PLEASE READ THIS FIRST
OpenInsight 9.4

Introduction

Thank you for purchasing the latest version of OpenInsight!

Before you begin

- When installing or upgrading OpenInsight 9.4 make sure to have your authorization code supplied by Revelation Software.
- Close all non-essential Windows programs and antivirus software.
- The software will only run on Windows XP Professional, Vista Business 64-bit, Vista Ultimate 32-bit, Windows 7 Ultimate 32-bit, Windows 7 Ultimate 64-bit, Windows 7 Enterprise 32-bit, Windows 7 Enterprise 64-bit, Windows 7 Professional 32-bit, Windows 7 Professional 64-bit, Windows 2000 Server, Windows 2003 Server, Windows 2008 Server.

Instructions

Running Setup for OpenInsight 9.4 (Full Install)

From CD

1. Insert the OpenInsight 9.4 CD into your CD ROM drive
2. Choose Run from the Start menu
3. Type D:\OpenInsight\SETUP and click the OK button (substitute the appropriate drive letter if you are installing from a CD Rom drive other than D.
4. Follow the installation instructions

From Download

1. Extract the Setup.exe from the compressed downloaded file
2. Execute the Setup.exe
3. Follow the installation instructions

Running Setup for OpenInsight 9.4 (Upgrade)

1. Extract the upgrade from the upgrade zip file.
2. Execute the Setup.exe from within the location to which the upgrade was extracted.
3. Follow the installation instructions.

Running Setup on Windows 7 and/or Vista Operating Systems

- Administrator access is required when executing the setup.exe on Windows 7 and/or Vista. Right click on the setup.exe and select "Run as administrator".

If you encounter a problem upgrading

If the setup program cannot upgrade OpenInsight, a message describing the problem displays, and the setup terminates. For example, if you do not have enough space on the destination drive, the setup

program displays a warning message. If you choose to continue with the installation and setup runs out of space, an error displays and the setup terminates. If this occurs, correct the problem and re-run the setup program.

If the setup program displays an error message which you do not have a solution for, write the exact message text down, and then call OpenInsight Installation Support at (201) 594-1422.

How to run the Examples Application

1. Click on the OpenInsight Icon.
2. Choose File -> Run Application.
3. Select EXAMPLES and type EXAMPLES in the User Name Field.
4. Click the OK button.

How to enter SYSPROG (Programming Mode)

1. Click on the OpenInsight Icon.
2. Choose File -> Run Application.
3. Select SYSPROG and type SYSPROG in the User Name Field.
4. Click the OK button.

OpenInsight Works

- OpenInsight and OpenInsight Works are licensed per developer. If you need additional development licenses or have questions regarding licensing, please contact your Revelation Software sales representative or Revelation Software's Customer Service department at (800) 262-4747.
- As further releases to the OpenInsight product line are made available, they will be announced on www.revelation.com.
- If you do not have access to the World Wide Web, please contact your Revelation Software sales representative or Revelation Software's Customer Service department at (800) 262-4747 or (201) 594-1422. (In the UK and Europe, please call +44 (0) 20 8912 1000)

OpenInsight Enhancement History

9.4 Bug Fixes/Enhancements

Editor ++/Basic+
- Improved the capability to print program listing with keywords colorized

Connectors
- Fixed many issues with the MVBFS connectors, especially TCL and Subroutine calls.
- Improved dictionary mapping routines.   For example, column zero. There is a new version of the OiBfsHelper .NEt dll
- Added MVBFS_NATIVE_TABLE to let developers read / write directly of server tables.
- Added MVBFS_CONNECTION_POOLING to toggle connection pooling on U2 Servers
- Fixed a bug which prevented DSBFS_EXEC_SQL from working.
- Fixed a bug which assigned   SQL Varchar(Max) columns a display length of -1
- Fixed a bug which prevented CLEAR_TABLE from working.
- Fixed a bug which caused a spurious FS100 error when writing a key-only record.
- Added a "Delete Dataset" button to the dsbfs connection configuration window

General Fixes
- Fixed a bug in RLIST where an extraneous FSError blocked a SAVE_SELECT
- Fixed a bug in RLIST which could yield incorrect recordcounts from select statements.
- Changed DIRECTORY_EXISTS
- Fixed RTI_MD5 methods str_md5, str_hex_md5
- Fixed RTI_SHA1 methods STR_SHA1, STR_HEX_SHA1
- Added   RTI_CRC32 to implement RTI_Crypto CRC32
- Added RTI_SHA256
- Enhanced RTI_CRYPTO to support the CRC32, HEX_SHA256 and RANDOM methods.
  usage:
  MathRandom = RTI_CRYPTO('Random', maxValue) ; * Uses javascript math.random
  crc32hash = RTI_CRYPTO('CRC32', myString)
  sha256hash = RTI_CRYPTO('hex_SHA256', myString)
- Fixed TB_CHILD to sort MVBFS and SQL bfs columns correctly
- Fixed RTP27 to load VERB1 items correctly
- Modified RTI_TASKMANAGER, RTI_TASK_SUBMIT, RTI_TASK_STARTUP to prevent runaway processes.
- Added RTI_WINAPI_SHELLEXECUTEEX, a wrapper around the ShellexecuteEx process. Similar to Shellexecute, the function launches an external program.   Unless shellexecute, shellexecuteEx returns a process handle which lets you test for exit status.   Used by RTI_TASKMANAGER.
- Added RTI_WINAPI_GETEXITCODEPROCESS, a wrapper around the windows api getexitcodeprocess . Used with RTI_SHELLEXECUTEEX, it allows you to test if the process you launched is still running.   Used by RTI_TASKMANAGER.
- Created a dictionary for the SYSTASKS table. Used by RTI_TASKMANAGER.
- Fixed ATTACH_TABLE and RTP49 to remove an issue where the volume control location was not updated correctly.
- Fixed RTI_OS_DIRECTORY 'directory' parameter so when it returns from the call it doesn't drop the ending backslash '\' on the path (if entered)
- Fixed a bug in password validation when opening a non-UTF8 application from a UTF8 application

OIPI
- Fixed issue with WMF option on init command.

Arev32
- Fixed issue where Export not clearing out file on second pass.
- Modified conversion to fix dictionaries with inserts.

Report Builder
- Fixed issue with displaying duplicate columns.

Engine Server
- Increased stability
- Added support for UTF8 mode

OECGI3P.PHP
- Enhanced to allow for switching between persistent sockets and standard sockets;
- Rearranged php routine to put user-configurable settings at the top of the routine;
- Added optional specification of connection timeout;
- Added optional specification of error log so that any errors will be recorded in addition to returned to the user;
- Added "mapping" of upload directory to windows path (if running on Linux server)

O4W
- Changed to version 1.5
- O4W_DEFINE_DASHBOARD/ O4W_RUN_DASHBOARD:
- Enhanced to allow for specification of additional "sources" for dashboard panels to include O4W report (not just the _data_ from the report), BRW report, and "none" (for a blank panel)
- O4W User Management:
- Enhanced to forbid entry of empty passwords
- O4W_RUN_REPORT:
- Modified to generate more useful output if the RLIST selection process fails with an error (and not just "no records found");
- Changed to suppress loading of LinkedIn link type by default
- Fixed O4W report routine to allow for null explicit comparison value
- O4W_DEFINE_BRW/O4W_BRWREPORT:
- Enhanced to allow for the specification of a "support routine" to call before processing.
- O4WCommuterUtility:
- Enhanced to support additional control type to return – "section" (similar to "table");
- Fixed return values for "section" and "table"
- O4W_RUN_FORM:
- Fixed to pull proper conversion code for ICONV;
- If NOSELECT is passed in on the URL, and the form supports "add", and no search or key values are also passed in on the URL, then the form will jump to "add new record";
- O4W_DEFINE_FORM:
- Fixed handling of field definitions that use "Mx.x" format to indicate multivalue field type and association information;
- Table Manager:
- Fixed handling of field definitions that use "Mx.x" format to indicate multivalue field type and association information;
- Modified to automatically update the current database when tables are created, attached, or removed. Previously, this was a user-controlled option, but in the shared engine environment of the

engine server there is never a situation where updating the database isn't required.

- Permissions Entry/Edit:
- An issue in the permissions management screen has been resolved – any custom permissions were lost when the screen was subsequently called up.
- O4W_MAINTAIN_CFG:
- Fixed incorrect parsing of proper theme name when using local jquery;
- O4W_LOGIN:
- Enhanced to allow authorization routine to return message to display if login fails.   Pass any text to display in field 2 of the response (field 1 should be null if authorization failed).
- O4WMENU:
- Fixed O4WMenu bug when using %MENU% for tag in template instead of explicit %MENU-V%, %MENU-T%, or %MENU-H%;
- O4WI_HANDLEUPLOAD:
- Fixed O4WI_HandleUpload bug when using fileMode = 3 (direct upload into OI) with binary data (system delimiters were getting "mangled");
- O4WGetValue:
- Enhanced O4WGetValue to include optional "bBinaryFormat" flag parameter – if set, value (from name/value pair) is not URL decoded, so calling routine must apply URL decoding as appropriate
- O4WSWITCHMODE:
- New utility function, called from the OpenInsight desktop's System Monitor, allows developers to switch between "local" (using files local to the workstation) and "online" (using Google content delivery network) versions of O4W.

CTO/AREV32
- Fixed use of @(-1) when printing in AREV32 – was generating new page when call was made, not when resulting string was actually output to printer;
- Changed printing behavior in CTO/AREV32 when char(12) encountered in output stream – if found, turned into appropriate newpage command for OIPI or DirectPrint

RevelationDotNet/RevelationDotNet4.0
- Enhanced to optionally communicate with OpenInsight in UTF8 mode;
- The Server object will also now provide public values for ourFM, ourVM, ourSVM, and ourTM that are appropriate to ANSI or UTF8 mode;
- The Utility object has also been enhanced to support a getSystemDelimiter method, which (when passed a delimiter number and ANSI/UTF8 flag) returns the proper system delimiter.

Banded Report Writer
- Enhanced to better support OpenInsight's UTF8 mode.
- Various bug fixes.

9.3.2 Bug Fixes/Enhancements

Table Builder
- Fixed issue where Table Builder would go to the debugger when an $insert error condition existed when compiling a symbolic dictionary.
- Corrected issue where NULL column was not printing anything when listing dictionaries.
- Enhanced the EQUATES window to show sample of existing equates for a file, if there are any.
- Corrected issue when adding new field and screen not automatically defaulting.

Connectors
- Fixed a memory leak that occurred with the SQL connector.
- Made some changes to the mvBase connector to interact more tightly with the server. A newer DLL is needed from TigerLogic.
- Fixed the U2UBFS dictionary converter to ignore spaces in the output conversion.
- Added rti_readu, rti_writeu, rti_writerelease functions to allow developers to interact with the multivalue servers in a more traditional multivalue style.
- Added rti_transaction to support transaction commit and rollback with MVBFS and SQL connectors
- Fixed issues with Oracle connector when using tables with different owners.
- Modified U2UBFS and TGBS connectors to use the new sorting logic. Note that the U2UBFS and TGBFS connectors are now deprecated. Connections to any multivalue databases should use the MVBFS connector. The MVBFS connector is reached by the QM connector menu choices in the database manager.
- Added a sandbox version of MVBFS_BTREE_EXTRACT, a program to implement the BTREE.EXTRACT interface for MVBFS connections. We have not tested simple equals and starting with expressions, but not the full range of BTREE.EXTRACT modifiers, so consider this a proof of concept version.

OIPI.Net/OIPI
- Fixed an issue with DRAWCIRCLE
- Improved speed processing in system routine OLIST_PRODUCE
- Fixed issue in OIPI where font not being reset from bold to normal on textxy command.

Report Builder
- Fixed issue where papersize not being reset in List commands.

