

What's New
In
R:BASE X.5
and
R:BASE X.5 Enterprise
(Version 10.5)





What's New in R:BASE X.5 and R:BASE X.5 Enterprise (Version 10.5)

by R:BASE Technologies, Inc.

Welcome to R:BASE X.5 (Version 10.5)!

R:BASE X.5 (Version 10.5) is the innovative release from R:BASE Technologies offering the latest relational database elements to create function-rich and visually appealing applications.

The must-have powerful and flexible features give users an extended range of dashboard controls encompassing simplicity without sacrificing elegance.

Providing crucial data protection, that is also reliable and secure, R:BASE X.5 delivers a versatile environment for building robust systems for real time data analysis and essential business management.

What's New in R:BASE X.5 (Version 10.5)

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First Edition

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1 Global Environment

The following X.5 (Version 10.5) features compliment several or all areas of the R:BASE development environment:

- Updated GUI to better match the appearance of Windows 10 operating systems
- Enhanced rendering of drop-down type menus in all designers, menus, and controls, where the object appears similar to a button
- Added disable/enable specific keys on the R:BASE On-Screen Keyboard (ROSK) using the PROPERTY ROSK ... command syntax

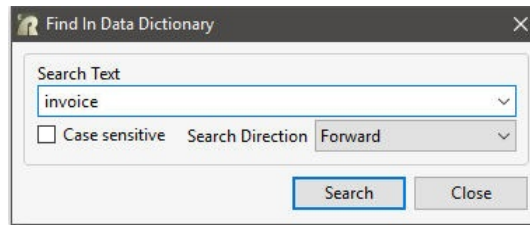
```
PROPERTY ROSK ENABLE_KEY <KeyName>  
PROPERTY ROSK DISABLE_KEY <KeyName>
```

Example:

```
PROPERTY ROSK SHOW TRUE  
PROPERTY ROSK TYPE ALPHA  
PROPERTY ROSK CAPTION 'Number Keys Are Disabled'  
PROPERTY ROSK DISABLE_KEY 1  
PROPERTY ROSK DISABLE_KEY 2  
PROPERTY ROSK DISABLE_KEY 3  
PROPERTY ROSK DISABLE_KEY 4  
PROPERTY ROSK DISABLE_KEY 5  
PROPERTY ROSK DISABLE_KEY 6  
PROPERTY ROSK DISABLE_KEY 7  
PROPERTY ROSK DISABLE_KEY 8  
PROPERTY ROSK DISABLE_KEY 9  
PROPERTY ROSK DISABLE_KEY 0
```



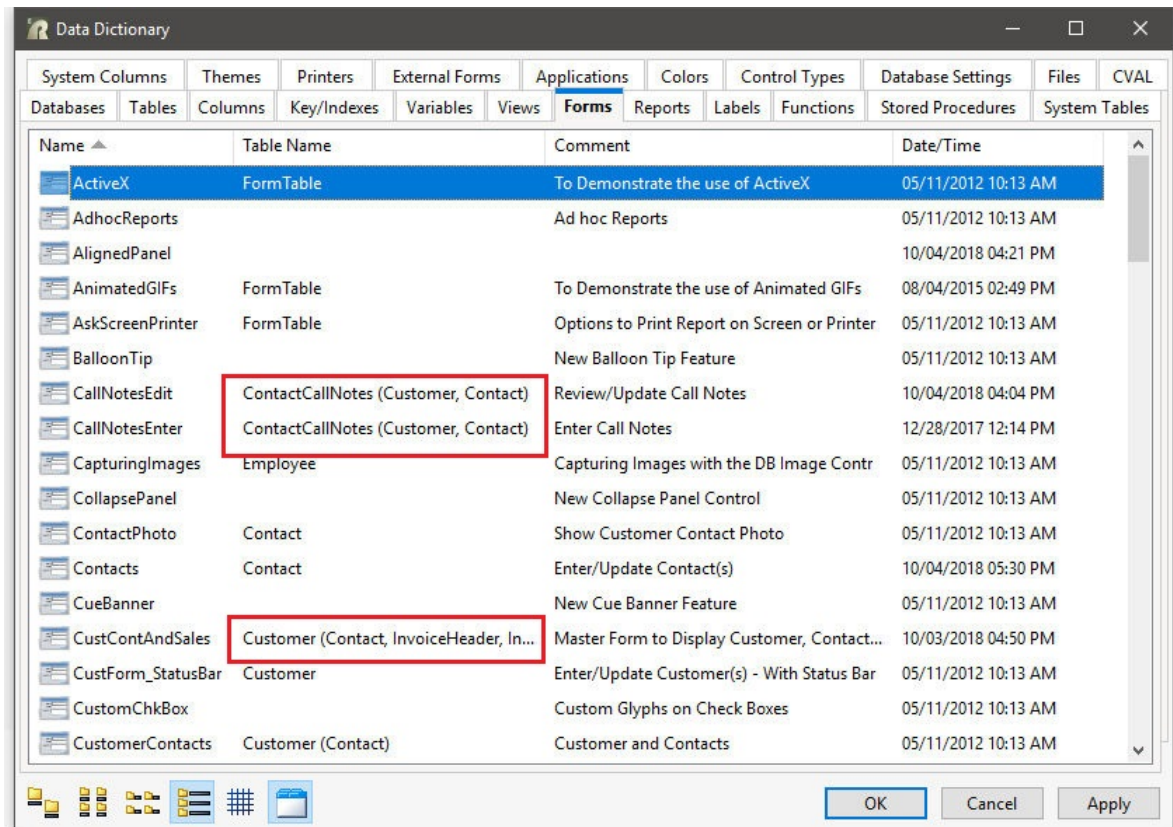
- Ability to utilize the Magnifying Glass utility as detached from R:BASE. Minimizing R:BASE will not minimize the Magnifying Glass making it usable outside the program. The added "-M" command line switch allows for instances where users only want to use R:BASE as a Magnifying Glass. The magnifier window can also be moved, pixel by pixel, without having to drag the window with the mouse. Use [Shift]+Mouse Wheel to move the window up/down and [Ctrl+Shift]+Mouse Wheel to move the window left/right for precise centering upon an area.
- Added "Find in Data Dictionary" search (Ctrl+N) to locate text of objects within the active tab. The entry box is also a drop down where the search history is available in the drop down items. To clear the history, press the [Ctrl+R] key combination. The search history is saved in the C:\Users\<User>\RBTI\ folder within the DATADICT.RST file.



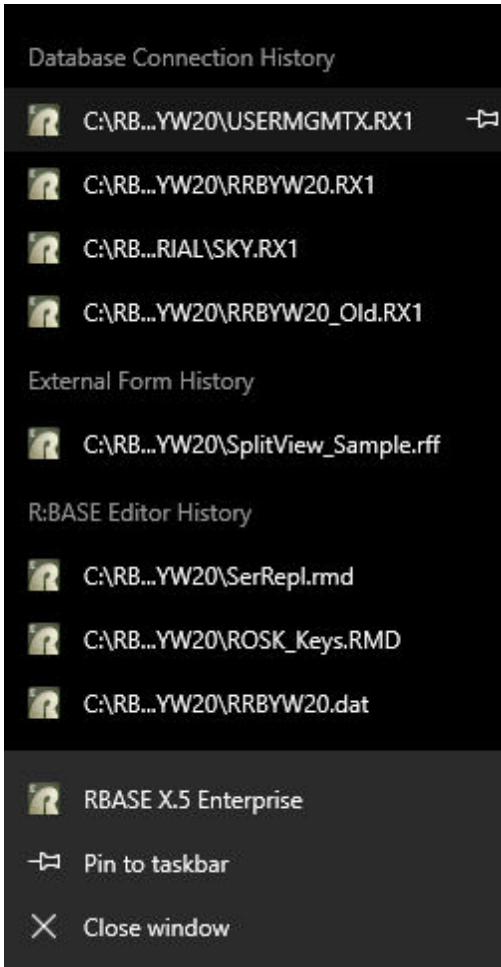
- Additional formats supported for REAL number values
- Added database "Integrity Check" option under the Utilities menu
- Enhanced **FEEDBACK** status dialog which displays the table name where rows are being inserted, updated, or deleted



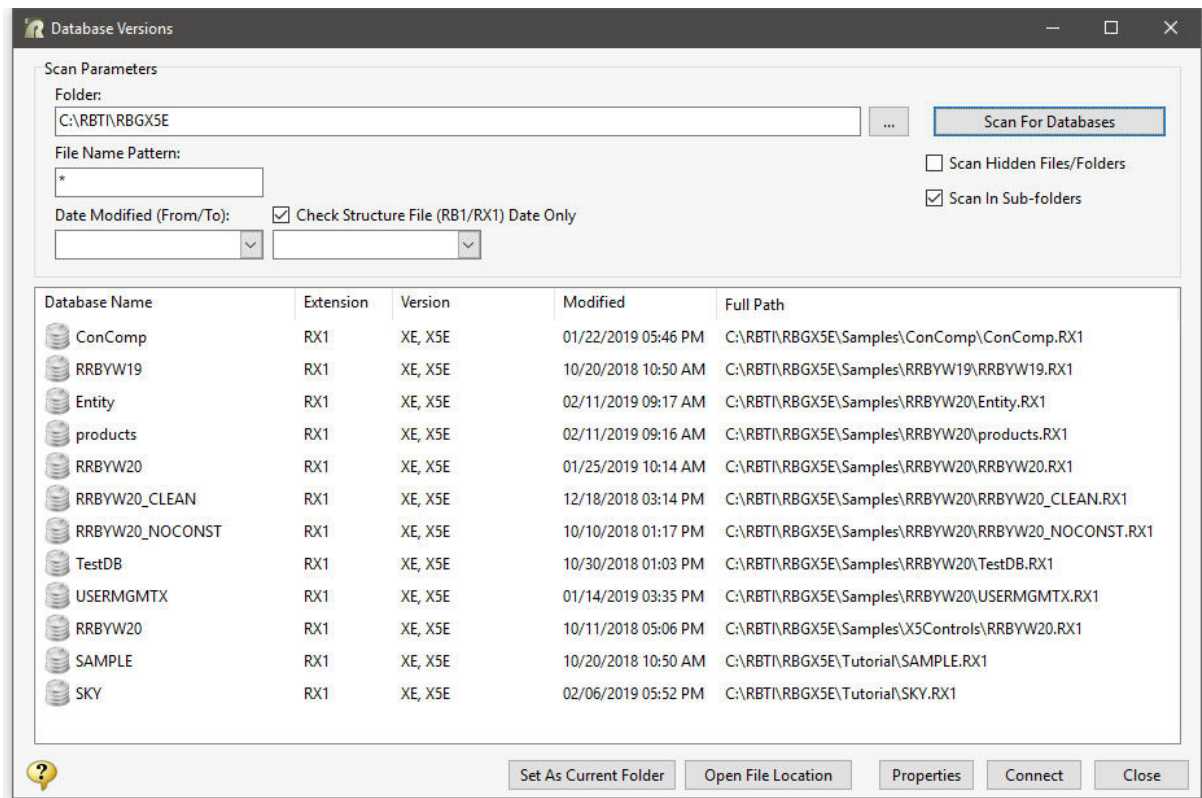
- Added slave tables to the Data Dictionary display under Forms and Reports tabs



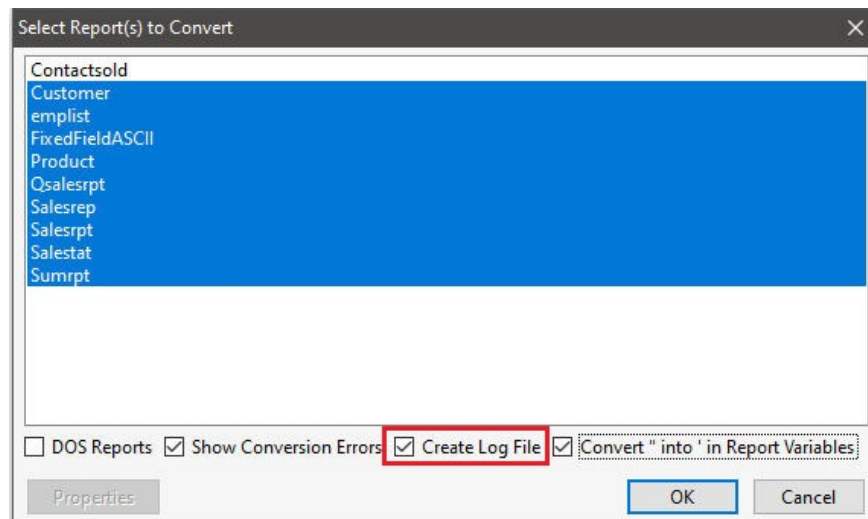
- Enhanced Jump List support where program file history can be referenced when right clicking on R:BASE within the Windows taskbar. The three sections available include recent databases that were connected, recent command files launched within the R:BASE Editor, and recent External Form Files opened in the designer.



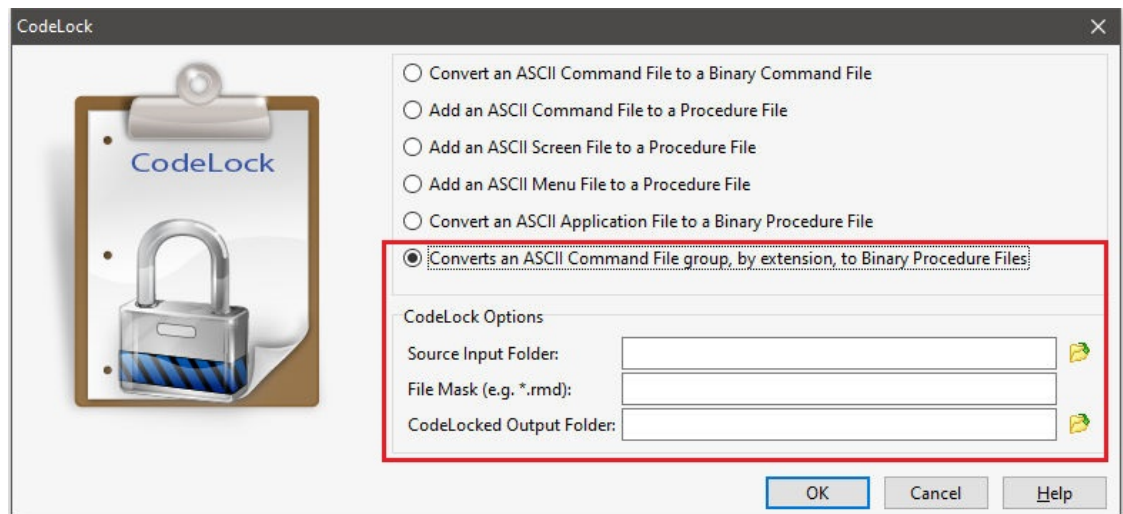
- Enhanced Database Versions utility with various filters to limit the search, including: file name (with wildcards), file extension, date range, sub-folder, and hidden files/folders



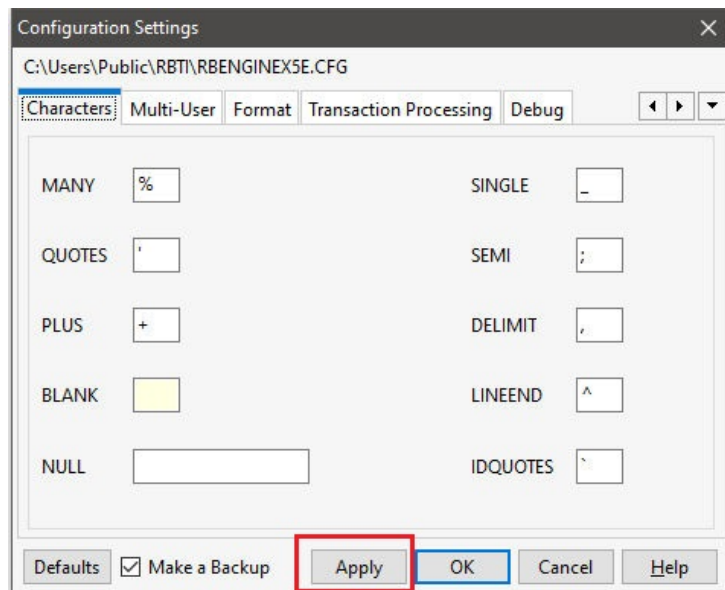
- Added option to create a text log file, to review all status messages and errors, when converting forms, reports, and labels from legacy DOS/Windows releases



- Added CodeLock option to specify an input folder location, and file extension, followed by an output folder, to CodeLock the entire source into individual locked files

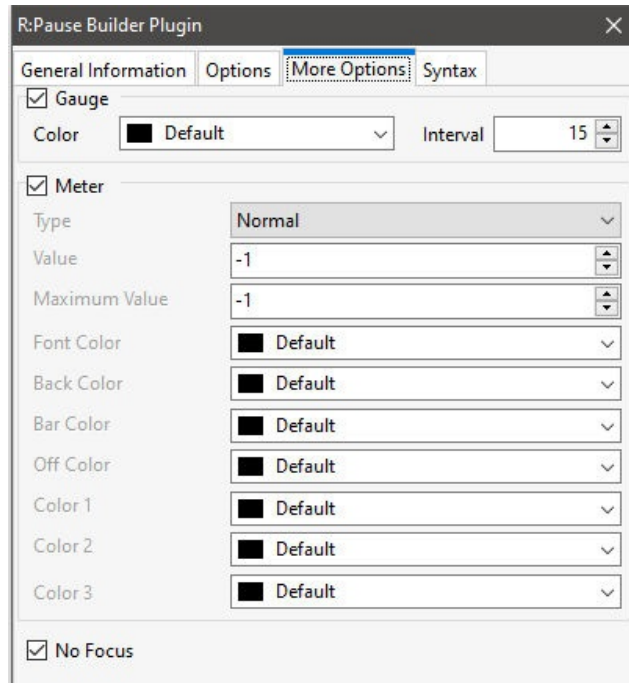


- A new **BOOLEAN** operating condition setting (ON/OFF) has been implemented which specifies that constants (e.g. TRUE, FALSE) in expressions will be treated as type BOOLEAN values. The default is OFF.
- Added "Apply" button to the Configuration Settings dialog, allowing setting changes to take place for individual tabs

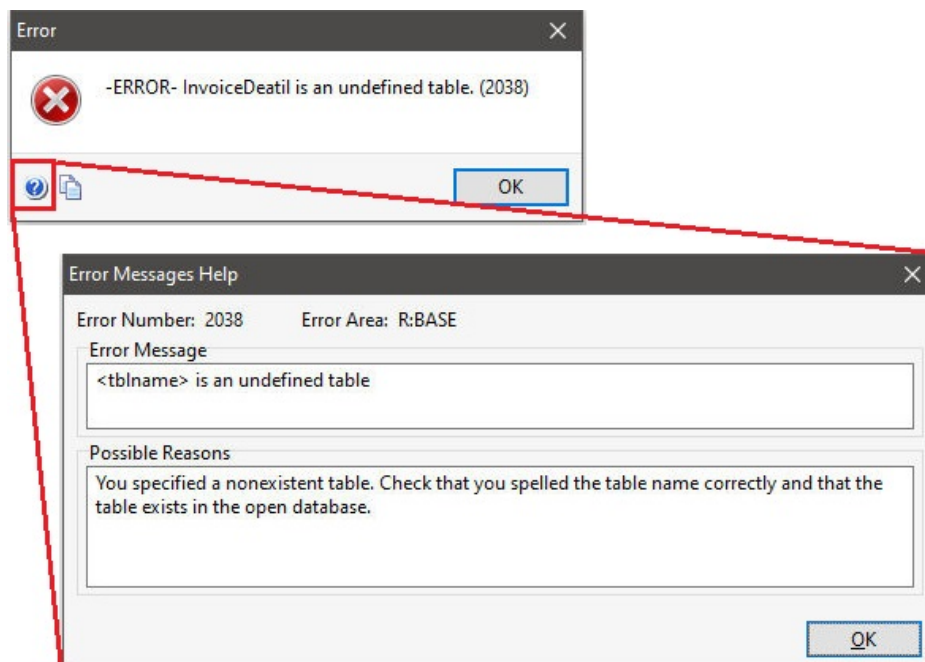


- Updated BLOB Editor to display the OK button when a file name is provided, which simplifies the file saving process. The launched BLOB Editor tab (Image, Text, Rich Text, Unicode, or Hex) will be displayed based upon the file extension, or the DefaultTab parameter for the **RBEDIT** command.

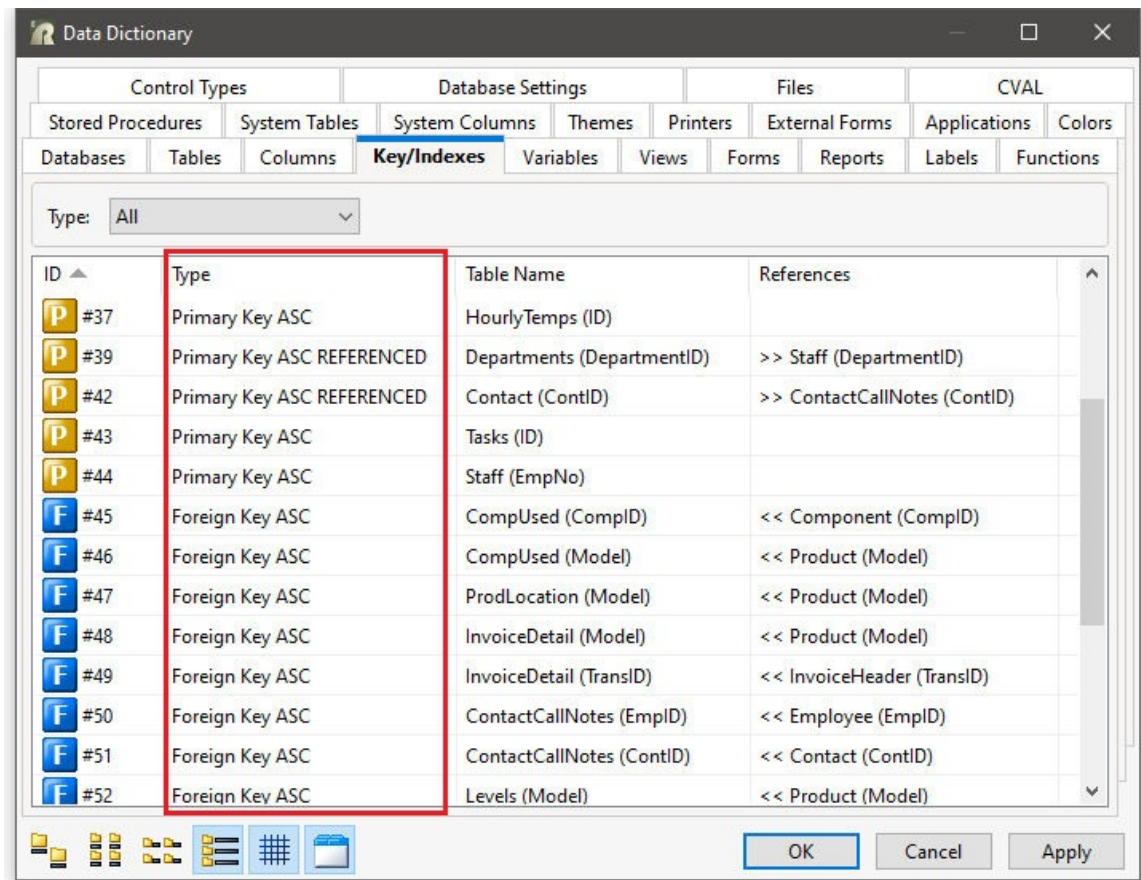
- Added options to the Pause Builder Plugin for the Gauge Meter, Meter, and NO_FOCUS options



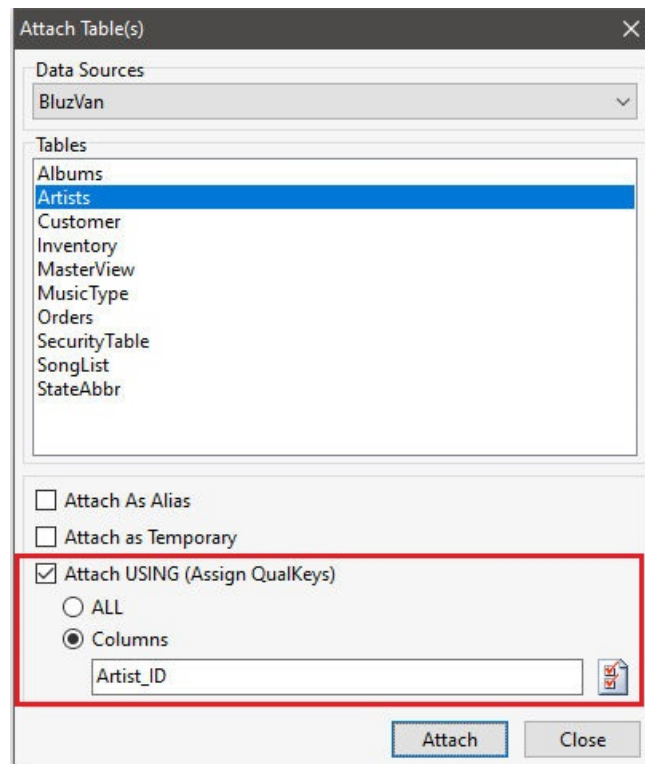
- Updated Error Message Help utility, with changes to Error Messages, Areas, and Possible Reasons, for when a user encounters an error



- Enhanced Data Dictionary with the display of the ascending or descending order for indexes within the "Columns" and "Keys/Indexes" tabs



- Added "Attach USING" option to assign the QualKey columns when attaching a foreign data source table



2 Application Designer

The R:BASE X.5 Application Designer has been enhanced with the following features:

- Added STATUSHINTS parameter to specify if hints are displayed in the RBA application status bar

```
PROPERTY RBA_FORM STATUSHINTS FALSE
```

- Added TOP and LEFT parameters to control the application window location

```
PROPERTY RBA_FORM TOP 0  
PROPERTY RBA_FORM LEFT 0
```

3 Commands

The following enhancements have been made to the R:BASE X.5 command syntax:

- Added password encryption for Excel spreadsheet and workbook reports generated with the **PRINT** command. The XLS, XLS2003, and XLSX formats support encrypted spreadsheet/workbook reports. Passwords are case sensitive.

```
PRINT BonusRates OPTION XLSX +  
|FILENAME BonusRate.xlsx +  
PASSWORD PeachCobbler
```

- Enhanced **PROJECT** command allowing for a table to be projected directly from a SELECT. It is not necessary to create a view first in order to perform PROJECT into a new table from multiple table joins. A USING clause is not needed as all required columns are defined in the SELECT statement.

```
PROJECT StaffDepts FROM +  
SELECT T2.DepartmentID,T2.Description,T2.OwnerDept,+  
T1.LastName,T1.FirstName,T1.PhoneExt,T2.DeptShape +  
FROM Staff T1,Departments T2 +  
WHERE T1.DepartmentID = T2.DepartmentID
```

- Enhanced **GATEWAY IMPORT** command syntax and parameters to support Append/Update import processes with "key" fields that can be specified for row comparison and updated, or are otherwise appended to the table.

APPEND_UPDATE – Specifies the Append/Update import mode. If the fields in the KEYS parameter exist, then the row is updated. Otherwise, the row is appended.

KEYS – Specifies a comma separated list of field names used to locate a matching row.

```
GATEWAY IMPORT XLS TitleInput.xls APPEND_UPDATE JobTitles +  
OPTION KEYS EmpTID
```

- Enhanced **BROWSE/EDIT** command parameters to specify the default view of the Data Browser windows:

- GRIDVIEW - displays "Grid" mode
- ROWVIEW - displays "View as Row" mode
- TREEGRIDVIEW - displays "Tree Grid" mode

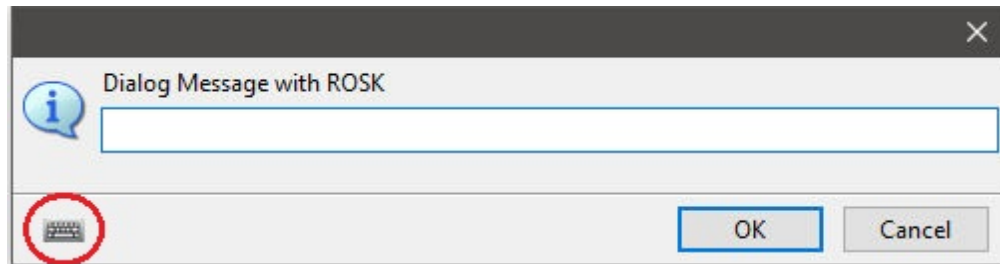
```
BROWSE ALL FROM CustomerContact +  
OPTION TREEGRIDVIEW
```

- Added password encryption for spreadsheets exported using the **GATEWAY EXPORT** command. The XLS and XLSX formats support encrypted spreadsheet/workbook exports. Passwords are case sensitive. An additional PASSWORD_TO_OPEN parameter is included to allow appending to existing password protected spreadsheets files.

```
GATEWAY EXPORT XLS BonusRate2018.xls +  
SELECT * FROM BonusRate OPTION PASSWORD ApplePie
```

- Enhanced **DIALOG** command to support launching of the R:BASE On-Screen Keyboard (ROSK) with a new ROSK_BUTTON parameter.

```
DIALOG 'Dialog Message with ROSK' vResponse vEndKey 1 +
CAPTION ' ' OPTION ROSK_BUTTON ON
```



- Enhanced **LIST** command to limit the results for forms, reports, and labels with wildcard support, with option sorting of the output,

```
R>LIST FORMS SEARCH%
Form                Table / View
-----
SearchAndEditCust1
SearchAndEditCust2
SearchAndPrintInv   FormTable
SearchCustInvoice   FormTable
SearchForm_DBGrid   Customer
```

```
R>LIST REPORT CUST% DES
Report              Table / View
-----
CustYellowPages     Customer
CustomPageInvoice   ProdAlias
Customers            Customer
CustomerList         Customer
CustomerDirectory    Customer
CustomerContacts     Customer
CustDirWithURL_VAR   Customer
CustDirWithURL_DB    Customer
CustContInvoices     NewCustomer
```

- Enhanced **LIST DATABASES** command to display associated date/time stamps for each database. The details help users identify particular versions of database when several versions are kept in the same directory.

```
R>LIST DATABASES

Databases in current directory

RRBYW20              02/21/2018 05:16 PM
RRBYW20_Test         04/20/2018 05:16 PM
TestDB               02/14/2018 11:26 AM
```

- Added **BROWSE/EDIT** command parameter to specify columns that cannot receive focus in Data Browser windows, using the NO_FOCUS_FIELDS keyword. The value for the NO_FOCUS_FIELDS parameter is a comma separated list of columns that will not receive focus.

```
EDIT ALL FROM Contact OPTION NO_FOCUS_FIELDS ContFName,ContLName
```

- Support to specify the QUALIFIER and SEPARATOR parameters with the **GATEWAY IMPORT** command to use custom delimiter and quote values. The parameters are only interpreted if the import type is CUS. If the parameters are not specified, the database DELIMIT and QUOTES values are used. In the sample below the delimiter is a pipe (encoded as double pipe) and the quote is "".

```
GATEWAY IMPORT CUS FILE.EXT APPEND TABLE +
OPTION SEPARATOR |||QUALIFIER `
```

- Enhanced **GATEWAY** command for spreadsheet export processes to pass name and formula values to the Excel Name Manager. The added NAMED_NUM and NAMED_TEXT parameters can be repeated if multiple formulas are to be added. Both XLS and XLSW export formats include Names Manager support.

```
GATEWAY EXPORT XLSW DataCalculation.xlsx +
SELECT * FROM DiscountRates +
OPTION COL_NAMES ON +
|TAB_NAME SalesDiscounts +
|NAMED_NUM MinDiscount 0.01 +
|NAMED_NUM MaxDiscount 0.05 +
|NAMED_TEXT DiscountSuffix Disc
```

- Enhanced **PRINT** and **LBLPRINT** command support to append output to an existing file for rich text and report emulated text files. The RTF and ETXT output options allow for report output to be appended to an existing file using the new APPEND parameter.

```
PRINT BonusText +
OPTION ETXT +
|FILENAME BonusText.txt +
|APPEND
```

- New **GETPROPERTY** APPLICATION properties added to capture the color of the Windows title bar and the readable foreground color for the given background color. The captured values of the TitleBarColor and ForegroundColor properties can then be applied upon a panel, or other control, to mimic the current layout, more so for Windows 10 operating systems.

```
GETPROPERTY APPLICATION TitleBarColor vTitleBarColor
SET VAR vCmd TEXT = +
('GETPROPERTY APPLICATION ForegroundColor[' + .vTitleBarColor + ']
vTitleTextColor')
&vCmd

PROPERTY HeaderPanel COLOR .vTitleBarColor
PROPERTY HeaderPanel FONT->COLOR .vTitleTextColor
```

- Added MDI parameter to the **RBBEDIT** command to launch the BLOB Editor in a modeless window

```
RBBEDIT ScreenShot.jpg IMAGE MDI
```

- Four addition **GETPROPERTY** APPLICATION properties added to support the ability to recognize the mouse position by X,Y coordinates, for the current window, or the entire screen.

- MOUSE_FROM_SCREEN[X]
- MOUSE_FROM_SCREEN[Y]
- MOUSE_FROM_WINDOW[X]
- MOUSE_FROM_WINDOW[Y]

```
GETPROPERTY APPLICATION 'MOUSE_FROM_SCREEN[X]' 'vScreenX'
GETPROPERTY APPLICATION 'MOUSE_FROM_SCREEN[Y]' 'vScreenY'
GETPROPERTY APPLICATION 'MOUSE_FROM_WINDOW[X]' 'vFormX'
GETPROPERTY APPLICATION 'MOUSE_FROM_WINDOW[Y]' 'vFormY'
```

- Added **GETPROPERTY** functionality to capture the Component ID for an object being dragged, and the Component ID for where that dragged object is dropped.

- DraggedCompID - returns the Component ID of the dragged object, and is valid in the "On Start Drag" EEP only
- DroppedToCompID - returns the Component ID for where a dragged object is dropped, and is valid in the "On Drag Drop" EEP only

```
GETPROPERTY RBASE_FORM DraggedCompID vDragComponent
GETPROPERTY RBASE_FORM DroppedToCompID vDroppedToComponent
```

- Two new analytic functions, LAG and LEAD, have been implemented for **SELECT** statements.
 - LAG accesses data from a previous row in the same result set. LAG provides access to a row at a given physical offset that comes before the current row. Use this analytic function in a SELECT statement to compare values in the current row with values in a previous row.
 - LEAD accesses data from a next row in the same result set. LEAD provides access to a row at a given physical offset that comes after the current row. Use this analytic function in a SELECT statement to compare values in the current row with values in a next row.

```
SELECT BillToCompany, TransDate, NetAmount, +
LAG(NetAmount,1,0) AS PrevAmount +
OVER (PARTITION BY BillToCompany ORDER BY TransDate) +
FROM InvoiceHeader WHERE BillToState
```

- Added form property to select/highlight a task item in the DB Task Tracker control

```
PROPERTY DBTaskTracker1 SELECT_TASK vTaskID
```

- Added **PROPERTY** APPLICATION optimization parameter to specify if "RBTI Variable" (RBTI_*) processing is enabled in forms. If perhaps the variables are seldom used in an application, the processing may be turned off, as the variables are assigned in nearly all forms aspects. The property is ON by default. To take advantage of the optimization, set the value to OFF upon the application startup. Then, turn it ON only in forms that use the RBTI_* variable values. Make sure the property is turned OFF again when the form is closed.

```
PROPERTY APPLICATION CAPTURE_RBTI_FORM_VARS OFF
```

- Added **DIALOG** message window parameters, RIGHT and BOTTOM, for positioning the window at the right side or bottom of the display

```
DIALOG 'Message...' vResponse vEndKey 1 ICON INFO +
OPTION MESSAGE_BOLD ON +
|RIGHT 200 +
|BOTTOM 200
```

- Enhanced **LIST FKEYS** command to display the foreign keys along with the column name for the foreign key in the table, and the column name the foreign key references

```
R> LIST FKEYS
```

Id	Type	Table Name	Column Name(s)	Ref Table Name	Ref Column Name(s)

#46	FOREIGN KEY	CompUsed	Model	Product	Model
#45	FOREIGN KEY	CompUsed	CompID	Component	CompID
#47	FOREIGN KEY	ProdLocation	Model	Product	Model
#49	FOREIGN KEY	InvoiceDetail	TransID	InvoiceHeader	TransID
#48	FOREIGN KEY	InvoiceDetail	Model	Product	Model
#52	FOREIGN KEY	Levels	Model	Product	Model
#53	FOREIGN KEY	Employee	EmpTID	Titles	EmpTID
#54	FOREIGN KEY	Contact	CustID	Customer	CustID
#55	FOREIGN KEY	Staff	DepartmentID	Departments	DepartmentID
#71	FOREIGN KEY	ContactCallNotes	EmpID	Employee	EmpID
#70	FOREIGN KEY	ContactCallNotes	ContID	Contact	ContID

- Added **PROPERTY APPLICATION AUTO_FORM_ALIAS** parameter to automatically assign an alias name to forms. When ON, forms without an alias are given an alias using the form's name.

```
PROPERTY APPLICATION AUTO_FORM_ALIAS ON
```

- Extended **FEEDBACK** dialog position support for PROPERTY APPLICATION command parameters with variants for RIGHT, BOTTOM, HORIZONTALCENTER and VERTICALCENTER. Each parameters allows for the dialog position to be reset.

```
PROPERTY APPLICATION FEEDBACK_POSITION_VERTICAL_CENTER ' '
PROPERTY APPLICATION FEEDBACK_POSITION_RIGHT 200
```

```
PROPERTY APPLICATION FEEDBACK_POSITION_VERTICAL_CENTER RESET
PROPERTY APPLICATION FEEDBACK_POSITION_RIGHT RESET
```

- New **GETPROPERTY** parameter, GRIDHASROWS, to return if there are valid rows in an Enhanced DB Grid control

```
GETPROPERTY EGrid1 GRIDHASROWS vRowsExist
```

- New **PROPERTY APPLICATION** parameter to specify the Internet Explorer version to emulate when displaying Web Browser controls in forms

```
PROPERTY APPLICATION WEB_BROWSER_EMULATION 11000
```

- New **GETPROPERTY** command parameter to capture the state of the current row of a table. The possible return values are: ENTER, EDIT, BROWSE.

```
GETPROPERTY TABLE 'TableName->STATE' VarName
```

- New **PROPERTY** command parameters SET_ACTIVE_CONTROL and DELAYED_SET_ACTIVE_CONTROL to gain focus with form controls in a more respectful way. The parameters work similar to SET_FOCUS to move the focus to a specified control, only if parent form is not the active control, the focus switch will happen when the parent form becomes the active form.

```
PROPERTY ComponentID SET_ACTIVE_CONTROL TRUE
PROPERTY ComponentID DELAYED_SET_ACTIVE_CONTROL TRUE
```

- New FILTEREDROWCOUNT parameter for the **GETPROPERTY** command to return the number of rows when an Enhanced DB Grid is filtered

```
GETPROPERTY InvGrid FILTEREDROWCOUNT vFilterRows
```

- New **PROPERTY** command parameter to have all reports displayed in the Print Preview to include the "Find Text" option

```
PROPERTY REPORT FIND_TEXT_IN_PREVIEW ON|OFF
```

- New **GETPROPERTY** parameter for Enhanced DB Grid controls to return TRUE or FALSE for whether the grid has a filter applied

```
GETPROPERTY Invoices HASFILTER vHasFilter
```

- New **PROPERTY** parameter for Enhanced DB Grids to clear a filter applied to a grid

```
PROPERTY Invoices CLEARFILTER 'TRUE'
```

- New **RAW_GEN** parameter for exporting worksheets with the **GATEWAY EXPORT** command. When ON, R:BASE will be used to generate the worksheet, not Excel. This method is faster, but not native MS output.

```
GATEWAY EXPORT XLSW Employee.xlsx +
SELECT * FROM Employee +
OPTION COL_NAMES ON +
|SHEET_NAME Employees +
|SHOW_PROGRESS ON +
|RAW_GEN ON
```

- New **ACTIVE_INDEX** parameter for exporting workbooks with the **GATEWAY EXPORT** command to assign the active sheet when launched

```
GATEWAY EXPORT XLSW Employee.xlsx +
SELECT * FROM Employee WHERE ActiveEmp = 'A' +
OPTION COL_NAMES ON +
|SHEET_NAME Active_Employees +
|SHEET_INDEX 2 +
|ACTIVE_INDEX 1 +
|SHOW_PROGRESS ON +
|MERGE_DATA ON +
|ACTION OPENVIEW
```

- Added **PROPERTY** command **SCALEBY** parameter to fill the screen when scaling forms, for easier implementation with mixed screen dimensions, themes, and borders

```
PROPERTY RBASE_FORM SCALEBY 'FILL_SCREEN'
```

- New ExtForm internal **PLUGIN** to capture the version of an external form file

```
PLUGIN ExtForm vResult|ACTION GET_VERSION_NUMBER|FILE RBYW20.RFF
```

- New **PROPERTY** command parameter **ATTACH_CTRL** that allows changing an object's parent control at runtime. Issuing the command will move the child control to the parent control, and maintain the same top and left coordinates.

```
PROPERTY ParentCompID ATTACH_CTRL ChildCompID
```

- New **OVERWRITE_SHEET** parameter added to the **GATEWAY EXPORT XLSW** format to specify that an existing sheet with the same name will be overwritten with the new dataset

```
GATEWAY EXPORT XLSW NewData.xlsx +
SELECT ALL FROM CustData +
OPTION OVERWRITE_SHEET ON
```

- Enhanced **ALTER TABLE** command to duplicate the definition of a column that already exists in another table. The enhanced syntax uses "DUPLICATE" as a keyword followed by the table and column name for which the column definition is to be duplicated. The enhancement is for the **CREATE TABLE** command as well.

```
ALTER TABLE TSALES_ORDERS +
ADD COLUMN CUST_DESC +
DUPLICATE CUSTOMERS.CUST_DESC
```

- Enhanced **PROPERTY** COPYTOCLIPBOARD parameter to support rich text controls and data, in addition to Edit, Image, and Memo controls. The parameter also includes an additional SELECTED value, which only copies the highlighted text. Otherwise, if TRUE is passed as the value, all text in the control is copied.

```
PROPERTY CompID COPYTOCLIPBOARD TRUE|SELECTED
```

- Added **CODELOCK** 6 option to specify an input folder location, and file extension, followed by an output folder, to codelock the entire source into individual locked files

```
CODELOCK 6 D:\CmpSource\*.rmd D:\CmpLocked
```

- Added GATEWAY **IMPORT** parameter for the XLS format, PERCENT_MODE, to handle percentages stored in cells

```
GATEWAY IMPORT XLS +
Jan2020-City-Rates.xlsx REPLACE +
tTaxTableImport +
OPTION SHEET_INDEX 0 +
|FIRST_ROW 5 +
|SHOW_PROGRESS ON +
|PERCENT_MODE RAW
```

- Enhanced **AUTOCHK** command to check database indexes. A specific index or all indexes may be checked.

```
AUTOCHK INDEX
Specifies to have all the indexes checked
```

```
AUTOCHK INDEX indexname
Specifies an index to check, which is displayed with the LIST INDEX command
```

An error is reported if:

- The pointer from the index does not point to a valid location in the 2 file
 - The pointer from the index points to a valid location in the 2 file, but the row that lives there has been deleted
 - The row count from walking the entire index does not match the row count for the table as stored in file 1
- Enhanced **LIST** command show additional letters for the type of lock detected on tables
 - (L) for a local lock
 - (R) for a remote lock
 - (C) for a cursor lock
 - (r) for a row lock

- A new internal TreeBuilder plugin was created to create a "tree table", with all necessary information to build a tree like presentation in reports.

Syntax:

```
PLUGIN TreeBuilder vResult +
|TABLE <TableName> +
|ID <IDColumn> +
|PARENT <ParentColumn> +
|ORDER <OrderColumn> +
|TREE_TABLE <TreeTableName>
```

Parameters:

- . TABLE - source table
- . ID - ID field in the source table
- . PARENT - parent field in the source table
- . ORDER - field that controls sorting (optional)
- . TREE_TABLE - output table
- Added **PROPERTY APPLICATION COLUMN_COMMENT_AS_CTRL_HINT** parameter to specify that (table and field) form controls with a hint will automatically be assigned the field's comment as the hint (at runtime). If a control has an existing hint, the hint will not be updated. The default is OFF.

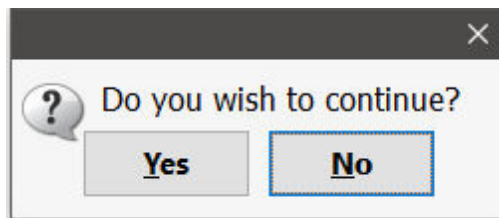
```
PROPERTY APPLICATION COLUMN_COMMENT_AS_CTRL_HINT ON
```

- Added **BROWSE/EDIT** command option to display the column comments from the table definition (when present) to the right of the data, when ROWVIEW mode is specified

```
BROWSE ALL FROM BONUSRATE OPTION ROWVIEW|ROW_VIEW_DESCRIPTIONS ON
```

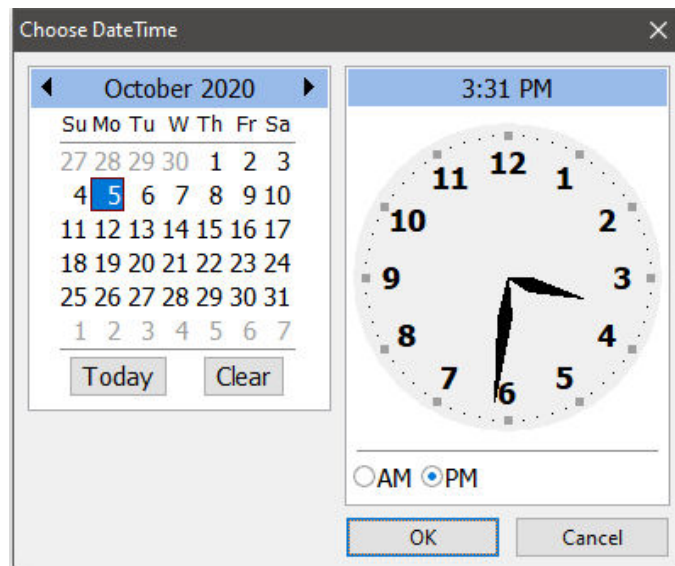
- Added ability for **DIALOG** command prompts to increase the button size height. The added BUTTON_HEIGHT parameter specifies the height of the [OK/Cancel] or [Yes/No] buttons.

```
DIALOG 'Do you wish to continue?' vYesNo vEndKey No +
CAPTION ' ' +
ICON QUESTION +
OPTION MESSAGE_FONT_NAME Tahoma +
|MESSAGE_FONT_SIZE 12 +
|BUTTON_YES_FONT_SIZE 11 +
|BUTTON_YES_FONT_BOLD ON +
|BUTTON_YES_WIDTH 85 +
|BUTTON_NO_FONT_NAME Tahoma +
|BUTTON_NO_FONT_SIZE 11 +
|BUTTON_NO_FONT_BOLD ON +
|BUTTON_NO_WIDTH 85 +
|BUTTON_HEIGHT 35
```



- The DATE, TIME, and DATETIME popup menus available with the **DIALOG** command have been enhanced to display the font settings based on the input field parameters: INPUT_FONT_NAME, INPUT_FONT_COLOR, INPUT_FONT_SIZE, to customize the font type and size for the calendar/clock controls and buttons.

```
DIALOG 'Enter Date and Time:' vDateTime vEndKey 1 +
CAPTION 'Enter Date' ICON APP +
OPTION DIALOG_EDIT_HINT 'Double-Click for Calendar/Clock' +
|POPUP_ENABLED TRUE +
|POPUP_DIALOG_TYPE DATETIME +
|INPUT_FONT_NAME Tahoma +
|INPUT_FONT_SIZE 11
```



- Added WRAP_TEXT parameter to XLS and XLSW export formats for the **GATEWAY** command, which specifies to wrap long text values within the output of the spreadsheet/workbook

```
GATEWAY EXPORT XLS D:\DataStore\Contacts.XLS +
SELECT * FROM Contacts +
OPTION BLANK_IF_ZERO ON +
|COL_NAMES ON +
|MESSAGES OFF +
|WRAP_TEXT ON
```

- Added **CHOOSE** command OPTION parameters to customize the button color, height, and width. The text on the buttons can be altered to use a specified font and style. The CHOOSE Builder Plugin was also updated.

```
o BUTTONS_COLOR <color>
o BUTTONS_HEIGHT <n>
o BUTTONS_WIDTH <n>
o BUTTONS_FONT_NAME <name>
o BUTTONS_FONT_BOLD <ON|OFF>
o BUTTONS_FONT_ITALIC <ON|OFF>
o BUTTONS_FONT_UNDERLINE <ON|OFF>
o BUTTONS_FONT_STRIKEOUT <ON|OFF>
```

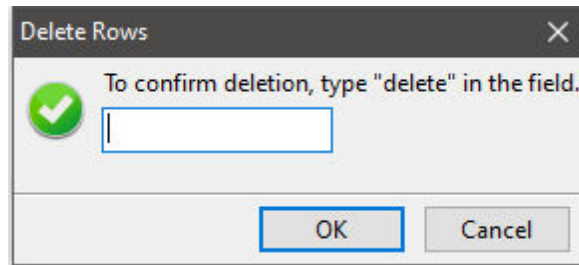
```
CHOOSE vCustIDTxt FROM #VALUES FOR +
Company,CustID FROM Customer ORDER BY Company +
CHKBOX 1 TITLE 'Company Name' +
CAPTION 'CHOOSE Buttons' LINES 20 FORMATTED +
OPTION BUTTONS_BACK_COLOR 16185078 +
|BUTTONS_COLOR SILVER +
|BUTTONS_HEIGHT 50+
|BUTTONS_FONT_BOLD ON
```



- New capability to specify a WHERE Clause with the **DELETE DUPLICATES** command

```
DELETE DUPLICATES FROM TransMaster +
USING TransID, EmpID +
WHERE TransDate > 01/01/2020)
```

- Improved confirmation for "all row" table deletions with **DELETE** command, where the word "delete" must be entered in order to continue. The DELETE command prompt would only pertain to R> Prompt command entries, not when a command file is running.



