A Clarion Magazine Reader

Clarion 9.x Reviews And Release Notes

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Revision History

Oct 13 2014   First release

Clarion 9

This section contains release notes, reviews, and other information specific to individual Clarion 9.x releases.

What's new in Clarion 9

Over the summer a number of new blog posts appeared at http://clarionsharp.com pointing out new features in Clarion 9. These include:

- A new locator on the Applications Pad, useful when working with multi-app solutions.
- A new menu shortcut editor to let you redefine IDE main menu hotkeys.
- Dictionary editor search functionality (search through tables, columns, keys, relations, pool and global data). Complex searches are possible.
- One-prompt app file upgrading for multi-app solutions (so you don't have to answer the question for each app)
- Coloring support for list control headers and data.
- Search/replace in editor has a new option to limit the search to the current folder, which is the folder containing the currently active file. This may or may not be the same as the project folder.
- Customizable fonts for the AppGen and various IDE components such as dialogs, list controls, start page, and the text editor/output window.
- A filtered locator on the property grid, to make it easy to find any property.

- Report upgrades,including:
    - single file support for HTML reports
    - setting the first page number (ABC)
    - print current page menu item in previewer (ABC)
    - scan copy output mode for the PDF generator (creates PDF as an image rather than as text)
- New %libpath% macro in the Copy section of redirection files. This makes it easier to add .NET assembly projects to your Win32 solution.
- PROP:LowResourcesHook lets you add code to handle low system resource conditions.
- PROP:SQLRowSet allows calls that are not CALL or SELECT to return a result set.
- New Create and Fetch dictionary triggers
- New buttons to change the AppGen sort order, as well as Cancel Generation and Cancel Builds on the main IDE and Applications Pad toolbars.
- Template option to limit procedure to one instance (ABC)
- Template option to limit application to one instance (ABC and Clarion)
- FileCallBackInterface extended to allow an operation to be stopped without returning an error.
- Dictionary editor validation option to find errors in window and report control strings in dictionaries imported from earlier versions of Clarion.
- Option to force DLLs to be copied to the destination dictionary of the EXE using the LibAlwaysCopyList.xml configuration file. This is useful for LIBs created against non-Clarion DLLs as the DLL would otherwise not be copied.
- A new advanced view/layout in the Dictionary editor lets you see all file details in one combined view.
- SqlScriptor\SqlScriptor.app shows how to use the new SQL scripting class
- SQLite\School.app is the school.app modified for SQLite. It also imports the TPS data.
- There are a couple of hand coded projects to demonstrate creating and reading XML files. Here's the XMLParser example in action, reading a file created with the XMLGenerator example:
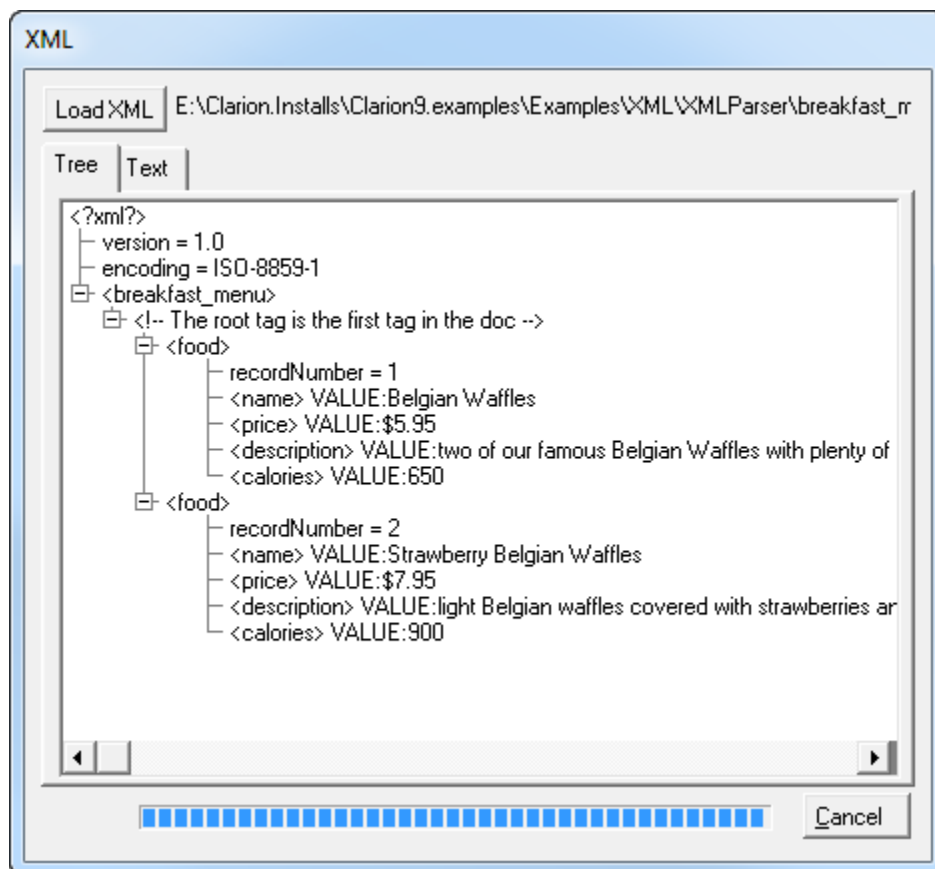
Third party products available for Clarion 9

Clarion 9 versions are available for the following products:

- AuraTek - Query Wizard - http://clariontools.com/index.php?option=com_staticxt&staticfile=qw6overview.htm (beta)
- BoxSoft - Super Templates - https://boxsoft.net/supertemplates.htm

- Brahn Partridge - Clarion IDE Addins - http://clarionaddins.com/
- Capesoft - http://www.capesoft.com/clarion
- Clarion FreeImage - http://clarionfreeimage.com
- Clarion Handy Tools - http://cwhandy.com/
- CPCS, RPM, AFE, PNET - http://www.cwaddons.com/
- Creative Reporting (formerly known as CPCS) - http://www.creativereporting.com/
- DMC - http://www.dmc-fr.com/
- Fomin Report Builder - http://www.fomintools.com/update.htm
- IceTips Utilities - http://www.icetips.com
- ImageEx - http://www.solidsoftware.de/imageex.htm (now with full source)
- IngaSoftPlus Data Conversion Template - http://www.ingasoftplus.com/ProductDetail.php?ProductID=259
- Keystone - http://www.keystonecr.com/ToolsForClarion/ToolsForClarionUpdates.aspx
- Klarisoft wPdfControlWrapper - http://www.klarisoft.com/KSNews_127.htm
- LANSRAD - http://www.lansrad.com/
- Lindersoft LsZip - http://www.lindersoft.com/products_lszip.htm
- Lindersoft SetupBuilder - http://lindersoft.com/
- Noyantis - http://noyantis.com
- ProDomus - http://prodomus.com/
- Robert Paresi - iQ-XML - http://paresi.net/clarion
- Valutilities - vuMail, vuFileTools and vuSendKeys - http://www.valutilities.com/vufiletools.htm

Clarion 9 Beta First Look

The first Clarion 9 beta has gone out to third party folks, at least in part to allow those vendors who ship binary code to get current releases out the door. The Clarion 9 RTL has changed enough that recompiles are required.

As with previous releases, the Clarion 9 IDE has undergone some UI changes. There's a new logo and the default blue backgrounds have been replaced with gray.
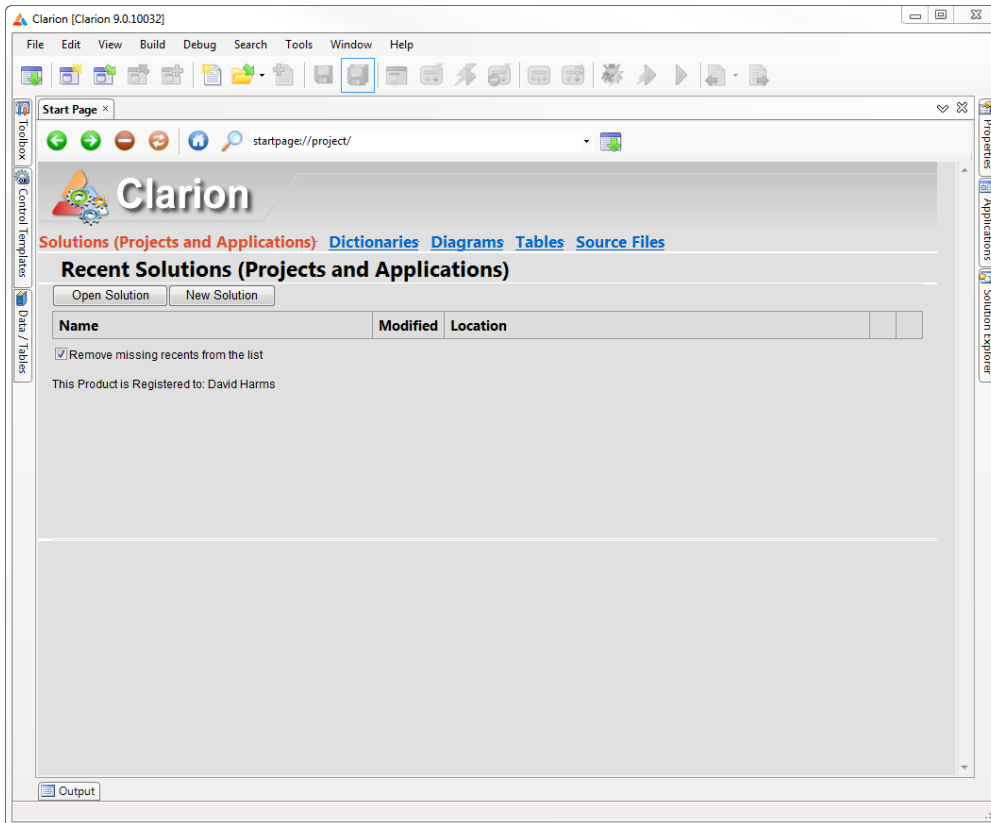
There are some new appearance options, which let you select one of several default color schemes for the IDE. You can also create custom schemes.
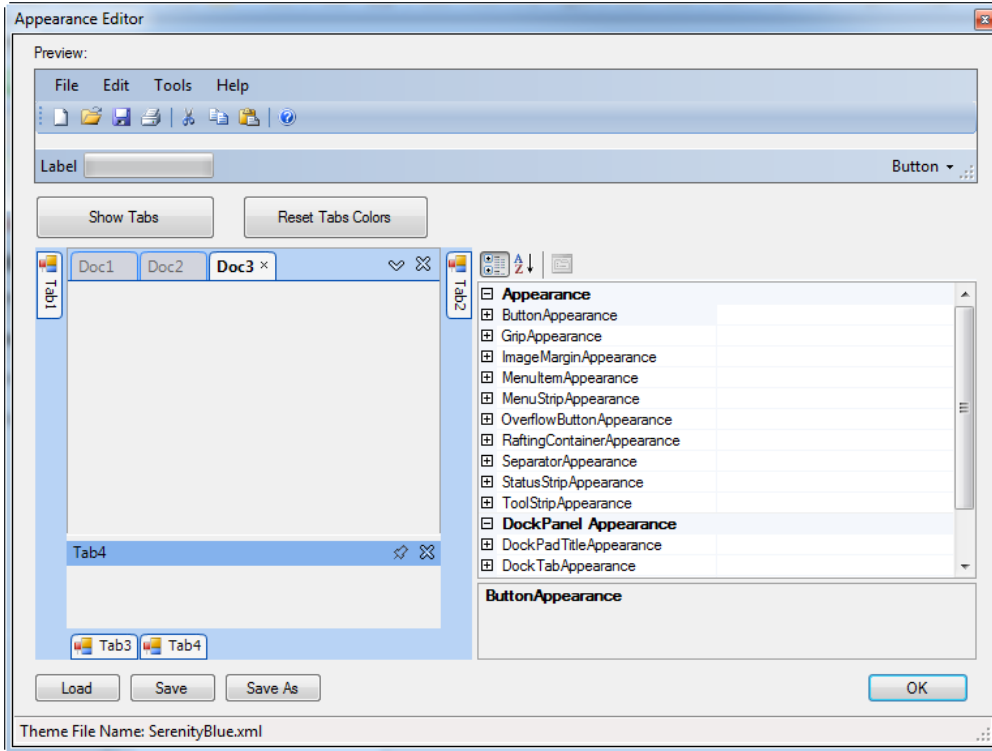
There are also options for using small icons on toolbars, specifying font sizes for four main areas of the IDE, and an easy way to customize shortcut keys.

The /ConfigDir command line parameter, which lets you specify a different configuration directory, is now documented. If you use /ConfigDir without specifying a folder name then the IDE settings are kept under the Clarion bin folder. You can use /ConfigDir with ClarionCL and ResetIDE.

There are five slightly ambiguous buttons above the AppGen tree, which you can use to change display mode. Although this is more efficient than using the drop list, one could argue that they should be on the right, in place of the drop list. It would also be helpful if they had hot keys for keyboard aficionados:
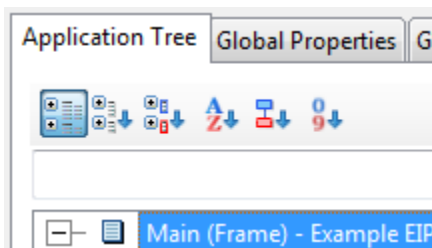
There's an image viewer in the IDE which works with various image types including icons and PNG files.
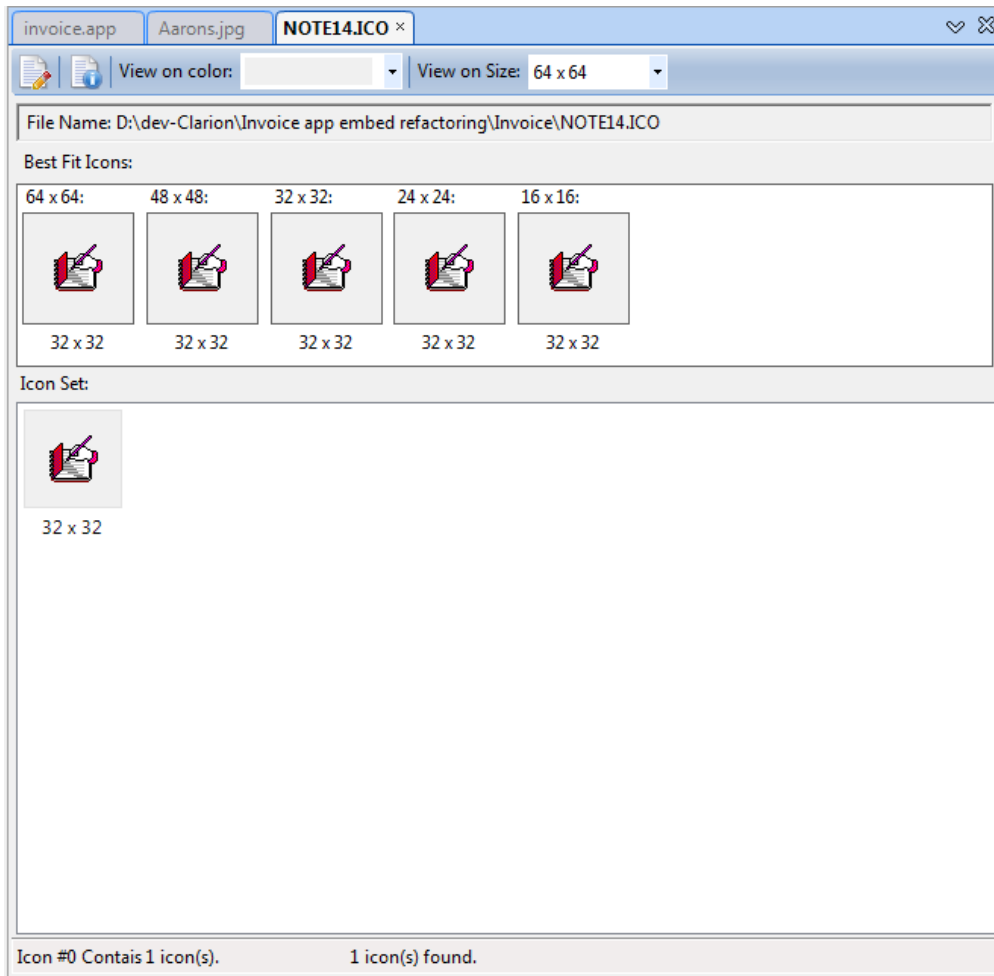
There are some enhancements to file dialogs which now remember the last place they were opened or use the redirection file to find possible matching files on first use. In the editor you can search the current document directory, and you can exclude generated source from searching while in the embeditor.

In general the IDE has a bunch of little improvements, including manually clearing ABC cache files, copy and select buttons on errors, output and search pads, GUID generation, filtered properties locator, dictionary search improvements, and many more.

There is a new SQLite driver (with example app). SQLite is a highly popular database primarily intended for single use situations such as personal application data. There is also a new SQLExecutorClass that makes it easier to create and execute SQL scripts made up of multiple statements.

For all SQL drivers there is a new PROP:SQLRowSet "that can be used to execute SQL statements that return result sets, but are not SELECT or CALL statements."

There is a JSONDataClass to convert Clarion variables and structures (including queues) into JSON objects.

There is ABC support for enforcing single instances of applications and single instances of threaded procedures.

A new SystemString class provides extensive string manipulation functionality including compression, blob conversion and much more. There are over 80 methods in the class.

There are also a couple of new classes in support of reusable user-defined controls; it will be interesting to see how this pans out as control reuse (think browses, for instance) has been something of a holy grail for Clarion devs.

I've really just skimmed over the new features - there are rather a lot of these, and I want to get on to a few more specifics.

Comparing releases

Any time I get a new release of Clarion I like to compare the install directories to look for things that are new and which may not yet be noted in the docs.

Things that went away in Clarion 9 include the blue gradient image file (presumably used in the IDE), CommonUtils.tpw which contained

procedure parameter list code (presumably this has been replaced by the previously announced improvements in how the AppGen displays prototypes and parameter lists), and clazlib.lib (I'm guessing compression/decompression is now baked into the RTL). Various files under the bin directory also seem to have been moved or replaced.

There is a new ABUserControl.tpw which is clearly in support of the new user controls functionality. It includes some procedure templates, which perhaps are where the controls are declared, as well as an extension template to attach user controls to a window.

New source files include the aforementioned user control, string, JSON, SQLite and SQL script classes. There are also a couple of new INC files. ClaTALK.inc has prototypes for SendMail and SendSMS library procedures (the matching lib appears to be missing, however), and ClaIMG.inc has prototypes for image file to PNG conversions.

H5 Builder

The help doesn't contain any mention of H5 Builder, SoftVelocity's announced multi-platform web development tool. But there are number of web-related files in this install that weren't in the last Clarion 8 version. Some of these are old Internet Connect-era files, and H5 builds on Internet Connect and Web Builder, SoftVelocity's previous web development products. I'll touch on these a bit more below.

Template changes

Template changes include the removal of a separate Parameters prompt, most welcome since it's been years now that prototypes and parameter lists can (and should be) the same, with the exception of the return type (if any).

There are a few new embed points here and there. File lists now typically include a %TableSchematicsDescription variable. Triggers have grown a bunch of new embed points. There are a number of changes to support single instances of applications and procedures, also previously mentioned.

Source changes

WindowExtenderClass has some new methods. I'm a little embarrassed to say that I don't think I even knew this class existed, but it's in Clarion 8. New methods include GetEXEFileName, IsInstanceRunning and RestoreInstanceRunning. Many of the other class methods deal with system tray icon handling.

There are a number of IC* files that have been updated, and I think it's safe to assume that IC stands for Internet Connect. So again that argues for progress being made on the H5 front.

Touch friendly?

While looking through the changed files I came across a couple of new calendar windows that were labelled with this comment:

```
!! Window structure for the Small popup Calendar Touch Friendly
```

There are also some matching classes.

If you feel like speculating, there's a SoftVelocity post from January that mentions touch-enabled software.

Reports

There are substantial changes to the source that supports report generation targets. It looks like a new IOutputGeneratorTarget interface has been abstracted out of the IReportGenerator interface.

Summary

There are a number of intriguing new and changed bits in this first Clarion 9 beta. Tops on my list are the SQLite driver, the SystemString class, the SendMail and SendSMS functions, the removal of the separate parameters prompt from the AppGen, JSON support, SQL improvements, and support for user-defined controls. As I said earlier there are other little nuggets awaiting discovery; if there's something in Clarion 9 that you're particularly happy to see (or something you were expecting that isn't there), please post a comment below.

Clarion 9 apps using Report to PDF to require C++ redistributable?

There's a thread in the Clarion 9 newsgroup that seems to confirm that if you're using the ReportToPDF functionality in Clarion 9, any such apps will need to also have the Microsoft Visual C++ 2005 Redistributable installed on that machine.

The tricky thing is that your apps may run fine on your test machines because you have the 2005 Redistrutable, but then things blow up when you ship product to your customers.

Here's a post by L Jack Wilson on the subject:

> Geert,
>
> I imagine the PNG support requires ClaRunExt.dll, since libmaker reports it contains:
> ?ImageToPNG1@@YAJPBD@Z
> ?ImageToPNG2@@YAJPBD@Z
> ?RotateFlip@@YAJPBD@Z
> ?SaveThumbnail@@YAJPBD@Z
>
>
> Have you tested your app on a machine that doesn't have Clarion 9 IDE installed? I too use the ReportToPDF and noticed I need to have the ClaRunExt.dll in my program directory or my main exe will not load.
>
> I also found with a fresh install of my program on a Windows 7 32-bit box I could not launch an app that requires ClaRunExt.dll to be present without also installing Microsoft Visual C++ 2005 Redistributable - KB2467175 8.0.51011. This same redistributable is installed by the Clarion 9.0.10294 installer. Without that installed any programs that required ClaRunExt.dll would fail to run with a 0xc0150002 error.
>
> Using dependency walker on ClaRunExt.dll tells me it requires the side-by-side "stuff" that the redistributable installs (along with the other ms dlls).

In reply, Diego said:

```
Hi,

All that Jack is saying is correct.

Regards,
Diego Borojovich
www.Softvelocity.com
```

If it's the PNG support that triggers this, then perhaps any use of PNG files will require the C++ redistributable.

Graham Dawson wondered how to check for an existing installation of the redistributable. Richard Rose pointed out a couple of registry keys (the 2005 package is the one Clarion apps need):

- VC++2005 (SP1):
  HKLM\Software\Microsoft\Windows\CurrentVersion\Installer\UserData\S-1-5-18\Products\B25099274A207264182F8181ADD555D0
- VC++2008 (sp1): HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\{3C3D696B-0DB7-3C6D-A356-3DB8CE541918}
- VC++2008 (original): HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\{FF66E9F6-83E7-3A3E-AF14-8DE9A809A6A4}

The easiest way to deal with this seems to be to build your installs with LinderSoft's SetupBuilder, which can install the 2005 redistributable if it isn't already present. Yes, SetupBuilder is an additional cost but if you ship product it's almost certainly a wise investment even without this feature.

Update: Confirmation by Bob Z

Bob Zaunere has confirmed the above requirements:
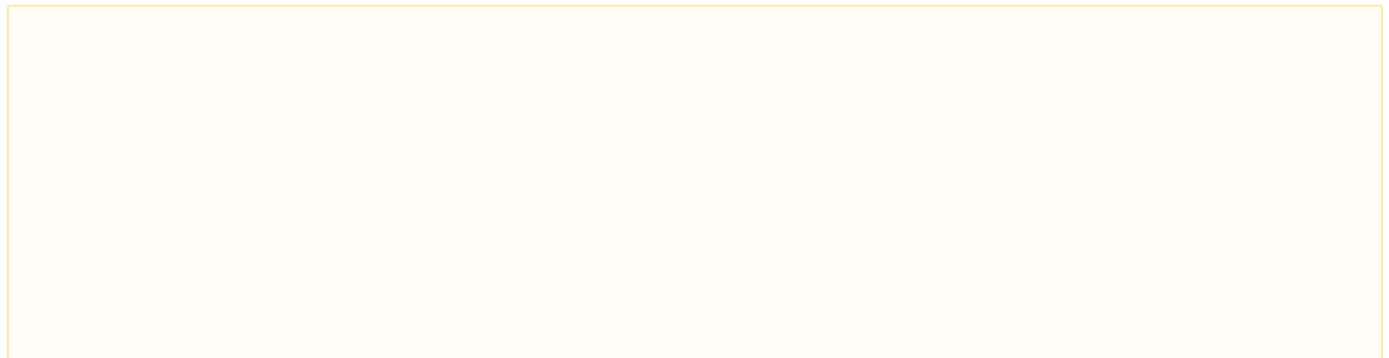
```
In the current C9 release you do need 2 things when distributing your program;

1. installation of the the 2005 VC++ runtime (x86), *note: in the next release
(today or tomorrow),you will not need it _unless you are using the PDF Report
Generator, and then _only _if you are using the new "Use Scan Copy Mode"
option, which by default is OFF.

2. ClaRunExt.dll (located in the Clarion BIN folder)

If you use SetupBuilder the install of the VC++ runtime (x86) is all handled by
a checkbox located under: Setup Requirements->Core PreRequisites.
We'll also be shipping a redistributable .exe that will handle the install of
the VC++ runtime (x86) for those who may deploy via .zip or .rar
```

Note the phrase "current c9 release" - in future releases the runtime will only need to be installed if you are using the PDF Report Generator *and* specifically using the new "Use Scan Copy Mode".

Update: More details on the "scan copy" innards, from Diego:

```
Deeply inside is converting the report to a png of some resolution and color
deep to be able to keep the
information of the report (font,images, resolution, content ,etc) exactly the same.
With out hte need of embebing the Fonts or to support any other images formats
and adding security to the content (a PDF is just text when not compressed and
encripted)
Estern char sets now can be used in the PDF with out having to store the fonts
or have the Font in the user.
With out that option the PDF engine process the report and re-create the report
in PDF format, but not always the result is 100% exactly but using this option
the print out of one and the other are 99.98% a match.
```

Graham Dawson has confirmed that when you use Scan Copy you do in fact get a PDF that is composed of images only and contains no searchable text.

Update: ClaRunExt.dll now dynamically loaded

As of build 10309 ClaRunExt.dll is no longer statically linked. From a post by Bob Z:

```
That .lib file is not needed because there is no static linking to
Clarunext.dll - its been changed to a runtime dynamic load that only
happens _if you are using the new 'Scan copy mode', so if your .app/project is
looking for it then either;
- its a leftover project reference from when it was a static link, and you can
just delete it
- you are using the IP driver in this .app (an update will be out today that
removes its linking to clarunext
- you don't have or are not using the latest templates; core (EE) or PDF if running PE
```

Consistent, random GPFs? Rebuild all C9 binaries!

Bob Z got some attention with a posting in the newsgroups:

```
Subject: consistent random GPFs
```

```
    Note to all:

    The FILE structure used internally changed in C9, so any 3rd party tool that
    works with FILEs must be rebuilt. If you use any 3rd party binary that works
    with FILEs (or your own binary) that wasn't rebuilt with the C9 compiler you
    can expect consistent random GPFs.


    -
    Robert
```

In other words, any code that declares a FILE structure must be rebuilt for C9.

But this only reinforces a previously stated maxim: **All binaries must be rebuilt for C9!**

The bit that got everyone's attention was "consistent, random GPFs."

Bob later indicated the changes are purely internal - no developer code needs updating (only recompiling). The structural changes were needed for future support for non-Latin characters.

Clarion 9's list box sorting

Clarion 9 appears to add support for list box sorting, so I decided to give it a whirl. '

The new bits I'm aware of are some properties:

```
PROPLIST:DefHdrTextColor  EQUATE (7C2AH) ! integer: Text color in header
PROPLIST:DefHdrBackColor  EQUATE (7C2BH) ! integer: Background color in header
PROPLIST:HdrSortTextColor EQUATE (7C2CH) ! integer: Text color in header of sort
column
PROPLIST:HdrSortBackColor EQUATE (7C2DH) ! integer: Background color in header of sort
column
PROPLIST:SortTextColor    EQUATE (7C2EH) ! integer: Text color of sort column
PROPLIST:SortBackColor    EQUATE (7C2FH) ! integer: Background color of sort column
PROPLIST:HasSortColumn    EQUATE (7C30H) ! boolean: TRUE if sort column is supported
PROPLIST:SortColumn       EQUATE (7C31H) ! integer: Current sort column
```

and a new event:

```
EVENT:HeaderPressed EQUATE (1FH)
```

I put together a small demo app:

```
                                       PROGRAM

                                       MAP
                                       END
    INCLUDE('equates.clw'),ONCE
DataQ                                  QUEUE
Column1                                    string(20)
Column2                                    long
Column3                                    string(20)
                                       END
x                                      LONG

MyWindow                               WINDOW('Caption'),AT(,,336,285),GRAY,FONT('MS
Sans Serif',8,,FONT:regular)

BUTTON('&Close'),AT(287,262,36,14),USE(?CancelButton),LEFT

LIST,AT(15,8,307,243),USE(?LIST),VSCROLL,FROM(dataq),FORMAT('100L(2)|M~C' & |
                                            'olumn 1~100L(2)|M~Column
2~100L(2)|M~Column 3~')
                                       END

    CODE

    ! Create some dummy data
    loop 100 TIMES
        loop x = 1 to 20
            DataQ.Column1[x] = chr(random(65,122))
            DataQ.Column3[x] = chr(random(65,122))
        END
        Dataq.Column2 = random(1,10000)
        add(dataq)
    END

    OPEN(MyWindow)
    ACCEPT
        case event()
        of EVENT:HeaderPressed
            0{prop:text} = 'Current sort column: ' & ?list{PROPLIST:SortColumn}
        END

        CASE FIELD()
        OF 0
            CASE EVENT()
            OF EVENT:OpenWindow
            END
        OF ?CancelButton
            CASE EVENT()
            OF EVENT:Accepted
                POST(EVENT:CloseWindow)
            END
        END
    END
```

I ran the app, but I didn't notice anything different about the list box. It didn't sort on columns or produce any header pressed events. For a moment I thought maybe I needed an IMM attribute, but of course that removes all of the built in event handling including scrolling, so I took it right back off again.

