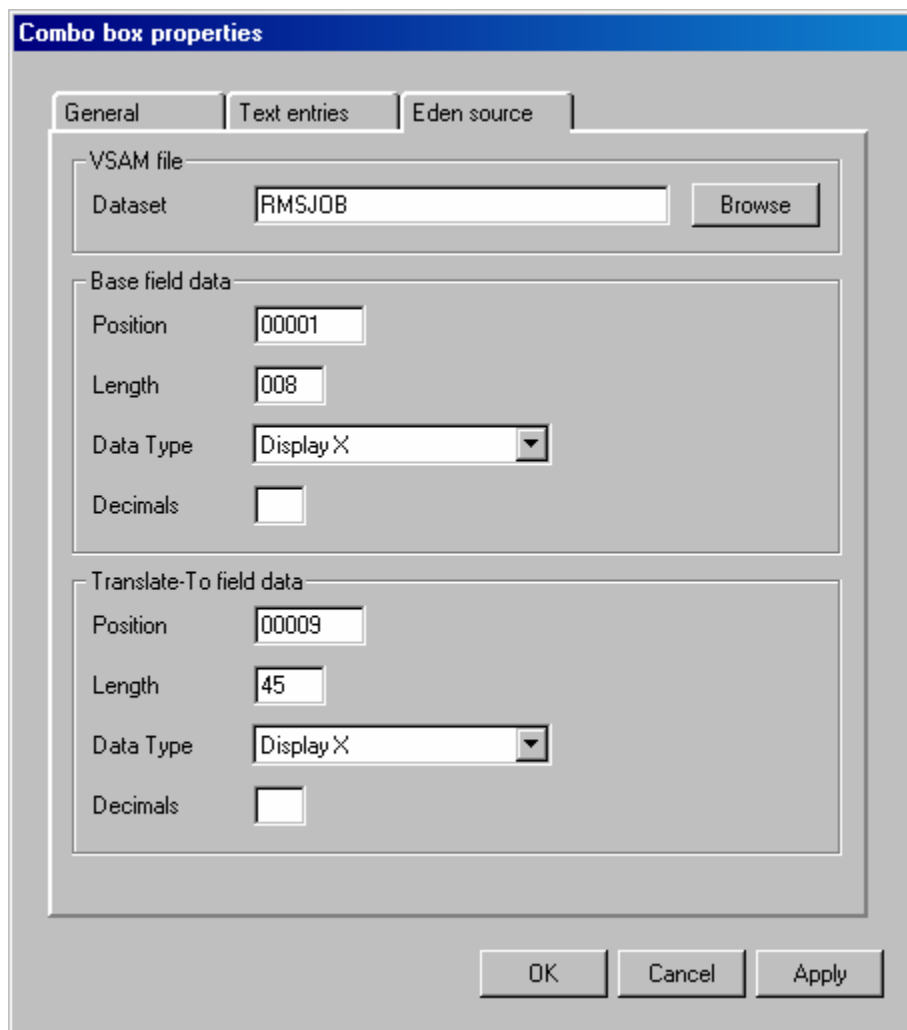


Figure 11 – Combo Box Eden tab

When configured, the Eden Source tab allows data to be dynamically extracted from indexed files at run time. An example of where this processing is most effective is the case of a screen field that contains a record key, values for which are likely cryptic and may not necessarily be meaningful to untrained users. For example, most accounting systems classify ledger accounts by number, i.e., “Account 1234 is Cash Sales”. Obviously to access the Cash Sales account, the user would have to know that the number is 1234.

In such a case, the Eden Source may be configured to access the Account Master file, which would likely be ‘keyed’ by account number and contain the account name as data within the record. Specifically, the ‘Base Field Data’ area of the Eden Sources tab would be set to point to the account number area of the record and the ‘Translate-to’ area would be set to point to the account name area of the record.

Note that knowledge of the file name, record layout and field definitions are required for defining Eden Sources.

When in use, combo box data from Eden Sources is extracted from the file and inserted

along with the properties for the field at run time. In cases where text entries are used in combination with Eden Source data, the resulting display is sorted.

## **List Boxes**

List Boxes are supported only under version 3.1 of the Eden Screen Editor.

## Extended Properties

In addition to providing the ability to replace standard text entry fields with GUI gadgets, the Eden Screen editor also provides the ability to add non-field related GUI's to BMS maps. GUI's added to maps where there is no underlying field being replaced are referred to as part of the map's Extended Properties. Like normal field replacement GUI's, the Extended Properties of a map are effective only during graphical display mode and do not appear when the client interface has been switched to character mode.

Extended properties include Group Boxes with optional text, Text buttons, HTML / Document links and in version 3.1 and higher, Bitmaps.

Note that as gadgets defined as Extended Properties are not related to BMS fields or text, their use will never require any changes to the underlying BMS map or the CICS application programs that use the map.

The types of gadgets that may be added as an Extended Property are:

- Text Buttons
- HTML / Document Links
- Group Boxes with optional text
- Bitmaps (version 3.1 of Eden Server or higher)

Each of these gadgets are described in detail on the following pages.

## **Text Buttons**

Text Buttons are supported as and defined using the Push Button tools. The only difference between 'Push Buttons' and 'Text Buttons' being that Text Buttons are not associated with an existing BMS field.

For information on defining and using Text Buttons, please refer to the section above on Push Buttons.