- Enhanced **UNLOAD** STRUCTURE output which now includes stored procedure data, right before triggers, allowing the file output from subsequent UNLOAD STRUCTURE and UNLOAD DATA processes to be utilized for database rebuilds. With this change, stored procedure data is not unloaded as part of the data unload.
- Enhanced **UNLOAD** command to allow partial unloading for all database areas, to better evaluate the rebuild process. The UNLOAD STRUCTURE FOR DATABASE command was implemented to unload the character settings and the CREATE SCHEMA command. The UNLOAD DATA NOSHEMA command was implemented to remove character setting portions commands before unloading the data. A new example within the UNLOAD chapter of the help demonstrates the use.
- Added DATASET_FIELD_ORDER parameter for **GATEWAY** Exports to define SELECT column order with Specification Files

```
GATEWAY EXPORT XLS StaffList.xls +
SELECT DepartmentID,HireDate,LastName FROM Staff +
ORDER BY DepartmentID ASC, LastName ASC +
OPTION TAB_NAME Staff +
|SPECIFICATION_FILE_NAME StaffExp.rgw +
|DATASET_FIELD_ORDER ON
```

- Enhanced **FEEDBACK** setting which now displays status information for the **UNLOAD** command, which is helpful with long running UNLOAD processes
- Improved **TRACE** command where a file-open dialog will display if the command is entered without a file name or parameters, allowing the user to choose a file to be traced
- Added INPUT_LANGUAGE **PROPERTY/GETPROPERTY** command support to reset the Input Language layout to the default value, and to also capture the current language

```
PROPERTY APPLICATION INPUT_LANGUAGE DEFAULT
```

```
GETPROPERTY APPLICATION INPUT_LANGUAGE VarName
```

- Added **PROPERTY** command APPLICATION setting to control the new "keep alive" logic method to limit situations where the Windows operating system will tag R:BASE applications as "Not Responding". In very long processes, the "keep alive" feature may add processing time to routines. To allow users and developers the ability to control the keep alive logic, the KEEP_ALIVE setting has been implemented.

```
PROPERTY APPLICATION KEEP_ALIVE ON|OFF
```

The default is ON as it is ideal to avoid the "Not Responding" scenario. With the setting toggled to OFF the R:BASE frontend will no longer check with Windows if there are pending messages to be processed. When performing long running tasks that do not need the feature, it can be set to OFF, then set back to ON afterward.

- Support has been implemented to **ATTACH** dBASE files when STATICDB is enabled. When STATICDB is ON, which activates a read-only schema mode, and a dBASE file is attached, the file is added as a temporary dBASE table. The LIST TABLE command will display the temporary dBASE table name with a "(T)" next to the name. The temporary table will be dropped when disconnected from the database, or if the **DETACH** command is used.
- Added **PROPERTY** command parameters to display the "Live Variables" toolbar within the Trace Debugger, which automatically populates with variables without having to add/remove watch variables. When ON, the "Live Variables" panel will be displayed. When a variable is changed, the variable is pushed up in the list. When a variable is cleared, it is deleted from the list.

```
PROPERTY APPLICATION LIVE_VARS ON|OFF
```

The LIVE_VARS_COUNT property limits the number of variables displayed in the list. The default value is 0, which display all variables.

```
PROPERTY APPLICATION LIVE_VARS_COUNT n
```

- New **TimeZone** plugin implemented to determines the current time zone and daylight saving time settings for the computer. If the computer is configured for daylight saving time, the plugin returns date and local time when the transition from standard time to daylight saving time, and vice versa, occurs on the operating system.

```
PLUGIN TimeZone vResult|ACTION GET_INFO
```

- Added REC_SEP parameter to the **GATEWAY IMPORT** command to specify custom record separator values. The common value is CRLF (carriage return + line feed), which moves the parser down to the next line and then to the beginning of the line. A custom record separator can also be specified. Available Parameters: CRLF / CR / LF / <Custom>

```
GATEWAY IMPORT CSV Titles.csv REPLACE Titles OPTION REC_SEP CR
```

- Updated **LIST TABLE** and **LIST COLUMNS** commands to also include the next autonumber value and increment when listing an autonumbered column. These attributes are already displayed with the LIST AUTONUM command.
- Updated **LIST DATABASES** command to display the actual name of the current directory, rather than the "Databases in current directory" header.
- New APPLICATION property to return a safe string value that cannot be a valid file/folder name. When ON, the result for empty selection is <Esc>. When OFF, the result for empty selection is [Esc]. Default is OFF. The USE_SAFE_FILE_AND_FOLDER_EMPTY_STR property affects the LoadFileName, LoadFileNamePlus, and LoadDirectoryName plugins.

```
PROPERTY APPLICATION USE_SAFE_FILE_AND_FOLDER_EMPTY_STR ON
```

- New SPEECH parameter for the **PROPERTY** command added. The speak functionality can be implemented in forms, application menus, the Data Browser, R> Prompt, etc. The text portion of the command can accept text or a variable. If the text contains a single quote (apostrophe), the single quote must be doubled for the command to be accepted. For forms, an added "Speak Control Value on Exit" option was added to form properties, to allow audible confirmation of any newly-entered content when exiting form controls.

```
PROPERTY SPEECH SPEAK 'Hello world!'
PROPERTY SPEECH STOP ' '
PROPERTY SPEECH SPEAK_AND_WAIT 'Hello world!'
```

The below parameters are available to mute and un-mute the speak functionality in applications:

```
PROPERTY SPEECH MUTE ' '
PROPERTY SPEECH UNMUTE ' '
```

- Enhanced **PROJECT** command which now transfers default column definitions to the newly created table. If you want to change the projected default column definition, define the desired default column definition with the ALTER TABLE command.
- Added BLANK_IF_NULL parameter to the **GATEWAY** EXPORT command to assign NULL values as a blank. The parameter is different from the existing BLANK_IF_ZERO parameter, which will assign a blank for zero values.

```
GATEWAY EXPORT XLSW C:\Temp\CustomerContacts.xlsx +
SELECT ALL FROM CustomerContacts +
OPTION COL_NAMES ON +
|BLANK_IF_ZERO OFF +
|BLANK_IF_NULL ON +
|SHOW_PROGRESS ON
```

- New APPLICATION property to allow custom fonts with the **OUTPUT** PDF command. When OUTPUT_PDF_USE_PRINTER_FONT is ON the "Default Printer Font" settings will be recognize for the PDF output. The default is OFF.

```
PROPERTY APPLICATION OUTPUT_PDF_USE_PRINTER_FONT ON
```

- New APPLICATION properties for the **PROPERTY** command to specify the hint type (Modern, Balloon, Regular), a maximum hint message width, and color options for the Modern hint style

- o HINT_MAX_WIDTH - maximum width for the hint message
- o HINT_TYPE - hint message type (Modern, Balloon, Regular)
- o HINT_MODERN_ARROW_COLOR - color of the modern hint's arrow in the thick border
- o HINT_MODERN_BACK_COLOR - color of the modern hint's text background

```
PROPERTY APPLICATION HINT_TYPE 'MODERN'
PROPERTY APPLICATION HINT_MAX_WIDTH 175
PROPERTY APPLICATION HINT_BACK_COLOR '[R13,G120,B181]'
PROPERTY APPLICATION HINT_FONT_COLOR '[R03,G110,B171]'
PROPERTY APPLICATION HINT_MODERN_ARROW_COLOR 'WHITE'
PROPERTY APPLICATION HINT_MODERN_BACK_COLOR 'WHITE'
```

- Enhanced **PACK PASSWORDS** command now performs a "PACK TABLE SYS_PASSWORDS" to internally remove deleted rows. The PACK operation will also set the system table row count to match the actual row count after performing the PACK.
- New APPLICATION parameter for the **GETPROPERTY** command to return the operating system name

```
GETPROPERTY APPLICATION PLATFORM vPlatform
```

- New **GETPROPERTY** command parameters (NETWORKCONNECTIONTYPE and NETWORKCONNECTIONTYPEEX) to detect the network connection type, and adapter. NETWORKCONNECTIONTYPE returns network connection type, with possible values being: Ethernet, Wi-Fi, Bluetooth, Unknown. NETWORKCONNECTIONTYPEEX is an expanded implementation of the property which considers the network adapter's metrics and returns the network connection type and name of the adapter, with possible return values being: Ethernet, Wi-Fi, Bluetooth.

```
GETPROPERTY APPLICATION NETWORKCONNECTIONTYPE vContype
GETPROPERTY APPLICATION NETWORKCONNECTIONTYPEEX vConTypeEx
```

- New **PROPERTY** command parameter for reports, to auto-rotate images (from file) using EXIF information. The DB Image and Variable Image objects in reports will check the AUTO_ROTATE_IMAGE value. The default value is OFF.

```
PROPERTY APPLICATION AUTO_ROTATE_IMAGE ON|OFF
```

- Added **PROPERTY** command parameters to specify the default font for the BLOB Editor "Text" tab:

```
PROPERTY BLOB_EDITOR DEFAULT_TEXT_FONT_NAME 'Courier New'
PROPERTY BLOB_EDITOR DEFAULT_TEXT_FONT_SIZE 10
PROPERTY BLOB_EDITOR DEFAULT_TEXT_FONT_BOLD OFF
PROPERTY BLOB_EDITOR DEFAULT_TEXT_FONT_ITALIC OFF
PROPERTY BLOB_EDITOR DEFAULT_TEXT_FONT_UNDERLINE OFF
PROPERTY BLOB_EDITOR DEFAULT_TEXT_FONT_STRIKEOUT OFF
PROPERTY BLOB_EDITOR DEFAULT_TEXT_FONT_NORMAL ' '
```

- Support added for the **GATEWAY EXPORT** command to specify NONE as a valid value for the QUALIFIER parameter, for CSV, TAB, and SQL file formats

```
GATEWAY EXPORT CSV StorageUnits.csv SELECT * FROM Sunits +
OPTION BLANK_IF_ZERO OFF|SHOW_PROGRESS ON|QUALIFIER NONE
```

- Enhanced **FCONVERT** command for UTF-8 without BOM file encoding. The NONE keyword at the end of the command will specify to the UTF-8 only file encoding.

```
FCONVERT ANSI CloudLog.csv TO UTF8 CloudLog_UTF8.csv NONE
```

- Enhanced **GATEWAY IMPORT** support for the JSON format to use the NODE_PATH parameter to set the node path to the root with a backslash character (meaning the root). The change is applicable to JSON files where only the data row items are in the file.

```
GATEWAY IMPORT JSON CustResponse.json REPLACE CustResponse OPTION FIRST_ROW 1|
NODE_PATH \
```

- Enhanced **SATTACH** command to allow a WHERE clause to be specified

```
SATTACH Artists AS tArtists WHERE ALastName = 'Ford'
```

- Enhanced **GATEWAY EXPORT** formula detection support for Excel formats to dismiss equal characters that exist in table values, which are not actual formulas. The default is ON.

```
GATEWAY EXPORT XLS DataCalculation.XLS +
SELECT * FROM DataRates +
OPTION COL_NAMES ON |DETECT_FORMULA OFF
```

- Enhanced **ExtForm plugin** to include a SET_VERSION_NUMBER parameter, where the version number for an external form can be adjusted/reset

```
PLUGIN EXTFORM vResult|FILE TileMenu.rff +
|ACTION SET_VERSION_NUMBER|VERSION 101
```

- Enhanced **FEEDBACK** setting where **AUTONUM** is added to the list of command which will show feedback

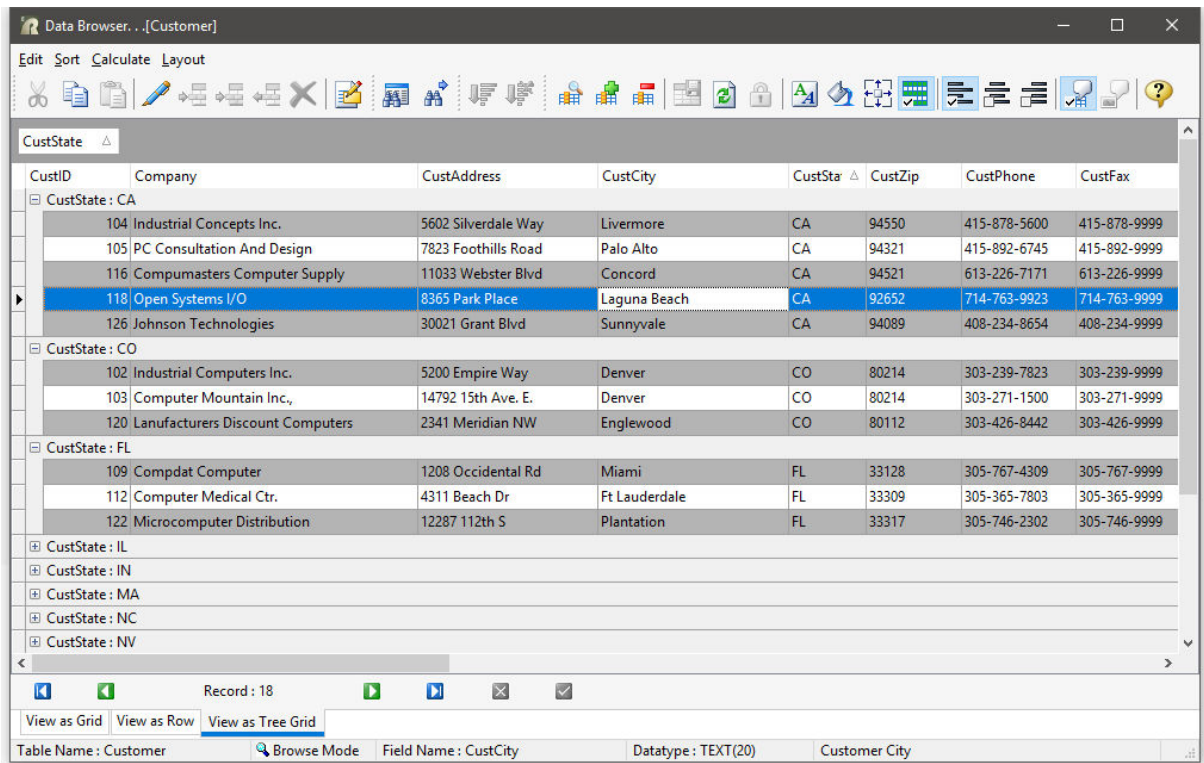
- Enhanced **GATEWAY IMPORT** support for the XML format to flatten the structure and process attribute options for improved loading of data nodes

```
GATEWAY IMPORT XML ShipmentLoad.XML REPLACE Shipments +
OPTION NODE_PATH \FILE +
|PROCESS_ATTRIBUTES ON +
|FLATTEN_STRUCTURE ON
```

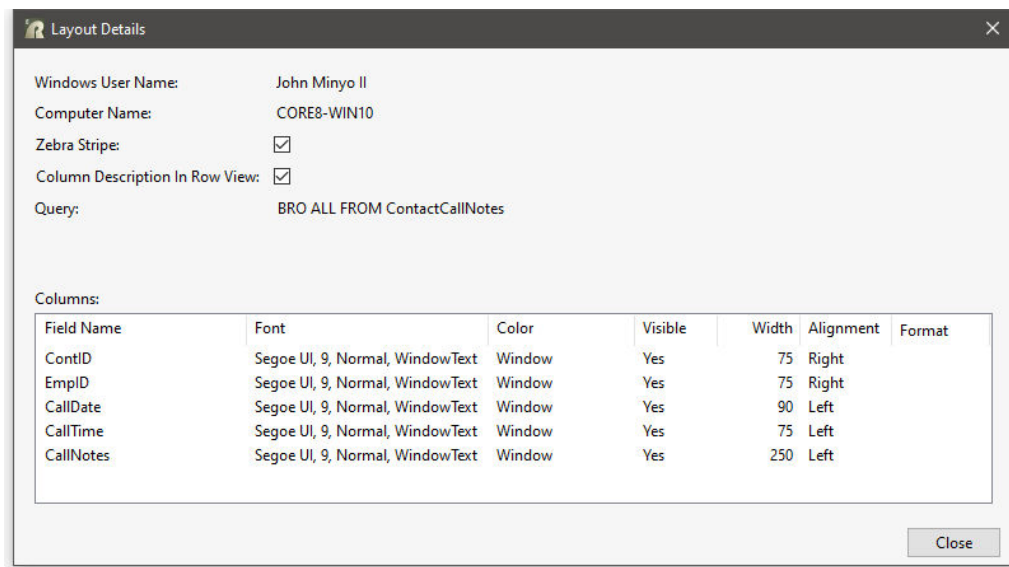
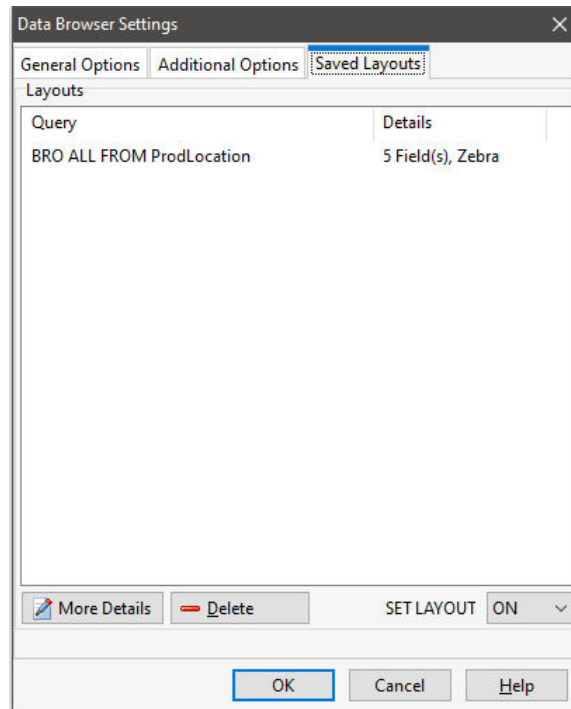
4 Data Browser/Editor

The Data Browser/Editor is a powerful yet simple interface to browse and edit data in R:BASE tables and views. The following new features are available:

- New Tree Grid support in the Data Browser, enabling an extremely powerful data viewing and manipulation inside applications including:
 - Dynamic grouping (tree support) by dragging columns to the top panel
 - Drag-and-drop column selection, allowing end-user to easily customize the columns visible on the screen
 - Column data filtering (basic and advanced) to quickly limit the displayed results
 - Column rearranging and sorting

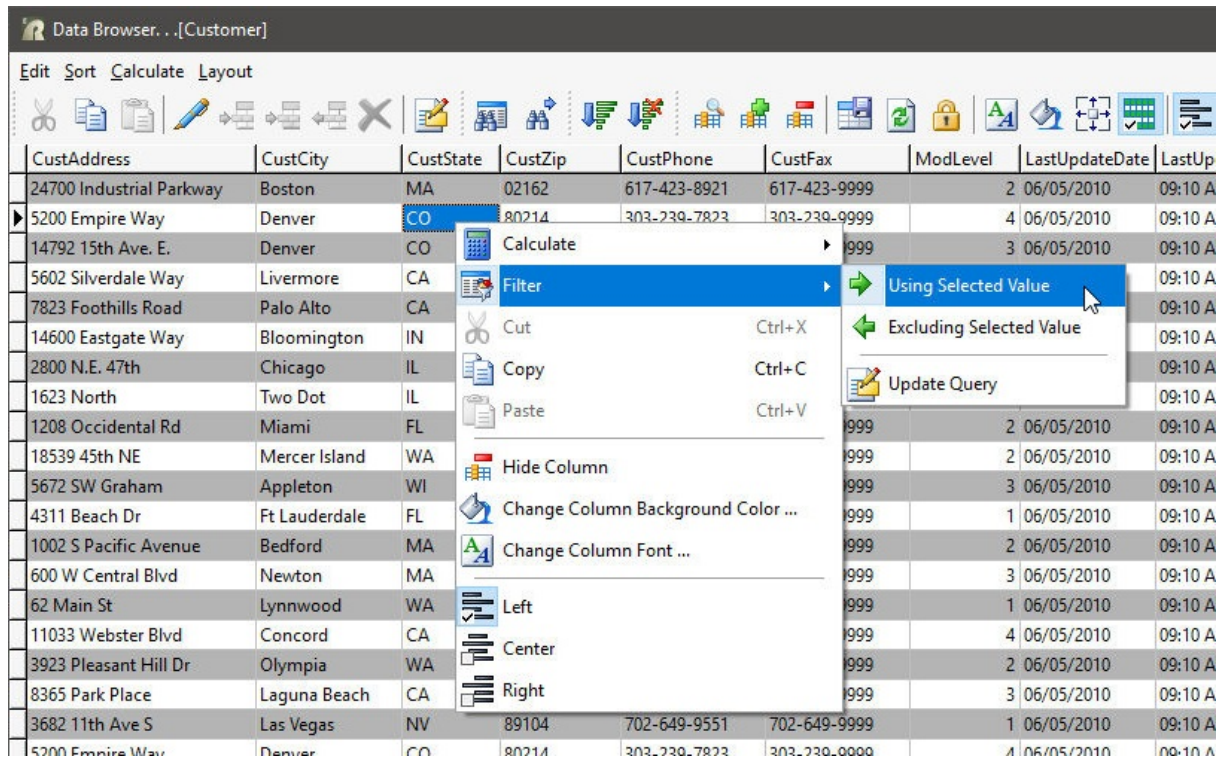


- Data Browser Settings allows review of saved layouts with their attributes, and to delete those known to be obsolete. Double clicking a layout in the Data Browser setting will execute the query so users can see the layout in the Data Browser.

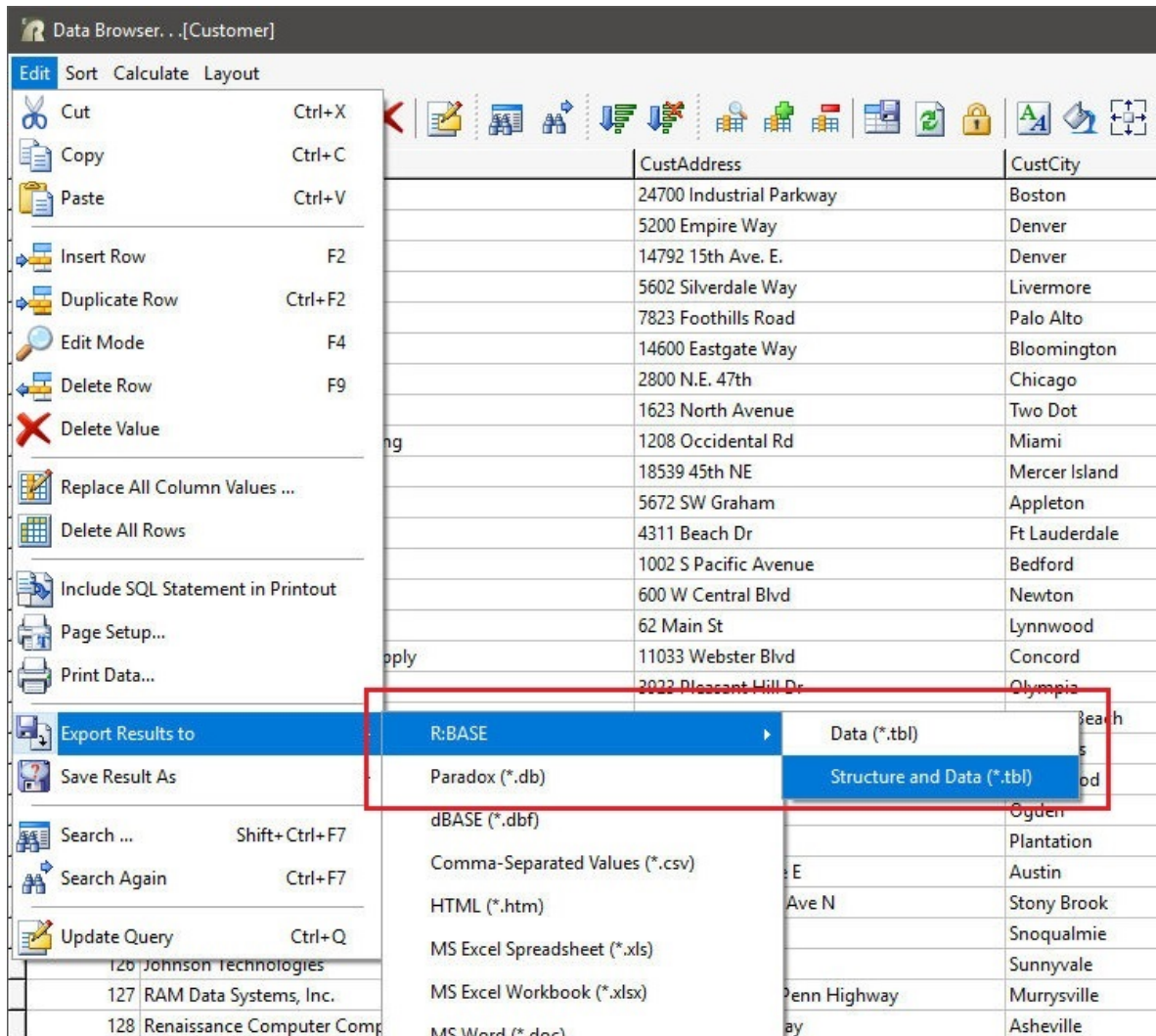


- New smart Layout handling in the Data Browser where layouts are preserved if only the WHERE Clause is modified. Saving/Updating the layout will overwrite a currently saved layout but the most recent query will be used.

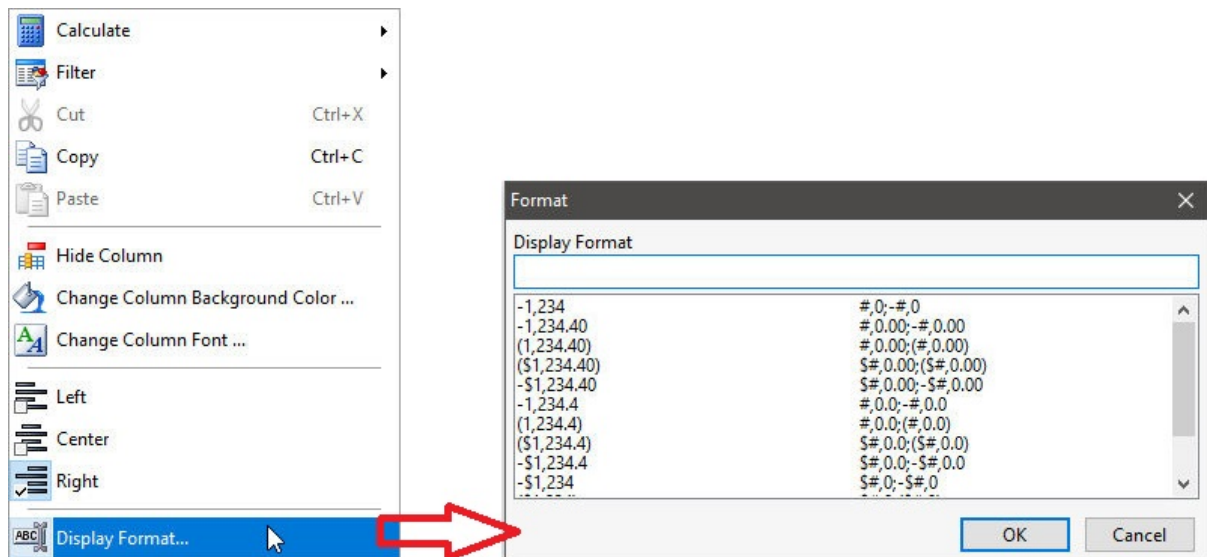
- Added right-click "Filter" option to minimize the Data Browser results "using" or "excluding" the selected value in a selected cell



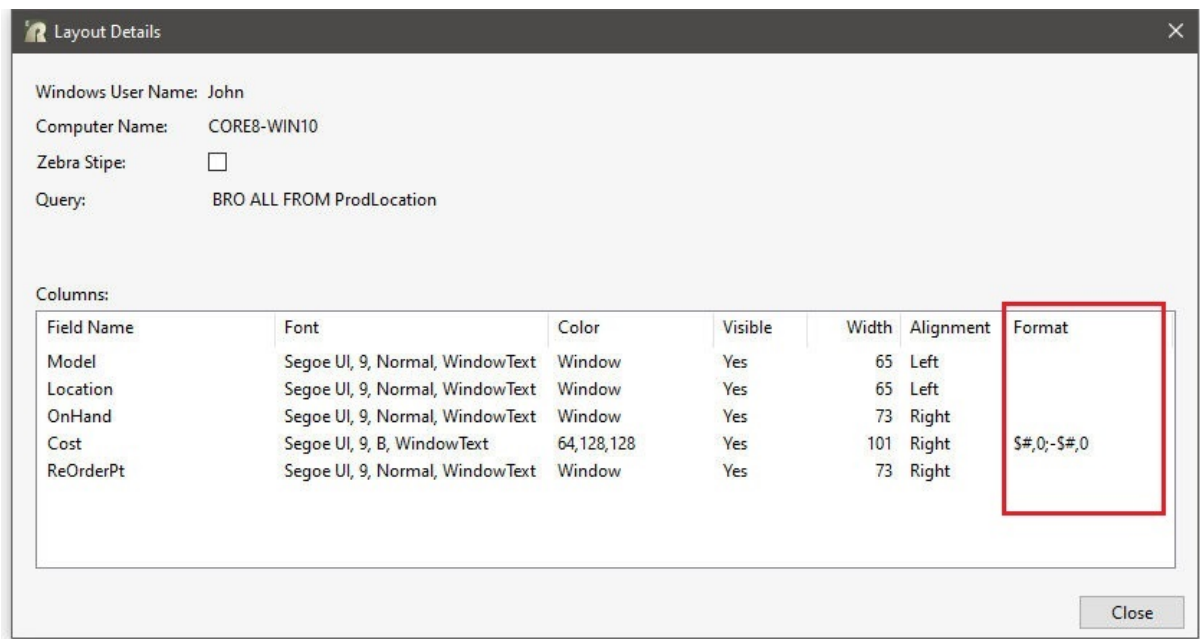
- Added "Export Results As" list includes an R:BASE option, with a submenu to choose between Data, and Data with Structure



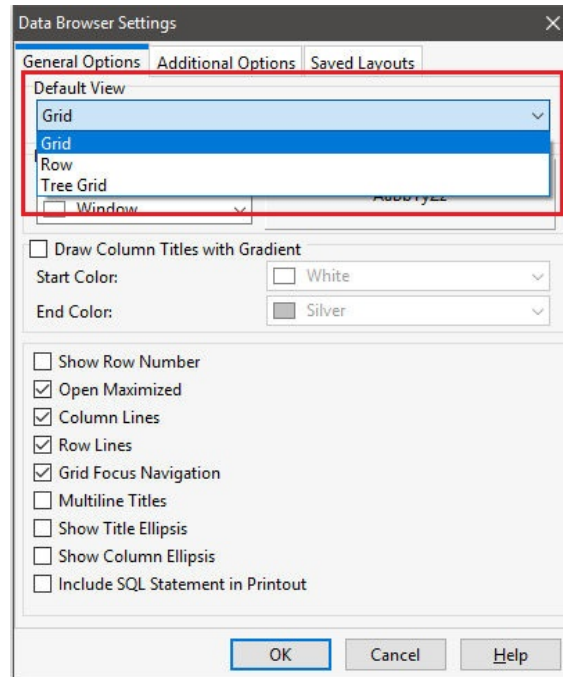
- The Data Browser Layouts have been enhanced to apply display formats to numeric, date, and time values.



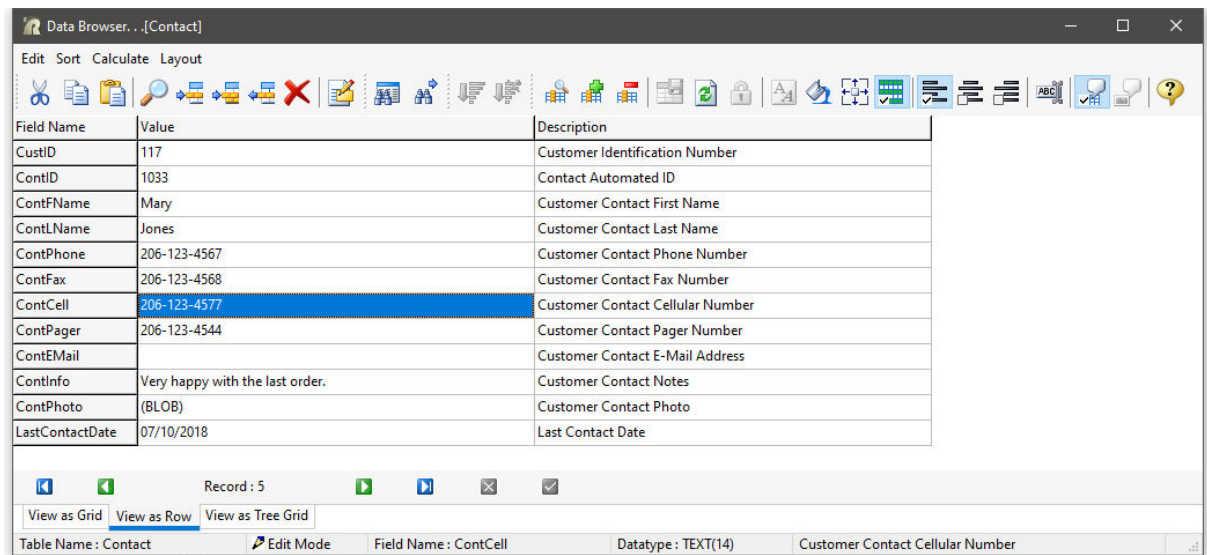
The display format is available for review in the Layout Details, within the Data Browser settings.



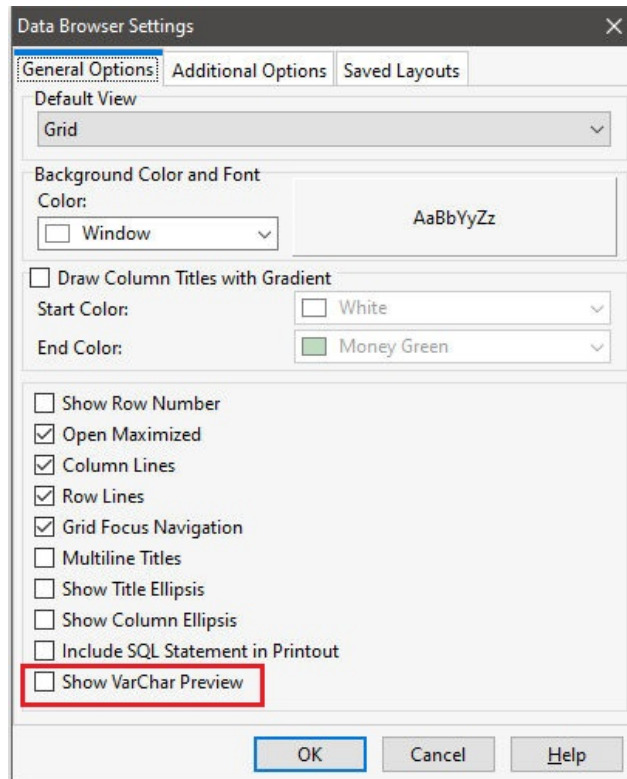
- Added option to select the "Default View" (Grid, Row, or Tree Grid) in the Data Browser Settings



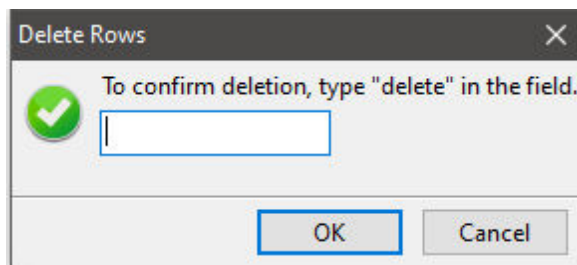
- Enhanced status bar to display the character count for NOTE data types, when a character count is defined
- Added workbook export generation control sub-menu option within Export Results to > MS Excel Workbook
- Added "Column Descriptions in Row View" menu option, under Layout, to display the column comments from the table definition (when present) to the right of the data



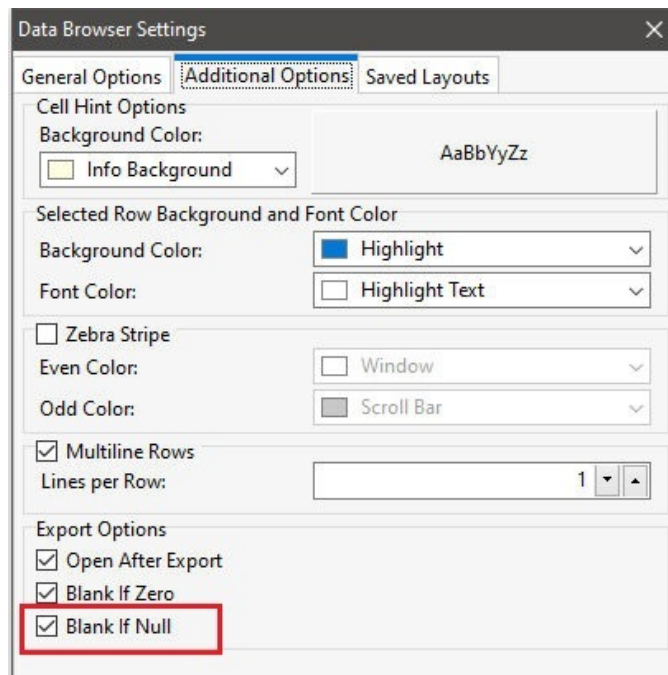
- Added "Show VarChar Preview" setting to specify whether VarChar data is displayed in the Data Browser as an icon or as raw rich text characters. The icon display is the new default.



- Improved confirmation with the "Delete All Rows" menu option, where the word "delete" must be entered in order to continue



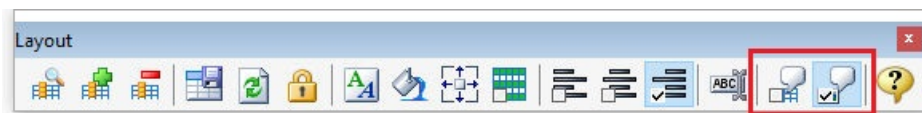
- New "Blank if NULL" Data Browser setting for exports performed at the table level to assign NULL values as a blank



- New RBTI_EXPORT_FOLDER system variable to define a default folder location for Data Browser exports. The RBTI_EXPORT_FOLDER system variable can be declared to define a valid folder path where the "Data Browser Export" dialog will initially start. If the variable does not exist or contains a non-valid folder path, all export dialogs will launch within the current folder.

```
SET VAR RBTI_EXPORT_FOLDER TEXT = 'D:\DataExports'
```

- Independent NOTE and Image hint Layout toolbar options for BLOB data. It is now possible to enable image hints without the NOTE hints, as the NOTE hints can be disruptive.

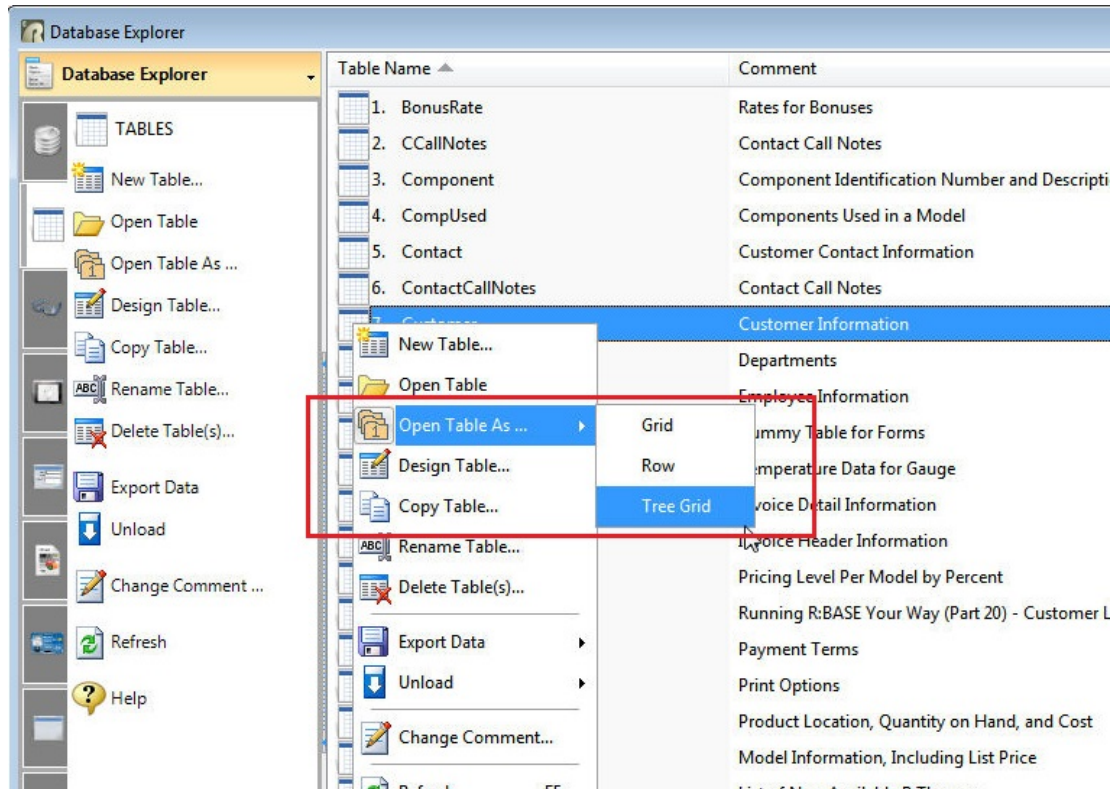


- Added .xlsx file extension option for exports to Spreadsheets, similar to what is currently offered for Workbooks

5 Database Explorer

The Database Explorer is the central interface in R:BASE X.5. New features include:

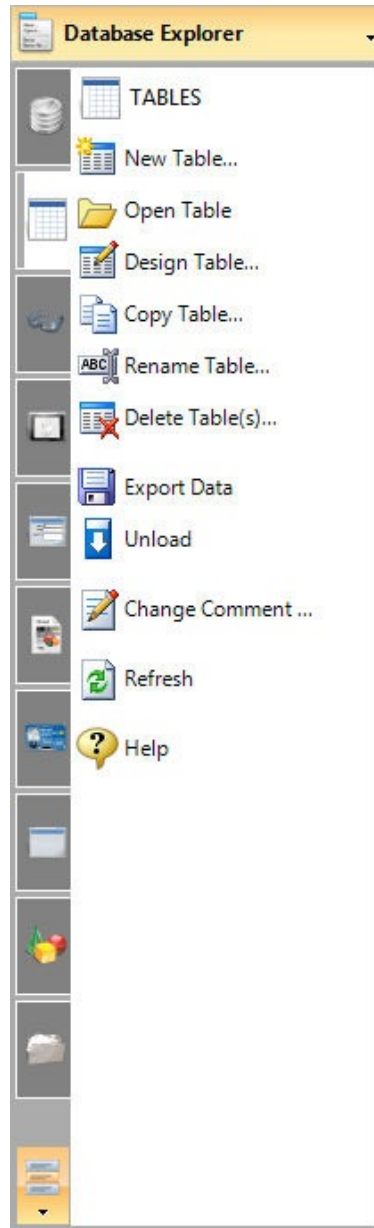
- Added "Open Table As" option to view a table as a Grid, Row, or Tree Grid. Under views, "Open View As" is also available.



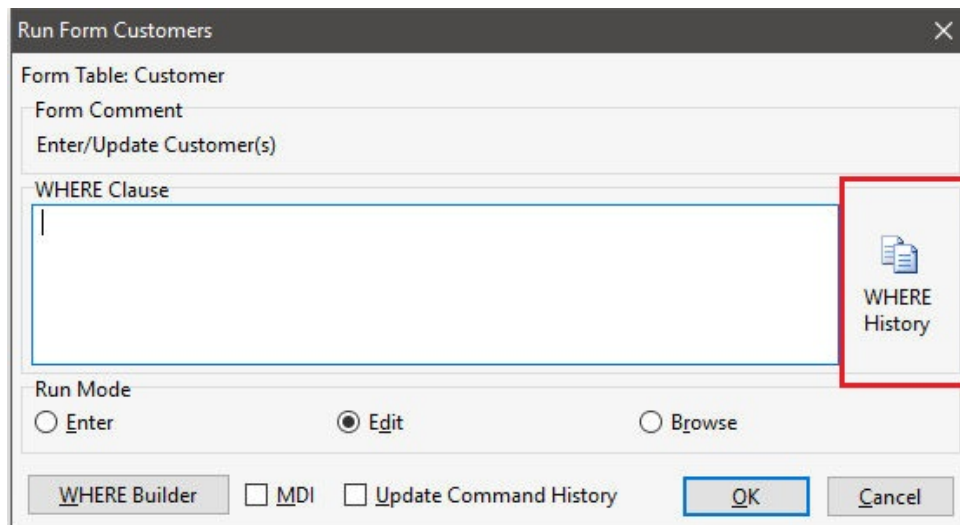
- Enhanced Database Explorer Property Bar including the "Find in Database Explorer" button



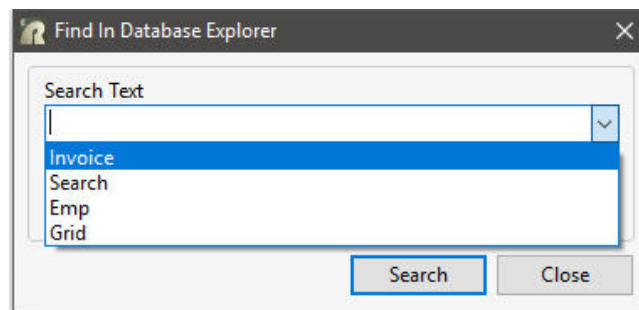
- Updated Database Explorer sidebar, with active tabs made more prominent



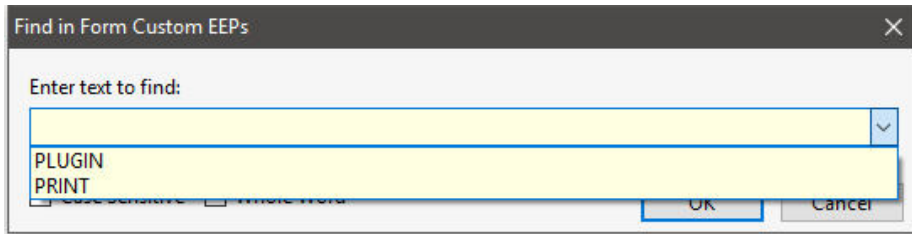
- Enhanced dialog when running forms and printing reports/labels at the Database Explorer, where a "WHERE History" button is now displayed



- Added "search history" support for the Find in Database Explorer utility. The entry box is now a drop down where the search history is available in the drop down items. To clear the history, press Ctrl+R. The search history is saved in the C:\Users\<User>\RBTI\ folder as DBEXP.RST, DATADICT.RST, and RRPROMPT.RST.