Here's the sample app:
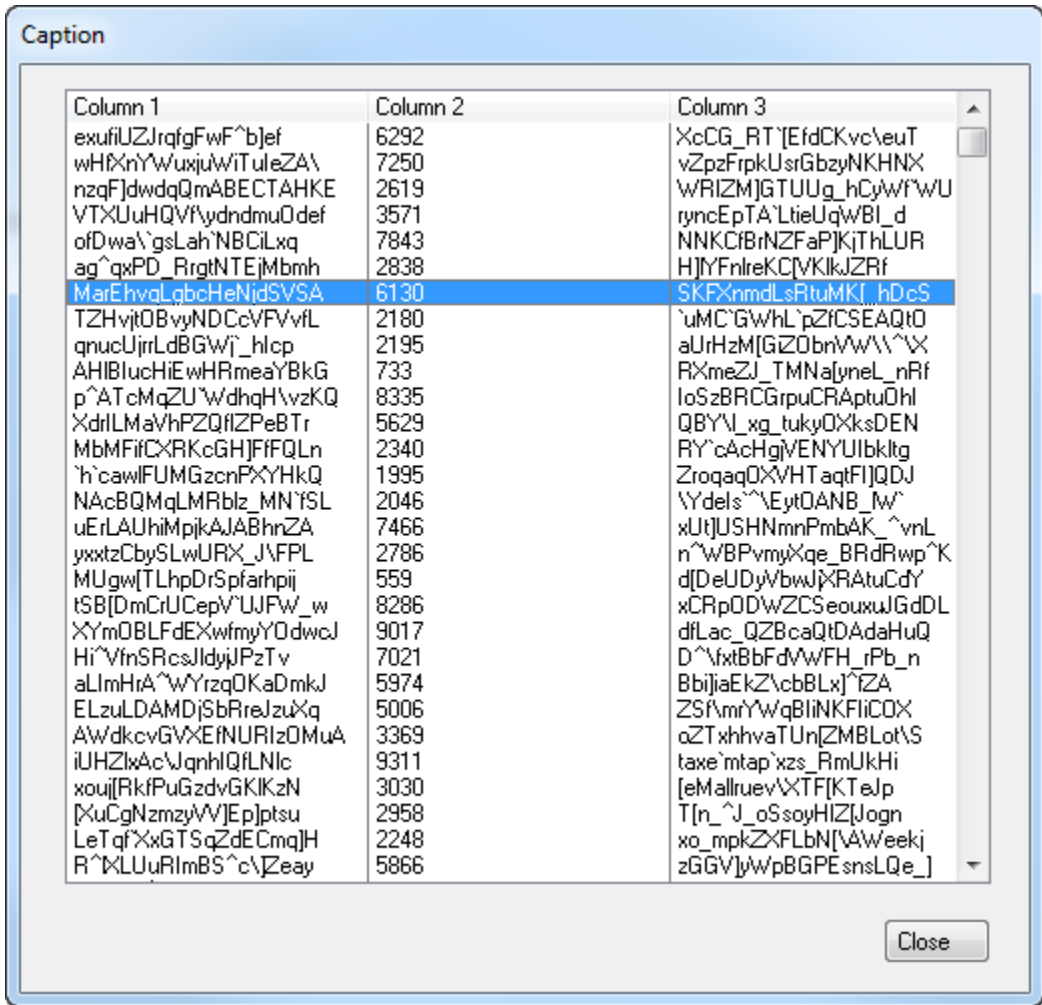
Then I realized that I was missing the PROPLIST assignments in my code. I added them to the OpenWindow event handling:

```
CASE EVENT()
        OF EVENT:OpenWindow
            ?list{PROPLIST:HasSortColumn,1} = true
            ?list{PROPLIST:HasSortColumn,2} = true
            ?list{PROPLIST:HasSortColumn,3} = true
        END
```

That triggered EVENT:HeaderPressed, but no automatic sorting. Well, that's not a big deal. I added this code:

```
case ?list{PROPLIST:SortColumn}
        of 1
            sort(dataq,dataq.Column1)
        of 2
            sort(dataq,dataq.Column2)
        of 3
            sort(dataq,dataq.Column3)
        END
```

Presto - list box sorting:

Current sort column: 3

Column 1	Column 2	Column 3
IWnbBjeZMgnXGiwARGxr	6371	CvHkTHvyRS`kqXwevQeX
iQBtiKOVscCkHzWtcF`l	8584	DCziBJFylKq\M]qTelSc
oWtfT`xMcJDWqzBVuQJQ	4182	Dtill_phMigsOwQcDaT[
oNvKvIxusKdJ_n^BrsBj	9717	ELHwJpTODjBmYiwD`s`M
NcCpbBByWFBMNt\RHtao	3962	EMvjDlPrIZQAjwByd_M]
y[Tq`lPOLfXQrZfSMztJ	7008	ETzyHnbCotfavHGLsylM
V]vjlmyaXTgLZyAYduQi	9563	IPxGQdg`BF_dH]bGH_Pw
wPspysX^DEmh\q^oohBt	9024	IgE\uN[n[GPdG]Xu]q`
piSbY\PCiqgiX\NJqUvh	4311	IoFefxMN`mRUmM[stfEi
wNtp_iLeRMjL_Duipcr`	2117	Kc]uisM`tq\uuR`kFcYV
aucTsjFyTggQlfYg[\U[	5679	Kjom^PsgJsz]nsZg`ygJ
UXj_^nVDctlni_iAZ_gF	5938	LntUt_]BXDS[caiuN_Gc
R_BS\vAaOivVYkxwMemj	4164	MJKuRulEBumMlu\hptqi
MtYcUhzY_toU[ADjgvuh	4699	NShjdjODkPbr_RUm\PqE
BeStxvOer_PfplFY[DkF	3945	OFZOLFgEzvj^yCvxMaqW
PptvxVsKbrimggHTF`ti	3607	OpZhXDc[nO^KN[EhGLGa
zQhMEuOFhabDAmgE\cok	806	OssBLvUu[ePKPIOxrWVx
rVwHJwBG`KtbR^oPQtxP	7853	OvCGfmhnEKHPozl`yPyY
xqlKqFMlAmbwTeqJ`jlA	7258	PYQ^GKoeZSYY[B[g[qwV
c^FA\UAq^VYplA]ylWxz	8344	Px^T`se`thsCxAsMisJC
khs`Yad[CyouSF[NRxWL	8914	QFCK\WLMDsSSaFsnMFNhD
nF]vrrHk^bScpjFBPcDG	2242	Q\ZhOOMstvmdOMKvOhfe
Xa[snm[eDyrja[j]tIon	2153	SdhQKEJRwHHl`lhqxePo
FNHpmFYzUIBQIAUvoJEc	2095	Sq]RzUUmaXLW]snAnsdr
^AScO`CQ]DP]IFCaFv]X	6702	U]\EpwAP`GPrnVRRKxNO
TUc\wP]Gl`rzxVusNx[m	997	UwuAjbuyuyeECcWzMUC]
KvlTDvrMUGxOclihaRyL	7396	Uzjti\DLOqbFwWQeNuYw
sznmtNs_FZwpu]AGCUt[	586	WWiKppHsINatgx^YBgJO
qqCvSnSk`pQSZyxOWPmL	1551	WsfHEwPmSkPbmm^RPwNA

Close

I also added some code to set PROPLIST:HdrSortTextColor and PROPLIST:SortTextColor for visual clues.

But there are some oddities. Header coloring isn't always cleared when you select another column, and at the start all column headers are colored. Also the first click on a header changes the color, but the sorting doesn't happen until the second click, which can happen at any time after the first click (i.e. it's not a true double click). Here I've clicked on Column 2 but the sort order is still Column 3.

Current sort column: 3

Column 1	Column 2	Column 3
IWnbBieZMqnXGiwARGxr	6371	CvHkTHvyRS`kqXwevQeX
iQBtiKOVscCkHzWtcF`l	8584	DCziBJFylKq\M]qTelSc
oWtfT`xMcJDWqzBVuQJQ	4182	Dtill_phMigsOwQcDaT[
oNvKvlxusKdJ_n^BrsBj	9717	ELHwJpTODjBmYiwD`s`M
NcCpbBByWFBMNt\RHtao	3962	EMvjDlPrlZQAjwByd_M]
y[Tq`IPOLfXQrZfSMztJ	7008	ETzyHnbCotfavHGLsylM
V]vjlmyaXTgLZyAYduQi	9563	IPxGQdg`BF_dH]bGH_Pw
wPspysX^DEmh\q^oohBt	9024	IgE\uN[n[GPdG]]Xu]q`
piSbY\PCiqgiX\NJqUvh	4311	IoFefxMN`mRUmM[stfEi
wNtp_iLeRMjL_Duipcr`	2117	Kc]uisM`tq\uuR`kFcYV
aucTsjFyTggQlfYg[\U[	5679	Kjom^PsgJsz]nsZg`ygJ
UXj_^nVDctlni_iAZ_gF	5938	LntUt_]BXDS[caiuN_Gc
R_BS\vAaOivVYkxwMemj	4164	MJKuRulEBumMlu\hptqi
MtYcUhzY_toU[ADjgvuh	4699	NShjdjODkPbr_RUm\PqE
BeStxvOer_PfplFY[DkF	3945	OFZOLFgEzvj^yCvxMaqW
PptvxVsKbrimggHTF`ti	3607	OpZhXDc[nO^KN[EhGLGa
zQhMEuOFhabDAmgE\cok	806	OssBLvUu[ePKPIOxrwVx
rVwHJwBG`KtbR^oPQtxP	7853	OvCGfmhnEKHPozl`yPyY
xqlKqFMIAmbwTeqJ`jlA	7258	PYQ^GKoeZSYY[B[g[qWV
c^FA\UAq^VYplA]yfWxz	8344	Px^T`se`thsCxAsMisJC
khs`Yad[CyouSF[NRxWL	8914	QFCKWLMDsSSaFsnMFNhC
nF]vrrHk^bScpjFBPcDG	2242	Q\ZhOOMstvmdOMKvOhfe
Xa[snm[eDyrja[j]tlon	2153	SdhQKEJRwHHI`IhqxePo
FNHpmFYzUIBQIAUvoJEc	2095	Sq]RzUUmaXLW]snAnsdr
^AScO`CQ]DP]IFCaFv]X	6702	U]\EpwAP`GPrnVRRKxNO
TUc\wP]GI`rzxVusNx[m	997	UwuAjbuyuyeECcWzMUC]
KvITDvrMUGxOclihaRyL	7396	Uzjti\DLOqbFwWQeNuYw
sznmtNs_FZwpu]AGCUt[	586	WWiKppHsINatgx^YBgJO
qqCvSnSk`pQSZyxOWPmL	1551	WsfHEwPmSkPbmm^RPwN/

Close

After playing around with this a bit more I realized that the problem is that PROPLIST:SortColumn doesn't return the column you just selected, it returns the column previously set as the sort column. Either there's a bug there or I'm handling the event wrong.

There doesn't seem to be any way internally to track the state of the sort order (i.e. if you want ascending/descending), so at present you'd need to do that in your own code. Also I don't see a means to add an image to indicate the sort order. There are ways to do that already, as Randy Rogers showed in ClarionMag, but they're non-trivial.

While not a complete solution to sorting list boxes, Clarion 9 offers a good if slightly buggy start. I'd love to see a property for a sort order indicator image and some internal toggle tracking to go with it,.

Here's the complete source for the sample Clarion 9 program:

```
                                         PROGRAM

                                         MAP
                                         END
      INCLUDE('equates.clw'),ONCE
DataQ                                    QUEUE
Column1                                      string(20)
Column2                                      long
Column3                                      string(20)
                                         END
x                                        LONG

MyWindow                                 WINDOW('Caption'),AT(,,336,285),GRAY,FONT('MS
Sans Serif',8,,FONT:regular)
```

```
BUTTON('&Close'),AT(287,262,36,14),USE(?CancelButton),LEFT

LIST,AT(15,8,307,243),USE(?LIST),VSCROLL,FROM(dataq),FORMAT('100L(2)|M~C' & |
                                             'olumn 1~100L(2)|M~Column
2~100L(2)|M~Column 3~')
                                        END
    CODE
    loop 100 TIMES
        loop x = 1 to 20
            DataQ.Column1[x] = chr(random(65,122))
            DataQ.Column3[x] = chr(random(65,122))
        END
        Dataq.Column2 = random(1,10000)
        add(dataq)
    END

    OPEN(MyWindow)
    ACCEPT
        case event()
        of EVENT:HeaderPressed
            0{prop:text} = 'Current sort column: ' & ?list{PROPLIST:SortColumn}
            case ?list{PROPLIST:SortColumn}
            of 1
                sort(dataq,dataq.Column1)
            of 2
                sort(dataq,dataq.Column2)
            of 3
                sort(dataq,dataq.Column3)
            END
        END

        CASE FIELD()
        OF 0
            CASE EVENT()
            OF EVENT:OpenWindow
                ?list{PROPLIST:HasSortColumn,1} = true
                ?list{PROPLIST:HasSortColumn,2} = true
                ?list{PROPLIST:HasSortColumn,3} = true
                ?list{PROPLIST:HdrSortTextColor} = color:blue
                !?list{PROPLIST:HdrSortBackColor} = color:yellow
                ?list{PROPLIST:SortTextColor} = color:blue
                !?list{PROPLIST:SortBackColor} = color:yellow
            END
        OF ?CancelButton
            CASE EVENT()
            OF EVENT:Accepted
                POST(EVENT:CloseWindow)
            END
```
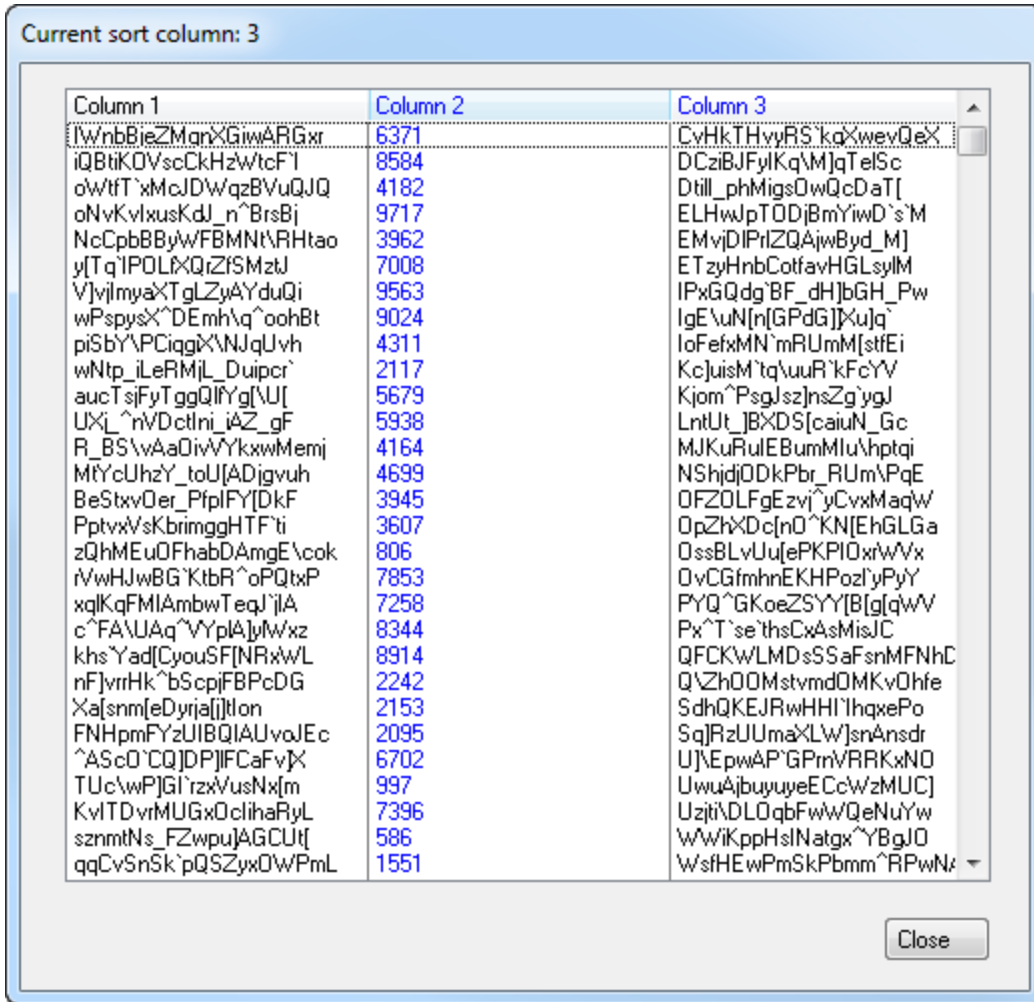
```
          END
     END
```

Clarion 9 build 10094 release notes

Release Notes: C9.0.10094

Fixes/Features/Changes --- Alpha rel 2-----

FEATURE: Support for coloring the LIST control column headers and text (**this is a Work In Progress, UI
refinements and template support to come**)
FEATURE: Support of PROPLIST:BarFrame, PROPLIST:HdrTextColor and PROPLIST:HdrBackColor properties in the
ListBox control
FEATURE: Support of PROPLIST:BarFrame, PROPLIST:HdrTextColor and PROPLIST:HdrBackColor properties in the
ListBox Format Editor
FEATURE: Support of Sort column in LIST controls
FEATURE: Add HT and HB modifiers to LIST format string to support column/group header's text and background
colors
FEATURE: EVENT:HeaderPressed EQUATE (1FH)
FEATURE: new properties for the LIST control:
 PROPLIST:HdrSortTextColor EQUATE (7C2CH) ! integer: Text color in header of sort column
 PROPLIST:HdrSortBackColor EQUATE (7C2DH) ! integer: Background color in header of sort column
 PROPLIST:SortTextColor   EQUATE (7C2EH)   ! integer: Text color of sort column
 PROPLIST:SortBackColor   EQUATE (7C2FH)   ! integer: Background color of sort column

FEATURE: Added the ResetIDE.exe to the Tools->Options
FEATURE: Added specific toolbar items for Project, apps, resources.
FEATURE: ClaImg: Image Function to Rotate and Flip
FEATURE: ClaImg: Image Function to Save a Thumbnail image
FEATURE: WMFParser, Added the option to skip invalid external images in the processing of the WMF file
(Set/Get SkipInvalidExternalIamges)

CHANGE: Added some virtual methods to make it possible for the ReportTargetSelectorClass to be easily
derived
CHANGE: Addins Manager now shows the installation path for the user installed addins
CHANGE: IDE Notification popups are now off by default
CHANGE: The ResetIDE tool will disable its options if the IDE is running

FIX: #GROUP name mispelling
FIX: Addins Manager was showing the .sdaddin extension in the installed addins dialog but the .sdaddin
format is not supported
FIX: Addins Manager was not showing the user installed addins by default
FIX: Addins installed outside the Accessory directory were not displayed in the list of installed addins.
FIX: Clip rectangle could be incorrect sometimes on drawing a themed background
FIX: Drawing underscore for shortcuts under Win 8
FIX: File Drivers were not removed from the Driver Registry List
FIX: If you removed a file driver or synchronizer from the list of registered components, the component
would reappear in the list the next time you started the IDE
FIX: Open via Redirection Form control layout
FIX: Opening a Solution in a different folder with the exact same name as the currently open Solution would
reopen the existing Solution rather than the newly selected one
FIX: Sometimes when a PRAGMA is selected in a new CLW IDE might show a warning message
FIX: Sometimes an exception could trigger when closing the Solution, if while it is in the process of
closing the user clicked on the .App in the Solution
FIX: The Report template was generating a call to GetSelected() instead of GetReportSelected()

PTSS 39880: Additional toolbar buttons on Solution Pad
PTSS 39882: #GROUP name mispelling: %WindowIsOneInstance
PTSS 39888: Open File via Redirection file dialog - Copy button not resizing.
PTSS 39888: Open File via Redirection file dialog - Copy button not resizing.
PTSS 39895: ReportTargetSelectorClass was doing a RETURN instead of a "Do ProcedureReturn" in the Clarion
chain
PTSS 39902: Unable to register any Addins

Clarion 9 build 10125 release notes

Release Notes: C9.0.10125

Fixes/Features/Changes --- Alpha rel 3-----

FEATURE: Option to do automatic conversion of all applications in the current Solution (added to the App Conversion dialog)
FEATURE: Dictionary Editor: Added search for Modifications/Creation dates on any item
FEATURE: Dictionary Editor: Allow to do a search for all the DCT comments in every entity

CHANGE: Create SHEET controls with the WS_EX_TRANSPARENT style
CHANGE: Modified and Creation Date now display in the same format that is used internally to store them
CHANGE: Set the font for Window Designer errors to use the IDE Fixed Font size (8) to visualize the correct column of an error
CHANGE: report better errors when a an error is found in the REPORT/WINDOW structure

FIX: Current position in event queue could become incorrect if too many events are posted rapidly
FIX: DCT Editor, Column Editor was not showing properly some controls like the characters and places entry
FIX: DCT Search Form didn't open if the DCT was not in focus
FIX: Expand/Contract all nodes in the Data Pad didn't have the correct tooltip
FIX: Template generate embed responses must be removed after exit from the WINDOW/REPORT Designer
FIX: Window Designer error message was not read-only and the error wrapped over multiple lines

PTSS 39908: embed tree showing existing embeds as orphaned
PTSS 39930: POST's order disturbed
PTSS 39904: ImageEx Controls on Tabs not displaying

Clarion 9 build 10205 release notes

Changes from the last beta:

FEATURE: ABC Sort Headers Template - supports sort column colorization (Actions->BrowseBox Behavior->Extended Options)
FEATURE: Added the option to the Report Procedure template to open the Report Output after its generated
FEATURE: TopScan updated to use the C9 RTL

CHANGE: The DCT system no longer warns you about editing a .dct with unregistered file drivers if you open the .dct in read-only mode
CHANGE: Change ABC Sort header template uses the new PROPLIST:HasSortColumn property and the built-in support to sort on a headers click event
CHANGE: Change the message "Applications processed without errors: ({0})" by "Applications successfully processed: ({0})"
CHANGE: Change ABC Sort header template uses the new PROPLIST:HasSortColumn property and the built-in support to sort on a headers click event
CHANGE: Templates #PROMPT Color dialog now uses the new Color dialog (as used in the rest of the IDE)

FIX: The SQLite driver would lock up when doing LOGOUT of more than 1 file.
FIX: The blob-to-control extension template did not work properly when you used the resizer template
FIX: Error pad did not retain the currently selected error when focus was lost
FIX: Regression on checking for type Metafile in image conversion
FIX: Resolve Duplicated exports in Win32.Lib and ClaHTML.lib
FIX: SortHeader template code was alerting the MouseLeft key but that is not needed anymore with the support for EVENT:HeaderClick
FIX: The SQLite driver would lock up when doing LOGOUT of more than 1 file.
FIX: The focus rectangle was not drawn for themed CHECK and RADIO controls

Clarion 9 build 10241 discussion

Clarion 9 build 10241 is the first release of C9 to CSP program participants.

There was no change list included with the release email.

Speed improvements

Some devs are reporting significant speed improvements within the IDE,

Registry issues using C8 within C9

If you use C9 to host your C8 development (rather than installing each version separately, which is the default) then C9 will make your C8 registry unreadable from the C8 IDE, as the registry format has changed.

Problem generating/building DLLs

The IDE throws a generation error when creating code for DLLs. The app will build but as no EXP file is generated you can't use the DLL (at least not by linking in the DLL's lib). Diego says this will be fixed in the next build.

> **ⓘ Update: Interim fix!**
> Bob Z has provided an interim fix for the DLL problem, which is caused by an incorrectly formatted Type32 node inside ClarionProperties.xml file.
>
> This XML file is located in C:\Users\<username>\AppData\Roaming\SoftVelocity\Clarion\9.0 (where <username> is replaced with your own user name).
>
> Here's how an incorrectly formatted file appears:
>
> ```
> 680        <MatchCase value="False" />
> 681        <MatchWholeWord value="False" />
> 682        <IncludeSubdirectories value="False" />
> 683        <IncludeReadOnlyBlocks value="True" />
> 684        <SearchStrategyType value="Normal" />
> 685        <LookIn value="C:\Users\Dave\Documents\Clarion Projects" />
> 686        <FindPatterns value="capitalizeÿ,private" />
> 687      </Properties>
> 688      <ICSharpCode.SharpDevelop.Gui.SearchAndReplaceDialog.Location value="783, 345" />
> 689      <SearchAndReplace.SearchResultPanelViewMode value="Flat" />
> 690      <Type32 />
> 691      <Properties name="Registry">
> 692        <Default_Width value="300" />
> 693        <Default_Height value="200" />
> 694        <MessageLines value="2" />
> 695        <Reregister_if_changed value="on" />
> 696        <Update_Template_Chain value="off" />
> 697        <Recreate_deleted_templates value="off" />
> 698        <EnableAssert value="on" />
> 699      </Properties>
> 700    </ClarionProperties>
> ```
>
> The Type32 node should not exist. Instead it should be replaced by the following Properties node:
>
> ```
> <Properties name="Type32">
>     <signed value="long" />
>     <unsigned value="long" />
>     <handle value="long" />
>     <bool value="long" />
> </Properties>
> ```
>
> This will be fixed for the next release, but meanwhile you can edit the file manually.
>
> An extremely weird thing happened while I was editing my ClarionProperties.xml in Notepad++. I had copied the above text into the clipboard to paste into this document, and then to paste into the XML file. But I figured I should probably close Clarion first just in case it wrote to the file on exit. I closed Clarion. Notepad++ said the file had changed. Aha! I was right. I reloaded the file.

And to my great surprise it was now the correctly formatted file! How did that happen? Did what I had in the clipboard somehow make it into the file? That really doesn't make a lot of sense to me. Or did the IDE somehow wake up and realize it needed to rewrite the XML file?

Puzzling.

Start page styling

There's been some grumbling about a change to the IDE that internalized start page styling so it can no longer be customized via layout.css.

Can you ship product with this release?

At least one dev is shipping C9-built apps to customers with no reported issues.

SQLite driver

Not sure I completely understood the discussion, but it appears blob contents are not being copied as expected.

Report generator interface changes

There have been some changes to the report generator interface so if you have older source or an older version of a third party product that uses this interface you'll need to get the update or modify the source.

Possible duplicate symbols

Diego: "Most of the symbols from Win32ext.lib were merged with the Win32.lib in C9."

%Parameters is read only

In C9 there is only one prompt for prototypes (as there should be). Older templates that attempt to set the %Parameters value will trigger an error. In the old days Clarion code had labels in parameters and data types in prototypes. For years now it's been best practice to have parameters and prototypes declared exactly the same (except that for procedure/method implementations you have to leave off the return type if any, which seems pretty silly to me).

/ConfigDir

Graham Dawson has reported problems with Clarion not registering drivers when the /ConfigDir IDE switch is used.

Clarion 9 build 10274 release notes

Clarion 9 build 10274 has been released to CSP program participants. Fixes include:

ⓘ

```
FIX: #Suspend error when making a .DLL
The initial beta release could create an invalid setting in the ClarionProperties.xml file that
would cause
a #Suspend error and prevent making of .DLLs, due to a missing properties section of
ClarionProperties.xml

The problem is fixed now in this release and that the section will get created properly, but to fix
the _existing ClarionProperties.xml
file you either have to:

Run ResetIDE.exe and choose option (4) - does not require re-entering your serial number, but clears
IDE settings

- OR -

Open ClarionProperties.xml and manually edit/delete the section " <Type32 /> "  (** if it doesn't
exist then no action is needed)

- OR -
Manually delete the ClarionProperties.xml - - requires re-entering your serial number
 in the "invalid" section within ClarionProperties.xml file this section gets created as:
  <Type32 />

   in a correct/valid ClarionProperties.xml file its created as:

  <Properties name="Type32">
     <signed value="long" />
     <unsigned value="long" />
     <handle value="long" />
     <bool value="long" />
 </Properties>

FIX: Exception on attempt to request entries from a missing properties section of
ClarionProperties.xml
FIX: FrameExtension template was generating ASSERTS
FIX: If an OLE control was declared in a MDI child window that has a MENUBAR, the window's controls
declared below the OLE control were created with the MDI frame as the parent
FIX: Midnight time converted from TIME to LONG incorrectly
FIX: Possible violation of heap consistency on changing picture of EIP entry control
FIX: Possible System.IndexOutOfRange exception
FIX: REMOVE(<file name>) worked for directories as well as for files and removed files recursively
in nested directories without confirmation
FIX: Setting '' (0) to PROP:Right, PROP:Center, PROP:Decimal worked incorrectly for ENTRY controls
FIX: Thread should not be locked during execution of constructors and destructors
FIX: Too early call to thread's destructor could cause retrieving of incorrect thread structure

FEATURE: New REMOVE functionality; REMOVE(<filename>,<options>) statement with additional parameters
to control removing of directories, processing of directories recursively, and showing progress and
confirmation dialogs

CHANGE: Add EQUATE for the Vietnamese charset
CHANGE: If the compiler returns an exception, show the address of the compiler's entry point to
better locate the GPF point
CHANGE: Update SystemString class to fix some potential problems

PTSS 39785: Co-operative threading hooks cause memory leaks and eventually an exception
PTSS 39980: REMOVE(file) can delete entire subtrees
```

Clarion 9 build 10294 release notes

SoftVelocity released Clarion 9 build 10294 on August 1 2013. Here are the release notes:

```
FEATURE:  You can now force dlls to be copied to the destination directory of the .exe using the
LibAlwaysCopyList.xml file located in the <appdata>\SoftVelocity\Clarion\9.0 folder
CHANGE: DataBrowser: set a reasonable default picture for Memo fields, enable ESC key for Cancel of
MemoEditForm
CHANGE: Update Application tree 'Sort By Date' icon
FIX: If you created/copied a local redirection file while a project was open, the context menu item
"Edit Redirection File" accessed from the project node in the solution explorer would open the base
redirection file rather than the new redirection file
FIX: If you deleted the local redirection file while a project was open, the context menu item "Edit
Redirection File" accessed from the project node in the solution explorer would throw an exception
FIX: Appearance Editor was missing an example of the checkbox menu items
FIX: Changing the fonts directly from the TextEditor Options, or popup optionswas not preserved
FIX: File Options Dialog executed form the Context menu was not resizing properly
FIX: Icon for an embed with code was being truncated when the font size was smaller than the default
FIX: Incorrect index name used in the ASSERT for Frame Extension
FIX: Some Color themes used an incorrect color in the Checkbox menu items
PTSS 40069: IDE can freeze while picking color
PTSS 40081: SystemStringClass bug
PTSS 40034: global and local data alpha sorted
```

In comparing 10294 to 10274 I noticed the addition of some DLLs:

Those back end bindings are Clarion.NET DLLs. Were they included accidentally? I looked around a bit more and discovered that the SoftVelocity.Clarion.* DLLs may be new to this directory, but they're also in the bin directory. In fact a number of Clarion.NET DLLs have been shipping for some time now even in Clarion 8, including:

- SoftVelocity.Clarion.ClarionCodeProvider.dll
- SoftVelocity.Clarion.Classes.dll
- SoftVelocity.Clarion.CompilerMessages.dll
- SoftVelocity.Clarion.Design.dll
- SoftVelocity.Clarion.FileIO.dll
- SoftVelocity.Clarion.Files.dll
- SoftVelocity.Clarion.LINQToFileProvider.dll
- SoftVelocity.Clarion.LINQToFileProviderNetDrv.dll
- SoftVelocity.Clarion.Procedures.dll
- SoftVelocity.Clarion.Runtime.Classes.dll
- SoftVelocity.Clarion.Runtime.Procedures.dll

Make of that what you will.