## HTML / Document links

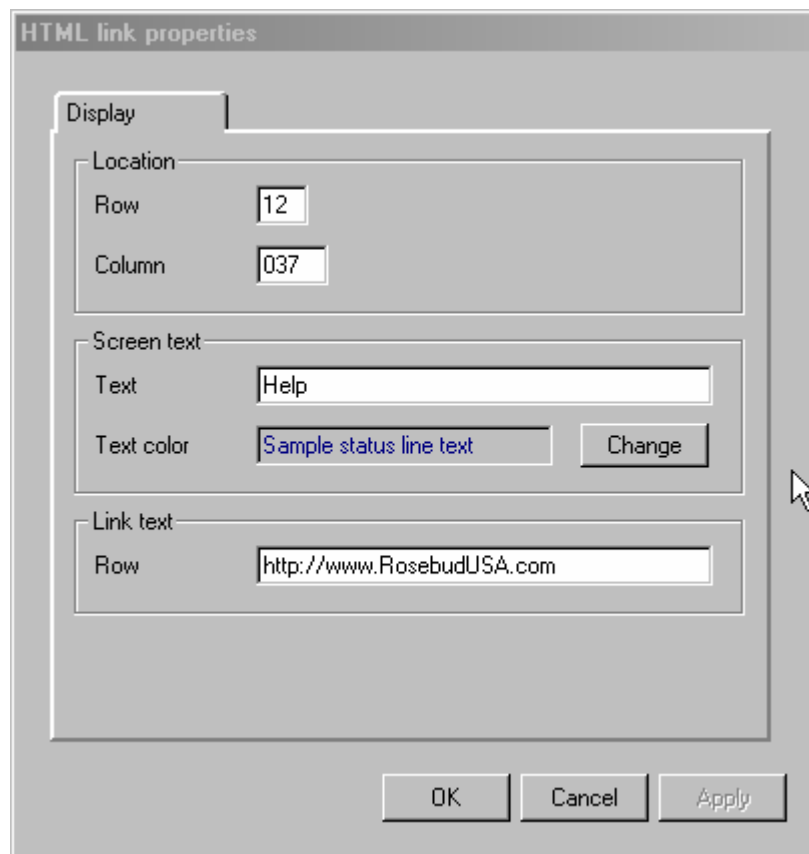
HTML and Document links may be added to any screen and will appear as normal text, however the text is underlined to signify the availability of the link, as show below in figure 12.



Figure 12 - HTML link

Extended property links may be used to open any file type for which there is an associated viewer program installed.

To add a new link, click the 'New' button on the Extended Properties tool window and the HTML link properties notebook, shown below in figure 13 will be displayed.



The image shows a dialog box titled "HTML link properties" with a "Display" tab selected. It contains three main sections: "Location" with "Row" set to 12 and "Column" set to 037; "Screen text" with "Text" set to "Help" and "Text color" set to "Sample status line text" (with a "Change" button); and "Link text" with "Row" set to "http://www.RosebudUSA.com". At the bottom are "OK", "Cancel", and "Apply" buttons.

Figure 13 – HTML properties notebook

Setting up a document link consists of defining the screen display text, it's position and color and the link text itself. For example, the notebook settings above would result in displaying a link that reads '[Help](http://www.RosebudUSA.com)' at column 37 of line 12 on the screen. Clicking the link with the mouse pointer would start a browser session with the home page of the RosebudUSA.com web site using the PC's default browser.

## Group Boxes

Group Boxes allow borders and optionally text to be displayed on the screen as shown below in figure 14. Group boxes allow screen areas to be visually separated. This can be very useful on screen where multiple logical areas are present on the screen at one time.

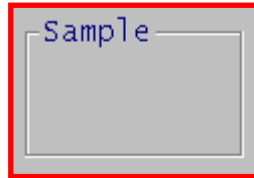


Figure 14 – Group Box with text

Note that as a display-only type gadget, a Group Box has no processing behind it, therefore no actions are associated with it. Settings for Group Boxes consist only of position and size information and optional text and text-color settings. The Group Box properties notebook is shown below in figure 15.

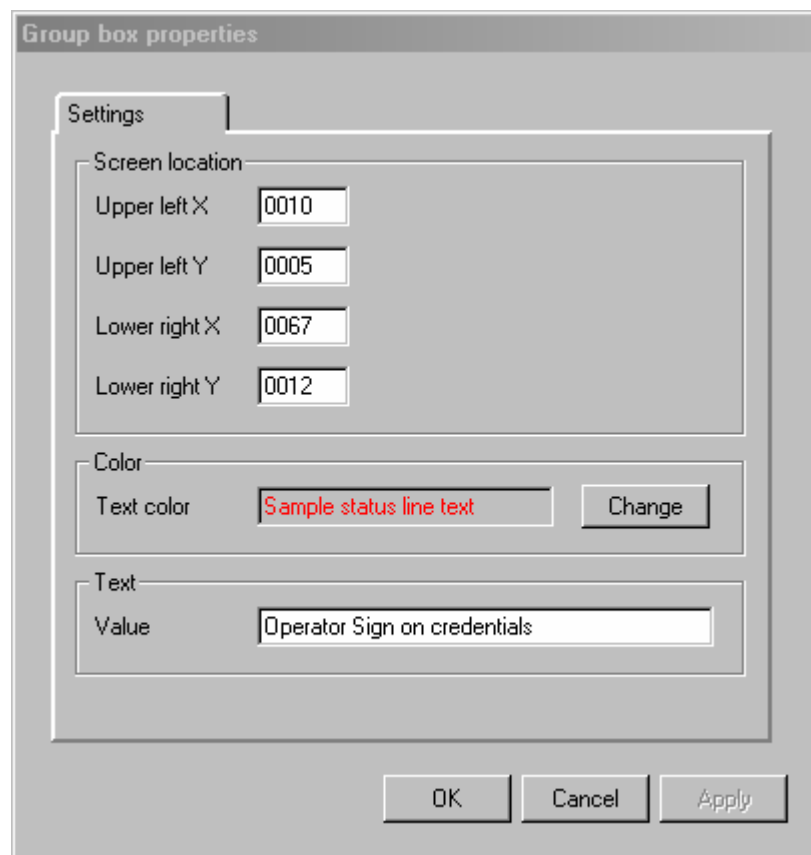
A screenshot of a software dialog box titled "Group box properties". The dialog has a "Settings" tab selected. It contains three sections: "Screen location" with four input fields for "Upper left X" (0010), "Upper left Y" (0005), "Lower right X" (0067), and "Lower right Y" (0012); "Color" with a "Text color" field showing "Sample status line text" in red and a "Change" button; and "Text" with a "Value" field containing "Operator Sign on credentials". At the bottom are "OK", "Cancel", and "Apply" buttons.