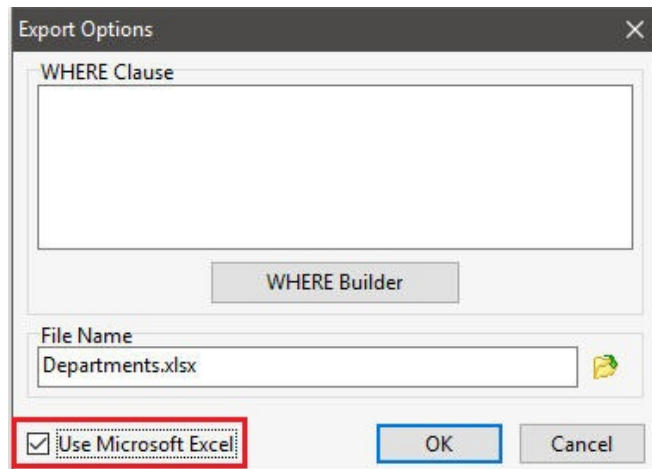
- Added "search history" support for the Find in Custom EEP, Control Property, and Expression searches



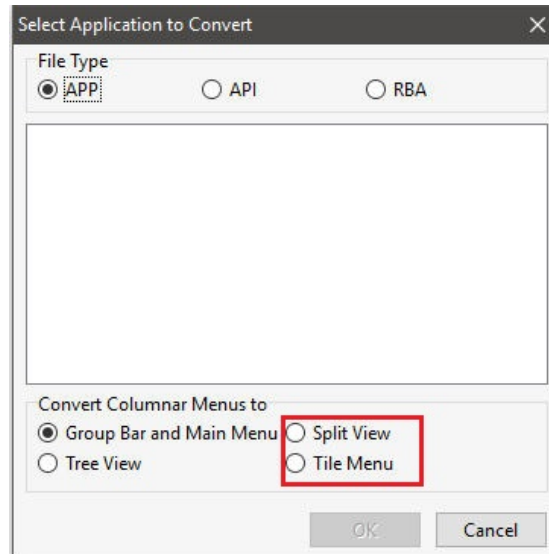
- Added "In Property Names" option for Control Property searches to locate text for the actual property (e. g. Read Only, AutoSize, Show Hint, etc.) in use for objects



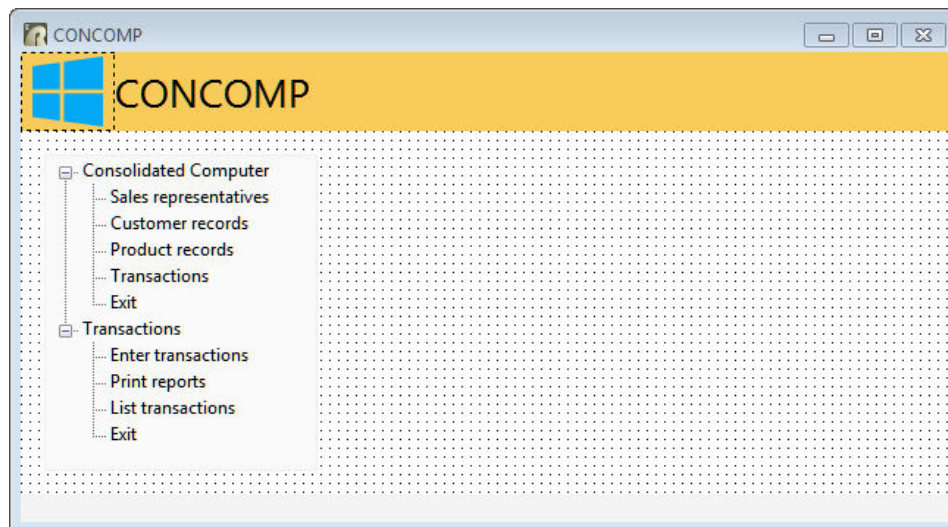
- New "Show Hidden Items" setting, to toggle the display of files, based upon the hidden file attribute. Hidden files may include databases, external form files, applications, and command files.
- Added workbook export generation control option in Tables > Export Data > MS Excel Workbook



- Additional Split View and Tile Menu menu control types added as options for application conversions

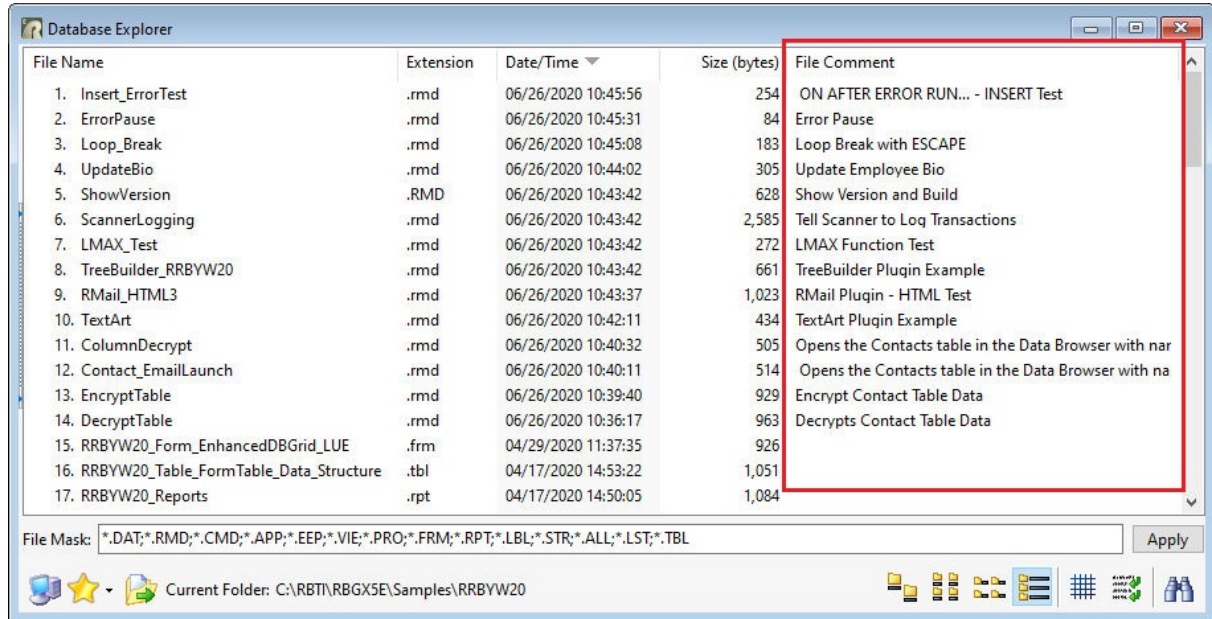


- Enhanced display appearance with legacy application to external form file conversions

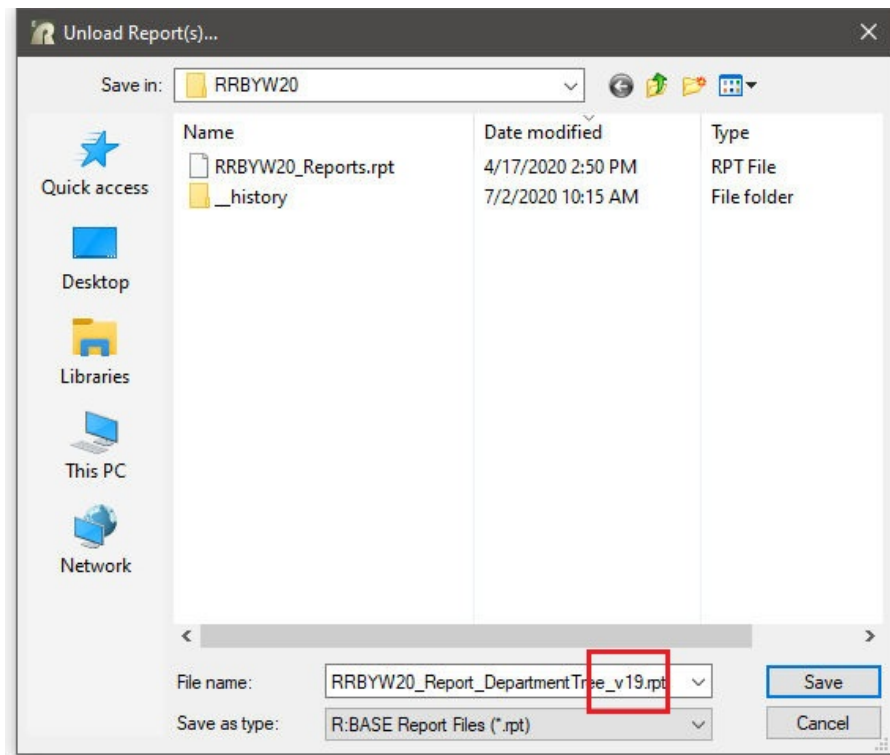


- Enhanced "Find in Control Properties" [Ctrl-L] searches to include the Tree View and Drop-Down Menu Button "EEP File" properties

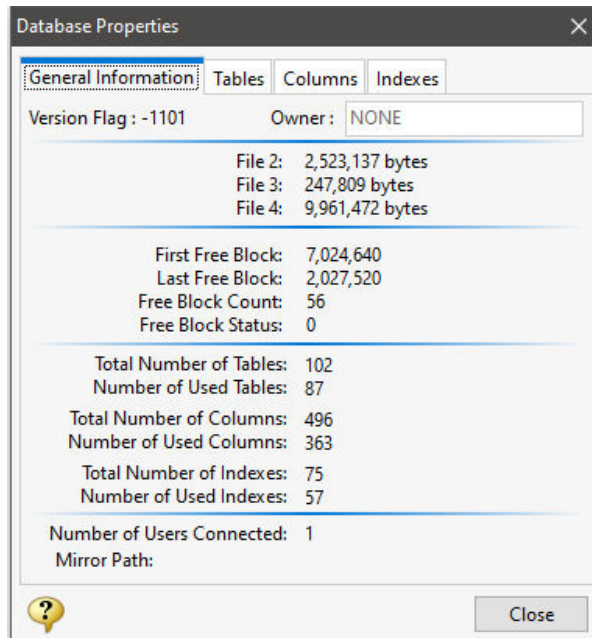
- Added "File Comment" option for the Commands Files area, where braces {...} in the first line will be interpreted. R:BASE will only look for the first 1024 characters of the file. The setting must be enabled by selecting Settings > Database Explorer > Show File Comment



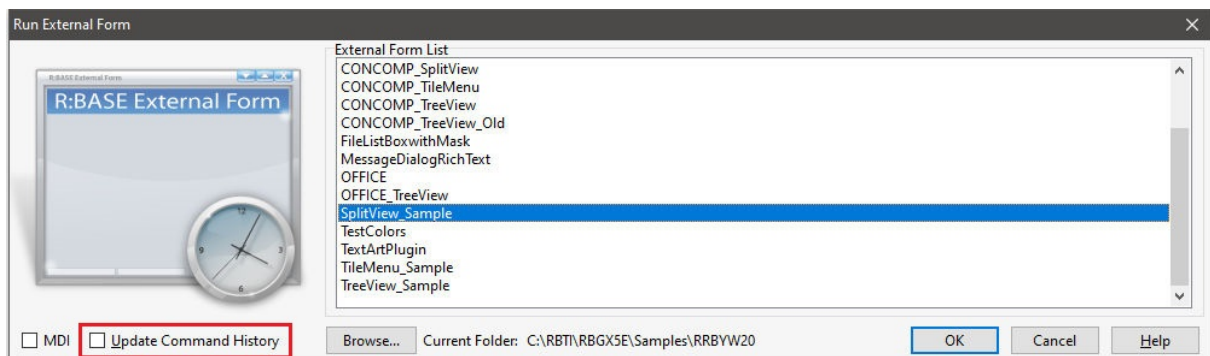
- Added version number to the output file name when unloading forms, reports and labels, to allow easier tracking for unloaded items. The unloaded file name includes the database name, the item type, (Form/Report/Label), the form/report/label name, and the version number.



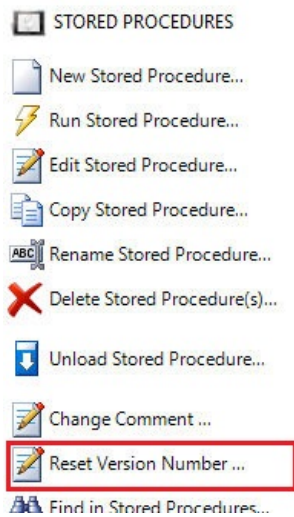
- Updated Database Properties option to allow the dialog to be launched for all available database version flags. A help button was also added, so that version flag values and other database information may be reviewed.



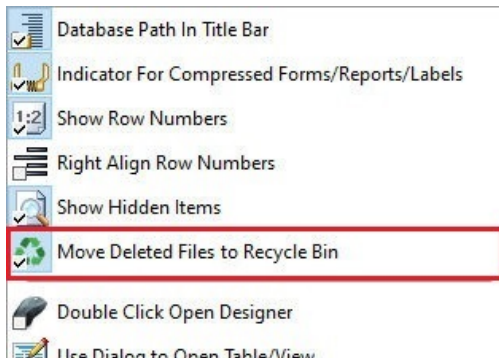
- Added "Update Command History" check box for when running external forms



- Added option to reset a stored procedure version number



- Added Database Explorer setting where users can toggle sending deleted files to the Recycle Bin or not. The default is enabled. File-based objects (external form files (.rff), application files (.rba), and command files) are already sent to the Recycle Bin. With this change, database files are now also sent to the Recycle Bin.



6 Data Designer

The R:BASE X.5 Data Designer allows for table design to be easy and efficient. The newest features include:

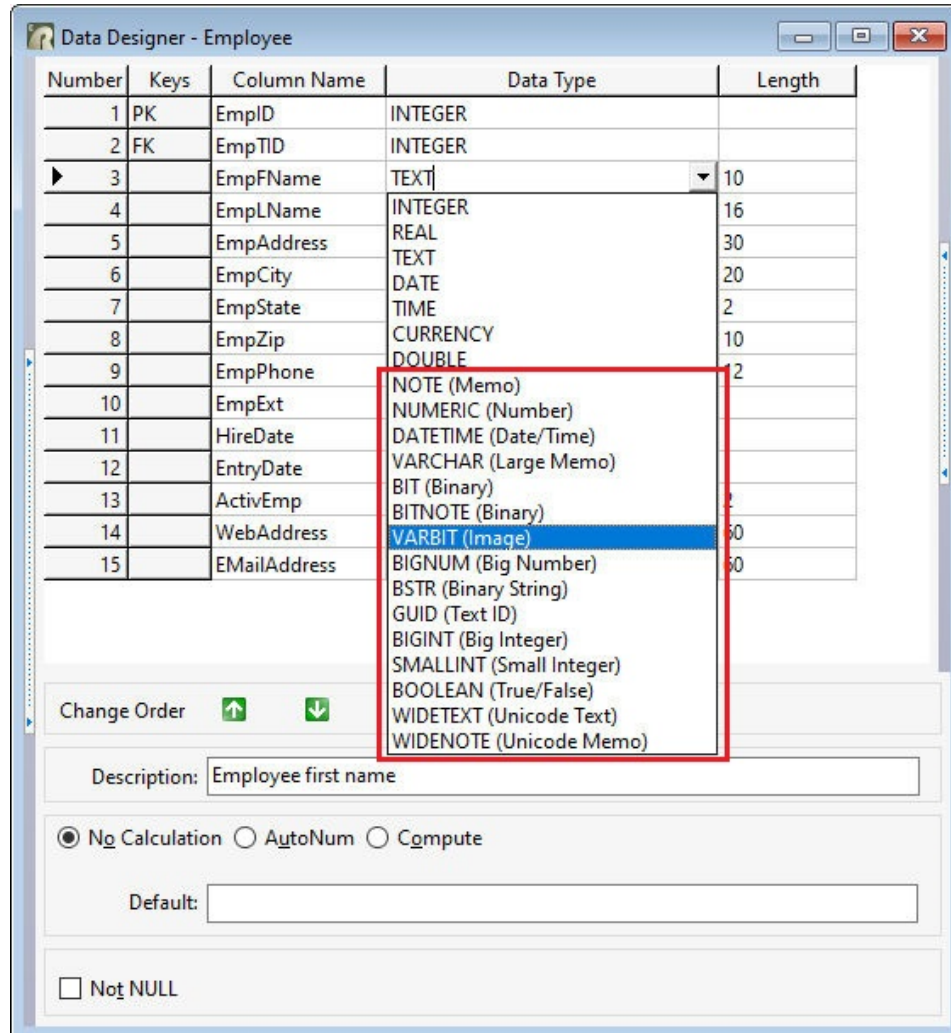
- Increased field sizes when creating new keys/indexes and rules, to better display long column names

The 'New Key/Index' dialog box is shown. It has a 'Type' section with radio buttons for Primary Key, Unique Key, Index, and Foreign Key (selected). The 'Referenced Table' is 'Customer (Customer Information)' and the 'Referenced Key' is '#32'. The 'Column(s)' list contains 'CustID (Customer Identification Number)'. The 'Message' section has two text boxes: 'Message on insert of a Foreign Key value not in the referenced table:' with the text 'Cannot insert - value does not exist in Customer', and 'Message on update of a Foreign Key value to one not in the referenced table:' with the text 'Cannot update - value does not exist in Customer'. At the bottom, it says 'Table: Contact Column(s): CustID'. There are 'OK', 'Cancel', and 'Help' buttons.

- Enhanced "New Rule" creation, which includes the possible rule violation error message on the initial screen. A button is available to manually set the message from the default values.

The 'New Rule' dialog box is shown. It has a 'Rule Type' dropdown set to 'Require a value'. The 'Rule' section has a 'Rule Column:' label and a dropdown set to 'CustEMail (Customer E-Mail Address)'. Below this is a text box for the 'Message (default message will be used if left empty):' with a red border and a pencil icon to its right. At the bottom are 'OK', 'Cancel', and 'Help' buttons.

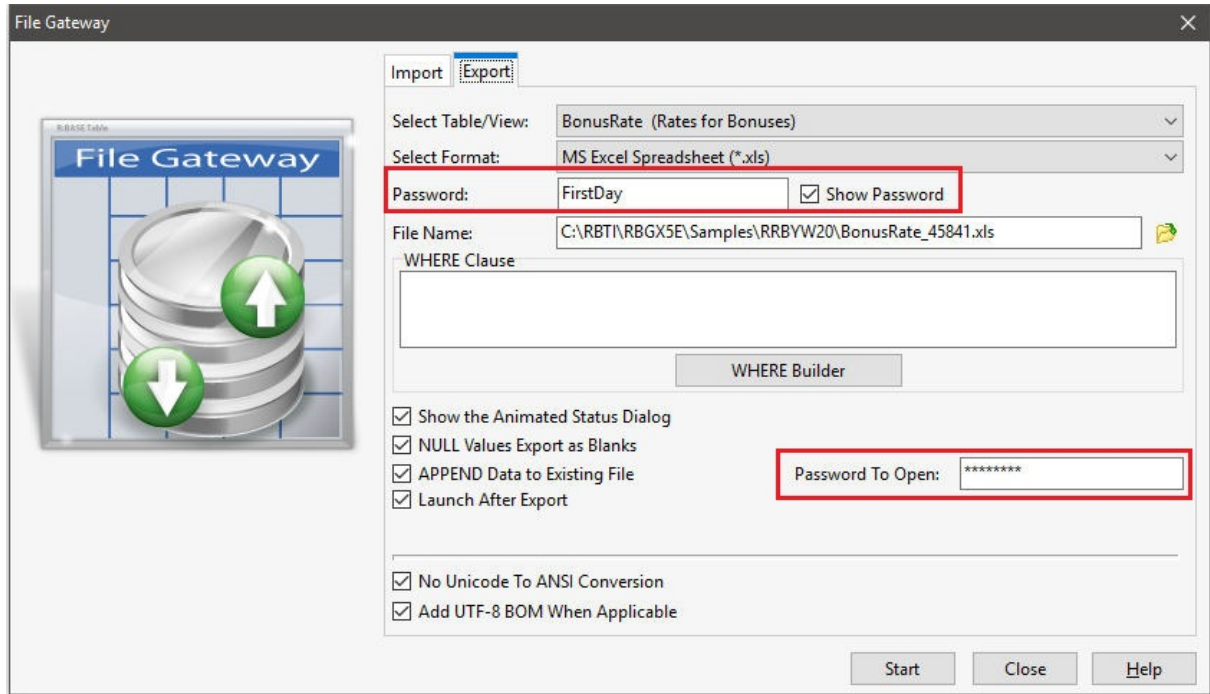
- Enhanced column definition interface to inform users if a reserved word is specified as a column name
- Added descriptions for non-common data types within the Columns area



7 File Gateway

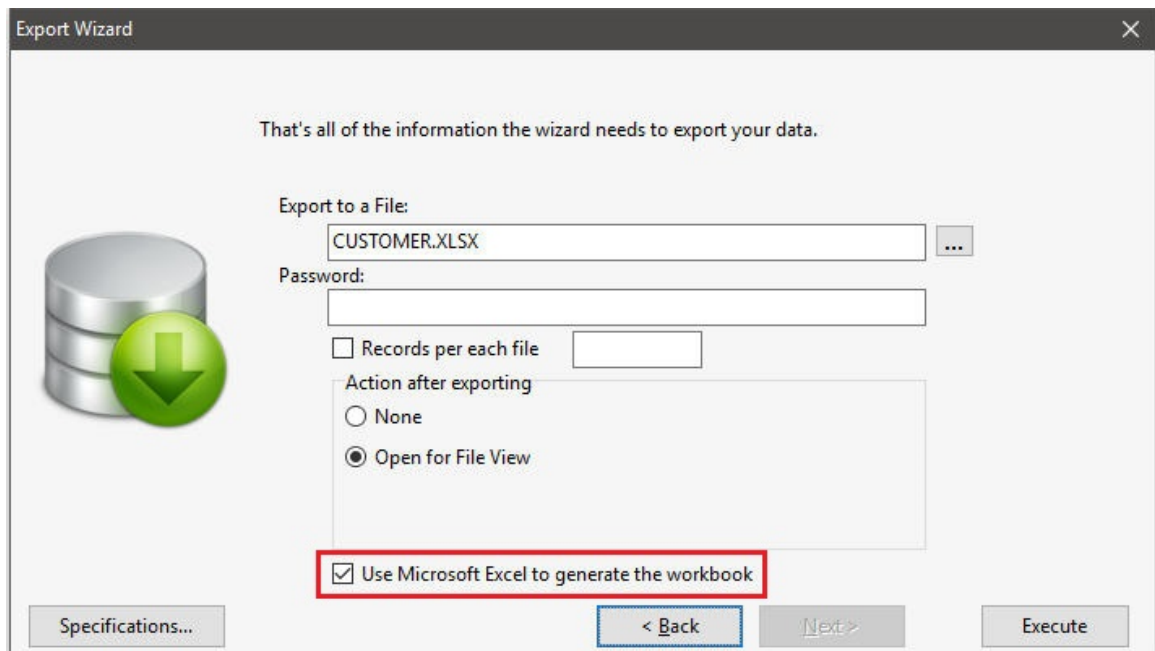
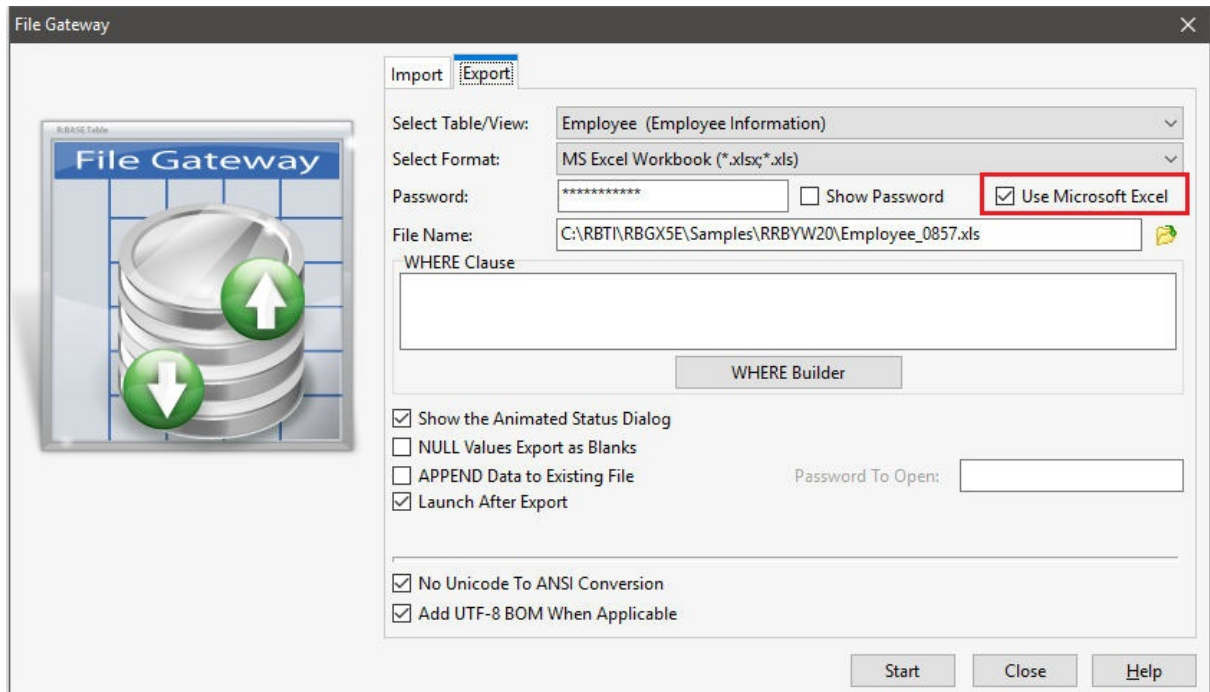
The File Gateway utility contains many powerful features to allow the importing and exporting of data. New features include:

- Added password encryption for spreadsheets exported using the File Gateway interface. The XLS and XLSX formats support encrypted spreadsheet/workbook exports. Passwords are case sensitive.

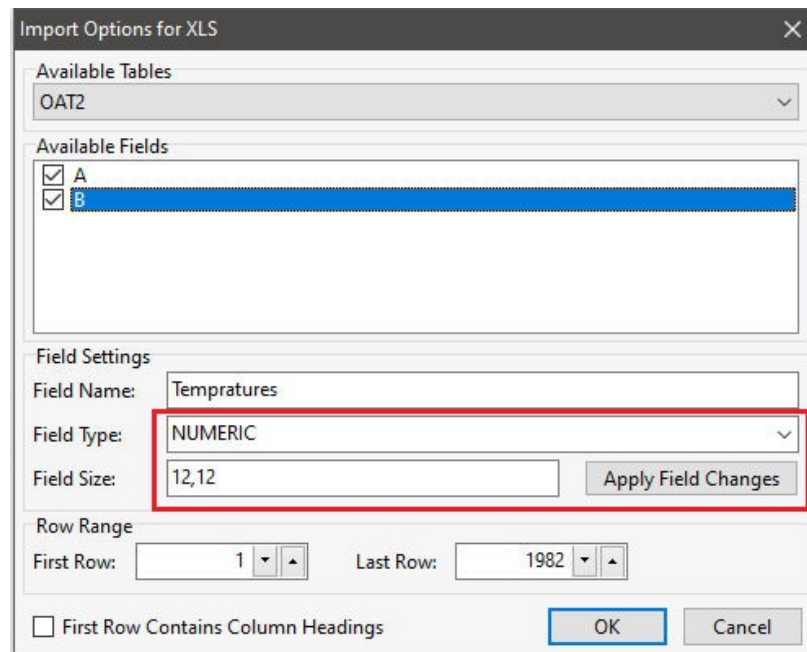


- Additional "Password To Open" option when appending to existing password protected spreadsheets

- New export generation control for Excel Workbooks, to specify whether R:BASE or Excel will be used to generate the output

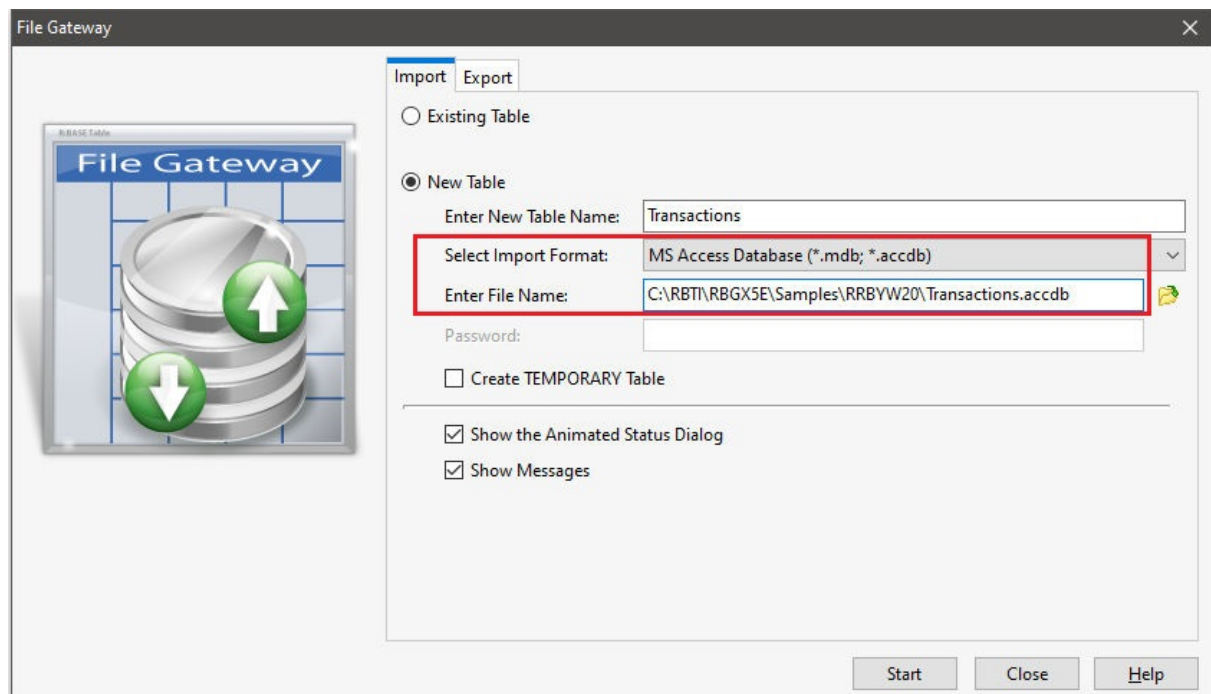


- Ability to specify the precision and scale for NUMERIC and BIGNUM data types when importing a new table



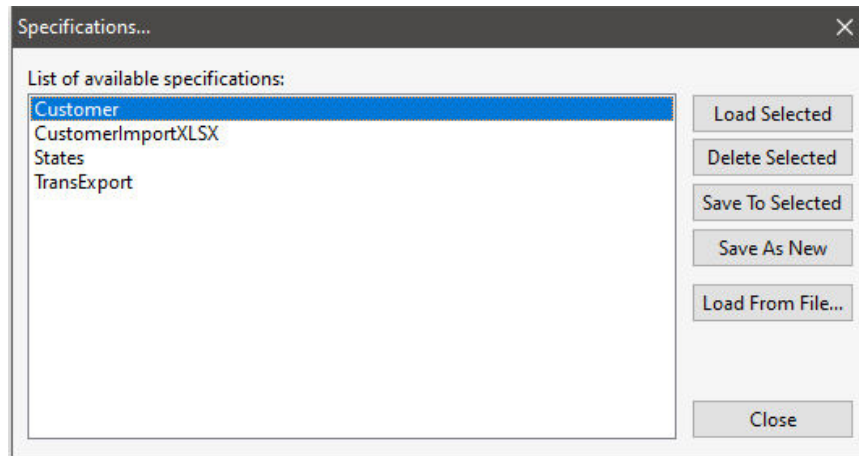
The 'Import Options for XLS' dialog box is shown. It has a title bar with a close button. The 'Available Tables' section has a dropdown menu with 'OAT2' selected. The 'Available Fields' section has a list with 'A' and 'B' checked, and 'B' is highlighted. The 'Field Settings' section has a 'Field Name' field with 'Tempratures' (note the typo), a 'Field Type' dropdown menu with 'NUMERIC' selected, and a 'Field Size' field with '12,12' entered. A red rectangle highlights the 'Field Type' and 'Field Size' fields. There is an 'Apply Field Changes' button next to the 'Field Size' field. The 'Row Range' section has 'First Row' set to 1 and 'Last Row' set to 1982. At the bottom, there is a checkbox for 'First Row Contains Column Headings' which is unchecked, and 'OK' and 'Cancel' buttons.

- The File Gateway Import has been enhanced to support the .accdb format for MS Access files

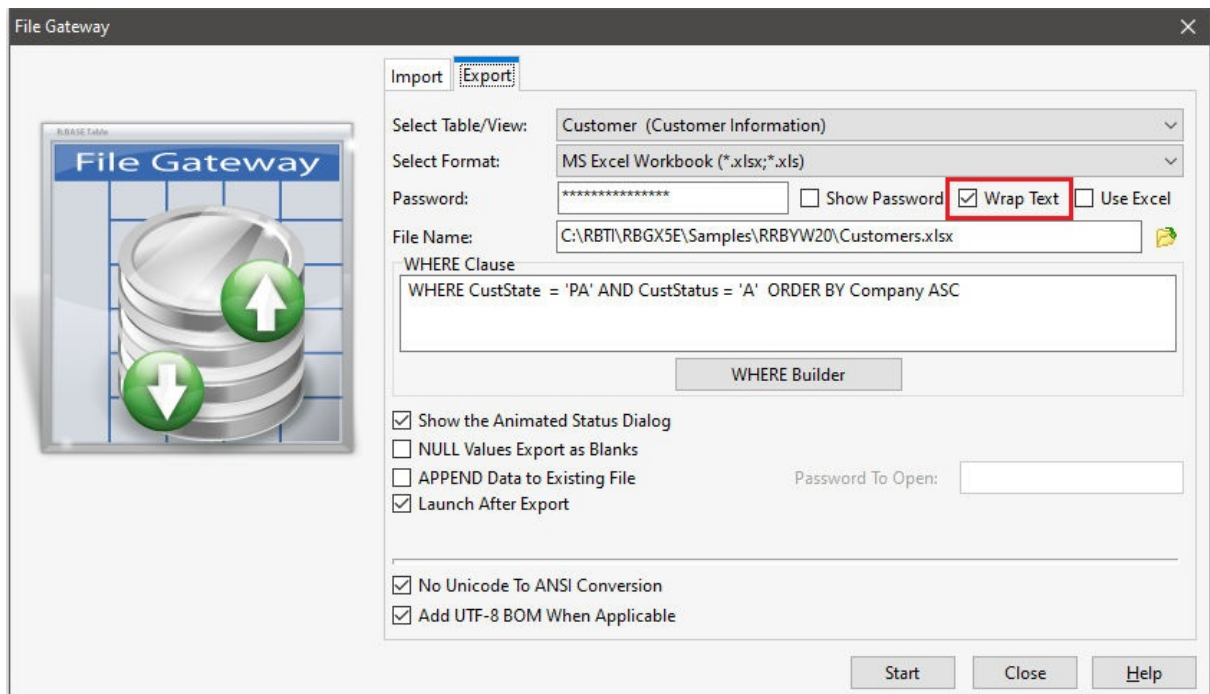


The 'File Gateway' dialog box is shown with the 'Import' tab selected. On the left is a graphic with the text 'File Gateway' and a stack of coins with up and down arrows. The 'Import' section has two radio buttons: 'Existing Table' (unchecked) and 'New Table' (selected). The 'New Table' section has an 'Enter New Table Name' field with 'Transactions' entered. Below it is a 'Select Import Format' dropdown menu with 'MS Access Database (*.mdb; *.accdb)' selected, highlighted by a red rectangle. Below that is an 'Enter File Name' field with the path 'C:\RBT\RBGX5E\Samples\RRBYW20\Transactions.accdb' entered, also highlighted by a red rectangle. There is a 'Password' field below that. At the bottom of the 'New Table' section are two checkboxes: 'Create TEMPORARY Table' (unchecked), 'Show the Animated Status Dialog' (checked), and 'Show Messages' (checked). At the bottom right of the dialog are 'Start', 'Close', and 'Help' buttons.

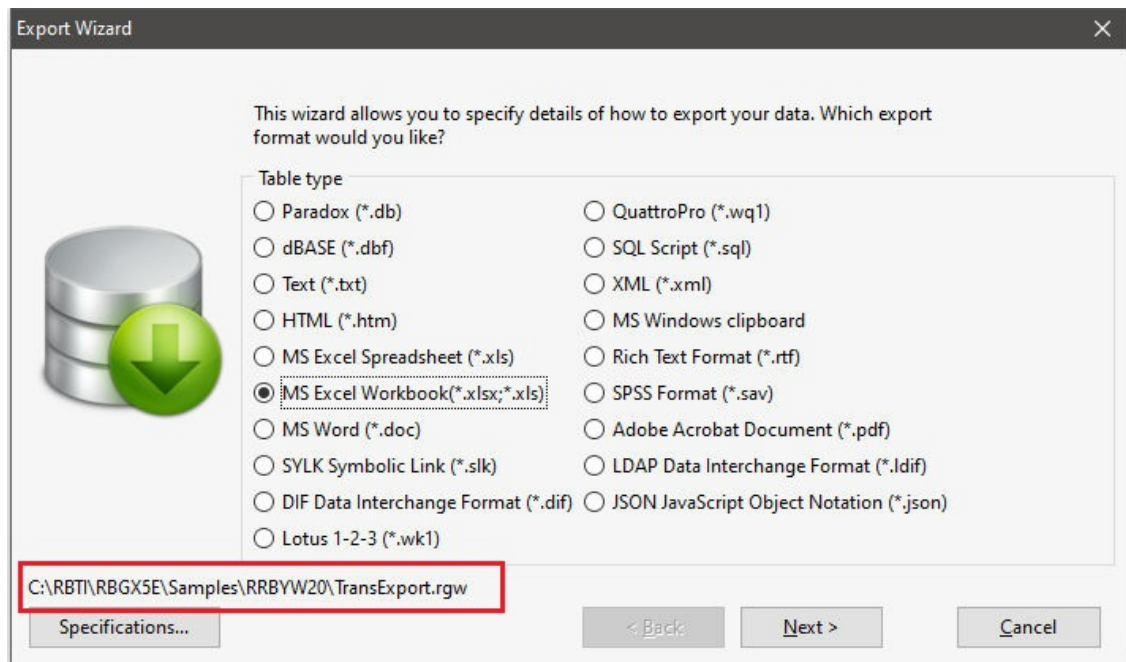
- A new "Load From File" button is available within the Specifications" dialog to load a specification file that is not located in the current folder



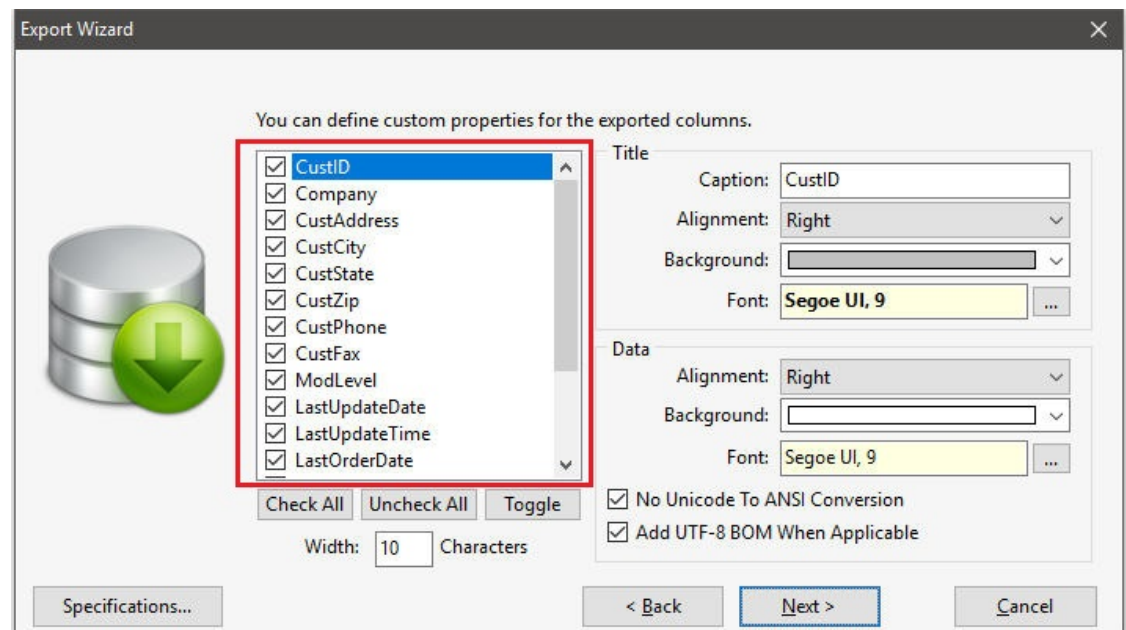
- Added "Wrap Text" option to the File Gateway utility for the MS Excel Spreadsheet/Workbook formats, which specifies to wrap long text values within the output



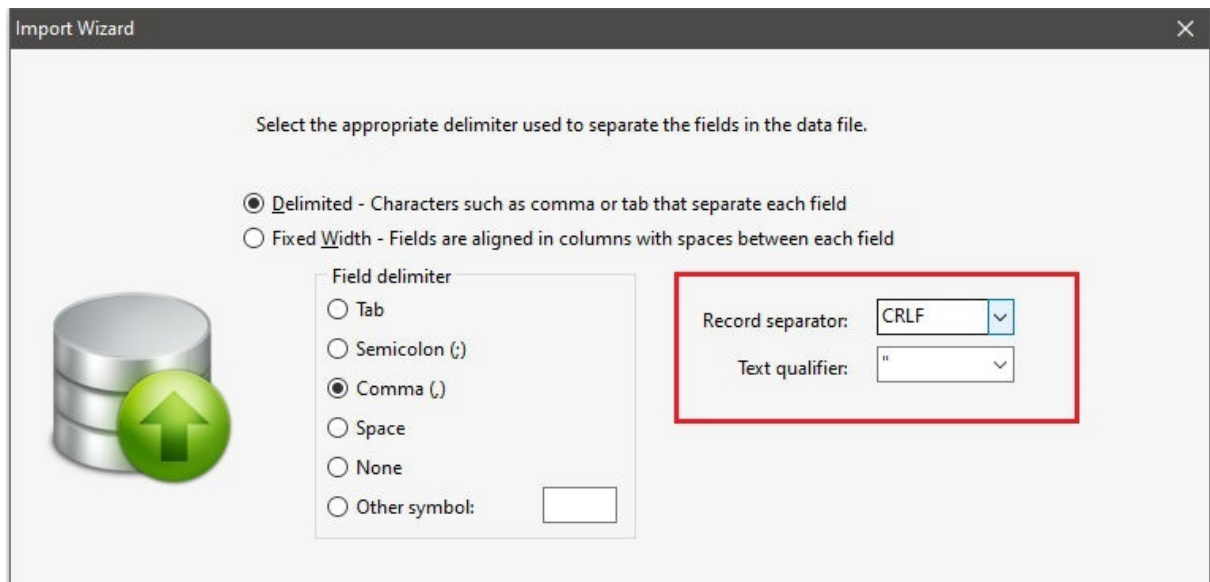
- Enhanced Import/Export Wizard utilities, where the loaded Specification File displays the path and file name



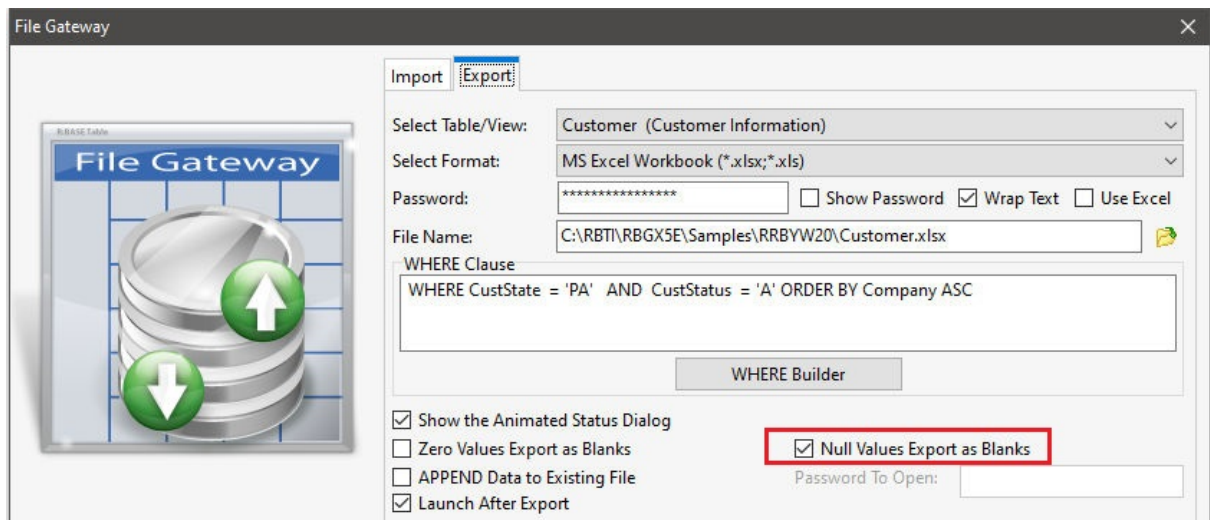
- Enhanced Export Wizard allowing field reordering (drag-n-drop) for the column list



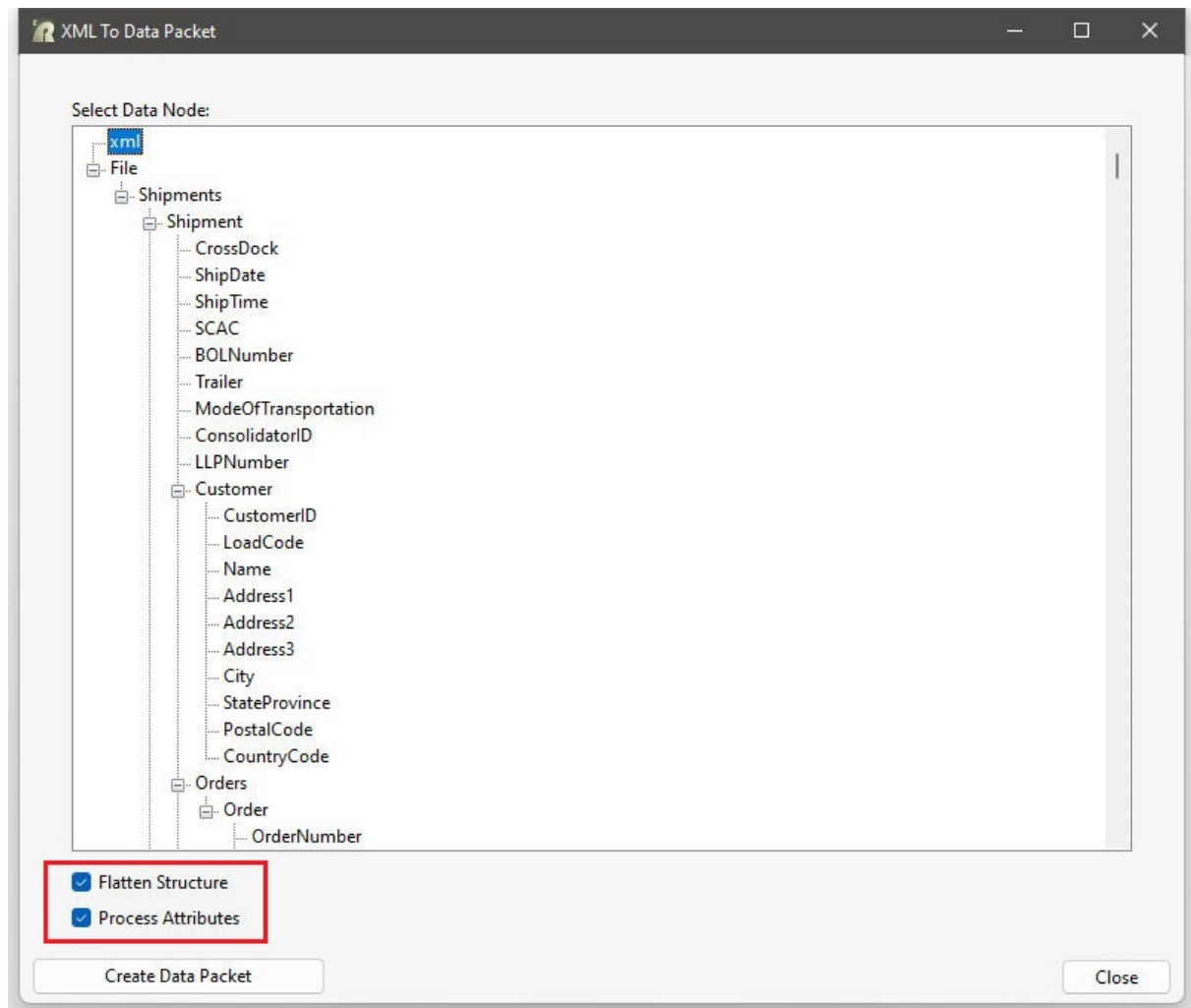
- Updated Import Wizard to optionally specify custom "Record separator" and "Text qualifier" values. The drop-down menus will accept a custom entry by typing in a value.



- Added "NULL Values Export as Blanks" option for the Export menu. The Export Wizard also includes a new "Blank if Null" option for the desired output.



- Enhanced XML import support to flatten the structure and process attribute options for improved loading of data nodes



8 Forms

The R:BASE X.5 Form Designer has been enhanced to provide more powerful data-driven form controls for increased productivity!

- New **DB Tree Grid** control to display an expandable tree structure within a grid

Transaction ID	Date	NetAmount	Freight	Tax	Total
Company : Barton and Associates					
Count 7 Last 11/25/2011		\$ 29,254.50			\$ 31,916.68
Company : Blue Ridge Technologies, Inc.					
Count 6 Last 12/21/2011		\$ 32,573.50			\$ 35,537.71
Company : Bytes & Words					
Count 8 Last 12/01/2011		\$ 85,952.80			\$ 93,774.52
Company : Compdats Computer					
1041	Oct 03, 2011	\$19,755.00	\$197.55	1600.16	\$21,552.71
1005	Feb 01, 2011	\$16,155.00	\$161.55	1308.56	\$17,625.11
1060	Apr 25, 2011	\$5,206.50	\$52.07	421.73	\$5,680.30
1036	Sep 27, 2011	\$16,155.00	\$161.55	1308.56	\$17,625.11
Count 4 Last 10/03/2011		\$ 57,271.50			\$ 62,483.23
Company : Compumasters Computer Supply					
Count 7 Last 12/22/2011		\$ 50,098.00			\$ 54,656.94
Company : Computer Medical Ctr.					
Count 1 Last 03/01/2011		\$ 7,024.00			\$ 7,663.18
Company : Computer Medical Ctr.					
Count 95		\$ 719,053.50			\$ 784,487.58

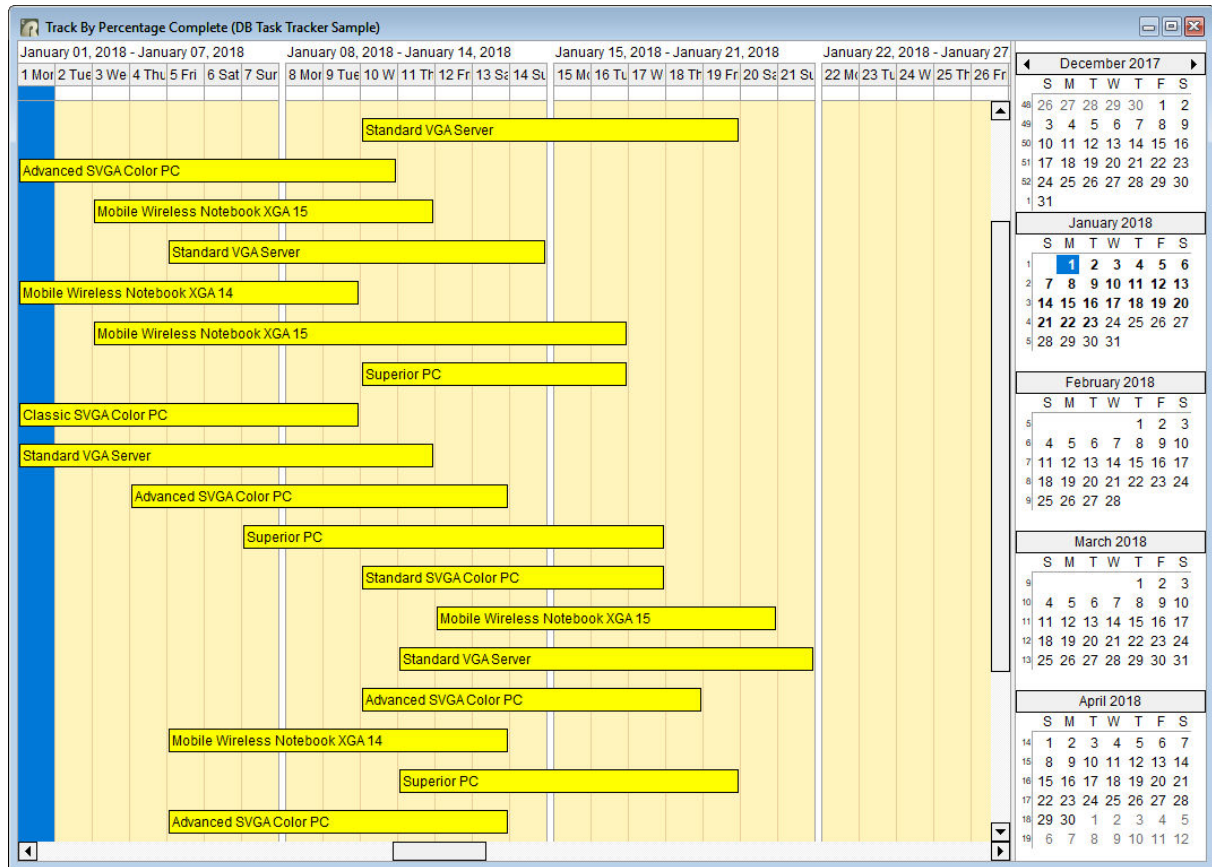
The DB Tree Grid is an advanced grid, tree list, and data editor control which provides a visually stunning interface with powerful and flexible features for R:BASE applications. Customizations can include designs with standard two-dimensional tables to runtime grouping and column reorganizing. Appearance options include elegant theme and style controls to alter the display of the visual elements, which make up the grid (headers, group panel, odd/even/detail rows, footers, etc.).

