

Magic xpa 3.1 Release Notes



OUTPERFORM THE FUTURE™

New Features, Feature Enhancements and Behavior Changes

Form Designer Improvements

- The performance of the Form Designer was enhanced.
- Frames forms now work with the new Form Designer. There is a new **Frames Layout** property where you define the frame layout of the form.
- You can view the ancestor form by selecting the form from the drop-down list in the toolbar.
- The Quick Expression Editor is now supported in the **Properties** pane.
- You can now create, modify and delete fonts and colors directly from the font and color picker by using the buttons at the bottom of the repository.
- You can now inherit and assign expressions to multiple controls.
- The Document Outline was enhanced with filtering capabilities.
- In the Model selection list only the applicable models are displayed instead of all of the models.
- The **Cancel (Ctrl+F2)** option was added to the **Edit** menu.
- You can select all of the controls on a table without the table itself by doing one of the following:
 - Press **Shift+Click** on the table.
 - Click on the table, then click on the action arrow on the top right side of the Table control and choose the **Select attached controls** option.
 - Click on the table, then click the **Select attached controls** link at the bottom of the property sheet.
- When parking on a field in the property pane, you can now move between properties using the keyboard.
- You can now expand a property and see the expression by pressing **Alt+Enter**.
- An expanded property will remain expanded when moving to another control.
- The **Go to Object** and **Return from Object** options are supported for subforms and frames.

Expression Editor Improvements

- The Wide mode now displays the client/server indicator.
- The **Validate** button was added.

End User Functionality Enhancement

The End User Functionality now includes the following enhancements:

- You can now do a range on partial text in your data using the new **Contains** field added to the range.
- Choice control values are now seen in the **Range** and **Locate** screens. For the purpose of this feature, new functions were added:
 - **VarControlID** – Returns the index of the control attached to the variable.
 - **ControlItemsList** – Returns the Items List property value defined in the control.
 - **ControlDisplayList** – Returns the Display List property value defined in the control.
- You can now zoom from a control in the Range/Locate screen and select values from a selection table defined on the original control. For the purpose of this feature:
 - The **ControlSelectProgram** function was added. The function returns the **Select Program** property value defined in the control.
 - The Call by Exp operation was enhanced and now supports calling a program that exists in a host application.
- A new **Display Name** variable property was added to let you enter a descriptive name for the variable. This name will be used as:
 - The label (next to the variable) when dropping a variable on the form or using the APG utility.
 - The default **Hint** property value (for mobile apps) when a variable is dropped on the form with the **Shift** key pressed.
 - The column Title value when dropping a variable on the table or using the APG utility.
 - The control name in the Range, Locate, and Sort screens.

The new **VarDisplayName** function returns this value.

- You can now easily define complex ranges by using the **Advanced** tab in the **Range** screen. The **RangeExpAdd** function was added for this purpose. This function adds filtering criteria to the range, such as 'A>5 or A<2', so that the next time the view is refreshed, the new criteria will be used (in addition to the range defined in the task).

Runtime Form Designer

You can now make changes to the form during Runtime mode. The Runtime Form Designer provides the following functionality:

- Move controls on the screen by dragging and dropping and by using the keyboard. You can even move controls from one tab to another.
- Resize the controls.
- Hide (and restore) controls.
- Change some of the controls' properties, such as **Color** and **Font**. The changes can be saved per each user or in a central location.

The following elements are provided to use the Runtime Form Designer:

- **Open Form Designer** event – Opens the Runtime Form Designer. This event has an optional parameter, **Admin mode**, to define whether the end user can delete controls or see hidden controls.
- **Controls Persistency Path** environment setting – This setting governs the location of the files generated by the Runtime Form Designer.
- **ControlsPersistencyClear** function – Clears the persistency of the controls.

Table Controls

- You can now use the new **Fill Width** property to determine whether columns will be spread over the width of the entire table. This lets you automatically resize the other columns if a column gets hidden or visible or if a vertical scroll bar appears.
- You can now define the color for the table area without columns. When the **Set Table Color** property is set to **Column**, the value set in the **Color** property of the table will be used for the remaining area after the last column.

- It is now possible to filter data during runtime using a filter indication on the column. This is done by using the **Allow filtering** column property. Once defined, a filtering screen from the End User Functionality component will be shown to the end user. The **Column Filter** event was also added for this feature.
- The **Title BG Color** property now has support for Windows in addition to Android and iOS.
- You can now place controls over the table title.
- You can now define the color of the column dividers and line dividers using the **Divider Color** property.

Tab Controls

- You can now define the color of the tab's title by using the new **Title Color** property.
- You can now define the color for the tab's title items when the mouse cursor hovers over them using the **Hot Track Color** property.
- You can now define the amount of space around each tab's caption using the **Title Padding** property.
- You can now define that each tab be evenly spread across the entire width of the Tab control using the new **Fixed in Line** option in the **Tabs Width** control property.
- Left and right tabs are now supported.