Figure 15 Group Box properties notebook

## **Bitmaps**

Bitmap images are supported only under version 3.1 of the Eden Screen Editor.

## Using the editor

## **Edit Tools**

The Edit Tools window is a floating window that contains within it the five tool windows available in the Eden Screen editor. All editing activities, with the exception of building the final .dll file for use with Eden Server, are performed using the tools provided on the tools windows.

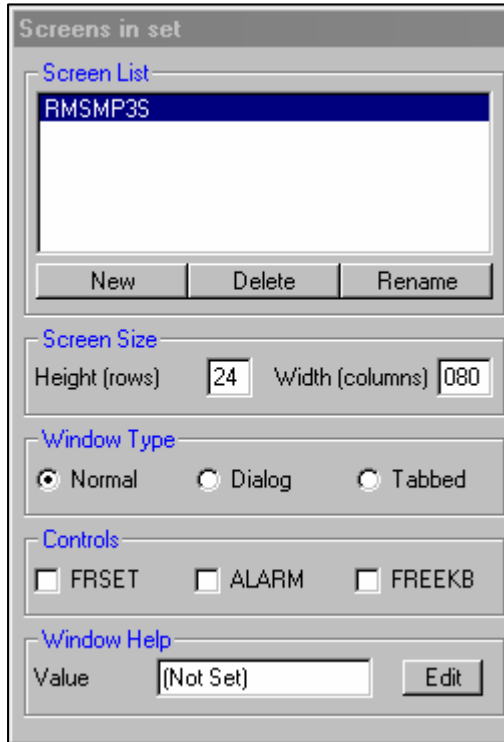
These windows and their purposes are:

- The Screen List window represents the Eden equivalent of a BMS mapset. The maps that make up the mapset are listed and buttons are provided for adding, deleting and renaming individual maps, as well as other advanced settings.
- The Field Properties window displays the input-output fields for the currently displayed map. The Eden equivalent of all standard BMS parameters is provided, plus additional enhanced settings are also included.
- The Text Properties window displays the output-only text definitions for the currently displayed map. The Eden equivalent of all standard BMS parameters is provided, plus additional enhanced settings are also included.
- The Extended Properties window allows for the definition of non-field-related GUI's for the currently displayed map.
- The Window Properties window is reserved for future use and is marked 'Inactive' in this release of the Eden Screen editor.

The following pages describe the functions and features of each of these windows.

## Screen List

This tool window shows the list of maps that are in the mapset, where each map is represented by a one line entry in the 'Screen List' list box, as shown below in figure ?.



The contents of the Screen List always reflects the current map being edited. Switching from one map to another causes the Screen List to automatically be updated for the new map window.

Similarly, the Screens in Set window also automatically adjusts it's contents based upon mouse clicks on map windows.

Once selected, the remaining controls on the window will be set to match the selected map.

### Screen List Action buttons

Located directly underneath the Screen List are the Action Buttons which have the following functions:

- **New** causes a new, blank, map to be added as the last map in the mapset.
- **Delete** removes the selected map from the mapset.
- **Rename** displays the Rename Map dialog.

In addition to providing control over which maps belong to a mapset, the Screens in Set window also allows setting of the map size, type and other features.

The **Height** and **Width** controls in the Screen Size area allow for direct setting of the window size. Screen re-sizing may also be accomplished by using the mouse to drag the sizeable border of the actual map edit window, however direct entry of the map size is sometimes easier. Minimum screen size is 1 column wide by 1 row high. Maximum screen size is 66 rows high by 133 columns wide. The default size is the standard 24 by 80 (rows by columns).

When re-sizing screens there is, beyond the 133 by 66 maximum, no limit on what particular screen size may be chosen. When reducing screen size, however, the contents of the screen do limit the minimum size. When reducing, the screen editor

Figure 16 Screens in Set window

examines all screen items; i.e., fields, text, and extended properties, for starting column and width. The screen editor also examines which lines, or rows, are in use. The screen will not be reduced beyond the point at which screen items are defined.

The Window Type area currently supports on the '**Normal**' window type setting. The '**Dialog**' and '**Tabbed**' buttons will be supported in future releases of Eden Server.