Features include:

- o Master/Detail grid with integrated data grouping in tabular form
- o Incremental search for each column, allowing users to instantly locate any information
- o Fast data loading, with speedy responses upon groups and sorts
- o Automatic data grouping, enabling an extremely powerful data viewing and manipulation metaphor inside applications
- o Instant summaries for grouped nodes, eliminating the need to write complex banded reports
- o Instant footer summaries, generating grid displays that provide compelling data-analysis results
- o Drag-and-drop column selection, allowing end-users to easily customize the columns visible on the screen
- o Multiple view types for grid columns
- o Column data filtering to quickly limit the displayed results
- o Customizable style for all visual elements which make up the tree grid (headers, group panel, odd/even/detail rows, footers, etc.)
- o Banded columns to maximize the number of columns visible, when screen real estate is at a premium

- Custom row height for displaying larger row data
- Fixed bands and columns to lock columns and bands to the left or right side of the grid

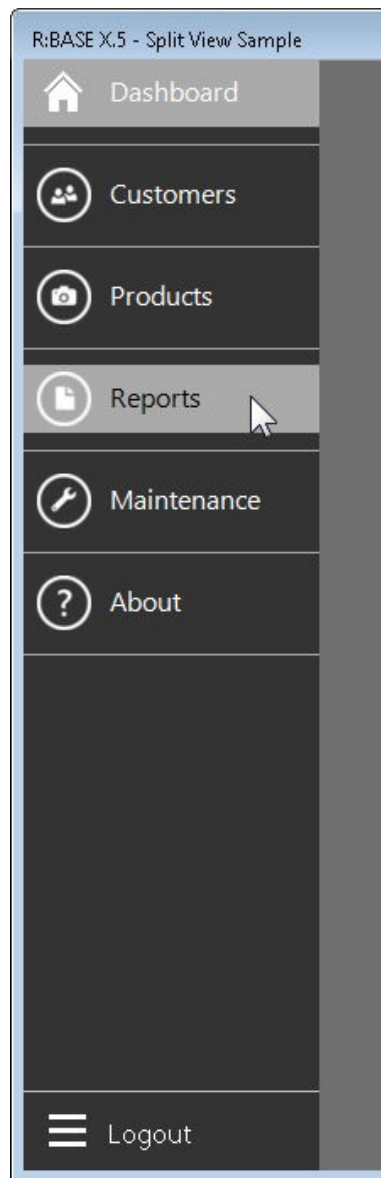
- New **DB Task Tracker** control to provide display a table-driven task and scheduling module



The DB Task Tracker is an advanced task scheduling tool to build scheduling applications for R:BASE databases. Features include:

- Six View Types for tasks:
 1. Days
 2. Week
 3. Multi-Week
 4. Year
 5. Gantt
 6. Time Grid
- Task Tree - Powerful tree-base display grid with filtering and drag-and-drop support
- Multiple Resources Display - The multiple resources display enables your end users to browse several plans (for any entity such as an individual or office location, etc) simultaneously.
- Date Navigator - The DB Task Tracker's built-in date navigator offers extremely intuitive access to desired time frames. It doesn't matter whether you need to select a particular day, a range of days, a week or multiple weeks - everything is done with a single mouse operation.
- Advanced Appearance Settings - Themes and many other visual options apply artistic and professional representations over events

- New **Split View** control offering a collection of user interface command groups, containing a list of clickable items.



Note: The Split View is both a menu control and a container. Users can merge custom design with the built-in menu functionality for an even more powerful control.

The Split View presents a list of initial menu options, which is then expanded when the mouse cursor hovers over the list.

- New **DB Tree List** control providing a list of data organized into a tree structure to display table data

The screenshot shows a window titled "Employee Structure (DB Tree List Sample)". It features a "Show Customization Form" button at the top left. The main area displays a tree view of employee data. The tree structure is as follows:

- Staff: 3
 - Jane Sullivan (Active: checked)
 - Darnell Williams (Active: checked)
 - John Smith (Active: checked)
 - Staff: 1
 - John Smith (Active: checked)
 - John Chow (Active: checked)
 - Staff: 1
 - Staff: 4
 - Joe Donohoe (Active: checked)
 - Sam Donald (Active: checked)
 - Craig Alan (Active: checked)
 - Staff: 2

The table below represents the data shown in the screenshot:

| Company Structure | | | Miscellaneous Information | | | | | Employment | |
|-------------------|-----------|-------------------------------------|-------------------------------|----------------|-------------|-------|------------|------------|------------|
| First Name | Last Name | Active | Address 1 | Address 2 | City | State | Zip | Hire Date | Entry Date |
| June | Wilson | <input type="checkbox"/> | 3278 Summit Drive | Apartment 220 | Seattle | WA | 98115 | 07/11/2018 | 07/11/2018 |
| Staff: 3 | | | | | | | | | |
| Jane | Sullivan | <input checked="" type="checkbox"/> | 3935 Old William Penn Highway | | Murrysville | PA | 15668-1854 | 07/11/2018 | 07/11/2018 |
| Darnell | Williams | <input checked="" type="checkbox"/> | 8806 88th Street | Apartment 1600 | Seattle | WA | 98103 | 07/11/2018 | 07/11/2018 |
| John | Smith | <input checked="" type="checkbox"/> | 733 Summit Ave E. | | Seattle | WA | 98102 | 07/11/2018 | 07/11/2018 |
| Staff: 1 | | | | | | | | | |
| John | Smith | <input checked="" type="checkbox"/> | 3935 Old William Penn Highway | | Murrysville | PA | 15668-1854 | 07/11/2018 | 07/11/2018 |
| John | Chow | <input checked="" type="checkbox"/> | 5001 Main Street | | Woodinville | WA | 98072 | 07/11/2018 | 07/11/2018 |
| Staff: 1 | | | | | | | | | |
| Staff: 4 | | | | | | | | | |
| Joe | Donohoe | <input checked="" type="checkbox"/> | 3935 Old William Penn Highway | | Murrysville | PA | 15668-1854 | 07/11/2018 | 07/11/2018 |
| Sam | Donald | <input checked="" type="checkbox"/> | 1715 School Road | | Murrysville | PA | 15668-1854 | 07/11/2018 | 07/11/2018 |
| Craig | Alan | <input checked="" type="checkbox"/> | 3935 Old William Penn Highway | | Murrysville | PA | 15668-1854 | 07/11/2018 | 07/11/2018 |
| Staff: 2 | | | | | | | | | |

At the bottom, it shows "Total Employees: 12" and a pagination bar indicating "6 of 12" records.

The DB Tree List is a powerful control that can display information as a tree, a grid, or a combination of both – in bound, unbound, or virtual mode. This unique synergy between a traditional grid and a traditional tree view control allows users to create cutting-edge and visually appealing application interfaces for end-users. With the DB Tree List, you can create function-rich and responsive applications without having to write a single line of code.

The DB Tree List control supports the use of a Customization Form to provide runtime customization of the DB Tree List forms, where end-users can hide and show rows using drag and drop.


The screenshot shows a "Customization" dialog box with a close button (X) in the top right corner. It has two tabs: "Bands" and "Columns". The "Columns" tab is currently selected. The main area of the dialog is empty, intended for users to drag and drop rows to customize the display.

- New **DB Card View** control which uses a card layout format to display table data

Contact Cards (DB Card View Sample)

Show Customization Form

Find Clear

| NAME | ADDITIONAL INFO |
|---|--|
| 
First: Jill
Last: Baileys
CONTACT INFO
Mobile: 415-878-5666
Phone: 415-878-5600
Email: jbailey@ici.com
Last Contact: 07/10/2018 (Tue) | Specializes in PC needs for smaller accounting firms. Has doubled her customer base in the last |
| 
First: Andy
Last: Chin
CONTACT INFO
Mobile: 415-892-6799
Phone: 415-892-6745
Email: andychin@pccd.co...
Last Contact: 07/10/2018 (Tue) | One man shop. Counts on us to ship parts quickly. |
| 
First: Shelley
Last: Watts
CONTACT INFO
Mobile: 415-878-5644
Phone: 415-878-5642
Email: swatts@ici.com
Last Contact: 07/10/2018 (Tue) | Supplies systems for process control. Sometimes needs special interface hardware. |
| 
First: Bill
Last: Jones
CONTACT INFO
Mobile: 812-701-1000
Phone: 812-701-1002
Email: bjones@jones.com
Last Contact: 07/10/2018 (Tue) | Chain retail. Wants the best price, not the latest and greatest. Always check with him when inventory on older machines is high. |

1 of 35

The DB Card View control displays rows using a card display method where each row is shown in a separate block within the view (a card). When in its regular layout, a row within a card is drawn vertically, so more space is available for detail data. The DB Card View introduces a more compact method of presenting data visually.

The DB Card View control supports the use of a Customization Form to provide runtime customization of the DB Card Views, where end-users can hide and show rows using drag and drop.

Customization

Rows

Fax

Pager

- New **DB Vertical Grid** control that displays and edits table data in a new non-traditional method that can be considered as an inverted grid, as the data fields are represented as row headers, while the data records are represented as columns

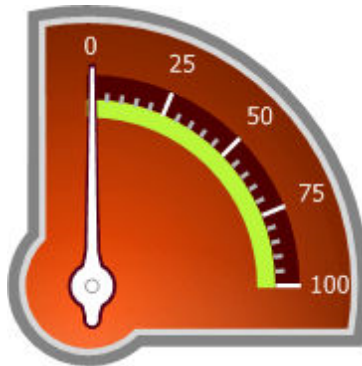
| Keys | | ID | 1001 | 1002 | 1003 | 1004 |
|---------|-------|-------------------|---|---|---|--|
| Name | | | | | | |
| First | Last | Jill | Baileys | Shelley | Watts | Andy |
| | | | | Chin | | Bill |
| | | | | | | Jones |
| Contact | | Phone | 415-878-5600 | 415-878-5642 | 415-892-6745 | 812-701-1002 |
| | | Cell | 415-878-5666 | 415-878-5644 | 415-892-6799 | 812-701-1000 |
| Fax | Pager | 415-878-5601 | 415-878-5677 | 415-878-5643 | 415-892-6746 | 415-892-6766 |
| Email | | jbailey@ici.com | swatts@ici.com | andychin@pccd.com | | bjones@jones.com |
| Misc | | Info | Specializes in PC needs for smaller accounting firms. Has doubled her customer base in the last | Supplies systems for process control. Sometimes needs special interface hardware. | One man shop. Counts on us to ship parts quickly. | Chain retail. Wants the best price, not the latest and greatest. Always check with him when inventory on |
| | | Last Contact Date | 07/10/2018 | 07/10/2018 | 07/10/2018 | 07/10/2018 |

With the DB Vertical Grid it is important to emphasize the use of the "row" instead of "column" for the control. What used to be a "column" in context of grids is now called a "row" because data is presented vertically.

Features include:

- Data in the DB Vertical Grid control can be represented using one of three layout styles, which determine the number of records visible on screen within the control at one time, and the way fields and field values are arranged.
 1. Bands
 2. Single Record
 3. Multiple Records
- The DB Vertical Grid supports Category Rows used to group regular rows into categories. Separating rows into categories improves the control's usability, as an end-user can now quickly find the required row. A Category Row displays a descriptive caption and expand button, which allows the end-user to collapse, and then restore the group.
- Provides the expanded editing capabilities. Multiple editors (text, combo box, image, BLOB, spin edit, date time, etc.) can be used for in-place editing within cells. Users can easily assign a specific editor to a row, and it will be used to edit all cells within this row.
- Multi-Editor Rows, to display multiple editors within a single row
- Nested Rows, which allows data to be organized into tree-like structures
- Advanced Appearance Options and Style Scheme Settings - themes and appearance settings (background and foreground colors, font settings, etc) and many visual options apply artistic and professional representations over the control
- Support for runtime layout customization. End users are able to resize columns, resize and rearrange rows, temporarily hide rows to the Customization Form and then restore them. By default, the DB Vertical Grid only permits row and column sizing, and prohibits other customization.

- New **DB Gauge** and **Variable Gauge** controls to graphically display table data. The DB Gauge applications can imitate both simple as well as complex multi-functional dashboards, consisting of several seamlessly blended scales. All scales that imitate analog measuring instruments support various value transition animation effects for even more resemblance to real devices, such as speedometers, tachometers, thermometers, and more.



- New **DB Pivot Grid** control is a grid element displaying table data which offers end-users the ability to adjust the display and evaluate the information

Sales Data By Company (DB Pivot Grid Sample)

Salesman ID

TotalNet

Date /

| | | Grand Total | | January | | February | | March | | April | |
|-------------------------------------|-----------|-------------|----------|----------|----------|----------|----------|---------|---------|----------|----------|
| Company / | Trans # / | Total | Net | Total | Net | Total | Net | Total | Net | Total | Net |
| + Barton and Associates | | \$31,917 | \$29,255 | \$21,209 | \$19,440 | | | | | | |
| + Blue Ridge Technologies, Inc. | | \$35,538 | \$32,574 | | | | | | | | |
| + Bytes & Words | | \$93,775 | \$85,953 | \$19,158 | \$17,560 | \$1,824 | \$1,672 | | | \$26,381 | \$24,180 |
| + Compdat Computer | | \$62,483 | \$57,272 | | | \$17,625 | \$16,155 | | | \$5,680 | \$5,207 |
| + Compumasters Computer Supply | | \$54,657 | \$50,098 | \$8,483 | \$7,775 | | | \$3,360 | \$3,080 | | |
| + Computer Medical Ctr. | | \$7,663 | \$7,024 | | | | | \$7,663 | \$7,024 | | |
| + Computer Mountain Inc., | | \$4,536 | \$4,158 | | | | | \$4,536 | \$4,158 | | |
| + Computer Warehouse - I | | \$5,371 | \$4,923 | | | | | \$2,347 | \$2,151 | | |
| + Data Solutions | | \$6,049 | \$5,544 | | | | | | | \$6,049 | \$5,544 |
| + Datacrafters Infosystems | | \$6,299 | \$5,774 | | | | | | | \$6,299 | \$5,774 |
| + Industrial Computers Inc. | | \$6,603 | \$6,053 | | | | | | | | |
| + Industrial Concepts Inc. | | \$4,885 | \$4,478 | | | | | | | | |
| + Johnson Technologies | | \$2,052 | \$1,881 | | | | | | | | |
| + Lanufacturers Discount Computers | | \$1,856 | \$1,701 | | | | | | | | |
| + MIS by Design | | \$1,512 | \$1,386 | | | | | | | | |
| + Microcomputer Distribution | | \$8,910 | \$8,166 | | | | | | | | |
| + Microtech University - I | | \$1,856 | \$1,701 | | | | | | | | |
| + Microtech University - II | | \$2,062 | \$1,890 | | | | | | | | |
| + Midtown Computer Co | | \$3,024 | \$2,772 | | | | | | | | |
| + Modular Software, Inc. | | \$5,283 | \$4,842 | | | | | | | | |
| + Nordan Distributors, Inc. | | \$6,157 | \$5,643 | | | | | | | | |
| + Olympic Sales | | \$32,879 | \$30,137 | | | | | | | | |
| + Open Systems I/O | | \$2,607 | \$2,390 | | | | | | | | |

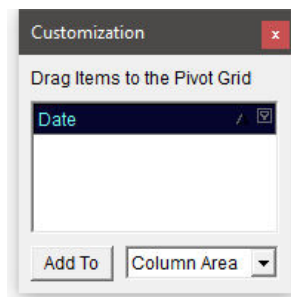
With the drag-and-drop functionality, the DB Pivot Grid control allows for end-users to rearrange fields dynamically, without having to change the structure of the table, for analyzing data from various perspectives. Users can interchange columns and rows on the fly, filter, and sort items in different ways, and also collapse and expand data at different levels.

The DB Pivot Grid provides an ideal solution if you need to:

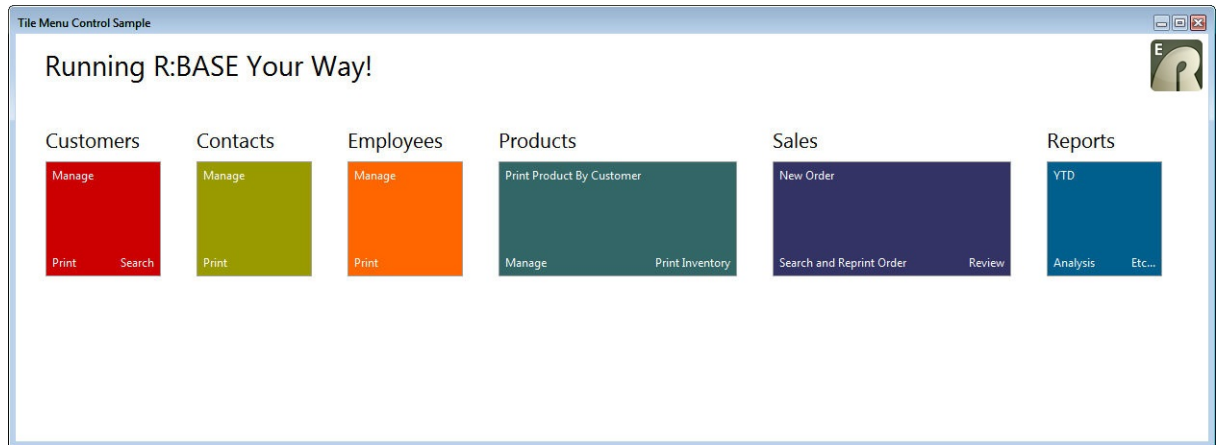
- Produce multi-dimensional reports on a set of an ordinary data
- Analyze the data that is involved in a multi-dimensional relationship
- Instantly organize related data together
- Spot trends of the data in the fastest way

Along with the above tasks, the DB Pivot Grid offers an essential functionality to succeed in business reporting by efficiently performing data analysis in the fly in a semantically consistent manner.

The DB Pivot Grid control supports the use of a Customization Form to provide runtime customization of the DB Pivot Grid, where end-users can hide and show rows using drag and drop.



- New **Tile Menu** control offering a tile (colored rectangles or squares) interface to create a collection of user interface command groups, containing a sliding menu list of clickable/touchable items.

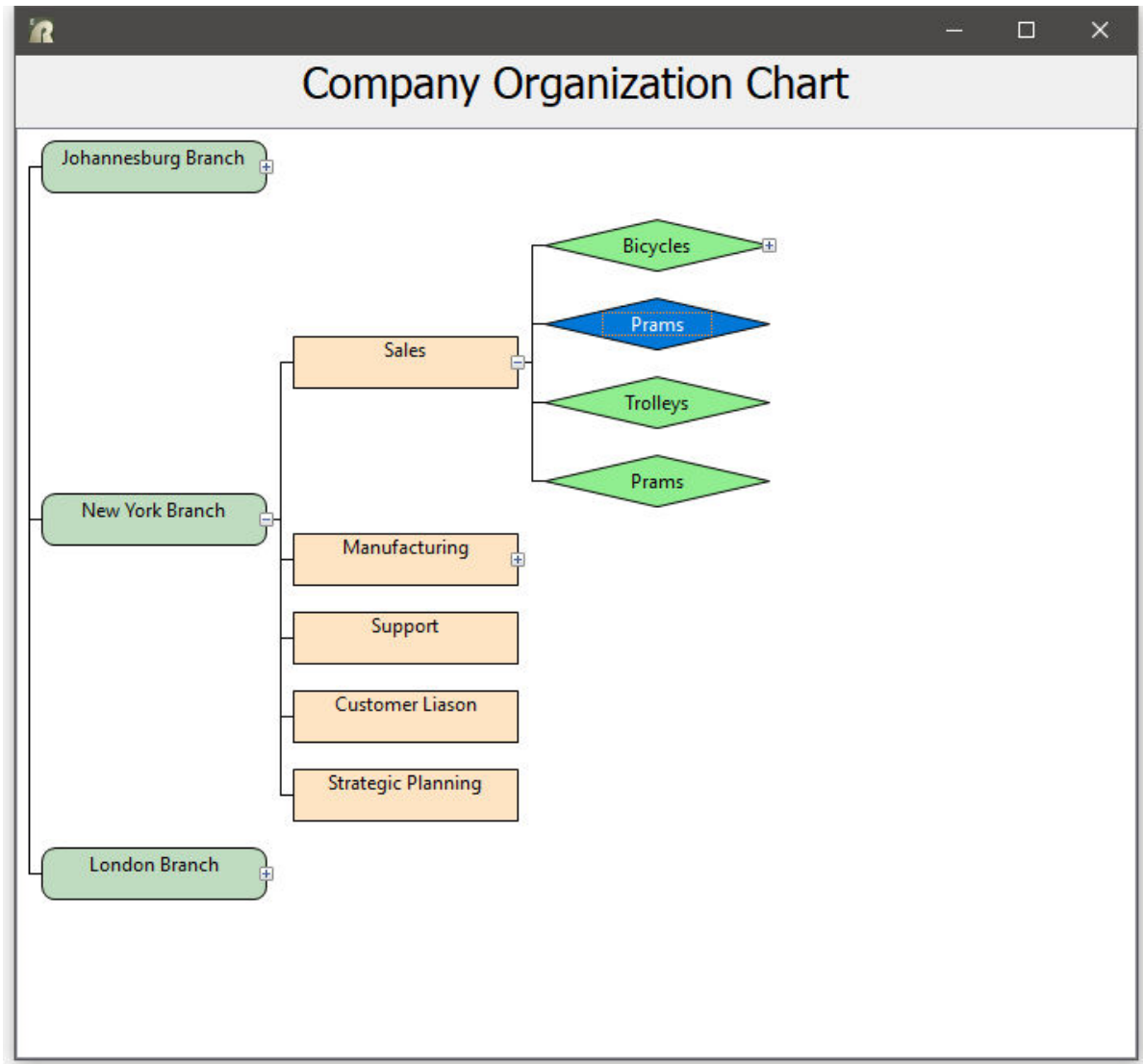


The Tile Menu is both a menu control and a container, where the tile and tile group functionality can be used to create a powerful dashboard for an R:BASE application.

Tiles are arranged/parented into Groups, and can be moved to any Group. Tiles support four "Text" properties that are initially anchored on each corner of the tile. The tile information displayed can be presented in various forms, depending on how the tile is designed, ranging from simple text to an image or even a set of images.

Tiles are also designed to display information in real time, from the application they point to. For example, a weather app would be able to display the forecast without actually opening the application. Tiles can be used to click or tap upon, to launch code, or to display a hidden panel as a "Detail Control" for additional menu options.

- New **DB OrgChart** control for the display and editing of hierarchical tree data structures from table data. The DB OrgChart enables an incredibly wide number of possibilities to manage the contents and appearance of both the entire chart structure as well as each individual node.



Main features include:

- Bound and unbound mode support
- Zooming
- 3-Dimensional node painting
- Rotation of the structure by 90 degrees
- Full node drag and drop support
- Chart runtime customization
- Animated collapse and expansion of nodes
- Images for each node within the tree structure as well as their placement within each node object
- Shapes of each node object (Rectangle, Rounded Rectangle, Ellipse, or Diamond)
- Antialiasing (smoothing) for chart elements
- Support for paint styles and themes
- Color of individual node objects
- Width and Height of each node object
- Text placement within each node object

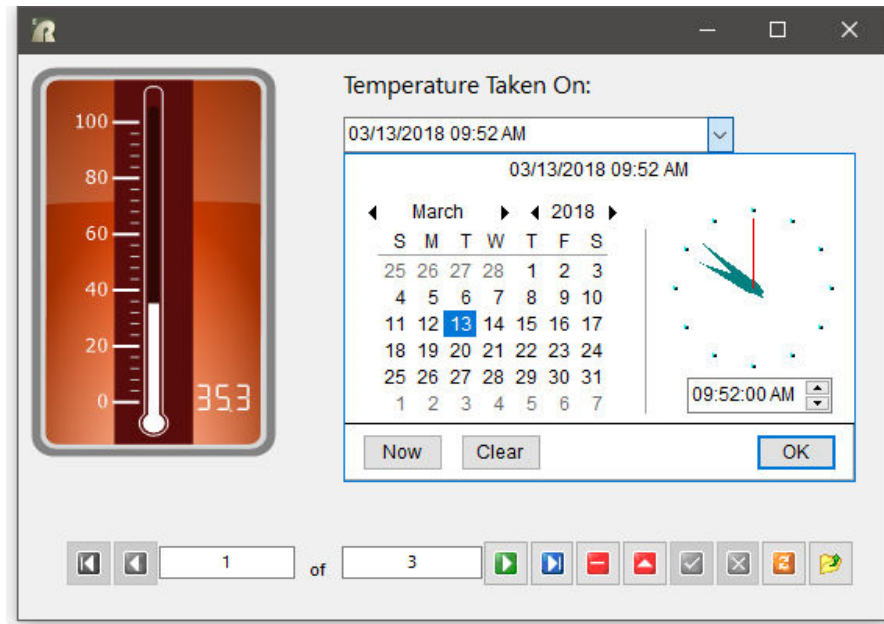
- New **Layout Manager** control to build a comprehensive layout on a form, and maintain a consistent layout structure

The Layout Manager enables R:BASE users and developers to quickly and easily create forms that can be customized by end users. The Layout Manager helps save time by moving away from traditional pixel-oriented form design, and utilizing convenient features such as automatic control resizing and alignment, as well as horizontal and vertical item alignment. Like other form controls, a form's appearance settings can be modified using themes.

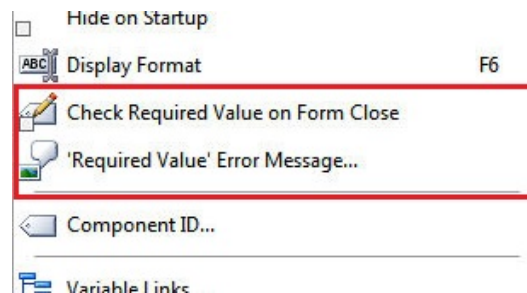
Main features include:

- Comprehensive Design and Runtime Customization – both developers and end users can fully customize forms via an intuitive docking system
- Auto-Management – layout elements are automatically managed by the layout control. You never have to worry about pixel-by-pixel positioning.
- Unlimited Nesting – layout elements can be organized in different ways, to give your application the functionality and ease of use it requires
- Layout elements can be organized vertically, horizontally or within tabs
- The layout control supports full persistence, with layout settings that can be saved to an external layout file

- Advanced UI Control – supporting functionality from the manner in which captions are displayed, to the offsets between individual elements
- New **DB Date and Time Edit** and **Variable Date and Time Edit** controls to alter DATETIME and DATE values. A drop-down can appear with both calendar and clock objects. The image below is an example of a Date And Time Edit control upon a form with a DB Gauge control.



- Enhanced right click menu option for DB and Variable controls to "require a value" before the form may be closed. A custom error message can be specified as well. The value required restriction may also be set to display a warning that can be ignored, which is helpful during active development, by toggling the PROPERTY APPLICATION STRICT_VALUE_REQUIREMENTS OFF command. The default value is ON, where an error-type message appears and the value requirement is more strict. When OFF, a warning-type message appears with an "Ignore" button.



A required value may be specified for DB/Variable Edit, DB/Variable Memo, DB/Variable Radio Group, DB/Variable Lookup Combo Box, DB/Variable Lookup List Box, DB/Variable User Defined Combo Box, DB/Variable User Defined List Box, and DB/Variable Lookup List View controls.

- Implemented global setting that affects all controls' Pop-up Menu location. To set the custom location execute the command in the startup code of an application.

PROPERTY APPLICATION CTRL_POPUP_POSITION Value

SCREEN_CENTER – this is the default location

TOP_LEFT – popup is above the control and left aligned

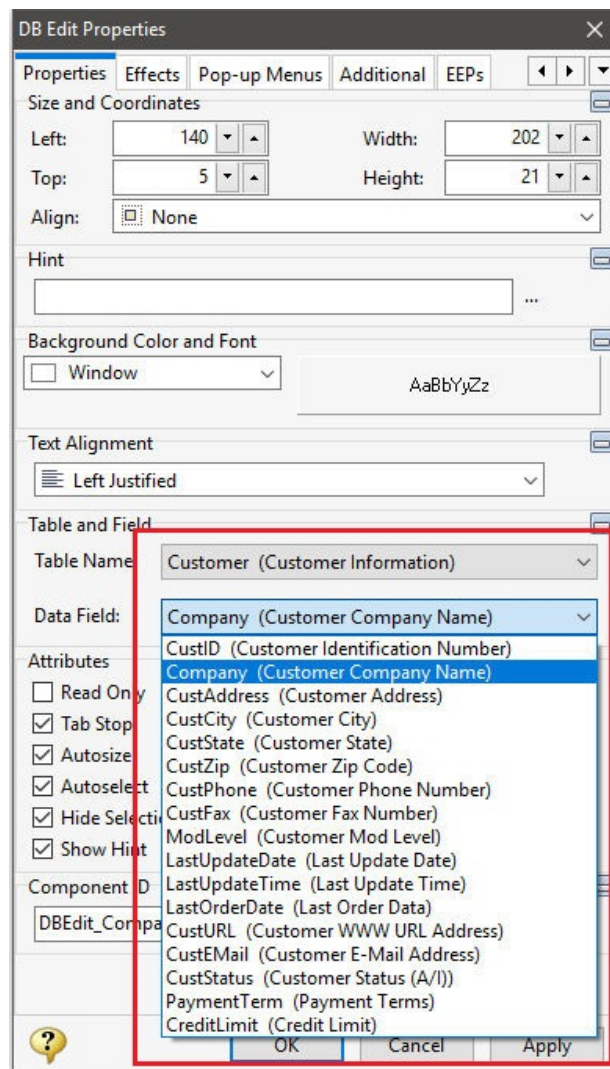
TOP_RIGHT – popup is above the control and right aligned

BOTTOM_LEFT – popup is below the control and left aligned

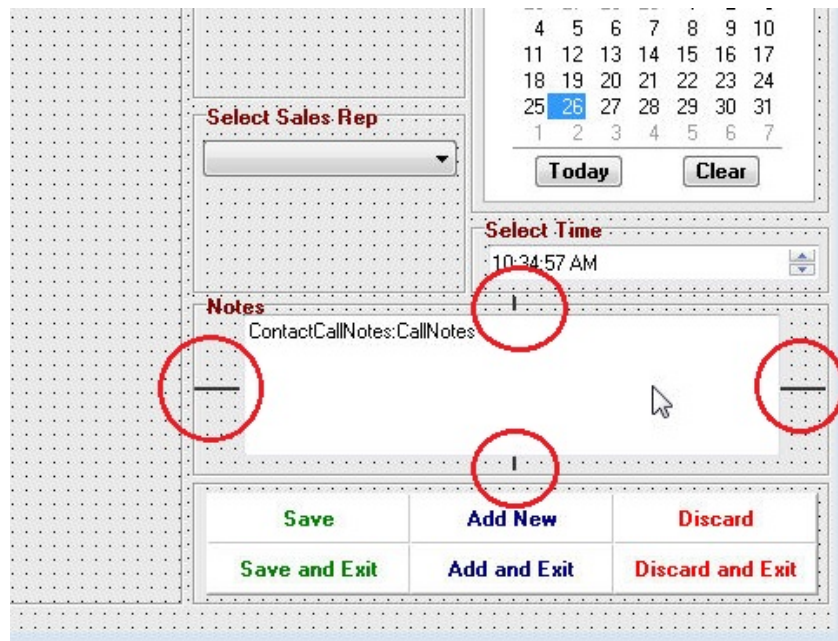
BOTTOM_RIGHT – popup is below the control and right aligned

MOUSE_POSITION – popup is anchored on the mouse cursor position when the control was double clicked

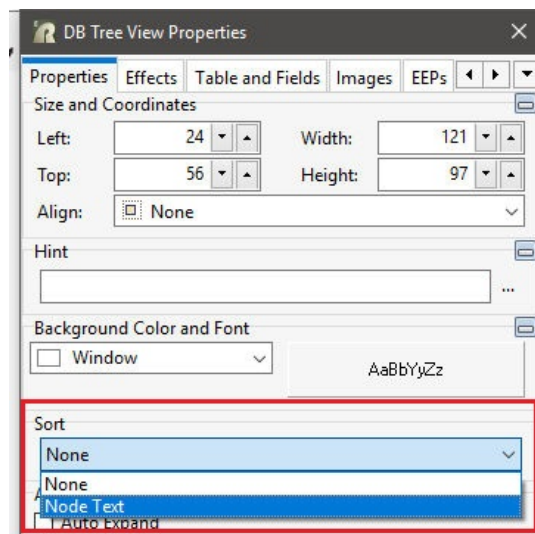
- Added table and column descriptions to field lists within property editors and table listing dialogs, to assist when placing database driven fields (Enhanced DB Grid, DB Combo Box, DB Edit, DB Image, etc.). If desired, the comments may be turned off.



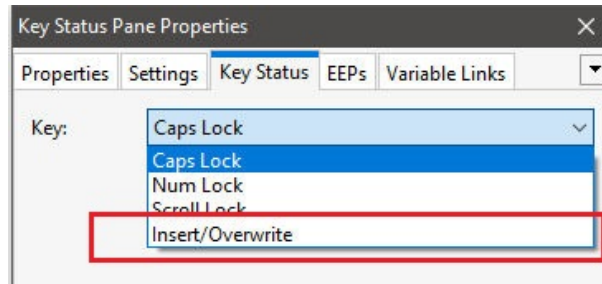
- Enhanced alignment guides when moving/dragging objects, allowing for centering controls within a parent object



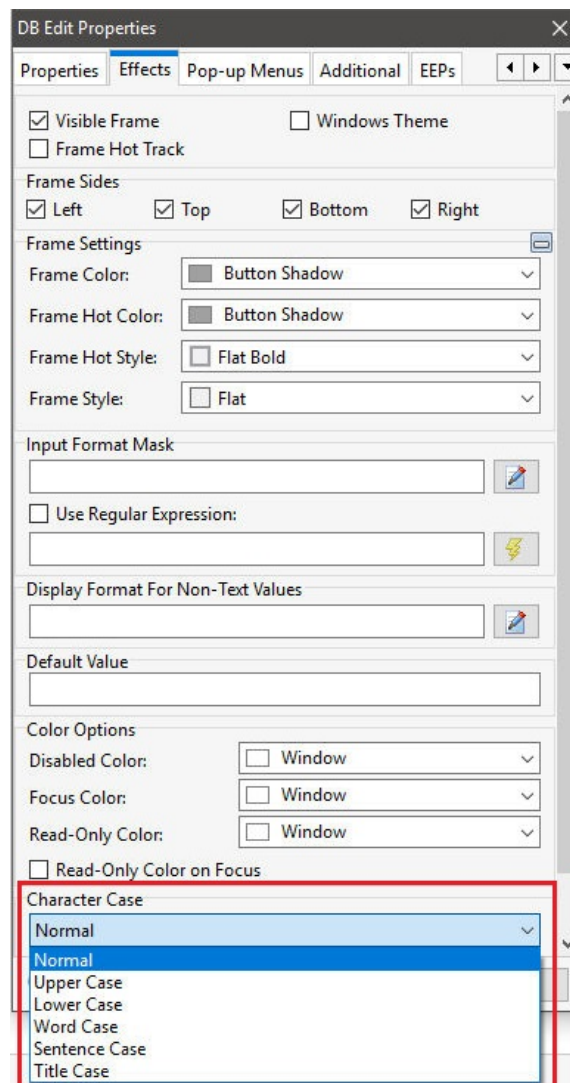
- Added Sort option for **DB Tree View** controls to sort the nodes by the node text, or to assign no sorting



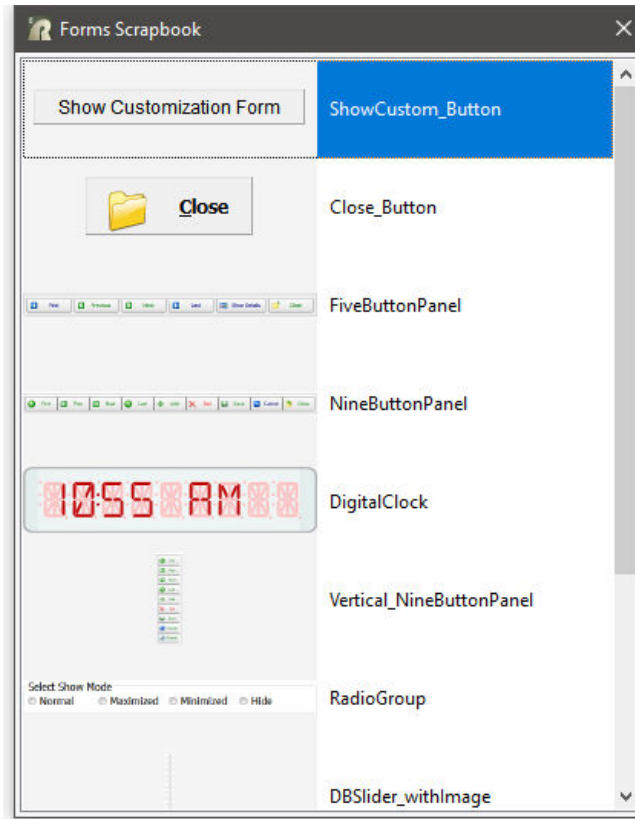
- Added Insert/Overwrite keyboard status to the list of available keys for the **Status Bar** control



- Adding Title Case character case option for **DB Edit** and **DB Memo** controls, along with and Variable Edit and Variable Memo controls



- New Scrapbook utility, which acts as repository for created and commonly used form objects



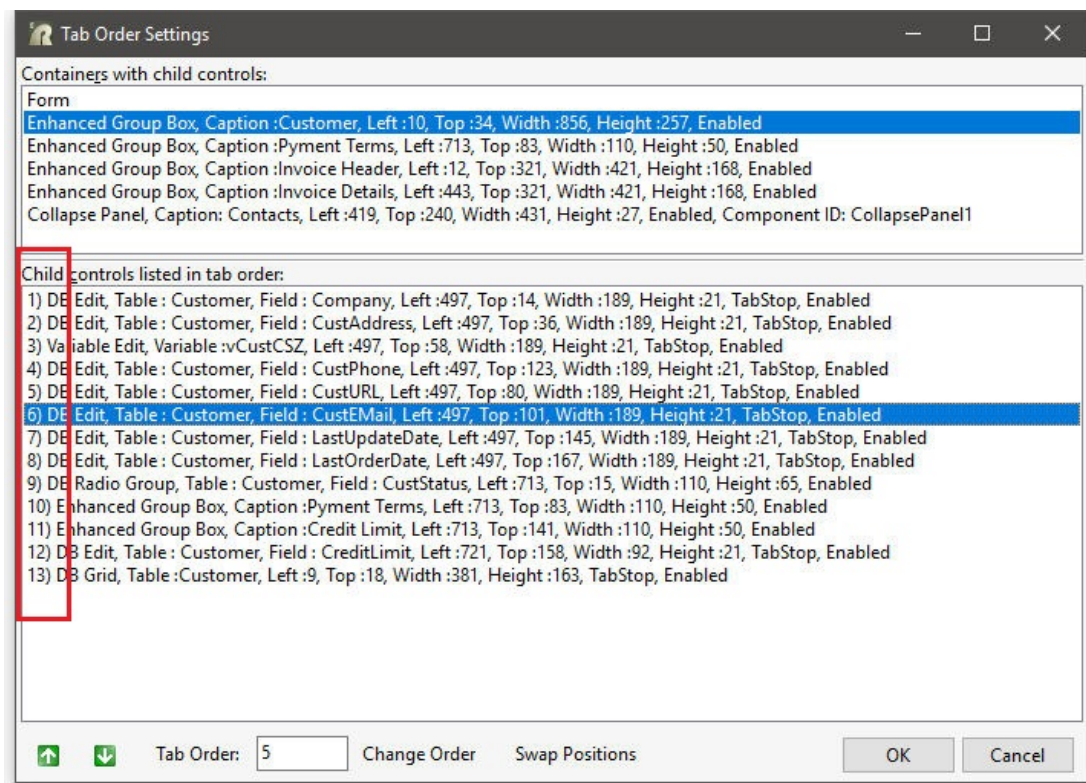
In the Form Designer any control that is right clicked, the menu option "Add to Scrapbook..." is available. A name can be specified to assign the scrapbook entry. From the designer, the Scrapbook can be launched as a MDI window, where scrapbook entries can be added to the displayed form for easy reuse.

- Added "On Drag List Item" EEP for DB/Variable Lookup List View controls which will execute when an item is dragged within the list
- Added Enhanced DB Grid setting to specify if the vertical scroll bar is displayed
- New "Recreate Columns After Refresh" property for list view controls to specify if the columns are preserved after the control is refreshed

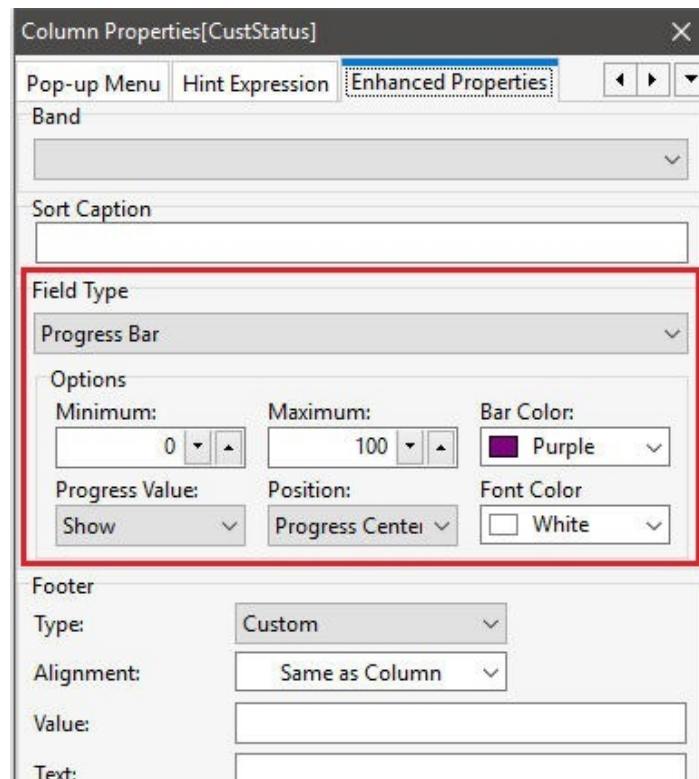
- New Lock Size option where field settings for objects can be altered, but the size can be specifically preserved



- Enhanced Tab Order Settings with each listed control numbered with its current tab-order numeral



- New **Enhanced DB Grid** progress bar properties for column types, allowing for a progress value to be hidden, displayed in different positions, and a color for the progress text



- A new "Execute Node EEP On Tree View Click" property has been added to **Tree View** controls to specify the nodes EEP is fired when the Tree View is clicked. The behavior for the property is related to Tree Views where "Hide Selection" is unchecked, and the node highlighting appears to be incorrect when a form is launched in the foreground.
- New GETPROPERTY parameter, GRIDHASROWS, to return if there are valid rows in an Enhanced DB Grid control

```
GETPROPERTY EGrid1 GRIDHASROWS vRowsExist
```

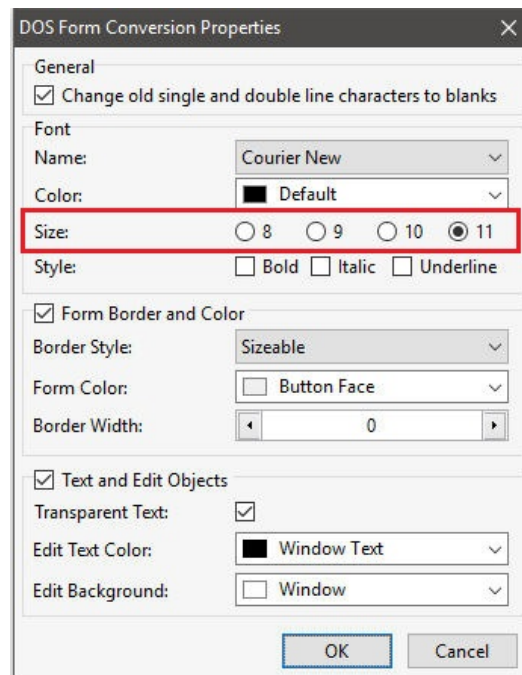
- New PROPERTY APPLICATION parameter to specify the Internet Explorer version to emulate when displaying Web Browser controls in forms

```
PROPERTY APPLICATION WEB_BROWSER_EMULATION 11000
```

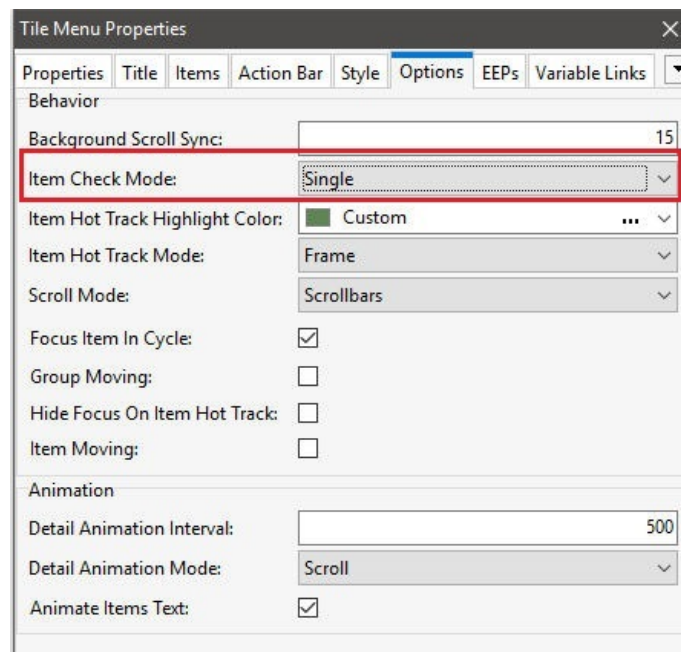
- Added "In Property Names" option for Control Property searches to locate text for the actual property (e. g. Read Only, AutoSize, Show Hint, etc.) in use for objects



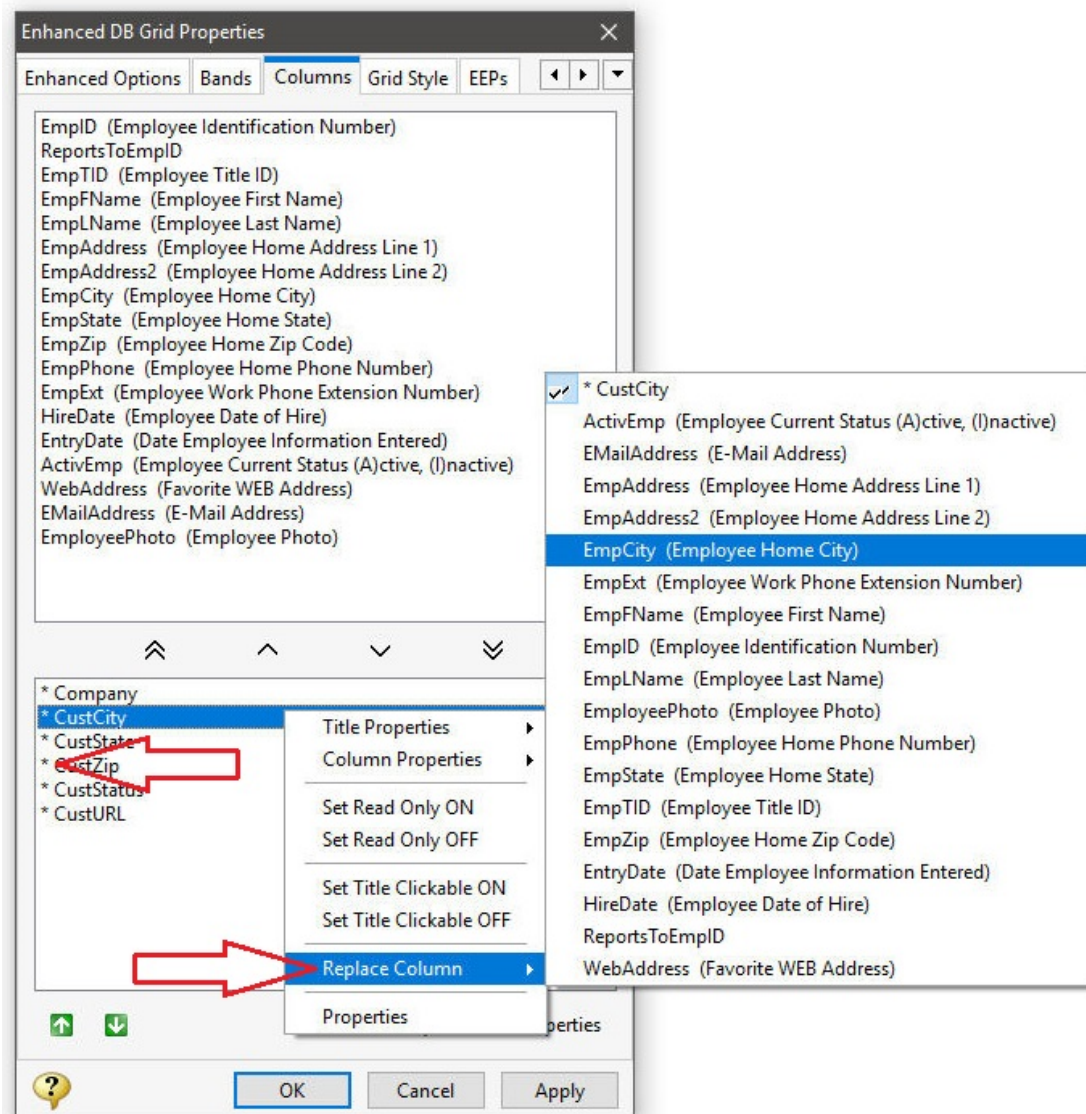
- Additional font size options added to the DOS form conversion utility to allow the converted objects to fit accordingly



- Added "Single" option for the "Item Check Mode" property in **Tile Menu** controls, where one or zero tile items can be checked



- New "Replace Column" right-click Column option for Enhanced DB Grid/DB Grid controls, where the substitute column retains all column-level custom settings



- Added MAKECLICK property support to the Office Button, Push Button, Bit Button, Speed Button, Enhanced Speed Button, and Shape Button controls. The MAKECLICK property simulates a mouse click on the button.
- New FILTEREDROWCOUNT parameter for the GETPROPERTY command to return the number of rows when an Enhanced DB Grid is filtered
- New GETPROPERTY parameter for Enhanced DB Grid controls to return whether the grid has a filter applied
- New PROPERTY parameter for Enhanced DB Grids to clear a filter applied to a grid

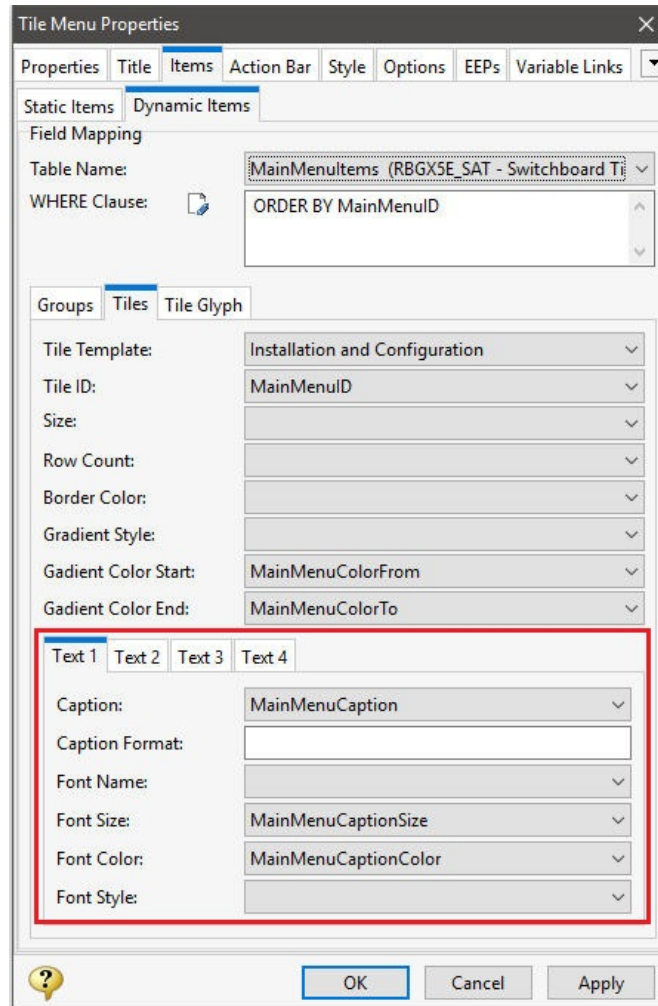
- Added "Expand Direction" property for **Collapse Panel** controls for the panel to expand "up" for panels placed on the lower portion of a form

The screenshot shows the 'Collapse Panel Properties' dialog box. The 'Expand Direction' section is highlighted with a red box. It contains two radio buttons: 'Expand Down' (selected) and 'Expand Up' (unselected). Other sections visible include 'Size and Coordinates' (Left: 32, Width: 185, Top: 40, Height: 41, Align: None), 'Caption' (empty text box, Caption Alignment: Centered), 'Hint' (empty text box), 'Background Color and Font' (Button Face, AaBbYyZz), and 'Attributes' (Animation, Collapsed, Show Hint).