The one truly new file, Clalits.dll, is part of the SQLite support:
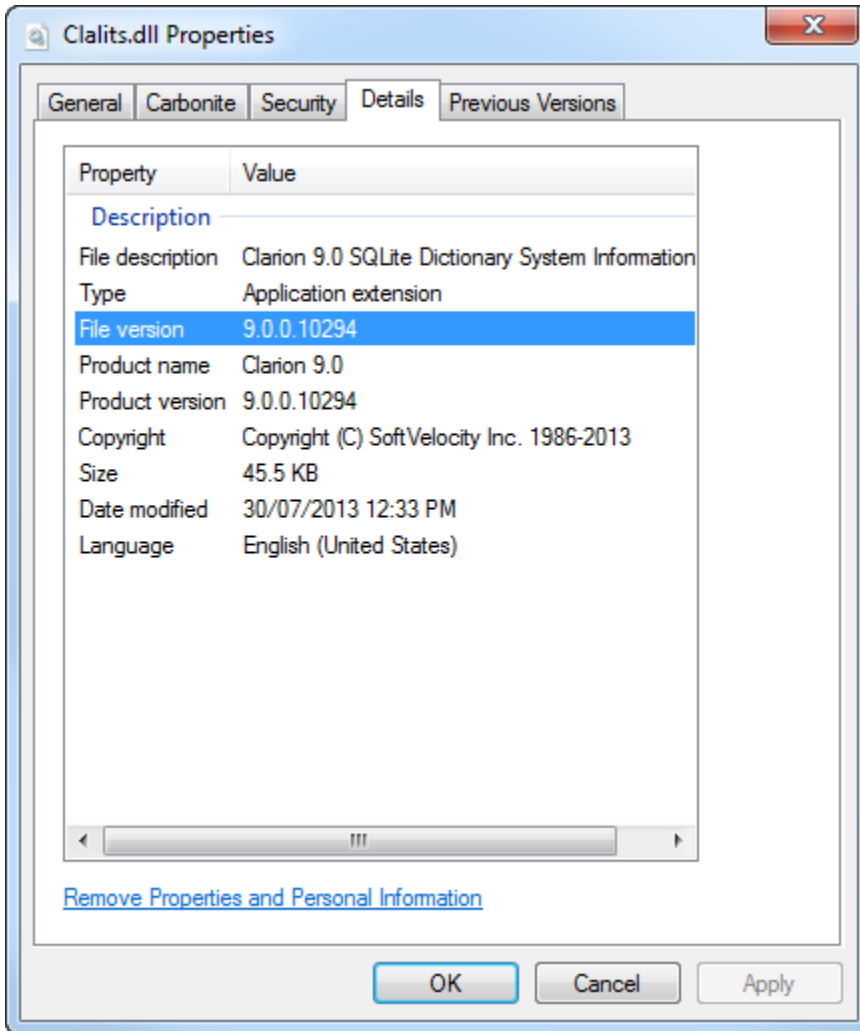
With the exception of one Assert statement in SystemString.clw, all of the changes from build 10274 are in the binaries.

Clarion 9 build 10309 release notes

```
beta 4 - Fixes/Changes/Features

FIX: Client area of non-MDI WINDOWs or APPLICATIONs with menubar resized on hiding
FIX: Status bar with height 0 created for WINDOWs/APPLICATIONs without STATUS attribute
FIX: IF LIST's font changed, styles defined after that used original font
FIX: CWTask was using the Environment.SpecialFolder.ApplicationData instead of the
PropertyService.ConfigDirectory making the /Config param fail if using any folder other then the
ApplicationData folder
FIX: On creating a new project from the app if the ClaRunExt.LIB was referenced it was asking for the
project
FIX: Changing color in controls and pressing Enter Key or ESC Key was not behaving as expected
FIX: The Extended Colors Editor was not used when editing colors for the WINDOW or APPLICATION colors
PTSS 40103: Black flickering in some fields
IMPROVEMENT: Reduce visual defects on resizing themed windows with PROP:Buffer set to values other than
0
```

Clarion 9 build 10319 release notes

```
beta 5 - Fixes/Changes/Features

CHANGE: Move the App tree Mode buttons to the main ApGen toolbar
CHANGE: Adjust AppGen screen to reclaim unused space
CHANGE: IPserver.tpl: Clarunext.dll is now loaded at runtime so no need to link to the .LibFIX: DCT
could not import a TXD/DCTX from a folder other than the DCT folder
FIX: PNG Images extension was not in the list of images to select
FIX: DESTROYing of a TAB control which has the TIP attribute and has been activated by mouse click could
cause an error
CHANGE: Templates: Remove reference to unused file which forced the linking of the DOS driver
```

Clarion 9 build 10324 release notes

```
beta 6 - Fixes/Changes/Features

***********************************************************
*** All binaries must be rebuilt; both your own and all 3rd party ***
***********************************************************
CHANGE: change internal RTL version number:
 (The RTL checks the value of the RTL version linked to every CW executable including CLARUN.DLL.
 A version mismatch is reported if:
- EXE/DLL's <major version> is not equal to same as the CLARUN.DLL
- if its detected that an EXE/DLL is made with a Clarion version prior to C9.0.10234)

CHANGE: Adjust appgen screen to reclaim unused space
CHANGE: IPserver.tpl: Clarunext.dll is now loaded at runtime so no need to link to the .Lib
CHANGE: Move the App tree Mode buttons to the main appgen toolbar
CHANGE: Remove reference to unused file which is causing forced linking of the DOS driver to program
CHANGE: normalize AppTree button sizes
FIX: DCT could not import a TXD/DCTX from a folder other than the DCT folder
FIX: DESTROYing of TAB control which has the TIP attribute and has been activated by mouse could cause
an error
FIX: Intermittent lockup of the IDE when "Unloading (AppName)"
FIX: PNG Images extension was not in the list of images to select
PTSS: 38289 unexpected result in case of Turkish as an ANSI codepage
```

Clarion 9 build 10332 release notes

```
⚠ beta 7 - Fixes/Changes/Features

    FEATURE: ABC: Added "Blank" and "All" options in the DropCombo template/class
    FEATURE: ABC: Added "NoIcons" property to the PopupClass manager to allow displaying the popup menu
    without the icons
    FEATURE: ROG: Added option to hide the Report output progress window

    FIX: Importing tables into a .dct from multiple different SQL databases (or multiple SQLite db
    files) required restarting the IDE
    FIX: SQLite: when attempting to browse a table in the IDE, and changing the selected DB file, the
    list of tables within the DB file was not refreshed
    FIX: Using the ellipsis button next to the file name entry field on the SQLite selection dialog
    would not populate the file name into the entry field


    CHANGE: Resize Control Strategies; Prompts resized and re-positioned
```

The following items from the build 10324 release notes were included in the build 10332 release notes:

```
*****************************************************************************
*** All of your binaries must be rebuilt; you need the updated versions of all SoftVelocity addon
products and you must also obtain the updated versions for any 3rd party DLLs that you use***
*****************************************************************************
*****************************************************************************

CHANGE: change internal RTL version number:
 (The RTL checks the value of the RTL version linked to every CW executable including CLARUN.DLL.
 A version mismatch is reported if:
- EXE/DLL's <major version> is not equal to same as the CLARUN.DLL
- if its detected that an EXE/DLL is made with a Clarion version prior to C9.0.10234)

CHANGE: Adjust appgen screen to reclaim unused space
CHANGE: IPserver.tpl: Clarunext.dll is now loaded at runtime so no need to link to the .Lib
CHANGE: Move the App tree Mode buttons to the main appgen toolbar
CHANGE: Remove reference to unused file which is causing forced linking of the DOS driver to program
CHANGE: normalize AppTree button sizes

FIX: DCT could not import a TXD/DCTX from a folder other than the DCT folder
FIX: DESTROYing of TAB control which has the TIP attribute and has been activated by mouse could cause
an error
FIX: Intermittent lockup of the IDE when "Unloading (AppName)"
FIX: PNG Images extension was not in the list of images to select

PTSS: 38289 unexpected result in case of Turkish as an ANSI codepage
```

Clarion 9 build 10371 release notes

```
/--- beta 9 Sep 12th ----- Fixes/Changes/Features
=========================================
FIX: App conversion and/or project refresh/creation could fail with the
message "unloading appname..." and lock the IDE
FIX: If an .App was closed with some project CLWs left open then the App was
re-opened, the IDE would try to re-load the CLWs and it could fail with a
StackOverflowException
FIX: ClarionCL command line was failing when generating apps
FIX: Toolbar control was not showing the Color Picker used in all other
controls for the BackColor
CHANGE: Changed name/use of C80TFT.INI to ClaTFT.INI
CHANGE: when the command line Generator is called without a version param it
is now set to the current version
FEATURE: Clarion chain: Added option to hide the Report Output progress
window
FEATURE: Added support to set the gradient color for TOOLBAR, BOX and PANEL
from the Actions dialog and to generate the required code
FEATURE: When populating a DIM field a popup dialog is presented to set the
array index number in the Designers (you can still set the array index
manually as before)
```

Clarion 9 build 10376 release notes (gold release)

```
/--- Gold release for Clarion 9 Sep 23rd ----- Fixes/Changes/Features
============================================================


FIX: Incorrect calculation of width of items of popup menus
FIX:  The BASIC file driver would crash if you passed any invalid value to
the FIELDDELIMITER or ENDOFRECORD driver strings or the SEND command.  Eg
SEND(file,'FIELDDELIMITER=|') instead of SEND(file,'FIELDDELIMITER=1,124')
PTSS 40181: BASIC driver crashes when using | as delimiter
PTSS 40132: Drop-Down Menus right margin fixed/too small
```

Clarion 9.1 with touch support coming soon

Today (Nov 22, 2013) Bob Zaunere went on ClarionLive to give an update on the touch support coming in Clarion 9.1.

In general touch support is working "fantastic". The one thing that isn't working is drag and drop from images. List scrolling, inertia, all that is looking really good. Diego is testing from an Android tablet using Microsoft's RDP client.

Mike asked about keyboard popup on going to an entry field. Z thinks that could be coded but there is no automatic association in the API. Mike observed this does happen in RT apps but not in Windows touch apps.

The wizards will get an option to create touch style apps with larger buttons etc.

There are a couple of mostly-empty repositories on GitHub:

https://github.com/softvelocity/clariontouch

https://github.com/softvelocity/Tiles

There will also be one for the X-Buttons functionality Bob showed at DevCon.

The IDE has been 90% ported to .NET 4.

There is a new SV web site under development. This has a gallery section for screen shots of best-looking apps.

Repositories will also be up on BitBucket.

Diego showed the TileDemo app which uses some new classes.
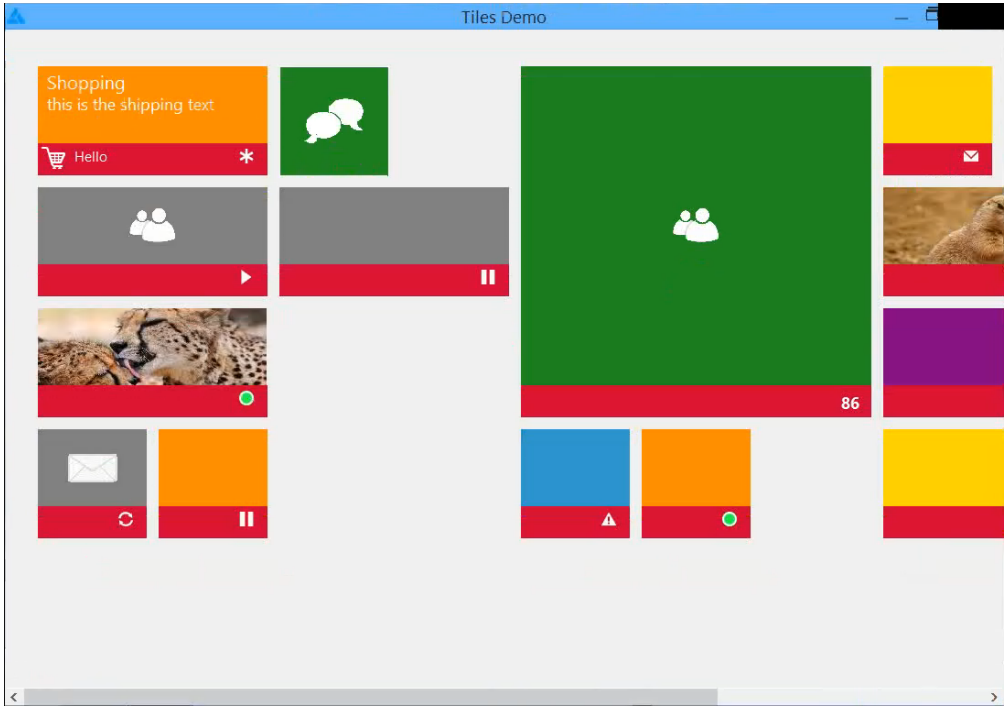
Changing of background images is still a work in progress.

The TileGroupClass handles automatic repositioning of the tiles. Mike asked about letting the user move tiles around; this functionality could be added. As for displaying an OCX on a tile, not currently supported but you could probably handle this with a derived class that uses the tile location as the specification for where to show the OCX.

The touch demo showed some basic touch functionality, including scrolling by swiping the list box and the expected inertia effect.
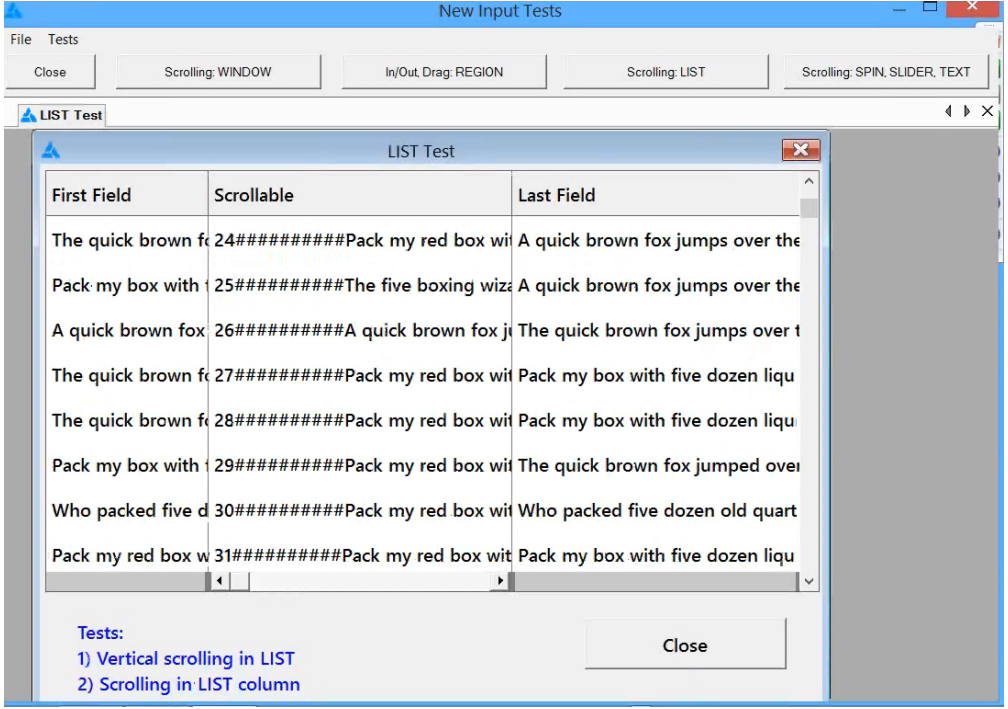
Diego also demonstrated the use of some other controls, all of which worked without any additional code. You can also go way beyond simple touch-enabling (simply by recompiling in 9.1) by detecting touch, gestures etc.
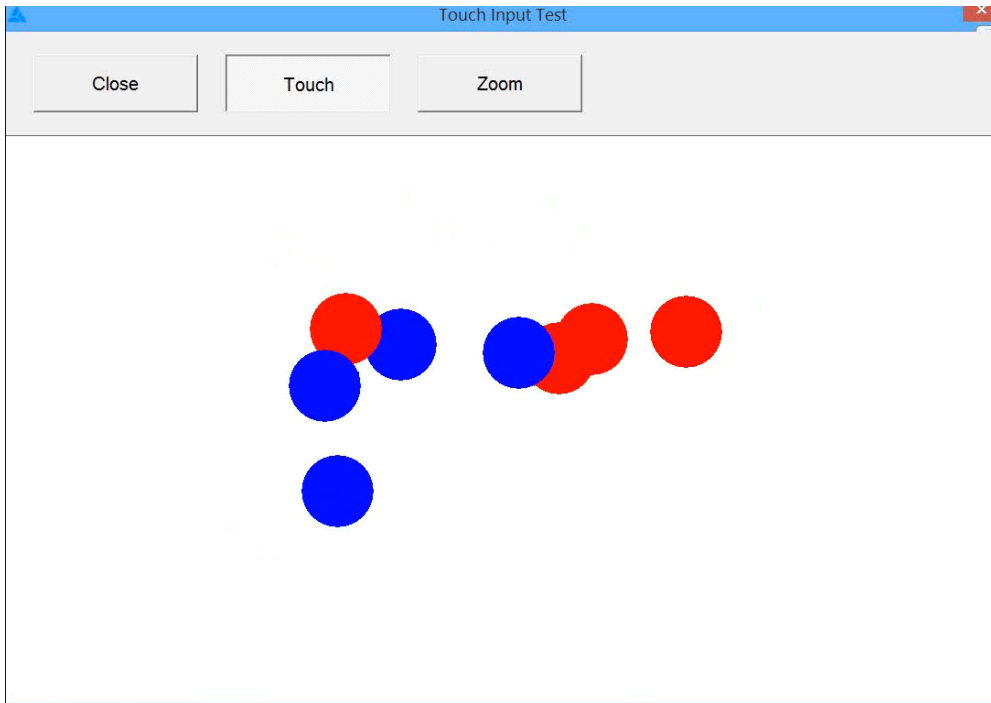
Clearly there's lots of good stuff to come!

Clarion 9.1 First Look

Clarion 9.1 build 10638 has gone out to third party vendors. As has been noted previously, the two big items in this release are touch support and reg-free COM.

There are two main things to note about touch support.

1. All apps automatically have touch support, including the ability to scroll a browse with a swipe gesture, and
2. If you need extended touch support (e.g. gestures) all of that is available as well.

I don't have a usable tablet handy at the moment so I can't yet give my first impressions of the touch support, but on January 17 Mark Goldberg gave a fairly lengthy ClarionLive presentation on touch support which included a camera view of his Surface Pro tablet.

I'll take a look at reg-free COM support next time, but they key point is that as with touch support, this functionality is there automatically, with the proviso that the COM object is in a side by side assembly. That is, the COM object's DLL must have an appropriate manifest file, so I imagine there may be some growing pains as Clarion developers attempt to deploy a variety of COM objects with their apps.

Release notes

The release notes are as follows - I'll touch on a number of the release note points as I look at the changes in the installed files.

Release notes
- FEATURE:: Support of Touch input   - FEATURE:: Support registration-free activation of COM objects from side-by-side assemblies   - FEATURE: Added support for routines in DCT triggers code.NOTE: Restrictions: the routines name should not start with the word "routine" (will make the code generate incorrectly). After the first routine is found the rest of the code of will be treated as routine code and output in column 1 after the RETURN of the method   - FEATURE:: Added two new methods to the resize class to know when resizing starts and finishes: WindowResizeBegin and WindowResizeEnd

- FEATURE:: Before building if the process CCC.EXE is found running the IDE will try to stop it, if is successful it will add a message in the Error List (Message) This was added to stop the error on building related to the Catalyst Control Center Utility (aka CCC.EXE)
- FEATURE:: Files for custom handling of touch input in programs; CWTOUCH.CLW, CWTOUCH.INC, CWTOUCHDEF.INC
- FEATURE:: JSON: Added an example that show how to serialize and deserialize a QUEUE to/from json
- FEATURE:: JSON: Added methods to the JSON Class to parse the Json results
- FEATURE:: JSON: Allow to use a PICTURE to format numbers in the ToJSON groups and queue and to DEFORMAT the numbers with @BOOL support
- FEATURE:: JSON: class Added methods to the JSON class to parse the json string and retrieve the names , values (simple or arrays) of a json pair
- FEATURE:: JSON: class Added methods to the JSON class to deserialize GROUPs and QUEUEs
- FEATURE:: Option setting to set the length of the Clarion code Editor line before adding a &|Tools-Options-TextEditor-Clarion Specific Options NOTE: for now this only apply to the hand coded Windows (Ctrl+D), not the App windows
- FEATURE:: QuickXMLParser added Trace method that is called every time the parser executes an interface method. (use OutPutDebugString)
- FEATURE:: Send Email and Send SMS functions added to ClaRunExt
- FEATURE:: Setting to enable to automatically kill the process (App's Exe) before doing a build (only available on EE) Options-General-Project and Solutions-"Kill Process before build"
- FEATURE:: Show info about address in the call stack in form <module name>:<offset> if module has no debug info or address can't be resolved
- CHANGE: Extend sizes of variables used to hold a procedure's prototype and parameter list
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- FIX: If an invalid shortcut was found at startup the IDE would shut down
- FIX: If there was an error in a redirection macro in an included redirection file, then the dialog displaying the error message indicated that the problem was in the top level redirection file rather than in the included redirection file.
- FIX: Incorrect text was displayed in the Toolbar Build Solution and Rebuild Solution buttons
- FIX: PNG images with an alpha channel would not 'stretch'
- FIX: Position of scrollable WINDOW or IMAGE control could be calculated incorrectly on scrolling or on changing the PROP:XOrigin or PROP:YOrigin properties
- FIX: Possible memory leaks if LIST control uses styles
- FIX: REGION, PROMPT, RADIO controls were not using the correct Color Editor in the Window Designed for some color properties
- FIX: REPORT Format Section Dialogs were not using the correct color dialog
- FIX: REPORT parts were not using the correct Color Dialog for the color properties
- FIX: Reference assignments of NULL to variables of type &GROUP or &GroupType produced unwanted statics
- FIX: Separator was spelled incorrectly in the TopSpeed ODBC driver configuration dialog.
- FIX: Setting PROP:HScroll and PROP:VScroll to TRUE for an IMAGE control caused displaying of scrollbar even if its real size is not enough to fill the control rectangle
- FIX: Shortcut editor allowed for invalid shortcuts to be added to the IDE
- FIX: Size of fields for Justification and Place Over in the DCT were too small
- FIX: Some IDE dialogs were not re-displaying and positioned properly after were displayed in a secondary display that was unplugged
- FIX: Sometimes the Close All Documents command will not close all the open Documents.
- FIX: Sometimes the Code Completion will not work if a , is used in the last position of a line
- FIX: The DCT Editor allow to create a field derived from other field that could create a recursive list of parents
- FIX: The build system could use the wrong redirection file if there were multiple projects in a solution and those projects were in different folders and there was a clarion90.red file in each of those folders
- FIX: The first time you did a generate in the IDE the creation of the exp file might not work properly
- FIX: The redirection system was not parsing the %THISDIR% macro correctly when doing a build
- FIX: TopSpeed driver would leak memory if you used the TableList SEND command
- FIX: Topscan: Default text of the column header could be built incorrectly
- FIX: Topscan: Incorrect column picture could break displaying of data
- FIX: Topscan: Possible assert failure on the browsing file for the first time
- FIX: Unexpected errors could occur on compile/link time if the name of a File View object clashes with the name of some user declared object
- FIX: Upgrading of pre-C7 apps could lose the generated flag from project items
- FIX: When a severe error happens during generation of the App sometimes the Build process would start but it could not be stopped, leaving the IDE in an state that needed shutdown
- FIX: When accessing Btrieve files that had a PDECIMAL field in them that was a key component of a key with the OPT attribute, if you did a binary level compare (eg SavedRecord = Record), this would sometimes fail. DOCUMENTATION: Update the Btrieve docs to document the NULLPDECIMALS = ON|OFF driver string.
- FIX: When there is a template that was missing the generation from the application pad could generate an exception and shutdown the IDE
- FIX: When there is a template that was missing the generation of the App from the Application Pad could generate an exception and shutdown the IDE
- FIX: You could create a local variable of type REPORT via the data pad. The data pad now restricts you to creating variables of type &REPORT
- PTSS 34503: IPDVR - IPEXEC function parameters can not contain a ')'.
- PTSS 40060: EDITOR HANGS - with specific sequence of lines removed, (code folding could not identify the parent)
- PTSS 40093: - JSON Class ToJSON() returns a badly formatted JSON string
- PTSS 40205: Clarion Chain Report Previewer zoom was not working over the image
- PTSS 40233: TopSpeed 5.0 driver Prompt Screen issues
- PTSS 40267: Missing references after the import of the Clarion 6.3 app
- PTSS 40342: AbSql.clw: renamed label TextFile to SV_SqlScriptFile to avoid clashing with common user labels

- PTSS 40406: REPORT reference goes haywire
- PTSS 40487: TXA import thrashes Parameters Entry
- REGRESSION: Adding a file to a project that could not be found via redirection added only the file name rather than the relative path to the file

Install program changes

During the install process I noticed this window, which I don't recall seeing in 9.0:
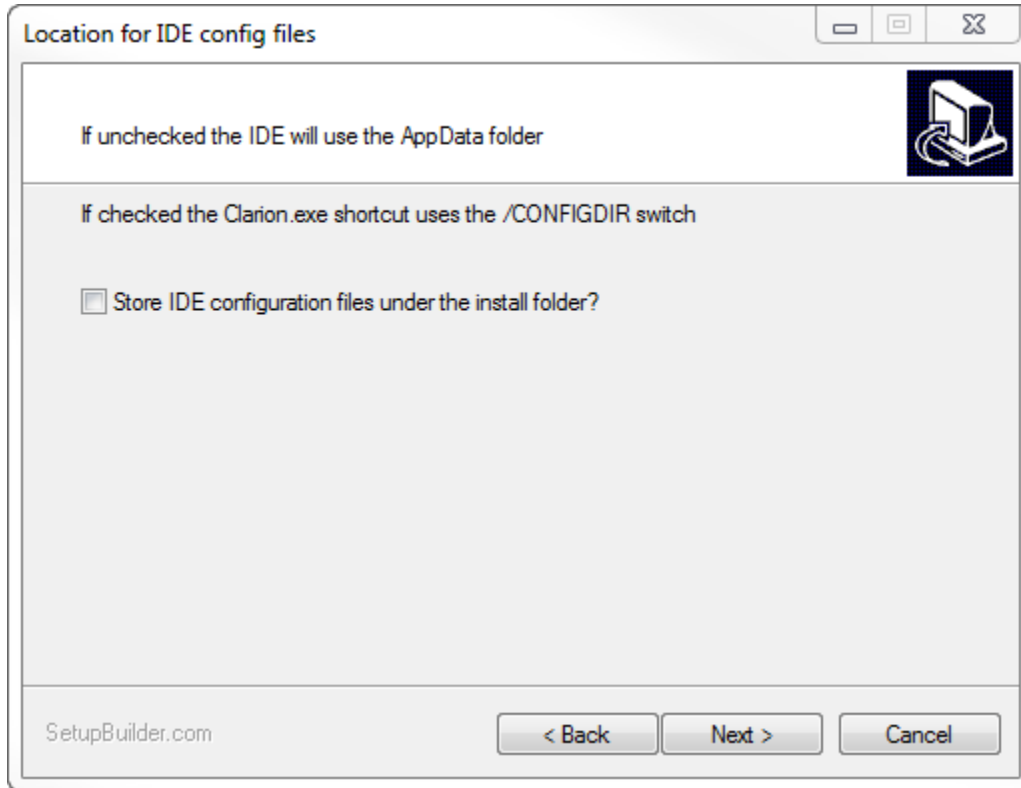
This isn't new functionality - in Clarion 8 you can already use the /CONFIGDIR switch, but it's nice to see the install program updated to set that switch up for you.