The Controls area allows specification of standard BMS settings. The **FRSET** check box controls the resetting of Modified Data Tags. The **ALARM** check box controls the audible alarm on the PC (Eden Client plays the default 'ding.wav' file upon receipt of an ALARM command). The **FREEKB** check box is provided for compatibility only and performs no additional processing. Standard BMS allows for use of the FREEKB setting to control the resetting of the end users terminal keyboard lock setting which is generated automatically by IBM 3270 hardware.

The **Window Help** area provides the ability to specify user accessible help text (up to 2000 characters) which the Eden Client software formats and displays in a standard Help window. To set or modify the Window Help text, click the associated 'Edit' push button which will display a help text entry dialog box.

## Field Properties

The screenshot shows the 'Field Properties' dialog box. At the top is a title bar with the text 'Field Properties' and a mouse cursor. Below the title bar is a section titled 'Field List' containing a list box with six entries: MP7LCP1, MP7LCP2, MP7LCP3, MP7LCP4, MP7LCP5 (which is highlighted), and MP7LCP6. Below the list box are two rows of buttons: the first row contains 'New', 'Delete', 'Tab +', 'Tab -', and 'Show Tab'; the second row contains 'Gadget', 'Properties', 'Move', and 'Rename'. Below the buttons is a section titled 'Position / Size' with three input fields: 'Row' with the value '11', 'Column' with the value '007', and 'Length' with the value '0070'. Below that is a section titled 'Attributes' with several checkboxes: 'Autoskip', 'Numeric', 'Protected', 'Modified' (checked), 'Cursor', 'Bright', 'Dark', and 'Pointer aware'. There is also a 'Color' button. Below the attributes is a section titled 'Justification / Padding' with four radio buttons: 'Left Justified' (selected), 'Right Justified', 'Space filled' (selected), and 'Zero filled'. Below that is a section titled 'COBOL Info' with three input fields: 'Input PIC', 'Output PIC', and 'Occurs' with the value '001'. At the bottom is a section titled 'Text' with three input fields: 'Initial Value', 'Mouse Over' with the value '(Not Set)', and 'Field Help' with the value '(Not Set)'. Each of these three input fields has an 'Edit' button to its right.

The Field Properties tool window provides the tools and settings for all input-output fields defined in a map.

The contents Field List always reflects the currently displayed map being edited. Switching from one map to another causes the Field List to automatically be updated for the new map window.

Similarly, the Fields Properties window also automatically adjusts it's contents based upon mouse clicks on map windows.

To select a field, either click the mouse over the field as it is displayed in the map edit window, or click the field name in the Field List.

Once selected, the remaining controls on the Field Properties tool window will be set to match the selected field. The field, or gadget, on the map edit window is also highlighted with a wide red border to allow easily visual verification of location an appearance.

### Field List Action buttons

Located directly underneath the Field List are the Action Buttons. The Action Buttons have the following functions:

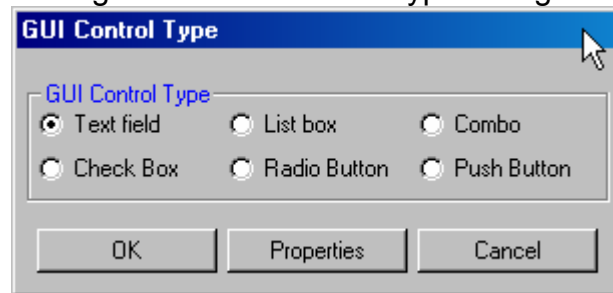
Figure 17 - Field Properties

- **New** creates a new field at row 1, column 1 of the display. The Mouse is automatically placed into Move mode for the field allowing quick and easy positioning of the field by dragging it with the mouse.
- **Delete** deletes the current field.
- **Tab+** changes the current fields position in the tabbing sequence for the map. Tab+ moves the fields tab order one position closer to the start of the map's overall tab sequence.
- **Tab-** changes the current fields position in the tabbing sequence for the map. Tab- moves the fields tab order one position closer to the end of the map's overall tab sequence.

**Note:** The default tab sequence of a map is from left to right and from top to bottom. Altering the default tabbing order for a map can be useful for those applications where multi-line items, such as addresses, appear in a columnar format. In such a case, the operator would expect, in a Windows application, for the tabbing order to follow the logical progression of fields for data entry, that is, for the tab key to move the cursor through the address fields in each column before advancing to the next column. Altering the tab order will cause the end application to, when displayed in GUI mode, to follow this logically expected tabbing. Also note that when displayed in character mode, all screens use the default left right, top bottom tabbing regardless of any changes applied to the map.

- **Show Tab** causes all map fields and gadgets to be temporarily overlaid with a small graphic that includes the fields position in the tab sequence. Once displayed, the tab indicators are removed automatically by clicking anywhere on the map, or by clicking any edit tool or control.
- **Gadget** displays the GUI control type selection dialog as shown below in figure ?. The available radio buttons on this dialog may be used to change a field into any of the listed gadget types. Note: List Box gadgets are only supported in version 3.1. Clicking any of the radio buttons will automatically change the displayed field to the newly selected type and will also open the properties notebook for the gadget. Note that not all fields may be changed to all gadget types. Limitations on the amount of space available on the screen are taken into account and if changing a field into a particular gadget type would cause the new gadget to overlay any other field or gadget already displayed, the change will not be allowed.

Figure 18 GUI Control Type dialog



See the section above entitled Field Replacement GUI's for complete information on each of the listed gadget types.