- Enhanced form conversion to automatically replace double quotes with single quotes

The screenshot shows the 'Select Form(s) to Convert' dialog box. It lists three forms: 'Client', 'CortInfo', and 'NewCase'. At the bottom, there are three checkboxes: 'DOS Forms' (checked), 'Show Conversion Errors' (checked), and 'Convert " into \' in Form Variables' (unselected). The 'Convert " into \' in Form Variables' checkbox is highlighted with a red box. There are 'Properties', 'OK', and 'Cancel' buttons at the bottom.

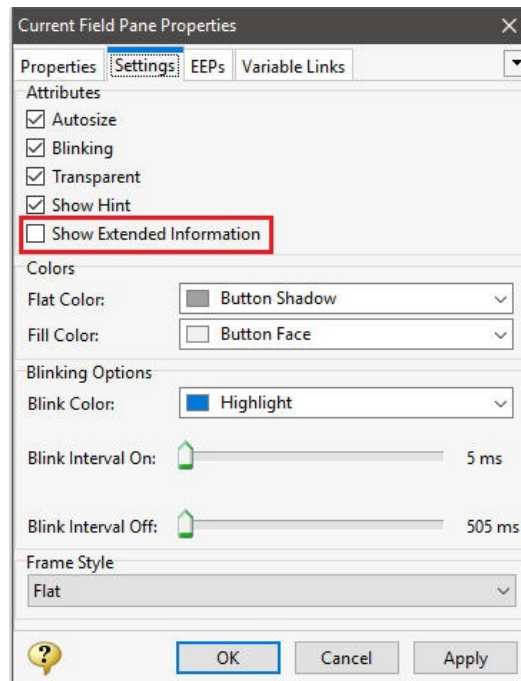
- Support for dynamic font properties for the **Tile Menu** control tile captions



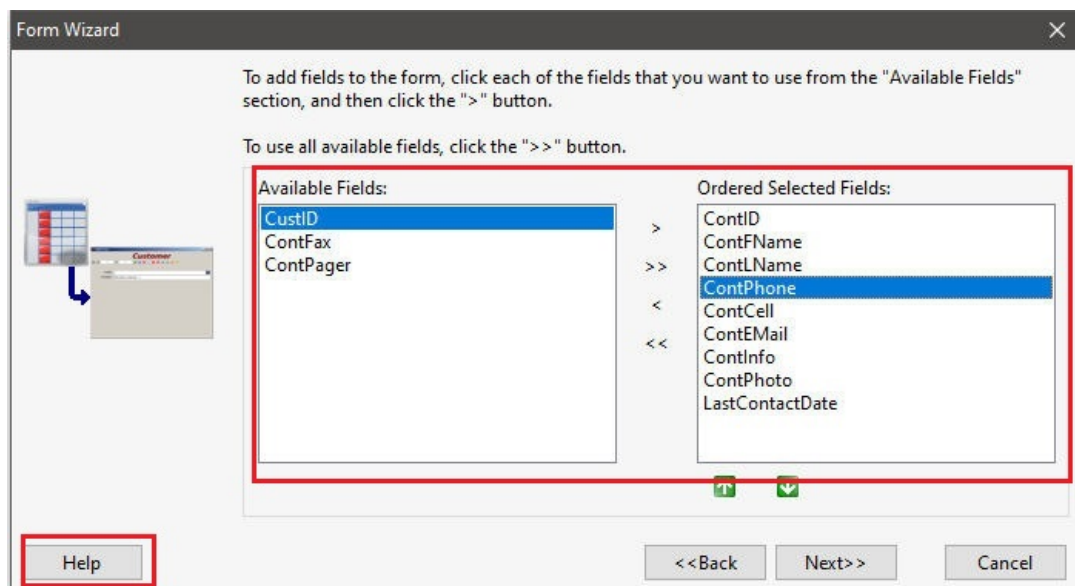
- Added PROPERTY command SCALEBY parameter to fill the screen when scaling forms, for easier implementation with mixed screen dimensions, themes, and borders

```
PROPERTY RBASE_FORM SCALEBY 'FILL_SCREEN'
```

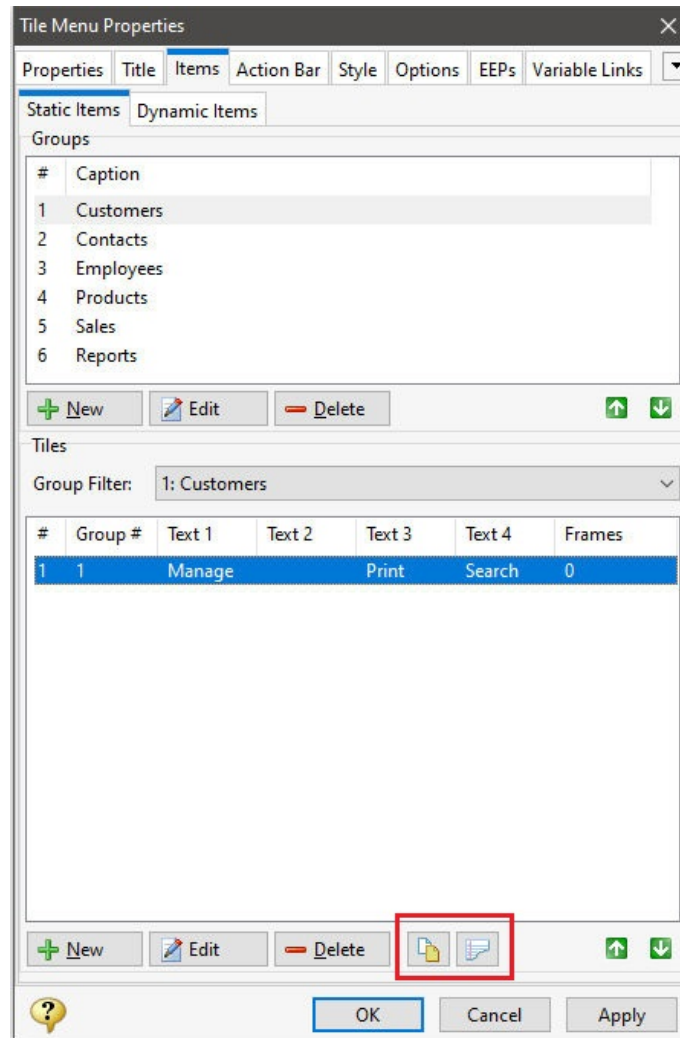
- Enhanced field type and length details added to the **Status Bar** "Current Field" pane



- Enhanced Form Wizard with increased field widths to preview the full value for long column names, and added Help button, where newly added chapter help is available for reference



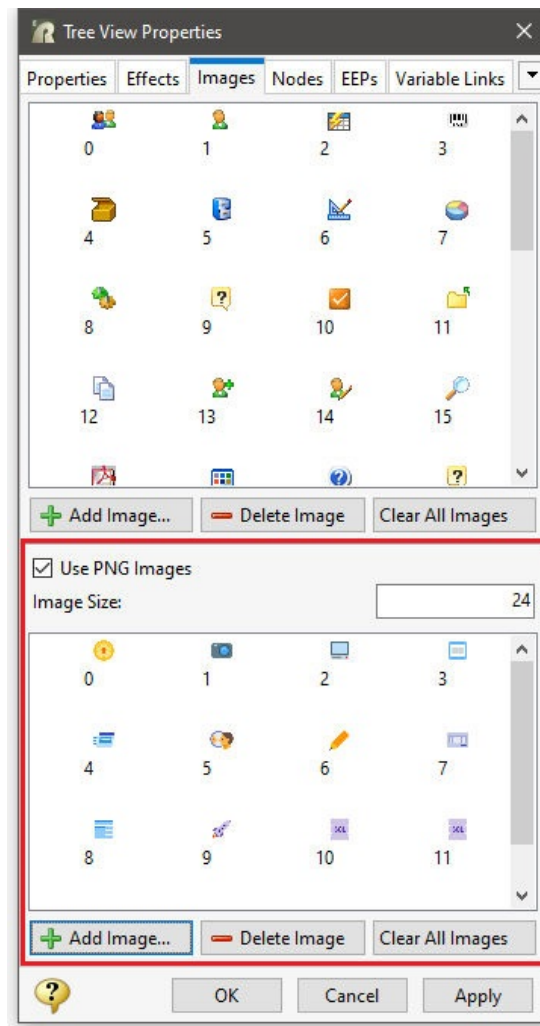
- New "Duplicate" tile and "Edit Custom EEP" buttons for the **Tile Menu** control, as time-saving features when tile items have many custom values and to directly modify the tile "On Click" EEP



- The tile properties for **Tile Menu** form controls may now be altered by the Tile ID value. The functionality allows for tiles to be manipulated with the PROPERTY and GETPROPERTY commands similar to Property ID values. The command below will disable the tile, assuming the Tile ID is equal to DBMaint.

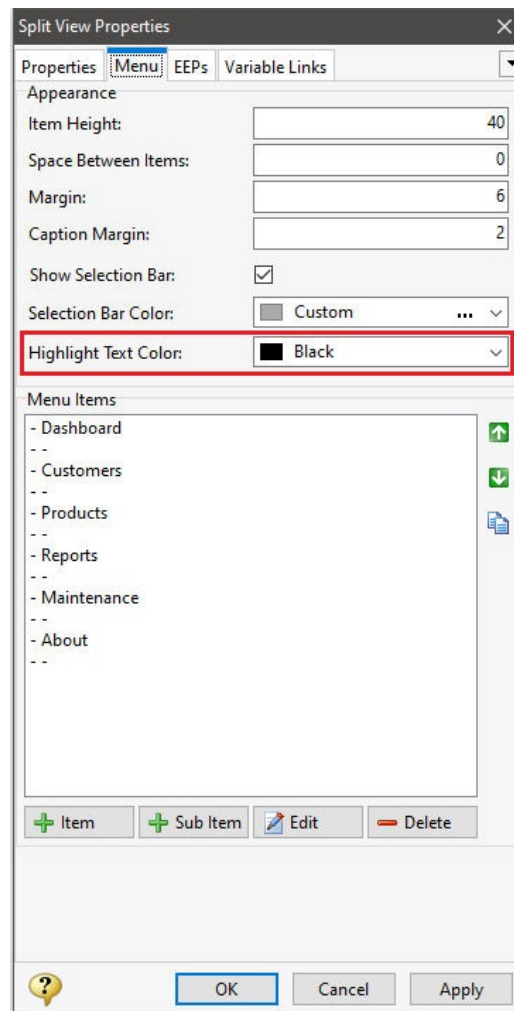
```
PROPERTY DBMaint ENABLED 'FALSE'
```

- New PNG image support for the **Tree View** and **DB Tree View** controls. The default PNG dimension is 24. When PNG images are specified, the bitmap based images are ignored.



- The **Web Browser** controls within the R:BASE Form Designer were updated with dynamic properties to allow manipulation of HTML controls in EEPs. The dynamic properties are useful in the following:
 - Integrating local data with web sites that do not have an API
 - Automating web page tasks within R:BASE
 - Extracting data from web pages

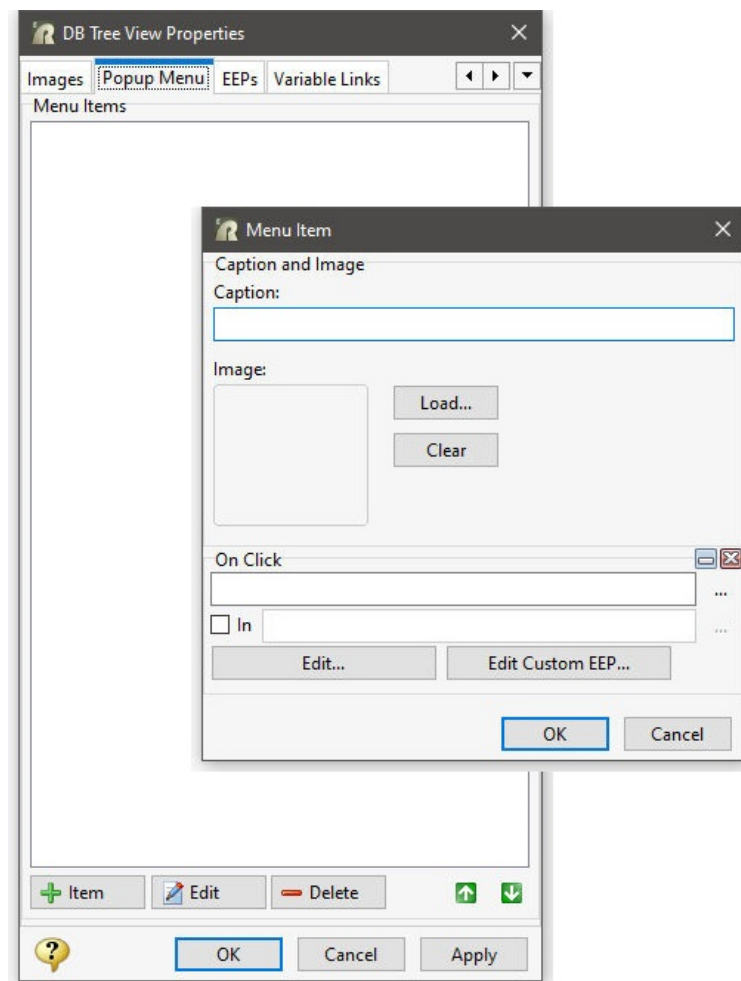
- Added "Highlight Text Color" property for the **Split View** control to specify the text color for menu item when highlighted, where the mouse cursor is hovered over the menu item



- Enhanced **Variable Lookup List View** to recognize a right-click on a row, to set the focus upon that row
- Improved **Enhanced DB Grid** using Sequence Mode to fire the "On Drag Drop" EEP after a row is dragged and dropped and the sequence field is updated
- Enhanced **Tab Set** control with two properties TabTo and AllowChange and an added "On Before Tab Change" EEP, which is triggered before the tab is changed. The changes make it possible for access to a tab to be prevented.
 - TabTo returns the index of the target tab.
 - AllowChange tells the Tab Set control if it should allow the change or not. The default behavior is to allow the change.

Note that the properties TabTo and AllowChange are only to be used in the "On Before Tab Change" EEP.

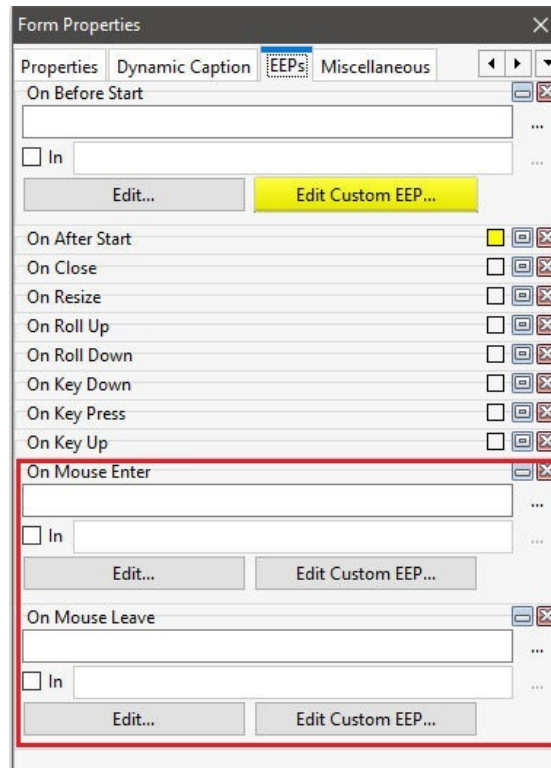
- Added Popup Menu support for **Tree View** and **DB Tree View** controls, to offer a right-click popup menu to run procedures



- Added GETPROPERTY parameter to capture the field/column name where the focus is clicked for the column filter in **Enhanced DB Grids**

```
GETPROPERTY ComponentID CURRENTFILTERCOLUMNNAME 'vFilterColName'
```

- Added On Mouse Over and On Mouse Leave EEPs to Form/External Form Properties, to execute when the mouse cursor enters/leaves the form area



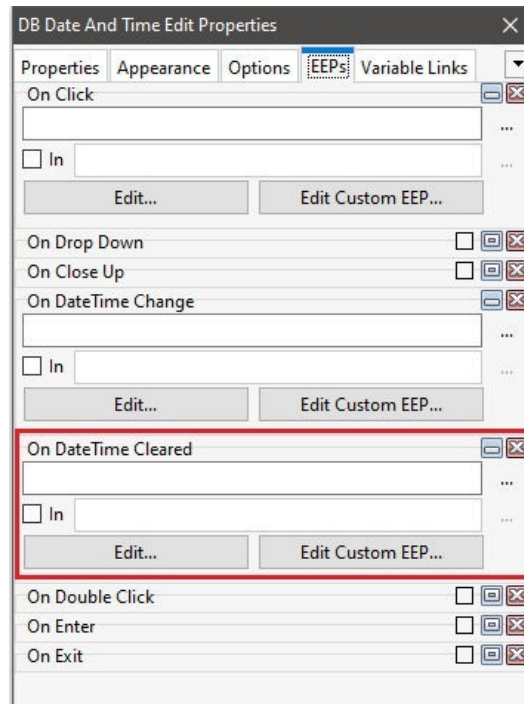
- Added GETPROPERTY parameters to capture the current WHERE Clause and current sort for the **Enhanced DB Grid**. CURRENTWHERE will return the combination of the form-level WHERE Clause and grid-level filter. CURRENTSORT will return the current ORDER BY.

```
GETPROPERTY ComponentID CURRENTWHERE 'vGridCurrentWhere'
GETPROPERTY ComponentID CURRENTSORT 'vGridCurrentSort'
```

The command syntax is also supported on a table level to capture the current WHERE clause and current column sort in forms. The below captures the current WHERE Clause and ORDER BY for the table:

```
GETPROPERTY TABLE 'FormTableName->CURRENTWHERE' 'vCurrentWhere'
GETPROPERTY TABLE 'FormTableName->CURRENTSORT' 'vCurrentSort'
```

- Added On DateTime Cleared EEP to **Date And Time Edit Control**, which is triggered if the date is set to NULL



- Added PROPERTY command parameters to specify the active view display in the **DB Task Tracker** scheduling area. Tasks can be viewed by day, week, weeks, year, Gantt, or time grid using the following:

```
PROPERTY DBTaskTracker1 'VIEWDAY->ACTIVE' 'TRUE'
PROPERTY DBTaskTracker1 'VIEWWEEK->ACTIVE' 'TRUE'
PROPERTY DBTaskTracker1 'VIEWWEEKS->ACTIVE' 'TRUE'
PROPERTY DBTaskTracker1 'VIEWYEAR->ACTIVE' 'TRUE'
PROPERTY DBTaskTracker1 'VIEWGANTT->ACTIVE' 'TRUE'
PROPERTY DBTaskTracker1 'VIEWTIMEGRID->ACTIVE' 'TRUE'
```

- Added PROPERTY command parameters to add a custom "Label" color and description to the **DB Task Tracker**. The color portion can be a named color, an integer, or an RGB value. The ADD_COLOR command should be executed at the start of the application as the custom colors/descriptions are not persistent between R:BASE sessions.

```
PROPERTY TASK_TRACKER ADD_COLOR 'My Status|RED'
```

- New PROPERTY command parameters implemented to change the predefined color/descriptions of an existing **DB Task Tracker** label; COLOR_DESC[n] and COLOR_VALUE[n]. COLOR_DESC[n] changes the predefined description of a label, where n is a zero-based index as displayed in the drop down. COLOR_VALUE[n] changes the predefined color of a label, where n is a zero-based index as displayed in the drop down. The color can be a named color, an integer, or an RGB value.

```
PROPERTY TaskTracker COLOR_DESC[n] 'My Description'
PROPERTY TaskTracker COLOR_VALUE[n] 'BLUE'
```

- A new Hint property was added to the **DB Task Tracker** control. The property is assigned to a table field name, which holds the hint value when the mouse is over a task.

The screenshot shows the 'DB Task Tracker Properties' dialog box with the 'Fields' tab selected. The 'Task Property/Field Map' section lists various properties and their corresponding field names. The 'Message, Hint' property is highlighted with a red box, indicating its new addition.

| Property | Field Name |
|----------------------|------------------------------------|
| Caption: | TaskCaption (Task Caption) |
| ID*: | ID (Internal Autonumbered ID) |
| Group Header ID: | |
| Start*: | TaskStart (Task Start Date/Time) |
| Finish*: | TaskFinish (Task Finish Date/Time) |
| Task Type*: | EventType (Event Type) |
| Options*: | TaskOptions (Task Options) |
| Task Index: | TaskIndex (Task Index) |
| Task Complete: | TaskComplete (Task Complete) |
| Task Status: | |
| Actual Finish: | |
| Actual Start: | |
| Label Color (FG/BG): | |
| Location: | |
| Message, Hint: | |
| Parent ID: | |
| Reminder Date: | |

- Added FILENAME property to the **File List Box** control that can be used to select a single file in a folder based upon knowing part of the file name

```
PROPERTY FileBox FILENAME .vInitialFileName
```

- Enhanced CaptureFromVideoEx parameter for **DB Image** and **Variable Image** controls to specify a maximum height, along with the current image format and maximum width functionality. The ability to individually specify a maximum width or maximum height, or both, provides the ability to resize the image so that the final dimension fits inside the given dimension while preserving the aspect ratio. Depending on the specified value pair, sometimes the width will be the limiting factor, and sometimes it will be the height. If you wish to capture a PNG image with a maximum width and height of 100 pixels, use the following:

```
PROPERTY EmployeePhoto CaptureFromVideoEx 'PNG 100 100'
```

- Added properties for **DB Image** and **Variable Image** controls to capture/set the active camera as well as capture/set the default resolution of the video feed.

GETPROPERTY ImageCtrl DeviceCameras vCameras

Returns a comma separated list of attached camera devices. The functionality allows an application to create a custom camera selection for the user.

GETPROPERTY ImageCtrl DefaultCamera vCamera

Returns the last camera used to take a picture. If a picture has not been taken yet, this returns the first devices detected.

PROPERTY ImageCtrl DefaultCamera .vCamera

Sets the active camera for taking a picture.

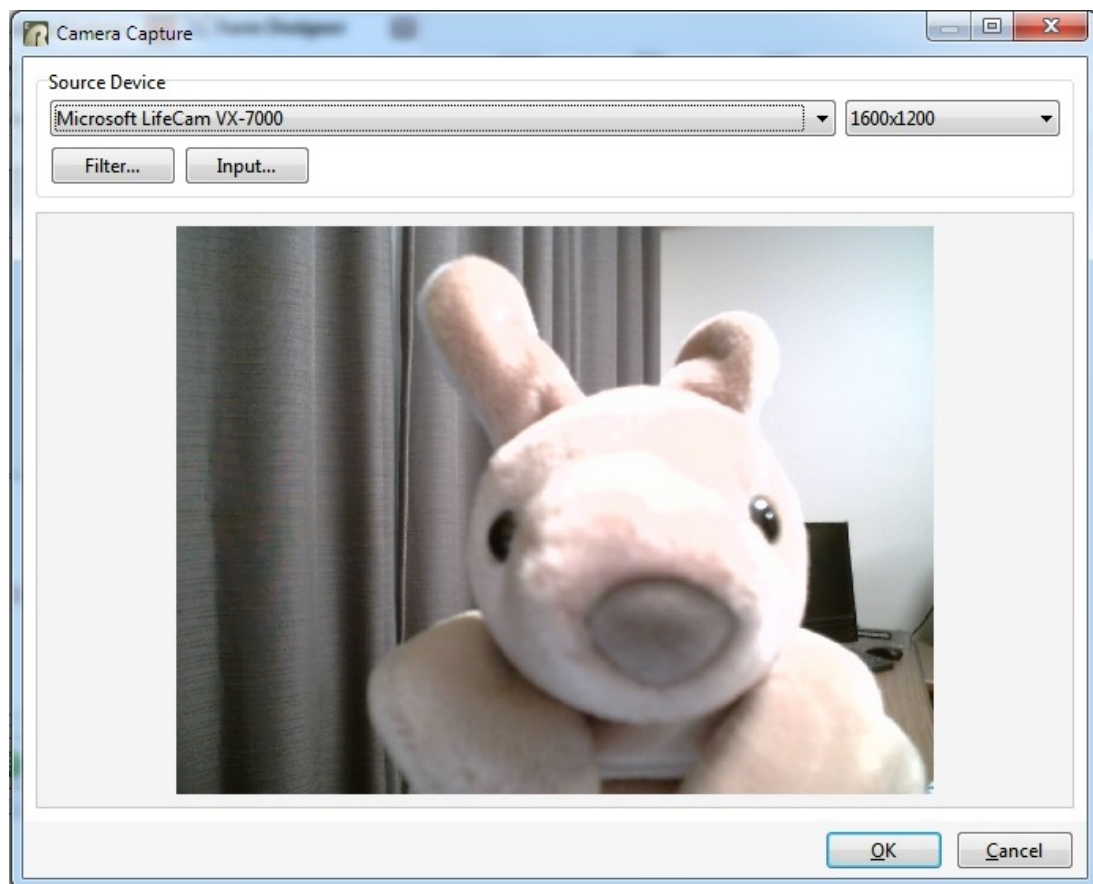
GETPROPERTY ImageCtrl DefaultResolution 'vCameraRes'

Returns the default resolution of the camera.

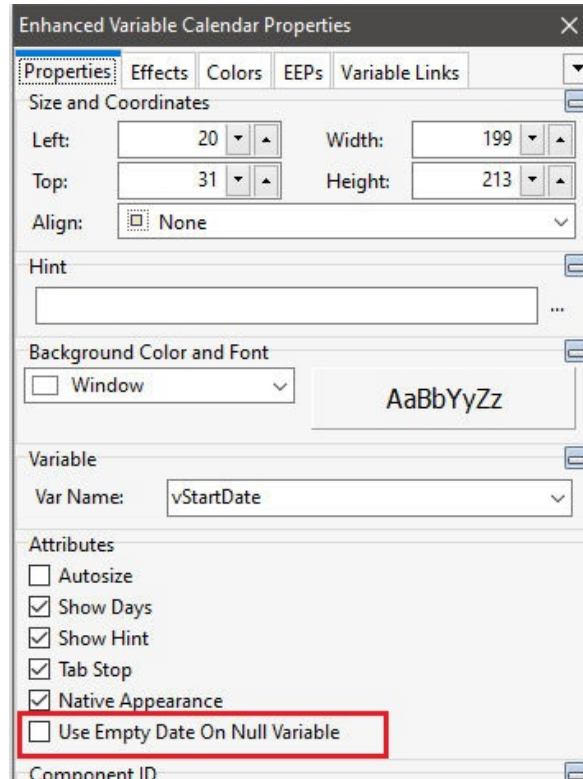
PROPERTY ImageCtrl DefaultResolution .vCameraRes

Sets the default resolution for the active camera.

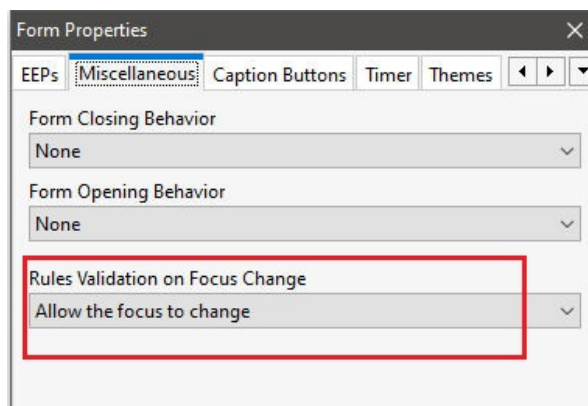
After the device is selected, the supported resolutions are listed in a drop-down on the right. If a dimension is specified with CaptureFromVideoEx (e.g. CaptureFromVideoEx 'JPG 640 640') the resolution size options are hidden. If no size option was specified (e.g. CaptureFromVideoEx 'JPG') ,then the drop-down will be displayed.



- New "Empty Date On Null Variable" property for the **Enhanced Variable Calendar** and **Enhanced DB Calendar** controls. If the property is True, instead of using NOW for NULL variables, the calendar will use zero as the date. The default value is False. The "Today's Date Frame" color should be set to Window (or whatever color is used for the calendar background) to improve user clarification.



- A new "Rules Validation on Focus Change" form setting has been implemented which determines the focus behavior when moving between form fields when a rules violation occurs. The option allows or does not allow the focus to change. When a rules violation and the focus remains upon a field, the behavior allows the user to better recognize the violation upon forms with many fields.



- A new GETPROPERTY parameter has been implemented to verify if a photo was captured successfully with the **DB Image** or **Variable Image** controls. The property should be used after the using CaptureFromVideoEx. The returned value is True/False.

GETPROPERTY EmployeeImage PHOTOCAPTURED vCapturedOK

- Added "Low Resolution View Finder" property for **DB/Variable Image** controls to specify the camera capture functionality will use a low-resolution feed for the view finder, but still take a picture using the target resolution. The option makes the camera more responsive. Note that when this property is checked (True), there will be a slight pause in the view finder when the picture is taken. This is because the camera will reset to the target resolution and take the actual picture.

Variable Image Properties

Properties EEPs Variable Links

Size and Coordinates

Left: 8 Width: 105

Top: 240 Height: 105

Align: None

Hint

Variable

Var Name:

Image Number

0

Attributes

☐ Transparent

☐ Center

☐ Stretch

☐ Proportional

☒ Show Hint

☒ Stretch DXF

☐ Force Opaque

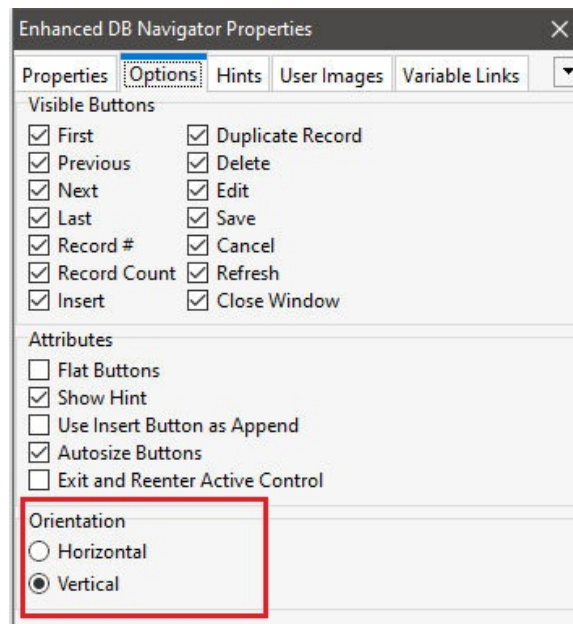
☒ Low Resolution View Finder

Component ID

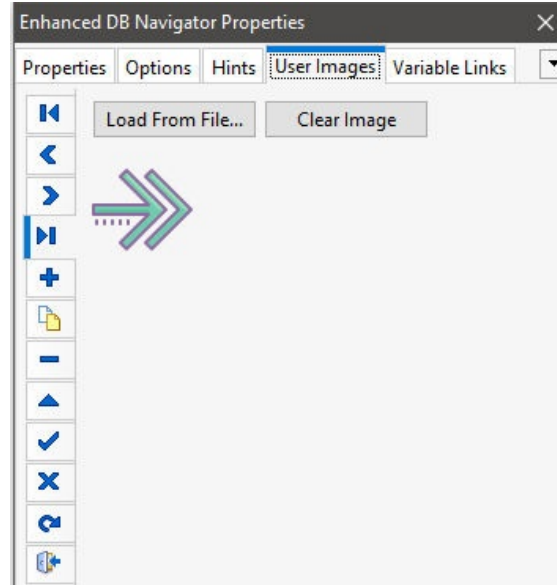
VariableImage1

? OK Cancel Apply

- Added Orientation option for the **Enhanced DB Navigator**, to display the navigator vertical or horizontal



- Added **Enhanced DB Navigator** functionality to assign custom images to the navigator buttons



- New PROPERTY parameter for **DB Lookup List View** and **Variable Lookup List View** controls which specifies to scroll the current selection into view

```
PROPERTY CustomerListView SHOWSELECTEDITEM 'TRUE'
```

- New APPLICATION PROPERTY has been implemented to check if data has changed prior to using SAVEROW in a form EEP. When the property is ON, SAVEROW will post data only if the table is in edit mode and data values were changed. The default is OFF.

```
PROPERTY APPLICATION CHECK_STATE_ON_SAVEROW ON
```

- Added GETPROPERTY command parameters for **DB Image** and **Variable Image** controls to check the accessibility of camera devices for a computer, as a camera may be installed, but not available due to privacy settings

- DeviceCameraCount - Captures the number of camera devices that can be detected
- CheckCameraAccess - Tests if a camera can be accessed using a zero-based index on the camera

```
GETPROPERTY EmployeePhoto DEVICESCAMERACOUNT vCameraCount
GETPROPERTY EmployeePhoto 'CHECKCAMERAACCESS[0]' vCameraAccess
```

- Added ability to simulate a mouse click for **Image**, **Variable Image**, and **DB Image** controls with the PROPERTY command MAKECLICK parameter. The parameter specifies to fire the "On Click" EEP for the control, simulating a mouse click. The last parameter will accept any value for the PROPERTY command.

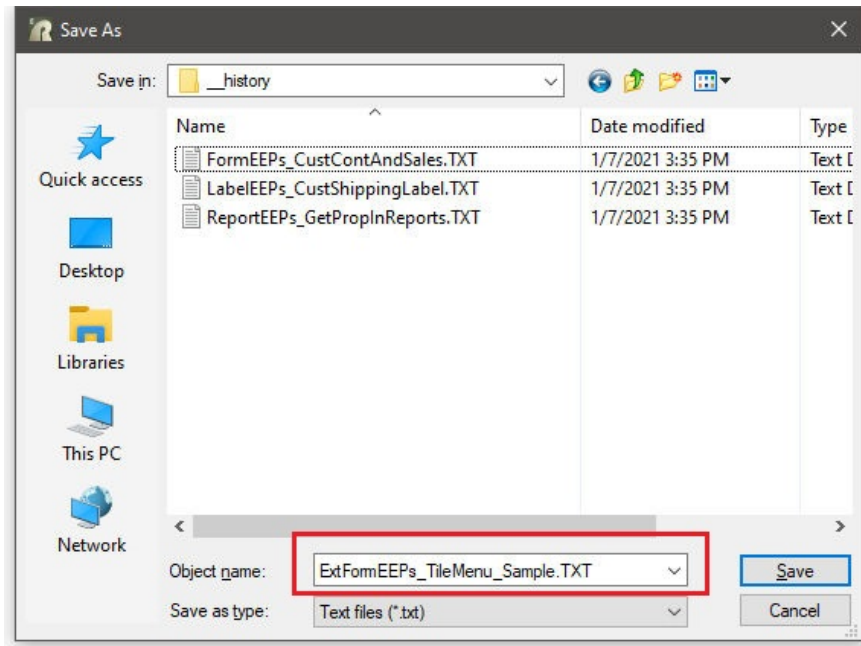
```
PROPERTY CustomerImage MAKECLICK ' '
```

- Added "week-based" navigation method to the **DB Task Tracker** settings and Date Navigator area. The available values of Month-Based, Week-Based, and Default offer more flexibility for the calendar display when selecting dates. A GOTOWEEK property has also been implemented to focus the DB Task Tracker upon a whole week for a provided date. The following alters the DB Task Tracker to a week-based display and goes to the specified week:

```
PROPERTY FabricationTracking NAVIGATIONMETHOD 'WEEK-BASED'
PROPERTY FabricationTracking GOTOWEEK '12/17/2020'
```

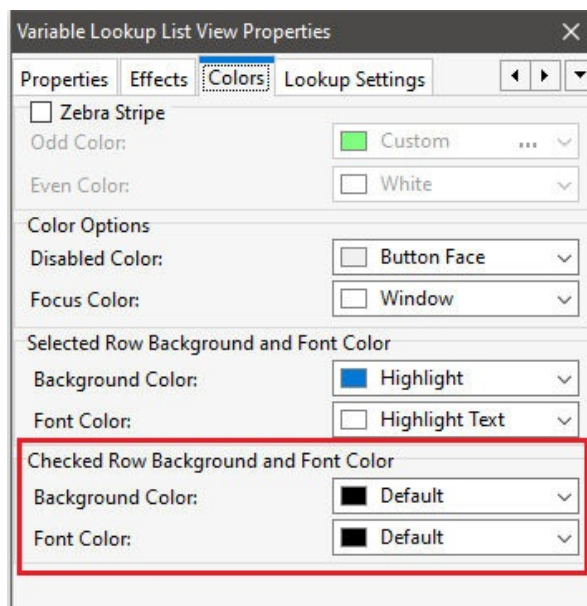
The screenshot shows the 'DB Task Tracker Properties' dialog box with the 'Type' tab active. The 'View Type' is set to 'Gantt'. Below it, the 'Date Navigator' is selected. The 'Navigation Method' is set to 'Month-Based' and is highlighted with a red rectangle. Other settings include 'Column/Row Count' (1x5), 'First Week Of Year' (System), 'Holiday Color' (Red), and checkboxes for 'Tasks In Bold', 'Show Week Numbers', and 'Visible'.

- Added default file name (PDF, TXT, etc.) when selecting "Document Custom EEPs" in the Form Designer



- Added properties to the Database and Variable Lookup List View controls to specify the background color and the font color of the checked row

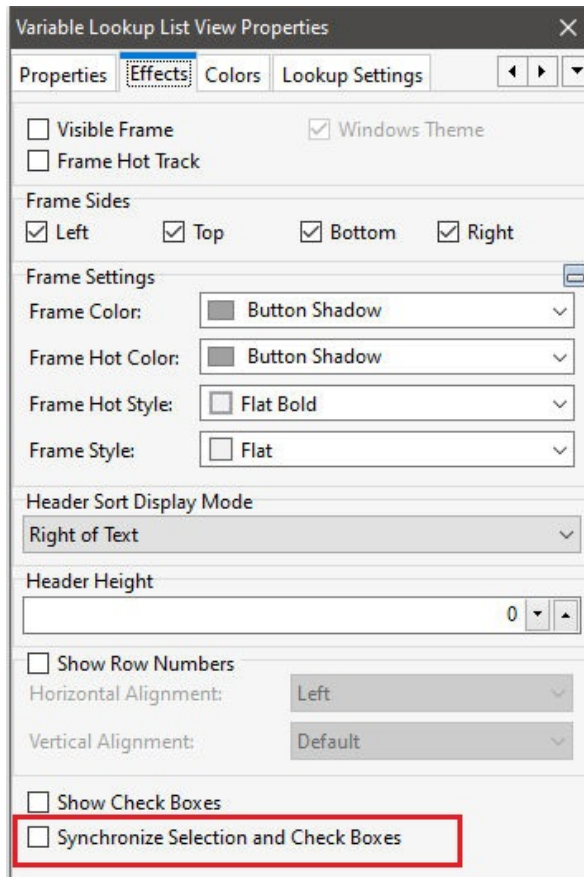
```
PROPERTY CustListView CHECKEDITEMFGCOLOR 'BLACK'
PROPERTY CustListView CHECKEDITEMBGCOLOR 'YELLOW'
```



- Added SELECTEDFILES property to the File List Box control to return a comma delimited string of the selected files.

```
GETPROPERTY FileListBox SELECTEDFILES vSelectedFiles
```

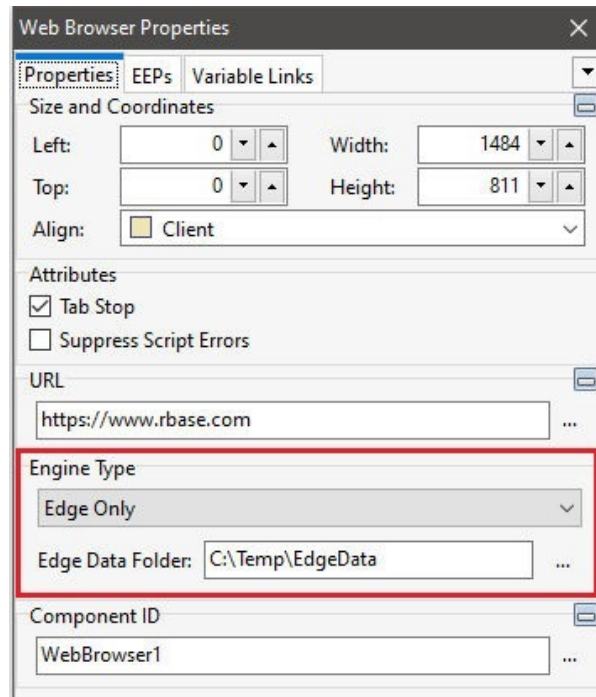
- Added Database/Variable Lookup List View property where the check box state and row selection are synchronized. A change in the row selection will update the check boxes and vice versa. With "Synchronize Selection and Check Boxes" enabled, the variable will always pick up only one selection.



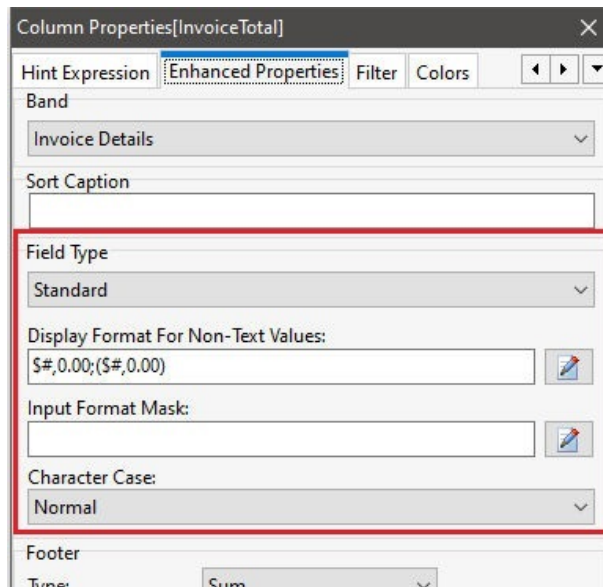
- Added PROPERTY/GETPROPERTY command parameter for the PDF Viewer control to support the logical page number in PDF documents, for documents that support such

```
GETPROPERTY CompID PAGELABEL vLogicalPage
```

- Enhanced DB Web Browser, Variable Web Browser, and Web Browser form controls with a new "Engine Type" property to specify the browser engine (Internet Explorer/Edge) for displaying web pages. A data folder may be specified for the Edge session information.



- Added Display Format, Input Format Mask, and Character Case options to the Enhanced DB Grid Columns properties to apply formatting to characters



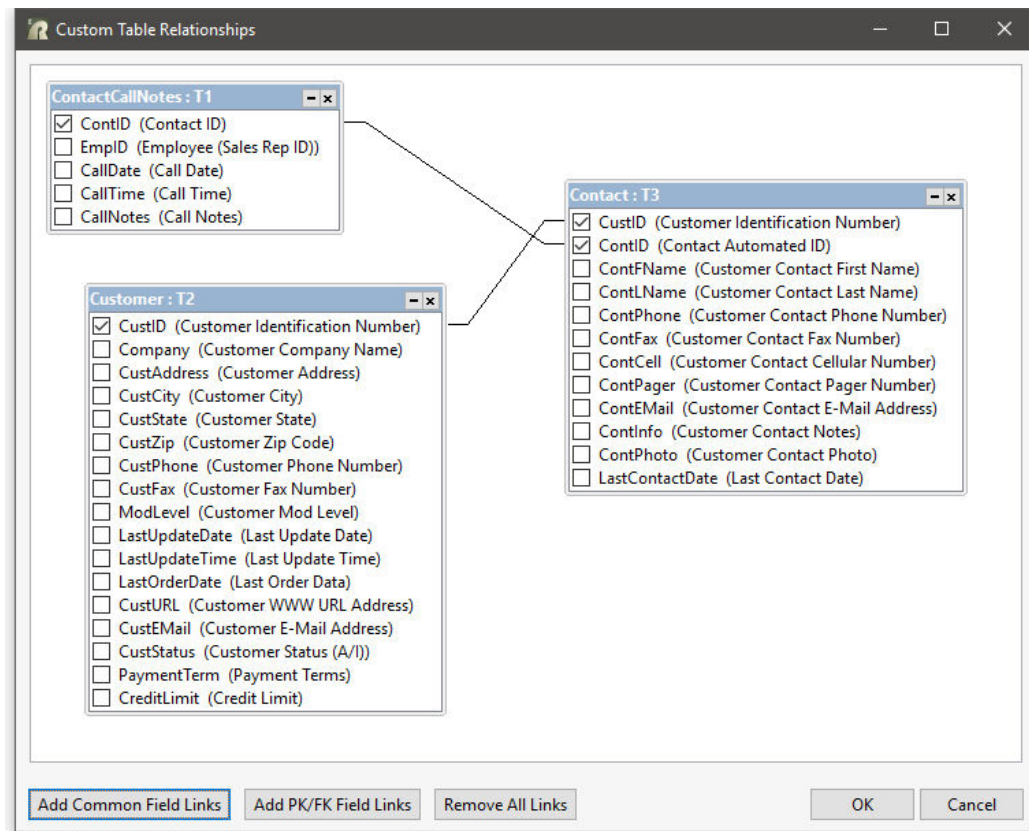
- Added "Trim Digital Clock" property which trims a Digital Clock of the extra spacing/placeholders when a modern appearance is applied

The screenshot shows the 'Digital Clock Properties' dialog box with the 'Properties' tab selected. The 'Trim Digital Clock' checkbox is checked and highlighted with a red rectangle. Other settings include: Size and Coordinates (Left: 32, Top: 136, Width: 526, Height: 98, Align: None), Hint (empty), Text Alignment (Left Justified), Colors (Background Color: Black, Active Color: Lime, Passive Color: Custom), Modern Digital (checked), Appearance: Classic, and Attributes (Show Hint: unchecked, Show Seconds: checked, Blink Colon Segment: checked, 12 Hour Clock: checked).