Installed file changes

On the binary side there are no doubt numerous changes, but it's difficult to tell what they are from a file comparison. There is however a new executable called ClaRunExtSetup.exe.

This file is related to the the Report to PDF template's Scan Copy Mode option, which lets you create scannable PDFs. From the help:

Use Scan Copy Mode

This option supports use of any image format and any font. The WMF pages are converted to PNG so the resulting PDF is an exact copy.

** System Requirements

1. If you use this option you must deploy ClaRunExt.dll (located in the BIN folder).

2. The systems where this is deployed must have the Microsoft VC++ (x86) 2005 runtime installed

3. The systems where this is deployed must have the Microsoft .Net Framework 2.0 runtime installed

Both of these requirements can easily be installed using SetupBuilder, or with the ClaRunExtSetup.exe that can be found in the Clarion BIN folder.

This subject has been previously covered - see Clarion 9 apps using Report to PDF to require C++ redistributable? where Bob Z mentions this executable as coming in 9.1

ClaRunExt.DLL is still present in 9.1, but ClaRunExt.lib has gone away. ClarunExt.INC has changed to include a class definition with methods for image manipulation and sending SMS and mail (there is a new ClaRunExt.CLW to match):

```
ClaRunExtClass
CLASS,TYPE,MODULE('ClaRunExt.clw'),LINK('ClaRunExt.clw',_ABCLinkMode_),DLL(_ABCDllMode
_)
Inited                    BYTE,PROTECTED
Construct                 PROCEDURE()
Destruct                  PROCEDURE(),PROTECTED
Init                      PROCEDURE(),BYTE,PROTECTED
ImageToPNG                PROCEDURE(CONST *CSTRING fileNameIn),LONG!Save image to a PNG
file, changing the fileName extension to PNG. Return 0 if no error and Error Number if
there is an error
ImageToPNG                PROCEDURE(CONST *CSTRING fileNameIn, CONST *CSTRING
fileNameOut),LONG!Save image to a PNG file with the name fileNameOut. Return 0 if no
error and Error Number if there is an error
ImageRotateFlip           PROCEDURE(CONST *CSTRING fileNameIn, CONST *CSTRING
fileNameOut, LONG RotateFlipType),LONG!Save image rotated or fliped. Return 0 if no
error and Error Number if there is an error
ImageSaveThumbnail        PROCEDURE(CONST *CSTRING fileNameIn, CONST *CSTRING
fileNameOut, LONG porcentage),LONG!Save image reduced in size. Return 0 if no error
and Error Number if there is an error
SendSMS                   PROCEDURE(CONST *CSTRING SMTPServerHost, CONST *CSTRING
SMTPLoginUserName, CONST *CSTRING SMTPLoginPassword, LONG SMTPPort, LONG
SMTPEnableSsl, LONG showErrorMessage, CONST *CSTRING  fromAddress, CONST *CSTRING
toPhoneNumber, CONST *CSTRING  toCarrier, CONST *CSTRING  subject, CONST *CSTRING
textMessage),LONG
SendMail                  PROCEDURE(CONST *CSTRING SMTPServerHost, CONST *CSTRING
SMTPLoginUserName, CONST *CSTRING SMTPLoginPassword, LONG SMTPPort, LONG
SMTPEnableSsl, LONG showErrorMessage, LONG receiveRequest, CONST *CSTRING
messageBodyEncoding, CONST *CSTRING fromAddress, CONST *CSTRING toAddress, CONST
*CSTRING replyToAddress, CONST *CSTRING subject, CONST *CSTRING htmlMessage, CONST
*CSTRING embeddedImageFileNames, CONST *CSTRING textMessage, CONST *CSTRING
attachedFileNames),LONG
                          END
```

The new class file is also interesting because it prototypes the various API calls needed for dynamically loading DLLs and uses them to call the functions in ClaRunExt.DLL.

In ABBrowse there is a new GetSelectedItem method in the IListControl interface. This is used in GridClass.

FileDropClass has two new methods, IncludeEmpty and IncludeAll, and a new TextForAll property.

PopupClass gets new SetNoIcons and GetNoIcons methods.

There is a new ShowOutputProgress property on PrintPreviewClass which is used to optionally hide the progress window.

WindowResizeClass gets two new methods: WindowResizeBegin and WindowResizeEnd.

New touch source files

There are a number of new source in this 9.1 release. Three of these are for touch support:

```
CWTOUCH.CLW
CWTOUCH.INC
CWTOUCHDEF.INC
```

CWTouch.inc includes the following classes:

- InputPoint
- TouchPoint
- InputData
- TouchData

These classes are primarily data but each has a Next() method which, somewhat mysteriously, only returns NULL.

The following COM interfaces are also defined:

- IGestureResponder
- IPointerResponder
- ITouchNotifier

New H5 source files

There are no H5 templates in this release, but I'm told good progress is being mode on the H5 project. There are however a number of new H5-related source files:

- H5BROKER.CLW, H5BROKER.INC
- H5CLIENT.CLW, H5CLIENT.INC
- H5CNTRLS.CLW, H5CNTRLS.INC
- H5EVENT.CLW, H5EVENT.INC
- H5FILES.CLW, H5FILES.INC
- H5HTML.CLW, H5HTML.INC
- H5HTTP.CLW, H5HTTP.INC
- H5JSL.CLW, H5JSL.INC
- H5LAYOUT.CLW, H5LAYOUT.INC
- H5REPORT.CLW, H5REPORT.INC, H5REPORT.TRN
- H5SERVER.CLW, H5SERVER.INC, H5SERVER.TRN
- H5SINK.INC,
- H5STD.CLW, H5STD.EQU, H5STD.INC
- H5TXTOUT.CLW, H5TXTOUT.INC
- H5UNAUTH.HTM
- H5WINDOW.CLW, H5WINDOW.INC, H5WINDOW.TRN

If you're looking to put some meat on those bones, here's the current class list:

```
BrokerClass                        CLASS(WebDataSinkClass)
BrowserManagerClass                CLASS
HtmlClass                          CLASS(TextOutputClass),TYPE
HtmlFontClass                      CLASS,TYPE
HtmlItemClass                      CLASS,TYPE
HttpBaseClass                      CLASS
HttpClass                          CLASS(HttpBaseClass)
HttpPageBaseClass                  CLASS
HttpPageBrowserClass               CLASS(HttpPageBaseClass)
HttpPageJavaClass                  CLASS(HttpPageBaseClass)
JslEventsClass                     CLASS
JslManagerClass                    CLASS, TYPE
LayoutCellClass                    CLASS,TYPE
LayoutHtmlClass                    CLASS,TYPE
RangeClass                         CLASS,TYPE
ReportImageClass                   CLASS(ReportItemClass),TYPE
ReportItemClass                    CLASS(HtmlItemClass),TYPE
ReportStringClass                  CLASS(ReportItemClass),TYPE
ShutDownClass                      CLASS
SubmitItemClass                    CLASS
TextOutputClass                    CLASS,TYPE
WebAreaClass                       CLASS(WebControlClass),TYPE
WebButtonClass                     CLASS(WebControlClass),TYPE
WebCaptionClass                    CLASS(WebAreaClass),TYPE
```

```
WebClientAreaClass                          CLASS(WebAreaClass),TYPE
WebClientManagerClass                       CLASS(WebClientManagerInterface)
WebClientManagerInterface                   CLASS(WebDataSinkClass)
WebControlClass                             CLASS(HtmlItemClass),TYPE
WebControlListClass                         CLASS,TYPE
WebDataSinkClass                            CLASS
WebFilesClass                               CLASS
WebFrameClass                               CLASS,TYPE
WebHotlinkClass                             CLASS(WebControlClass),TYPE
WebHtmlButtonClass                          CLASS(WebButtonClass),TYPE
WebHtmlCheckClass                           CLASS(WebControlClass),TYPE
WebHtmlCloseButtonClass                     CLASS(WebControlClass),TYPE
WebHtmlEntryClass                           CLASS(WebControlClass),TYPE
WebHtmlGroupClass                           CLASS(WebControlClass),TYPE
WebHtmlImageClass                           CLASS(WebImageClass),TYPE
WebHtmlItemClass                            CLASS(WebMenuBaseClass),TYPE
WebHtmlListClass                            CLASS(WebListClass),TYPE
WebHtmlMenuClass                            CLASS(WebMenuBaseClass),TYPE
WebHtmlOptionClass                          CLASS(WebControlClass),TYPE
WebHtmlPromptClass                          CLASS(WebControlClass),TYPE
WebHtmlRadioClass                           CLASS(WebControlClass),TYPE
WebHtmlRegionClass                          CLASS(WebControlClass),TYPE
WebHtmlSheetClass                           CLASS(WebControlClass),TYPE
WebHtmlStringClass                          CLASS(WebStringClass),TYPE
WebHtmlTabClass                             CLASS(WebControlClass),TYPE
WebHtmlTextClass                            CLASS(WebControlClass),TYPE
WebImageClass                               CLASS(WebControlClass),TYPE
WebJavaListClass                            CLASS(WebListClass),TYPE
WebJQueryButtonClass                        CLASS(WebControlClass),TYPE
WebJQueryCloseButtonClass                   CLASS(WebHtmlCloseButtonClass),TYPE
WebJQueryListClass                          CLASS(WebListClass),TYPE
WebJQueryStringClass                        CLASS(WebStringClass),TYPE
WebJQueryToolButtonClass                    CLASS(WebJQueryButtonClass),TYPE
WebListClass                                CLASS(WebControlClass),TYPE
WebLiteralClass                             CLASS(WebControlClass),TYPE
WebMenubarClass                             CLASS(WebAreaClass),TYPE
WebMenuBaseClass                            CLASS(WebControlClass),TYPE
WebNullControlClass                         CLASS(WebControlClass),TYPE
WebPageClass                                CLASS(WebControlClass),TYPE
WebReportClass                              CLASS,TYPE
WebServerClass                              CLASS
WebStringClass                              CLASS(WebControlClass),TYPE
```

```
WebToolbarClass                          CLASS(WebAreaClass),TYPE
WebWindowBaseClass                       CLASS(WebControlListClass),TYPE
WebWindowClass                           CLASS(WebWindowBaseClass),TYPE
```

There have been some minor changes to the InternetConnect classes but I don't know if they're related to the H5 project.

The JSON class has a few new methods for string parsing.

Other source changes

There are some new properties:

```
PROP:Locale          EQUATE(7A76H)  ! integer: SYSTEM or FILE LCID value
PROP:Codepage        EQUATE(7A77H)  ! integer: SYSTEM or FILE codepage value
PROP:NoFont          EQUATE(7A78H)  ! boolean:
PROP:TouchInterface  EQUATE(7A79H)  ! integer: get the interface to touch input
```

The QuickXMLParser (actually XMLParser) now has some debugging methods.

I've never used the XMLParser class, but the source comments suggest that this is a SAX-type parser that steps through the XML and fires an event for each node it encounters:

```
! CLASS: XMLParser
!This is a none validate XML parser
!It is fast and use very low memory
!It can be very handy to parse trusted files that are valid
!The parser does not store or create any structure with the XML data
!instead it use an interface and call each method of that interface
!passing the XML Data.
!To use the parser the IXmlNotify need to be implemented.
```

Template changes

External procedures now have the "Only One Instance Allowed of the Procedure" prompt. The File Drop template adds prompts for "Include Blank Choice" and "Include 'All' Choice".

There are some new trigger embed points.

There's a new port template prompt to let you hide the output progress window.

You can now optionally generate modules as generic, with an empty Member() statement.

The UserControlClass procedure template now has this comment:

```
#! This control template is for testing only and not supposed to be the final version
(WIP)
#PROCEDURE(UserControlClass,'UserControlClass','ClarionOOP'),WINDOW,PARENT(SourceClass
(ABC))
```

SoftVelocity announced the UserControlClass template at DevCon 2013, describing it as a template that lets you create a control or set of controls which are then wrapped up in a class for use in any other window. This has a lot of promise, but probably wouldn't be as widely used as H5 or touch support at least in the near term, which may be why it doesn't seem to have a higher priority.

There are some new gradient color prompts for windows and fields.

The ClaTalk.tpl template, which adds various kinds of support for email and SMS, is missing from my 9.1 install; perhaps this is an oversight.

Usually when I go through release changes I come across existing code I never knew existed. One such is tutil.tpw, which contains a code template called CreateAtFromEmbed that does exactly what you'd think - you drop it into an embed point and it generates commented-out template code that you can use in your own templates. Nifty.

Clarion 9.1 build 10638 release notes

```
/--- Beta release for Clarion 9.1 --- Jan 14  ----- Fixes/Changes/Features--/
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9.1
***********************************************************
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FIX: If there was an error in a redirection macro in an included redirection
file, then the dialog displaying the error message indicated that the problem
was in the top level redirection file rather than in the included redirection
file.
FIX: Incorrect text was displayed in the Toolbar Build Solution and Rebuild
Solution buttons
FIX: PNG images with an alpha channel would not 'stretch'
FIX: Position of scrollable WINDOW or IMAGE control could be calculated
incorrectly on scrolling or on changing the PROP:XOrigin or PROP:YOrigin
properties
FIX: Possible memory leaks if LIST control uses styles
FIX: REGION, PROMPT, RADIO controls were not using the correct Color Editor
in the Window Designed for some color properties
FIX: REPORT Format Section Dialogs were not using the correct color dialog
FIX: REPORT parts were not using the correct Color Dialog for the color
properties
FIX: Reference assignments of NULL to variables of type &GROUP or &GroupType
produced unwanted statics
FIX: Separator was spelled incorrectly in the TopSpeed ODBC driver
configuration dialog.
FIX: Setting PROP:HScroll and PROP:VScroll to TRUE for an IMAGE control
caused displaying of scrollbar even if its real size is not enough to fill
the control rectangle
FIX: Shortcut editor allowed for invalid shortcuts to be added to the IDE
FIX: Size of fields for Justification and Place Over in the DCT were too
small
FIX: Some IDE dialogs were not re-displaying and positioned properly after
were displayed in a secondary display that was unplugged
FIX: Sometimes the Close All Documents command will not close all the open
Documents.
FIX: Sometimes the Code Completion will not work if a , is used in the last
position of a line
FIX: The DCT Editor allow to create a field derived from other field that
could create a recursive list of parents
```

FIX: The build system could use the wrong redirection file if there were multiple projects in a solution and those projects were in different folders and there was a clarion90.red file in each of those folders
FIX: The first time you did a generate in the IDE the creation of the exp file might not work properly
FIX: The redirection system was not parsing the %THISDIR% macro correctly when doing a build
FIX: TopSpeed driver would leak memory if you used the TableList SEND command
FIX: Topscan: Default text of the column header could be built incorrectly
FIX: Topscan: Incorrect column picture could break displaying of data
FIX: Topscan: Possible assert failure on the browsing file for the first time
FIX: Unexpected errors could occur on compile/link time if the name of a File View object clashes with the name of some user declared object
FIX: Upgrading of pre-C7 apps could lose the generated flag from project items
FIX: When a severe error happens during generation of the App sometimes the Build process would start but it could not be stopped, leaving the IDE in an state that needed shutdown
FIX: When accessing Btrieve files that had a PDECIMAL field in them that was a key component of a key with the OPT attribute, if you did a binary level compare (eg SavedRecord = Record), this would sometimes fail. DOCUMENTATION: Update the Btrieve docs to document the NULLPDECIMALS = ON|OFF driver string.

FIX: When there is a template that was missing the generation from the application pad could generate an exception and shutdown the IDE
FIX: When there is a template that was missing the generation of the App from the Application Pad could generate an exception and shutdown the IDE
FIX: You could create a local variable of type REPORT via the data pad. The data pad now restricts you to creating variables of type &REPORT

PTSS 34503: IPDVR - IPEXEC function parameters can not contain a ')'.
PTSS 40060: EDITOR HANGS - with specific sequence of lines removed, (code folding could not identify the parent)
PTSS 40093: - JSON Class ToJSON() returns a badly formatted JSON string
PTSS 40205: Clarion Chain Report Previewer zoom was not working over the image
PTSS 40233: TopSpeed 5.0 driver Prompt Screen issues
PTSS 40267: Missing references after the import of the Clarion 6.3 app
PTSS 40342: AbSql.clw: renamed label TextFile to SV_SqlScriptFile to avoid clashing with common user labels
PTSS 40406: REPORT reference goes haywire
PTSS 40487: TXA import thrashes Parameters Entry
REGRESSION: Adding a file to a project that could not be found via

```
redirection added only the file name rather than the relative path to the
file
```

Clarion 9.1 build 10655 release notes

```
*********************************************************
9.1 alpha 2 - 10655
*********************************************************

FEATURE: Added Dependent Assemblies (i.e. COM dlls) to the list of shipping
files
FEATURE: Templates: Added support for specifying dependent COM DLL in the
manifest (for Registration free COM)
FEATURE: Updated installers based on latest SetupBuilder release (4301)
FEATURE: Added some comments to the Dependency Assemblies dialog

FIX: Sometimes the first time the file driver list was accessed in the IDE
the list was empty
FIX: HIDE for controls/menu items in cloned toolbars/menus on child MDI
windows behaved as if DISABLE was called
FIX: IDE: If an omittable parameter in the parameter list is entered without
specifying its data type, the angle brackets could be dropped
FIX: Possible lockup on destroying a control from the frame toolbar if that
control was modified in a MDI child window
```

Clarion 9.1 build 10677 release notes

```
/--- Beta release (3) Clarion 9.1 --- Jan 30  ----- Fixes/Changes/Features--/


Note: The 9.1 release requires a rebuild of all Binaries (DLL and LIB)


************************************************************
9.1 alpha 3 - 10677
************************************************************


FIX: New scrolling/panning code was not firing all required events for mouse
wheel/panning on a page-loaded Browse
FIX: Setting PROP:Selected to listbox could cause unwanted scrolling if new
selected row is in view
FIX: The GENERATED flag could be lost in the project stored to the .APP
FIX:  Builds did not work if you used the /ConfigDir switch and the version
settings were changed from the default values
FIX:  Build from a separate process did not work if the ConfigDir ended in a
\
CHANGE:  The MSBuild tasks CW, CWClear and Redirection now have an extra
ConfigDir parameter which is set via the $ConfigDir property.  This parameter
informs the task where to find the ClarionProperties.xml file to get settings
CHANGE: Template options global: Added ProcessorArchitecture and Language to
the OCX manifest dependency settings
ALPHA FIX: The 9.1 ALPHA release TPS driver CREATEd TPS files which couldn't
be opened by older Clarion versions
```

Clarion 9.1 build 10741 release notes

```
/--- Beta release (4) Clarion 9.1 --- Feb 14  ----- Fixes/Changes/Features--/

Note: The 9.1 release requires a one-time rebuild of all Binaries (DLL and
LIB)

**********************************************************
9.1 alpha 4 - 10741
**********************************************************
NEW: Added the Structure Designer to the Source File Context Menu
CHANGE:  At present TIME(0) is converted to 0 when converting to LONG.  To
change this behaviour so that TIME(0) is converted to midnight (1) you can
now set SYSTEM{PROP:TimeConversionPreservesZero} = TRUE.
CHANGE: An invalid file structure error didn't show the expected errorcode 47
and error() text
CHANGE: Trap exception generated when the DCT is not a valid DCT version
CHANGE: Use theme/system defined font in MESSAGE if fixed-pitch flag is not
set
CHANGE: When a node in a tree is deleted (like in the Solution Explorer) now
the previous file is selected.
FIX 40499: GROUP of time data control not disabled on clearing the
Auto-Format check box
FIX 40501: Text of column headers included prefix of field
FIX 40502: Incorrect parameter of BIND in the Mass Update dialog
FIX 40514,40515: Resizing of some dialogs in TopScan worked incorrectly
FIX 50525: Lockup if date/time pattern contained more than one element
FIX: Comments in PRJ file could be parsed incorrectly
FIX: DROPID() could return unexpected empty string
FIX: Duplicated Day Of Week String in ABUTIL.INC and ABUTILUI.INC
FIX: Exception in the CLW compiler if function is declared with like it is a
member implementing an interface method while class has no the IMPLEMENTS
attribute
FIX: First Day Of Week functionality was not working on every calendar class
FIX: If the solution refernced an invalid or non-existing project, the post
generation action was failing without a message
FIX: The GENERATED flag could be set to external modules
PTSS 40552: Setting of PROP:Alrt and PROP:Key without an index (i.e.
dest{PROP:Alrt} = key  instead of correctly as dest{PROP:Alrt,n} = key) did
not alert
PTSS 40565: Changing position of scrollable area by setting the
PROP:HScrollPos or PROP:VScrollPos property
```

Clarion 9.1 build 10789 release notes

```
/--- Beta release (5) Clarion 9.1 --- Mar 10  ----- Fixes/Changes/Features--/

Note: The 9.1 release requires a one-time rebuild of all Binaries (DLL and
```

```
LIB)


*************************************************************
9.1 alpha 5 - 10789
*************************************************************
CHANGE: If a second initialization of the FM or RM is found the Assert now
shows the table name (circular dct references in relations)
FEATURE: The ODBC interface to TPS files now works from Clarion programs
regardless of which version of Clarion the Clarion program was built with.
FEATURE: (All SQL drivers):  NULL(datefield) and NULL(timefield) now return
TRUE if they are part of a DATE/TIME group and the corresponding column on
the server is NULL
FEATURE: Added Import and Export commands options to the Resource Editor
Addin (to and from .res files)
FEATURE: Added option in the minimized popup menu of the AppBrokerService
Manager to Restart the service instead to having to stop/restart it.
FEATURE: Before compiling all the files were saved but the project, now the
project is also saved before compiling
FEATURE: EQUATES.CLW: new standard EQUATEs for special time values
FEATURE: IP Driver added support to a new predefined table option to be able
to define multiple servers in the owner with out modifying the table original
information.
FEATURE: New built-in signature for dragging texts from external programs:
'~TEXT' NB: The program must either have no manifest or have manifest with
the privilege level set to "asInvoker" to allow dragging from the Explorer in
W8
FEATURE: Use new pragmas define(date0) and define(time0) to control
DATE->LONG and TIME->LONG conversions
FEATURE: When closing the Solution if any Project was modified and not saved
the user will get a Message asking to save
FIX: Caret ghosts could be visible after clicking to ENTRY-like control
FIX: Merging of project can happen simultaneously but not for the same
project
FIX: Removing a library from the project didn't mark the project as modified
FIX: Some files types when deleted from the project were not selecting its
previous node in the project tree.
FIX: Some files were able to be added twice to the project. (Files with no
extension and dots in its name)
FIX: The TS ODBC interface now works with System.Data.Odbc with ULONG, USHORT
and BYTE fields and with ADO with BYTE fields.
FIX: The output project name could not have a '.' in its name - caused the CW
Task to fail
FIX: The record picture of a field was not imported into the dct when
importing from a Clarion 2.1 data file
FEATURE: OLE-based implementation of dragging from the Windows File Explorer.
NB: The program must either have no manifest or have manifest with the
privilege level set to "asInvoker" to allow dragging from the Explorer in
Win8
```

PTSS 40574: WORKAROUND: The Windows GDI layer can cause an exception on simultaneous calls to SelectObject for metafile DCs from several simultaneous

```
threads
PTSS 40592: Cursor muddy in Entry Fields
```

Clarion 9.1 build 10864 release notes

```
/--- Beta release (6) Clarion 9.1 --- Mar 27 ----- Fixes/Changes/Features--/

Note: The 9.1 release requires a one-time rebuild of all Binaries (DLL and
LIB)
***********************************************************
9.1 alpha 6 - 10864
***********************************************************
FEATURE:  New WindowManager method ModalEvent added that can be used to test
if the current event is modal or not
FEATURE:  The ODBC driver now supports generating JOIN structures where the
the column names in the ON clause of the outer join are in the same order as
their respective table names in the OUTER JOIN clause
FEATURE:  The ODBC interface to TPS now supports LEFT OUTER JOIN clauses on
the left hand as well as the right hand side of a join.  If a join is on the
left hand side, then it must be enclosed in brackets
FEATURE: QuickXMLParser: Added property to the QuickXMLParser to read the
name of the nodes caseless
FEATURE: QuickXMLParser: Added method to the QuickXMLParser to know the last
node name and keep an Stack of names.
FEATURE: XMLWriter class to write XML files


CHANGE:  The debugger no longer displays procedures from the WXEH module
CHANGE: Added "Insert Code Snippet" to the Editor context popup menu (touch
friendly)
CHANGE: Added "Select All" to the Editor context popup menu (touch friendly)
CHANGE: CWtouch.inc: changed the name of the Group from POINT to TPOINT to
avoid benign warning
CHANGE: Initialize the SYSTEM font with data of the Windows current theme's
font for message boxes
CHANGE: Change the sort order of the default value of the Standard Headers
for editing
CHANGE: Change default value to Code Snippets edit to .CLW
CHANGE: Separated the XML write functionality from the XML Page write
functionality
CHANGE: The Application Pad's build button changes its text based on the
action selected (Generate/Build/Generate and Build), also the menu items that
are not related to the chosen option are disabled now
CHANGE: When creating a wizarded App and changing the Target to create a DLL
the template will clear out the default "Main" procedure


FIX:  Fields within groups within an alias did not paste correctly when
copied from the data pad or any of the dictionary dialogs inside the
```

application generator
FIX: The SQLite driver would sometimes put randon chars at the end of a
STRING field if the data stored in the database was less than the size of the
STRING field
FIX: The SQLite driver would GPF if you issued 2 OPEN statements and then
RECORDS(file)
FIX: The SQLite driver would sometimes throw an exception when retrieving
large string fields
FIX: A trailing 0-character appended to result of DROPID() for drag-n-drop
operation with the '~FILE' signature
FIX: Avoid ABC programs locking up when an error occurs when entering a
browse
FIX: Changes made in the Advanced Quick View of the dictionary were not saved
when you closed the dictionary
FIX: EVENT:DroppingDown might not be posted
FIX: Images on drop-down buttons were not drawn centered
FIX: PROP:Disconnect did not drop the connection if there were files still
open. *Note that PROP:Disconnect cannot drop the connection if there are
files opened on other threads.
FIX: PROP:Disconnect was removing all active statements from the connection,
but not dropping the connection
FIX: Possible exception if one local class is declared as derived from
another local class NOTE: If both parent and derived classes are local, they
must be declared in the same scope. The compiler emits an error message if
scopes are different.
FIX: Possible exception on accessing procedure's local data from methods of
local classes if classes instantiated not in the procedure scope NOTE: If
both parent and derived classes are local, they must be declared in the same
scope. The compiler emits an error message if scopes are different.
FIX: Possible flicker in a parent window during opening a child window
FIX: Possible infinite recursion if LIST control has no USE attribute
FIX: Potential lockup during dragging
FIX: Scrolling with the mouse wheel worked incorrectly in LIST controls
without the IMM attribute
FIX: Setting SYSTEM{PROP:Font*} properties not changed the font using in
message boxes
FIX: The App could drop the application icon and pragmas manually entered
when generating
FIX: Value of the SPIN control was not updated repeatedly while up or down
button was pressed
FIX: When you removed a file from a project it would sometimes reappear in
the project after generation even when the file was not generated
FIX: file{PROP:Profile} = '' did not stop logging of SQL statements

PTSS 40590: Make Clarion the default in Edit Standard Headers
PTSS 40591: Make .clw the default in Code Snippets
PTSS 40599: Stop WXEH.CPP from prompting
PTSS 40602: Regression: System Font No Longer works on MESSAGE boxes

PTSS 40603: SQLite app UEs and gets Record changed issues
PTSS 40611: DropID() is appending a NULL character if ~FILE
PTSS 40612: D&D deadlocks 9.1 RTL
PTSS 40618: Group fields in alias file gives compile error
PTSS 40642: PROP:RangeLow = 0, PROP:RangeHigh = 9999.99, PROP:Step = .01
dosen't allow the control to spin when the value is 0.00
PTSS 40644: Drop COMBO/LIST - EVENT:DroppingDown not generated and
incorrectly positioned icon
PTSS 40645: LIST mouse-wheel scrolling issues
VISUAL: Border of a themed control might not be redrawn from the hot state
after mouse cursor moved off it

Clarion 9.1 build 10916 release notes

```
/--- Beta release (7) Clarion 9.1 --- April 14 -----
Fixes/Changes/Features--/

Note: The 9.1 release requires a one-time rebuild of all Binaries (DLL and
LIB)


***********************************************************
9.1 alpha 7 - 10916
***********************************************************
FEATURE: You can now set how many times AppGen tries to gain access to a file
in the Application Options window
FEATURE: Added Method to the PopupClass - "EmptyItems" to empty the popup
items when needed
CHANGE: Zero value in a TIME filed TIME(0) when converted to a Standard Time
is now controlled via the SYSTEM property PROP:TimeZeroIsLongOne.  The
default behaviour is to convert TIME(0) to LONG(0).  This is the same
behaviour as previous versions of Clarion
CHANGE: If the SQLite dll is missing and tracing is enabled, this error is
now written to the log
CHANGE: If you try to synchronise with an SQLite database and the IDE cannot
find the SQLite dll, then a more informative error message is now presented.
CHANGE: When you had an invalid macro in a redirection file the dialog that
was displayed did not display all the error text unless you resized it
CHANGE: When you have an invalid macro in a redirection file you are now only
told about it once, not three or more times.
CHANGE: Added messages to the ASSERTs in the class to inform about the
problems with a message
CHANGE: Clarion chain: Add new zoom ratio: Page Height
CHANGE: Use MS Shell Dlg font as default in OS dialogs
CHANGE: WindowResizeClass: Added assert when trying to resize a Tab control,
the control that should be resized is the Sheet, not the Tab
CHANGE: AppGen now works better in environments where automatic backups are
running
FIX: Help messages did not appear when in the Application Options window
FIX: The ODBC interface to TPS did not parse scalar functions that where
escaped.  Eg {fn max(column)} would cause an error, but max(column) was fine
FIX: The ODBC interface to TPS did not parse the long hand escape sequence
for joins --(*VENDOR(MICROSOFT),PRODUCT(ODBC) OJ oj *)-- incorrectly
FIX: Background color might not be set for STRING controls without TRN
attribute in REPORTs
FIX: Clarion chain: If width of zoomed image was less than width of Preview
```

WINDOW's client area, it displayed with incorrect ratio
FIX: Clarion chain: Preview WINDOW's dimensions were used to calculate image sizes instead of dimensions of its client area
FIX: IMAGE controls with scrollbars could be drawn incorrectly
FIX: If you removed a file from a project and the application was not open, then the next time you generated the file would reappear in the project
FIX: If you removed a file from a project and you then did not make any changes to the application, then the next time you generated the file would reappear in the project
FIX: Memory DCs must be initialized with background and text colors of the base DC
FIX: OpenFileDialog to pick a new icon was not opening in the last directory open when the option was set in the IDE Option
FIX: Report Writer could not convert TXR files which contained views, but the data files were not available.
FIX: SELECT for an ENTRY control with focus can cause appearance of a ghost caret
FIX: The Application Pad Sort button was not changing the icon after the full solution build.
FIX: The EVENT:MouseDown event is posted on processing the WM_LBUTTONDBLCLK message for REGION controls as in previous CW versions
FIX: The core dlls were not copied to the destination folder if the application pad was used to build in batch mode

PTSS 37529: add a function to popup class to return TEXT of a menu item
PTSS 37601: In PopUpClass.Ask please support the 3rd parameter that the POPUP command does
REGRESSION: Click repeat time was used instead of click delay time after pressing SPIN buttons.