- **Properties** displays the properties notebook for the field or gadget.
- **Move** places the mouse into field move mode. In this mode, the mouse pointer changes shape and is repositioned to the beginning of the field. By dragging the mouse across the map edit window, the field or gadget can be moved. Note field size and position are taken considered when moving fields and gadgets; A move will not be allowed if it will cause the field to overlay any other existing field or gadget.
- **Rename** allows the name of the field to be changed. Note field names for map

fields are bound by the same restrictions as are imposed by standard IBM BMS assembler macro's. Names must be 7 characters or less and must be unique within both the map and mapset.

**Note:** Many of these functions are also available by right clicking a field on the map edit window which will display an abbreviated menu of functions that can be performed on the field.

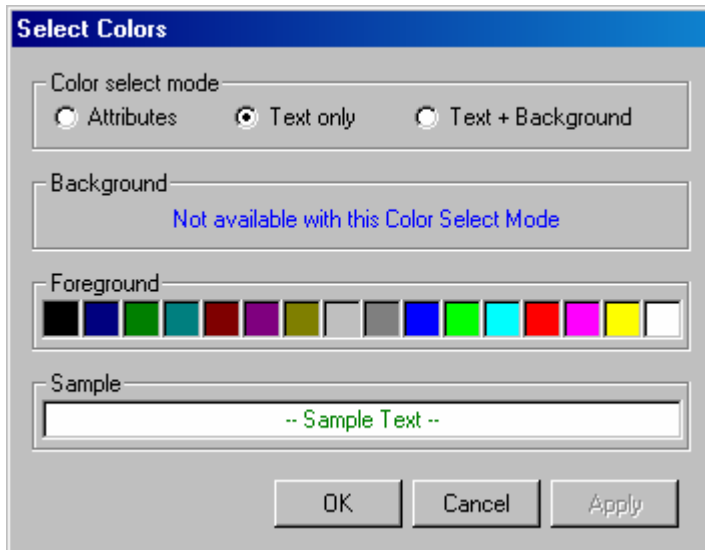
Detailed settings and manipulations of fields is also be performed by using the other edit controls as follows:

The controls shown in the **Position / Size** area allow for direct setting of the fields position and length. Note that the starting position of a field or gadget may also be changed by clicking the Move action button as described above. The defined length of an input output field, however, must be manually entered in the Length field.

The controls shown in the **Attributes** area correspond to standard BMS attributes and can be used to define the initial attributes of the field or gadget. Note that any settings made here may be overridden by the supporting CICS COBOL application program. Most of the checkboxes shown are self-explanatory, however for completeness, each check box has the following meaning:

- **Autoskip** is equivalent to coding ASKIP in a standard BMS macro.
- **Numeric** is equivalent to coding NUM in a standard BMS macro.
- **Protected** is equivalent to coding PROT in a standard BMS macro.
- **Modified** is equivalent to coding FSET in a standard BMS macro.
- **Cursor** is equivalent to coding IC in a standard BMS macro.
- **Bright** is equivalent to coding BRT in a standard BMS macro.
- **Dark** is equivalent to coding DRK in a standard BMS macro.
- **Pointer Aware** is equivalent to coding SPD in a standard BMS macro. Note that Eden client is configurable to support use of the mouse pointer and mouse button 1 as the equivalent of a IBM 3270 based light pen.

The Color button in the Attributes are allows for the specification of display colors for the field. When pushed or clicked, the Color button causes the Select Colors dialog to be displayed as shown below in figure ?



The Select Colors dialog allows for standard and extended color settings. Standard colors, available by selecting the Attributes radio button, cause the display color of the field to be set based upon the actual BMS attribute present for the field when an EXEC CICS SEND MAP command is processed. When selected, attribute based colors causes both Foreground and Background color selection areas to be eliminated, as is the Background area in figure ?, to the left.

Figure 19 Select Colors dialog

If extended colors are used, indicated by selecting the Text Only radio button, the Foreground area will display the 16 color selection buttons. By clicking a colored area, the text color will automatically change. Note, selecting Text Only is the equivalent of using the EXTATT parameter in a BMS macro. Use of Text Only will cause the symbolic map description copybook produced when the mapset is compiled, to include extra fields for extended attributes.

Selecting the Text + Background radio button allows background color to be modified in addition to the color of the text. Note, the default background color for a field when displayed in Eden Client GUI mode is white. When displayed in character mode the default background is black. Use of Text + Background will cause the symbolic map description copybook produced when the mapset is compiled, to include extra fields for extended attributes.

The controls shown in the **Justification / Padding** area allow the default behavior during data entry to be modified. Note that the default settings for a field change based upon whether the field includes the Numeric attribute. Default settings for Numeric fields are Right Justified and Zero filled. Non Numeric fields are Left Justified and space filled.

The controls shown in the **COBOL Info** area allow for entry of standard COBOL items including the specification of both input and output PICTURE clauses for the map and the number of times the field OCCURS.

The controls shown in the **Text** area allow for the specification of an initial field content value equivalent to an INITIAL= parameter on a standard BMS assembler macro. Also included are the Mouse Over and Field Help controls which allow for the specification of additional Eden only text. The text entered in the Mouse Over area allows for up to three lines of text to be entered. The text will be displayed in a standard mouse over

hinting box when the map is displayed and the mouse cursor is left motionless over the field for more than a few seconds. The information entered here should be brief and provide the user with an idea of the purpose of the field and the entry that should be made.