Combo Box Controls

The **2-D** style was added to the Combo Box control to provide the same appearance as in previous uniPaaS versions.

Group Controls

The new **Top Border Margin** property defines if the top border will be seen with a margin when the group has no text.

Radio Button Controls

The **Border Style** property was added with **2-D**, **3-D Sunken** and **No Border** options.

Edit Controls

You can define the focus color of all the Edit controls using the new **Default Focus Color** environment setting.

MDI Form

It is now possible to show static controls on the MDI form. Unlike previous versions, there is no need for a separate form; you can place the controls directly on the MDI form defined in the Main Program.

Executing SQL Statements

You can now execute SQL statements directly in your task, without creating a dedicated task for it. Two new functions were added for executing an SQL statement:

- **SQLExecute** – This function executes an SQL statement on the server-side.
- **ClientSQLExecute** – This function executes an SQL statement on a local database.

Refreshing the Data of Choice Controls

The new **ControlItemsRefresh** function was added to refresh the Items list of a specific control. This function is useful when you have controls that get their Items List from a data source and the end user adds entries to the data. You can then use this function to see the new entries in the control.

Dynamically Change Fonts and Colors

It is now possible to dynamically change the value of the fonts and colors using the new **FontSet** and **ColorSet** functions.

WCF Consumer Components

Magic xpa now provides WCF consumption capabilities, including the loading and executing of WCF Web services. Access to the WCF services is provided using .NET integration via Magic's Composite Resource Repository (CRR).

Create Cabinet File without Using the Studio

You can now create a cabinet file (ECF) from the project sources without using the Studio. This is done by an additional option added to the **Mgxpasettings.exe** utility.

This functionality is often required if you create the cabinet files in a customer location where you do not have the Studio installed.

Local Databases – Encryption

The Local database now also supports encryption on the Windows desktop client.

Environment Settings

- The **Range/Locate Box Popup Seconds** and **Sort/Temp Box Popup Seconds** environment settings are now supported as in version 1.9.
- The **Version Control ID** environment setting was added. This setting adds a prefix to the current ISN number of objects in the source files. The purpose of this setting is to provide a distinguished ID for the representation of internal objects in the source files. This provides the proper infrastructure for third party apps, such as compare and merge tools. Note that the RM Converter utility does not support applications that use this setting.

Menus

If there are a large number of menus that do not fit the menu bar, an additional arrow will be shown to let you display the additional menus.

Fonts

Non-TrueType fonts are now supported for forms in order to have the same form size as in previous versions.

Print Preview

- The focus on the print preview window remains even if there is logic in Magic that changes the focus to another control.
- You can now close the Print Preview window using the **Esc** key.

HTTPCall Function – Encoding

It is now possible to encode the entire URL string sent using the **HTTPCall** function by defining @ as the first character in the URL string.

Additional Functions

The following two functions were added for converting values from form units to a value in pixels and vice versa: **FormUnitsToPixels** and **PixelsToFormUnits**.

RIA Client Cache Files

The application execution file now has an optional setting, **ClientCachePath**, where you can set the location on the client where the cache files will be created.

Upgrade Manager Utility

The Upgrade Manager utility is provided to make the upgrade process easier. The utility will show you the changes done automatically to your applications and the steps that you need to do manually.

For each item, you will see detailed information about the required change and you can go directly to this object in the studio.

The Upgrade Manager utility is opened after the upgrade process ends and can then be re-opened from the **Tools** menu.

Upgrade Process Improvements

The following improvements were done to the upgrade process in order to minimize and reduce the manual work required:

- The upgrade wizard is opened when opening or importing applications.
- Creating new fonts and assigning them to controls to easily change non-TrueType fonts to other fonts.
- Creating new colors and assigning them to controls to replicate the uniPaaS 1.9 appearance.
- Labels are converted to column titles even if they start a few pixels before the column starts.
- Controls placed on a Table control's column or a Group control, but not attached to it or attached to another column or a Group control, are now attached to the proper control.
- Additional information was added to the upgrade log file.

Magic and SQL Server Default Mapping Change

The mapping between a large Numeric field and the database was by default **Binary**. Now the default is **CHAR**. If you have existing data in binary fields, you must specify **Binary** as the SQL Type for this specific field in order to keep the previous mapping.