Clarion 9.1 build 10938 release notes

```
/--- Beta release (7) Clarion 9.1 --- April 28 -----
Fixes/Changes/Features--/

Note: The 9.1 release requires a one-time rebuild of all Binaries (DLL and
LIB)


************************************************************
9.1 alpha 8 - 10938
************************************************************

CHANGE: %ProcedureDateChanged and %ProcedureTimeChanged symbols changed value
during generation for procedures with embed points containing the text
CHANGE: Report error if #EMBED statement has inconsistent attributes
FEATURE: Added support for automatic display of the On Screen Keyboard upon
gain focus to ENTRY, TEXT and RTF controls for Win8. To enable the On Screen
Keyboard the EnhancedFocus need to be enable.
FEATURE: Added support for the On Screen Keyboard in the EnhancedFocusClass.
To enable the On Screen Keyboard the EnhancedFocus need to be enable.
FEATURE: Declaration of i64* family of RTL functions
FEATURE: Some changes to the Start Page, added more color configuration for
the Start Page in Appearance.
FIX: DCT Editor Derived Fields List in the Column editor was not showing
properly
FIX: DCT Editor Derived Fields List in the Column editor was not showing
properly
FIX: Incorrect error messages when batch building could inject repeated
failures
FIX: Release of a pressed VCR buttons on a LIST could be missed
FIX: Setting of PROP:YOrigin for LIST controls allowed negative and invalid
large values
FIX: The SQL drivers would throw an exception if the connection to the server
was lost and you had at least two threads opened and one of these threads,
other than the first one was processing a VIEW structure (Eg.  in a browse)
PTSS 40686: %ProcedureDateChanged giving wrong date
PTSS 40692: Weird VCR effects on list box scrolling
```

Clarion 9.1 build 10971 release notes

```
/--- Beta release (9) Clarion 9.1 --- May 05 ----- Fixes/Changes/Features--/
```

Note: The 9.1 release requires a one-time rebuild of all Binaries (DLL and LIB)


```
************************************************************
9.1 alpha 9 - 10971
************************************************************
```
CHANGE: Increase allowed max nesting level of {} groups in regular expressions
CHANGE: Show the file extension for uncategorized files in the Start Page
CHANGE: Use either CSTRING or STRING parameters with the email/sms and image editing APIs in ClaRunExt
CHANGE: Better output in the File Layout window
FEATURE: Added methods to ABBrowse to enable or disable the showing of the wait cursor in a Browse SetUseWaitCursor(True/False)
FEATURE: Added hover color to the Start page rows, and a GreenBar effect color (AltBody)
FEATURE: Error messages are now displayed, if wanted, if there are problems loading Clarunext.dll
FEATURE: New classes added to Clarunext to make it easy to send emails without using template to gen the code
FIX: If a new connection was needed by the SQL drivers and an old connection was available and a transaction was active, the reused connection was not added to the transaction frame
FIX: The ODBC based drivers would sometimes reuse an old connection when an existing active connection could be used
FIX: Window/Report designer could fail if the USE for the controls was ?0
FIX: ABC Wizard: When customization for the templates windows was set to default instead of CENTER it could generate an invalid window structure with a 1
FIX: Error in managing the nesting level of {} groups in regular expressions
FIX: Getting of PROPLIST:SortColumn could cause an error if PROPLIST:HasSortColumn returned FALSE
FIX: MATCH and STRPOS could return incorrect result if matching is case-insensitive
FIX: Possible exception on opening a multi-table file in TopScan
FIX: The error pad would sometimes show the wrong path to a file if that path was not in the same directory as the project but could normally be found via redirection
FIX: When the Field selection dialog was called to select a field and the app did not have a DCT the local data was not displayed in the FileSchema dialog unless you selected Module or Global data and then selected local data
FIX: Fix to templates that mixed MAP/TREE with HIDE (was causing the template to fail to register)
PTSS 40659: ?ComboList{07C31} may cause Clarion RTL internal exception
PTSS 40680: STRPOS errors
PTSS 40688: Error pad shows wrong path to file with compilation errors when

```
local RED file
PTSS 40697: Local Data was not displayed in the Select Field dialog
PTSS 40702: Topscan GPFs when opening multi-table file
```

Clarion 9.1 build 11014 release notes (first general beta release)

Build 11014 is the first general release of the Clarion 9.1 beta. The two biggest new features in the 9.1 version are full support for touch devices and reg-free COM.

All 9.1 releases carry a warning about the need to rebuild binaries for 9.1. This is a one-time requirement - if you already have 9.1-built binaries you do not need to rebuild them with each 9.1 release.

For more information on this release see http://clarionsharp.com/blog/clarion-9-1-pre-release/

```
/--- Beta release (10) Clarion 9.1 --- May 16 ----- Fixes/Changes/Features--/


Note: The 9.1 release requires a one-time rebuild of all your Binaries (DLL
and LIB).
You need to download the 9.1 versions of any 3rd party addons that you use.


***********************************************************
9.1 beta 10 (pre-release) - 11014
***********************************************************


FIX: Scrollbars might not appear as required in a WINDOW/IMAGE after resizing
and/or adding/moving scrollable controls
FIX: If you changed just the direction of a key component, the change was not
written to disk when the dictionary was saved.
FIX: Setting PROP:VScrollPos or PROP:HScrollPos to 255 did not scroll the
contents to max position
FIX: The file open dialog initial directory system could choose the wrong
starting folder based on file type
FIX: Exception occurred on processing of the pan gesture in TEXT controls if
both scrollbars were not enabled
CHANGE: When you select a file from the Start Page, the initial directory for
the equivalent file open dialog is set to the location of that file


***********************************************************
9.1 beta 9 - 10971
***********************************************************
CHANGE: Increase allowed max nesting level of {} groups in regular
expressions
CHANGE: Show the file extension for uncategorized files in the Start Page
CHANGE: Use either CSTRING or STRING parameters with the email/sms and image
editing APIs in ClaRunExt
CHANGE: Better output in the File Layout window
FEATURE: Added methods to ABBrowse to enable or disable the showing of the
wait cursor in a Browse SetUseWaitCursor(True/False)
```

```
FEATURE: Added hover color to the Start page rows, and a GreenBar effect
color (AltBody)
FEATURE: Error messages are now displayed, if wanted, if there are problems
loading Clarunext.dll
FEATURE: New classes added to Clarunext to make it easy to send emails
without using template to gen the code
FIX: If a new connection was needed by the SQL drivers and an old connection
was available and a transaction was active, the reused connection was not
added to the transaction frame
FIX: The ODBC based drivers would sometimes reuse an old connection when an
existing active connection could be used
FIX: Window/Report designer could fail if the USE for the controls was ?0
FIX: ABC Wizard: When customization for the templates windows was set to
default instead of CENTER it could generate an invalid window structure with
a 1
FIX: Error in managing the nesting level of {} groups in regular expressions
FIX: Getting of PROPLIST:SortColumn could cause an error if
PROPLIST:HasSortColumn returned FALSE
FIX: MATCH and STRPOS could return incorrect result if matching is
case-insensitive
FIX: Possible exception on opening a multi-table file in TopScan
FIX: The error pad would sometimes show the wrong path to a file if that path
was not in the same directory as the project but could normally be found via
redirection
FIX: When the Field selection dialog was called to select a field and the app
did not have a DCT the local data was not displayed in the FileSchema dialog
unless you selected Module or Global data and then selected local data
FIX: Fix to templates that mixed MAP/TREE with HIDE (was causing the template
to fail to register)
PTSS 40659: ?ComboList{07C31} may cause Clarion RTL internal exception
PTSS 40680: STRPOS errors
PTSS 40688: Error pad shows wrong path to file with compilation errors when
local RED file
PTSS 40697: Local Data was not displayed in the Select Field dialog
PTSS 40702: Topscan GPFs when opening multi-table file




**********************************************************
9.1 beta 8 - 10938
**********************************************************


CHANGE: %ProcedureDateChanged and %ProcedureTimeChanged symbols changed value
during generation for procedures with embed points containing the text
CHANGE: Report error if #EMBED statement has inconsistent attributes
FEATURE: Added support for automatic display of the On Screen Keyboard upon
gain focus to ENTRY, TEXT and RTF controls for Win8. To enable the On Screen
Keyboard the EnhancedFocus need to be enable.
```

FEATURE: Added support for the On Screen Keyboard in the EnhancedFocusClass.
To enable the On Screen Keyboard the EnhancedFocus need to be enable.
FEATURE: Declaration of i64* family of RTL functions
FEATURE: Some changes to the Start Page, added more color configuration for
the Start Page in Appearance.
FIX: DCT Editor Derived Fields List in the Column editor was not showing
properly
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FIX: Incorrect error messages when batch building could inject repeated
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FIX: Release of a pressed VCR buttons on a LIST could be missed
FIX: Setting of PROP:YOrigin for LIST controls allowed negative and invalid
large values
FIX: The SQL drivers would throw an exception if the connection to the server
was lost and you had at least two threads opened and one of these threads,
other than the first one was processing a VIEW structure (Eg. in a browse)
PTSS 40686: %ProcedureDateChanged giving wrong date
PTSS 40692: Weird VCR effects on list box scrolling

****
9.1 beta 7 - 10916
****
FEATURE: You can now set how many times AppGen tries to gain access to a file
in the Application Options window
FEATURE: Added Method to the PopupClass - "EmptyItems" to empty the popup
items when needed
CHANGE: Zero value in a TIME filed TIME(0) when converted to a Standard Time
is now controlled via the SYSTEM property PROP:TimeZeroIsLongOne. The
default behaviour is to convert TIME(0) to LONG(0). This is the same
behaviour as previous versions of Clarion
CHANGE: If the SQLite dll is missing and tracing is enabled, this error is
now written to the log
CHANGE: If you try to synchronise with an SQLite database and the IDE cannot
find the SQLite dll, then a more informative error message is now presented.
CHANGE: When you had an invalid macro in a redirection file the dialog that
was displayed did not display all the error text unless you resized it
CHANGE: When you have an invalid macro in a redirection file you are now only
told about it once, not three or more times.
CHANGE: Added messages to the ASSERTs in the class to inform about the
problems with a message
CHANGE: Clarion chain: Add new zoom ratio: Page Height
CHANGE: Use MS Shell Dlg font as default in OS dialogs
CHANGE: WindowResizeClass: Added assert when trying to resize a Tab control,
the control that should be resized is the Sheet, not the Tab
CHANGE: AppGen now works better in environments where automatic backups are
running
FIX: Help messages did not appear when in the Application Options window

FIX: The ODBC interface to TPS did not parse scalar functions that where escaped. Eg {fn max(column)} would cause an error, but max(column) was fine
FIX: The ODBC interface to TPS did not parse the long hand escape sequence for joins --(*VENDOR(MICROSOFT),PRODUCT(ODBC) OJ oj *)-- incorrectly
FIX: Background color might not be set for STRING controls without TRN attribute in REPORTs
FIX: Clarion chain: If width of zoomed image was less than width of Preview WINDOW's client area, it displayed with incorrect ratio
FIX: Clarion chain: Preview WINDOW's dimensions were used to calculate image sizes instead of dimensions of its client area
FIX: IMAGE controls with scrollbars could be drawn incorrectly
FIX: If you removed a file from a project and the application was not open, then the next time you generated the file would reappear in the project
FIX: If you removed a file from a project and you then did not make any changes to the application, then the next time you generated the file would reappear in the project
FIX: Memory DCs must be initialized with background and text colors of the base DC
FIX: OpenFileDialog to pick a new icon was not opening in the last directory open when the option was set in the IDE Option
FIX: Report Writer could not convert TXR files which contained views, but the data files were not available.
FIX: SELECT for an ENTRY control with focus can cause appearance of a ghost caret
FIX: The Application Pad Sort button was not changing the icon after the full solution build.
FIX: The EVENT:MouseDown event is posted on processing the WM_LBUTTONDBLCLK message for REGION controls as in previous CW versions
FIX: The core dlls were not copied to the destination folder if the application pad was used to build in batch mode

PTSS 37529: add a function to popup class to return TEXT of a menu item
PTSS 37601: In PopUpClass.Ask please support the 3rd parameter that the POPUP command does
REGRESSION: Click repeat time was used instead of click delay time after pressing SPIN buttons.

****
9.1 beta 6 - 10864
****
FEATURE: New WindowManager method ModalEvent added that can be used to test if the current event is modal or not
FEATURE: The ODBC driver now supports generating JOIN structures where the the column names in the ON clause of the outer join are in the same order as their respective table names in the OUTER JOIN clause
FEATURE: The ODBC interface to TPS now supports LEFT OUTER JOIN clauses on the left hand as well as the right hand side of a join. If a join is on the

left hand side, then it must be enclosed in brackets
FEATURE: QuickXMLParser: Added property to the QuickXMLParser to read the
name of the nodes caseless
FEATURE: QuickXMLParser: Added method to the QuickXMLParser to know the last
node name and keep an Stack of names.
FEATURE: XMLWriter class to write XML files

CHANGE: The debugger no longer displays procedures from the WXEH module
CHANGE: Added "Insert Code Snippet" to the Editor context popup menu (touch
friendly)
CHANGE: Added "Select All" to the Editor context popup menu (touch friendly)
CHANGE: CWtouch.inc: changed the name of the Group from POINT to TPOINT to
avoid benign warning
CHANGE: Initialize the SYSTEM font with data of the Windows current theme's
font for message boxes
CHANGE: Change the sort order of the default value of the Standard Headers
for editing
CHANGE: Change default value to Code Snippets edit to .CLW
CHANGE: Separated the XML write functionality from the XML Page write
functionality
CHANGE: The Application Pad's build button changes its text based on the
action selected (Generate/Build/Generate and Build), also the menu items that
are not related to the chosen option are disabled now
CHANGE: When creating a wizarded App and changing the Target to create a DLL
the template will clear out the default "Main" procedure

FIX: Fields within groups within an alias did not paste correctly when
copied from the data pad or any of the dictionary dialogs inside the
application generator
FIX: The SQLite driver would sometimes put randon chars at the end of a
STRING field if the data stored in the database was less than the size of the
STRING field
FIX: The SQLite driver would GPF if you issued 2 OPEN statements and then
RECORDS(file)
FIX: The SQLite driver would sometimes throw an exception when retrieving
large string fields
FIX: A trailing 0-character appended to result of DROPID() for drag-n-drop
operation with the '~FILE' signature
FIX: Avoid ABC programs locking up when an error occurs when entering a
browse
FIX: Changes made in the Advanced Quick View of the dictionary were not saved
when you closed the dictionary
FIX: EVENT:DroppingDown might not be posted
FIX: Images on drop-down buttons were not drawn centered
FIX: PROP:Disconnect did not drop the connection if there were files still
open. *Note that PROP:Disconnect cannot drop the connection if there are
files opened on other threads.
FIX: PROP:Disconnect was removing all active statements from the connection,

but not dropping the connection

FIX: Possible exception if one local class is declared as derived from another local class NOTE: If both parent and derived classes are local, they must be declared in the same scope. The compiler emits an error message if scopes are different.

FIX: Possible exception on accessing procedure's local data from methods of local classes if classes instantiated not in the procedure scope NOTE: If both parent and derived classes are local, they must be declared in the same scope. The compiler emits an error message if scopes are different.

FIX: Possible flicker in a parent window during opening a child window

FIX: Possible infinite recursion if LIST control has no USE attribute

FIX: Potential lockup during dragging

FIX: Scrolling with the mouse wheel worked incorrectly in LIST controls without the IMM attribute

FIX: Setting SYSTEM{PROP:Font*} properties not changed the font using in message boxes

FIX: The App could drop the application icon and pragmas manually entered when generating

FIX: Value of the SPIN control was not updated repeatedly while up or down button was pressed

FIX: When you removed a file from a project it would sometimes reappear in the project after generation even when the file was not generated

FIX: file{PROP:Profile} = '' did not stop logging of SQL statements

PTSS 40590: Make Clarion the default in Edit Standard Headers

PTSS 40591: Make .clw the default in Code Snippets

PTSS 40599: Stop WXEH.CPP from prompting

PTSS 40602: Regression: System Font No Longer works on MESSAGE boxes

PTSS 40603: SQLite app UEs and gets Record changed issues

PTSS 40611: DropID() is appending a NULL character if ~FILE

PTSS 40612: D&D deadlocks 9.1 RTL

PTSS 40618: Group fields in alias file gives compile error

PTSS 40642: PROP:RangeLow = 0, PROP:RangeHigh = 9999.99, PROP:Step = .01 dosen't allow the control to spin when the value is 0.00

PTSS 40644: Drop COMBO/LIST - EVENT:DroppingDown not generated and incorrectly positioned icon

PTSS 40645: LIST mouse-wheel scrolling issues

VISUAL: Border of a themed control might not be redrawn from the hot state after mouse cursor moved off it

****
9.1 beta 5 - 10789
****
CHANGE: If a second initialization of the FM or RM is found the Assert now shows the table name (circular dct references in relations)

FEATURE: The ODBC interface to TPS files now works from Clarion programs regardless of which version of Clarion the Clarion program was built with.

FEATURE: (All SQL drivers): NULL(datefield) and NULL(timefield) now return
TRUE if they are part of a DATE/TIME group and the corresponding column on
the server is NULL
FEATURE: Added Import and Export commands options to the Resource Editor
Addin (to and from .res files)
FEATURE: Added option in the minimized popup menu of the AppBrokerService
Manager to Restart the service instead to having to stop/restart it.
FEATURE: Before compiling all the files were saved but the project, now the
project is also saved before compiling
FEATURE: EQUATES.CLW: new standard EQUATEs for special time values
FEATURE: IP Driver added support to a new predefined table option to be able
to define multiple servers in the owner with out modifying the table original
information.
FEATURE: New built-in signature for dragging texts from external programs:
'~TEXT' NB: The program must either have no manifest or have manifest with
the privilege level set to "asInvoker" to allow dragging from the Explorer in
W8
FEATURE: Use new pragmas define(date0) and define(time0) to control
DATE->LONG and TIME->LONG conversions
FEATURE: When closing the Solution if any Project was modified and not saved
the user will get a Message asking to save
FIX: Caret ghosts could be visible after clicking to ENTRY-like control
FIX: Merging of project can happen simultaneously but not for the same
project
FIX: Removing a library from the project didn't mark the project as modified
FIX: Some files types when deleted from the project were not selecting its
previous node in the project tree.
FIX: Some files were able to be added twice to the project. (Files with no
extension and dots in its name)
FIX: The TS ODBC interface now works with System.Data.Odbc with ULONG, USHORT
and BYTE fields and with ADO with BYTE fields.
FIX: The output project name could not have a '.' in its name - caused the CW
Task to fail
FIX: The record picture of a field was not imported into the dct when
importing from a Clarion 2.1 data file
FEATURE: OLE-based implementation of dragging from the Windows File Explorer.
NB: The program must either have no manifest or have manifest with the
privilege level set to "asInvoker" to allow dragging from the Explorer in
Win8
PTSS 40574: WORKAROUND: The Windows GDI layer can cause an exception on
simultaneous calls to SelectObject for metafile DCs from several simultaneous
threads
PTSS 40592: Cursor muddy in Entry Fields

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threads
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****

```
9.1 beta 4 - 10741
*************************************************************
FEATURE: (All SQL drivers):  NULL(datefield) and NULL(timefield) now return
TRUE if they are part of a DATE/TIME group and the corresponding column on
the server is NULLFEATURE: (All SQL drivers):  NULL(datefield) and
NULL(timefield) now return TRUE if they are part of a DATE/TIME group and the
corresponding column on the server is NULLFEATURE: (All SQL drivers):
NULL(datefield) and NULL(timefield) now return TRUE if they are part of a
DATE/TIME group and the corresponding column on the server is NULLNEW: Added
the Structure Designer to the Source File Context Menu
CHANGE:  At present TIME(0) is converted to 0 when converting to LONG.  To
change this behaviour so that TIME(0) is converted to midnight (1) you can
now set SYSTEM{PROP:TimeConversionPreservesZero} = TRUE.
CHANGE: An invalid file structure error didn't show the expected errorcode 47
and error() text
CHANGE: Trap exception generated when the DCT is not a valid DCT version
CHANGE: Use theme/system defined font in MESSAGE if fixed-pitch flag is not
set
CHANGE: When a node in a tree is deleted (like in the Solution Explorer) now
the previous file is selected.
FIX 40499: GROUP of time data control not disabled on clearing the
Auto-Format check box
FIX 40501: Text of column headers included prefix of field
FIX 40502: Incorrect parameter of BIND in the Mass Update dialog
FIX 40514,40515: Resizing of some dialogs in TopScan worked incorrectly
FIX 50525: Lockup if date/time pattern contained more than one element
FIX: Comments in PRJ file could be parsed incorrectly
FIX: DROPID() could return unexpected empty string
FIX: Duplicated Day Of Week String in ABUTIL.INC and ABUTILUI.INC
FIX: Exception in the CLW compiler if function is declared with like it is a
member implementing an interface method while class has no the IMPLEMENTS
attribute
FIX: First Day Of Week functionality was not working on every calendar class
FIX: If the solution refernced an invalid or non-existing project, the post
generation action was failing without a message
FIX: The GENERATED flag could be set to external modules
PTSS 40552: Setting of PROP:Alrt and PROP:Key without an index (i.e.
dest{PROP:Alrt} = key  instead of correctly as dest{PROP:Alrt,n} = key) did
not alert
PTSS 40565: Changing position of scrollable area by setting the
PROP:HScrollPos or PROP:VScrollPos property




*************************************************************
9.1 beta 3 - 10677
*************************************************************
```

FIX: New scrolling/panning code was not firing all required events for mouse wheel/panning on a page-loaded Browse
FIX: Setting PROP:Selected to listbox could cause unwanted scrolling if new selected row is in view
FIX: The GENERATED flag could be lost in the project stored to the .APP
FIX: Builds did not work if you used the /ConfigDir switch and the version settings were changed from the default values
FIX: Build from a separate process did not work if the ConfigDir ended in a \
CHANGE: The MSBuild tasks CW, CWClear and Redirection now have an extra ConfigDir parameter which is set via the $ConfigDir property. This parameter informs the task where to find the ClarionProperties.xml file to get settings
CHANGE: Template options global: Added ProcessorArchitecture and Language to the OCX manifest dependency settings
ALPHA FIX: The 9.1 ALPHA release TPS driver CREATEd TPS files which couldn't be opened by older Clarion versions

****
9.1 beta 2 - 10655
****

FEATURE: Added Dependent Assemblies (i.e. COM dlls) to the list of shipping files
FEATURE: Templates: Added support for specifying dependent COM DLL in the manifest (for Registration free COM)
FEATURE: Updated installers based on latest SetupBuilder release (4301)
FEATURE: Added some comments to the Dependency Assemblies dialog

FIX: Sometimes the first time the file driver list was accessed in the IDE the list was empty
FIX: HIDE for controls/menu items in cloned toolbars/menus on child MDI windows behaved as if DISABLE was called
FIX: IDE: If an omittable parameter in the parameter list is entered without specifying its data type, the angle brackets could be dropped
FIX: Possible lockup on destroying a control from the frame toolbar if that control was modified in a MDI child window

****
9.1 beta 1 - 10638
****
 FEATURE:: Support of Touch input
 FEATURE:: Support registration-free activation of COM objects from side-by-side assemblies
 FEATURE: Added support for routines in DCT triggers code. NOTE: Restrictions: the routines name should not start with the word "routine" (will make the code generate incorrectly). After the first routine is found the rest of the code of will be treated as routine code and output in column

1 after the RETURN of the method
 FEATURE:: Added two new methods to the resize class to know when resizing starts and finishes: WindowResizeBegin and WindowResizeEnd
 FEATURE:: Before building if the process CCC.EXE is found running the IDE will try to stop it, if is successful it will add a message in the Error List (Message) This was added to stop the error on building related to the Catalyst Control Center Utility (aka CCC.EXE)
 FEATURE:: Files for custom handling of touch input in programs; CWTOUCH.CLW, CWTOUCH.INC, CWTOUCHDEF.INC
 FEATURE:: JSON: Added an example that show how to serialize and deserialize a QUEUE to/from json
 FEATURE:: JSON: Added methods to the JSON Class to parse the Json results
 FEATURE:: JSON: Allow to use a PICTURE to format numbers in the ToJSON groups and queue and to DEFORMAT the numbers with @BOOL support
 FEATURE:: JSON: class Added methods to the JSON class to parse the json string and retrieve the names , values (simple or arrays) of a json pair
 FEATURE:: JSON: class Added methods to the JSON class to deserialize GROUPs and QUEUEs
 FEATURE:: Option setting to set the length of the Clarion code Editor line before adding a &|Tools-Options-TextEditor-Clarion Specific Options NOTE: for now this only apply to the hand coded Windows (Ctrl+D), not the App windows
 FEATURE:: QuickXMLParser added Trace method that is called every time the parser executes an interface method. (use OutPutDebugString)
 FEATURE:: Send Email and Send SMS functions added to ClaRunExt
 FEATURE:: Setting to enable to automatically kill the process (App's Exe) before doing a build (only available on EE) Options-General-Project and Solutions-"Kill Process before build"
 FEATURE:: Show info about address in the call stack in form <module name>:<offset> if module has no debug info or address can't be resolved

CHANGE: Extend sizes of variables used to hold a procedure's prototype and parameter list
CHANGE: ABC Browse Class, method ReplaceSort is now virtual
CHANGE: ABC: Added support to the WindowExtenderClass to check if a processes other than the current one is running and be able to bring them to the front
CHANGE: ABC: Added support for Only one Instance of the procedure when the procedure is declared in a DLL
CHANGE: Added support to the GENERATEDClass module and SourceClass procedure template to generate generic members
CHANGE: Additional functions of the i64 family
CHANGE: Default vale for the DCT QuickView is Advanced before it was Simple
CHANGE: Default value to Require Dictionary is set to false
CHANGE: Fields of type reference-to-typed-GROUP are allowed now in structures
CHANGE: ICSharpCode.SharpDevelop.Gui.FormLocationHelper is deprecated, please use ICSharpCode.Core.FormPositionService.Instance instead.
CHANGE: IListControl new method GetSelectedItem
CHANGE: If the selection of the derived from column creates an error now the error is displayed in the error pad

CHANGE: Improve the Parser Thread start/stop process
CHANGE: Old default properties were not matching the name of the properties files used by the IDE.
CHANGE: Old files named SharpDevelop-teplates.xml was renamed to CodeSnippets.xml to easily identify it with the options it store
CHANGE: Set message text for constraint type run-time errors; 401: "Stack overflow", 402: "Null pointer de-reference", 404: "Arithmetic overflow", 405: "Value out of range", 406: "No return from function", 407: "No matching case label", 408: "Division by zero", 409: "Index out of range"
CHANGE: Solution Explorer (Clarion Project), when an item from the solution like a Icon, CLW, etc. is removed the previous item is now selected instead of going to the parent node
CHANGE: Support Windows 8.1 in the MANIFEST command for the linker
CHANGE: SystemString class: Format method is renamed to FormatString
CHANGE: The font for the TopSpeed ODBC driver dialogs has been changed to be consistent with the rest of the product
CHANGE: Update ClaTalk template to use the ClaRunExtClass
CHANGE: Updated the IPEXEC parameter parser to use equates for the states (faster than strings)
CHANGE: When Controls in the DCT are created (WINDOW/REPORT field representations) the Parser was re-reading the EQUATES.CLW and BUILTINS.CLW files from disk, now it caches those files after the first read. NOTE: If a user is modifying those files the changes will not be reflected until the IDE is re-started. NOTE2: If the user is using multiple EQUATES.CLW or BUILTINS.CLW files from multiple .Red files only the first one used will be processed for the DCT Control creation and Code Completion.