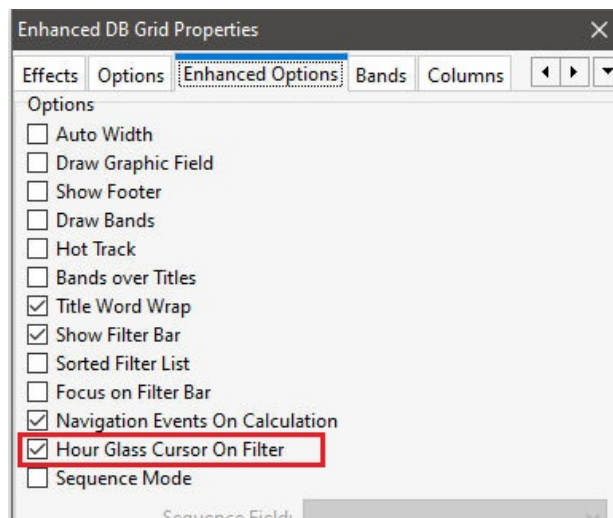
- Improved Enhanced DB Grid Column properties when a list of Predefined Values are specified, the grid will honor the SET AUTODROP setting, where when focused, the list of predefined values will now automatically drop down if the AUTODROP setting is ON.
- Added PROPERTY command parameter for Enhanced DB Grid controls allowing the grid to use its font and background color, and not the color definitions of the columns

```
PROPERTY EmpGrid COLUMNSUSEGRIDCOLORS TRUE
```

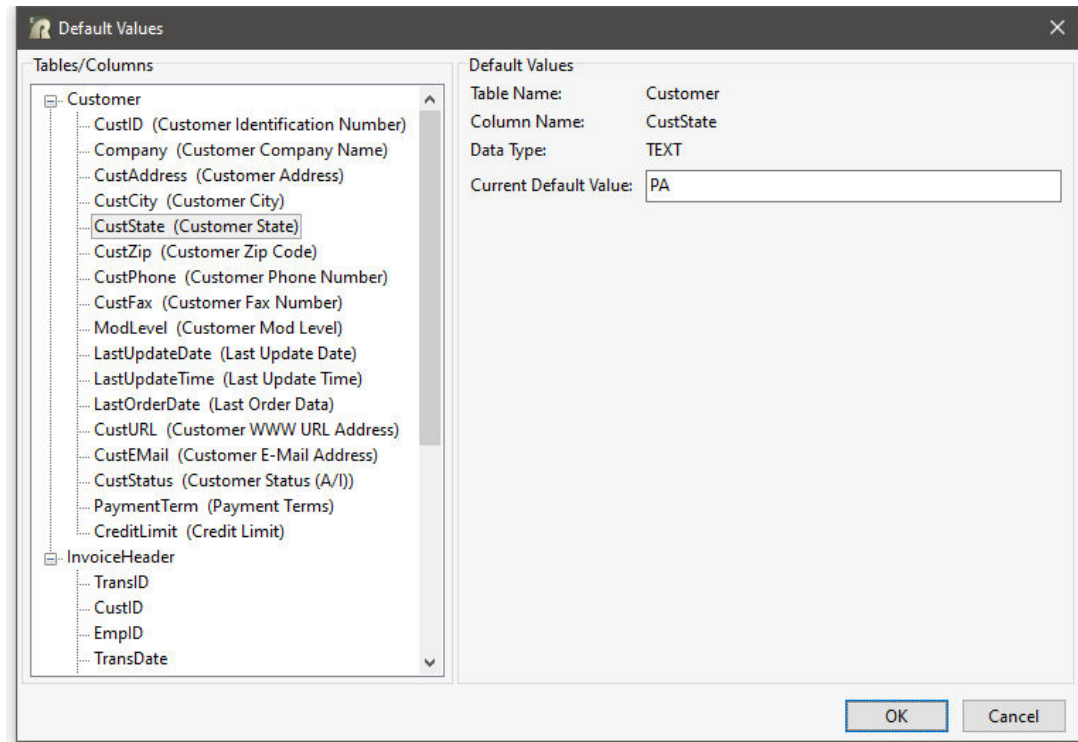
- Enhanced Custom Table Relationships where the graphic table/view layout is now saved between sessions



- Added "Hour Glass Cursor On Filter" Enhanced DB Grid setting to inform the user that R:BASE is still processing when filtering records. The cursor change prevents users from closing the application prematurely when thinking the program is not responding.



- New Default Values implemented at the form level for all table-based controls. Within the Form Designer, select Tables > Default Values from the main menu bar to assign a default value to any column for the form.

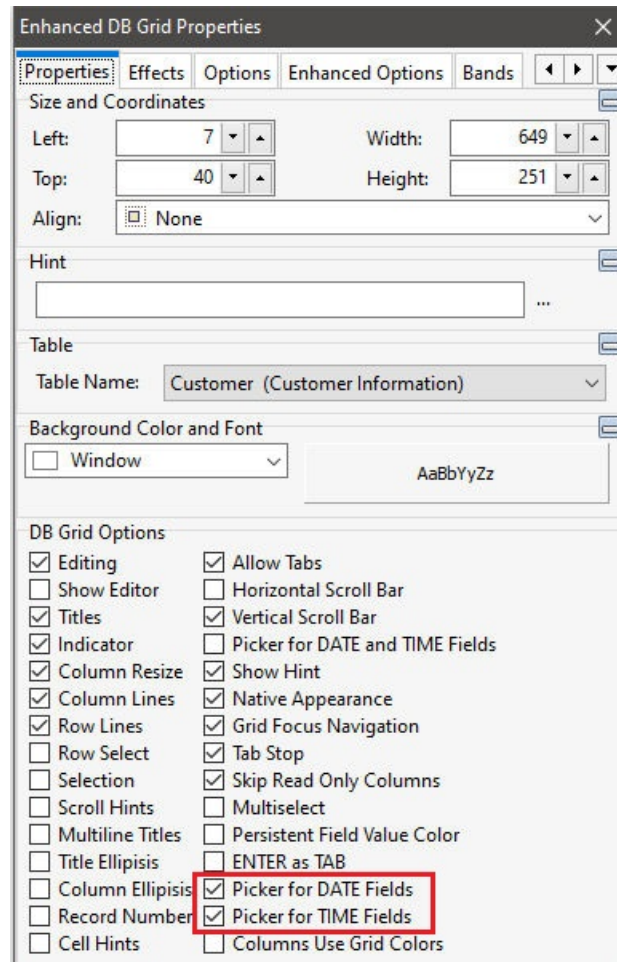


- New PROPERTY command parameters implemented to simulate a mouse double click and a mouse right click for form controls. The syntax is available to fire the appropriate control EEP, as well as to display popup menu items in list view controls. The last parameter will accept any value for the PROPERTY command.

```
PROPERTY CustomerName MAKEDBLCLICK ' '
PROPERTY CustomerList MAKERIGHTCLICK ' '
```

- Enhanced pop-up menu display behavior, where the current value will now be assigned as the default selection, for DB Edit, DB Memo, Variable Edit, Variable Memo, and Variable Unicode Memo controls

- Added independent Date Picker and Time Picker options for Enhanced DB Grid controls. If "Picker for DATE and TIME Fields" is unchecked, the individual pickers can be activated using the "Picker for DATE Fields" and "Picker for TIME Fields" options.



- Enhanced capture from video functionality to support silent/hidden camera snap shots. The PROPERTY command CaptureFromVideoEx parameter for DB Image and Variable Image controls allows an image to be captured without having to press the OK button. As the CaptureFromVideoEx dialog may take time to focus when initialized, the silent mode can be set to pause prior to the image capture.

```
PROPERTY <CompID> CaptureFromVideoEx '<Format> <Width> <Height>
<TimeoutInMs> <SHOW_CAMERA|HIDE_CAMERA>'
```

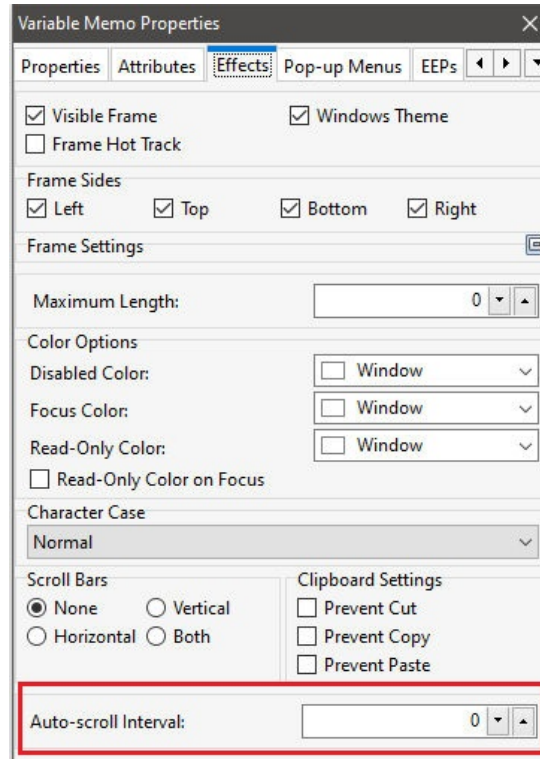
- <TimeoutInMs>: specifies the auto-click wait time in milliseconds. The default is zero.
- <SHOW_CAMERA|HIDE_CAMERA>: specifies to show or hide the camera. The default is SHOW_CAMERA. This option is only interpreted if <TimeoutInMs> is not zero.

```
PROPERTY ImageCamera CaptureFromVideoEx 'JPG 320 240 1500 HIDE_CAMERA'
```

- Added visual functionality for the PDF Viewer control to drag the document display in all directions with the mouse

- Support for automatic text content scrolling in memo and rich edit controls. Two new properties were added, AutoScrollInterval and AutoScrollContent, to allow automatic scrolling. The "Auto-Scroll Interval" property can only be defined (in milliseconds) within the Form Designer. The AutoScrollContent property specifies to begin scrolling for the content of the form control, which can only be assigned (TRUE/FALSE) at runtime with the PROPERTY command. The text will automatically scroll, and when reaching the end of the text, resets to the top and continues scrolling. The DB Memo, Variable Memo, Advanced DB Rich Edit, Advanced Variable Rich Edit, DB Rich Edit, Variable Rich Edit, DB Unicode Memo, Variable Unicode Memo controls allow automatic scrolling.

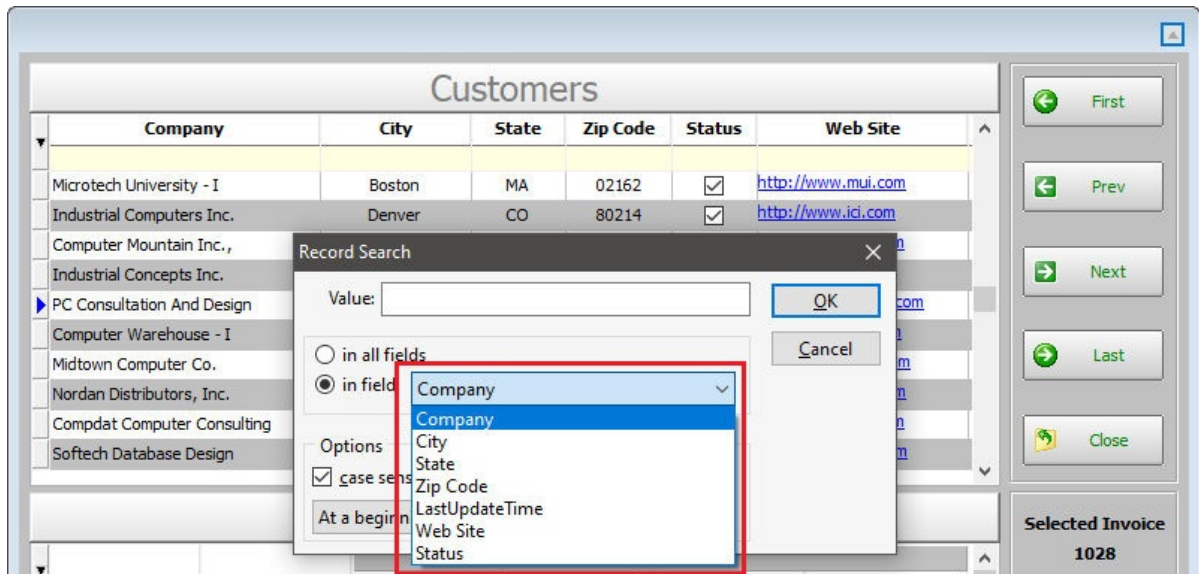
```
PROPERTY OrderNotes AUTOSCROLLCONTENT 'TRUE'
```



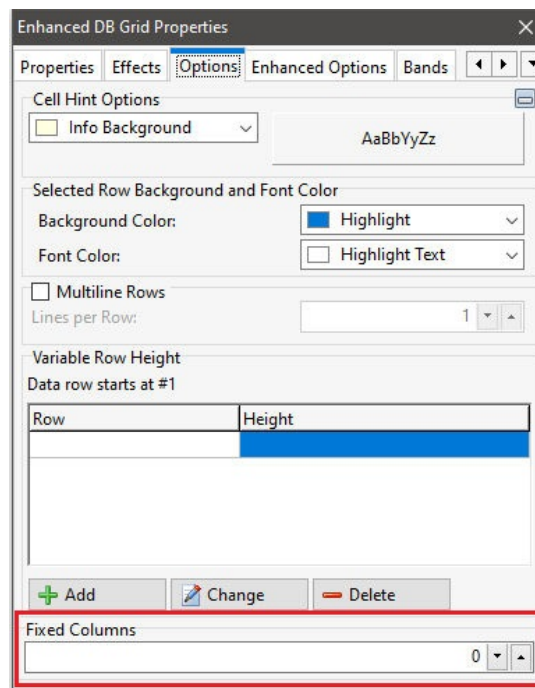
- Improved "Document Custom EEPs" output to now follow the Tab Order of controls, to locate code easier
- Enhanced "PROPERTY TABLE Search" functionality with an added option to use an EQUAL condition, in addition to the current CONTAINS condition (default). The syntax was enhanced to perform exact criteria searches. To search using EQUALS (exact search), add a equal character and enclose the search criteria in double quotes; "=(\" and \")\".

```
PROPERTY TABLE 'ContactCallNotes' 'SEARCH->CallNotes->=(SearchText)'
```

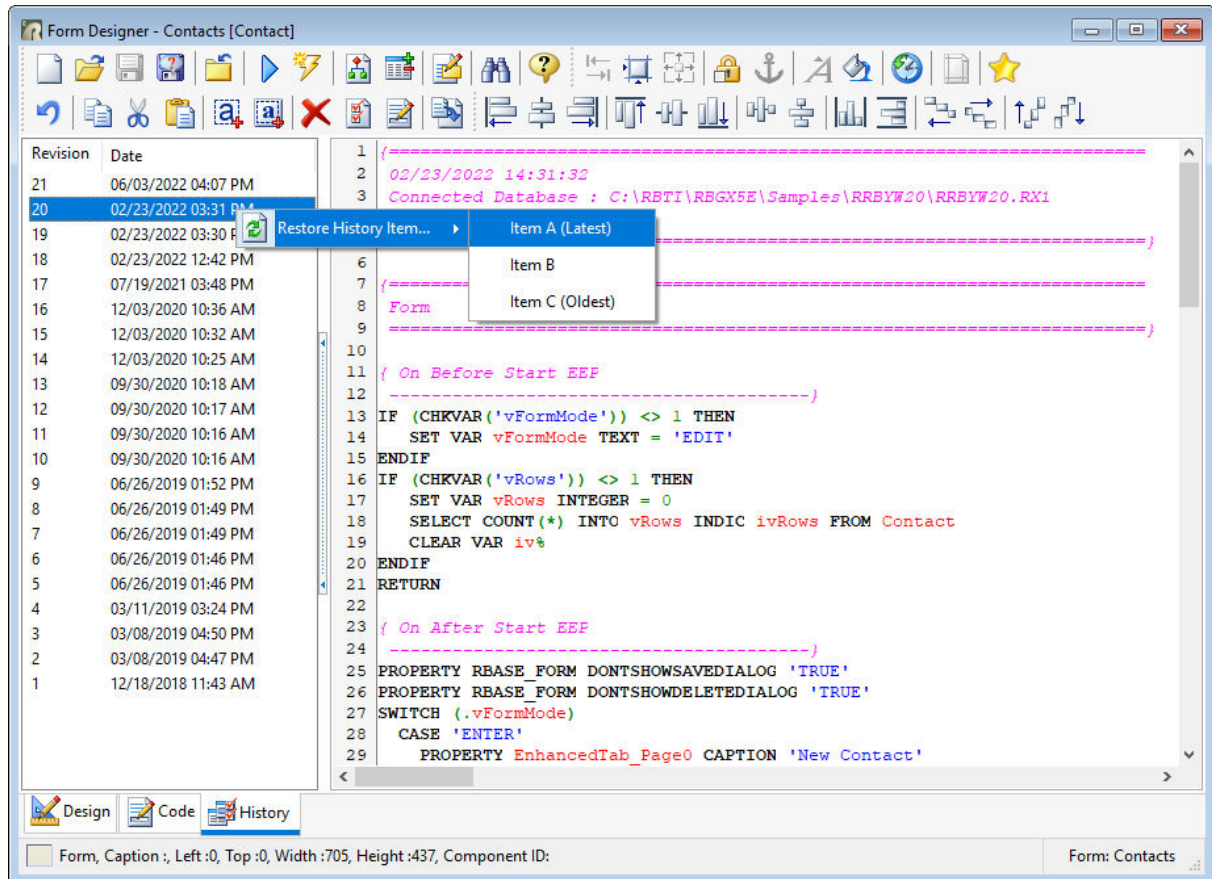
- Augmented "Record Search" dialog for Enhanced DB Grid controls regarding the "in field <fieldname>" radio button, where the field names match the custom field names



- Added "Fixed Columns" menu option within the Enhanced DB Grid property editor, to specifies the number of columns on the left of the grid that cannot be scrolled



- Enhanced "History" functionality to save the entire form, rather than just a snapshot of the EEP code. A revision number and date/time are listed within the History tab to track changes over time, and restore a form from a right click menu option. The backup files are stored in a "__history" sub folder beneath the current database folder. An option is available within the Form Designer Settings to disable the History feature, if desired.



- Enhanced GETPROPERTY command to trigger required value checks manually upon form fields. The functionality checks if a field has a value (not empty), and displays a message if a required value is not present. When enabled, a value for the field is checked when the form is closed. With the PROPERTY command, an EEP may be defined as below:

```

GETPROPERTY RBASE_FORM CheckRequiredValues 'vState'
IF vState = 'OK' THEN
  SAVEROW
  CLOSEWINDOW
ENDIF

```

- Add REQUIREALTONACCELCHAR property for accelerator character use within the Group Bar control to specify whether pressing the one character is enough to activate that menu option, without having to press the [Alt] key first

```
PROPERTY GroupBar REQUIREALTONACCELCHAR 'TRUE'
```

- Added Sequence Mode support within the DB Tree Grid and DB Grid controls, which specifies to assign a column which controls the sequence order of rows in the grid

The screenshot shows the 'DB Tree Grid Properties' dialog box with the 'Grid Options' tab selected. The 'Sequence Mode' checkbox is highlighted with a red rectangle. Below the checkbox is a 'Column:' dropdown menu.

| Property | Value |
|--|-------------------------------------|
| Grid Lines: | Both |
| Grid Lines Color: | Default |
| Row Separator Width: | 0 |
| Row Separator Color: | Silver |
| Header Height: | 0 |
| Data Row Height: | 0 |
| Group Row Height: | 0 |
| Indicator Width: | 12 |
| Group By Header: | Horizontal |
| Group Row Style: | Standard |
| Group Summary: | Align With Columns And Distribute |
| Group Footer: | Invisible |
| <input checked="" type="checkbox"/> Preview Column | |
| Column: | Company |
| Auto Height: | <input checked="" type="checkbox"/> |
| Indent (Left, Right): | 4 5 |
| Max Line Count: | 3 |
| Placement: | Top |
| <input type="checkbox"/> Sequence Mode | |
| Column: | |

Buttons: OK, Cancel, Apply

- Added Pop-up Menu support within the DB Tree Grid control, which enables the user to access a pop-up menu when the field is double-clicked

DB Tree Grid Properties

Properties Columns Appearance Grid Options Other Options Filter Options EEPs Variable Links

Columns

Column Properties

Column Properties Attributes Pop-up Menu

☒ User can Access a Pop-up Menu
☒ Use a Custom Pop-up

Pop-up Menu Settings

Table/View Name:

Pop-up Type: Single Column

Column Returned:

Menu Values:

Menu Caption:

Menu Title:

Number of Lines: 0 ☐ Show Lines ☐ Distinct

Title Background Color and Font

☐ Button Face AaBbYyZz

List Background Color and Font

☐ Window AaBbYyZz

WHERE Clause

☐ Use Dynamic Where Clause

Message:

WHERE Builder

Order Group Index Visible

| Order | Group Index | Visible |
|-------|-------------|---------|
| | | Yes |
| | | Yes |
| | | Yes |
| | | Yes |
| | | Yes |
| | | Yes |

Text Separator Items

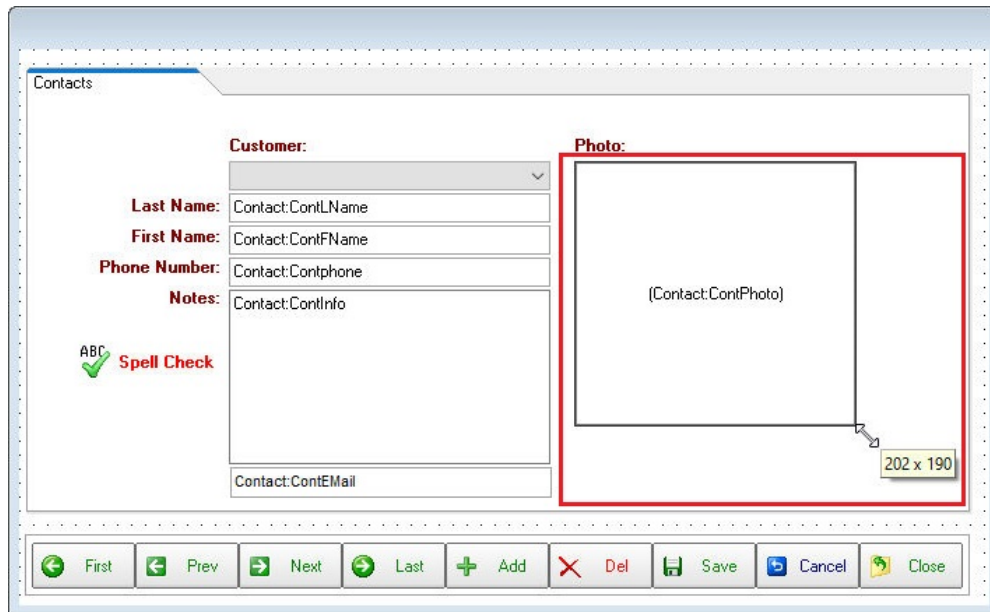
Cancel Apply

OK Cancel

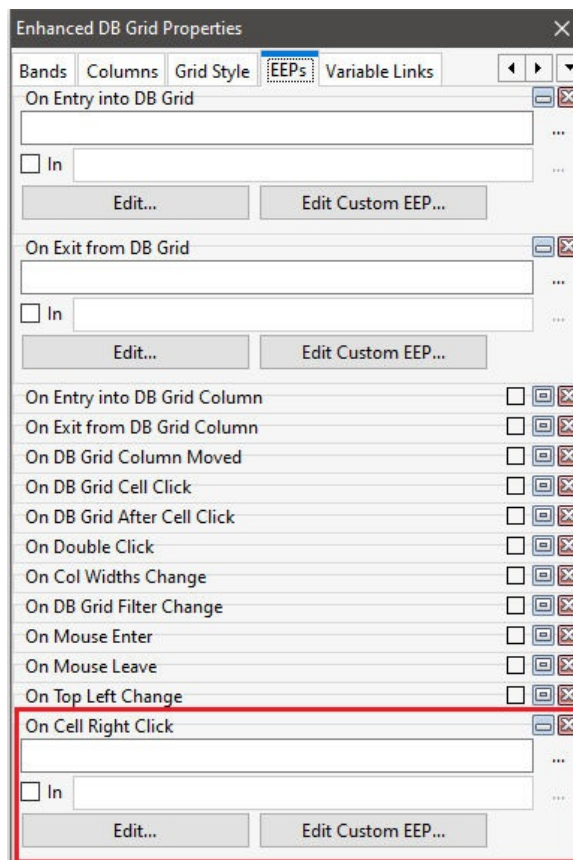
- New read-only properties for the DB Tree Grid control to capture the selected cell. The "On Cell Click" and "On Cell Double Click" EEP events are available for capturing the cell information.
 - SelectedColumn - 0 based column index
 - SelectedRow - 0 based row index
 - SelectedField - the field name associated with the selected field

```
GETPROPERTY DBTreeGrid2 SelectedField vActiveField
GETPROPERTY DBTreeGrid2 SelectedRow vActiveRow
GETPROPERTY DBTreeGrid2 SelectedColumn vActiveColumn
```

- When resizing objects, the width and/or height coordinates appears as a hint once a handlebar is selected, and change as the mouse is dragged



- Added "On Cell Right Click" EEP to the Enhanced DB Grid and DB Tree Grid controls



- Added sub-directory support within the File List Box control to traverse folders
- Added Find Previous support for Enhanced DB Grid searches, where the [Ctrl+F] search method works for "Find", [F3] works to "Find Next", and [Shift+F3] works for "Find Previous"
- Added PROPERTY command to redraw an Enhanced DB Grid control after an update is performed

```
PROPERTY EnhancedDBGrid1 REDRAWGRID ' '
```

- Added drag/drop support for the DB Tree List control
- Enhanced DB Tree List property editor including an additional "Band" column

DB Tree List Properties

Properties **Columns** Bands Appearance Grid Options Other Options EEPs Variable Links

Control Fields

Key Field: EmpID (Employee Identification Number)

Parent Field: ReportsToEmpID

Categorized Field:

Columns

Available Fields: EmpID (Employee Identification Number)

| Field | Caption | Sort Order | Visible | Band |
|------------------------------------|------------|------------|---------|----------------|
| EmployeePhoto (Employee Photo) | | | Yes | [0] EMPLOYEE |
| EmpFName (Employee First Name) | First Name | | Yes | [0] EMPLOYEE |
| EmpLName (Employee Last Name) | Last Name | | Yes | [0] EMPLOYEE |
| ActivEmp (Employee Current Stat... | Active | | Yes | [0] EMPLOYEE |
| EmpAddress (Employee Home Ad... | Address 1 | | Yes | [2] ADDRESS |
| EmpAddress2 (Employee Home A... | Address 2 | | Yes | [2] ADDRESS |
| EmpCity (Employee Home City) | City | | Yes | [2] ADDRESS |
| EmpState (Employee Home State) | State | | Yes | [2] ADDRESS |
| EmpZip (Employee Home Zip Co... | Zip | | Yes | [2] ADDRESS |
| HireDate (Employee Date of Hire) | Hire Date | | Yes | [3] EMPLOYMENT |
| EntryDate (Date Employee Inform... | Entry Date | | Yes | [3] EMPLOYMENT |
| EmpPhone (Employee Home Pho... | EmpPhone | | Yes | [3] EMPLOYMENT |

Move Up Move Down

OK Cancel Apply

9 Functions

The following enhancements have been made to the R:BASE X.5 functions:

- New **ENCRYPT** and **DECRYPT** functions supporting data encryption, adding further security for sensitive data. The functions allow for encryption, even at the column level, for data such as social security numbers. A password is specified with the ENCRYPT function, which must used with the DECRYPT function to return the original string.

In the following example, the value "7247330053" is encrypted, with the password specified as "laser", resulting with "1CCF2D7B795D4317475B5144154A".

```
SET VAR vEncryptNumber = (ENCRYPT('7247330053','laser'))
```

In the following, the encrypted value is decrypted with the password, resulting with "7247330053".

```
SET VAR vDecryptNumber = (DECRYPT(.vEncryptNumber,'laser'))
```

- New **TRANSLATE** function which replaces a sequence of characters in a string with another set of characters. In the process, it replaces a single character at a time. For example, it will replace the 1st character in the "source string" with the 1st character in the "replacement string". Then, it will replace the 2nd character in the "source string" with the 2nd character in the "replacement string", and so forth. An optional pad parameter can be used to replace a blank in the return string.

In the following example the square and curly braces in the input string are replaced with parentheses, resulting with "2*(3+4)/(7-2)".

```
SET VAR vBracketSwitch = (TRANSLATE('2*[3+4]/{7-2}','[]{}','()()'))
```

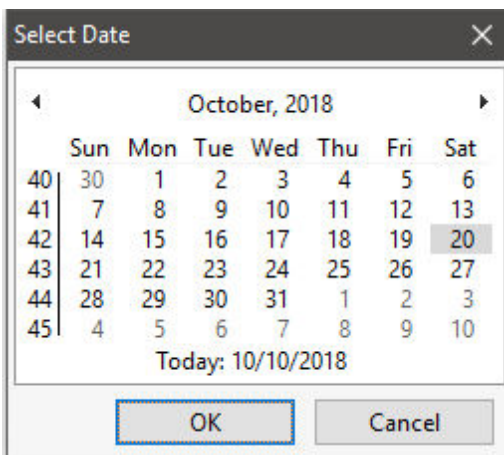
In the following example the "w" and "t" replace the "8" and "7" corresponding number values in the string. The "9" and "0" are replaced with the pad character, resulting in "123456tw..".

```
SET VAR vNumberText = (TRANSLATE('1234567890','8790','wt','.'))
```

- Enhanced **GETDATE** function to specify a default date using an initial value variable, with the added option to hide the circle for today's date.

```
SET VAR vDefaultDate DATE = 10/20/2018
```

```
SET VAR vGetDate DATE = (GETDATE('Select Date|INIT_VAR vDefaultDate|  
SHOW_TODAY_CIRCLE OFF'))
```



- New **IFCASEEQ** function which provides a case-sensitive comparison of two string values. The function enables easier conformance for password verification as a mixture of upper and lower case is a standard. In the following example, the value for vCheckPW is NO.

```
SET VAR vCheckPW TEXT =
(IFCASEEQ('SuperStrong1147','SUPERSTRONG1147','YES','NO'))
```

- Additional **ICAP3** function for title casing, to only capitalize letters that start the string, and principal words. Non-capitalized letters/words include articles (a, an, the), conjunctions (e.g., and, but, or), and prepositions (e.g., on, in, with). In the following example, the value for vTitle is "Snow White and the Seven Dwarfs".

```
SET VAR vTitle TEXT = (ICAP3('SNOW WHITE AND THE SEVEN DWARFS'))
```

- New **SSUBCD** function to capture text from a string containing sub-strings separated by a delimiter, with the ability to specify a custom delimiter. In the following example, the value for vSubString is "Reports".

```
SET VAR vSubString = (SSUBCD('Forms|Reports|Labels',2,'|'))
```

- New **REVERSE** function to return the reverse order of text in a string. In the following example, the value for vReverse is "erawtfoS evitcaretnI".

```
SET VAR vReverse TEXT = (REVERSE('Interactive Software'))
```

- New **(CVAL('ERROR MESSAGE'))** function to get the error message when an -ERROR- occurs. The function also return the error message when from an SQL data source.

```
SET VAR vErrorMsg = (CVAL('ERROR MESSAGE'))
```

- New **CHKTABLE** function to see if a table/view exists. The function returns a value based upon the permanent or temporary nature of a table or view, and if a table is attached as a server or dBASE table.

```
SET VAR vChkServTable = (CHKTABLE('CustomerSummary'))
```

- New **LASTMOD** function to provide the last structure modification timestamp for a given table or view.

```
SET VAR vLastMod DATETIME = (LASTMOD('InvoiceHeader'))
```

- Enhanced **DWRD** function to allow for fractional whole dollars to be returned for the cents portion of the word representation. In the following example, the value for vAmount is "ten and 50/100 dollars".

```
SET VAR vAmount TEXT = (DWRD(10.50,1))
```

- New **FSTATUS** function to check if a file or folder exists, and also returns the status for a file

```
SET VAR vFileStatus INTEGER = (FSTATUS('brates.xlsx'))
```

- Added GetLockType parameter to the **GETVAL** function, to capture the type of lock on a table. The function returns the following values: None, Local, Remote, Cursor, Row

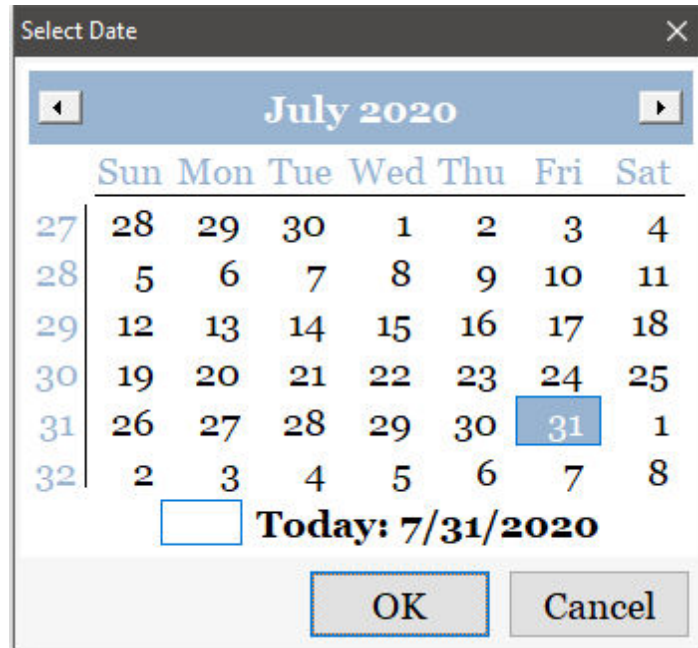
```
SET VAR vCheckLockType TEXT = (GETVAL('GetLockType','Customer'))
```

- New **(CVAL('VIEWLOCKS'))** function to show locks upon views

```
SET VAR vViewLocks VARCHAR = (CVAL('VIEWLOCKS'))
```

- Added FONT_NAME and FONT_SIZE parameters to the **GETDATE** function to alter the calendar and button fonts

```
SET VAR vDate = +  
(GETDATE('Select Date|INIT_VAR vDefaultDate|FONT_NAME Georgia|FONT_SIZE 14'))
```



10 Query Builder/Query Wizard

The R:BASE X.5 Query Builder has been modernized for efficient query building. The utility offers following new features:

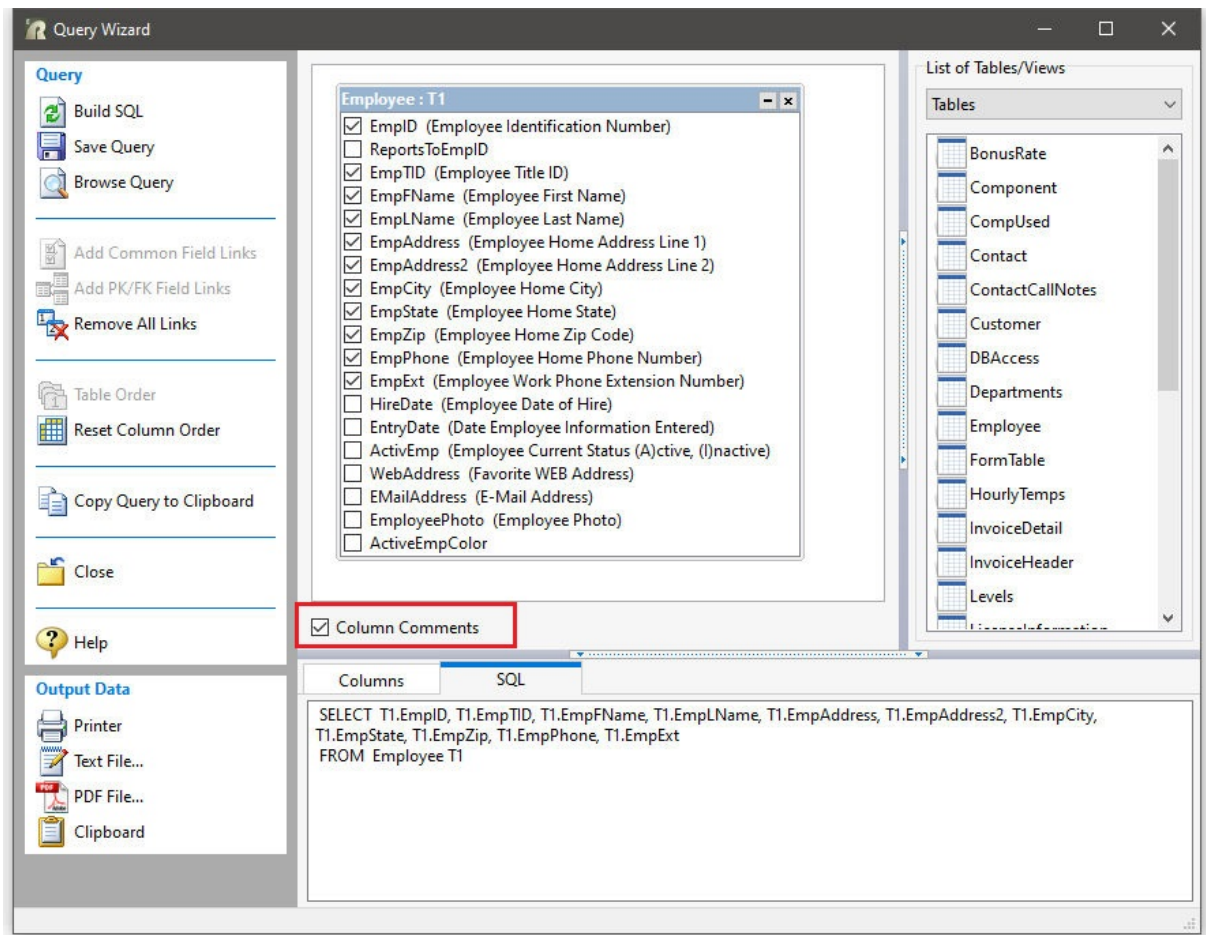
- Enhanced Query Wizard allowing for multiple instances of a single table, for building self-referential constructs

The screenshot displays the Query Wizard interface with the following components:

- Query Panel (Left):** Contains options like Build SQL, Save Query, Browse Query, Add Common Field Links, Add PK/FK Field Links, Remove All Links, Table Order, Reset Column Order, Copy Query to Clipboard, Close, and Help.
- Diagram Area (Center):** Shows a query diagram with tables and their fields:
 - Contactor : T1** (Fields: ContactorID, EntityID, e2eID)
 - ContactYear : T3** (Fields: ContactYearID, ContactorID, TournYearID)
 - TournYEAR : T4** (Fields: TournYearID, TournDATE)
 - Ent2Ent : T2** (Fields: e2eID, e2eParentID, e2eChildID, e2eClassID, e2eTitleID)
 - Entity : T5** (Fields: EntityID, EntClassID, EntityLABEL)
 - Entity : T6** (Fields: EntityID, EntClassID, EntityLABEL)
 - Entity : T7** (Fields: EntityID, EntClassID, EntityLABEL)
- List of Tables/Views (Right):** Shows a list of tables: Contactor, ContactYear, Ent2Ent, Entity, and TournYEAR.
- Columns and SQL (Bottom):**

| Field | ContactorID | EntityID | EntityLABEL | TournYearID | e2eID | e2eParentID | EntityLABEL | e2eChildID | EntityLABEL |
|----------|-------------|----------|-------------|-------------|-----------|-------------|-------------|------------|-------------|
| Table | Contactor | Entity | Entity | ContactYear | Contactor | Ent2Ent | Entity | Ent2Ent | Entity |
| Show | Show | Show | Show | Show | Show | Show | Show | Show | Show |
| Sort | | | | | | | ASC | | ASC |
| Function | | | | | | | | | |
| Group | | | | | | | | | |

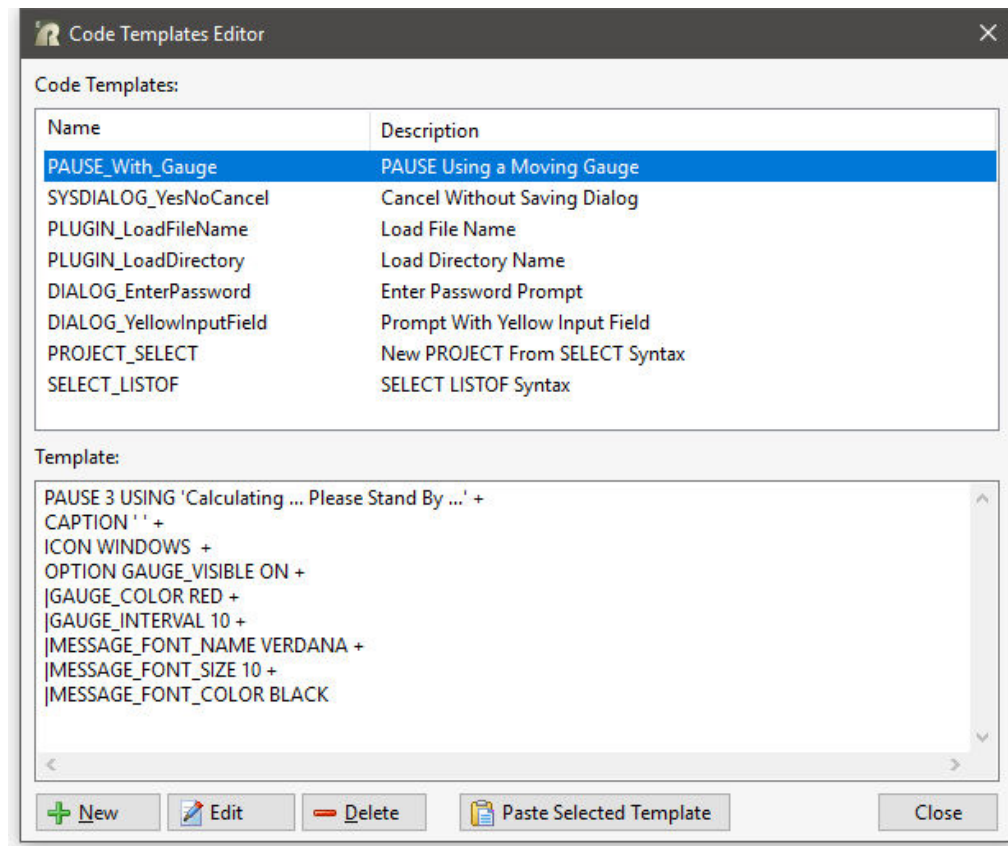
- Added "Column Comments" option to toggle the display of comments for table columns in the wizard workspace



11 R:BASE Editor

The R:BASE Editor provides enhanced functionality for working with R:BASE command files. The updated editor offers these special features:

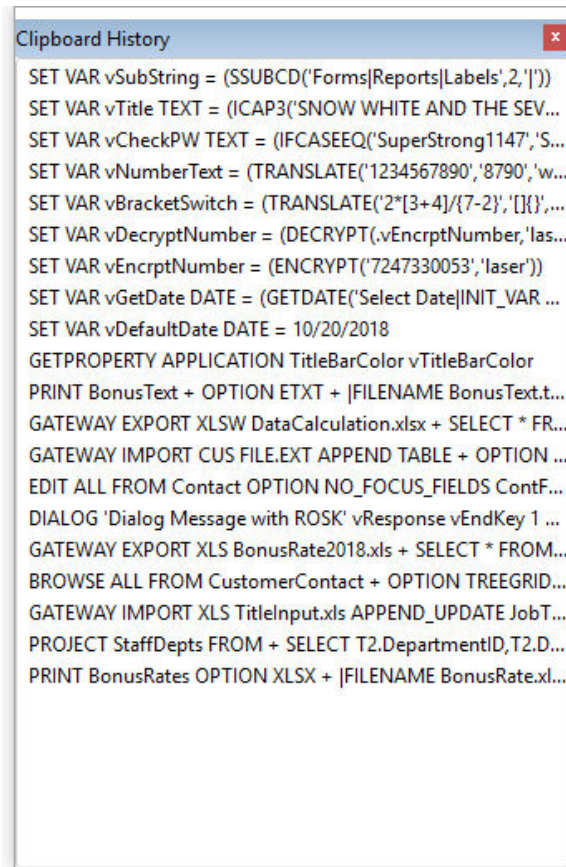
- Added Code Template support for programmers to easily load frequently used code fragments. A Code Template stores a description, block of code, and a short name, which is specifically typed during coding to be expanded to the stored code template with the [Ctrl+Alt+J] key combination. The block of code for templates also preserve indents for multi-line commands, just as they were stored. The Code Templates are stored in the CodeTemplates.rct file, which is located in the local <UserProfile>\RBTI\ folder.



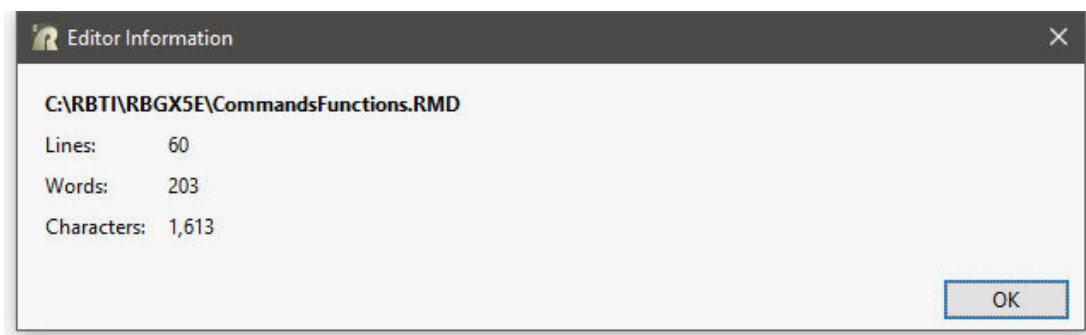
In addition to loading the template's block of code, the cursor location can be determined by inserting a carat character (^) into the template source, allowing immediate typing for programming efficiency. For example, a code template storing a DIALOG command can have a carat placed at the "message" parameter location, so the custom message can be immediately defined after the block of code is loaded.

- Enhanced "Block Uncomment" option which supports removal of command file comments for all comment types: "{...}", "*(...)", as well as "--".
- Enhanced "Copy Command" option to place a command within the clipboard without having to highlight the entire command. If no text is already selected, the code will be scanned starting from the current line (up and down), then select the entire command. Note that if there's an existing text selection, the menu option works like the original implementation.

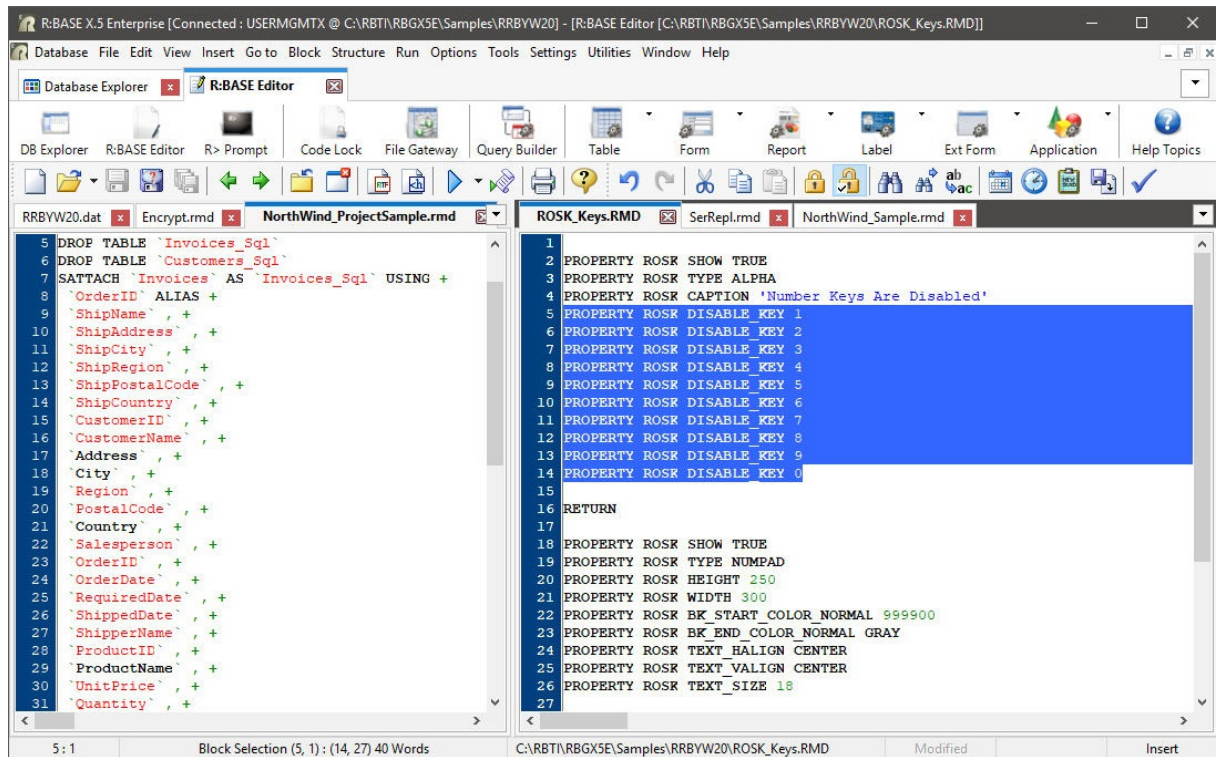
- Added "Clipboard History" toolbar. Only clipboard operations in R:BASE Editor are tracked. The history is per session, and is cleared when R:BASE is closed.