Space Middleware

- The deployment of the space and the startup of Magic xpa servers in a cluster are now automatically handled by one GSA in the grid. In addition, the servers only start up if the space was successfully deployed by the current GSA.
- You can now stop a specific instance of a project from the command line.
- You can use the **DefaultApplicationAndProgramNames** system property to define the default application and program names whenever the APPNAME or PRGNAME is missing in the URL.
- The **DefaultErrorFormatFileName** system property is used to define a customized error template into which error details are merged before being sent to the Web requester. You can also set this in the **Magic.ini** file's **[JVM_ARGS]** section for errors returned directly by Magic xpa servers.
- The **Install_GSA_service.bat** file and other files are installed in the **GigaSpaces-xpa\OS_service** folder allowing you to start the grid as a service.
- **Worker Request Polling Interval** environment setting – This setting controls the interval, in milliseconds, in which a server checks for unhandled requests in the Space.
- **Maximum Number of Contexts** environment setting – This setting specifies the maximum number of contexts that are handled by a single Magic xpa server.
- The Space middleware, like the broker, is now able to automatically load a new Magic xpa server when receiving a request and there are no available servers to serve that request.
- When Magic xpa servers are started from the grid (**projectsStartup.xml**), the **Server Address** property in the **Magic.ini** file is ignored and the **LOOKUPLOCATORS=** set in the **GigaSpaces-xpa\bin\setenv.bat** file is used instead.
- The Tomcat Web Requester can be used instead of, or in addition to, the ASP.NET Web requester.
- A new Space Monitor application log based on the log4net infrastructure is now available in the **MgGSMonitor.exe.config** configuration.
- A server entry in the Magic xpa GigaSpaces Monitor now has a new status: **Waiting for GS Agent**. This status means that the GSA will keep retrying, every 60 seconds, to restart the Magic xpa server.

- You can now filter the information displayed in the Magic xpa GigaSpaces Monitor by parking on a specific server or context.
- From the Magic xpa GigaSpaces Monitor, you can now start and stop a Magic engine, terminate a context, and terminate a pending request.

Space Databases

- Direct SQL can now be used for execution commands (commands that do not retrieve records).
- The **Part of Datetime** column property is now supported.
- Most of the database functions are now supported when using the Space database.

Single Sign-on Support for RIA Clients

Single Sign-on for RIA clients is now supported. The user's authentication on the client machine can be sent to the Web server and on to the application server for use with LDAP or Active Directory within the Magic application.

Mobile Changes

- Magic xpa now supports the Android Studio and uses the Gradle tool for compiling the APK file. To compile the client, you need to install the Android Support Repository and Android Support Library component from the **Extras** folder in the Android SDK Manager. When compiling the client, you must have internet access (at least on the first build) in order to download all of the Gradle components.
- The Android folder structure was changed.
 - The source files are now located at:
`RIAModules\Android\Source\app\src\main\java\com\magicsoftware\magicdev`
 - The manifest file is now located at:
`RIAModules\Android\Source\app\src\main`
- When the **Execution on Android** button is pressed in and you run a project or program, if the mobile application is not installed on the device, the Magic xpa Studio will install it.
- Magic xpa now uses the Android Support Library v23.

- You can now use the generic RIA client (available on the store) and provide the application URL as an argument to it. This enhancement allows you to open the same client with different application URLs.
- The **Sortable** column property is now supported for Android and iOS devices.
- **Action Bar Menu** form property – You can define a menu entry that will be seen on the right side of the Action or Navigation bar.
- The Check Box control's **Appearance** property now has a **Switch** option for use on Android devices.
- You can now refresh the task's view by swiping down from the top of the table if the **Swipe Refresh** property of the Table control is set.
- For iOS devices, the caret only appears on the focused Edit control when the keyboard is present. In previous versions, the caret always appeared on focused Edit controls.
- In the **Title BG Color** table property and **Title Color** tab property, you can now use expressions for iOS and Android devices.
- The size of the icons for Tab controls was changed to 25 points, which is compliant with the iOS Human Interface Guidelines.
- Xcode 7 is now supported instead of Xcode 6.

Special Settings

- **SpecialKeyboardBuffering** – Instead of just **N** and **Y** values, this flag now has the following values:
 - **N** – No buffering
 - **B** – Basic buffering inside an existing editable Label control
 - **E** – Extended buffering
- **SpecialRIAEncryptCache** – This flag controls the security of cached files.
- **SpecialOldZorder** – This flag supports the Z-order for orphan windows.
- **SpecialExpReturnNull** – This flag maintains backward compatibility when comparing a variable that has a Null value to an empty value.
- **SpecialSwipeFlickeringRemoval** – This flag removes flickering when swiping a laptop's touch screen.

Partitioning Error Change

-117 RQGNRC ERR MISMATCHED REQIDS – This error is issued when a requester sent a request to a Magic xpa server and received a response that was directed to another request. In previous versions, error RQ_ERR_UNEXPECTED (-200) was returned in this scenario.

Source Files

Source files were changed to better support external merge and compare tools.

Windows 10 Support

Magic xpa was tested and is compatible to work with Windows 10.

Pervasive 12 Support

Magic xpa was tested and is compatible to work with Pervasive 12 including Unicode support.

iOS Support

Magic xpa was tested and is compatible to work with iOS 8 and above. iOS 6 and iOS 7 are no longer supported.

Android 6.0 Support

Magic xpa was tested and is compatible to work with Android 6.0 Marshmallow.

Internet Explorer 11 Support

Magic xpa was tested and is compatible to work with Internet Explorer 11.

Microsoft Edge – Rich Client Compatibility

Magic xpa's Rich Client functionality is compatible to work with Microsoft Edge.