RDK/APPBACKUP
- Fixed issue where setup.exe options were not being saved.
- Improved ability to create a full deployment of a system from the RDK . (CREATE_TABLE)
- Improved performance of APPRESTORE (APPBACKUP_SUB)

Editor ++/Basic+
- Added ability to print program listing with keywords colorized
- Made a change to REDUCE to work with non-zero cursors
- Fixed an issue with Global Find and Replace showing Duplicates in the 'found' list
- Modified Find Label dropdown box width to be resized based upon window size

O4W
- Changed to version 1.4
- Added new routine O4WMobileTableOptions to convert to grid when in mobile mode
- Added new common variable jQueryParentTheme% (to override classes for parent container - set in O4WFORM/used in O4WI_WRAPUP)

- Enhanced O4WTableCellOptions so that "bAsHeader" now functions as flag to which theme to use (when in grid mode)
- Added CheckLegalO4WUser function
- Added O4WI_AUTHORIZE_OIUSER_ENCRYPT
- Added "pattern validation", set as default in form definition
- Added O4WI_SETSESSIONINFO, changed behavior in O4WCHECKSECURITY, for better integration with user customizable login/authorization/security routines
- Added ability to use repository entities for template and css
- Added option in form designer - 'upload' control - can specify @subrname for destination
- Enhanced OECGI3P.PHP to provide better performance in fastcgi situations
- Added new 'event' for forms and reports - "READY"
- Enhanced OESS_SYSINFO to make sure background indexing is turned off for engines running in the engine server
- Initial deployment of new engine server functionality

Banded Report Writer (BRW)
- Added in functionality to generate "dynamic" dictionary fields
- Enhanced XLATE to include conversion code

RevelationDotNet
- Fixed array_utility.net to work with ArrayList as well as Arrays, and to call ourCount to get # of items
- Added utility functions to compress/decompress strings, generate GUIDs, base 64 encode/decode strings

General Fixes
- Fixed an issue where SET_SORT_FILE was trying to make a sort file in the root of the local drive instead of the temp folder.
- Modified RTI_CREATEGUID to use the .Net GUID utility function. This change fixes a problem with the GUID format and runs faster.
- Modifed several components involved in query reduction.   The changes allow sorts to occur at the server for the mutilvalue and SQL connectors.   We also implemented some minor speed improvements for all select operations. The changes affect RLIST, EXTERNAL.SORT, REDUCE, INDEX.REDUCER and RESOLVE_SELECT.

9.3.1 Bug Fixes/Enhancements

Banded Report Writer
- Fixed handling of multipart keys
- Can now omit report name in call to BRW_GENERATEREPORT and default report in group will be used
- Can now omit report name in call to SET_PRINTER2 "LOADREPORT" and default report in group will be used
- Added "DEFAULT" action to RTI_BRWSUPPORT to return name of default report in group
- RTI_BRW_GENERATEREPORT can now be run with 'shared' oengine mode
- Fixed failure in RTI_BRW_GENERATEREPORT to terminate NetOI connection after report generation
- Changed behavior of "exploded" subreports - if single-valued fields are on the subreport, they will always return the first value (and not the specified exploded subvalue)
- Provided the ability to include XLATE's

OpenInsight for QM
- A new connector for LadyBridge's QM database has been created. It can be found in the database manager.

O4W
- upgraded start/startp menus to 1.3
- upgraded config records to 1.3
- added ad hoc report, rss maintenance functionality
- added separate graphing library choice on mobile configuration on Config screen
- enhanced mobile support for O4WDialog, O4W_LOGIN, O4W_MENU, O4WI_DOLOGIN, O4W_LOGOUT, O4WRedirect, o4wi_wrapup, o4wi_wrapupinput, O4WSectionStart, O4WSectionEnd APIs
- added doButtonAndTheme parameter to O4WMobileButtonOptions API
- added PAGEINIT, PAGESHOW, and "LIVE" option to click on O4WQualifyEvent API
- added O4WMobilePageOptions, O4W_DEFINE_ADHOC, O4W_RUN_ADHOC, O4WListBoxStart, O4WListBoxEnd, O4WFieldSetOptions, O4W_DEFINE_RSS APIs
- added new registration process for banded report output O4W_DEFINE_BRW
- changed edit control for O4W_EDIT_PROC
- added new O4W_RUN_REPORT_MOBILE
- added option to configure "initialization scripts" for jquery mobile on configuration screen
- added new O4WMETATAG call
- updated jQuery mobile, jQuery, and jQuery UI versions
- added ability to configure "please wait" image and/or section via O4WCODES IMAGE_PLEASEWAIT record

AREV32
- Fixed issue when printing a line to monitor and the line exceeds the width of the monitor. It will now overlap to a new line.
- Fixed issue where headings were not printing correctly.
- Corrected paint issue when the key was not defaulting correctly.

NetOI/NetOI 4.0
- Fixed parsing of multipart keys, additional dictionary fields
- Fixed to not run "LOAD_SYSPROG_DBT" when starting a shared connection
- Added IsMVField property to dictionary

RevDotNet/RevDotNet 4.0
- Added array_utility.net to allow for array manipulation
- Enhanced create_class to "fall back" to non-visible object creation if visible flag is set but no parent property found in object
- Enhanced create_class to support creation of basic .NET types (ie, System.String, System.Int32, etc.) as objects

General Fixes
- An issue with the DUMP and TEMP table creation failure when they already exist during an LHREPAIR function has been corrected.
- RTI_CDOMail: added new parameter "OtherOptions" to support priority, read receipt requests Usage
    * OtherOptions is associated mv list of optionNames and OptionValues
    optionNames = ''
    optionValues = ''
    optionNames<1,1> = 'Priority'
    optionValues<1,1>   = 'High'   ; * Can be alpha   'High', 'Low', or 'Normal' or numeric 1, -1, or 0.
    default is 0, Normal

    optionNames<1,2> = 'Receipt'
    optionValues<1,3>   = 'reply-to@myserver.com'   ; * Email address for read receipt
    otheroptions = optionNames:@fm:optionValues
    call   rti_CDOMail(mailservername, sendername, recipient, subject, body,cc, bcc, replyto,
content, attachmentfilelist, Username, Password, useSSL, otherOptions)
- RTI_LOAD_DATABASE: added new parameter "bUseAppIdforDBid".
  for example, in an application named MYAPP
                    call   RTI_LOAD_DATABASE(MYDBT)
  will load the files in MYDBT.dbt and set   @DBID to"MYDBT"
      call   RTI_LOAD_DATABASE(MYDBT, 1)
  will load the files in MYDBT.Dbt and set   @DBID to"MYAPP"

  This should allow developers to create context-specific dbt files and attach them using RTI_LOAD_DATABASE without changing @DBID

- REV_BGND_UPDATE: fixed a bug which could cause a background indexer to hang upon encountering a corrupt indexing file.
- RTI_OEMONITOR_INDEX: Set_Status(0) before and after each index update call.
- IDX_SETS: Changed default behavior to use IDX_SETS2. Issued a CFG_IDX_SETS record to force IDX_SETS2. . Also modified REDUCE, RLIST, BTREE.UTIL, INDEX.REDUCER to trigger an error if IDX_SETS   fails.

- RTI_DOCEX_MERGE: Changed to _not_ return mysterious, auto-added "_GoBack" bookmark
- RTI_WNETGETUNIVERSALNAME   - stopped throwing an error when examining a non-network drive.   Background: RTI_WNETGETUNIVERSALNAME(mypath) returns the UNC for the provided path.   It was added to   RTP49 / Attach table in 9.3 reduce problems when people attach the same unc with different mapped paths. The spurios message could cause BFS attach problems at application startup.
- ATTACH_TABLE fixed to attach the bitmap index table upon attaching the data table
- INET_PDF_EXAMPLE, a sample program showing a non-o4w way to launch a reports and return a PDF to the browser

BFS / Connectors
- MVBFS: Implemented QM connector as an instance of MVBFS.   MVBFS   Basic+ calls to a .Net Bridge called OIBFSHelper.   RTI plans to migrate all of the Multivalue BFS connectors to use the MVFBS programs.

- OIBFShelper: added support for ESENT database. (http://blogs.msdn.com/b/windowssdk/archive/2008/10/23/esent-extensible-storage-engine-api-in-the-windows-sdk.aspx)
- RTI_HASHTABLE2, fixed spurious 'table already exists' message that could cause SQL connector to fail silently. Provided TEST_RTI_HASHTABLE2 as an example of using the program   to create a beancounting report
- Fixed SQL connector programs DSBFS_SCHEMA_MYSQL, _ORACLE, _POSTGRES, _BASE to correct a problem with the order of multipart key columns and the order of tables in the dataset wizard.   Fixed a problem that prevented MYSQL tables from appearing in the dataset wizard.
- Provided sample programs   TEST_MVBFS_SUBCALL, TEST_TGBFS_SUBCALL, TEST_U2UBFS_SUBCALL how to make command and subroutines to the back end server from the OI client.
- DSBFS_EXEC_SQL is enhanced to call parameterized stored procdures, return values.   Provided sample program TEST_DSBFS_EXEC_SQL showing how to use the program to execute custom SQL statements.
- DSBFS_CONNECTION, DSBFS_IO changed to mitigate a memory leak when updating records.
- RTI_MEMBFS, a proof-of-concept   in-memory filing system.   RTI_MEMBFS creates in-memory tables.   Tables and dictionaries are not shared between oengines and disappear   when the volume is detached or the   Oengine closes.   Useful for creating temporary reporting tables or caching the contents of popups and dropdowns. The program TEST_RTI_MEMBFS illustrates usage.   Note that TEST_RTI_MEMBFS shows how to implement a SYSLISTS table in memory too.
- RTI_CACHE_MFS, a proof-of-concept   caching MFS that keeps records in memory for 10 minutes or until a lock or select occurs.   The goal is to reduce network traffic by using "good-enough" records, while ensuring that lock, read will obtains the current record from disk and to test the utility of volume mfses.   Applied as   volume MFS, you can attach tables in cached_mode for reporting, or normally for updated.   To create a volume mfs, create a record in the SYSPTRS table. For example, create a record SYSPTRS, DATAVOL_CACHED
     <1> = "VOLUME"
     <2,1> = "RTI_CACHE_MFS"
    <2,2> = "RTP57"
     <3> = DATAVOL
    then DETACH_VOLUME "DATAVOL", ATTACH_TABLE "DATAVOL_CACHED"
- RTI_READU, RTI_WRITEU and RTI_WRITERELEASE functions have been added to allow programiing in a traditional Pick data processing style.   The functions will pass throught to the server for the QM or D3 connectors, and use OI lock and unlock for other data sources.   See TEST_RTI_READU for a example usage.

9.3 Notes

To O4W / OECGI3 / CTO / AREV32 Users
A 'Unique Station ID' environment setting has been created in the database manager environment settings dialog. This can be accessed from the main OpenInsight IDE. Select Database Manager, then from the Database menu, select Environment Settings, then check the 'Unique Station ID' on the General tab. This setting will automatically append the ProcessID to the @station variable to maintain uniqueness. Since multiple sessions with the same @station may cause corruptions or interference between users in areas such as select statements, record locking, sorting, etc., we recommend that this value be set for all applications/users that will be accessed by an Engine Server (oesocketserver). For additional questions, please contact Revelation Software.

INET_ Routines
As the "best practices" for internet security continue to evolve, Revelation Software (as part of the upcoming 9.3.release) will be changing some security processes that control how routines inside OpenInsight are accessed from the web.   This change won't affect any O4W routines (those whose names start "O4W_"), but will affect any with names that start "INET_" (for example, INET_TRACE or INET_XML).   Like O4W, these routines will need to be explicitly allowed access to your system (in OpenInsight 9.2.1 and earlier, they were assumed to be allowed unless explicitly forbidden).

9.3 Bug Fixes/Enhancements

System Editor ++
- Updated editor printing. The configuration dialog now supports printing features such as orientation, line wrapping, line numbers, double spacing,
- Fixed compile issue where OSOpen file handle was falsely returning a suspect unassigned variable.
- Fixed issue with open record dialog where keys were being cut to 50 characters.
- Fixed issue with replacing text where the replace button would skip a similar word in a different case.
- Added check on startup to verify proper dll / ocx files are in place.
- Fixed bug where certain comment lines were causing an infinite loop.
- Fixed bug in editor compilation where non-sysprocs programs would cause erroneous VNAV jumping when doubling clicking on the VNAV warning.
- Fixed bug in compilation where VNAVs would not be correctly assigned in inherited applications.
- Fixed bug in where non-sysprocs programs would have the save and compile menu options disabled.
- Updated Copy and Cut to not clear the buffer when nothing is selected.
- Fixed bug in Code Templates where the Clipboard buffer's original values were being overwritten.
- The Commuter Module Generator window and code has been enhanced for ease of use.
- Send as email. User can send an entity as an email. It will Open default mail application And send in what format they define (txt, html, pdf, etc...)
- Execute Code Option. Users can execute a stored procedure.
- Customizable tooltips. New Dialog Has been Created To Edit Them.
- Expanded 'Delete' Capabilities to delete stored procedures and associated executable.
- Undo Last Close Menu Item.
- Complete Rewrite Of MRU Item. Now Its current piggy backing on the open_sp sub, which is not good coding. Need a seperate sub AND a encapsulation of all five other entity open subs.
- Integrated Indentation Guides
- Improved Hiding Of Editor Items Like Status Section / Tabs Etc...
- Context Menu Improvement With Add And Remove Favorites
- Maintain Indent On Enter Key If Line IS Blank
- Maintain Indent When Entering Mid Line

- Improved Scintilla Speed
- Face lift for bottom right hand corner (line/col) data
- New Toggle Menu Items Program That Will Be Placed In Multiple Spots (Including Child   Activated) That Will Enable / Disable / Change Menu Items
- Added Status Messaging
- Double Clicking On Tab Opens New Stored Procedure
- Allows printing of unsaved entities.