- Added line, word, and character count statistics, for text selection and for an entire file



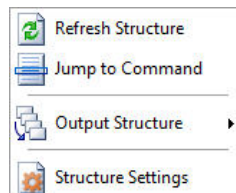
- New multi-view support with dual command files visible simultaneously
- Support for synchronized scrolling with dual command files displayed using [Ctrl]+[MouseWheel]



- Enhanced Compare by Content toolbar allowing for file names to be typed directly into the field, followed by the [Enter] key
- Enhanced Compare by Content utility to display the date and time stamps for the two files being compared



- The Structure Toolbar right-click context menu has been enhanced to include the refresh, jump to command, various output options, and a settings shortcut



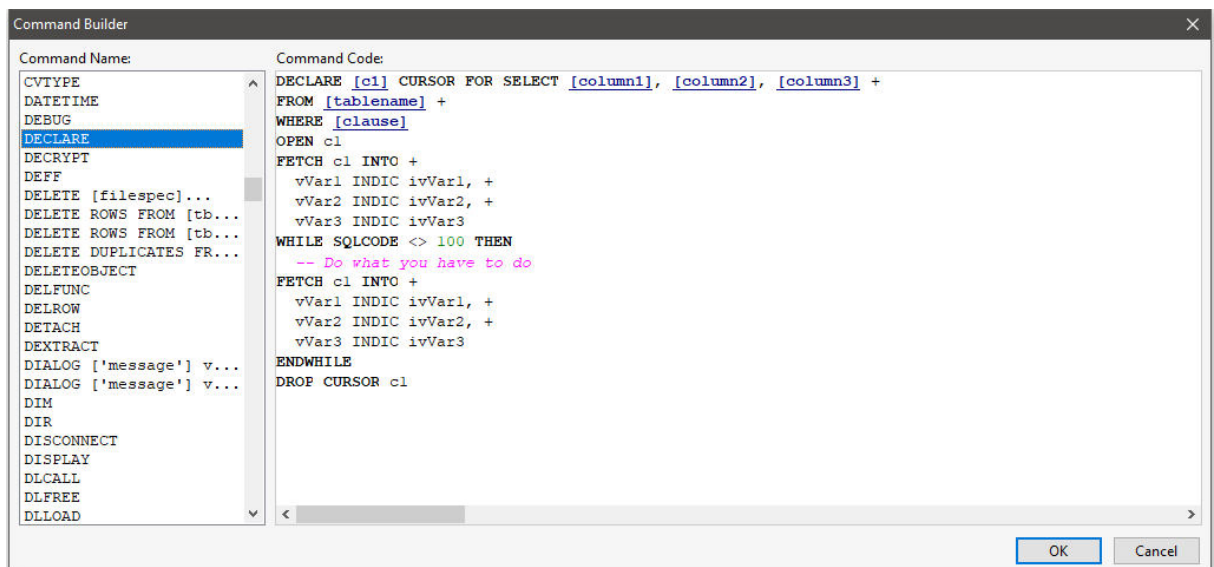
- The COMMAND.INI was updated with current command and function templates, with additional variations of commands and comment templates added
- The command and function template popup, [F5], has been increased in size, and alphabetical sorting was implemented

```

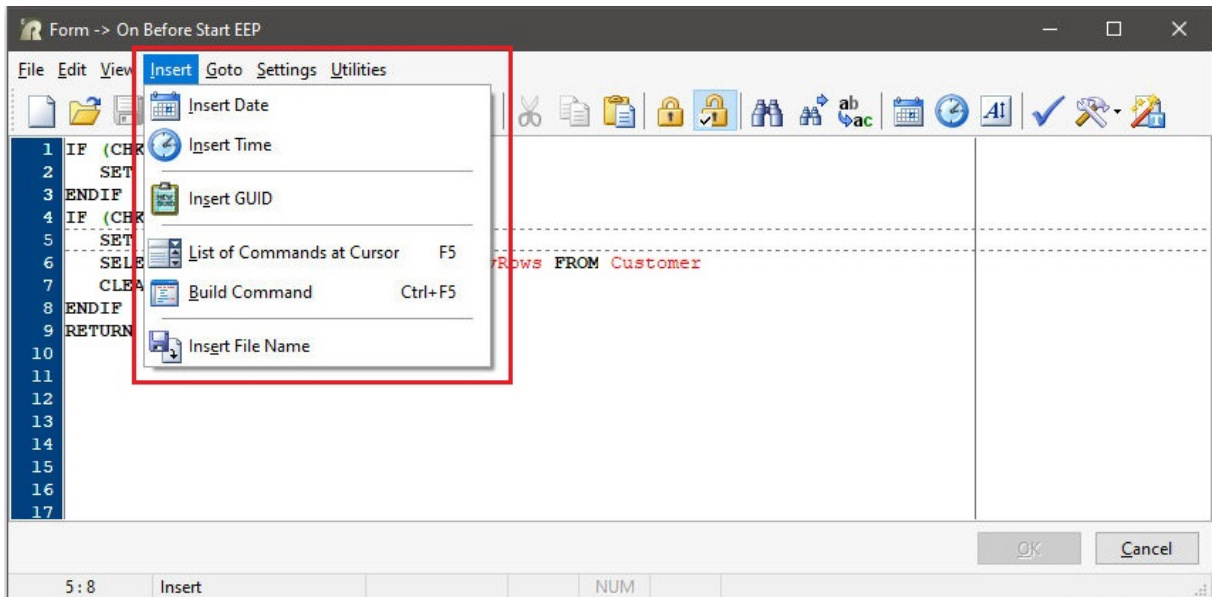
1
2
3 CREATE VIEW [viewname] ( [collist] ) AS SELECT [colname] FROM [tblname] CREATE
4 CREATE TEMPOAREY TABLE [tblname] ( [colname] [datatype] [size] DEFAULT [value] ) CREATE
5 CREATE TABLE [tblname] ( [colname] [datatype] [size] DEFAULT [value] ) CREATE
6 CREATE SCHEMA AUTHORIZATION [dbname] [ownername] CREATE
7 CREATE INDEX [indexname] ON [tblname] ( [colname] ASC SIZE [n] ) CREATE
8 CREATEOBJECT [ControlType] [ComponentID] [ParentControl] [Left Top Width Height] CREATEOBJECT
9
10
11
12
13

```

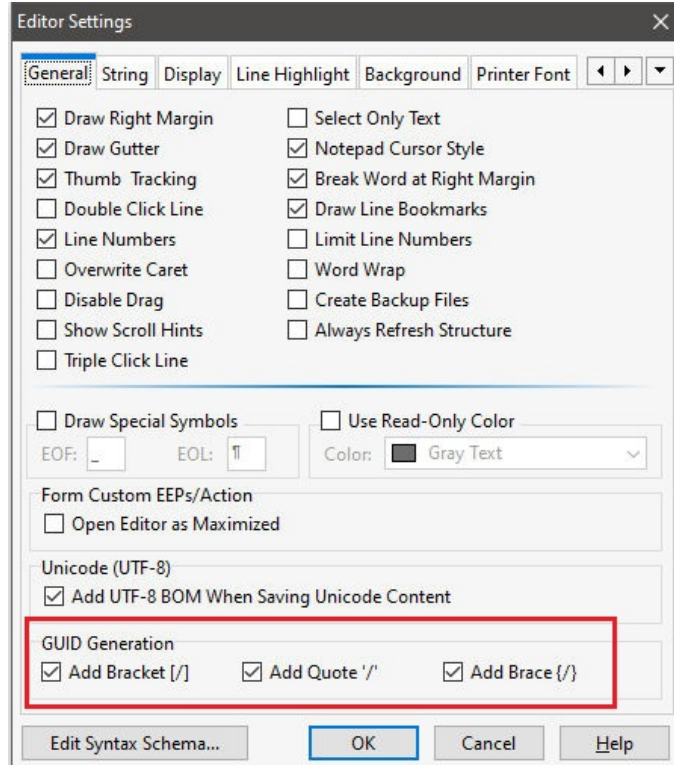
- The Command Builder, [Ctrl+F5], was enhanced with a list box to review commands/functions, an increased size, and alphabetical sorting



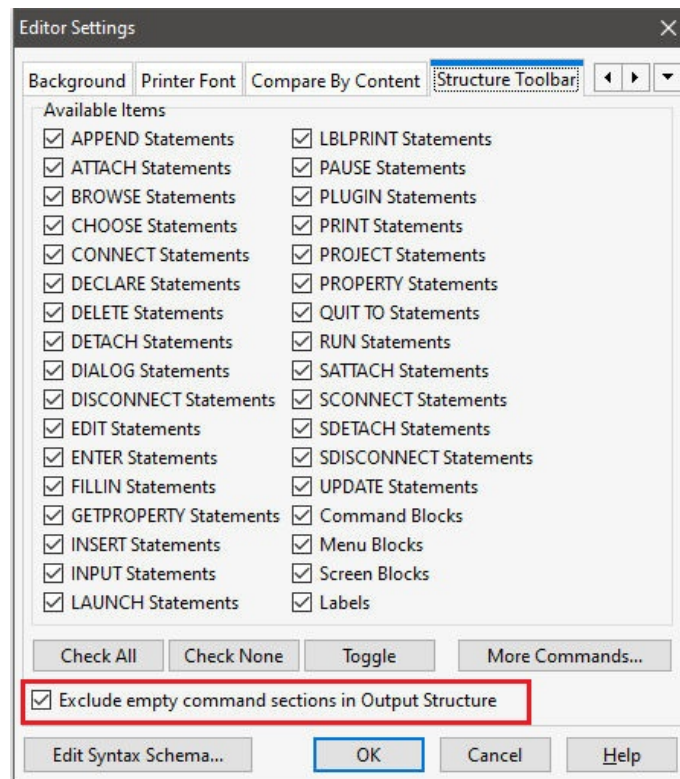
- Added "Insert" menu bar options, to insert the date, time, a GUID, commands, or a file, to the R:BASE Editor when launching Custom EEPs



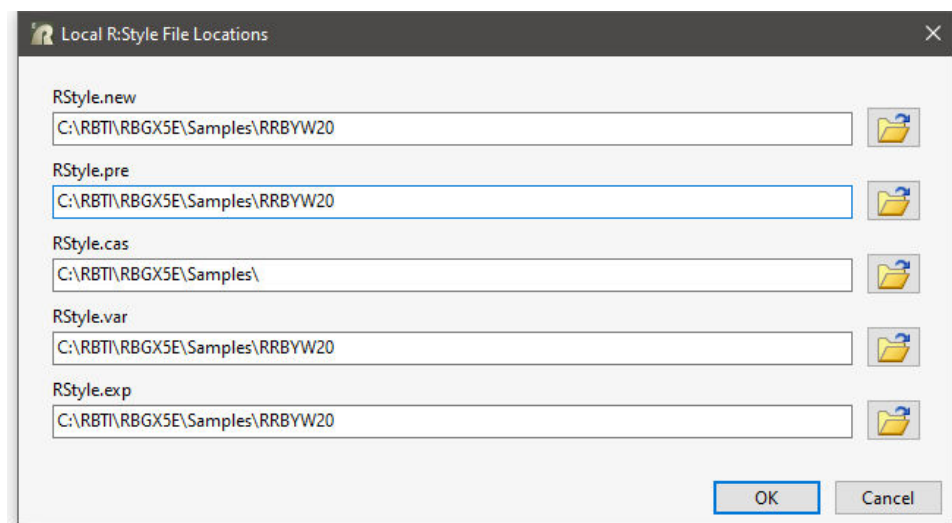
- Enhanced R:BASE Editor settings where the default characters assigned to an inserted GUI value can be specified with or without brackets, quotes, and braces



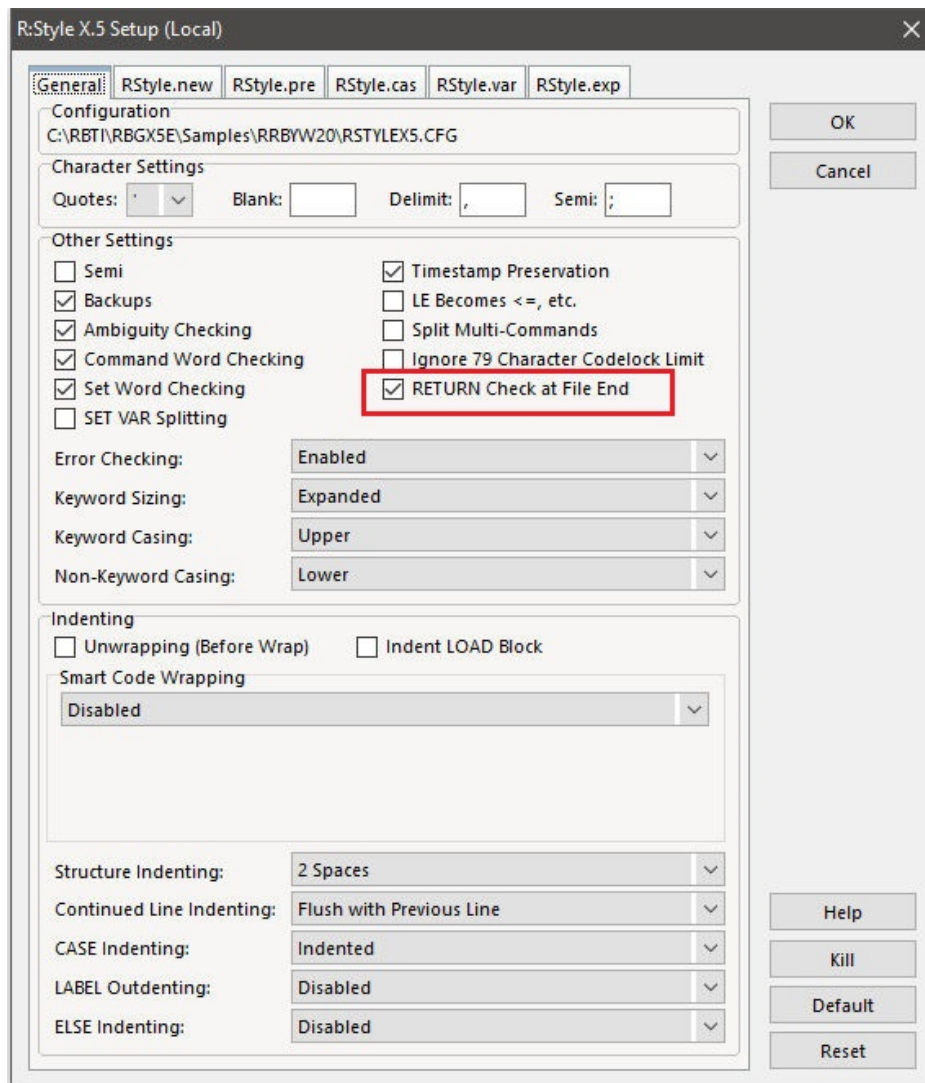
- Added Structure Toolbar setting to exclude empty commands from the Output Structure content when not listed in the command file



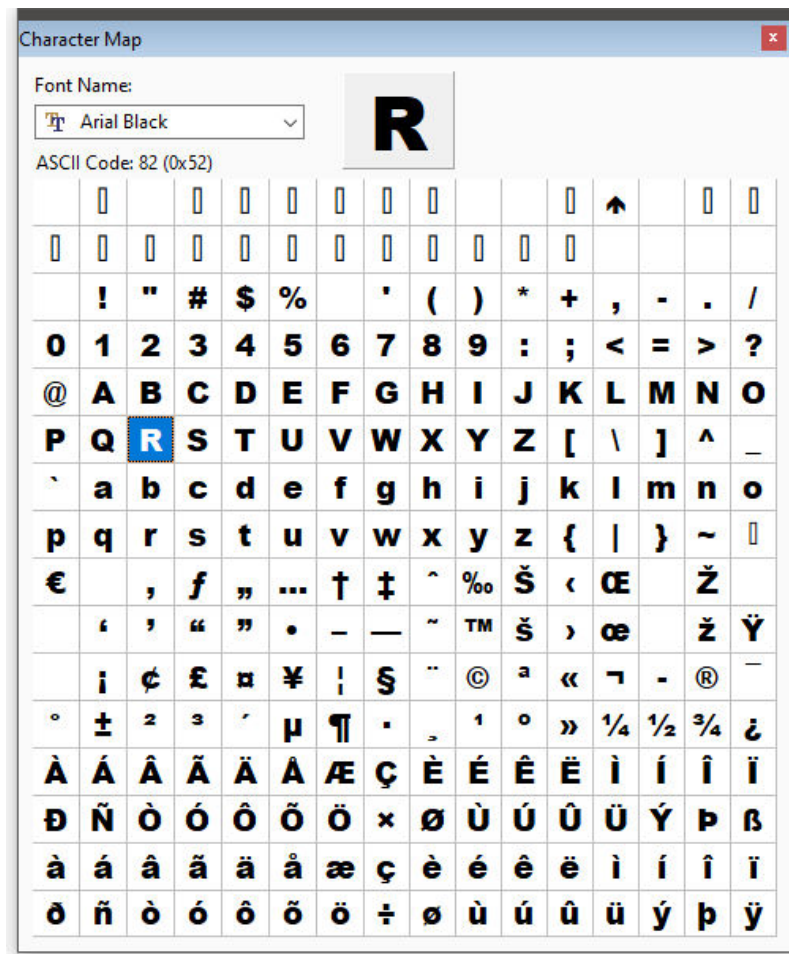
- Added R:Style configuration options to individually specify user-defined paths to the R:Style files, (i.e. RStyle.new, RStyle.var, RStyle.cas, etc.) in the local configuration



- Assigned hot keys to run the R:Style Setup within R:BASE Editor; [Ctrl+Alt+G] runs the Global setup, and [Ctrl+Alt+L] runs the Local setup
- Enhanced R:Style Setup utility dialog allowing the file tabs to be re-ordered (drag-and-drop), and retained for future R:Style use
- Added "RETURN Check at File End" R:Style setting to "not" check for a RETURN at the end of the command file



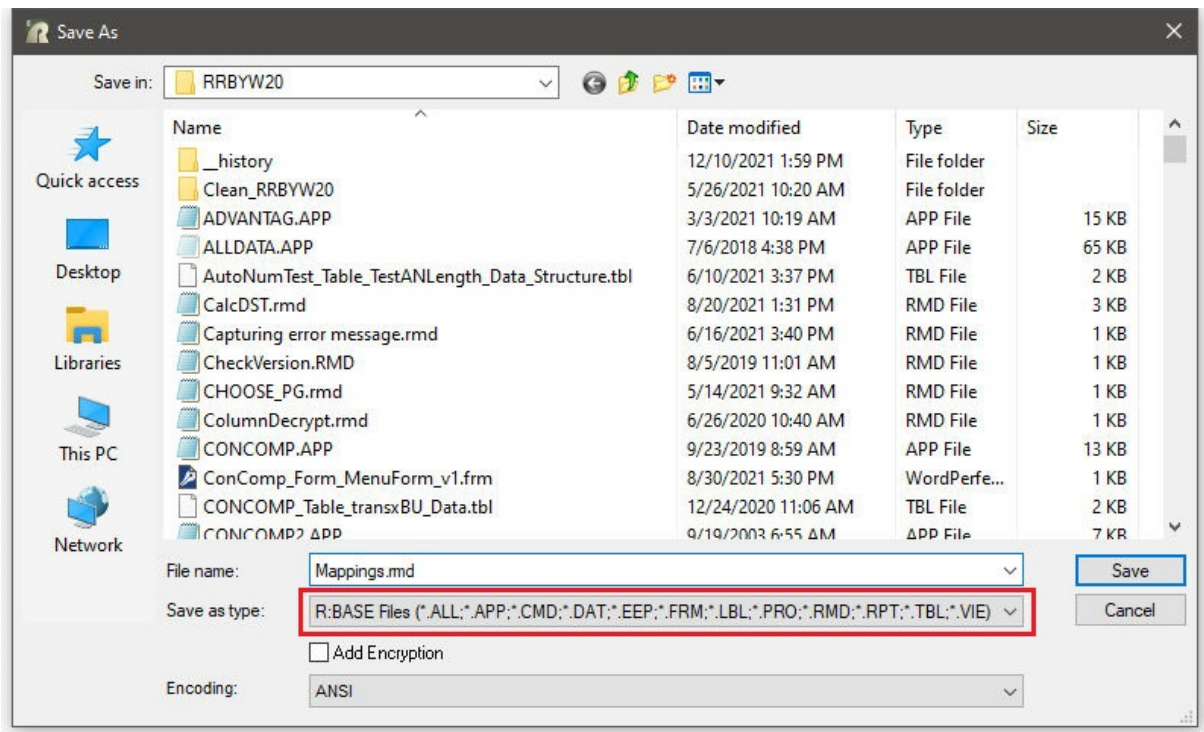
- Enhanced Character Map toolbar where the height and width may be altered by dragging the border, to view fonts and extended characters more easily



- Enhanced R:Style with added detection of duplicate LABEL names within a single command file
- Enhanced R:Style status dialog with button to review newly added words to the RStyle.NEW file



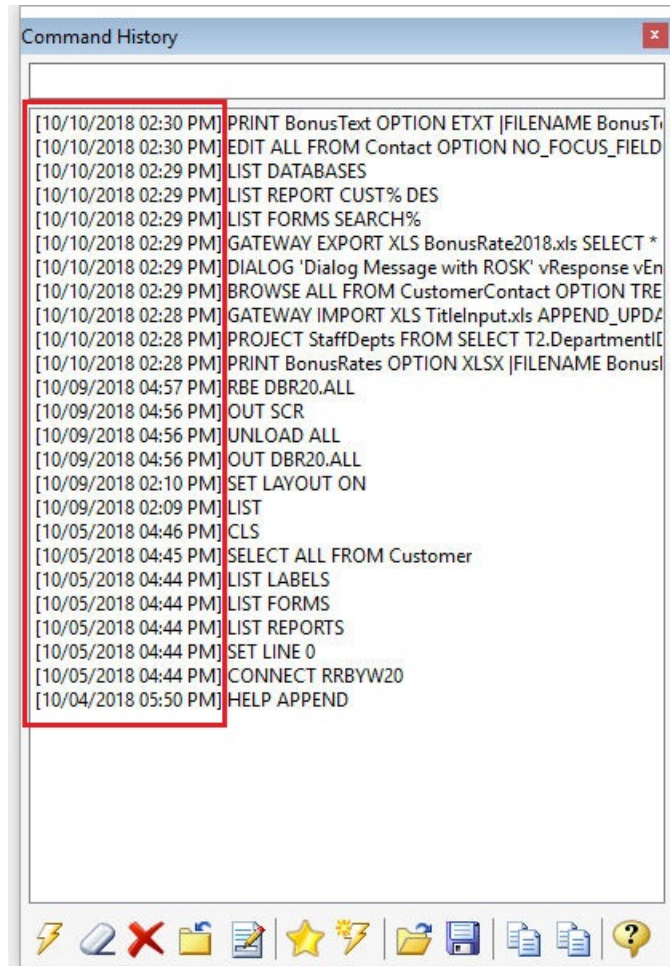
- Enhanced save file dialog with "R:BASE Files" included as a file type, to specifically see all R:BASE-related files types, to simplify saving one R:BASE file extension (.tbl) as another (.rmd)



12 R> Prompt

While maintaining the powerful R:BASE R> Prompt, several useful features have been added:

- Enhanced Command History option to display the date/time stamp to reference when a command was executed

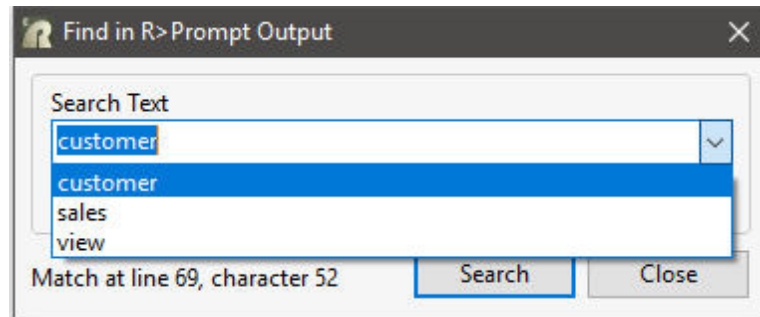


- Added "Current Folder" toolbar to the R> Prompt window

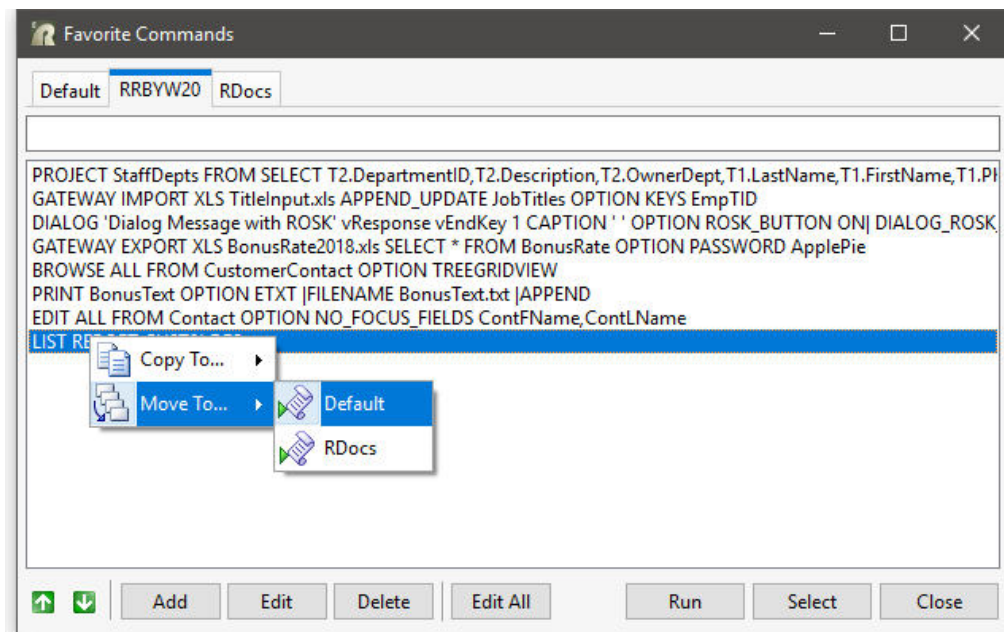


- Enhanced Command History Panel to highlight the corresponding command, with the [Page Up] and [Page Down] keys synchronized to what is shown in the R> Prompt input console

- Added "search history" support for the Find in R> Prompt Output utility. The entry box is also a drop down where the search history is available. To clear the history, press the [Ctrl+R] key combination. The search history is saved in the C:\Users\<User>\RBTI\ folder within the R PROMPT.RST. file.



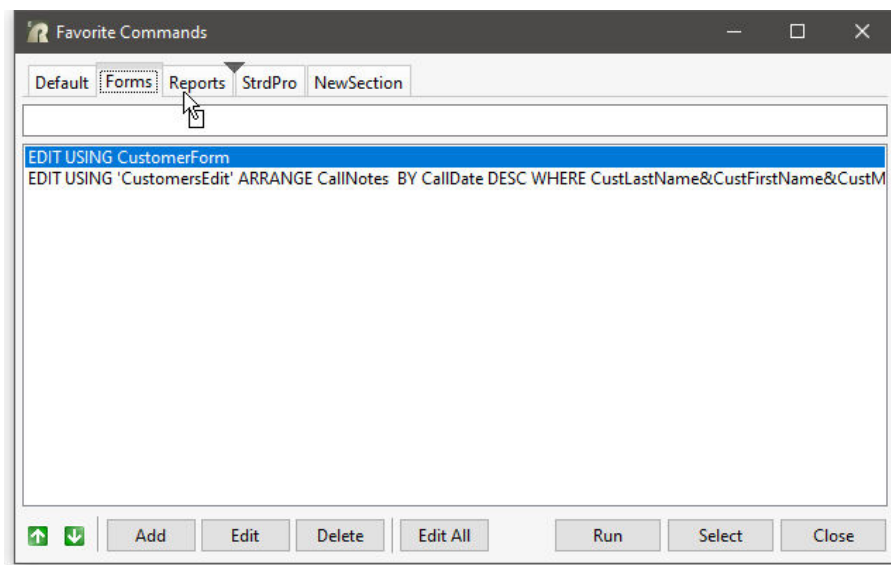
- Enhanced Favorite Commands panel with support for multiple command lists/tabs. The added tabs are useful for distinct lists of favorite commands associated with each database. Right click menu options "Copy To" and "Move To" are available for commands to be transferred between lists.
- Added "Run" button to the Favorite Commands panel to immediately run a favorite command without modification



- Enhanced Command Builder at the R> Prompt providing a list of command and function templates



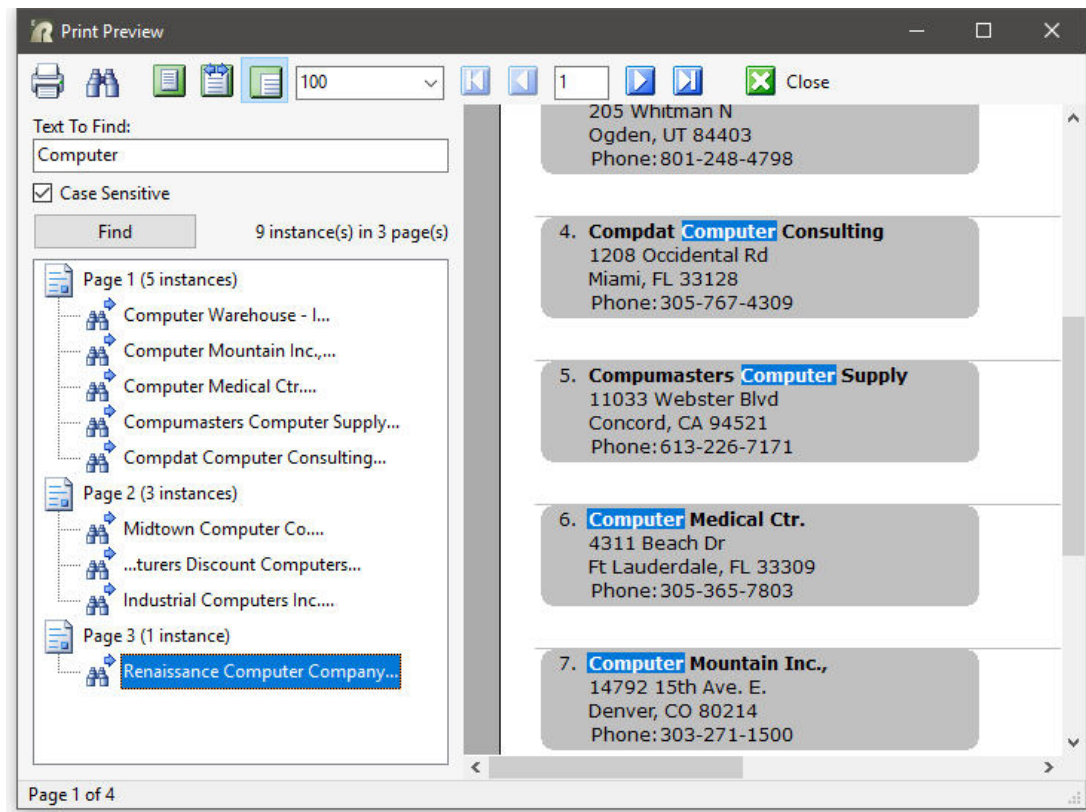
- Enhanced Favorite Commands dialog allowing the tabs to be reordered by drag-n-drop with the mouse



13 Reports and Labels

The R:BASE X.5 Report and Label Designer is one of the most powerful object oriented report designers available. New features include:

- Added "Find Text in Preview" feature to search a report Print Preview screen.



Once enabled on a per report basis, the Print Preview will display the "Find Text" button on the toolbar to toggle the visibility of the Find Text pane. Users may double click on the result item (child node) to go to the page.

- Added "Invoice" tab to the Report Wizard to assist in the generation of proficient invoice documents

Report Wizard

INVOICE

Company Name
Address Line 1
Address Line 2
Address Line 3

INVOICE #*: Transid
INVOICE DATE*: TransDate
DATE DUE: DueDate

BILL TO:

BillToCompany

ADDRESS 1:

BillToAddress

ADDRESS 2:

BillToCityStateZip

ADDRESS 3:

SHIP TO:

ShipToCompany

ADDRESS 1:

ShipToAddress

ADDRESS 2:

ShipToCityStateZip

ADDRESS 3:

CONTACT:

ContactName

PHONE:

CustPhone

FAX:

ContFax

EMAIL:

ContEMail

DETAIL FIELDS:

DetailNum
Model
ProdName
Units
Price
Discount
SalePrice
ExtPrice

* Required Field

INVOICE TOTAL*:
(SUMmed Field)

ExtPrice

Classic | Default | Invoice

Help

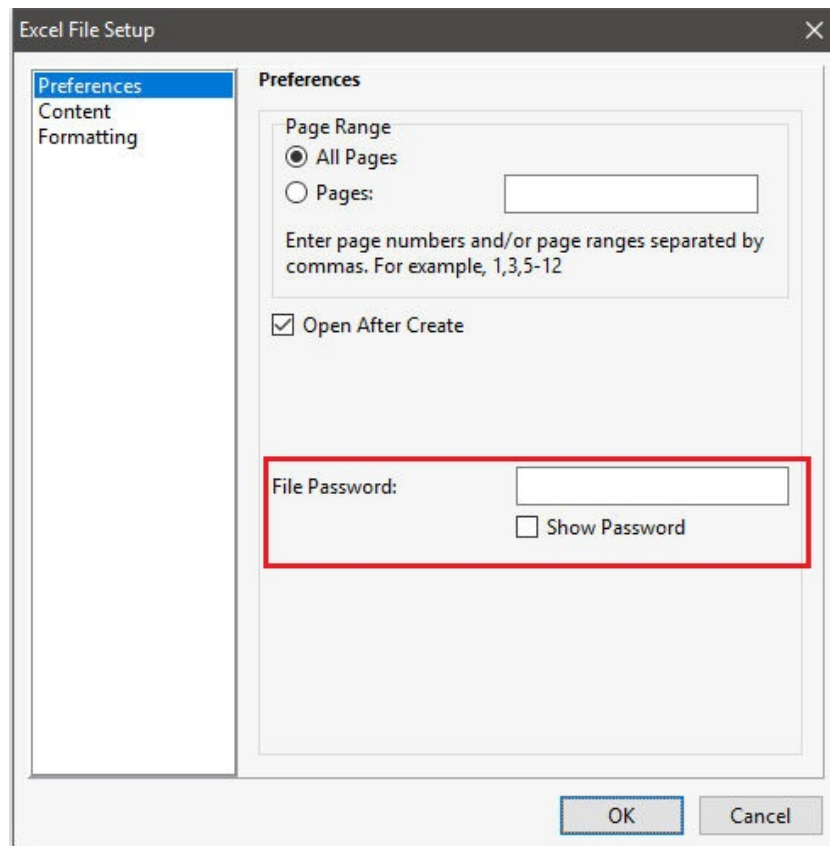
Cancel

< Back

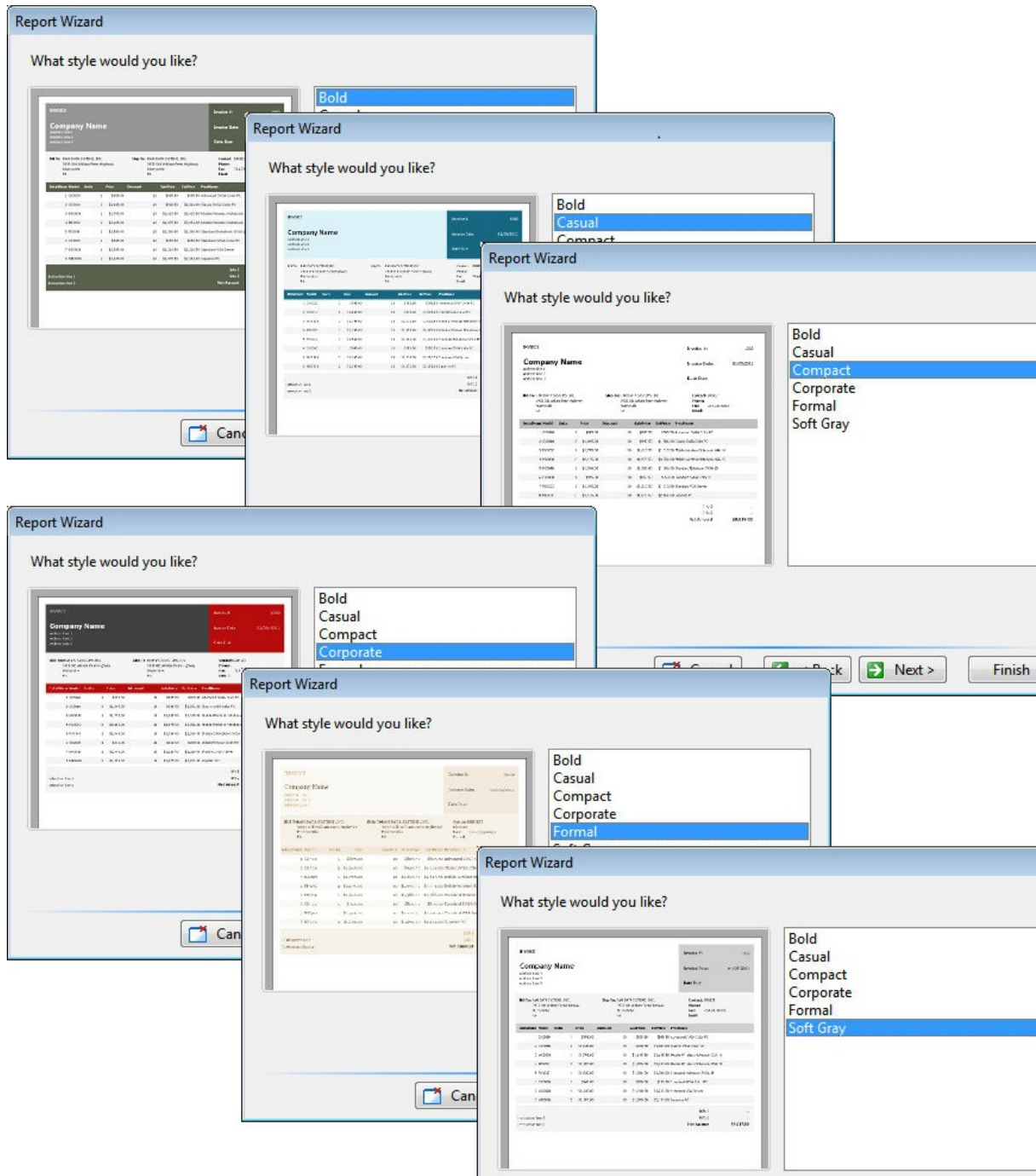
Next >

Finish

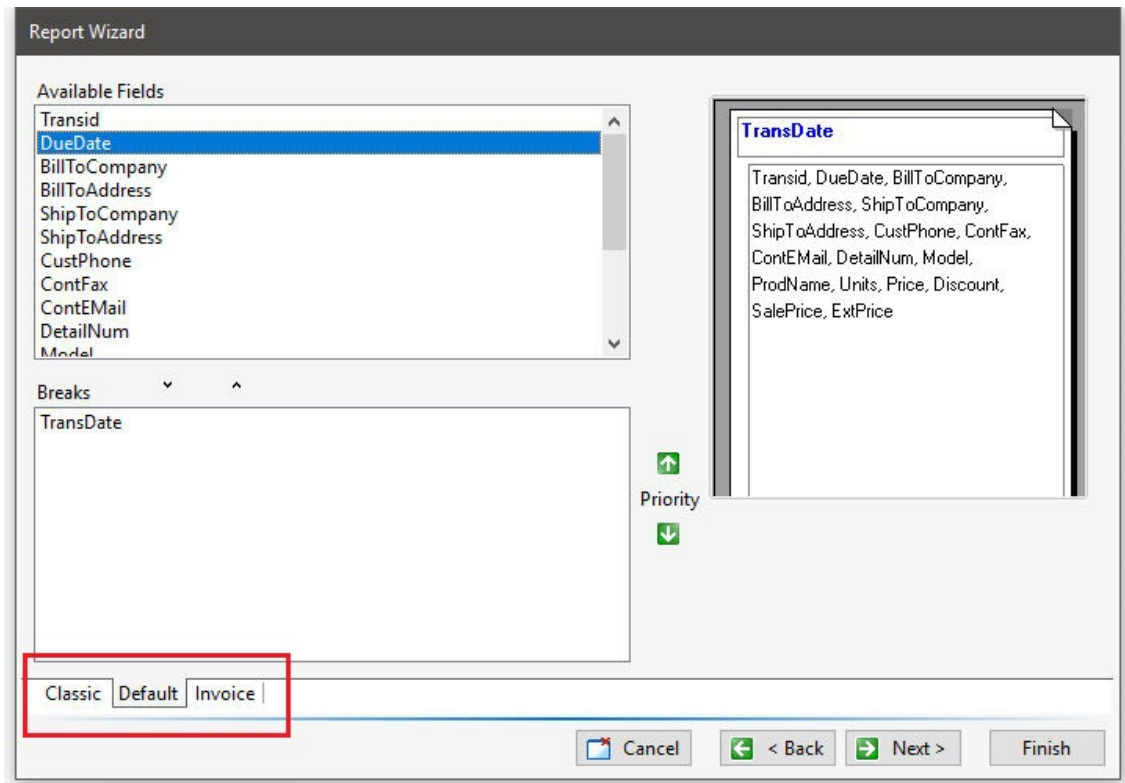
- Added password encryption for Excel document reports, including XLSX and 2003 formats. Passwords are case sensitive.



- New Report Wizard styles, with enhanced color schemes and fonts, with various professional and corporate options



- Ability to select from "Classic" and the new "Default" Styles tabs within the Report Wizard



- Automatic zebra stripe coloring added for the Detail band dataset in reports created within the new Report Wizard styles

Print Preview

100 2 Close

Bill To: RAM DATA SYSTEMS, INC.
3935 Old William Penn Highway
Murrysville
PA

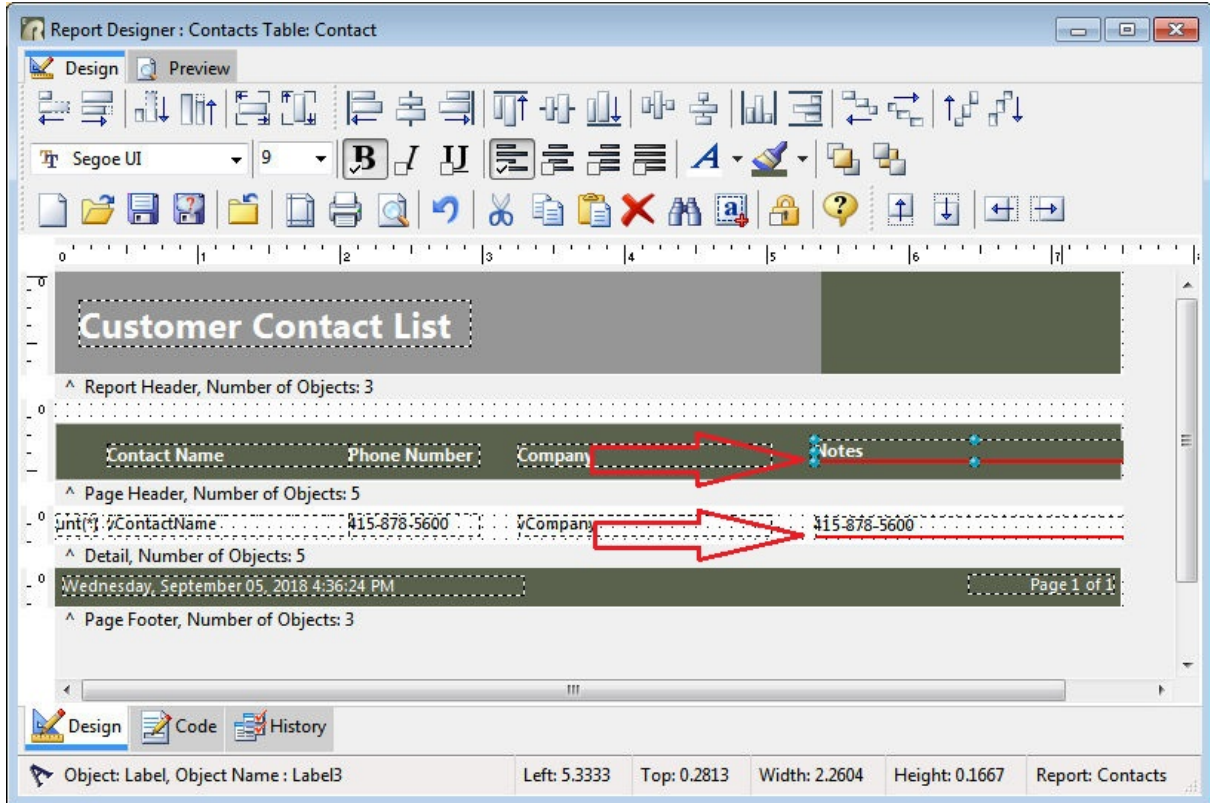
Ship To: RAM DATA SYSTEMS, INC.
3935 Old William Penn Highway
Murrysville
PA

Contact: ERNE
Phone:
Fax: 724-
Email:

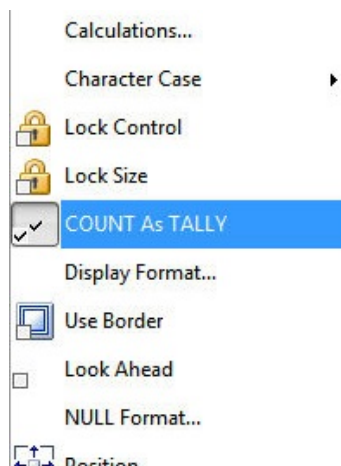
| DetailNum | Model | Units | Price | Discount | SalePrice | ExtPrice | ProdName |
|-----------|--------|-------|------------|----------|------------|------------|--------------------------|
| 1 | CX3020 | 1 | \$895.00 | 7 | \$832.35 | \$832.35 | Advanced SVGA Color PC |
| 2 | CX3010 | 2 | \$1,045.00 | 8 | \$961.40 | \$1,922.80 | Classic SVGA Color PC |
| 3 | MX3030 | 1 | \$1,795.00 | 10 | \$1,615.50 | \$1,615.50 | Mobile Wireless Notebook |
| 4 | PB3050 | 2 | \$2,195.00 | 10 | \$1,975.50 | \$3,951.00 | Mobile Wireless Notebook |
| 5 | PX3040 | 1 | \$1,540.00 | 8 | \$1,416.80 | \$1,416.80 | Standard Notebook SVGA 1 |
| 6 | CX3000 | 1 | \$588.00 | 8 | \$540.96 | \$540.96 | Standard SVGA Color PC |
| 7 | MX3020 | 1 | \$757.00 | 8 | \$696.44 | \$696.44 | Standard VGA Server |
| 8 | MB3030 | 2 | \$1,195.00 | 10 | \$1,075.50 | \$2,151.00 | Superior PC |

Page 2

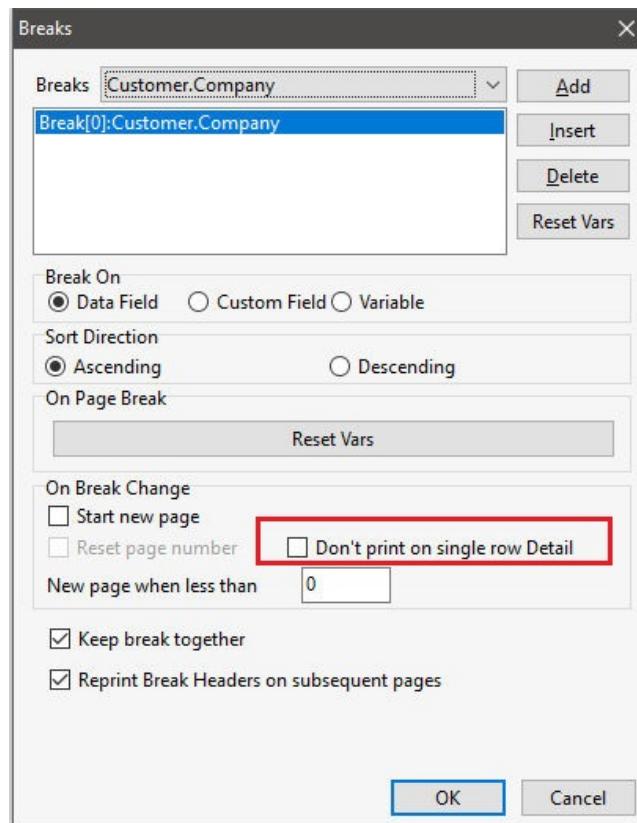
- Enhanced recognition for report objects that cross the printable area (on the right side), where a red underline appears on the object. This feature helps the user know the object will not appear on the report output, unless it is moved back into the printable space and does not cross the right margin boundary.



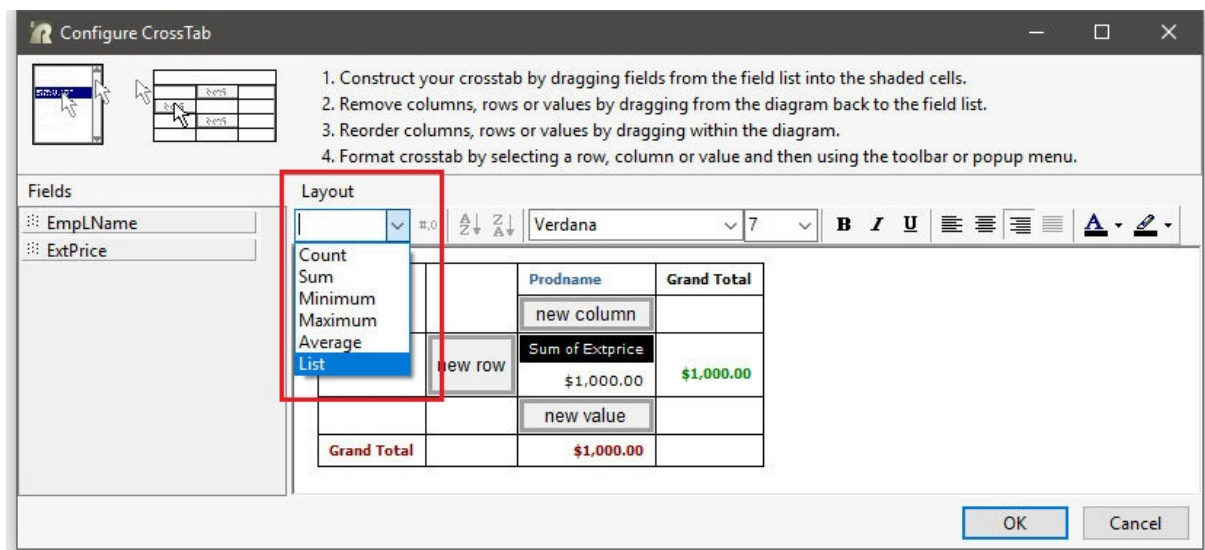
- Enhanced DB Calc control to support a Tally to count the occurrences of identical values in a column. When the "Calculation" is set to "Count" the "COUNT As TALLY" setting enables a tabular output tally of all values.