FIX: Procedure parameters could be imported wrong from a partial TXA (TXA having no [APPLICATION] section)
FIX: AppBrokerServiceManager was not showing the correct icon when the service was stopped
FIX: Clicking on the cancel button during DCT conversion or other Dct process was not stopping the process but just closing the window dialog
FIX: Code Completion was differentiating between upper case and lower case file name extension.
FIX: DCT: Sometimes when the Column contained invalid data, selecting a new columns could cause a null exception based on the invalid data
FIX: DCT: When any validation error happen on a derived column and the child is selected, the error was not displayed
FIX: DCT: when converting the DCT and an expected error happen, the error were only added to the Pad but not displayed in a Message()
FIX: Fix typo in the Icon viewer
FIX: GET(file,key) did not work with the SQLite driver if the key components where not the first fields in the record structure
FIX: Generator did not generate &REPORT fields correctly
FIX: Horizontal scrolling by touch in LIST controls did not work
FIX: If an invalid shortcut was found at startup the IDE would shut down
FIX: If there was an error in a redirection macro in an included redirection

file, then the dialog displaying the error message indicated that the problem was in the top level redirection file rather than in the included redirection file.
FIX: Incorrect text was displayed in the Toolbar Build Solution and Rebuild Solution buttons
FIX: PNG images with an alpha channel would not 'stretch'
FIX: Position of scrollable WINDOW or IMAGE control could be calculated incorrectly on scrolling or on changing the PROP:XOrigin or PROP:YOrigin properties
FIX: Possible memory leaks if LIST control uses styles
FIX: REGION, PROMPT, RADIO controls were not using the correct Color Editor in the Window Designed for some color properties
FIX: REPORT Format Section Dialogs were not using the correct color dialog
FIX: REPORT parts were not using the correct Color Dialog for the color properties
FIX: Reference assignments of NULL to variables of type &GROUP or &GroupType produced unwanted statics
FIX: Separator was spelled incorrectly in the TopSpeed ODBC driver configuration dialog.
FIX: Setting PROP:HScroll and PROP:VScroll to TRUE for an IMAGE control caused displaying of scrollbar even if its real size is not enough to fill the control rectangle
FIX: Shortcut editor allowed for invalid shortcuts to be added to the IDE
FIX: Size of fields for Justification and Place Over in the DCT were too small
FIX: Some IDE dialogs were not re-displaying and positioned properly after were displayed in a secondary display that was unplugged
FIX: Sometimes the Close All Documents command will not close all the open Documents.
FIX: Sometimes the Code Completion will not work if a , is used in the last position of a line
FIX: The DCT Editor allow to create a field derived from other field that could create a recursive list of parents
FIX: The build system could use the wrong redirection file if there were multiple projects in a solution and those projects were in different folders and there was a clarion90.red file in each of those folders
FIX: The first time you did a generate in the IDE the creation of the exp file might not work properly
FIX: The redirection system was not parsing the %THISDIR% macro correctly when doing a build
FIX: TopSpeed driver would leak memory if you used the TableList SEND command
FIX: Topscan: Default text of the column header could be built incorrectly
FIX: Topscan: Incorrect column picture could break displaying of data
FIX: Topscan: Possible assert failure on the browsing file for the first time
FIX: Unexpected errors could occur on compile/link time if the name of a File View object clashes with the name of some user declared object
FIX: Upgrading of pre-C7 apps could lose the generated flag from project items

FIX: When a severe error happens during generation of the App sometimes the Build process would start but it could not be stopped, leaving the IDE in an state that needed shutdown

FIX: When accessing Btrieve files that had a PDECIMAL field in them that was a key component of a key with the OPT attribute, if you did a binary level compare (eg SavedRecord = Record), this would sometimes fail. DOCUMENTATION: Update the Btrieve docs to document the NULLPDECIMALS = ON|OFF driver string.

FIX: When there is a template that was missing the generation from the application pad could generate an exception and shutdown the IDE

FIX: When there is a template that was missing the generation of the App from the Application Pad could generate an exception and shutdown the IDE

FIX: You could create a local variable of type REPORT via the data pad. The data pad now restricts you to creating variables of type &REPORT

PTSS 34503: IPDVR - IPEXEC function parameters can not contain a ')'.

PTSS 40060: EDITOR HANGS - with specific sequence of lines removed, (code folding could not identify the parent)

PTSS 40093: - JSON Class ToJSON() returns a badly formatted JSON string

PTSS 40205: Clarion Chain Report Previewer zoom was not working over the image

PTSS 40233: TopSpeed 5.0 driver Prompt Screen issues

PTSS 40267: Missing references after the import of the Clarion 6.3 app

PTSS 40342: AbSql.clw: renamed label TextFile to SV_SqlScriptFile to avoid clashing with common user labels

PTSS 40406: REPORT reference goes haywire

PTSS 40487: TXA import thrashes Parameters Entry

REGRESSION: Adding a file to a project that could not be found via

```
redirection added only the file name rather than the relative path to the
file
```

Clarion 9.1 under the hood - Part 1

When I get a new Clarion release one of my favorite things to do is pull out Beyond Compare and see what changes have been made to the shipping product. That won't tell me much if anything about the compiled part of the product, but as Clarion ships with a lot of template and Clarion source those comparisons are often revealing.

But first a quick note about using Custom Setup on install. Besides choosing an install directory, you can select up to five optional features. In the Clarion 9.0 install all but the Report Writer were selected by default. When I ran the 9.1 install all options were unselected by default. I manually chose the options I wanted.
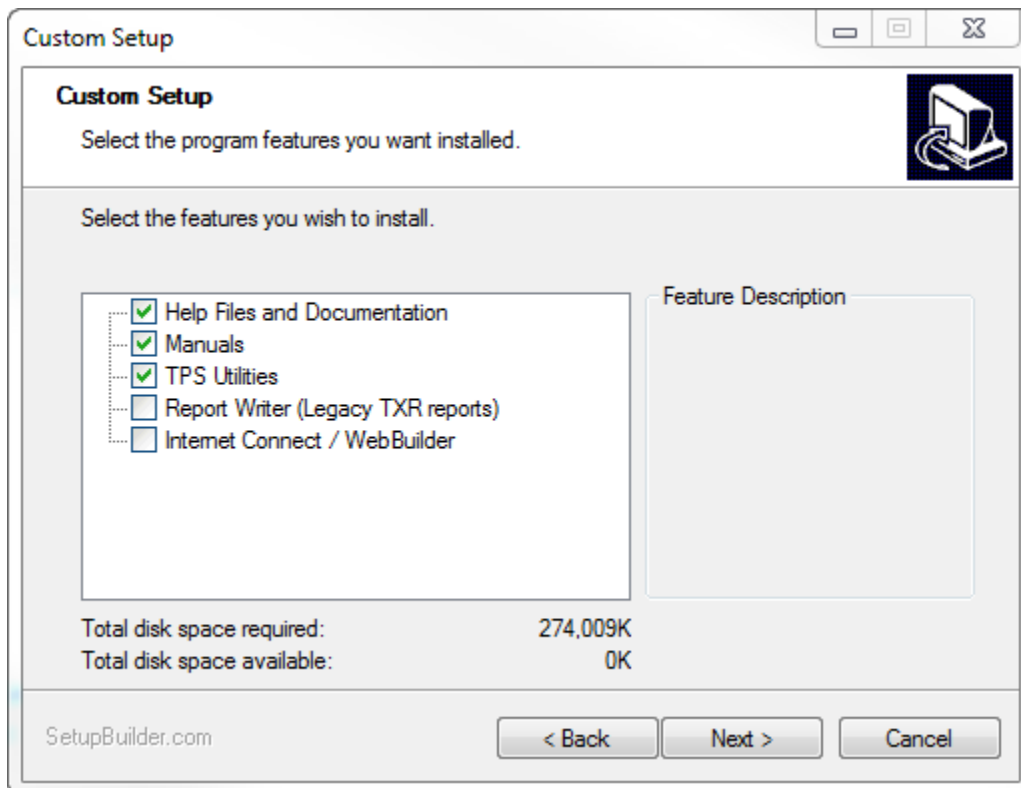
New (and moved) stuff

The first new file I spotted was data\options\CodeSnippets.xml, but it turns out this is SharpDevelop-templates.xml under a different (and more appropriate) name. The contents haven't changed significantly, but I think it's still worth remembering what's here. The original file no doubt had the VB and C++ snippets; SoftVelocity added Clarion (CLW) snippets:

- acceptl - accept loop
- caseof - Case Of
- casea - case accepted()
- caseev - case event()
- casesel - case selected()
- execb - execute code block
- ifbreak - if Condition then break (inside a loop)
- ife - If Else
- loopi - Loop i = initial TO limit [BY step] LOOP i = | TO limit [BY step]
- loopu - loop until
- loopw - loop while
- classdcl - class declaration
- filedcl - File Structure starter

- loopqueue - loop through a given queue
- groupdcl - group structure starter
- queuedcl - queue structure starter
- routinedef - routine starter
- procdef - procedure starter

and ClarionSharp (CLN) snippets:

- ife - IF Else
- omdi - open an MDI child window ! create instance of a window and open as an MDI child
- tryc - Try Catch
- trycf - Try Catch Finally
- tryf - Try Finally
- loopw - Loop While
- loopu - Loop Until
- loopi - Loop i = initial TO limit [BY step] Loop i = | TO limit [BY step]
- caseof - Case Of
- execb - Execute code block

Some code snippets require you to select some text first. For instance, type MyClass then highlight the text and press Ctrl-J. Select the class declaration snippet:

```
MyClass

  !!!<        XML comment
  acceptl   accept loop
  casea     case accepted()
  caseev    case event() (window event)
  caseof    Case Of
  casesel   case selected()
  classdcl  class declaration
  compileb          compile directive
  execb     execute code block
  filedcl   File Structure starter
```
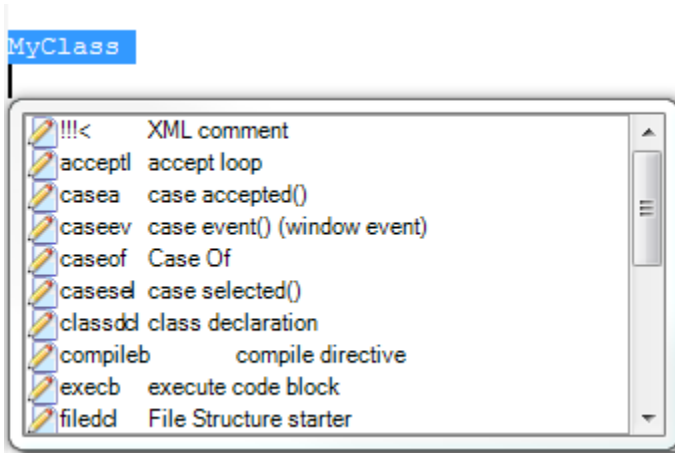
Tada!

```
MyClass                                    CLASS !, TYPE
CONSTRUCT                                       PROCEDURE
DESTRUCT                                        PROCEDURE
                                                !Properties
                                                !Methods
                                           END
```

You'll still need to declare and write any method implementations, of course.

If you don't select some text first you'll get a different result:

```
CLASS !, TYPE
CONSTRUCT                                  PROCEDURE
DESTRUCT                                   PROCEDURE
                                                !Properties
                                                !Methods
                                           END
```

But that's easily remedied - just stick a label in front of CLASS and reformat with Ctrl-I.

The file structure code snippet is similarly pretty simple:

```
MyFile                                  FILE, DRIVER()
                                            RECORD
                                            END
                                        END
```

I'm not sure I'll ever bother with snippets for IF statements and the like, and for classes I rely heavily on the ClarionLive Class Creator, But I'll keep an eye out for code I'm writing repeatedly that might fit the constraints of CodeSnippets.xml.

There is a new toolbar color scheme called Win8Blue. You can choose it via Options | General | Appearance.
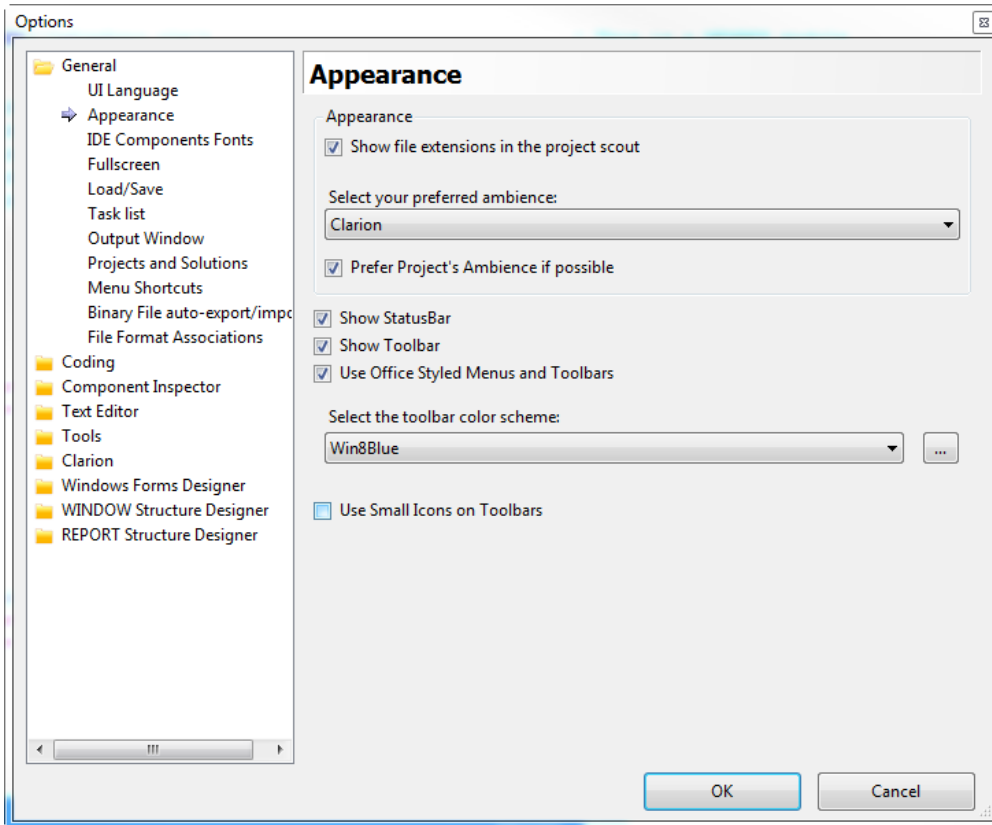
Email templates

There is a new template called SVCommunicationSupport. This template includes a global extension with options for sending email and text messages.
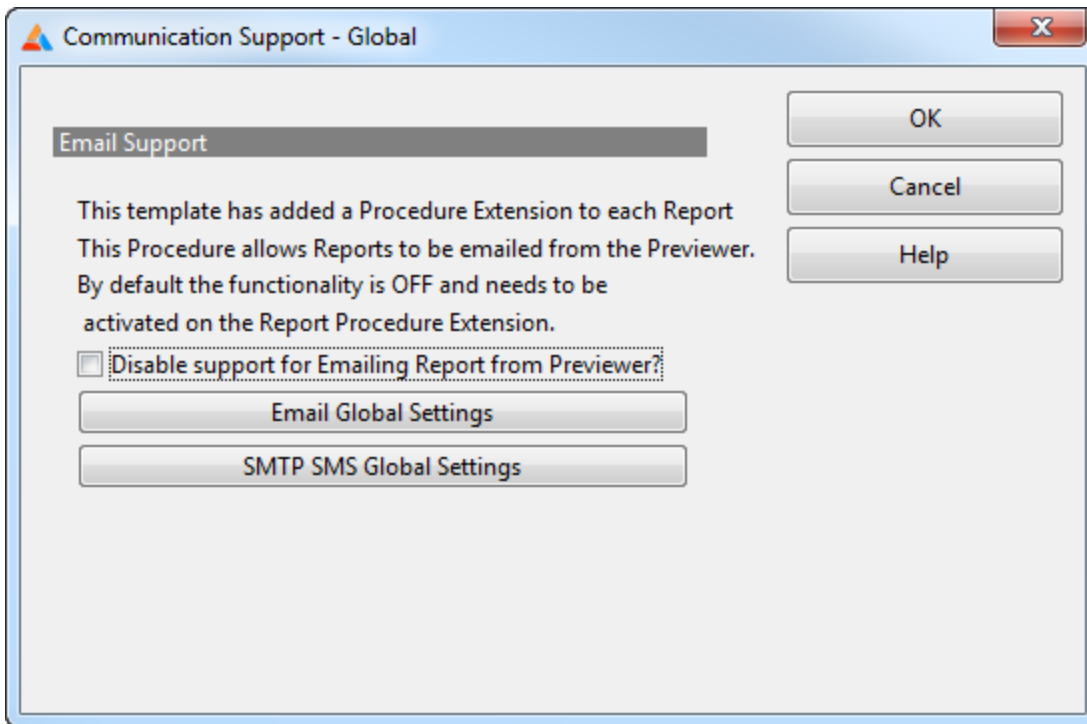
Both email and SMS are sent via SMTP. The two settings windows are almost identical:
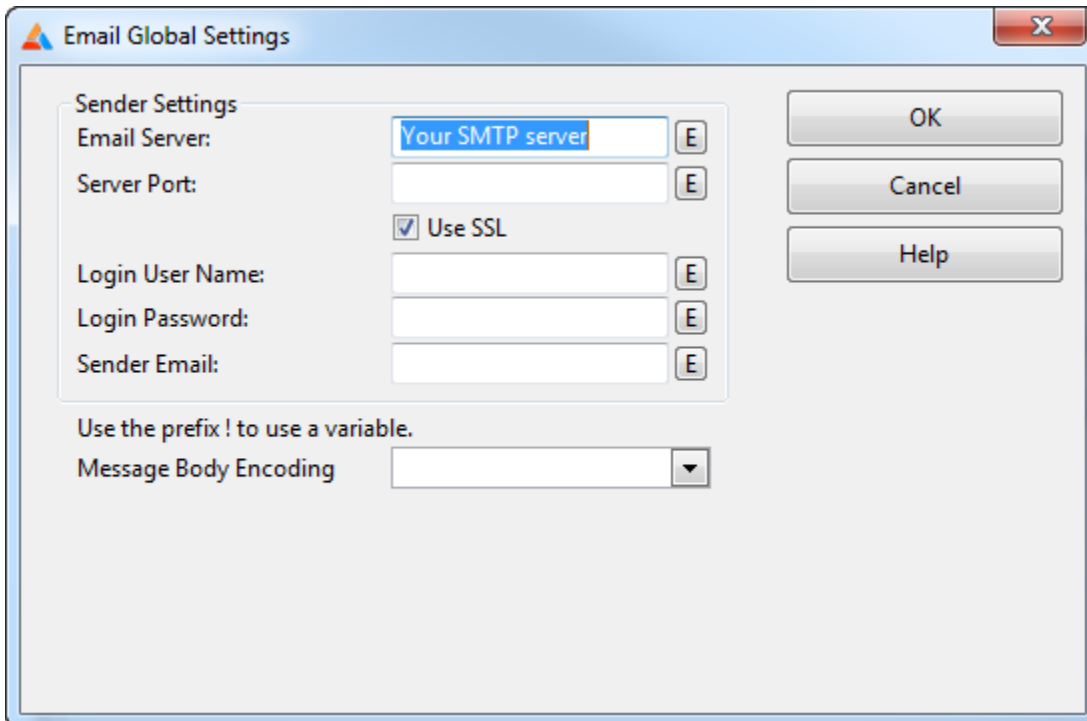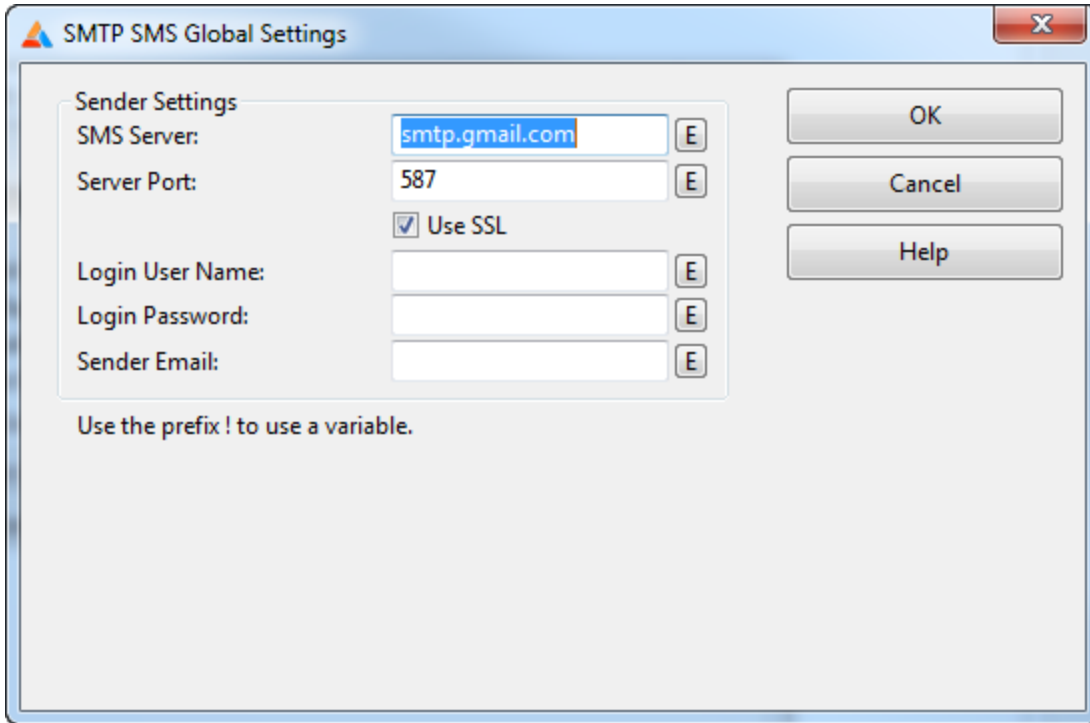
There are matching control templates. Drop a Send Email button on a window and select Actions to fill in the remaining settings:
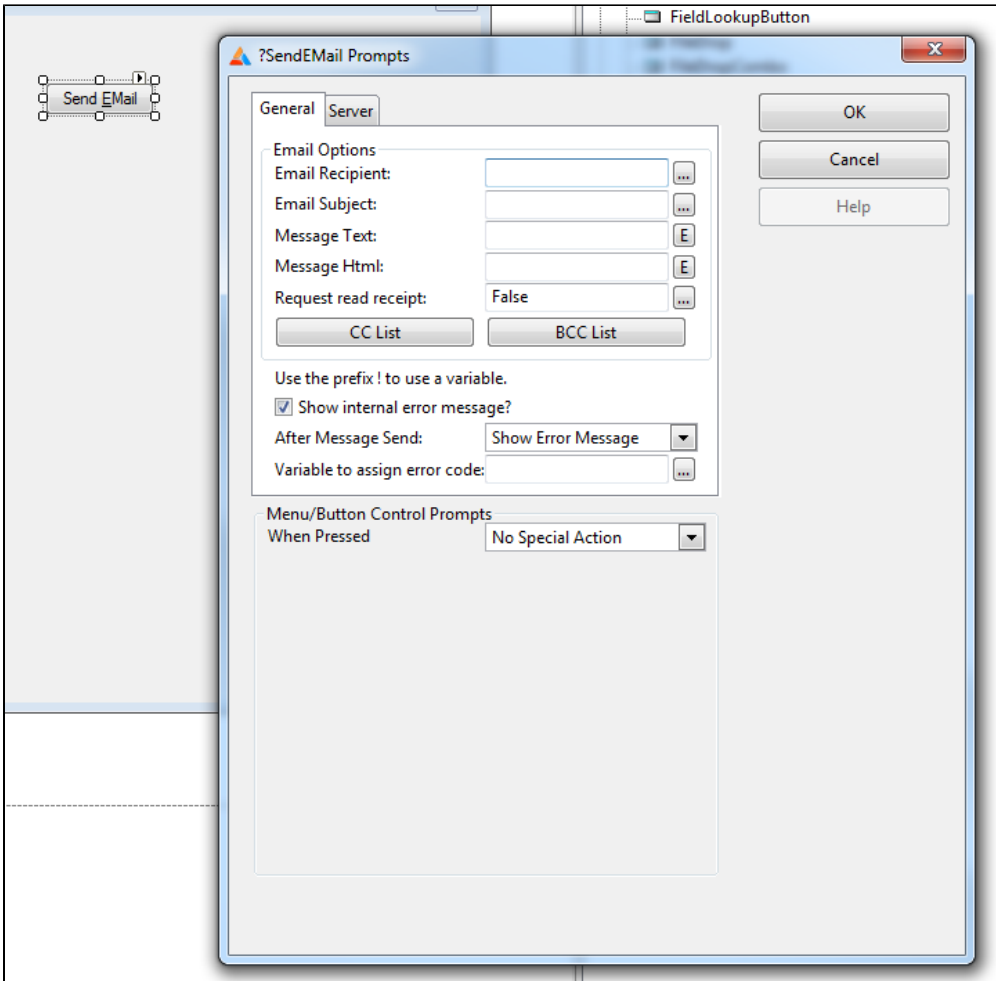
Here are the SMS settings:
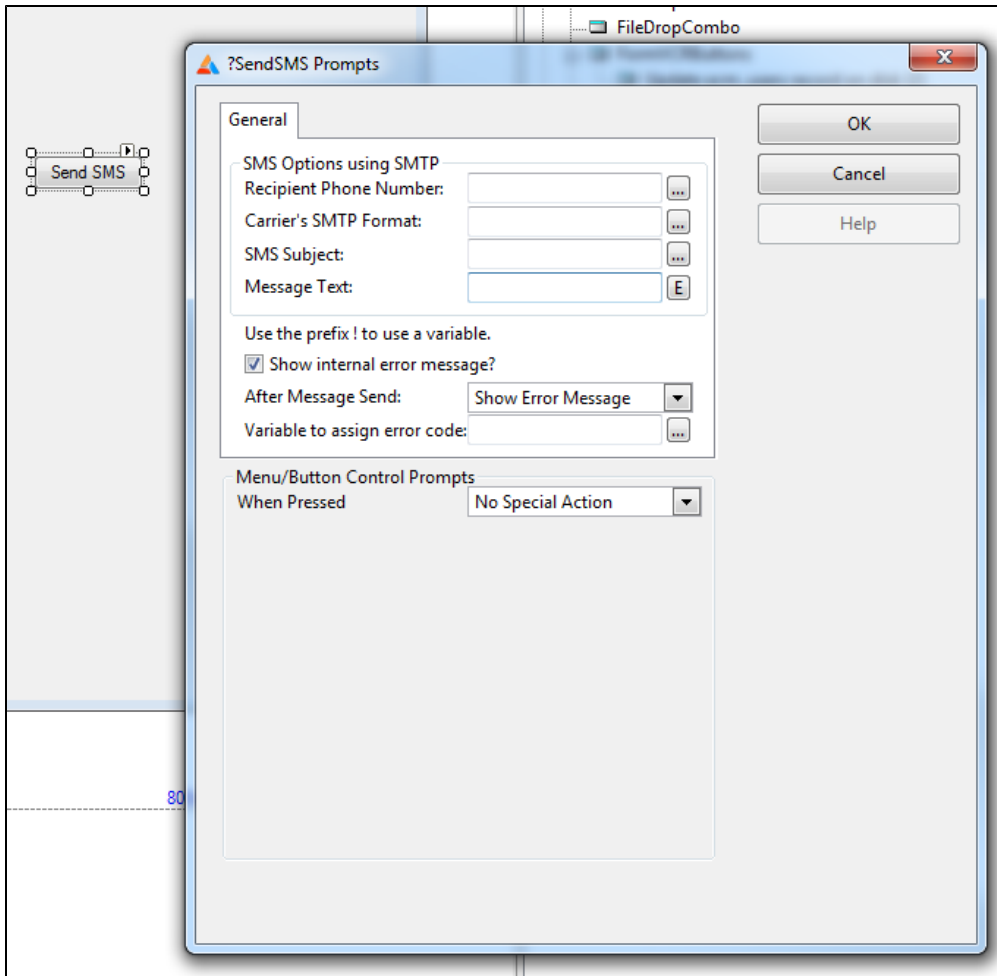
Email classes

There are a bunch of new source files, which I'll cover in alphabetical order.

The email files include:

- ClaMail.CLW
- ClaMail.INC

ClaMail.INC contains three class declarations:

- `SMSMailClient CLASS,TYPE`
- `SMSClient CLASS(SMSMailClient),TYPE`
- `MailClient CLASS(SMSMailClient),TYPE`

The release notes indicate that classes were added to make it possible to send email without needed to generate code via the templates, so presumably these are the classes in question.

Touch support

Touch support is declared in the following files:

- CWTOUCH.CLW
- CWTOUCH.INC
- CWTOUCHDEF.INC

CWTouch.inc includes the following classes:

- InputPoint
- TouchPoint
- InputData

- TouchData

These classes are primarily data but each has a Next() method which, somewhat mysteriously, only returns NULL.