The text entered in the Field Help control allows for more detailed information describing the field and its uses and allowable values to be entered. Text entered here can be up to 32000 characters. When the completed map is displayed by your application, the Eden Client Help tool bar button can be used to display the text entered here. In practice, the user clicks the Eden client toolbar help button, which changes the Mouse pointer shape to the standard Help pointer which may then be dragged around the screen. When positioned over a field or gadget that has associated Field Help text, the field is highlighted with a red border. Clicking inside the border displays the help.

To edit the text associated with any of the control in the Text area, simply click the Edit button directly to the right of the desired text area. Editing can then be done in the displayed text editing dialog box.

## Text Properties

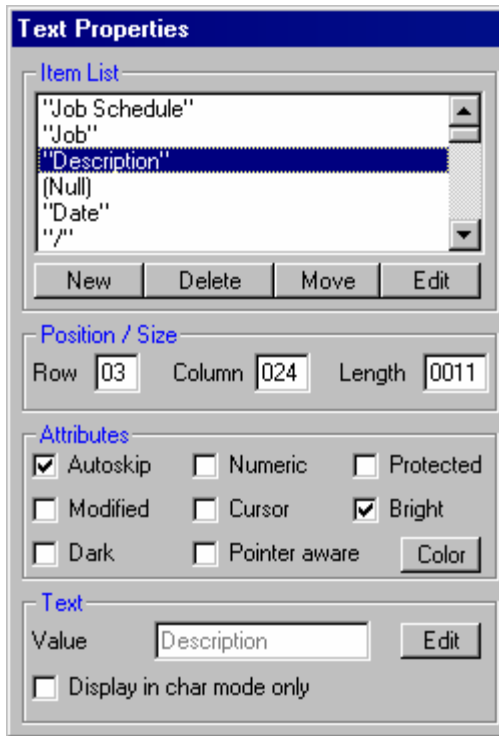


Figure 20 Text Properties  
window is also highlighted with a wide red border to allow easily visual verification of location an appearance.

The Text Properties, shown to the left in figure ? provides all tools and controls used in creating and editing static text in the map.

The contents Item List always reflects the currently displayed map being edited. Switching from one map to another causes the Item List to automatically be updated for the new map window.

Similarly, the Text Properties window also automatically adjusts it's contents based upon mouse clicks on map windows.

To select a text item, either click the mouse over the text as it is displayed in the map edit window, or click the text entry in the Item List.

Once selected, the remaining controls on the Field Properties tool window will be set to match the selected field. The field, or gadget, on the map edit

window is also highlighted with a wide red border to allow easily visual verification of location an appearance.

## Item List Action buttons

Located directly underneath the Field List are the Action Buttons. The Action Buttons have the following functions:

- **New** creates a new text entry at row 1, column 1 of the display. The Mouse is automatically placed into Move mode for the text; allowing quick and easy positioning of the field by dragging it with the mouse.
- **Delete** deletes the current text item. Note, if the text item is a stopper byte, this will cause any field that directly proceeds the text item to be extended in length.
- **Move** allows the text entry to be repositioned on the map by changing the mouse pointer to Move mode and allowing the text to be dragged to a new location.
- **Edit** causes the text entry dialog box to be displayed, allowing the text characters to display to be changed.

Additional settings provided on the Text Properties tool window include the controls shown in the Position / Size, Attributes and Text areas. These controls provide the following functions:

The Row, Column and Length items in the **Size / Position** area allow for the starting position and maximum length to be directly set with having to use the mouse.

The controls shown in the **Attributes** area are identical in name and function to those same controls displayed in the Attributes area of the Fields Properties tool window. Please refer to that section for information on the Attributes controls.

The controls in the **Text** area allow for the entry and editing of the text to display as well as the ability to optionally designate the text as 'Character mode only', which causes the Eden client to bypass displaying the text when the display is in GUI mode. Use of the 'Display in char mode only' check box is useful when adding enhanced gadgets to screens. One example might be the case where text entries are used to describe some default PF key functions. By designating the PF text as 'character only', one can then add enhanced push buttons that would perform the otherwise PF key driven functions. Such changes to a map can allow a number of usability and aesthetic improvements to a display while still preserving the original character based version that some users may be familiar with.

## Extended Properties



The Extended Properties tool window, shown to the left in figure ?, provides the controls and tools to add enhanced gadgets to a map.

The contents of the Item List box always reflects the currently displayed map being edited. Switching from one map to another causes the Item List to automatically be updated for the new map window.

Similarly, the Extended Properties window also automatically adjusts its contents based upon mouse clicks on map windows.

Figure 21 Extended Properties

To select an item, either click the mouse over the text as it is displayed in the map edit window, or click the text entry in the Item List.

Once selected, the remaining controls on the Extended Properties tool window will be set to match the selected screen gadget. The gadget on the map edit window is also highlighted with a wide red border to allow easily visual verification of location and appearance.

### Item List Action buttons

Located directly underneath the Field List are the Action Buttons. The Action Buttons have the following functions:

- **New** creates a new text entry at row 1, column 1 of the display. The Mouse is automatically placed into Move mode for the text; allowing quick and easy positioning of the field by dragging it with the mouse.
- **Delete** deletes the current text item. Note, if the text item is a stopper byte, this will cause any field that directly proceeds the text item to be extended in length.
- **Move** allows the text entry to be repositioned on the map by changing the mouse pointer to Move mode and allowing the text to be dragged to a new location.
- **Size** allows the size of Group Box and Text Button gadgets to be sized via dragging the gadget border to the desired location.
- **Tab+ Tab-** allow the tabbing order of the selected gadget to be moved up or down

within the overall tabbing sequence of fields and gadgets on the map.