Magic xpa's Browser Client functionality is not supported on Microsoft Edge.

Fixed Issues

#	Description
38746	An error was seen when the CndRange function was used on the range criteria of a Datetime pair field and the condition was False.
60258	The caret was not placed at the beginning of empty date or time controls when a Zero Fill value was set to blank.
76952	In Online programs, the Checker failed to warn about a missing variable in an expression and caused the Magic Runtime engine to crash.
76983	When parked on a child task, the SetContextFocus function did not work.
77517	The default context menu was not displayed for Edit controls.
115288	Wrong data was displayed for Numeric fields in a .NET grid control if a comma was used as a decimal separator.
115626	A scroll bar was displayed unnecessarily when using only one monitor.
117643	The wrong range was seen when using the MySQL gateway.
117718	It was not possible to switch between the MDI's child windows using Ctrl+F6.
120092	When modifying lines in the middle of multiline Edit controls, the cursor wrongly navigated to the last line or moved the page up.
121995	It was not possible to create records when NUMERIC(32,16) was used in an SQL Type's number field in an MSSQL data source.
122008	"ZOOM" was displayed in the status line after zooming from a field and standing on a non-zoomable field in the called program.
122217	The ClickCX and ClickCY functions returned wrong values when used inside an Edit control.
122324	Pressing Esc from a task incorrectly opened a wide mode window instead of returning to the parent task in a certain scenario.
122392	The wrong data was updated in a MySQL database if a comma was used as a decimal separator.
122550	When working with Oracle, a locked row did not abort tasks even when Abort task was used as a directive if the error happened in a linked data source.
122676	The program number was not written to the imp.log file when there was a problem with a virtual field.
122794	When saving the output from the Activity Monitor into a file, no execution path was written in the file's <ProgramPath> tag.
122968	When importing a uniPaaS project, a push button model's Format property became blank if the button's style was an image button.
122976	A .NET error occurred and a red X appeared on the status bar under certain conditions.
123134	The value of a .NET variable could not be passed as a parameter from a Batch program to a parallel program under certain circumstances.
123137	If a Range contained a space, the correct value in the table was not displayed.
123277	The ISNULL function returned False, even if a table had no records, when using the Find .NET method.

#	Description
123578	A border was partly shown when the Visible property was assigned to the controls.
123734	DataView export functions, such as DataViewToXML and DataViewToDNDatatable, returned an error when no data was available.
124155	An orphan Batch task was hidden behind the main window when clicking on the main window.
124202	In Online tasks, Group control labels were surrounded by a rectangle that caused a flickering effect.
124410	Three dots were created after the column title name of a Table control even though there was sufficient space for the whole name.
124413	The Export/Import utility did not work correctly on a program with a .NET variable as a parameter.
124555	There was a difference in behavior between uniPaaS and Magic xpa when using the MMCurr function to process table records.
124559	When debugging modules, the debugging window was not refreshed properly.
124635	The form size was set to a minimum value when it was defined with a very small value.
124687	When a Control Hit event handler defined in a parent task was triggered from an orphaned child task, the focus moved to the parent task.
124711	The DbName function did not retrieve the Magic xpa data source name when using a Local database.
124745	The Checker did not show an error for a Program menu entry with no program number.
124810	The HTTPLastHeader function did not work when the PUT verb was used in the HTTPCall function.
124879	When the SpecialDefaultTransactionMode setting was set to P (Physical) and the Database for Temporary/Sort setting was set to a database other than Memory, if a column was added and the table was converted, the Studio engine's memory significantly increased.
125122	Shortcut keys were not available on a form for aligning and resizing controls.
125124	Using CTRL+G on an Oracle table defined as TIMESTAMP(x) WITH TIME ZONE data type, caused the Runtime engine to crash.
125280	An RTF control with a transparent background color placed on a Tab control was not seen properly when moving between records.
125292	The engine crashed when running a specific project that was upgraded from uniPaaS 1.9.
125311	An event assigned to a Push Button control was raised if the push button was pressed during the execution of a Batch task.
125389	Edit and Label controls placed at the top area of a Tab control were overlapped by the Tab control's title when the title was changed to a multiline title due to placement.