Database Manager
- Updated environment screen to include unique station ID option.
- Modified Table Browser to return 1 message if deleting multiple records.
- The OpenInsight for D3 data connector now communicates with the **mvBase database** from **TigerLogic Corporation**

Basic +
- Email_Format has been modified to allow domains that start with numbers- e.g. mike@123.com
- The Create_table command has been modified so that when tables are created by non-system administrators, the system will no longer prepend the username and an '@' sign; e.g. james@customers
- Delete_table command will now remove the bang table from the database.
- Get_env now returns values above 53.
- Fixed issue where any popup would not return any value if last popup had a system error.
- Added new Basic program (RTI_REMOVE_INDEX) to remove all indexes from a table including deleting the bang table and SI.MFS.
- New Extended Math Operators have been added.   The _addx, _subx, _mulx and _divx functions perform math operations using full precicsion or a specified precsion.   These functions are intrinsic and do not need to be declared.

O4W
- O4W_LOGON: enhanced to look for ADMINLOGON flag.   If passed in as part of URL, then we will use the original O4W_LOGON, ignoring any user-configured substitute routine
- O4WCOOKIE: enhanced to support httponly and secure flags, and to default to httponly (unless explicitly set to "0") and secure (when in https mode, unless explicitly set to "0")
- O4WLISTBOX: text parameter - if @SVM part found, then that's used for the 'title', otherwise the text itself is used for the title
- O4WCODES/ERROR_TRACKING record: controls which error codes are tracked, specifies stored procedure to use to record them (by default, O4WI_LOGERRORS); stores information in \LOGS\O4WLOG.TXT
- Added initial support for jQuery Mobile
- Updated available jQuery versions (must run latest jQuery for jQuery mobile)
- Added module assignments in all functions (reports, forms, dashboards, stored procedures; copy/delete as well)
- Added RDK definition builder (including generation of either zip or self-installing exe)
- Added module builder
- Added rdk installer
- Provided an additional paginator (O4WI_TABLEPAGERLOCAL2)
- Added O4W_BRWREPORT routine to generate PDF/HTML/TIFF/TXT to browser from new OI BRW, and RTI_GenerateBRWReport API
- O4W_EDIT_PROC: enhanced to call "registration" routine if O4W stored procedure is compiled (and not yet registered)
- O4W_DEFINE_DASHBOARD: enhanced to allow for additional data source (o4w stored procedure)
- O4W_DEFINE_FORM: enhanced to allow for specification of action after update (stay on form/close form/return to prev page), changed layout of pages, added 'linkedIn' link types

- O4W_DEFINE_MENU: added 'add new row' button
- O4W_DEFINE_REPORT: enhanced to support new commuter module for reports, changed page layouts, to show/hide more fields only when appropriate, added 'linkedIn' link types, allow font size specification, column width, explicit output conversion, and column permissions on individual fields, allow for specification of target for link (including "popup")
- Updated configuration screen to allow for definition of user-override login screen, RSS default feed filter, additional graphing library choices, Google Chrome Frame option, to include "mobile" tab
- Updated RSS feed routines to include modified date in RSS output, to record date AND time on update of feed data, to store data in reverse date/time format, to retrieve data in proper timezone format
- Updated O4WTextbox, O4WPwdBox, O4WNumberBox, and O4WTextArea to support some HTML5 options (min, max, step, placeholder, autofocus, required)
- Updated O4W table manager to allow for deletion of regular and calculated fields
- Updated O4W form to allow for specification of RSS feed(s) to update on record creation, deletion, and change
- Updated O4W form to integrate form layout/positioning into textual form designer
- RUN_OECGI_REQUEST changed to require "white list" entries for INET_ procedures
- O4WSetCell: enhanced to allow use of "+<x>" and "-<x>" for relative row or column change (ie, o4wsetcell("+1") to move to next row)
- O4WForm: fixed to inherit name of template defined during 'registration' process if no explicit template set; if override to 'default' is desired, specify template name "DEFAULT"; if name of template document is specified, look for it in the template directory
- O4WDownload: if suggestedFileName is null, but not unassigned, then the downloaded item will attempt to be opened "in page" in the browser (and not as an attachment
- Added O4WInputBoxOptions, O4WNumberBox, O4WGetMobile, O4WSetMobile, O4WMobileOptions, O4WDataStyle, O4WTextOptions (including paragraphStyle), O4WMobileButtonOptions APIs
- O4WHeader/O4WFooter - enhanced to wrap header/footer text in <span> tags
- O4W_RUN_REPORT: fixed link to type "O4W Procedure" to properly pass PARAM1 as the value of the link; optimized combobox display for btree-indexed search criteria
- O4W_RUN_FORM: fixed problem with "sideways" mv table display being off by 1 row, inability to delete records, corruption of @DICT when using SELECT statements in code file selection
- O4WUploadBox: Fixed bug when OECGI3 FileMode=3
- Fixed problem with popup (in javascript) when calling an O4W report with a search 'collector' window

Data Encryption

- OI 9.3 includes a module to encrypt your data. The major pieces are an encryption server , rtiDERServer, an encryption client, rtiDERClient and a bfs, RTP57E.   Encryption works in conjunction with the Linear hash filing system. When you use DER the linear hash service just stores encrypted keys and rows rather than plaintext. Data Encryption is mostly transparent. Once you install the server and client, you create an encrypted volume and copy tables to that volume. Tables and indexes function normally, but if you look at the .LK or .OV files with a text editor you will see encrypted data.
- Added new functionality to create "encrypted" volumes
- Updated CREATE_TABLE, COPY_TABLE to support creation and copy of tables in encrypted volumes
- Added CREATE_VOLUME_PASS, ATTACH_TABLE_PASS to create and attach PASS (Password Authenticated Single Session) volumes

Banded Report Writer
- Entirely new Banded Report Writer, using industry-standard UI
- RTI_BRW_FILTER provided so that system administrators and developers can customize which tables and fields are available for the BRW

- RTI_BRW_GenerateReport (reportFile, reportName, outputName, reportType, OverRideList,bUseGUI) stored procedure provided to generate BRW output
- O4W_BRWReport routine provided to generate BRW output from O4W
- OIPI.Net call "LOADREPORT" added to allow for inclusion of BRW output in OIPI (note: only available via SET_PRINTER2 or with VSPRINTER2 specified in configuration file)

OIPI.net/OIPI
- Fixed issue with fonts not clearing when running an Olist report or using Run_report.
- Fixed issue where hdr fonts in addtable were different then the addtable font if colhdrfont not used.
- Modified OIPI if creating a PDF and the temp file could not be written it would Hang. Changed so it would now bypass the pdffile and write an error message in systemp under username*oipierr.
- Fixed issue where colhdrsupp was not working.
- Fixed issue where fonts are not printing correctly when using page break option on breaks.
- Fixed issue when OI crashes when the user closes the preview prematurely.
- Modified OIPI only to enable printing multiple reports in one session. Must leave TERM command until last report. If using run_report then use appendon and appendoff options.
- Fixed issue with the radius calculation of the drawcircle command.
- Fixed issue when using 2 clauses in list statement separated by an OR.

AREV32
- Fixed issue where case options not working correctly on selects..
- Modified to use environment ini files to allow for user environments.
- Fixed issue when selecting with parentheses in the selection criteria would cause the select to cancel.
- AREV32 and CTO configuration records modified to conform to other CFG_XXX format
- Additional AREV32/CTO configuration option - set field 6 to "<<NONE>>" to suppress auto-start of AREV32 in AREV32_xxx_FORM (for graphical debugging) - also updated V23 (AREV32 RUN) to save stack when in graphical debugging mode

Table Builder
- Enhanced the error message shown when the Define Database fails during the creation of a new table.   Previously the message stated that there was an error in updating the database definition. The message was updated to display the system error that occurred along with advice on how to update the definition manually.
- New Find/Replace Functionality.
- Added dropdowns to the Data Type, Key, Not Null, S/M and Just fields.
- On calculated columns a dropdown has been provided for S/M type.

Report Builder
- Report Builder now launches in a MDI frame and utilizes a tabbed interface.
- Fixed issue when using (WITH statements in selection criteria.
- NOTE: The name of the Report builder has changed. If a system is currently launching the Report Builder by starting the ORMAIN_32 window, any references to this must be changes to ORMAIN32_MDI.

IDE
- The tools launched from the IDE will no longer be owned by the IDE. This will allow for the minimizing of the IDE without the minimizing of the tools.   This will also allow for the use of ALT+TAB to navigate through the open windows.
- O4W Configuration screen modified to include a tab for Mobile.
- O4W Plugin Configuration form created to define or modify jQuery plugins that are used by O4W.

RDK
- Fixed issue where deployed tables would not always attach dictionary.

Module Management
- Module Management enhanced to include all repository items.

Miscellaneous
- The Copy_Row window's combo boxes have been changed to UPPERCASE entry.

DOTNETEXPLORER4
- NET 4.0 version of the DotNetExplorer form is now included; exec the DotNetExplorer4 window (instead of DotNetExplorer for .NET 2.0)

RevDotNet
- StartDotNet({existingObject},{version}): StartDotNet now supports an optional second parameter. Leave blank or pass in "2.0" to use .NET 2.0 assemblies, or pass in "4.0" to use .NET 4.0 assemblies

Utility_DotNet
- For each supported command (RUNWIN, CHECKWIN, GETWINHNDL, KILLWIN, MAKEDIR, REMOVEDIR, ZIP, UNZIP, TIMEZONE, and SHUTDOWN) there is now a corresponding .NET 4.0 command (RUNWIN4, CHECKWIN4, GETWINHNDL4, KILLWIN4, MAKEDIR4, REMOVEDIR4, ZIP4, UNZIP4, TIMEZONE4, and SHUTDOWN4) which will use the .NET 4.0 framework instead of the default .NET 2.0 framework

NetOI
- Revelation Software now provides two different assemblies to support both .NET 2.0 and .NET 4.0 framework projects. Include the RevelationDotNet.dll assembly when targeting .NET 2.0 framework, and RevelationDotNet4.dll assembly when targeting .NET 4.0. The namespace when using the .NET 2.0 version will be Revelation; the namespace for .NET 4.0 will be Revelation4.

Form Designer
- Ability to support 'Options' buttons in multiple EditTable columns fixed
- SAVEWARN/CLOSE event fix
- A bug with EditTable Combobox list refreshing has been fixed
- Checkbox BackColor works correctly now.
- EditTable MultiSelection fix
- FORMDES And AppDesigner GPF with long BMP filenames fix
- EditTable eating Esc key fix
- A new RESET_COLOR_BY_POS message has been added for EditTables.
- A bug Stopping TIMER event has been fixed
- Editline Hard Disabled and All Pages fix
- Updated COLDROPDOWNLIST message to repaint combo controls when being set.