The following COM interfaces are also defined:

- IGestureResponder
- IPointerResponder
- ITouchNotifier

H5 Builder

The H5 product, which was demonstrated in a very early form at the 2013 DevCon, promises to blend "the best features of Internet Connect (IC) and Web Builder (WB), joined with the jQuery family and HTML5/CSS". The idea is to allow you to deliver Clarion apps as private web apps to business users (as opposed to large scale web sites).
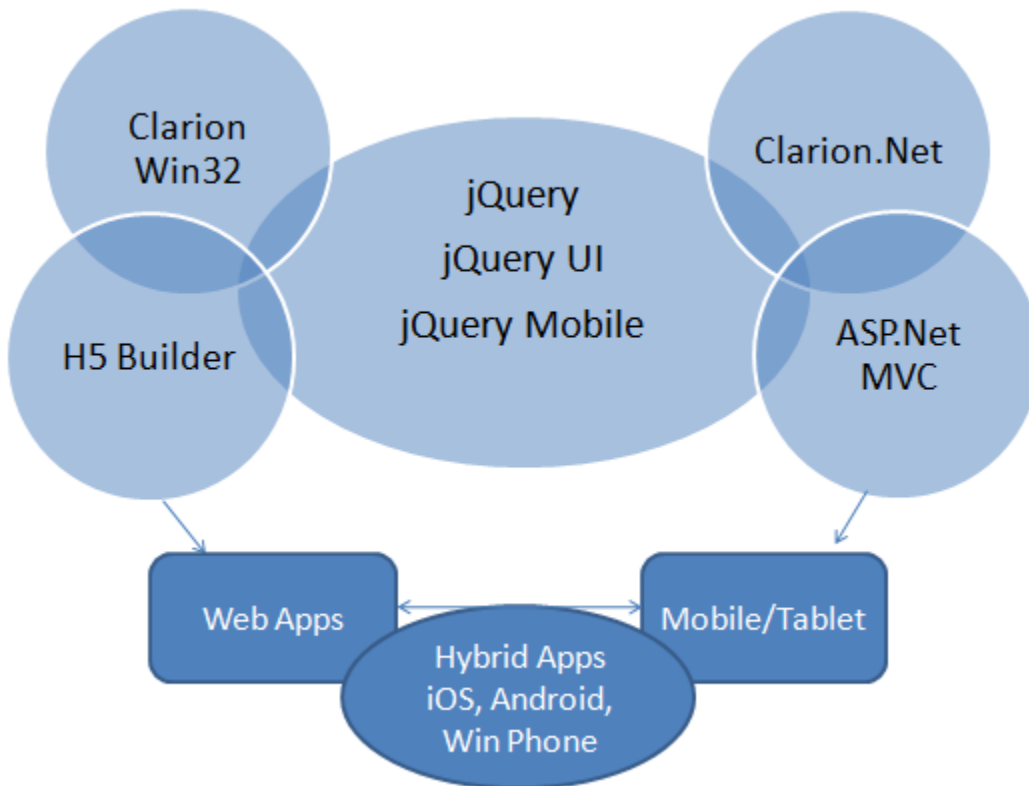
The SoftVelocity blog has more information: http://clarionsharp.com/blog/clarion-h5/

Although H5 is not yet fully included with Clarion 9.1, a number of files are shipping. They include:

- H5BROKER.CLW
- H5BROKER.INC
- H5CLIENT.CLW
- H5CLIENT.INC
- H5CNTRLS.CLW
- H5CNTRLS.INC
- H5EVENT.CLW
- H5EVENT.INC
- H5FILES.CLW
- H5FILES.INC
- H5HTML.CLW
- H5HTML.INC
- H5HTTP.CLW
- H5HTTP.INC

- H5JSL.CLW
- H5JSL.INC
- H5LAYOUT.CLW
- H5LAYOUT.INC
- H5REPORT.CLW
- H5REPORT.INC
- H5REPORT.TRN
- H5SERVER.CLW
- H5SERVER.INC
- H5SERVER.TRN
- H5SINK.INC
- H5STD.CLW
- H5STD.EQU
- H5STD.INC
- H5TXTOUT.CLW
- H5TXTOUT.INC
- H5UNAUTH.HTM
- H5WINDOW.CLW
- H5WINDOW.INC
- H5WINDOW.TRN

The H5 classes include:

```
BrokerClass                         CLASS(WebDataSinkClass)
BrowserManagerClass                 CLASS
HtmlClass                           CLASS(TextOutputClass),TYPE
HtmlFontClass                       CLASS,TYPE
HtmlItemClass                       CLASS,TYPE
HttpBaseClass                       CLASS
HttpClass                           CLASS(HttpBaseClass)
HttpPageBaseClass                   CLASS
HttpPageBrowserClass                CLASS(HttpPageBaseClass)
HttpPageJavaClass                   CLASS(HttpPageBaseClass)
JslEventsClass                      CLASS
JslManagerClass                     CLASS, TYPE
LayoutCellClass                     CLASS,TYPE
LayoutHtmlClass                     CLASS,TYPE
RangeClass                          CLASS,TYPE
ReportImageClass                    CLASS(ReportItemClass),TYPE
ReportItemClass                     CLASS(HtmlItemClass),TYPE
ReportStringClass                   CLASS(ReportItemClass),TYPE
ShutDownClass                       CLASS
SubmitItemClass                     CLASS
TextOutputClass                     CLASS,TYPE
WebAreaClass                        CLASS(WebControlClass),TYPE
WebButtonClass                      CLASS(WebControlClass),TYPE
WebCaptionClass                     CLASS(WebAreaClass),TYPE
WebClientAreaClass                  CLASS(WebAreaClass),TYPE
WebClientManagerClass               CLASS(WebClientManagerInterface)
WebClientManagerInterface           CLASS(WebDataSinkClass)
WebControlClass                     CLASS(HtmlItemClass),TYPE
WebControlListClass                 CLASS,TYPE
WebDataSinkClass                    CLASS
WebFilesClass                       CLASS
WebFrameClass                       CLASS,TYPE
WebHotlinkClass                     CLASS(WebControlClass),TYPE
WebHtmlButtonClass                  CLASS(WebButtonClass),TYPE
WebHtmlCheckClass                   CLASS(WebControlClass),TYPE
WebHtmlCloseButtonClass             CLASS(WebControlClass),TYPE
```

```
WebHtmlEntryClass                       CLASS(WebControlClass),TYPE
WebHtmlGroupClass                       CLASS(WebControlClass),TYPE
WebHtmlImageClass                       CLASS(WebImageClass),TYPE
WebHtmlItemClass                        CLASS(WebMenuBaseClass),TYPE
WebHtmlListClass                        CLASS(WebListClass),TYPE
WebHtmlMenuClass                        CLASS(WebMenuBaseClass),TYPE
WebHtmlOptionClass                      CLASS(WebControlClass),TYPE
WebHtmlPromptClass                      CLASS(WebControlClass),TYPE
WebHtmlRadioClass                       CLASS(WebControlClass),TYPE
WebHtmlRegionClass                      CLASS(WebControlClass),TYPE
WebHtmlSheetClass                       CLASS(WebControlClass),TYPE
WebHtmlStringClass                      CLASS(WebStringClass),TYPE
WebHtmlTabClass                         CLASS(WebControlClass),TYPE
WebHtmlTextClass                        CLASS(WebControlClass),TYPE
WebImageClass                           CLASS(WebControlClass),TYPE
WebJavaListClass                        CLASS(WebListClass),TYPE
WebJQueryButtonClass                    CLASS(WebControlClass),TYPE
WebJQueryCloseButtonClass               CLASS(WebHtmlCloseButtonClass),TYPE
WebJQueryListClass                      CLASS(WebListClass),TYPE
WebJQueryStringClass                    CLASS(WebStringClass),TYPE
WebJQueryToolButtonClass                CLASS(WebJQueryButtonClass),TYPE
WebListClass                            CLASS(WebControlClass),TYPE
WebLiteralClass                         CLASS(WebControlClass),TYPE
WebMenubarClass                         CLASS(WebAreaClass),TYPE
WebMenuBaseClass                        CLASS(WebControlClass),TYPE
WebNullControlClass                     CLASS(WebControlClass),TYPE
WebPageClass                            CLASS(WebControlClass),TYPE
WebReportClass                          CLASS,TYPE
WebServerClass                          CLASS
WebStringClass                          CLASS(WebControlClass),TYPE
```

```
WebToolbarClass                          CLASS(WebAreaClass),TYPE
WebWindowBaseClass                       CLASS(WebControlListClass),TYPE
WebWindowClass                           CLASS(WebWindowBaseClass),TYPE
```

64 bit functions

Also new in Clarion 9.1 is a new set of RTL functions for dealing with 64 bit signed and unsigned integers. The functions are declared in i64.INC and provide the following functionality:

- Return sign of passed 64-bit signed integer
- Negate value of passed signed 64-bit signed integer variable
- Negate value of passed signed 64 bit signed integer variable if it is negative
- Compare value of passed 64-bit integer with 0
- Check that value of passed 64-bit integer can be stored to 32-bit integer without truncating
- Assign 32-bit value to passed 64-bit integer variable
- Assign 64-bit value to passed 64-bit integer variable
- Store 64-bit integer value to 32-bit integer variable
- Store DECIMAL value to 64-bit integer variable
- Store 64-bit integer value to DECIMAL variable
- Shift value of 64-bit integer value to given number of bits to left or to right and store result to another 64-bit integer variable
- Shift value of 64-bit variable to left to given number of bits and store result to another 64-bit integer variable
- Shift value of 64-bit variable to right to given number of bits and store result to another 64-bit integer variable
- Add value of one 64-bit integer variable to another one
- Subtract value of one 64-bit integer variable from another one
- Assign sum of two 64-bit integer values to passed 64-bit integer variable
- Assign result of subtraction of two 64-bit integer values to passed 64-bit integer variable
- Multiply value of 64-bit integer variable by 2
- Multiply value of 64-bit integer variable by 10, add passed 32-bit value and store result back to variable
- Multiply two 64-bit integer values and store result to passed 64-bit integer variable
- Divide value of 64-bit integer variable to 10 and store quotient back to variable
- Store result of division of two 64-bit signed integer values to passed 64-bit variable
- Store result of division of two 64-bit unsigned integer values to passed 64-bit variable

Next time

That's it for the new files. Next week I'll take a look at some of the many changes to existing files in 9.1.

Clarion 9.1 build 11038 release notes

```
/--- Beta release (11) Clarion 9.1 --- May 27 ----- Fixes/Changes/Features--/


Note: The 9.1 release requires a one-time rebuild of all your Binaries (DLL
and LIB).
You need to download the 9.1 versions of any 3rd party addons that you use.


************************************************************
9.1 beta 11 (pre-release) - 11038
************************************************************
CHANGE: Better error messages are displayed if you have an invalid email
address
CHANGE: Mail messages sent via the MailClient class now have the subject and
body automatically clipped
CHANGE: The OnScreenKeyboard options are now On/Off/Auto, The default setting
is OFF. When set to 'Auto' the value for enabling the Keyboard is turned ON
if the OS reports the device has a Touch Input, otherwise it is set to OFF.
NOTE: The enable/disabling of the OnScreenKeyboard can be done globally for
the app at runtime by calling the the method SetOnScreenKeyboard() with True
or False.
CHANGE: The email functions return more information when an error occurs if
they are configured to display error messages
CHANGE: change Topscan to use .CHM format help file
CHANGE: rename abado.tpl to SVabado.tpl so that when re-registering all
templates the ADO template won't fail because the core ABC template isn't yet
registered
FIX: Email addresses passed to the CC and BCC parameters of the Send methods
of the MailClient class where not correctly converted if there was only an
email address supplied and no name
FIX: Exception if the CREATE statement is called to create a control in a
report but with the type using the CREATE:Toolbar flag
FIX: Images embedded in emails could not be displayed by receiving email
readers
FIX: Potential GPF on closing the MDI frame window if active MDI child has
its own/cloned menu bar or toolbar
FIX: The documentation of the embeddedImageFileNames parameter was wrong
FIX: The error message displayed when a reply to address was invalid showed
the wrong email address
FIX: non-English characters in the name of email addresses were not encoded
based on the passed encoding
REGRESSION: A Frame toolbar with the NOMERGE attribute might not be redrawn
after closing a MDI child window
```

Clarion 9.1 under the hood - Part 2

In Part 1 I had a look at the new files (templates, source, etc.) shipping with Clarion 9.1; now it's time to see what's changed in the existing files.

Browse changes

The release notes for build 10971 have this note:

```
FEATURE: Added methods to ABBrowse to enable or disable the showing of the wait cursor in a Browse
SetUseWaitCursor(True/False)
```

In 9.0 when there's a potential delay the code calls SetCursor to show a standard wait cursor. Now you can override this behavior via the supplied methods.

In abbrowse.clw in 9.0 you'll see these comments:

```
!The SELF.ILC.Choice() - SELF.ILC.GetControl(){PROP:YOrigin} + 1 expresion
!will be encapsulated in a new StandardBehavior method
!SEL = StandardBehavior.GetSelectedRow()
```

This change has been implemented; ILC is the IListControl interface, and it now has a GetSelectedItem method. I suppose there's some benefit to this but it's not clear to me what it might be. If you have an idea, please post a comment.

This change also affects the GridClass, which is supporting code for the BrowseGrid template.

I have to confess that I've never, ever used the BrowseGrid in anger. The help says this:

> The BrowseGrid template provides a group control that is used to define an area (within a BrowseBox) to display controls in a matrix format. The size of the BrowseGrid control and BrowseBox can be manipulated to give the end result of a matrix with one column or many. When this template is added, the BrowseBox control does not display at runtime.

> This feature is particularly useful for Web applications, but can also extend the capabilities of desktop applications.

There is a sample app called BrwGrid. Here are a couple of grids from that app:
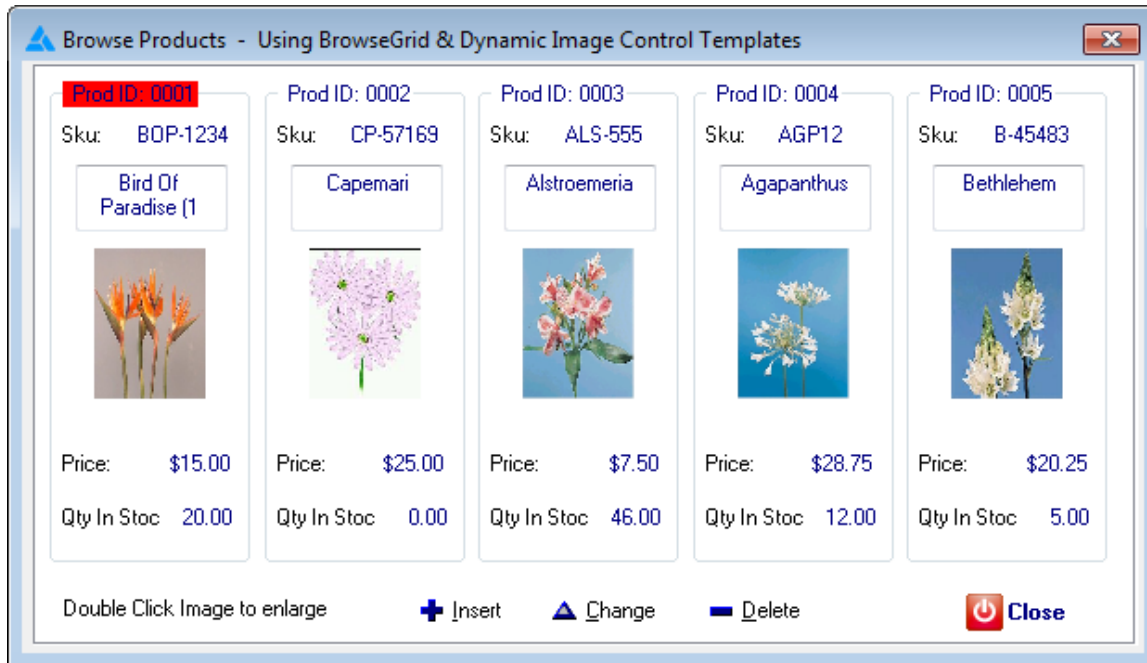
While there's nothing really new in this sample app, as always when I go trawling through the Clarion code base I find templates and code I think I really should be trying out.

ABPOPUP.inc shows a new method, which appeared in build 10916:

```
FEATURE: Added Method to the PopupClass - "EmptyItems" to empty the popup items when needed
```

Nifty.

There are also new Ask and GetText methods. The new Ask is an overloaded method, apparently in response to PTSS 37601: "In PopUpClass.Ask please support the 3rd parameter that the POPUP command does". The GetText methods matches the SetText method and lets you retrieve the menu text for a specified popup menu item name.

XML class changes

There are lots of changes in the abprxml.inc and abprxml.clw files. A lot of these seem to be related to the refactoring of an XMLWriter base class out of the XMLGenerator class.

Window resizing

The WindowResizeClass gets two new methods, WindowResizeBegin() and WindowResizeEnd(). As stated in the release notes these provide notification of the start and end of resizing.

The window resizing code also shows something I've noticed in other source files - more extensive error trapping and reporting. Asserts() statements now often include the Error() value or some other explanatory text as a second parameter.

ABUtil

Abutil.inc and .clw contain a variety of utility classes:

- ConstantClass
- FieldPairsClass
- BufferedPairsClass
- INIClass
- SelectFileClass
- TranslatorClass
- CalendarBaseClass
- CalendarClass
- CalendarSmallClass

- CalendarSmallTouchClass
- CalendarSmallTouchIconsClass
- CalendarSmallTouchRegionsClass
- DynaStringClass

All of these classes are in 9.0 also, and most of them are in Clarion 8, but again it's easy to overlook this code as these classes are all lumped together in one file pair. I think this is just another argument for maintaining a one class per file rule and using a class naming convention.

There are some changes to these files, mainly involving the movement of some declarations for days of the week from one file to another.

WindowManager

The WindowManager gets a new ModalEvent method which returns true of the current event is

```
WindowManager.ModalEvent          PROCEDURE()
controlId  LONG,AUTO
  CODE
    CASE EVENT()
    OF EVENT:Contracting
    OROF EVENT:Dragging
    OROF EVENT:DroppingDown
    OROF EVENT:Expanding
    OROF EVENT:GainFocus
    OROF EVENT:Iconize
    OROF EVENT:LoseFocus
    OROF EVENT:Maximize
    OROF EVENT:MouseIn
    OROF EVENT:MouseOut
    OROF EVENT:Move
    OROF EVENT:PreAlertKey
    OROF EVENT:Restore
    OROF EVENT:Selecting
    OROF EVENT:Size
    OROF EVENT:TabChanging
      RETURN TRUE
    OF EVENT:ScrollUp
    OROF EVENT:ScrollDown
    OROF EVENT:PageUp
    OROF EVENT:PageDown
    OROF EVENT:ScrollTop
    OROF EVENT:ScrollBottom
    OROF EVENT:ScrollTrack
    OROF EVENT:ScrollDrag
      controlId = FIELD()
      RETURN CHOOSE(controlId{PROP:IMM})
    END
    RETURN FALSE
```

This looks quite interesting, but I'm really wondering why I need to know if an event is modal. Anyone have an idea about this one?

ClaRunExt.dll/inc/clw

There are some changed and new prototypes in ClaRunExt.dll. The image manipulation functions (image to PNG, rotate/flip, and save thumbnail) take pointers to strings instead of cstrings for the filenames, and there are two new functions for sending email and SMS messages. There's also some interesting use of function pointers here that looks worth investigating.

CWUtil.inc

CWUtil.inc has a new HasTouchInput() function, presumably to determine if the device running the program supports touch inputs.

EFocus.inc/clw

There are two classes in EFocus, EnterByTabClass (unchanged from 9.0) supports the use of Enter to complete fields (typically for heads-down data entry) and EnhancedFocusClassType, which adds visual indicators of field focus and gets some touch support, including the ability to set an on-screen keyboard for touch devices.

Equates and properties

There are some new time equates:

```
! Special time values
TIME:MIDNIGHT          EQUATE (1)
TIME:NOTIME            EQUATE (0)
TIME:ERROR             EQUATE (-1)
```

which are Mike Hanson's fault. And I need to get Mike in here to explain the current state of SoftVelocity's attempt to handle the time inconsistencies Mike pointed out, and why the attempted fix caused so many problems.

There are also some groups for 64 bit integer handling:

```
! 64 bits integers
  OMIT('***',_BUILTIN_I64_)
INT64   GROUP,TYPE
lo         ULONG
hi         LONG
        END
UINT64  GROUP,TYPE
lo         ULONG
hi         ULONG
        END
! ***
```

There are some new properties as well:

```
PROP:Locale           EQUATE(7A76H)  ! integer: SYSTEM or FILE LCID value
PROP:Codepage         EQUATE(7A77H)  ! integer: SYSTEM or FILE codepage value
PROP:NoFont           EQUATE(7A78H)  ! boolean:
PROP:TouchInterface   EQUATE(7A79H)  ! integer: get the interface to touch input
PROP:TimeZeroIsLongOne EQUATE(7A7AH) ! boolean: set how TIME(0) to LONG conversions
are handled
```

I'm puzzled by PROP:NoFont, which I don't see in the help, nor does it seem to be used anywhere in the source or templates.

InternetConnect files

InternetConnect is a mostly-forgotten technology used to present Clarion apps across the internet. Some of that code is being repurposed for SoftVelocity's upcoming H5 product. There definitely are some changes in the IC*.* files in 9.1, but how significant those changes are I don't know. If anything there is less IC code in 9.1 than in 9.0, so perhaps the current work is being done elsewhere.

JSON support

The ClarionSharp blog entry on H5 contains this mention of JSON:

> H5 apps use the jQuery library, either jQuery UI or jQuery Mobile (UI), and JSON for updating client side data without a full page refresh. They run under the AppBroker SE, so you just install the service and deploy — no IIS knowledge required.

JSON stands for JavaScript Object Notation, and is a simple data format with a wide variety of uses. You can find out more at http://www.json.org/

.

As with XML, there is a growing need in Clarion apps to easily convert to/from JSON structures. JSON support is already in Clarion 9 in the form of JSONDataClass, but 9.1 adds a number of new methods for conversion, data formatting and string parsing.

QuickXmlParser.inc/clw

The XMLParser and XMLFileParser classes have a few changes, among them the addition of some tracing code using OutputDebugString. Having worked with XML extensively over the last few months I'm sure that code was added out of necessity.

As with a lot of things buried in the Clarion source code, these classes look like they could be quite useful on their own.

WinExt.inc/clw

This WindowExtenderClass is heavy on system tray functionality but adds some other nice bits. The IsInstancerunning and RestoreInstanceRunning functions now have optional process name parameters:

```
IsInstanceRunning          PROCEDURE(<STRING processExeName>),LONG !Return the
instance running other than this one
RestoreInstanceRunning     PROCEDURE(<STRING processExeName>),BYTE !If the process is
ommited it refere to the current process name returned by GetEXEFileName()
processExeName must be Filename.Ext
```

All those classes

All those classes I hadn't noticed before (or thought about for a while) made me wonder just how many classes ship with Clarion. See the list here
.

Next time

That's all for this edition. Next time I'll conclude with a look at the template changes, and I'll list what I consider the most interesting items from the release notes.