#	Description
125470	The Mobile Preview Pane did not display the entire form when it was scaled to more than 100%.
125494	Debugging a recursive call using the Step Into (F11) action, caused the Runtime engine to crash.
125571	If a space was present in a choice control's Items List, it was not possible to select a space value by navigating to the choice control's value using the keyboard or mouse.
125591	The CHG_REASON variable in the Variable Change logic unit received a wrong value when the variable was updated through a direct SQL task.
125630	Empty Dataview did not work properly after performing a range on a record that was not in a data view.
125658	When using an ODBC gateway, the server crashed sporadically when reading large BLOBs.
125715	The application was wrongly closed after the Alt+F4 shortcut was pressed even if a logic unit with the Propagate property set to No was defined for the Exit System event.
125771	After the upgrade of certain tables from uniPaaS 1.9, a horizontal scroll bar was wrongly seen.
125874	The form was displayed behind the Windows taskbar when the window was minimized and restored.
125960	When a Modal window was called from a task that was in turn called from a non-interactive task in the background, the calling task was displayed but not the Modal window itself after clicking on the Magic icon on the Windows taskbar.
125995	When transferring several files, such as folders or wildcard file names, the ServerFileToClient function wrongly returned a blank value.
126156	It was not possible to create an argument for a subform before the first (current) argument.
126178	A Checker error was seen when a variable other than Alpha was sent to a program that had a .NET variable as a parameter.
126213	When working with Version Control, new Main Program variables were not visible in the Expression Editor's Variables list in other programs.
126245	When typing literals in the Expression Editor, the last parenthesis character was lost.
126254	The control tab order was not immediately refreshed when it was changed from manual to automatic.
126261	When navigating to a cross reference result that no longer existed, another object in the same screen was selected instead.
126263	When Magic xpa 3.0 was installed on a clean machine, not all of the toolbars were displayed in the form designer.
126443	The CDOW or CMonth function did not return the value according to the language file.

#	Description
126448	The event attached to a push button was not raised if the button inherited the event type from a model and the event name was broken.
126451	The Fit Control Size command did not work properly when changing the font of a Label control.
126563	Sorting did not work for the default value shown in the End User Functionality component's Sort window.
126629	When using the HTTPCall function with a GET method, a text with the ampersand (&) character was not encoded properly.
126664	Hibernated Spaces did not deploy properly when the decimal separator was set to a comma.
126802	Scrollbars were seen in the Table control after upgrading from uniPaaS to Magic xpa.
126845	The Link Inner Join operation incorrectly sent too many Select statements to the database in some scenarios.
126850	The Null display value was not shown in the Edit control after using the Del/Backspace key.
126853	The Quick Expression window opened after pressing the "=" shortcut was too small.
126886	The Rich Client Deployment Builder gave an unknown error while creating manifest files or using icon files.
126939	When the Verify operation's 'Append to error log' property was set to Yes, the percent character was doubled (%%) in the mgerror.log file.
127000	When using the Open Application event, applications were opened in independent MDIs instead of in the first application MDI.
127203	During runtime, multiline check boxes were not properly displayed when attached to a Table control.
127262	Multiline Edit controls sometimes flickered when text was entered.
127263	Clicking on a form area selected the entire text in a multiline control.
127281	A multi-marked event handler was not executed by the context menu when invoked from the currently parked field.
127662	The clipboard buffer caused keyboard entry to slow down when accessing Magic xpa via Remote Desktop.
127685	A wrong value was returned when using the DNCast function to read .NET IList items.
127734	When working with Rich Client, the Check Box control display was not refreshed when the variable value was changed in the Variable Change logic unit.
127739	If a data source column's Modifiable property was set to No, the column could not be modified when a new record was created in Modify mode.
127846	The default discovery port could not be changed even when it was set in the GigaSpaces-xpa\bin\setenv.bat file.
128103	The visibility condition of Table columns was not calculated correctly when a mobile device's orientation was changed.

#	Description
128200	If the Format property of an Edit control was set through an expression, the alignment was not changed accordingly.
128218	Some keystrokes were lost when zooming to a program and immediately performing incremental locate.
128320	Form labels were not displayed in some scenarios when opening a Magic xpa 2.5 project.
128335	The visible lines in a Multiline Edit control were changed when the focus was shifted to another application.
128377	A false Checker error was returned when the ExpCalc function was used in one of the DNCast function's parameters.
128380	The Magic engine crashed when accessing a View defined in a local database.
128384	When cross-referencing for a particular color, colors used in forms were not included in the results.
128508	The Print Preview window was displayed behind the Magic Runtime window under certain circumstances.
128537	The cursor parked on the first record of the subform Table control if a range was applied.
128592	When navigating between Table records in a RIA application, combo boxes showed blank values.
128595	When working with the MSSQL Server 2008 and 2012, the Get Definition utility changed the order of indexes from descending to ascending.
128676	The menu arrows for nested menus were not seen properly in the Hebrew version.
128773	When multiple records were marked, the foreground text color was shown instead of the default color.
128884	When using the Rich Client Deployment wizard to redeploy an application, the certificate path was not saved between deployments.
128916	Icons looked blurred when they were attached to the toolbar.
128968	Under certain conditions, dynamic HTML did not work when using a DNS server name or IP address.
129045	A component's event handler that had a condition defined using the rights function did not evaluate correctly in the host application.
129071	When working with the Pervasive ISAM database, batch delete did not work correctly on all the records in the data view when a range was defined on logical fields.
129122	There was no difference in the tab order color in the Form Designer between parkable controls and non-parkable controls.
129155	When an item containing a namespace was inserted in an XML under any namespace header using the XMLInsert function, a value of 1 was erroneously returned by the function.
129184	The ClientfileToServer function did not work properly when sending a file which was created by using the device's camera.