9.2.1 Bug Fixes/Enhancements

Basic +
- Fixed Copy_Table to use From Location when To Location is null.
- Added a new Equates RTI_STYLE_EQUATES as a more comprehensive update to the antiquated STYLE_EQUATES.
- Fixed issue where RTI_LOCK_OWNER program was missing.
- The maximum number of indexed fields that can be searched with the INDEXLOOKUP command was increased from 16 to 24.
- The Copy-Row command has been modified to accept a seventh parameter, a Boolean indicating whether the source rows should be deleted after the copy.
- Updated User32.dll Functions from the [Sprezzatura] Windows API Library. This library can be downloaded from the following link on Sprezzatura's website:
    - http://sprezzblog.blogspot.com/2010/06/sprezzatura-windows-api-library.html
- RTI_DISTINCTLIST - Pass in a set of information, get back a distinct set. Relies on RTI_SETS, which relies on the client install.
    - Usage:
      distinctList = RTI_DistinctList("A A A B B A B C D A B", " ")

- RTI_STRINGBUILDER - A wrapper for [] based string manipulation. Loosely mimics .Net stringbuilder
    - Usage:
      sb = ''
      orig_mediaIDs = ''
      rti_StringBuilder(sb, 'New')
      Done = false$
      Select hMedia
      Loop
          Readnext id Else done = True$
      Until done
          rti_StringBuilder(sb, 'Append', id:@vm)
      Repeat
      rti_StringBuilder(sb, 'ToString', orig_mediaIDs, True$)
      rti_StringBuilder(sb, 'Destroy')

- RTI_HASHTABLE2 - Rewritten in Javascript instead of .Net hashtable. Better implementation of Keys method. In memory hashtable. Useful full for caching information used by one engine. Useful for caching <idispatch> objects
- RTI_MEMCACHED – New function. A sandbox implementation of memcached hashtable service. Useful for sharing information across instances of OpenInsight without writing to disk, for example for caching intermediate results in a large OECGI3 installation. See http://code.google.com/p/memcached/wiki/MemcacheBinaryProtocol
- RTI_DIFF – New function. A diff engine for comparing two strings. See http://snowtide.com/files/media/jsdifflib/difflib.js
- RTI_CRYPTO - New function that is a wrapper for RTI_MD5, RTI_SHA1. It implements Cryptographic functions from http://pajhome.org.uk/crypt/md5/index.html
    - Read that site to see the code and examples of usage. The scripts are implemented verbatim OI without change and without need to access external web server.
    - Usage:
      RTI_Crypto(method, param1,param2,param3)
      ans = RTI_Crypto('hex_md5', string)
      ans = RTI_Crypto('b64_md5', string)
      ans = RTI_Crypto('str_md5', string)
      ans = RTI_Crypto('hex_hmac_md5', key, data)
      ans = RTI_Crypto('b64_hmac_md5', key, data)

```
ans = RTI_Crypto( 'str_hmac_md5', key, data )
ans = RTI_Crypto( 'hex_sha1', string )
ans = RTI_Crypto( 'b64_sha1', string )
ans = RTI_Crypto( 'str_sha1', string )
ans = RTI_Crypto( 'any_sha1', s, e )
ans = RTI_Crypto( 'hex_hmac_sha1', key, data )
ans = RTI_Crypto( 'b64_hmac_sha1', key, data )
ans = RTI_Crypto( 'any_hmac_sha1', key, data, e)
ans = RTI_Crypto( 'str_hmac_sha1', key, data )
```

- RTI_JSON - Improved functionality / stability. Many thanks to Jensen Thomassen for his input on this.
- RTI_CREATEGUID - added outFormat parameter – rti_CreateGuid("{") returns the GUID in string format: {C8383395-0000-B7BE-0000-45C7918EF371}
- RTI_SET_DEBUGGER - Can now toggle debugging on fly, so can debug a CTO session or Arev32 session using OI debugger.
  - o Usage:
    Call RTI_SetDebugger(0, '') mode=0 to disable.
    Call RTI_SetDebugger(1, '') to break.
    Call RTI_SetDebugger(2, procedureName) to intercept using the specified procedure.
- RTI_LOAD_DATABASE - Can Load a different DBT programmatically.
  - o Usage:
    Call RTI_Load_Database("MYDB") to load MYDB.DBT
- DSBFS_GET_IDENTITY - Can obtain the key created after an inserting a row into a table with an identity key
- Added 'UTF8' to the 'SYSTEM' property. This setting will maintain allows application level enforcement of UTF8 mode, outside of the existing SETUTF8 function.
- Fixed bug in FIX_LH where setting a sizelock value would cause a VNAV error.
- Fixed issue with the Dir function where size values were returned as negative when the filesize was between 2 and 4 GB.

OIPI.net/OIPI
- Fixed issue with preview flashing when printing.
- Fixed issue when printing summary report in the test mode and system goes to the debugger.
- Fixed issue when printing averages in OLIST. The average will now be an Integer.
- Fixed issue when printing single underlines for totals.
- Corrected GETPOS command returning the wrong Position after a single ADDTABLE command.
- Fixed issue where PDF is sent to Environment path for OIPI reports when not path is entered.
- Corrected bug in OIPI.Net where the 'Page Setup' dialog was being brought up in place of the 'printer options' dialog.
- Fixed issue with environment default save paths in OIPI.Net where the default save path was not correctly defaulting to this path set.

Form Designer
- The ability to load previous values into controls within a window has been introduced in OpenInsight. A new function OIWin_FormLoadPrev(windowName, controlName) should be called for the ALT-C/ALT-O type processing. This equates to the AREV functionality of :
  - o The "Ditto" prompt default.   See the Form Designer Property window for details.
  - o The "Alt-C" softkey that duplicates the most recently saved form data into the form's controls (All non-key controls are updated)
  - o The "Alt-O" softkey that duplicates the most recent saved form data into the form's controls (only a single control is updated)
- Fixed problem with datatbl.dll where after repeated use of an edit table it would crash.
- Fixed problem with STYLE_BY_POS where setting first row would not work correctly.
- Fixed problem with BREAK-ON / TOTAL Command where extra lines would be automatically

suppressed.

General
- Added tab controls to valid control types to use a context menu on.
- Fixed bug with context menu where items with multiple periods or colons would cause an error message.
- Update context menu window to save environment settings on close as well as save.
- Fixed bug with edit tables where launching tables with pipes in column headers would cause crash.
- Fixed a bug in Btree.Extract where values were not returned if it did a lookup on a cross reference index with multiple delimiters.
- Fixed bug in multiple locations where opening certain windows when a dual monitor is expected, it will place the window on a missing monitor. This applies to RDK, Database Manager, System Editor, Table Builder, Report Builder, UI Workspace, XML Workspace. Used API Functions and structures from the Windows API Library. This library can be downloaded from the following link on Sprezzatura's website:
  - o   http://sprezzblog.blogspot.com/2010/06/sprezzatura-windows-api-library.html
- Cleaned ADD_DND form, included ability to sort by control.
- Cleaned up RTI_COMMUTER and added to system editor menu.
- Removed WebOI from New IDE menu and quick help as it is no longer suppoted.
- Updated New Image Entity Dialog to populate a default image name when selecting an image.
- Fixed bug where menu accelerator keys would get confused when toggling between multiple menus.
- Fixed bug where new entities created in the new IDE were not setting the access and update permits correctly.

System Editor ++
- Editor + has been officially superseded by the Editor ++
- Created a New Open Stored Procedure dialog. Dialog is a hybrid of single and multiple selection.
- Improved speed. Multiple selection option, increased keyboard responsiveness
- New stored procedure dialog will remember multiple selection option.
- New stored procedure dialog will remember show inherited option.
- Created a new Open Insert dialog. Dialog is a hybrid of single and multiple selection.
- Improved speed. Multiple selection option, increased keyboard responsiveness
- New Open Insert dialog will remember multiple selection option.
- New Open Insert dialog will remember show inherited option.
- Global Replace searching speed has been increased.
- Updated Workspace Softkeys for Next / Previous and Next Bookmark / Next Error.
- Added new configuration record to the editor, thus removing the association with the INI file.
- Fixed bug where restoring a window would not restore to correct size.
- Fixed record locking issues when closing multiple child windows.
- Fixed locking issues when resaving a record as an OS File.
- Added multiple icons and rearranged menu items on IDE.
- MultiValue Division will now correctly colorize.
- Hitting the entry key on an indented line will maintain the previous lines indentation.
- Hitting enter key on a blank link will maintain indentation on all subsequent lines.
- Reworked the open window events dialog.
- Open window events dialog will remember 'only show controls with events' option.
- Fixed issue in where suspect unassigned variables were erroneously reported.
- Added new right-click dynamic context menu to the tabs.
- Added 'Undo Last Close' to the context menu.
- Added 'Close all but this' option to context menu.
- Open record dialog will search in a case insensitive fashion.
- Open record dialog now has options for showing index files and dictionary files.
- Add context sensitive context menu to the tabs.

- Update menu and updated accelerator keys.
- RBASIC keywords now support conversions with spaces in them.
- Added New Insert and New Record button to the IDE.
- Added Close All feature.
- Added Undo Last Close Feature.
- Fixed locking issue with closing exploded records.
- Exploding records is now limited to the entity type of record.
- The new configuration record will be in the SYSENV file.
- Added dropdown to IDE to find inserts. Selecting an item from the dropdown will go to the specified insert.
- Added menu item to 'Jump to Insert.'
- Added new buttons to the IDE
- Revamped images on the IDE.
- Added Icons to the tabs based on what entity type opened.
- Added new status section at bottom with 5 tabs to supplement the existing status section.
- Added record information tab which will give you pertinent information on the record based on cursor position.
- Added Commuter Module Generator To Editor Menu
- Record information with convert internal values as needed.
- Added new find tab that will replace the existing find dialog with improved features. It can be accessed by the menu or Ctrl+F. The tab will auto select upon activation.
- New find tab will have a drop down that will remember the users last 50 searches.
- New find features including a character sensitive find. Words will be found and highlighted as they are typed.
- New find features include a colorized status section to inform the user of the number of matches or lack thereof.
- New replace tab will replace the replace dialog and replace bar. It can be accessed by the menu of Ctrl+H. The tab will auto select upon activation.
- New replace tab features include character sensitive find. Words will be found and highlighted as they're typed.
- New replace tab features a colorized status section to inform the user of matches of lack or matches.
- New replace tab will have two drop downs that will remember the users last 50 finds and replaces
- New favorites tab has been added that allows the user to save certain commonly accessed entities. They can be added, deleted, and launched from this tab.
- Fix double click issue where a goto or gosub was being treated as a separate function. Changed order of lookup.
- Open Event dialog will now remember option to 'only show controls with events.'
- Fixed issue where users could only compile an insert once. Users would have to close and reopen to compile again.
- Removed the maximize workspace menu option. The IDE will automatically remember whether it was maximized on close.
- Fixed multiple issues with toggling toolbars, tabs, status section.
- Updated global replace screen to widen the comboBox as well as add a vertical scrollbar.
- Global replace dialog will now save the case sensitive, whole word option.
- Global replace dialog will now save the search inherited, recompile option.
- Global replace dialog will now center correctly to parent.
- Added option to OS File dialog to default to a certain file type.
- Added option to OS File dialog to default to a certain directory.
- Added option to save tabs on close
- Reopening editor will launch saved tabs.
- Added option to use tabs or spaces when indenting.
- Added option to toggle keyword case conversion.
- Added option to toggle using call tips.

- Added option to toggle double click opens entities.
- Added option to configure selection color.
- Return to jump will no longer prompt for jump.
- Fixed issue with the define structure window where it was causing issues with other open children when they are not maximized.
- Added color configuration options to toggle between colorizing keywords, numbers, operators, identifiers, preprocessors, comments, quotes, labels
- Updated program size information to show size in red when above a certain byte amount.
- Improved font size handling.
- Fixed issues with locked entities. You can now view certain locked entities in view only mode.
- '!' exclamation points now comment out code.
- Keyword case will not convert inside ''//', '*' and '!'
- Fixed multiple issues with compiling events. Now events will update window handlers as well.
- Fixed locking issues with opening, closing, reopening events.
- Child will now remember size on close.

Source Code Management (SCM)
- Source Code management (SCM) is invoked by checking the SCM Checkbox in the Database Manager, Environment Settings.
- SCM Saves a unique version of every program compiled as it is compiled.
- Versions of saved source code can be versioned.
- Source code can be grouped in Modules.
- Modules can be created by selecting the Module Manager on the new IDE development menu.
- The different versions of the source code can be compared to show differences.
- All SCM functionality is available in the System Editor++, within the SCM menu

TCL
- Fixed issue where tablename was not found with LISTDICT when specifying a lowercase table name.
- Greatly increased speed of the grid reporting option.

AREV32
- Fixed issue when doing a ListMedia to the printer.
- Fixed OCONV issue with Masked Decimal output to check whether value is a number or not.
- Added Restart process in Arev32 Conversion.
- Added process to use OI debugger.

Database Manager
- Updated screen documenter to correctly size non-simple styled comboBoxes.
- Index display lists now correctly show bitmap indexes.
- Updated the add tables dialog to correctly show 'add' to correlate with the menu choice.

CTO
- Fixed issue CTO_CHILD_FORM and OIPI print preview window.
- Better support for "Q" pointers.

UI Workspace
- Fixed issue in popup designer with R and F Type popups.
- Fixed issue with popup font colors not being set.
- Popups are now expandable.