The many classes of Clarion 9.1

While reviewing the source code changes in Clarion 9.1 I was again struck by the number of classes I'd never really noticed before. How many classes are there? I found 468. Here they are in alphabetical order:

```
Access:SV_SqlScriptFile                    CLASS(FileManager)
AddressVisual                              CLASS(WindowManager)
ADOBlob                                    CLASS
ADOConnection                              CLASS(CConnection)
ADOConnectionEvents                        CLASS(CConnectionEvents)
ADOError                                   CLASS(CError)
ADOErrors                                  CLASS(CErrors)
ADOField                                   CLASS(CField20)
ADOFields                                  CLASS(CFields)
adoHelpers                                 CLASS
```

```
ADOManager                                          CLASS
ADOProcCommCalled                                   CLASS
ADOProcCommCaller                                   CLASS
ADOProcessManagerClass                              CLASS(QProcessManagerClass)
ADORecordsetEvents                                  CLASS(CRecordsetEvents)
ADOResultSet                                        CLASS(CRecordSet)
AdrMgr                                              CLASS,IMPLEMENTS(IABook)
AdrVisualUpdate                                     CLASS(WindowManager)
Array                                               CLASS(BaseArray)
ArrayCIterator
CLASS(BaseArrayIterator),IMPLEMENTS(CIterator2)
ArrayI                                              CLASS(BaseArray)
ArrayIIterator
CLASS(BaseArrayIterator),IMPLEMENTS(IIterator2)
AsciiFileClass                                      CLASS
AsciiPrintClass                                     CLASS
AsciiSearchClass                                    CLASS
AsciiViewerClass                                    CLASS(AsciiFileClass)
AStringValue
CLASS(CInterface2),IMPLEMENTS(IAStringVal)
AttributeParser                                     CLASS
AutoSizeColumnClassType                             CLASS
Base64FileMgr
CLASS(FileManager),IMPLEMENTS(IEncoder)
BaseArray                                           CLASS(CInterface2)
BaseArrayIterator                                   CLASS(CInterface2)
BaseTable                                           CLASS
BITMAPINFOCLASS                                     CLASS
BreakManagerClass                                   CLASS
BrokerClass                                         CLASS(WebDataSinkClass)
BrowseClass
CLASS(ViewManager),IMPLEMENTS(WindowComponent)
BrowseEIPManager                                    CLASS(EIPManager)
BrowserManagerClass                                 CLASS
BrowseToolbarClass                                  CLASS
BufferedPairsClass                                  CLASS(FieldPairsClass)
C                                                   CLASS
CADO                                                CLASS(CCOMObject)
CalendarBaseClass                                   CLASS
CalendarClass                                       CLASS(CalendarBaseClass)
CalendarSmallClass                                  CLASS(CalendarBaseClass)
CalendarSmallTouchClass                             CLASS(CalendarBaseClass)
CalendarSmallTouchIconsClass                        CLASS(CalendarBaseClass)
CalendarSmallTouchRegionsClass                      CLASS(CalendarBaseClass)
cBrowse                                             CLASS
CBStr                                               CLASS
CCollection                                         CLASS(CCOMObject)
CCOMError                                           CLASS
CCOMIniter                                          CLASS
CCommand                                            CLASS(CCommand15)
CCommand15                                          CLASS(CADO)
CCOMObject                                          CLASS
CCOMUserObject
CLASS(CCOMObject),implements(IUnknown)
CConnection                                         CLASS(CCOMObject)
CConnectionEvents
CLASS(CCOMUserObject),implements(IConnectionEventsVt)
cCWAdo                                              CLASS, implements(ADO_SQL)
CDateConverter                                      CLASS
```

```
CDecimal                                          CLASS
CDropTarget
CLASS(CCOMUserObject),implements(IDropTarget)
CDynaCollection                                   CLASS(CCollection)
CError                                            CLASS(CCOMObject)
CErrors                                           CLASS(CCollection)
CField                                            CLASS(CField20)
CField15                                          CLASS(CADO)
CField20                                          CLASS(CADO)
cFieldPair                                        CLASS
CFields                                           CLASS(CFields20)
CFields15                                         CLASS(CCollection)
CFields20                                         CLASS(CFields15)
cFilterBase                                       CLASS
cFilterList                                       CLASS(cFilterBase)
CFtpConnection                                    CLASS(CHttpConnection)
CHttpConnection                                   CLASS
CInterface2                                       CLASS
ClaRunExtClass                                    CLASS
ClaRunExtLibClass                                 CLASS,PRIVATE
ConstantClass                                     CLASS
Convert                                           CLASS
CooperationClass                                  CLASS
CParameter                                        CLASS(CADO)
CParameters                                       CLASS(CDynaCollection)
CProperties                                       CLASS(CCollection)
CProperty                                         CLASS(CCOMObject)
CProtocolGenerator                                CLASS
CProtocolSocket                                   CLASS
CRecordSet                                        CLASS(CRecordSet21)
CRecordSet15                                      CLASS(CADO)
CRecordSet20                                      CLASS(CRecordSet15)
CRecordSet21                                      CLASS(CRecordSet20)
CRecordsetEvents
CLASS(CCOMUserObject),implements(IRecordsetEventsVt)
CriticalProcedure                                 CLASS
CriticalSection                                   CLASS
Crystal8                                          CLASS
CSafeArray                                        CLASS
CSIDLFolder                                       CLASS
CSocketConnection                                 CLASS
CStorage                                          CLASS(CCOMObject)
CStr                                              CLASS
CStringClass                                      CLASS
CVariant                                          CLASS
CvtDriver                                          CLASS
CvtDriver:AS400                                   CLASS(CvtDriver:SQL)
CvtDriver:ASCII                                   CLASS(CvtDriver:Simple)
CvtDriver:BASIC                                   CLASS(CvtDriver:Simple)
CvtDriver:Btrieve                                 CLASS(CvtDriver:ISAM)
CvtDriver:Clarion                                 CLASS(CvtDriver:ISAM)
CvtDriver:Clipper                                 CLASS(CvtDriver:DBF)
CvtDriver:DBase3                                  CLASS(CvtDriver:DBF)
CvtDriver:DBase4                                  CLASS(CvtDriver:DBF)
CvtDriver:DBF                                     CLASS(CvtDriver:ISAM)
CvtDriver:DOS                                     CLASS(CvtDriver:Simple)
CvtDriver:FoxPro                                  CLASS(CvtDriver:DBF)
CvtDriver:Informix                                CLASS(CvtDriver:SQL)
CvtDriver:ISAM                                    CLASS(CvtDriver)
```

```
CvtDriver:MSSQL                              CLASS(CvtDriver:SQL)
CvtDriver:ODBC                               CLASS(CvtDriver:SQL)
CvtDriver:Oracle                             CLASS(CvtDriver:SQL)
CvtDriver:Scalable                           CLASS(CvtDriver:SQL)
CvtDriver:Simple                             CLASS(CvtDriver)
CvtDriver:SQL                                CLASS(CvtDriver)
CvtDriver:SQLAnywhere                         CLASS(CvtDriver:SQL)
CvtDriver:TopSpeed                           CLASS(CvtDriver:ISAM)
CvtFontClass                                 CLASS
CvtHtmlClass                                 CLASS
CvtItemClass                                 CLASS
CvtLayoutCellClass                           CLASS
CvtReportImageClass                          CLASS(CvtReportItemClass)
CvtReportItemClass                           CLASS(CvtItemClass)
CvtReportStringClass                         CLASS(CvtReportItemClass)
CvtWebPageClass                              CLASS
CWEIPManager                                 CLASS(EIPManager)
CWideStr                                     CLASS
CWinINet                                     CLASS
CWinSock20                                   CLASS
CWRecordset                                  CLASS(CRecordset)
DbAuditManager                               CLASS,IMPLEMENTS(IDbChangeAudit)
DbChangeManager                              CLASS
DbLogFileManager                             CLASS(FileManager)
DestTable                                    CLASS(BaseTable)
DocumentHandler                              CLASS(MIMEDoc)
DynaStringClass                              CLASS
EditCalendarClass                            CLASS(EditClass)
EditCheckClass                               CLASS(EditClass)
EditClass                                    CLASS
EditColorClass                               CLASS(EditClass)
EditDropComboClass                           CLASS(EditDropListClass)
EditDropListClass                            CLASS(EditClass)
EditEntryClass                               CLASS(EditClass)
EditFileClass                                CLASS(EditClass)
EditFontClass                                CLASS(EditClass)
EditLookupClass                              CLASS(EditClass)
EditMultiSelectClass                         CLASS(EditClass)
EditSpinClass                                CLASS(EditClass)
EditTextClass                                CLASS(EditClass)
EIPManager                                   CLASS(WindowManager)
Element                                       CLASS(CInterface2)
EnhancedFocusClassType                       CLASS
EnterByTabClass                              CLASS
EntryLocatorClass                            CLASS(LocatorClass)
ErrorClass                                   CLASS
ErrorStatusClass                             CLASS
Event                                        CLASS(Element)
EventMapper                                  CLASS
FieldPairsClass                              CLASS
FileDropClass
CLASS(ViewManager),IMPLEMENTS(WindowComponent)
FileDropComboClass                           CLASS(FileDropClass)
FileManager
CLASS,IMPLEMENTS(FileCallBackInterface)
FileOpenServer                               CLASS
FileReflectionClass                          CLASS(ReflectionClass)
FilesManager                                 CLASS,THREAD
FileWrapper                                  CLASS(StructWrapper)
```

```
FilterLocatorClass                              CLASS(IncrementalLocatorClass)
FormVCRClass
CLASS(ViewManager),IMPLEMENTS(FormVCRWindowComponent)
FTPTransport
CLASS(TELNETTransport),IMPLEMENTS(IDST)
FuzzyClass                                      CLASS
GraphAreaClass                                  CLASS(GraphLineClass)
GraphAxisClass                                  CLASS(GraphBasicClass)
GraphBarClass                                   CLASS(GraphDiagramClass)
GraphBarWithAccumulationClass                   CLASS(GraphBarClass)
GraphBasicClass                                 CLASS(GraphPrimitiveClass)
GraphClass
CLASS(GraphAxisClass),implements(iDiagram),implements(iNode)
GraphColumnClass                                CLASS(GraphDiagramClass)
GraphColumnWithAccumulationClass                CLASS(GraphColumnClass)
GraphDiagramClass                               CLASS
GraphFloatingAreaClass                          CLASS(GraphLineClass)
GraphFloatingBarClass                           CLASS(GraphBarClass)
GraphFloatingColumnClass                        CLASS(GraphColumnClass)
GraphLegendClass                                CLASS
GraphLineClass                                  CLASS(GraphDiagramClass)
GraphNodeClass                                  CLASS
GraphPieClass                                   CLASS(GraphDiagramClass)
GraphPrimitiveClass                             CLASS
GraphScatterClass                               CLASS(GraphDiagramClass)
GraphTextClass                                  CLASS
GraphTitleClass                                 CLASS(GraphTextClass)
GridClass
CLASS(BrowseClass),IMPLEMENTS(IListControl)
GroupReflectionClass                            CLASS(ReflectionClass)
GroupWrapper                                    CLASS(StructWrapper)
HistHandlerClass                                CLASS
HtmlClass                                       CLASS(TextOutputClass)
HtmlFontClass                                   CLASS
HTMLGenerator                                   CLASS
HtmlItemClass                                   CLASS
HTMLReportGenerator
CLASS(HTMLGenerator),IMPLEMENTS(IReportGenerator)
HttpBaseClass                                   CLASS
HttpClass                                       CLASS(HttpBaseClass)
HttpPageBaseClass                               CLASS
HttpPageBrowserClass                            CLASS(HttpPageBaseClass)
HttpPageJavaClass                               CLASS(HttpPageBaseClass)
ImageManager                                    CLASS,IMPLEMENTS(RecordProcessor)
IncrementalLocatorClass                         CLASS(EntryLocatorClass)
INIClass                                        CLASS
InputData                                       CLASS
InputPoint                                      CLASS
JslEventsClass                                  CLASS
JslManagerClass                                 CLASS
JSONDataClass                                   CLASS
KeyReflectionClass                              CLASS(ReflectionClass)
LastChanceHookRegistering                       CLASS,PRIVATE
LayoutCellClass                                 CLASS
LayoutCvtHtmlClass                              CLASS
LayoutHtmlClass                                 CLASS
LevelManagerClass                               CLASS
LinkPointClass                                  CLASS
ListFormatManagerClass                          CLASS
```

```
LocatorClass                              CLASS
MailClient                                CLASS(SMSMailClient)
MDISynchronization                        CLASS
MenuStyleManager                          CLASS
MessageClass                              CLASS(DocumentHandler)
MIMEDoc                                   CLASS
MIMEVisual                                CLASS(WindowManager)
MsgBoxClass                               CLASS(WindowManager)
MSWindowClass                             CLASS(WindowManager)
Mutex                                     CLASS
MyString
CLASS(CInterface2),IMPLEMENTS(IStringVal2)
MyWindow                                  CLASS(VLBWindowManager)
NameGenerator                             CLASS
NNTPTransport
CLASS(TELNETTransport),IMPLEMENTS(IDST),IMPLEMENTS(IMIMETarget)
NoneFM
CLASS(FileManager),IMPLEMENTS(IEncoder)
PageManagerClass                          CLASS
PDFGeneratorClass                         CLASS
PDFReportGenerator
CLASS(PDFGeneratorClass),IMPLEMENTS(IReportGenerator)
PDFTargetGenerator                        CLASS(TargetGenerator)
PopupClass                                CLASS
PrintPreviewClass                         CLASS(WindowManager)
ProcessClass                              CLASS(ViewManager)
QEditEntryClass                           CLASS(EditEntryClass)
QEIPManager                               CLASS(EipManager)
QListClass                                CLASS
QListEIPManager                           CLASS(CWEIPManager)
QProcessManagerClass                      CLASS
QueryClass                                CLASS
QueryFormClass                            CLASS(QueryClass)
QueryFormVisual                           CLASS(QueryVisual)
QueryListClass                            CLASS(QueryClass)
QueryListVisual                           CLASS(QueryVisual)
QueryQEIPManager                          CLASS(EIPManager)
QueryVisual                               CLASS(WindowManager)
QueueProcessManagerClass                  CLASS(QProcessManagerClass)
QueueReflectionClass                      CLASS(ReflectionClass)
QueueWrapper                              CLASS(StructWrapper)
QuotedPrintFM
CLASS(FileManager),IMPLEMENTS(IEncoder)
RangeClass                                CLASS
RecipientControl                          CLASS
ReflectionClass                           CLASS
RelationManager                           CLASS
ReportAttributeManager                    CLASS
ReportEngine                              CLASS
ReportImageClass                          CLASS(ReportItemClass)
ReportItemClass                           CLASS(HtmlItemClass)
ReportManager                             CLASS(WindowManager)
ReportStringClass                         CLASS(ReportItemClass)
ReportTargetSelectorClass                 CLASS
RTFControlClass                           CLASS,IMPLEMENTS(RTFNotify)
Rule                                      CLASS
RulesCollection                           CLASS
RulesManager                              CLASS
SACallbackWrapper                         CLASS
```

```
SAXParserClass                              CLASS, implements(ISaxCallback)
SearchCriteria                              CLASS
SelectFileClass                             CLASS
Semaphore                                   CLASS
ShutDownClass                               CLASS
SMSClient                                   CLASS(SMSMailClient)
SMSMailClient                               CLASS
SMTPTransport
CLASS(TELNETTransport),IMPLEMENTS(IDST),IMPLEMENTS(IMIMETarget)
SortHeaderClassType                         CLASS
SpecialFolder                               CLASS
SQLExecutor                                 CLASS
SrcTable                                    CLASS(BaseTable)
StandardBehavior
CLASS,IMPLEMENTS(BrowseQueue),IMPLEMENTS(IListControl)
StandardErrorLogClass                       CLASS
StepClass                                   CLASS
StepCustomClass                             CLASS(StepClass)
StepLocatorClass                            CLASS(LocatorClass)
StepLongClass                               CLASS(StepClass)
StepRealClass                               CLASS(StepClass)
StepStringClass                             CLASS(StepClass)
StringClass                                 CLASS
StructWrapper                               CLASS
SubmitItemClass                             CLASS
SystemDateTime                              CLASS
SystemStringClass                           CLASS
TableMapper                                 CLASS
tagHTMLHelp                                 CLASS
TargetGenerator                             CLASS
TColEditClass                               CLASS(EditDropListClass)
TColOpeClass                                CLASS(EditDropListClass)
TConnEditClass                              CLASS(EditDropListClass)
TELNETTransport                             CLASS
TELNETWinsock                               CLASS(Winsock)
TextGenerator                               CLASS
TextOutputClass                             CLASS
TextReportGenerator
CLASS(TextGenerator),IMPLEMENTS(IReportGenerator)
TextWindowClass                             CLASS(WindowManager)
ThisWindow                                  CLASS(WindowManager)
ThreadedFileOpenServer
CLASS(FileOpenServer),IMPLEMENTS(IFileOpenServer)
ThreadLocker                                CLASS(Mutex)
ToolbarClass                                CLASS
ToolbarFormVCRClass                         CLASS(ToolbarTarget)
ToolbarListboxClass                         CLASS(ToolbarTarget)
ToolbarReltreeClass                         CLASS(ToolbarTarget)
ToolbarTarget                               CLASS
ToolbarUpdateClass                          CLASS(ToolbarTarget)
TouchData                                   CLASS
TouchPoint                                  CLASS
TransactionManager                          CLASS
TranslatorClass                             CLASS
TreeViewWrapper                             CLASS(StructWrapper)
TriggerManager
CLASS,IMPLEMENTS(FileCallBackInterface)
UnthreadedFileOpenServer
CLASS(FileOpenServer),IMPLEMENTS(IFileOpenServer)
```

```
UserControlClass                                   CLASS(WindowManager)
UserControlContainerClass                          CLASS,IMPLEMENTS(WindowComponent)
ViewManager                                        CLASS
ViewReflectionClass                                CLASS(ReflectionClass)
ViewWrapper                                         CLASS(StructWrapper)
VisitorClass                                       CLASS(WBGuardClass)
VLBWindowManager                                   CLASS(WindowManager)
VtQueueTransport                                   CLASS
WbArgumentIterator
CLASS(CInterface2),IMPLEMENTS(IWbArgumentIterator)
WbBrokerClass                                      CLASS(WbDataSinkClass)
WbBrowserManagerClass                              CLASS
WbBrowserPropertiesClass                           CLASS(WbPropertiesClass)
WbClientManagerClass                               CLASS(WbClientManagerInterface)
WbClientManagerInterface                           CLASS(WbDataSinkClass)
WbControlHtmlProperties                            CLASS(WbCoreRunHtmlProperties)
WbCookieClass                                      CLASS(INIClass)
WbCoreHtmlProperties
CLASS(CInterface2),IMPLEMENTS(IHtmlElementProperties),IMPLEMENTS(IControlToHtml)
WbCoreRunHtmlProperties                            CLASS(WbCoreHtmlProperties)
WbDataSinkClass                                    CLASS
WbDummyLinkInWbHook                                CLASS
WbFileProperties                                   CLASS(WbControlHtmlProperties)
WbFilesClass                                       CLASS
WbFrameClass                                       CLASS
WbGridHtmlProperties                               CLASS(WbControlHtmlProperties)
WbGuardClass                                       CLASS
WbHitCounterClass                                  CLASS,IMPLEMENTS(WindowComponent)
WbHitFileINIClass
CLASS(INIClass),IMPLEMENTS(HitFile)
WbHitManagerClass                                  CLASS
WbHtmlClass                                        CLASS(WbTextOutputClass)
WbHtmlFontClass                                    CLASS
WbHttpBaseClass                                    CLASS
WbHttpClass                                        CLASS(WbHttpBaseClass)
WbHttpPageBaseClass                                CLASS
WbHttpPageBrowserClass                             CLASS(WbHttpPageBaseClass)
WbHttpPageJavaClass                                CLASS(WbHttpPageBaseClass)
WbMultiPartIterator                                CLASS(WbArgumentIterator)
WbPropertiesClass
CLASS(CInterface2),IMPLEMENTS(IProperties)
WbQueryButtonHtmlProperties                        CLASS(WbControlHtmlProperties)
WbServerClass                                      CLASS
WbShutDownClass                                    CLASS
WbSpecialSubmitItemClass                           CLASS(WbSubmitItemClass)
WbSubmitItemClass                                  CLASS,IMPLEMENTS(ISubmitItem)
WbTableProperties                                  CLASS(WbPropertiesClass)
WbTextOutputClass                                  CLASS
WbUrlEncodingIterator                              CLASS(WbArgumentIterator)
WbWindowBaseClass
CLASS,IMPLEMENTS(IPageCreator),IMPLEMENTS(WindowComponent),IMPLEMENTS(IMapFeqToControl
)
WbWindowClass
CLASS(WbWindowBaseClass),IMPLEMENTS(IWebResponseProcessor),IMPLEMENTS(IWbEventProcesso
r)
WbWindowHtmlProperties                             CLASS(WbControlHtmlProperties)
WbWindowManagerClass                               CLASS,IMPLEMENTS(WindowComponent)
WebAreaClass                                       CLASS(WebControlClass)
WebButtonClass                                     CLASS(WebControlClass)
```

WebCaptionClass	CLASS(WebAreaClass)
WebClientAreaClass	CLASS(WebAreaClass)
WebClientManagerClass	CLASS(WebClientManagerInterface)
WebClientManagerInterface	CLASS(WebDataSinkClass)
WebCloseButtonClass	CLASS(WebControlClass)
WebControlClass	CLASS(HtmlItemClass)
WebControlListClass	CLASS
WebDataSinkClass	CLASS
WebDetailProperties	CLASS(WbControlHtmlProperties)
WebFilesClass	CLASS
WebFrameClass	CLASS
WebHotlinkClass	CLASS(WebControlClass)
WebHtmlButtonClass	CLASS(WebButtonClass)
WebHtmlCheckClass	CLASS(WebControlClass)
WebHtmlCloseButtonClass	CLASS(WebControlClass)
WebHtmlEntryClass	CLASS(WebControlClass)
WebHtmlGroupClass	CLASS(WebControlClass)
WebHtmlImageClass	CLASS(WebImageClass)
WebHtmlItemClass	CLASS(WebMenuBaseClass)
WebHtmlListClass	CLASS(WebListClass)
WebHtmlMenuClass	CLASS(WebMenuBaseClass)
WebHtmlOptionClass	CLASS(WebControlClass)
WebHtmlPromptClass	CLASS(WebControlClass)
WebHtmlRadioClass	CLASS(WebControlClass)
WebHtmlRegionClass	CLASS(WebControlClass)
WebHtmlSheetClass	CLASS(WebControlClass)
WebHtmlStringClass	CLASS(WebStringClass)
WebHtmlTabClass	CLASS(WebControlClass)
WebHtmlTextClass	CLASS(WebControlClass)
WebImageClass	CLASS(WebControlClass)
WebJavaButtonClass	CLASS(WebButtonClass)
WebJavaImageClass	CLASS(WebImageClass)
WebJavaListClass	CLASS(WebListClass)
WebJavaStringClass	CLASS(WebStringClass)
WebJavaToolButtonClass	CLASS(WebJavaButtonClass)
WebJQueryButtonClass	CLASS(WebControlClass)
WebJQueryCheckClass	CLASS(WebControlClass)
WebJQueryCloseButtonClass	CLASS(WebHtmlCloseButtonClass)
WebJQueryListClass	CLASS(WebListClass)
WebJQueryStringClass	CLASS(WebStringClass)
WebJQueryToolButtonClass	CLASS(WebJQueryButtonClass)
WebListClass	CLASS(WebControlClass)
WebLiteralClass	CLASS(WebControlClass)
WebMenubarClass	CLASS(WebAreaClass)
WebMenuBaseClass	CLASS(WebControlClass)
WebNullControlClass	CLASS(WebControlClass)
WebPageClass	CLASS(WebControlClass)
WebReportClass	CLASS
WebServerClass	CLASS
WebStringClass	CLASS(WebControlClass)
WebToolbarClass	CLASS(WebAreaClass)
WebWindow	CLASS(WbWindowClass)
WebWindowBaseClass	CLASS(WebControlListClass)
WebWindowClass	CLASS(WebWindowBaseClass)
WebWindowProperty	CLASS(WbWindowHtmlProperties)
WindowExtenderClass	CLASS
WindowManager	CLASS
WindowResizeClass	CLASS
WindowResizeType	CLASS

```
WinMan                                           CLASS(WindowManager)
WinSock                                          CLASS(CWinSock20)
WMFDocumentParser                                CLASS
WMFParser                                        CLASS
XMLExchange                                      CLASS
XMLFileInfo                                      CLASS(XMLObjectInfo)
XMLFileParser                                    CLASS,IMPLEMENTS(IXmlNotify)
XMLGenerator                                     CLASS(XMLWriter)
XMLGroupInfo                                     CLASS(XMLObjectInfo)
XMLHRElem                                        CLASS
XMLHRManager                                     CLASS
XMLJoinInfo                                      CLASS
XMLNameMap                                       CLASS
XMLNavigator                                     CLASS
XMLObjectInfo                                    CLASS
XMLParser                                        CLASS,IMPLEMENTS(IXmlNotify)
XMLQueueInfo                                     CLASS(XMLObjectInfo)
XMLReportGenerator
CLASS(XMLGenerator),IMPLEMENTS(IReportGenerator)
```

```
XMLSchema                                    CLASS
XMLViewInfo                                  CLASS(XMLObjectInfo)
XMLWriter                                    CLASS
```

Clarion 9.1 build 11054 release notes

```
/--- Beta release (12) Clarion 9.1 --- June 4 ----- Fixes/Changes/Features--/


Note: The 9.1 release requires a one-time rebuild of all your Binaries (DLL
and LIB).
You need to download the 9.1 versions of any 3rd party addons that you use.


************************************************************
9.1 beta 12 (pre-release) - 11054
************************************************************


FIX: A GPF could be thrown when menus were redrawn after closing a window
FIX: Builds could crash if the last folder in a line in the redirection file
was surrounded with quotes
FIX: Mouse wheel did not scroll LIST contents or generate scroll events if
VSCROLL attribute was missing
FIX: The WM_MOUSEWHEEL message must be forwarded to the client window to
allow correct scrolling of WINDOWs for compatibility with some mouse drivers
FIX: TopScan: After a Search succeeded the Found record was not highlighted
FIX: When the eMail and SMS Template is enabled the system will copy the
ClaRunExt.DLL to the target directory
PTSS 40735: Mouse wheel not working on window scroll
PTSS 40776: MouseWheel scroll not same 9.1 to 9.0
```

Clarion 9.1 build 11129 release notes

```
************************************************************
9.1 beta 13 (pre-release) - 11129
************************************************************


NEW: Added more public functions for working with 64-bits integers
NEW: Added support for Win8.1 in the generated manifest
NEW: Clarion Chain: New embed; "WindowEventHandlingBeforeFirstFieldSelect",
allows code to be inserted just before doing the SELECT of the first control
when the window opens
NEW: added EQUATEs for additional paper formats (equates.clw)


CHANGE: JSON: EscapeString implementation changed to use calculated size of
the output string
CHANGE: TaskList - auto resize the columns automatically only if the panel is
resized or docked/un-docked
CHANGE: TaskList - column type and line number columns now always resize to
```

its best fit the content
CHANGE: TaskList - double clicking on right border did not resize all the columns
CHANGE: added message when a project fails to save because it is read-only (usually in a build process) NOTE: The message can be disabled using the tools-options- Projects and Solution: Show Message when saving Read Only Projects

FIX: Builds did not work if you used the %THISDIR% redirection macro more than once on a line in a redirection file
FIX: Changing a redirection file that is active because it is included using the {include} directive would not cause the redirection system to reload the file if there was a space between the redirection file's name and the closing } in the {include} command. i.e. if you had {include test.red} and changed test.red, then the changes were automatically included in the redirection system, but having {include test.red } meant the changes were not active unless you first reloaded the solution.
FIX: Changing detail band's position could affect its subsequent printed instances.
FIX: Changing the hot state could clear the disabled state for Buttons
FIX: ErrorPad column sizes were not saved if there was no Solution open when resized
FIX: FILEERROR and FILEERRORCODE were not set correctly if a connection error occurred when connecting to Oracle and the connection was not being raised on the main thread. This meant that any connection errors did not appear when you tried to connect to an Oracle database while importing or synchronising tables into a data dictionary.
FIX: If you edited an existing directory in the list of directories scanned by the ABC scanner in the Tools/Options/Clarion/Versions dialog, the File dialog did not start in the directory that you were trying to edit
FIX: PDF Output text was stored with the width of the font in PPI instead of DPI
FIX: PE Version was not freeing memory after code generation
FIX: POSITION(View) would return an incorrect position string after a call to REGET(View, position) if the view contained joins and at least one of the joined records was NULL
FIX: PROP:LineHeight could return incorrect value for multi-line TEXT controls
FIX: Passwords were not hidden when importing/synchronizing from an SQL database
FIX: Resizing problems, the "Enable Auto size BrowseBox Columns" was interfering with the Anchored resize.
FIX: Two EVENT:Accepted events could be posted by a pressing button's hot key right after pressing the button with the mouse
FIX: Unload project message was displaying an internal Id
FIX: UserControl template was generating the class for all the user controls in the window

PTSS 40778: failure on position/reget sequence on view

```
PTSS 40781: Event:Accepted Fires Twice on Button with hotkey and certain
mouse click sequence
PTSS 40878: Resizing problems
```

Clarion 9.1 build 11139 (Gold) release notes

```
**********************************************************
9.1 (Gold-release) - 11139
**********************************************************


CHANGE: JSON: EscapeString implementation changed to use calculated size of
the output string
CHANGE: TaskList - auto resize the columns automatically only if the panel is
resized or docked/un-docked
CHANGE: TaskList - column type and line number columns now always resize to
its best fit the content
CHANGE: TaskList - double clicking on right border did not resize all the
columns
CHANGE: added message when a project fails to save because it is read-only
(usually in a build process) NOTE: The message can be disabled using the
tools-options- Projects and Solution: Show Message when saving Read Only
Projects
FEATURE: Topscan - added persistent edit mode support using Tab/ShiftTab and
Up/Down keys in edit mode to select another active EIP control
FEATURE: Added more public functions for working with 64-bits integers
FEATURE: Added support for Win8.1 in the generated manifest
FEATURE: Clarion Chain: New embed;
"WindowEventHandlingBeforeFirstFieldSelect", allows code to be inserted just
before doing the SELECT of the first control when the window opens
FEATURE: added EQUATEs for additional paper formats (equates.clw)
FIX: Builds did not work if you used the %THISDIR% redirection macro more
than once on a line in a redirection file
FIX: Changing a redirection file that is active because it is included using
the {include} directive would not cause the redirection system to reload the
file if there was a space between the redirection file's name and the closing
} in the {include} command.  i.e. if you had {include test.red} and changed
test.red, then the changes were automatically included in the redirection
system, but having {include test.red } meant the changes were not active
unless you first reloaded the solution.
FIX: Changing detail band's position could affect its subsequent printed
instances.
FIX: Changing the hot state could clear the disabled state for Buttons
FIX: ErrorPad column sizes were not saved if there was no Solution open when
resized
FIX: FILEERROR and FILEERRORCODE were not set correctly if a connection error
occurred when connecting to Oracle and the connection was not being raised on
the main thread.  This meant that any connection errors did not appear when
```

you tried to connect to an Oracle database while importing or synchronising tables into a data dictionary.
FIX: If you edited an existing directory in the list of directories scanned by the ABC scanner in the Tools/Options/Clarion/Versions dialog, the File dialog did not start in the directory that you were trying to edit
FIX: PDF Output text was stored with the width of the font in PPI instead of DPI
FIX: PE Version was not freeing memory after code generation
FIX: POSITION(View) would return an incorrect position string after a call to REGET(View, position) if the view contained joins and at least one of the joined records was NULL
FIX: PROP:LineHeight could return incorrect value for multi-line TEXT controls
FIX: Passwords were not hidden when importing/synchronizing from an SQL database
FIX: Possible memory leaks on setting a PNG file to IMAGE control
FIX: Possible string stack overflow on getting the PROP:VScroll property for a multi-line TEXT controls
FIX: Resizing problems, the "Enable Auto size BrowseBox Columns" was interfering with the Anchored resize.
FIX: Topscan - export of TPS files to text worked incorrectly
FIX: Two EVENT:Accepted events could be posted by a pressing button's hot key right after pressing the button with the mouse
FIX: Unload project message was displaying an internal Id
FIX: UserControl template was generating the class for all the user controls in the window
PTSS 40661: Repeated ?Image{PROP:Text} = 'Some.png' eventually blows up
PTSS 40778: failure on position/reget sequence on view
PTSS 40781: Event:Accepted Fires Twice on Button with hotkey and certain mouse click sequence
PTSS 40875: Buttons do not draw as disabled
PTSS 40878: Resizing problems

```
PTSS 40891: reading Prop:VScroll in Timer loop causes Exception
PTSS 40893: RTL Crash. Cannot upgrade without a Fix
PTSS 40894: Incorrect assignment in FillZoomControl
```

Clarion 9.1 build 11220 release notes

```
/--- Clarion 9.1 update --- Sept 12, 2014 ----- Fixes/Changes/Features--/

Note: If this is your first time working with 9.1, the 9.1 release requires a
one-time rebuild of all your Binaries (DLL and LIB).
You also need to download the 9.1 versions of any 3rd party addons that you
use.

FEATURE:  The Clarion to SQL converter now converts the following operators
for the specific drivers -
        % (Modulo) All drivers
        ^ (Power) Pervasive SQL, Oracle
        & (Concatenate) All drivers.  Note that ODBC uses the ANSI standard
||
        XOR (Exclusive OR) SQLAnywhere, MSSQL


FIX: Possible IDE lockup when there is very large number (hundreds) of
local/global variables, and tables in the procedure and IDE is processing the
closing of an embed
FIX: OLE Automation could be treated as side-by-side instead of an OLE server
in a separate process
FIX: StdFunc.tpw: Incorrect assignment in FillZoomControl
FIX: After changing a field's size you could not set the OVER attribute for a
field to all possible values without first saving changes and then editing
the field
FIX: Background under active IMAGE controls could be painted incorrectly
FIX: Importing a dctx with a blob in it imported it incorrectly as a memo
FIX: Instances of #CODE templates are removed from the APP if the template
was unregistered but the corresponding code responses were not deleted from
the embed tree
FIX: PNG images with an alpha channel could prevent repainting the background
under them
FIX: Possible failure on closing APP if embed tree with orphan embeds has
been touched
FIX: Possible memory leaks on setting a PNG file to IMAGE control
FIX: Possible string stack overflow on getting the PROP:VScroll property for
a multi-line TEXT controls
FIX: ReportWriter: License validation could fail in Windows with language
other than en-US
FIX: Scrolling of LIST controls without both the vertical scrollbar and the
IMM attribute
FIX: Topscan: Clicking outside the row being edited did not stop edit mode
```

```
FIX: Topscan: Possible run-time error if the File's record structure contains
arrays
FIX: Variable return types were not allowed in prototypes in the Procedure
Properties dialog

CHANGE: The DataPad does not pause the IDE when refreshing its content upon
procedure selection (improved response time)
CHANGE: Topscan: Apply font to the driver string builder's dialog

PTSS 40852: Using OLE automation to paste data to Excel fails win 9.1, works
in 9.0
PTSS 40894: Incorrect assignment in FillZoomControl (STDFUNC.TPW)
PTSS 40937: TopScan 9.1 Entering a new record
PTSS 40958: Excel COM Object
```

```
PTSS 41010: The SQLite Driver Does Not Handle Concatenation Properly
PTSS 41016: When doing a group place over, e.g. for an Sql date string, the
drop-down didn't show the preceeding datetime string
```

Clarion 9.1 build 11242 release notes

```
/--- Clarion 9.1 update .11242 --- Sept 26, 2014 -----
Fixes/Changes/Features--/

Note: If this is your first time working with 9.1, the 9.1 release requires a
one-time rebuild of all your Binaries (DLL and LIB).
You also need to download the 9.1 versions of any 3rd party addons that you
use.

FIX: A random "missing pure virtual" exception could be thrown by the
evaluator
FIX: Possible lockup if Listbox height is enough to show only one row but the
row is multiple lines
FIX: Programs would randomly crash after printing a report in a repxl file
FIX: RW: The Print selection dialog would crash on some operating systems
when called from a report writer report called from a Clarion program
FIX: RW: The print previewer would lock up if you clicked on the Open file
button
FIX: RW: The report preview window was appearing in the task bar
FIX: RW: The report previewer was locking up when exporting to file
FIX: SETDROPID could work incorrectly on dragging between 2 Clarion
applications
FIX: The application generator could not open an app after you edited its dct
and deleted a file that had aliases.
PTSS 40983: Delete Table with Alias will make app crash
```