- **Show Tab** causes all map fields and gadgets to be temporarily overlaid with a small graphic that includes the fields position in the tab sequence. Once displayed, the tab indicators are removed automatically by clicking anywhere on the map, or by clicking any edit tool or control.

## **Window Properties**

The Window Properties edit tool window is inactive under release 3.0 of the Eden Screen Editor.


## Glossary of Terms

AID key	An acronym for 'A'ttention 'ID'entifier, an AID key is any key capable of satisfying a RECEIVE operation. Standard AID keys include F1 through F24, PA1 through PA3, Enter and Clear.
Bitmap	A Bitmap is a graphics image file that contains a picture. Bitmap files are recognized by the file name extension of '.bmp'.
BMS	An acronym for 'B'asic 'M'apping 'S'upport. BMS is an IBM program that allows definitions of text and field display information to be used to read and write full or partial screen displays.
Check Box	A graphical representation for an input-output field, a Check Box consists of a small bordered area within which a check-mark is displayed when the field is selected, or blank space is displayed if the field is un-selected. Check Boxes provide easy visual representation of a field that has only two values, for example 'On' or 'Off', 'Yes' or 'No'. Users toggle the setting of a Check Box on the screen either with the left mouse button, or if the Check Box is currently in-focus, the space bar may be used.
Color	Within Eden software, Colors are generally defined in terms of a fore-ground and back-ground color value. For example, for text, the back-ground color specifies the color of the underlying screen area, while the fore-ground color specifies the color of the actual characters.
Combo Box	A Combo Box is so named because as a gadget, it is a combination of and Entry Field, a Button and a List Box. Combos are sometimes also referred to as Drop-Downs, Pop-Up or Selection Lists. Regardless of name, Combo's provide a way to easily provide a known set of choices from which the user can select one option. Selection of an item can be done with the left mouse button or the up and down arrow cursor keys.
Constants	Text labels on screen displays in the Eden system are referred to as 'Constants', as opposed to 'Fields' as they represent output-only data that may not be changed by the user or programmer. In the Eden Screen editor, Constants are managed using the Text Properties tool window. When a text item is selected in the screen editor, it will be highlighted with a bright yellow border.
Dialog Box	A Dialog Box is a window that forces a user to make a choice before proceeding. The property of a Dialog Box window that in fact makes it a Dialog Box, as opposed to a normal window, is that when displayed, the user must take some action as provided by the Dialog Box itself before proceeding. Attempts at actions outside the dialog box are ignored by the application. An example of a

commonly known and used Dialog Box is a 'File Open' type window, wherein the user must either select a file and click Open, or click Cancel.

Document Link	A Document Link, within Eden software, consists of a text display which is visible to the user, as well as hidden text representing a document to be opened when the link is clicked or selected by the user. The displayed text may be any valid display characters which will be shown on the screen in the standard font, however it will be underlined. The link text may represent any web-site address or other file link for which Windows has an installed program name to file extension association, i.e., ".doc" files are generally associated with Microsoft Word, and ".html" files are associated with the PC's default browser.
Drop Down List	See Combo Box.
Extended Attribute	A BMS term used to describe a map whose fields contain extra information allowing for extended color settings to be used. Eden supports Extended Attributes for colors only. BLINK, REVERSE, OUTLINE and other attributes are not supported. Use of Extended Attributes may not be desirable for graphical mode displays either, as the default background for graphical displays is light gray, whereas the default is black for character displays. Depending upon the particular colors set via the Extended Attribute of a field either in the screen editor or via the associated CICS application program, the contrast between the text color and the screen or field background may cause readability problems.
Fields	Fields in Eden are defined only for those items that are input-output fields, what would be in a BMS Assembler macro, a DFHMDF macro that includes a field name in column 1. Eden distinguishes between input-output and output-only definitions. Such 'named' DFHMDF definitions are considered fields, while the un-named definitions are considered to be simply 'Text'. Handling of each respective type, i.e., Fields and Text are done via the Fields Properties and Text Properties tool windows.
Field Attribute	In BMS all fields are defined with certain attributes, such as color, brightness, type (alpha/numeric) and others. Eden Screen editor allows selection of a fields standard BMS based attributes via the check boxes and radio buttons on the Field and Text Properties tool windows. Application programs should continue to use the same attribute values as they traditionally have. For convenience, though, the \SAMPLES\COPYBOOK directory of the Eden Server directory does include an Eden Server compatible DFHBMSCA copybook.
Field Help	Through use of the Eden Screen editor, context sensitive help may

be added to maps and individual fields and gadgets on maps. When allowed, based on field / gadget type, the bottom area of both the Field Properties and Extended Properties tool windows allow access to the 'Field Help' text entry area. To enter or change the help text, click the Edit button to the right of the abbreviated text display area. A maximum of 32,000 characters of help text may be entered. Text may be copied and pasted, however only raw text is supported; no special formatting abilities are provided.

Following adding the help text, Eden Client will display the help and optionally print it. Help is accessed via the 'mouse pointer / question mark  button.

Once clicked, the button causes the mouse pointer to change shape and when the mouse is moved over an object that has help text associated with it, the object will be highlighted with a red border. Clicking inside a bordered area displays the help.