O4W
- Overall
Upgrading from O4W 1.0 to O4W 1.1
Current users of O4W will need to do the following to upgrade to O4W version 1.1:

- From within your browser, run the O4W Configuration Maintenance routine (from the O4W start page, select "Config Records" from the "O4W Maintenance" section), and click on the "Scripts" tab to properly configure your script source and themes.   Be sure to click on the "Save Changes" button at the bottom of the screen.
- From the System Monitor of OpenInsight's application manager, run the O4WUPGRADE routine (RUN O4WUPGRADE).   This will update your O4W security and custom O4W stored procedure definitions.

Note that these steps will need to be taken for each application where O4W is used.

- Fixed DatePicker, TimePicker, ColorPicker so that their functionality would remain on new rows added via table insert or add buttons
    o Changed how themes are selected (including attempt to automatically download required files for local jQuery themes);
    o more javascript changes for better performance
    o Changed to apply selected theme to overall form;
    o Fixed bug in color-picker plugin (now allows deletion of value in textbox to mean "no color selected");
    o Fixed bug in validation plugin (now allows for international phone numbers if prefixed with +<countrycode>);
    o Added "About" menu item to standard menu
    o Changed which plugin is used for "rounded corners" effect;
    o Some misc cleanup in the use of the tabs;
    o Some misc cleanup in the O4W_LOGIN and O4WI_PARSER routines to make sure extra parameters aren't passed into, or out of, the login form
    o javascript routines and communication with AJAX changed to better allow for dynamic addition of inline styles, stylesheets, and images;
    o possible performance improvements in javascript handling (including "preloading" of images)
    o Added "history" functionality, allowing for browser 'back' and 'forward' buttons to navigate through tabs, "breadcrumb" sections, and at user-defined points;
    o Added ability for some functions (that used to accept plain-text only) to accept more complicated HTML (for example, to allow images in tabs, and images and links in checkbox and radio button sets);
    o Added new combobox control;
    o Fixed generation of styles for "links" (now will work when generated as a named style, and/or when generated in O4WResponse() processing);
    o Generated new O4WCodes records for each plugin, and changed all stored procedures using hard-coded plugin paths to use new O4WCODES records (field 1 of the new PLUGIN_xxx records contains any .css files to load (@VM delimited); field 2 contains any .js files to load (@VM delimited); field 3 contains any explicit javascript to run (@VM delimited));
    o "User conversion" URL_FORMAT enhanced to allow for specification of "STRICT" and "COMPONENT" branches (if "strict" is specified, then the javascript encodeURI/decodeURI functions are used instead of the OI logic; if "component" is specified, then the javascript encodeURIComponent/decodeURIComponent functions are used.   For example, RSLT = ICONV("MY STRING TO ENCODE", "[URL_FORMAT,STRICT]"))
    o Many functions changed to use O4WEscape (to appropriately encode values for HTML)
    o Version number in cfg_o4w record changed to 1.1;
    o new jQuery (1.4.2 javascript with 1.8.2 UI) deployed as default;
    o Online connection (using Google Content Delivery Network (CDN)) updated with proper URL;
    o AJAX communications improved (can now dynamically load css and external js files in O4W's "response" mode);
    o Changed internal procedures to use new (either provided, or user-defined) "lock" procedure wherever practical;
    o Improved O4W ability to define "unique" sessions - relies on form-based variable instead of

session "cookie"

- Report Definition ("Report Wizard")
  - o Enhanced to use new themed iconButtons
  - o Added option to select paginator/sorting routine to use
  - o added ability to choose existing OI report as source for O4W report;
  - o changed some of the bigger tables so they'd scroll;
  - o added option to allow for multiple select and additional details for search criteria in case they're indexed and a listbox is desired;
  - o added button to delete selection criteria;
  - o added button to delete display criteria;
  - o added grand-total background color;
  - o added button to rebuild/refresh the statement that we're building (that's displayed on each page as you walk through the wizard)
  - o added option to suppress wrapping/splitting a display column

- Report Runner
  - o Enhanced to recognize links of type "linkedIn"
  - o Enhanced to use new themed iconButtons

- Report Running
  - o Enhanced options for heading and footing (support %D%, %DT%, %L%, and F options)
  - o Completely rewrote internal processing to accommodate new pagination routines;
  - o Added ability to download xml/csv/pdf of "drilled-down" values only (if desired)

- New User-overrideable routines
  - o O4WI_TABLEPAGERPLUGIN;
  - o O4WI_TABLEPAGERLOCAL

- Connector
  - o New OECGI3P.PHP available for initial testing

- Static menus
  - o Added Logout choice
  - o Added new static menu for PHP connector (startp.htm)

- Templates
  - o All templates cleaned up to better comply with "strict" HTML standards

- Configuration Maintenance Screen
  - o Separate listings of local vs. online themes
  - o Changed default for jQuery to be Google-delivered 1.4.2/1.8.2 jQuery
  - o Changed how user specifies which version of jQuery to use (MIKE - this effects you);
  - o Updated CFG_O4W_BACKUP and created CFG_O4W_BACKUP_ONLINE records
  - o Added tab to allow for browser warning configuration;
  - o Added ability to specify a 'lock' procedure rather than use the built-in "optimistic locking" algorithm;
  - o additional options on which version of "core scripts" to use;
  - o allow for specification of template to use as the default for 'mobile' requests;
  - o ask whether to allow "dynamic" reports and forms to be generated (that is, when O4W_RUN_FORM and O4W_RUN_REPORT are called, they can be passed in the name of an existing OI form and report and can dynamically convert them to O4W);
  - o ask what templates should be used for the dynamic forms

- o   Completed option to define table paginator/sorting routine

- Form Runner
  - o   Enhanced to recognize links of type "linkedIn"
  - o   Enhanced to use new themed iconButtons
  - o   Now supports "OI Form Mode" - instead of 2 or 3 screens (a collector window, an optional selection window, and an entry/display window) as the current O4W Form does, the OI Form Mode uses a single screen (with only an entry/display window).   Read events are triggered when the key field, or last part of the key field, is changed, or when a record is selected by the QBF functionality

- Form Running
  - o   Changed to use new O4WDatepicker, O4WTimePicker, O4WColorPicker

- Form Definition ("Form Wizard")
  - o   Enhanced to use new themed iconButtons
  - o   Allow for specification of "OI Form Mode";
  - o   Allow for specification of default width and height for any automatically generated "groups" on the form
  - o   Added choice of combobox to control types;
  - o   Fixed bug that marked all fields as read-only
  - o   Added ability to specify changed, lostfocus (post-field) and gotfocus (pre-field) events on listboxes, checkboxes, and radio buttons;
  - o   Fixed handling of changed, lostfocus ("post-field"), and gotfocus ("pre-field") events so they would work properly in dynamic tables with radio buttons/checkboxes/listboxes;
  - o   Enhanced "changed" event in commuter module to document ability to change "link text" through change to common variable if field is defined as having a "link";
  - o   Enhanced commuter module to look for "CHANGE" as well as "CHANGED" event
  - o   Added ability to choose existing OI form as source for O4W form;
  - o   added 'popup', 'changed value' and 'post-draw' events for commuter module capture;
  - o   changed some of the bigger tables so they'd scroll;
  - o   changed how you define the buttons on a "group";
  - o   allowed for separately specifying alignment on label versus text within control;
  - o   allowed for specifying additional details for search criteria in case they're indexed and a listbox is desired;
  - o   allowed for specifying column width on each form prompt;
  - o   added ability to use form as "feeder" into another form or report if no fields are specified;
  - o   added ability to choose any type of input control and then mark it as "read only" (so you're not restricted to just "plain text" for read-only fields);
  - o   Added option of "hidden textbox" as one of the input control types;
  - o   Added option to allow for conversion (to upper or lower case) on entered data into input control;
  - o   more appropriately show/hide additional details on dialog box that controls the input/display field properties;
  - o   added option to allow for the return of multiple values from a popup;
  - o   added confirmation dialog on the "change all" choice for the dialog box that controls input/display field properties

- Configuration Wizard
  - o   Added new type of script configuration (using local files, without an internet connection) - this new script configuration uses the older theme selection;

- Changed APIs

- O4WLink now supports link type of "O4W_LINKTYPE_GRAPH$" (for O4W Dashboards);
- O4WSizeStyle now automatically appends "px" to values that are entered as numeric only
- O4WListboxStyle - new 6th parameter - "listbox ID" - allows for explicit setting of listbox ID;
- O4WMarkedStyle - new 3rd parameter - list (@FM, @VM, or @SVM delimited) of values that should be marked as selected to the listbox, checkbox, or radio button set;
- O4WForm - behavior change - generates and saves "O4WUniqueID" value on form, which is then available on subsequent requests to uniquely identify the current form;
- O4WListbox - behavior changes - 1. if ListboxStyle passed in with listbox ID, then this will be used as the listbox ID, otherwise it will use the default behavior of using the 'name' of the listbox as the id; 2. If MarkedStyle passed in with list of selected values, then those values will be shown as selected;
- O4WQualifyEvent - behavior change - now can be called as a function, and returns "1" if the event/id/etc. has been specified correctly, or a "0" if O4WQualifyEvent wasn't able to process your request;
- O4WCheckbox - behavior change - If MarkedStyle passed in with list of selected values, then those values will be shown as selected;
- O4WRadioButton - behavior change - If MarkedStyle passed in with list of selected values, then those values will be shown as selected
- O4WListboxOptions now has an additional parameter (bIsCombo): if set to "1" or "-1", turns the listbox into a combobox ("1" is a case-sensitive combo, and "-1" is a case-insensitive combo);
- O4WLink and O4WImage now support additional link types:
- O4W_LINKTYPE_LINKEDIN_PROFILE$: generates an "in" icon and a popup when clicked. Parameter "url" must be the linkedIn username to show.
- O4W_LINKTYPE_LINKEDIN_PROFILE_INLINE$: generates an in-line (always-displayed) linkedIn profile.   Parameter "url" must be the linkedIn username to show.
- O4W_LINKTYPE_LINKEDIN_SHARE$: generates a "share" icon for linkedIn. Parameter "url" contains an optionally-@fm delimited string; field 1 is the URL to share, field 2 is (optional) title, field 3 is the (optional) linkedIn name of the person who is sharing the reference, and field 4 is the (optional) summary.
- Note that users of the LinkedIn link types must also call the new O4WLinkedIn() api in the create event if they are going to use the linkedIn links during any O4WResponse() processing.
- O4WText has been enhanced so that it, too, supports the O4WHTMLOption for "return html";
- O4WTimer now has a new parameter (bIsUpdate) which tells O4W that this is a change to an existing timer, and _not_ the creation of a new timer;
- O4WTabs - the last parameter (the styles) was an @VM delimited list of styles, 1 for each tab. But sometimes you needed to specify some style information for the "overall" tab set; we used to do that by just taking the first style and using that as meaning _both_ "this is for the first tab" _and_ "this is for the overall tab set". Now, the styles can contain 2 @FM-delimited pieces; the 1st one is the @VM delimited list of styles (1/tab), and the 2nd field is the styles specifically for the 'overall' tab set;
- O4WSizeStyle - has 4 new additional parameters - minWidth, minHeight, maxWidth, maxHeight. On browsers that support these properties, they let you set the minimum and maximum widths and heights of objects;
- O4WLink - supports new additional type of link - O4W_LINKTYPE_CLICK$. When specified, clicking on the link will send a CLICK event to the O4W host routines. The "URL" of the link is the name of the control (ctlentid) that is passed into the host routine;
- O4WMenu - has 3 new parameters - replaceName, overrideType, and styleInfo. "replaceName" is the name of the tag to look for in the template (defaults to MENU). "overrideType" is the type of menu to draw, ignoring/overriding what is found in the template (current values are "0" for the iPod-like vertical menu, "1" for a horizontal menu, and "2" for a tree menu). "styleInfo" contains any style values that might be applied to the menu, including support for the O4WHTMLOptions for "return html"

- Deprecated APIs
  - O4WMarkedStyle, O4WResponseStyle, O4WValidateStyle, O4WColors (may not have been documented before), O4WCellStyle, O4WInputStyle,O4WListboxStyle

- Menu Definition Screen ("Menu Wizard")
  - New choice for link - "O4W Dashboard"
  - Completely redesigned UI.
  - Added ability to set permissions on individual elements of the menu (instead of just on the entire menu)
  - Now supports "click" type of link, to generate message to host routine when selected

- New APIs
  - O4WIconButton
  - O4WLinkedIn(action, param1, param2, param3, param4, styleInfo): provides various linkedIn functionality, including alternative access to the new linkedIn link types.
  - O4WFacebook(action, param1, param2, param3, param4, styleInfo): provides various Facebook functionality.
  - O4WDatePicker
  - O4WTimePicker
  - O4WColorPicker
  - O4WTableAdvancedStyle
  - O4WHTMLOptions
  - O4WSetHistory
  - O4WEscape
  - O4WI_LoadPluginData
  - O4WTablePagerStyle
  - O4WMarkedOptions(bChecked, currValues);
  - O4WResponseOptions(bTextOnly, bStyleOnly, bTriggerUpdate);
  - O4WValidateOptions(validateType, bRequired, errMsg, optParam1, optParam2, bServerOnly);
  - O4WTableAdvancedOptions(allowDND, roundedCorners, zebraStripe);
  - O4WTablePagerOptions(pagerLocn, rowsperpage, sortablecols, maxrows, currPage, Options, whichPager);
  - O4WTableCellOptions(colspan, rowspan, bAsHeader);
  - O4WInputOptions(bEnabled, bReadOnly, bAutocomplete);
  - O4WListboxOptions(bMultiple, Size, width, bSelectAll, listID);
  - O4WAlignStyle(ID, hAlign, vAlign)
  - O4WInputOptions contains a new flag - "bAutoComplete".   If set to "0", this tells the browser to _not_ try and "fill in" the field's value from the browser's memory.   This is useful for any "secure" site.   Note that this is not a standard HTML attribute, though, and - while supported by IE and Firefox - may not work on all browsers.