#	Description
129196	When controls were moved in the Form Designer using the keyboard, the movement took place pixel by pixel and not according to the grid.
129205	There was degradation in performance compared to V1.9 in scenarios involving Tab controls comprised of many controls and subtasks.
129206	The Height and Width property values of a control were not shown properly on machines having a comma as the decimal separator.
129241	The wrong form was seen in the Form Designer after zooming from another form belonging to the same task when the Form Designer window was floating.
129243	It was not possible to inherit a property value if multiple controls in the Form Designer were selected.
129260	When using the WinBox function to get the Main Program's MDI window height, a wrong value was returned if the function was evaluated in a parallel task.
129303	The Runtime engine process did not terminate after closing the engine when using LDAP.
129342	When working with the Expression Editor, parentheses could not be added after functions in some cases.
129343	The Allow Parking property of the last column in a Link Query data source was wrongly set to True when the column was dropped on the form.
129352	Locate in Query did not work when a "Range To" value was defined.
129358	When a language file was defined, the Fit Size option calculated the text size according to the original text instead of the translated one.
129390	When a control in a table was resized vertically, other columns were also resized.
129392	A redundant status bar was seen under the form area in the Form Designer.
129397	A Print Preview window containing many pages could not be closed until it had been completely generated.
129417	Chinese characters were displayed in reverse order in the Expression Editor.
129505	The upgrade process of a specific uniPaaS project hanged.
129506	A parameter passed to RIA subforms was only refreshed once if its values were updated through the User event's Force Exit property.
129638	Control Verification operations in Online tasks were executed when clicking on parent tasks even if the control's value was not changed.
129853	The Debugger's variable window did not show the value of a .NET variable.
129908	When updating a Virtual variable serving as a condition to disable a push button, the focus wrongly moved each time the variable was updated.
129929	Magic xpa crashed during runtime if the Page Down key was pressed in the Print Preview window.
129941	The v9converter.exe conversion utility crashed during the conversion process in some cases.
130060	The ServerFileToClient function failed on iOS devices if the file name contained Unicode characters.
130102	RTF contents were wrongly colored in blue when they were printed.

#	Description
130205	The Studio crashed while deleting a newly created line from the Expression Editor when variables with comments were defined in a parent task.
130547	On iOS devices, the ClientFileOpenDlg function returned the wrong file extension.
130548	On iOS devices, the file returned from the gallery was much larger than the original image.
130791	If a form contained third party controls that returned an error, the Visual Studio shell crashed when attempting to zoom into the Form Designer.
131299	There was a difference in performance between executing a process from the Studio or directly on a Runtime engine even when the logs were turned off.
131373	The performance of a batch task performing import from a file was improved compared to uniPaaS 1.9.
131641	An error was seen when sending a date value to the UDF function.
131642	When right-clicking on a push button in the Form Designer, the wrong entries were displayed in the context menu.
131939	When upgrading a uniPaaS 1.x project to Magic xpa 3.1, the upgraded project wrongly showed scroll bars in Table controls.
131989	When the CtrlGoto function was used in the Record Prefix, an endless loop occurred when scrolling with the mouse wheel.

Past Release Notes



OUTPERFORM THE FUTURE™

Magic xpa 3.0a: New Features, Feature Enhancements and Behavior Changes

Windows 10 Support

Magic xpa was tested and is compatible to work with Windows 10.

Array Size's Calculated Value Increased

The default calculated value of the data source's array size was increased in order to improve performance.

A new environment setting, **Cache size for array fetching(kb)**, was added to the **Preferences** tab in order to define the cache size to be used when fetching records.

Space Gateway – Performance Improvements

The performance of different aspects of the Space gateway was improved.

Support Array Fetching

In the Space gateway, records are now fetched according to the array size defined for the data source in the Data Sources repository or the Data Source properties. This functionality reduces network calls and improves performance.

Batch Task as a Selection Program

You can now select a Batch task as a Selection program. This functionality is offered for backward compatibility.

Magic xpa 3.0: General Information

Introducing Magic xpa 3.0

We are delighted to provide you with the new major release of Magic Software's Magic xpa Application Platform.

Magic xpa 3.0 enables software vendors and enterprises to quickly and cost effectively develop and deploy complex multi-channel business applications and enjoy all the benefits of .NET applications, Rich Internet Applications (RIA) and Mobile applications whether on-premise or on-demand.

Migrating from Magic xpa 2.5 to Magic xpa 3.0

Magic xpa 3.0 works with the same source files as Magic xpa 2.5. No migration is required.

Rich Client – Client-Server Compatibility

The internal communication protocol between the Client module and the Server was changed. Therefore, Magic xpa 2.x clients (such as 2.5) cannot be used with a Magic xpa 3.0 server, and Magic xpa 3.0 clients cannot be used with Magic xpa 2.5 servers.

Licensing

To use Magic xpa 3.0, you need to obtain version 3 licenses. To obtain Magic xpa licenses, please contact your local Magic Software representative.