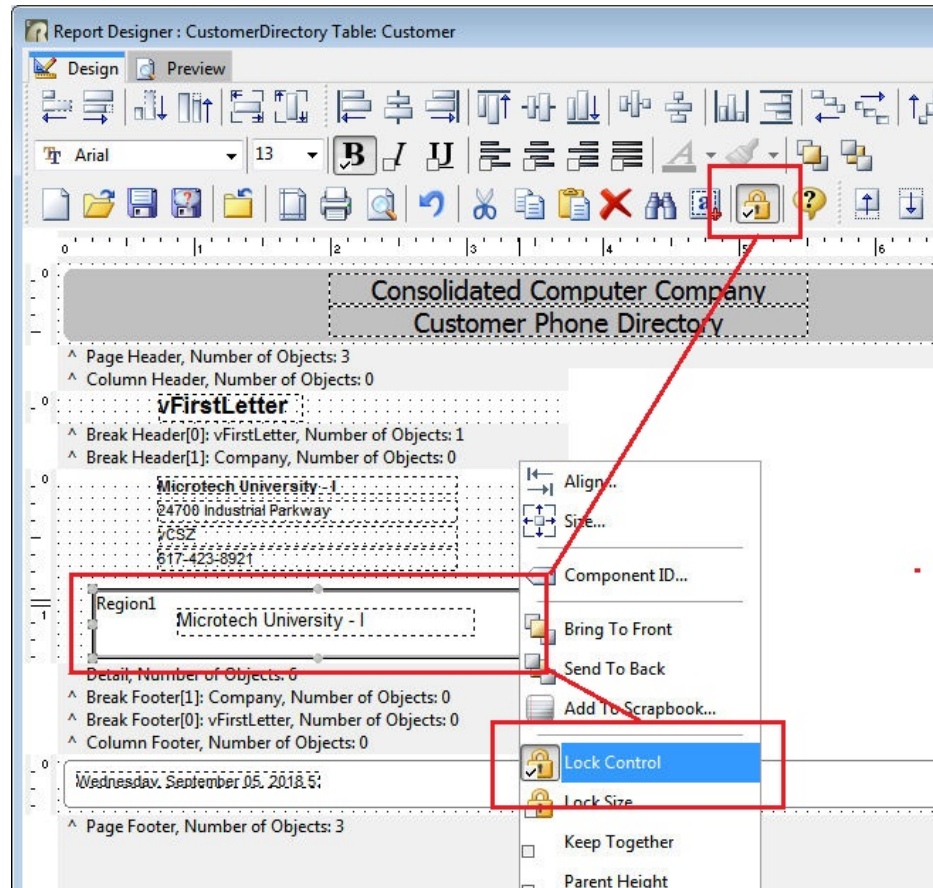
- Enhanced report Breaks allowing for the conditional display of the Break Footer if only a single row exists for the Detail band. Any subtotals within the footer will still be calculated properly.



- Added "List" (LISTOF) functionality to the CrossTab control

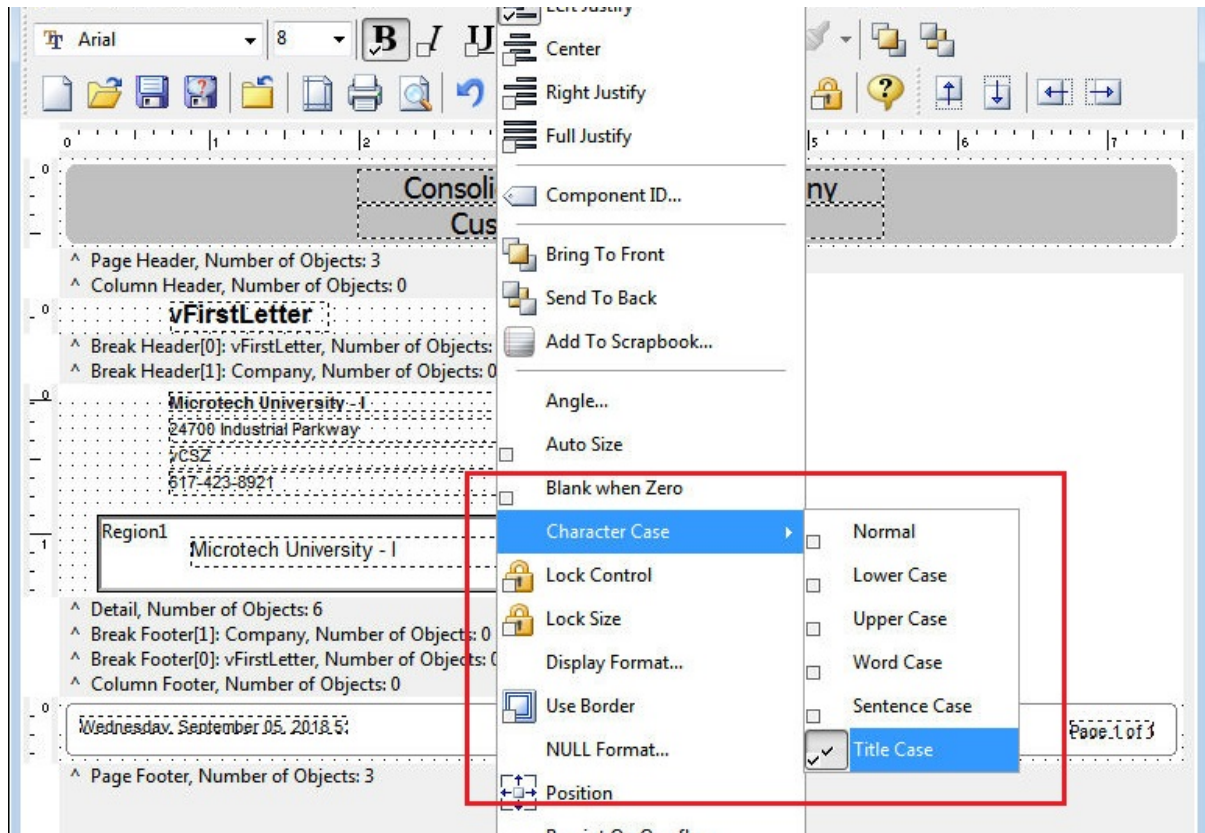


- New functionality to Lock/Unlock report/label objects within the designers.

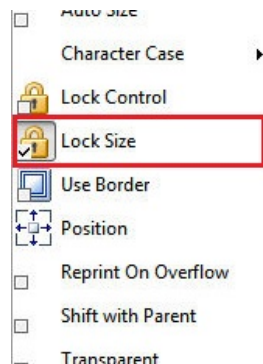


Individual and several objects may be locked to prevent accidental editing/moving. When an object is locked, the handlebars display as gray circles rather than the usual blue color. A "Lock/Unlock" button has also been added to the designer toolbar.

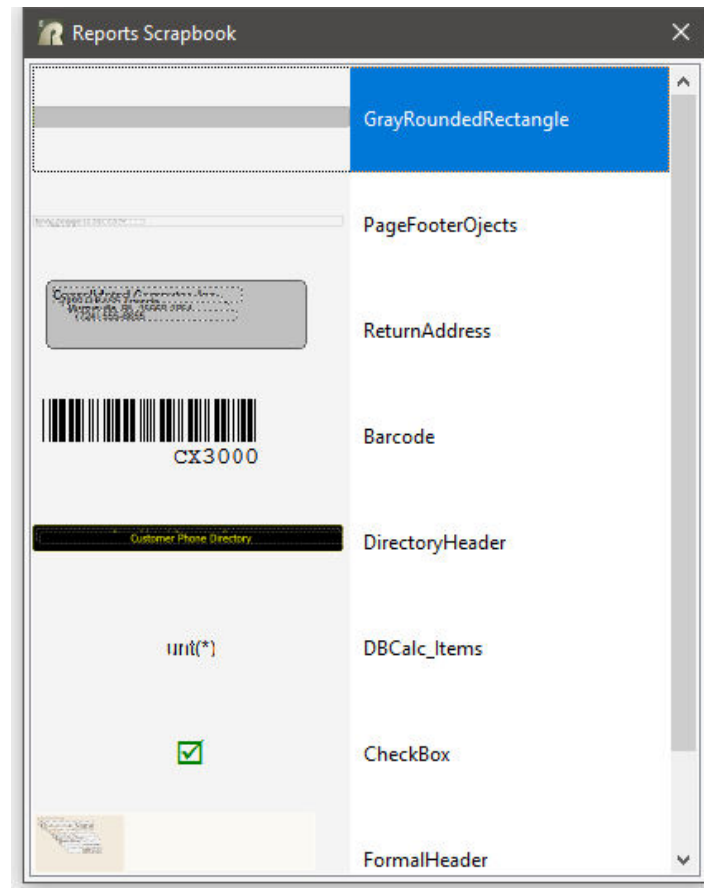
- Adding Title Case character case option for label controls



- New Lock Size option where field settings for objects can be altered, but the size can be specifically preserved

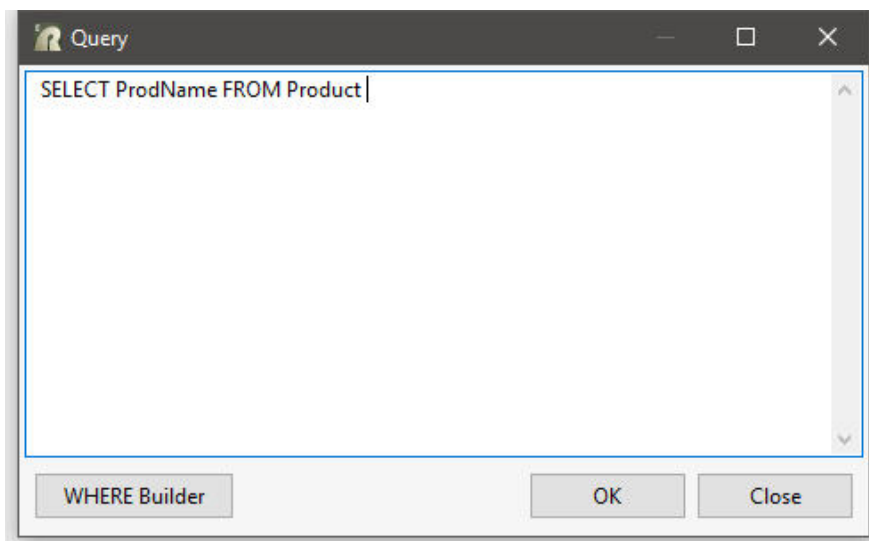


- New Scrapbook utility, which acts as repository for created and commonly used report objects.

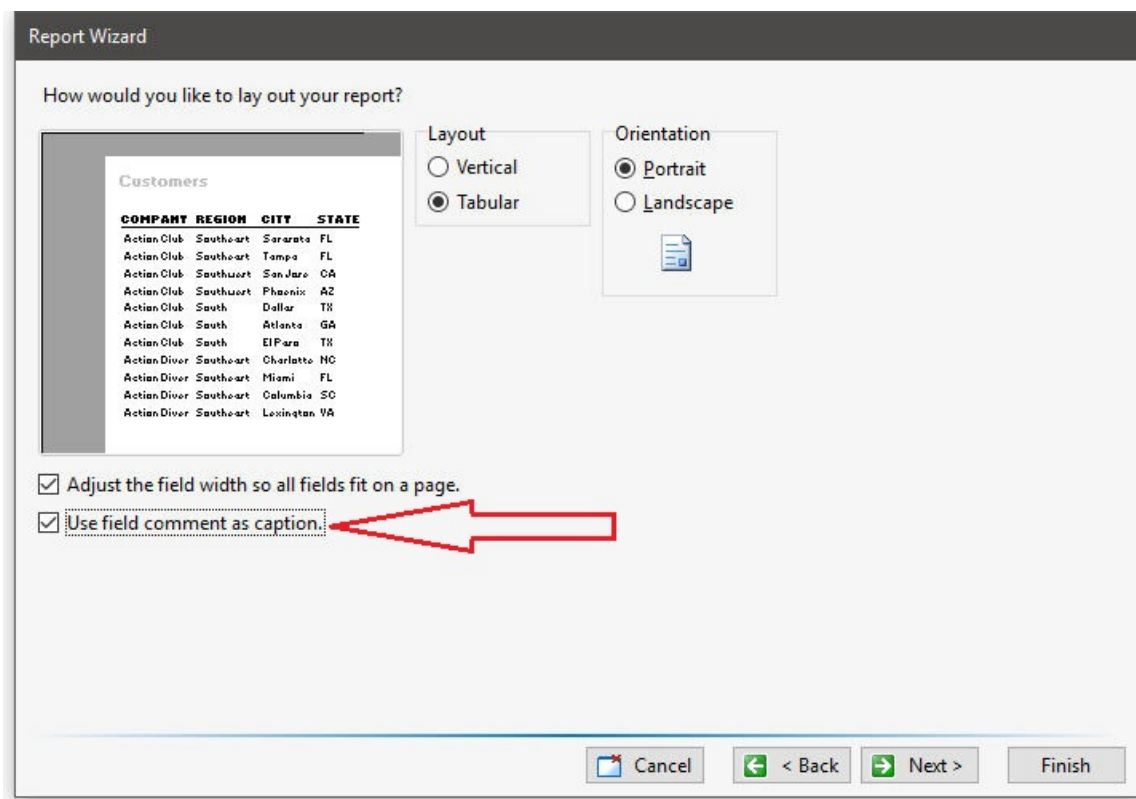


In the Report/Label Designer any control that is right clicked, the menu option "Add to Scrapbook..." is available. A name can be specified to assign the scrapbook entry. From the designer, the Scrapbook can be launched as a MDI window, where scrapbook entries can be added to the displayed report/label for easy reuse.

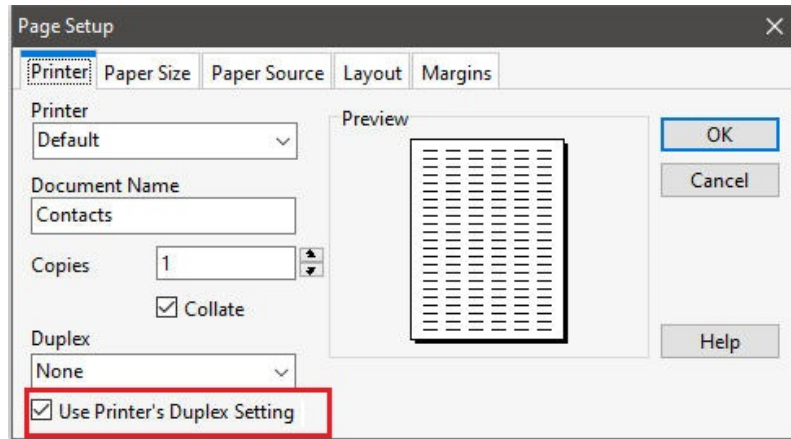
- Enhanced PDF Combo Box and PDF List Box controls with a "Data Query" option to populate the control from a SELECT command



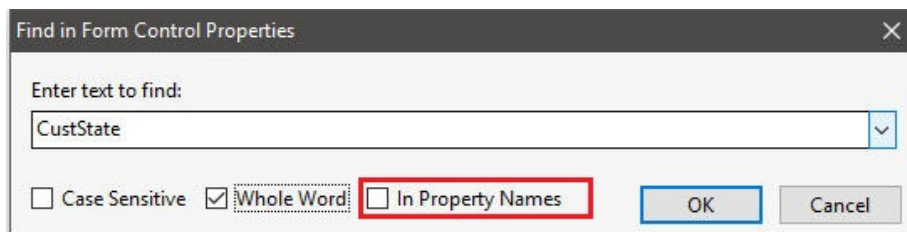
- Enhanced Report Wizard with option to include field comments as captions



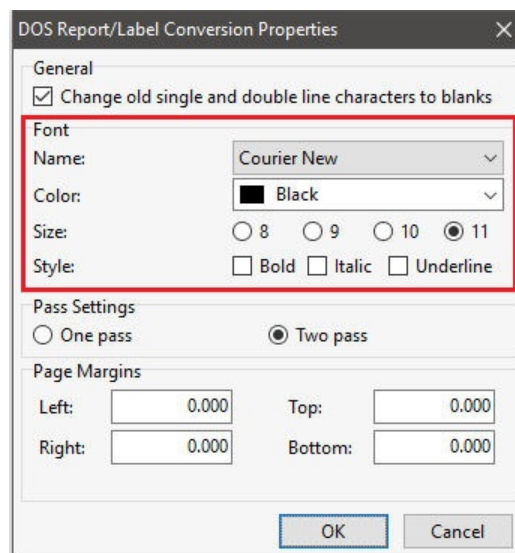
- New Page Setup setting allowing for a report to use the printer's default duplex setting



- Added "In Property Names" option for Control Property searches to locate text for the actual property (e. g. Read Only, AutoSize, Show Hint, etc.) in use for objects



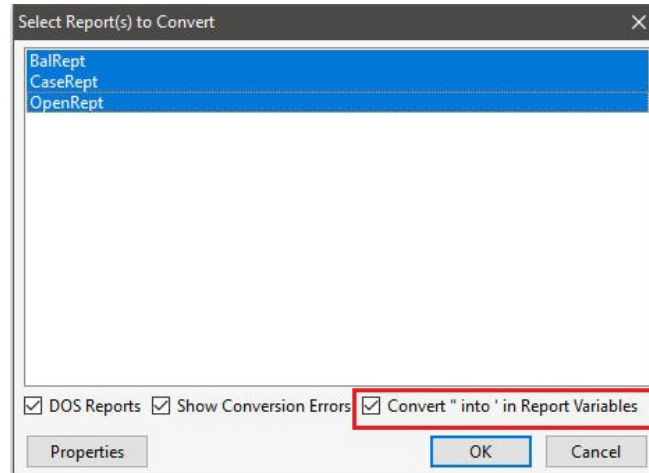
- New PROPERTY command parameter to have all reports displayed in the Print Preview to include the "Find Text" option
- Added font names, styles, and sizes options to the DOS report/label conversion utility to allow the converted objects to fit accordingly



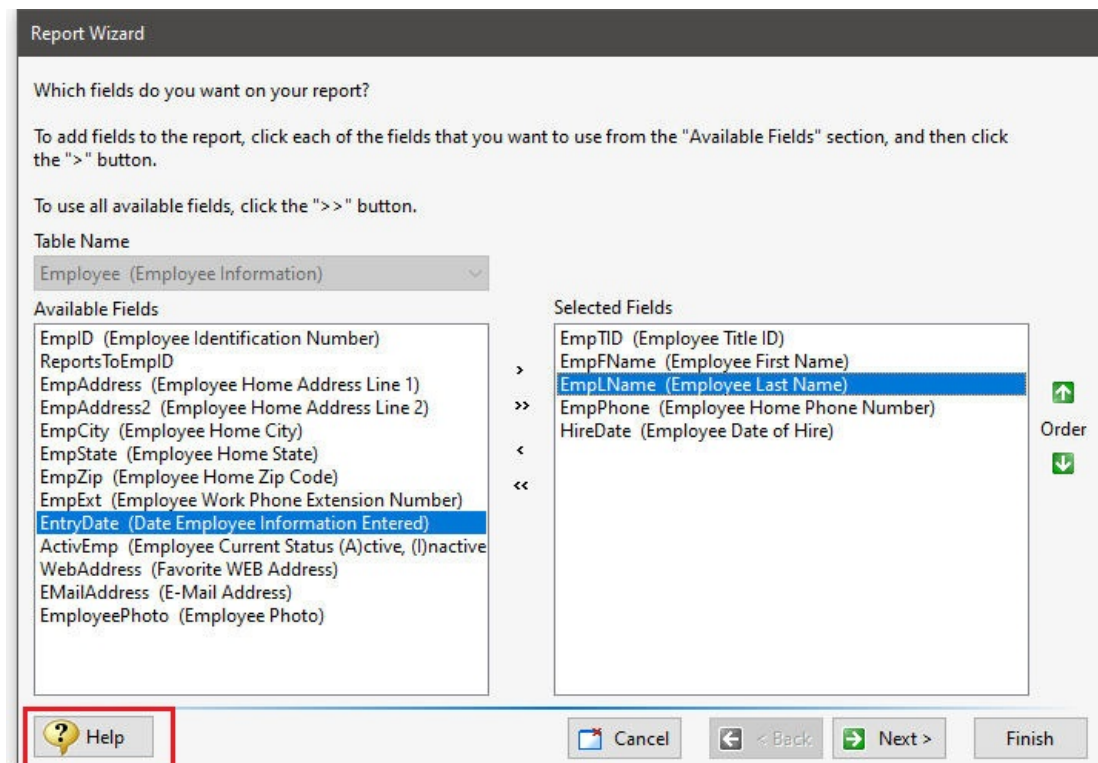
- Add "Run (Live)" option for the Report Designer to save and run the report using live table data



- Enhanced report/label conversion to automatically replace double quotes with single quotes



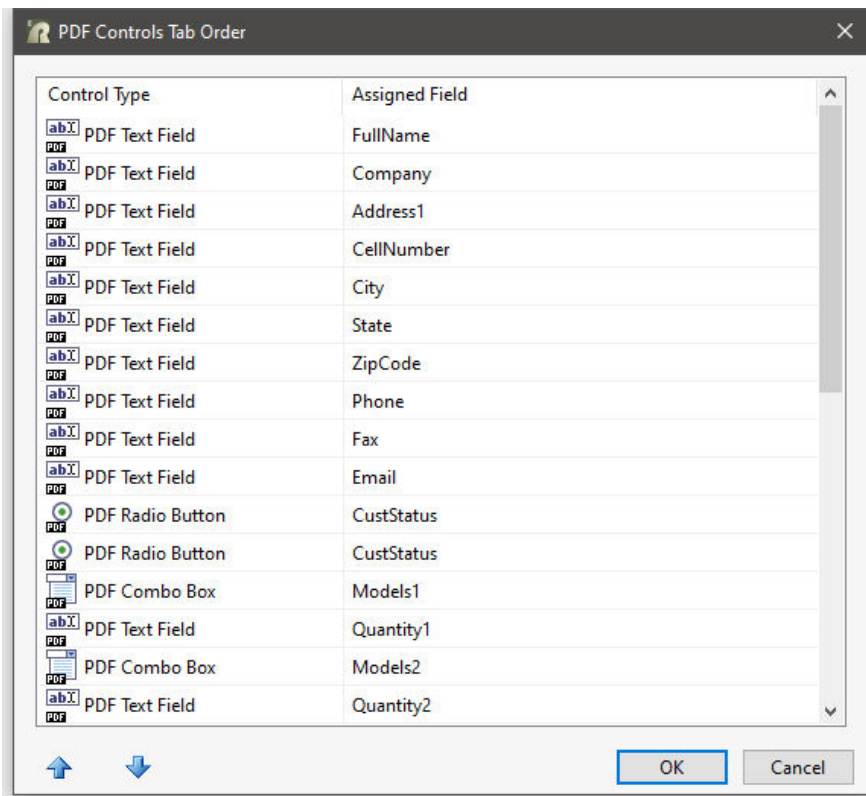
- Enhanced Report Wizard with clearer screen prompts, and added Help button, where newly added chapter help is available for reference



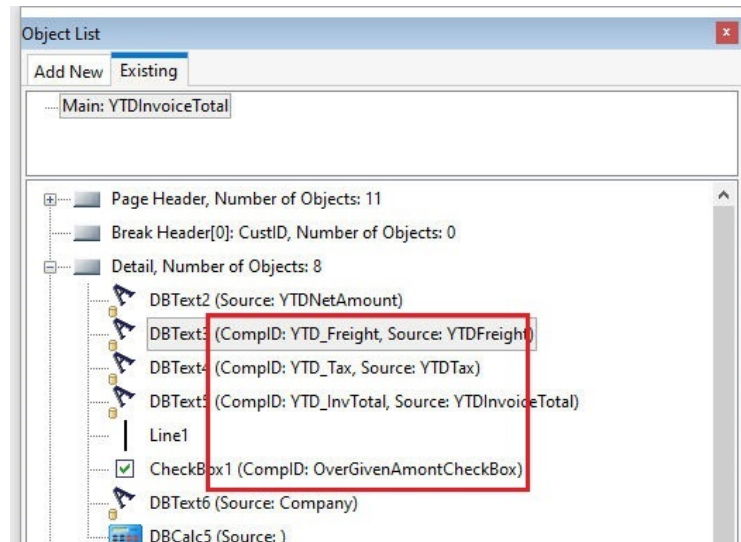
- Added "Preview WHERE" button to the Standard toolbar, to easily launch the Preview WHERE Clause utility



- Added "PDF Controls Tab Order" menu to the "Report" menu bar options, where the tab order for the PDF output can be specified

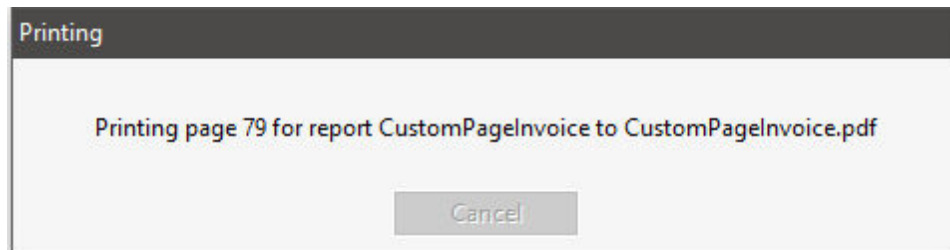


- The Existing tab of the Object List toolbar has been enhanced to display the Component ID, if defined, next to the object name

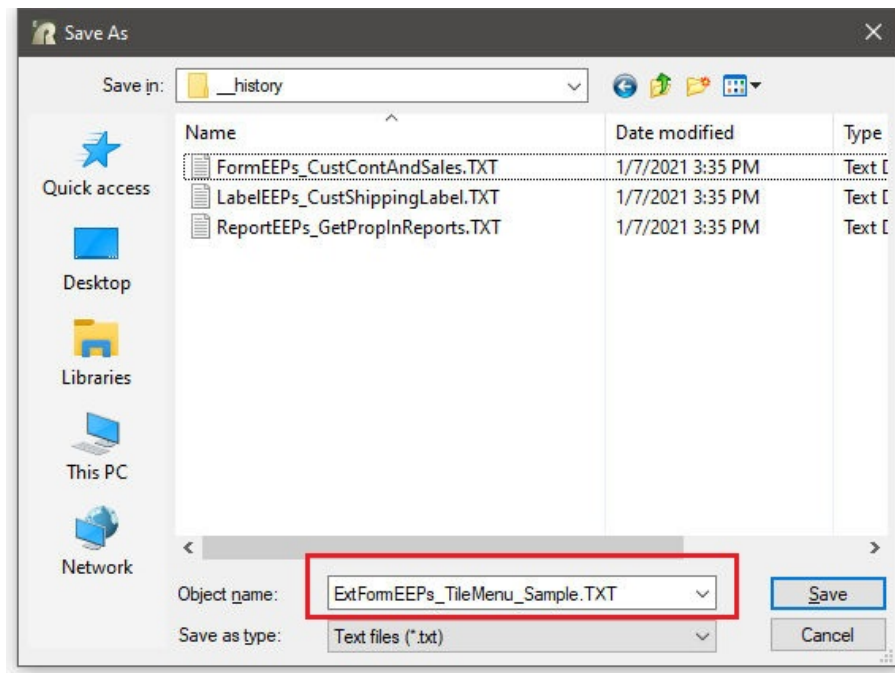


- A new "Maintain Aspect Ratio On Resize" property setting has been added for the Image label to determine whether the image is scaled proportionally when resized
- Added PROPERTY command parameter to disable the Cancel button in the "Printing" report progress dialog. When the parameter is OFF, the progress dialog is displayed, but the Cancel button is disabled.

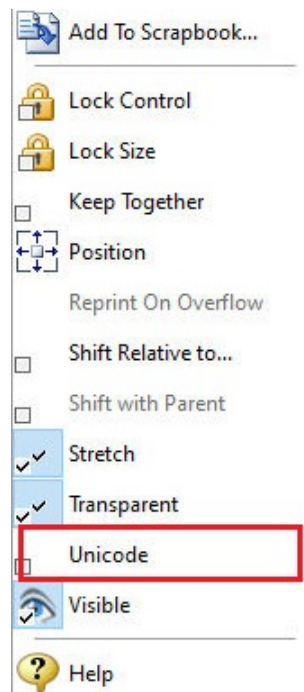
PROPERTY REPORT CANCEL_IN_PROGRESS_DIALOG OFF



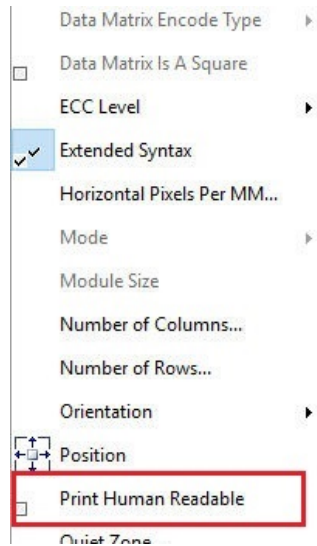
- Added default file name (PDF, TXT, etc.) when selecting "Document Custom EEPs" in the Report/Label Designer



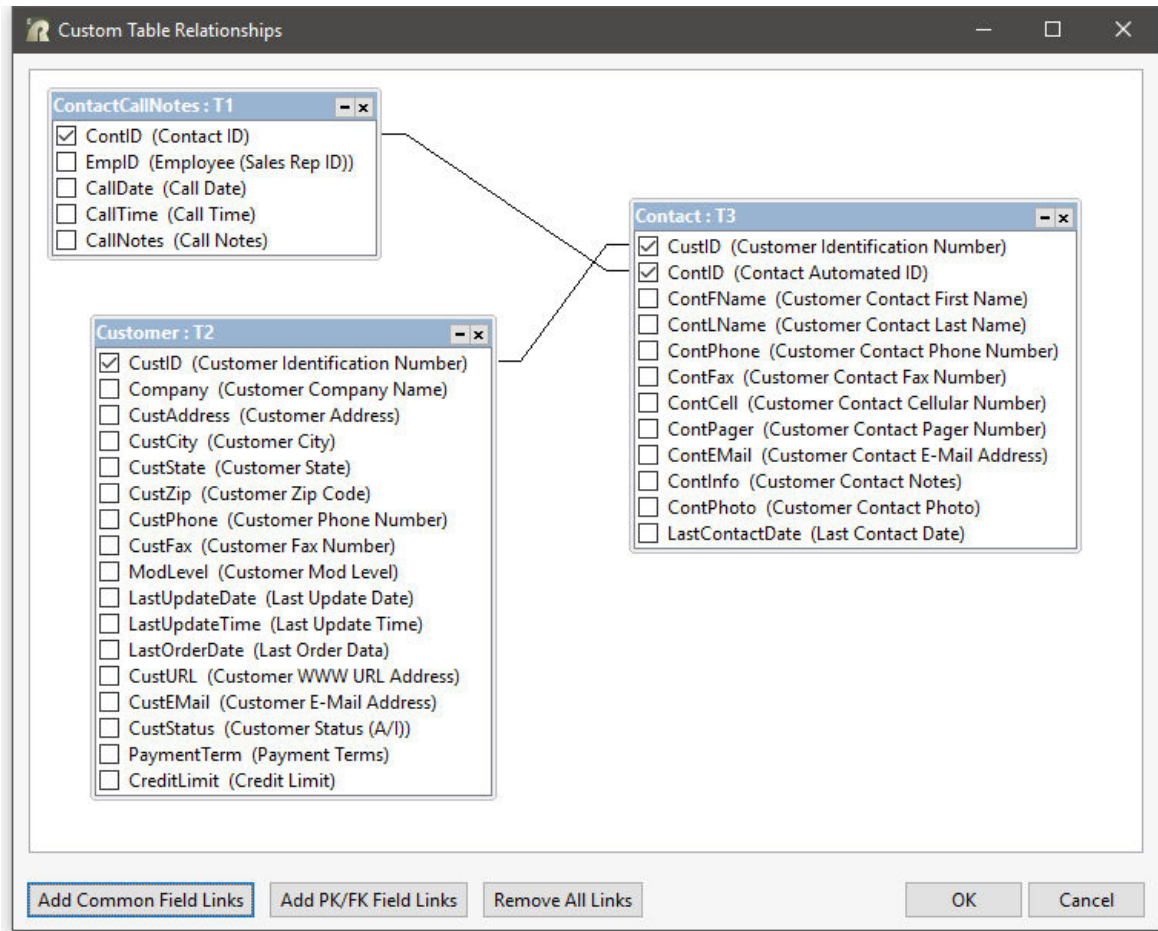
- Added Unicode setting for Advanced DB Rich Text and Advanced Variable Rich Text labels to display Unicode characters in rich text



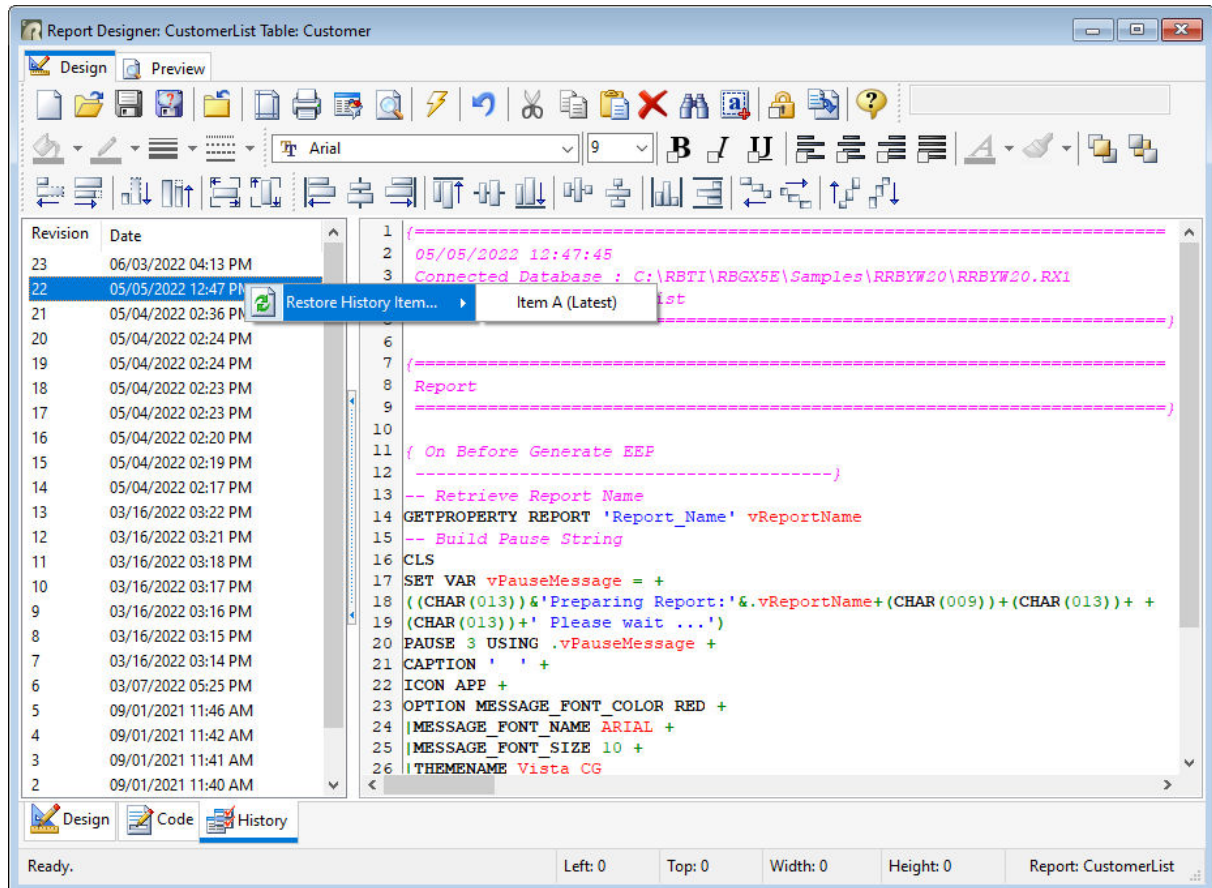
- Added "Print Human Readable" support for the QR Code and Data Matrix DB 2D Barcode and Variable 2D Barcode labels, to display the human readable version of the bar code (e.g. actual letters, numbers, etc.)



- Enhanced Custom Table Relationships, where the graphic table/view layout is now saved between sessions



- Enhanced "History" functionality to save the entire report, rather than just a snapshot of the EEP code. A revision number and date/time are listed within the History tab to track changes over time, and restore a report from a right click menu option. The backup files are stored in a "__history" sub folder beneath the current database folder. An option is available within the Report/Label Designer Settings to disable the History feature, if desired.



- Support to specify a replacement font for all reports/labels using the MS San Serif device font, or any fonts in the Swiss font family, when printing to PDF output. Any TrueType font can be used for the substitute.

```
PROPERTY REPORT PDF_SERIF_FONT_REPLACEMENT 'Arial'
```

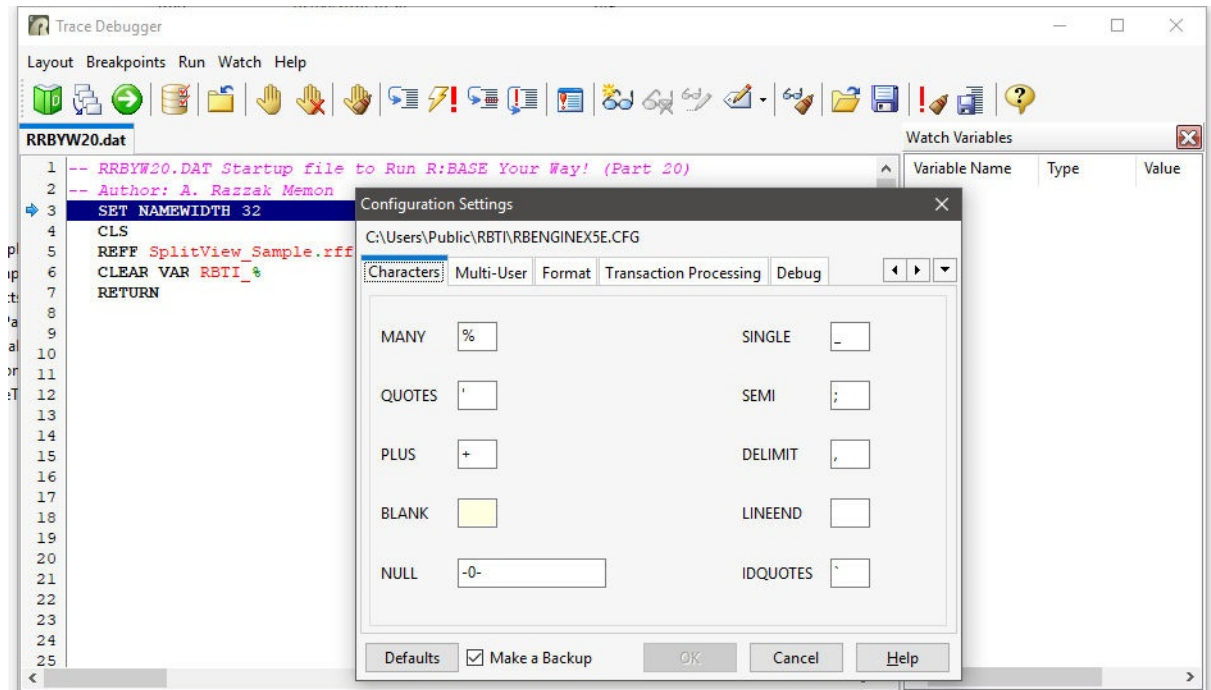
To clear a substitution, use the following command to pass a space as the font name.

```
PROPERTY REPORT PDF_SERIF_FONT_REPLACEMENT ' '
```

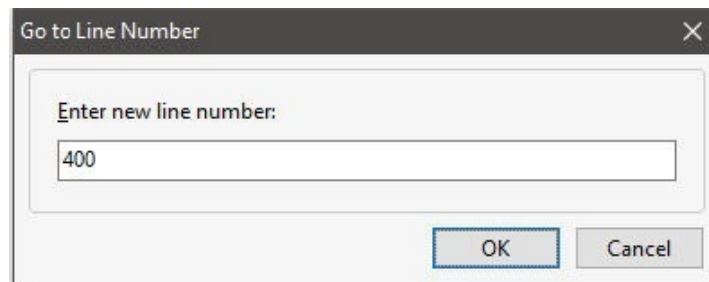
14 Trace Debugger

The Trace Debugger allows developers to debug applications and commands files to find programming errors and problems. The debugger has been updated with the following new features:

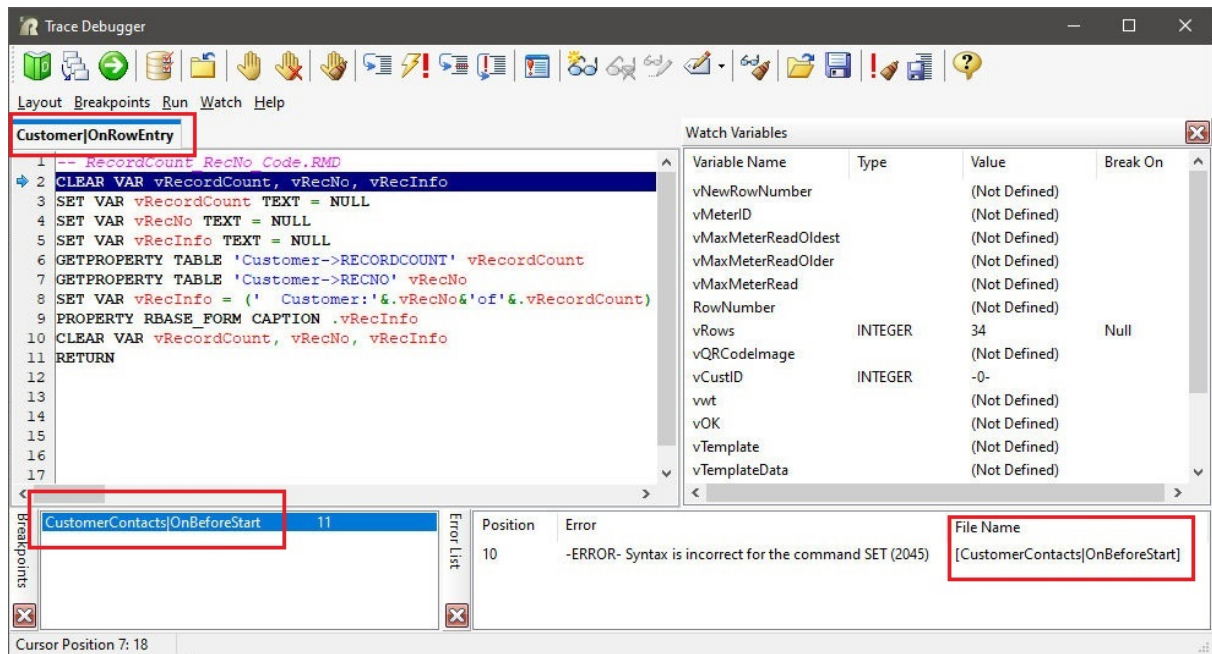
- Added ability to display the Configuration Settings when tracing a program, to review and alter the current settings



- Added "Go to Line Number" functionality to the menu bar, and [F4] hot key, to easily place breakpoints



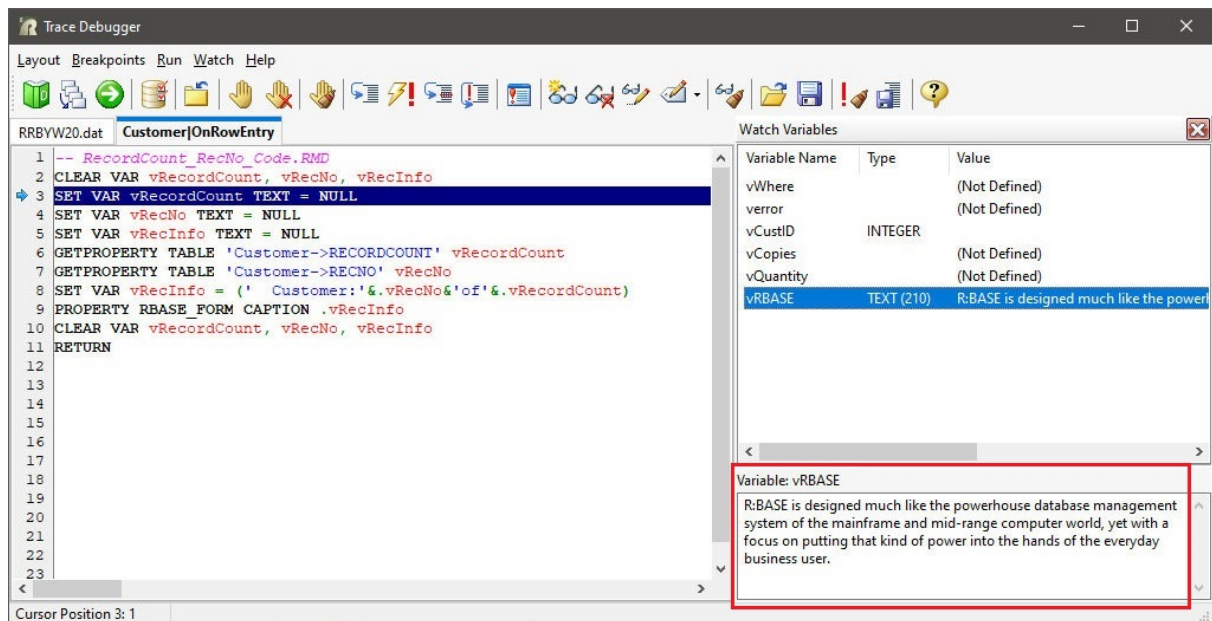
- Added friendly naming conventions for tab to identify the module and/or source from where the code is located. Tracing form controls will display ComponentID and Caption/Text (if exist) and the EEP name. Form code will display the form name with EEP or custom form action name. Tracing reports and labels will display the name and the action. The new friendly naming convention for the Trace Debugger tabs are:
 - Component ID(Caption/Text)|EEP Name (Component ID and Caption/Text will display if exist)
 - Form/External Form Name|EEP Name
 - Form/External Form Name|Custom Form Action Name
 - Report/Label Name|Action Name
 - Table Name (RUN SELECT)
 - Stored Procedure Name



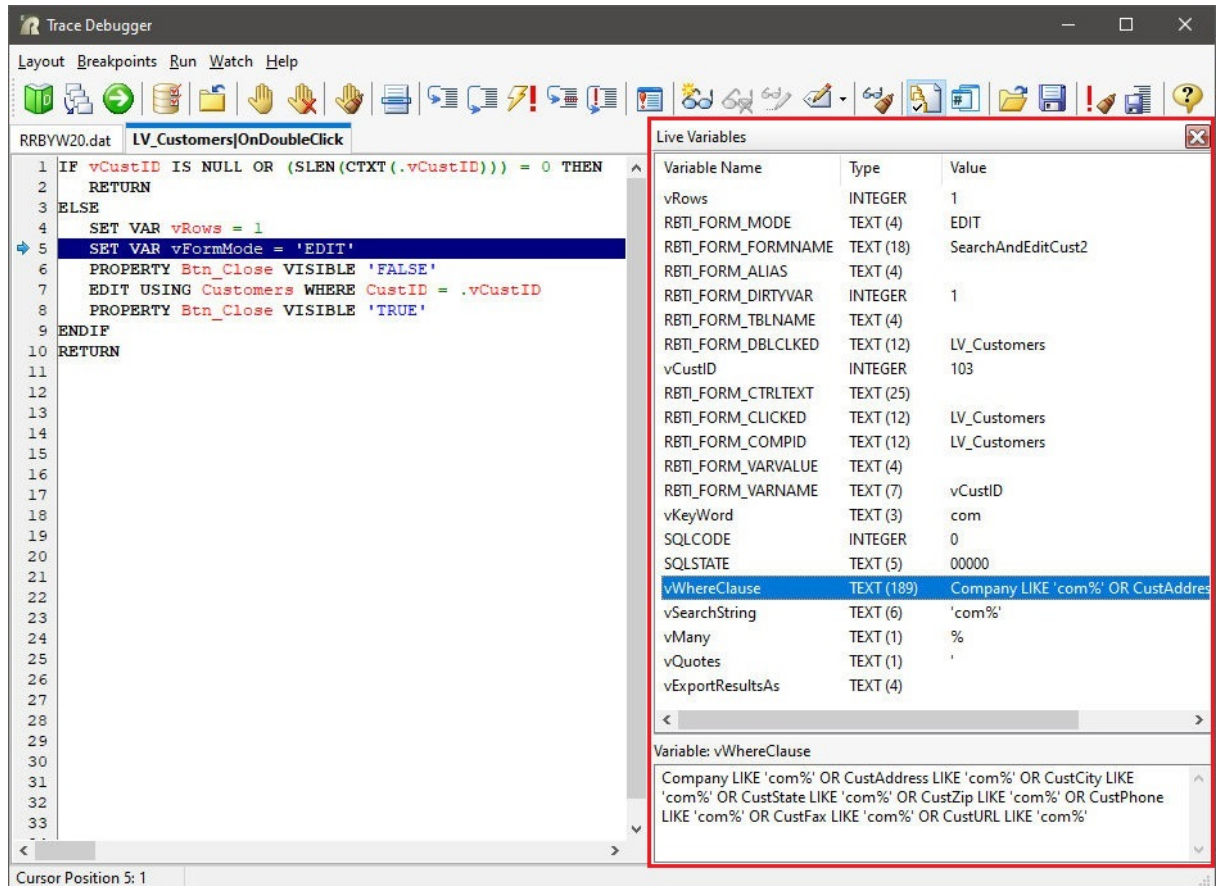
- Added "Jump to Line" functionality, where when single-stepping through code, a users may jump to a specific line in the debugger. This ability allows users to start debugging at a specific point, skip over commands, repeat commands, etc. The [F11] hot key also opens the "Jump to Line" dialog.



- Added panel within the Watch Variables toolbar to quickly view the value of a selected variable with many characters



- New Live Variables toolbar which automatically populates with defined variables



Notes