- Logout process
  - Added to "master" menu
  - O4W_LOGOUT routine defined to allow users to log out of O4W

- New User-Overrideable Routines
  - O4WI_LOCKHANDLER

- Already-deployed 1.1 changes
  - (These are already present in the OI 9.2 release; users in the field can change the version number (field 1) of the CFG_O4W record in O4WCONFIG table to be "1.1" instead of "1", save the change, and stop/restart the EngineServer, to see these changes)

- "Publish" stored procedure screen
  - added support for preformatted text when 'wrapping' non-O4W procedures
  - added Prompt Type and Prompt Data Routine fields for specifying prompts when feeding non-O4W procedures

SQL Connector
- Many bug fixes / additions. Testing and fixes have focused on SqlServer. Interactions with other databases such as Oracle, MySQL and Postgres are not as mature.
- You MUST re-generate existing dictionaries. Either delete the shadow dictionary location, or for each table you have attached, delete_row 'DICT.MYTABLE', '%FIELDS%'.
- Inserting into identity type columns is now supported.
- Updating Unique Identifier (GUID) columns is now supported.
- Mapping of data types is more accurate.
- Updated forms for SQL connector.

U2 DotNet based Connector
- Created U2UBFS, a U2 connector based on the Uniobjects .Net library (UONET.dll) instead of Intercall libraries. The primary objective is to implement connection pooling, a feature that is only supported by the .NETlibrary. The U2UBFS is a re-write of the connector, based on the D3//SQL BFS code base.
- Updated forms for connector.

9.2 Bug Fixes/Enhancements

Database Manager
- The list of tables now updates correctly when SQL, D3, or U2 tables are added.
- The 'Search' shortcut key has been changed from Ctrl-F3 to Ctrl-F
- The database manager view now refreshes when a table is added.
- When printing from the context menu, the print preview screen would be obscured by the database manager. This has been corrected.
- Fixed issue with language AM and PM times being reversed.
- Updated status messaging for compressing LH information.
- Updated rename tables dialog to default to current application.
- When adding indexes, only tables in the current application or the Global application are displayed. Previously, all tables were displayed, but indexes could only be added to tables in the current or Global application.
- Updated Copy Table dialog to clear after copying.

O4W
- A new capability of creating browser-based applications has been added to OpenInsight. Developers will be able to create tables, forms, reports, menus, etc. See the O4W Quick Start Guide for details.

SQL Connector
- A new capability of connecting to and using SQL tables as if they were native OpenInsight tables has been added. See the SQL Connector Quick Start Guide for details.
- Sql connections appear in the repository as datasources
- Sql connector datasets are related to their parent connection
- We made many changes to the SQL connector, mostly bug fixes and data type conversion corrections based on lessons learned from 9.21 users. Where 9.21 release focused on MSSQL, the 9.3.1 release includes fixes required to support MySQL and Oracle.   DB2 and DB2AS400 connections are now supported too.

D3 Connector
- A new capability of connecting to and using Tiger Logic's D3 tables as if they were native OpenInsight tables has been added. See the D3 Connector Quick Start Guide for details.
- D3 connections appear in the repository as Datasources
- There have been minor changes to the D3 connector, based on lessons learned from the 9.21 release.

U2 BFS
- U2 Connections appear in the repository as Datasources
- If a lock/read/write/delete operation fails with a "bad file handle" or "Session timeout" error, the U2_BFS and U2_CONNECT will attempt to reconnect to the server, reactivate the handle,   then repeat the   operation before reporting a failure.   This should reduce the incidence of save errors due to connection timeouts. A side benefit is that read/write operations may be slightly faster, because some connection testing logic that occurred on every I/O now only occurs on failed I/O operations.
- The U2 Uniobjects connector (U2UBFS) is a re-write of the U2_BFS. U2UBFS is based on the OI/.Net D3 connector. At a high level, the connector uses UniObjects.Net libraries rather than the legacy intercall libraries. The UniObjects.Net libraries are the preferred approach to connecting to U2 servers. Also, Uniobjects.Net supports connection pooling licenses. Rocket Software requires pooling licenses for applications where many users share a connection, for example an O4W web application. Dictionary conversion is improved, especially for Unidata applications. As of version 9.3.1, the intercall based U2_BFS is deprecated. Programs and windows for the Uniobjects connector are prefixed U2UBFS, for example U2UBFS, U2UBFS_EXEC, U2UBFS_SUBCALL.

Banded Report Builder
- Some bugs have been fixed.

Basic +
- A new function named RTI_OS_DIRECTORY has been created. It supports methods such as Create, Delete, Rename and other methods for dealing with OS directories.
- The SysCodeTemplates and Commuter Module routines have been modified to set the default date to the workstation's date setting, and not to US date format.
- A number of new APIs have been introduced for the O4W product. See the O4W reference guide for details.
- Debugger now supports scrolling.
- Debugger will now remember last size on run rather than closing and restarting.
- Debugger hex edit window will not force debugger into the background when closed.

Table Builder
- Fixed issue with column details not populating correctly.
- Fixed issue with splitter bar causing window painting distortion.
- Added capability for search to check all three tables.
- Updated open dialog invalid character handling and cursor positions.
- Added LH Volumes to defined locations.
- Updated variable type defaults for length and justification.

Indexing
- A new type of indexing has been added – Bitmap Indexing. Bitmap indexes have nothing to do with images, but rather with bit arrays (the 'bit map'). We do the work internally with bitwise operators. They are mostly used for indexes where the number of indexed values are relatively small; e.g. Sex (M, F), Active(Yes, No), etc. Basically, there is one index node per index value, as opposed to our Btree or Xref indexes, which could have many nodes per value, or multiple values in a node.
- Some issues with IDX_SETS have been corrected; IDX_SETS now runs faster.
- The indexing routines SI.MFS and F.INDEXER have been modified to prevent writing records whose id's contain system delimiters.   This should prevent index corruption caused by bad keys.   F.INDEXER will log skipped index transactions in a SYSLISTS record named RTI_INDEX_ERRORS.

Internationalization
- System speed while in UTF8 mode has been dramatically increased.
- A new function named OI_GET_LOCALE_DATE is now available. It will display a passed date in the format as determined by either LND setting in the database manager, or by the Windows Local settings.
- A number of binary operators, used to work in terms of BYTES rather than CHARACTERS have been added to the Basic+ language. These include GetBinaryValue, PutBinaryValue,GetBtyteSize,CreateBinaryData, BCol2, BRemove, and more. Please see the What's New in 9.2 guide.

General
- The APPBACKUP routine now creates the directories needed when restoring an application.
- Added drop downs and scroll bar to the Popup window.
- Added password style to editline when creating new application.
- Updated contextmenu to account for multiple instances of a window.
- Fixed issue with RUN_LABEL when sending an incorrect label name.
- Popup of volumes was fixed to display volumes instead of sysptrs.
- A program named RTI_TASKMANAGER has been added to the system, allowing developers to schedule processes through the Windows Operating System.
- Fixed various issues when toggling between new and old IDE.

- A new OECGI3.exe interface has been supplied. See the oecgi3 Quick Start Guide for details.
- OpenInsight now supports Single Sign-on using LDAP.
- Updated commuter module to correctly generate date.
- Updated create new application window to correctly link to the abstract dialog box.
- Fixed multiple issues with OInsight.exe being hung up with OIPI.
- Fixed major issue with hidden menus causing the parent menus to become corrupt.
- Fixed issue with new IDE correctly applying a logon banner.
- Added Utility to remove style sheets from individual forms in routine RTI_REMOVE_STYLE_SHEET.

UI Workspace
- The Popup Builder has added dropdowns for Column Id and Col/Header Justification.
- Minimum and Maximum tracking sizes have been added to the popup builder.
- Popup wizard has been updated to correctly account for customer popup headings.
- Fixed issue with blank tables causing errors in the table selection tab.
- Fixed issue with changes tables not updating information on the table selection tab.
- Updated quick help to properly change the font when toggling between fonts.
- Event designer has been updated to open as a child window.

TCL
- A new output option of (G has been added to run reports to a grid control.
- Softkeys have been added to TCL.
- The Copy_Row command will inherit and copy an active select list.
- The Query Table has been implemented again for TCL, as in Arev.
- Fixed issue when selecting a record that had * and then entering deleterow would delete all records in the table.
- Added SUM option.
- Using ".N", to retrieve list items would fail if user entered an alpha.
- Fixed editing multiple records at a time.
- Fixed multiple commands functioning without parameters.
- Added/Updated PAINT feature to the TCL.
- Added multiple warnings to delete and clear options.
- Fixed issue with editing records where the edit would turn to a select statement.
- Added more options and a menu item.
- Added help to the menu items.
- Fixed .L command to show dropdown command.
- Added RUN_LABEL functionality to TCL.
- Fixed assistant list issue where field names were inserted before filenames.
- Updated COPY_TABLE to prevent invalid characters.
- Updated ATTACH to prevent invalid characters.
- Updated DETACH_VOLUME error handling.
- Updated informational popups to not clear text on close.
- Updated RUN command to eliminate truncating to 99 characters.
- Fixed DELETEROW multi-part key issues.
- Added print capability to select column popup.
- Updated COPY_TABLE to allow copy of table exists.

Form Designer
- Limit of 64K characters in the New Form dialog box list of tables has been found and removed.
- Updated new table dialog to default to OpenInsight tables.
- Form designer will not support style sheets any longer.

System Editor ++
- Fixed issue with global replace clearing out object code.

- Fixed suspect unassigned value errors with opening/reading tables into the same variable name.
- Fixed compilation time displayed in editor plus.
- Fixed issue where replace feature kept writing data after completion.
- Fixed issue with double clicking on inserts with a space in them.
- Fixed issue with opening new procedures by double click.
- Updated open record dialog to have down arrow functionality.
- Fixed issue with view locked insert and stored procedures.
- Cursor will now return to original position when formatting program.
- Added ability for spacebar to select/unselect record in record list.
- Added DEFINE_STRUCT to menu.
- Fixed issue with variables not coloring property with dot in them.
- Fixed issue with labels not coloring properly with a dot in them.
- Fixed issue with formatting program where alignment was off when a semicolon and asterisk was on the same line.
- Added Redo functionality to editor.

AREV32
- Fixed issue in banded report writer where multivalue fields were not being printed correctly if the field was the last data field in a table.
- Fixed issue with conversion where failed dictionaries would not convert the symbolic information. It now converts the information and is commented out.
- Corrected situation where using setprinter 2 and run report where run report would display the setprinter2.

RDK
- Fixed issue with save button being inactive when opening an existing deployment definition and changing the repository view.
- Modified date validation in deployment definition to use locale date.

OIPI.net/OIPI
- Run_Report commands now process faster.
- Fixed issue where TEXTXY was not resetting font parameters.
- Fixed issue where excluded tables are included in reporting.

Single SignOn
- Single Sign-On (SSO) allows OpenInsight users and system administrator to simplify their OI security and administrative tasks.   By configuring SSO, OpenInsight users can be authenticated via traditional OpenInsight methods, via Windows security, or via a combination of both.