Magic xpa 3.0: New Features, Feature Enhancements and Behavior Changes

New and Improved Form Designer

The new Visual Studio-based Form Designer offers an intuitive and user-friendly experience that makes designing Display forms even easier. The new Form Designer offers a variety of enhancements, including:

- Modern workspace with improved docking capabilities.
- New Toolbox and Variable panes that replace the Control and Variable palettes.
- New Models pane to allow fast and simple dropping of pre-defined controls onto the form.
- Improved Document Outline view that allows you to easily locate controls and move them into container controls.
- Filtering capability of properties.
- Improved Table control with visual indication for dropping controls over it and automatic attachment of controls to the proper columns.
- .NET controls that are visible on the Form Designer and a visible .NET control icon in the Models pane.
- Control alignment lines (when the Show Grid property is set to False).

Change of behavior:

- All of the multiple-control related actions (such as alignment and make same size) are done now according to the first selected control instead of according to the outer control.
- The Maximum Width, Maximum Height, Minimum Width, and Minimum Height control commands are no longer supported. Instead, you should use the Make Same Size command and select the outer control as the first control.
- Selection of a value in a Combo Box and Radio Button control is now done via the action arrow of the control.
- When placing a control in a container control, the control is automatically attached to the container.
- Resizing the table header height will also move the controls in the table line.
- The default value of the Show Grid property was set to False in order to take advantage of the new alignment capabilities of the Form Designer.
- A Radio Button control with the appearance set to Button will show buttons according to the number of items defined and not according to the Choice Column property value.
- The Automatic Tab Order and Automatic Z-Order properties are now properties of the form (and not the palette).

- The Form Designer shows the form of the current task only. This means that for child windows, the parent form will not be shown behind the current form.
- In the Form Designer, the Edit control will not appear with a transparent background color, even if a transparent color was assigned to it.
- A Table control cannot be placed on a Tab control using the mouse. If you want to have a Table control on a Tab control, place the Table control on the form and move it onto the Tab control using the arrow keys.
- The Quick Expression Editor is currently not supported in the property grid of the new Form Designer.
- Support for display templates was removed.
- RTF-related properties were removed from the Label control and Label-related properties were removed from the RTF control. To achieve the same functionality as Enable RTF=Yes, you should define an RTF control.

Note: The Visual Studio-based Form Designer is used to design Display forms only. Other forms are currently designed in the legacy designer.

Mobile Form Preview

Magic xpa 3 introduces the Mobile Form Preview to make developing for mobile platforms even easier. This new feature lets you play around with the placement and size of the controls and see how the controls will appear on various mobile devices as you create them.

Refer to the Mobile Devices Settings topic in the *Magic xpa Help* for additional information on how to define your own devices.

New and Improved Expression Editor

The new Expression Editor offers a smoother experience including:

- Improved Auto Complete of functions
- On the fly coloring of the expression
- Improved error indications
- Embedded pick lists in the right pane
- Expression filtering capability

Change of behavior:

- Adding an expression above a line of the Expression Editor is now done by pressing Ctrl+Shift+F4. Therefore, to add an expression as the first expression, park on the first line and use this shortcut.
- The filtering capability replaces the Locate dialog box. To search for an entry, simply type any part of its name and all of the relevant entries will be shown.
- Overwriting an entry is available using Ctrl+Shift+W instead of Ctrl+Shift+O.

- When the Expression Editor is opened, it is not possible to go directly to other task dialog boxes such as the Sort dialog box. You need to first close the Expression Editor to reach other task dialog boxes.

Selection Lists Enhancements

Selection lists that are opened from the new Form Designer were enhanced as follows:

- Filtering capability – The filtering capability replaces the incremental locate and the Locate dialog box. To search for an entry, simply type any part of its name and all of the relevant entries will be shown. Note that you can start typing even if the focus is not on the filtering field.
- The description area can now be resized.
- The tasks in the Variable list and the folders in other lists can be collapsed and expanded.

Mobile Design Mode

You can now switch to a Mobile Design mode, which takes into account certain constraints necessary for developing a mobile application. For example:

- The default form size will be small, which is the required size for mobile phones.
- Controls placed on the form will receive default values adapted for mobile for some of the properties, such as the control height and placement.
- When dragging variables to the form with the Shift key pressed, the variable name will be added as the value of the Hint property.
- When dragging a Tab control on the form, it will occupy the entire form size.

In-Memory Data Grid Messaging Middleware

Magic xpa 3.0 offers an additional enhanced and robust messaging layer. The award winning XAP middleware from GigaSpaces is now supported as a messaging layer, which uses a distributed, self-healing and scalable architecture. This directly enhances Magic xpa 3.0 projects. Existing projects upgraded to this version can be easily scaled to multiple processes and even to multiple machines (scale out) just by changing external configurations.

Note: The Magic Request Broker middleware is still supported as in the previous versions.

To use the In-Memory Data Grid middleware, you need to obtain a specific license. To obtain this license, please contact your local Magic Software representative.