Field help is available in both the character and graphical Eden Client display modes.

**Gadget** This term is used generically to describe any type of graphical display item such as a button, list box or other item that allows interaction with the user. Display only items, that do not allow interaction between the user and the program, such as a bitmap image, are not considered to be 'gadgets' per se.

**Gadget Accept** Gadgets, as defined above, are capable of signaling back to the CICS program that the user has performed some sort of action. Depending upon the particular type of gadget, how this "signaling" is accomplished may vary. For example, a push button may be made to generate a Gadget Accept event by either clicking it with the mouse button, or by hitting the Enter key while the button has the Input Focus. When designing new screens as well as enhancing existing ones, the particular gadget types chosen and the settings for their actions are important. By choosing appropriate gadget types to replace fields, or as add-on Extended Properties, screens may be made easier to use by significantly reducing the number of keystrokes / mouse actions required to navigate through the screen.

Group Box	A rectangular border that is displayed on a screen. A group box is not a user interact-able gadget, as it is insensitive to all events. A group box, though, can include optional color-able text and with proper positioning can help to make cluttered screens more readable.
Help Border	In Eden Client, when the user has selected the help toolbar button, the mouse pointer changes shape, indicating that the client screen is in 'help mode'. While in help mode and the mouse pointer is moved around the client screen area, map fields and gadgets that have help text associated with them will be highlighted with a double wide red border. Clicking inside a red bordered area will display the help text. Note that the help border will remain displayed while help text is displayed.
HTML Link	A specialized form of a Document Link that contains the address of a local or remote web page. Clicking or accepting an HTML link in Eden Client, causes the PC's default web browser to open the page specified in the link. Note that depending upon the link, this may require the clients PC to have an active internet connection.
Input Focus	This term applies to graphical screen items and refers to whether or not the cursor is positioned within the screen item / gadget. A gadget 'gains' and 'loses' Input Focus as the cursor is moved into and out of the gadget. Buttons and Links are visually highlighted with a small blue and yellow border when they have Input Focus. Combo and List boxes use reverse video type highlighting of the selected text to indicate when they have Input Focus. Standard Entry fields and character mode screens provide no enhanced visual Input Focus notification other than the flashing text cursor.
List Box	A display and input selection gadget used to allow the selection of one choice from a list of choices. List Boxes are not currently supported in Eden.
Menu Bar	A horizontal bar directly under a windows title bar that contains names of cascading menu's that may be opened. For example, most windows menu bar's start with 'File' and 'Edit'.
Mouse Over	This commonly used terms refers to the act of moving the mouse pointer over an item and the events that are triggered by the item & mouse. For example most web site links change color when the mouse is moved over the text.

Notebook	A special type of window that appears as a tabbed notebook, where each 'tab' is labeled. Clicking tabs re-arranges the displayed windows, and thus access to each 'page' of the notebook.
Pop Up menu	A menu that is not directly linked to a window, but instead floats above the window and may be repositioned by the user. Pop Up menu's are most commonly activated by mouse 'right clicks'. The most common example of a Pop Up is the 'cut/copy/paste' menu that appears in most word processors when highlighted text is right clicked.
Push Button	A graphical representation of a button that appears to be 'pushed in' when activated wither with the mouse or the Space or Enter keys. Push buttons signal events to the underlying application such as 'Continue' or 'Cancel', etc. Standard push buttons are activated by clicking them with the left mouse button. Push buttons may also be activated when the button has Input Focus by pressing the Space bar or the Enter key.
Radio Button	A graphical representation for an input-output field, a Radio Button consists of a small circular bordered area within which a smaller 'dot' symbol is displayed when the field is selected, or blank space is displayed if the field is un-selected. Radio buttons provide easy visual representations of a group of several fields where the combined fields values are used to indicate one unique choice. The best example, and the source of the gadgets name, is a car radio, where a group of 4 or 5 buttons are used to tune to one station at a time. Users toggle the setting of a Radio Buttons on the screen either with the left mouse button, or if the Check Box is currently in-focus, the space bar may be used.
Status Area	An area, usually at the bottom most position on a window, that is used by the application to display status and other informational only messages that do not require user responses.
Text Button	A Text Button is the term applied by the Eden Screen editor, to a Push Button that is not associated with an underlying BMS field. Other than the lack of this underlying relationship, Text Buttons are the same as Push Buttons in all respects.
Toolbar	A small horizontal area displayed directly underneath a windows title bar (or menu bar if present). Toolbars contain graphical push buttons that correspond to commonly used functions within the application. Toolbar buttons are generally used to provide shortcuts to existing functions that might otherwise require multiple repetitive mouse clicks to navigate to.

- User Exit A customer developed program that provides additional processing logic or features to a vendor developed software package. An example is the user-exit capabilities of Eden Client which allow user defined and controlled Menu Bar and Tool Bar items to be added to Eden Client based applications.
- Window Help Similar to Field Help (see above), except that Window Help is intended to refer to the entire screen display instead of individual fields. See Field Help above for more information on Eden Help features.
- 3270 data stream A technical term that refers to a BMS programming technique that involves the sending raw BMS commands, attributes and screen data to the terminal device. This method of programming is supported by Eden Client, however it's use does exclude the use of the extended capabilities available through the Eden Screen editor. This limitation is due to the dynamic screen image building that application programs use, to the exclusion of normal BMS maps and mapsets.