9.1.1 Bug Fixes/Enhancements

IDX_SETS
- An error in IDX_SETS has been fixed.   Under certain circumstances, especially in the CTO and AREV32 environments, IDX_SETS performance was seriously degraded.   A new version of IDX_SETS has been written using .NET libraries, instead of the original C and Assembler routines.
- The default behavior of IDX_SETS will be to use the original Assembler/C routines.   To use the .NET libraries, the ClientSetup.exe needs to be run on each workstation.   This will install the idxSets_Setup.msi that was placed in OpenInsight's root directory during the upgrade.   The idxSets_Setup.msi will install the .Net libraries needed to execute IDX_SETS.
- There is a new record in the SYSENV table called CFG_IDX_SETS.   This record, as shipped, contains the value "IDX_SETS1" in field 1.   When IDX_SETS is invoked, the system will interrogate the CFG_IDX_SETS record to determine which version of IDX_SETS should be used.   If the value of the record is "IDX_SETS1" the original Assembly/C interface is used.   If the value of the record is "IDX_SETS2", then the .NET library is used.

AREV32
- Fixed issue where RWREPORT would not display when printing to the screen.

OIPI.net/OIPI
- Fixed issue when creating files using list or run_report the preview would display.
- Fixed issue where OIPI.Net not creating CSV files.
- Fixed problem where OIPI.NET was not justifying the ADDTABLE message results.

Database Manager
- The Add Relational Index window did not allow a key value to be used in the From fields. This has been remedied.

Banded Report Builder
- Fixed issue where the Calc button was not working.

TCL
- Fixed issue where TCL command DELETE was deleting last active list when a specific key was sent to delete.
- Added functionality for TCL Command Stack to be user based.   The system will create and maintain SYSLIST records named <appName>*<userName>*COMMAND_STACK as in:
  EXAMPLES*EXAMPLES*COMMAND_STACK
  EXAMPLES*SEAN*COMMAND_STACK

General Fixes
- Scrollbars have been added to the DotNetExplorer window EditTables.
- RTI_Getnetworkusername missing a program. Added missing program.

System Editor ++
- The Global Find and Replace window now has the option to search inherited applications.
- The Global Find and Replace 'Searching' message now has a cancel button on it so the user can cancel out of the search.
- Fixed the issue with Cascaded/Tiled stored procedure code windows not redrawing properly

Client Server Workspace
- Options Buttons have been added to the XO_CHILD (Connection Object Child) window so the user no longer needs to double-click to see options.
- Options Buttons have been added to the DS_CHILD (DataSet Child) window so the user no longer needs to double-click to see options.

Table Builder
- A Savewarn message was added to the Calculated Column Edit dialog.
- The popup used when selecting individual fields for the Group Columns to return an ordered selection.
- Fixed a list handling error when adding and removing QuickDexes and RightDexes. To ensure correctness please remove and re-add the QuickDexes and RightDexes after installing update.

RDK
- Added feature to RDK buildexe to allow default to designation and data paths.

9.1 Bug Fixes/Enhancements

General
- Fixed issue where deleting a context menu did not delete the record in SYSREPOSCONTEXTMENU file.
- Fixed issue with RDK displaying log when 3rd option is true.
- Fixed issue with RDK where Save-As locks the original item.
- Added new functionality to new IDE. Users have ability to hide or show repository and help box, maximize workspace, collapse/expand refresh repository outline.
- Added REVDOTNET API to allow OpenInsight to integrate with .NET controls.
- Added DOTNETEXPLORER window to explore .NET controls.
- Added RTI_TASK_SCHEDULER as an OI front end to the Windows control panel scheduled tasks. (SCHTASKS.EXE)
- Added RTI_INDEXER_CONFIG as a front end to schedule indexing utilizing the RTI_TASK_SCHEDULER and the Engine Server.
- Added OERUN.exe for use with the RTI_TASK_SCHEDULER.   It is intended to be called from the windows task scheduler, but can be called from batch files too.
- Added RTI_CDOMAIL to send email from OpenInsight using authenticated login and or SSL.
- Added RTI_SENDFAX to provide the ability to send a fax from OpenInsight using the standard Windows Fax Server (included in XP, Vista, Server 2003 and Server 2008).
- Added RTI_CreateGUID to generate a GUID. This provides a way to get unique keys without using locking.
- Added RTI_MD5 to enable one-way MD5 hashes.   This can let you validate passwords, credit cards or SSN without storing them.
- Added RTI_JSON to allow you to generate JSON formatted data.   This is useful for custom web programming using AJAX techniques
- Added RTI_RSS as an example of reading RSS feeds in JSON format
- Added RTI_GETNETWORKUSERNAME to get the network user
- Enhanced XML Import Wizard to import of XML without a schema. Replaced in-house parser with use of MSXML parsers.   Provided underlying RTI_XML object.
- Some of the new IDE screen handling has been updated.
- Fixed issue where Collect.IXVals response was limited to 64k.
- Fixed issue where SYSENV*SYSPROCNAMES was being deployed empty.
- Fixed a bug in LH_VERIFY_SUB that incorrectly calculated the average row size.
- INLIST has been fixed.   An error causing OpenInsight to abend has been remedied.

TCL
- Fixed issue where TCL Assistant was only deleting 999 rows of a table.
- Added a new FIND command. The syntax is <table> "<search string>"
- TCL window is now expandable.

UI Workspace
- The POPUP, MSG, and APPNOTE screens have been modified by adding a button to them. Clicking on this button will load the Basic+ code required to create the specific or generic Popup, Msg, or Appnote being created, and load that code into the System's Clipboard. The developer can then paste that code where they want to.
- Fixed issue in the UI workspace where setting the message background color would cause OI to crash.

AREV32
- Fixed issue where AREV32 would lose focus if using index server and system was idle for 30 seconds.
- Corrected setalias_sub giving false error messages when doing a set alias to an existing alias.
- Fixed error when doing a cleartable using dots.
- Fixed an issue with display of multivalue fields on screens.
- Fixed an issue with system exiting to debugger when hitting F2 while on a menu.

- Fixed issue where compiler is generating errors when '/*' is contained within a comment.
- Fixed issue with left-click causing an error when drawing a box around a prompt.
- Fixed issue with TIMEDATE() variables not displaying seconds on print.
- Fixed issue with conversion not creating indexes for cross reference and relationals.

CTO
- Added the ability to create macros for use with the CTO_CHILD_FORM and CTO_STANDALONE_Form. Ten (10) macros can be defined for each User within an Application. The form is RTI_CTO_MACROS.

WebOI
- Improved handling of key fields with conversions
- Made a change to prevent the creation of program lines that were too long to compile correctly
- Improved logic for determining the All Pages flag for controls
- Made changes to multi-part key handling
- Column Justifications in EditTables are now handled correctly when converted to WebOI
- Modified the WebOI 'Clean' processing to clean specific forms, instead of all.

OIPI.net/OIPI
- Added Maximize option to Run_Report command to display preview maximized.
- Modified temp path to send OIPI temp files to system temp instead of MY Documents.
- Fixed issue where textbox method was not working.
- Fixed TABLECELL Y value position being in the wrong order.

System Editor/Basic+
- Fixed a problem with pressing Ctrl-F while the 'FIND' window was already visible
- Fixed an issue with Get_Property where the first parameter was null. Get_Property now returns a null instead of dropping to the debugger with an error.
- Added new 'Code Templates'. These are prebuilt chunks of code stored in the SYSCODETEMPLATES table. Revelation ships some examples; developers can extend them as needed.
- The Basic+ commands for working with .Net assemblies have been modified. These include STARTDOTNET, SET_PROPERTY.NET, GET_PROPERTY.NET, GET_INFO.NET, EVENTS.NET, SEND_MESSAGE.NET, CREATE_CLASS.NET, FREE_CLASS.NET, CREATEINTERNALOBJECT.NET, and PARSEDOTNET.
- A new series of Rlist Callback routines have been created or modified. These include RLIST_XML_CALLBACK, RLIST_JSON_CALLBACK, RLIST_CSV_CALLBACK, RLIST_TEXT_CALLBACK, RLIST_TAB_CALLBACK, RLIST_HTML_CALLBACK, and RLIST_EDT_CALLBACK.

Form Designer/Presentation Manager
- The ComboBox Populator has been enhanced to support a SORTBY: tag, allowing an AL/AR/DL/DR sort. Also, additional literal items can be added to the list, and they will appear at the top of the dropdown.
- A new set of FocusCell properties has been added. Details are: FOCUSCELLFONT, where a specific font can be set for the cell that has focus; FOCUSCELLCOLOR, where colors can be set for the foreground and background color for the cell that has focus, for EditTables where row selection is or is not set; FOCUSRECTWEIGHT, where the thickness of the rectangle surrounding the EditTable cell that has focus can be set to light, medium, or thick; FOCUSRECTSTYLE, where the rectangle surrounding the EditTable cell that has focus can be either a solid or dashed line; and FOCUSRECTCOLOR, where the color of this rectangle can be specified.
- Menus have been modified to support graphics and textual separators. The contextmenu designer and menu designer have been modified as required.
- Sample screens have been added to the build to show examples of using a number of features in OpenInsight. They include TEST_EDITTABLE_DND for testing EditTable drag and drop;

TEST_CONTEXTMENU for testing context menus; TEST_NEW_ET_STYLES, for testing the new EditTable styles included in OpenInsight 9.0; TEST_EDITTABLE_DROPDOWN and TEST_EDITTABLE_CHECKBOX for testing EditTable dropdown lists and checkboxes.

- The QBF Query parsing Logic has been revamped.   In prior versions, QBF was not using the same WITH clause logic that RLIST uses.   QBF now uses the same META parser that Rlist uses. Range selects are now supported, for example A...Z   will find items from Aardvark to Zebra
- The maximum number of controls supported in a form has been increased from 920 to 2048. This will be the maximum number of controls in a form.

Database Manager
- The Add Relational Index window did not load columns in the Column Name dropdown when the table was entered manually.   The window only loaded the columns when the table was selected in the Filename dropdown.   This has been corrected.
- The Add Relational Index window loaded key fields in the "Index To, Column Name" control.   This has been fixed to not display the key fields as an option when "Indexing .. To"
- A new page and Tab have been added to the Environment Settings window. This tab, labeled Window/Form Settings, allows the developer to set default behaviors for form's Background Color gradient, EditTable FocusCell settings, and Graphical Menu settings.
- Added clear table functionality.
- Added option to choose volume or directory when adding a table.
- Updated refresh issue. Users do not have to exit and re-enter database manager to see certain changes to database.
- DETACH_VOLUME did not always detach U2_Volumes correctly.   This has been corrected.
- ENVIRON_CONSTANTS insert has a new value ENV_BTREE_FLUSH_ON$ (66)
- BTREE.EXTRACT will now flush indexes before query if the environment parameter ENV_BTREE_FLUSH_ON$ is true.
- The database manager environment window has a new checkbox to maintain the ENV_BTREE_FLUSH_ON$ setting.

Commuter Module Generator (RTI_Commuter window)
- Some issues with all events not being converted have been addressed.
- Clicking on the 'All Controls/Supported Events on the Form' checkbox now gives a warning about how many program stubs will be created.

Table Builder
- The 'Find' keystroke of Ctrl-F3 has been changed to Ctrl-F to be more in line in industry standards.
- The '$' character has been remove from the Create Insert prefix list. Equates starting with a '$' are compiled as Inserts and fail.
- The limitation of entering only 23 characters for a DEFAULT value on a dictionary field in the "Edit Data Column Attributes" screen has been removed.
- A corruption of the dictionary screen when using the splitter bar in the opened table window has been fixed.

Banded Report Builder
- Fixed issue where BRW_CHILD.STATIC_DFLT would cause an OI crash.

9.0 Bug Fixes/Enhancements

IDE
- A new IDE has been added.   This IDE was written using the OpenInsight Toolkit.
- The IDE can be launched manually through the System Monitor by typing "EXEC RTI_IDE_MDI"
- The IDE can be launched automatically through a new IDE command line switch on your Windows Shortcut.   The switch takes the form: \IDE=<FIELD POS>.   When launching OpenInsight the SWAP_DATABASE command reads the CFG_IDE record in the SYSENV table.   It will use the field position specified in the <FIELD_POS> value of the IDE command line switch.   The CFG_IDE record has a default of RTI_IDE_MDI.   Therefore if one specifies \IDE=1 on the command line when launching OpenInsight, then the new IDE will be displayed.   The CFG_IDE record is available for use by developers.   If one specifies \IDE=2, the system will look at the second field in the CFG_IDE record and launch the appropriate window.   The system expects to launch a window.

Basic+
- Edit Table Functionality.   There have been numerous enhancements to the Edit Table control for OpenInsight 9.0.   These include: Multiline Cells, Combo Box and Check Box processing for individual cells, rows and columns.
  New Messages for the Send_Message function for manipulating an edit table have been added.   These include:
  STYLE_BY_POS - Set and retrieve the Style for an entire column, row or particular cell
  Setting the STYLE_BY_POS: retval = Send_Message(CtrlEntId, "STYLE_BY_POS", column, row, style)
  Retrieving the STYLE_BY_POS: retval = Send_Message(CtrlEntId, "STYLE_BY_POS", column, row)

  Please review the Programmer's Reference Manual, STYLE_BY_POS message for examples on how to use the new styles.

- New Styles in that have been added are:
  OPTIONSBUTTON (will create a button within edit table cells.   When the button is clicked the table's OPTIONS event is raised.)
  DROPDOWNEDIT (will create a drop down type of Combo Box within edit table cells.)
- The CLEAR_TABLE command has been modified to that if there are indexes on the file, they are rebuilt.

General
- A Window (SYSCOPYAPPS) has been added to copy entities or applications to a different application.
- Fixed RDK to handle post RDK processing.
- When using the UNC path in the Detach_Volume command the system returned an error. This has been corrected.
- Corrected the RDK Entity selection to handle multiple entities correctly.
- Double clicking on Insert in editor launched open record dialog. This has been corrected in the new editor.
- Fixed issue when deleting a long entity name in the Repository Dialog Box you could not see the complete name.
- Fixed issue with RDK not deploying all DLL's.
- The RDK will now create Setup.EXE updates
- When using Repository-Checkout to a directory that does not exist, the system now prompts you and will create the directory

Database Manager
- When Adding Indices in the Database Manager, a message will be displayed to advise of processing.
- When modifying users if index is not changed it will retain original password.

- Modified the DM_INDEXES_ADD screen to report the error code when an unknown error is returned from Create_Index
- The Maintain Index and Remove Index screens have been modified to protect the EditTable from deletion of rows and editing of cells.
- A new SYSPTRS window has been added. It allows the user to define data locations and save them in the SYSPTRS table.
- A new environment setting has been added allowing the user to decide on default background color(s) for all windows in a system.
- Localization settings for dates, Time, currency, and so on can now be set in the Environment of the database manager.

TCL
- Fixed Issue when doing a 2nd select the select was taking longer than it should.
- Added support for the NameVolume command. Synonyms include Name_Volume, NameMedia and NameVol.
- Added support for the ListIndex command.
- Added security so columns excluded would not display. If using columns in list statement no data will be displayed if the columns are excluded in database manager.
- A new keyword of NUMCOLUMNS has been added to the OpenList reporting language. A value here will cause the outputted data to be printed in the specified number of columns across a page, instead of just down pages.
- The SQL command has been modified so that if the SQL keyword is followed by a SQL command, the SQL window is launched and the statement executed.

Form Designer
- A new TABLE property has been added for the Window. It returns the primary table as defined in a form.
- OpenInsight forms now support a background color gradient. In the Window's Property panel, if Background Color is checked, a new Gradient button is enabled.
- The OLE interface has been rewritten and should result in support for more OLE functionality.

Banded Report Writer
- Total and Averages Added.
- Options for PDF and Text files have been added.
- Ability to Suppress Detail
- Ability to Add Default Printer.
- Ability to add default Font.
- Oconv now has a popup to select conversion formats.
- Fixed problems with locks not releasing.
- Smallest font reduced to six.
- Fixed Removal of Bands.
- Added the ability to create Symbolics in the report.
- Added the ability to modify column headers.

Table Builder
- Adding Quickdex modified to create %RECORDS% at create.
- Fixed key part number when changing from data field to key field.
- Support for G or Group type fields has been added.
- A new Description field is now available when creating a new table. This description appear when choosing a table in the reporting tools.
- When dictionary records are updated, the username of the user who made the changes is stored in field 13 of the dictionary record. The DICT_EQUATES insert has been updated to reflect this.
- The TB_CHILD window has been modified to show columns' justification and AMV groups. The Column Name column now auto sizes itself.

- The 'Find' shortcut key has been changed from Ctrl-F3 to Ctrl-F. This key allows the user to search for text in either the Fixed or Calculated columns.

System Editor++
- A new System Editor ++ has been added into the system.
- The new System Editor++ has fast, accurate color coding, the ability to collapse code and show line numbers
- The new System Editor++ supports the opening and editing of OS files, and performs color coding on HTML and JavaScript tags.
- The new System Editor++ shows syntax assistance tips for Basic+ keywords, functions, and subroutines.
- In the new System Editor++, a group of lines can he highlighted and all commented or uncommented by pressing Alt-C

Arev32
- Modify conversion program to drop bad voc records causing issues at start up.
- Fixed startup where an erroneous message was displaying invalid Macro.
- Fixed issue when default was in lower case.
- The PcPerform command in Rbasic was not suspending OI until the dos operation completed.
- Fixed RTP18.English so dictionaries with dots would work when listing from the list command.
- Code 'C' in Window routines was not working when the code statement contained AREV commands.
- Corrected Issue where environment if different from user was not being used.
- Fixed issue where (P) in middle of R/List sentence did not work.
- Corrected the Alt/V function.

OIPI
- A new .Net version of the OIPI Print engine is available. Current functionality can be maintained by modifying the CFG_OIPI record in the SYSENV file. The value VSPRINTER in field one of the record will use the 'classic' OIPI engine; a value of VSPRINTER2 will use the new .Net engine.
- Text File option will now create text for complete document including addtables and textxy data. Pictures will not be in the text file.
- Environmental option added for default path of users.
- When printing to a device that requires a file like a PDF writer printer the system would lose the default path. This has been fixed.
- When using OIPI.Net, a new preview window is now available, with thumbnail previews and more 'Save As' options on the report, and the ability to Search or Copy the previewed output.
- OLIST_PRODUCE has been modified to reset the system variable @RN.Counter.

SQL Window
- The SQL window has been modified to that column justifications are correctly based upon the table's dictionary items.
- A splitter bar has been added to the SQL window so that the statement area and result area can be resized.
- A new PRINT button has been added to the window to print the output of the statements.

Report Builder
- Report Builder now has the capability of printing 2   or more 'printing columns' on a page. The value is set in the Page Setup dialog box under the File menu in the Report Builder.
- Field Security has been added to environment settings. Fields excluded will not display in report builder options and will show as blanks in list commands.
- Fixed issue with underline in headings.

XML Workspace

- A new XML Importer wizard has been created. It is much easier to use and more intuitive than the prior version.
- The XML publisher and INET_OI_XML routines have been modified to allow the user to decide whether or not the process should create a schema file. The Default answer is yes.
- Corrected ordered popup of selected tags in XML Importer.

WebOI
- A new Web Publishing tool named WebOI has been created. It can be accessed by typing Exec WebOI from the system monitor.
- The WebOI screen's 'Tools' tab has a Commuter Module Generator. See the WebOI Quick start for details.

8.0.7 Bug Fixes/Enhancements

General
- The first call to the ALIAS_TABLE command was deleting active select lists. This has been fixed.   This issue was reported due to trouble using CTO.

Form Designer
- Fixed an issue where data in an edittable is corrupted when Column Labels are set/changed in an Edittable with numerous columns.
- A new BITMAP property has been added. The Property is SCALE. It will force a bitmap to resize to the appropriate scale based upon its proportions, rather than scale to the dimensions of the control.
- A new style has been added to the BITMAP Control. 'Clip' clips the image to fit the control, Stretch resizes the image to fit the control, and the new Scale resizes the image proportionally to fit the control.

Arev32
- In previous versions of Arev32, the printer was not terminating when using "printer off".   It was only terminating when the program terminated.   This has been fixed.
- Issues with PDISK, such as, not allowing for the output of ASCII character 00 and not terminating properly thus building excessively large print files, have been fixed.
- You can now update and rebuild indexes without having to use username as the application name.
- A bad VIDCTRL message has been fixed.
- Issues with PC Exit and PC Suspend not working properly have been fixed.
- When the TCL environment option was set to "T", the TCL was not being displayed when the F10 was pressed.   This issue has been fixed.
- Corrected the issue where VM Size in memory was not being reduced causing sluggish processing.
- Corrected the issue where environment in user record not overriding standard environment.
- Fixed catalyst command using 'K'.
- Using font prime commands on merges has been fixed.

U2 Connector
- The U2 Connection dialog box has been substantially modified and updated.   For full details see the Whats New Document.
- Issues with attaching large numbers have been resolved
- Table Attaches and dictionary conversions are faster.
- You can now specify a list of tables to attach, rather than attaching all tables
- An issue with conversion of   I-Type fields has been resolved
- The program U2_EXEC_ITYPE has been improved
- A program named TEST_U2_SUBCALL demonstrates use of U2_SUBCALL and   U2_EXEC_PROC.
- A Window and supporting program named TEST_U2_PROMPTS demonstrates using LOCALE_DATE_FORMAT

8.0.6 Bug Fixes

Release Note
The 8.0.6 release can be applied to 8.0.3, 8.0.4, 8.0.5 and 8.0.6 releases.   Earlier releases need to be upgrade to at least 8.0.3 to apply this upgrade.

The only known issue that 8.0.6 fixes is the Utility function's CHOOSEFILE service was broken in release 8.0.5.

8.0.4/8.0.5 Bug Fixes/Enhancements

Release Note
The 8.0.5 release can only be applied to 8.0.3 or 8.0.4 releases.   Earlier releases need to be upgrade to at least 8.0.3 to apply this upgrade.

Database Manager
- When Adding Indices in the Database Manager, a message will be displayed to advise of processing.
- SSP116 Error Message when attempting to change a user's access level was not displaying meaningful message.   This has been fixed to display the SSPError text from REVERROR.DAT
- Fixed the Alias Table Dialog's top group box.   The box had white space displaying outside a visible gray border, as well as displaying the right side curves.
- The Alias Table Dialog now displays all tables within the specified volume.   Prior to the change only currently unattached tables within a volume were displayed.   This allows for the aliasing of an existing attached table.

Basic+
- A new INET_TEST_CONNECT routine was created.   This function tests whether the OECGI/OECGI2 connection is successful.   The INET_TRACE routine reads the registry and if the proper permissions are not in place then the INET_TRACE returns an error.   The INET_TEST_CONNECT function solves this issue.

General
- Fixed RDK to handle post rdk processing.

Form Designer
- The RTI_POPULATE_COMBO stored procedure for processing of the population of combo boxes from routines or files contained an error when released in OI 8.0.3.   A patch was released on January 8, 2008.   This patch contents have been included in the OpenInsight 8.0.4 release.

OCX/OLE
- An error in handling keystrokes in OLE controls has been remedied.   The **NOACCELTRANSLATION property**   has been added, as well as, the **SUPPRESSKEYTRANSLATE** message. The NOACCELTRANSLATION property is a boolean property that may need to be set when the keys used within the OCX should not be passed to the OpenInsight Presentation Server.   This fixes the issue where the RichTx32.ocx embedded in OpenInsight forms loses the ability to use navigational keys (arrows, page up, page down, home, etc., etc., etc.) within the ocx.   Using the following Set_Property command will ensure that the keystrokes within the OCX control process properly:
  call **Set_Property(oleControl, "NOACCELTRANSLATION", TRUE$).**
- The **SUPPRESSKEYTRANSLATE message** provides NOACCELTRANSLATION functionality for specific keys.   This message is used in the Send_Message routine as follows:
  equ VK_BACK$ to 8
  call Send_Message(oleControl, "SUPPRESSKEYTRANSLATE", VK_BACK$, TRUE$)
  This example will stop the BACKSPACE key from being processed by the OpenInsight Presentation Server but all other keys will be processed by OpenInsight.
- The FORCEKEYDISPATCH message will force the OpenInsight Presentation Server to handle an individual keystroke regardless of the OCX translation.   It has the same syntax as the SUPPRESSKEYTRANSLATE message: Send_Message(controlName, Message, keystroke, boolean).   This message is used as follows:
  equ VK_RETURN$ to 13
  call Send_Message(oleControl, "FORCEKEYDISPATCH", VK_RETURN$, TRUE$)
  This example will force the Presentation Server to handle the ENTER key, as well as the OCX.

Arev32
• Modify conversion program to drop bad voc records causing issues at start up.
Fixed startup where an erroneous message was displaying invalid Macro.

More details can be found in the accompanying help files.