Refer to the Deploying Applications on GigaSpaces concept paper in the *Magic xpa Help* or the **Support** folder for additional information.

In-Memory Data Grid Data Access

Magic xpa 3.0 provides a new GigaSpaces database gateway for storing and accessing data in the space. This gateway is similar to the other Magic xpa database gateways and enables complete access to information stored in the space.

The GigaSpaces database provides the opportunity to work with asynchronous persistency in what's referred to as Write Behind mode in Hibernate, which provides the ability to handle extremely large transaction workloads. The data is uploaded to the space from a backend database. When this data is changed in the space via a Magic xpa application, Hibernate then does the work of updating the database server. The gateway allows access to the data that is connected to the application, while significantly improving performance and ensuring that data is not lost. A new Hibernate Data Source Builder was added to generate objects in the space from Magic xpa data sources.

To benefit fully from these new functionalities, see the **Deploying Applications on GigaSpaces** concept paper in the *Magic xpa Help* or the **Support** folder for additional information.

To use the In-Memory Data Grid data access, you need to obtain a specific license. To obtain this license, please contact your local Magic Software representative.

Online and Rich Client – Focused Control Color

You can now define the color that will be used on a control when the control gets focus. This is done via a new property, Focus Color, which was added to the Edit control on Online and Rich Client forms.

This functionality is not supported for mobile devices.

Online Select Program – Change of Behavior

An Online program that is opened using the Select Program property is opened according to its defined Window Type (as it was in version 1.9) and not as a Modal window (which was the behavior in version 2).

Checker – New Warning Message

A new warning message was added for tasks defined with a physical transaction but without a data source. You can disable this message in the Checker Messages settings screen.

Rich Client – Non-Modal Window – Change of Behavior

A non-modal window opened from a non-interactive task will now keep its window type and will not be changed to a modal window. The non-interactive task will still wait for the called program to end.

This behavior is supported only when the following conditions are met:

1. The **Close Rich Client tasks on parent activation** environment setting must be set to **Yes**.
2. The non-interactive task did not open a window.
3. The non-interactive task was not called from a task with a Modal window type.

Removed Functionality

The following functionality was removed:

- Calling a Magic application as a COM object.
- J2EE support and the EJB interface builder.
- SNMP support and the `SNMPNotify()` function.
- Client Network Recovery Interval for RIA.
- The deprecated internal events, such as the Settings events were removed from the Internal Events selection list.

English Only Studio

As part of using the Visual Studio infrastructure, the Magic xpa Studio is no longer translated to different languages. It is now available in English only.

Note: The `const` file is still required for proper runtime execution.

Runtime Error Messages – Translations and Customizations

The error messages shown to the end user at runtime are now translated as part of the multilingual support. These messages are stored under the **Support** folder in files named `msg_rnt.xxx` (where `xxx` is the language).

This allows you to customize the error messages by rebuilding the translation files using the `MLS_BLD.exe` utility.

Backward compatibility:

1. If you use your own ini file and you want to see the translated runtime messages, you need to define a language in the environment settings that point to the required mls file.
2. If your application already uses a translation file, you can add the strings from the `msg_rnt.xxx` file to your translation file.

64-Bit Removed from Installation

The 64-bit requesters are no longer supported and were removed from the installation. The Web requester is installed on IIS using application pools, so the 32-bit requester can be used together with other 64-bit IIS elements.

IIS 6 End of Support

IIS 6 is no longer supported. Magic xpa is compatible with IIS 7 and above.

Encrypted Local and SQLite Database Support

Encryption is now supported for Local databases on Android and iOS devices and for SQLite databases.

The encryption password is defined in the database properties.

It is not possible to migrate an existing non-encrypted Local or SQLite database to an encrypted database. If you have an existing application with a Local or SQLite database and you want to use encryption, you need to run a one-time process by defining a different database with encryption and synchronizing your data to this database.

Note: Encryption is not supported for Local databases on the Windows desktop client.

Large Numeric Columns in SQLite and Local Databases – Change of Behavior

Since the Local and SQLite databases now support encryption, large Numeric columns no longer support the following settings:

- Stored As=Packed Decimal
- Stored As=String Number and SQL Type=Binary

Therefore, it is not possible to open SQL data sources from previous versions if they have these settings or if the Stored As=String Number and SQL Type has no value

(since the default SQL Type value was BINARY). Data from such data sources should be converted using a prior version of Magic xpa.

The SQL data source defaults of a Numeric column with a Size of 18 or above were changed accordingly and they now match the Local data source defaults.

Therefore, if you need to copy an SQLite data source with large numbers from the server to the client, you no longer need to change the Stored As property or define the BINARY value in the SQL Type property of String Number columns in the Local database.

Android and iOS Functionality

- The Border Width, Border Color and Corner Radius mobile properties were removed from the Image, Check Box and Radio controls and were disabled for the Image button. To display an image in a border, place the image in a Group control or draw the border in the image.
- The default value of the Corner Radius mobile property of the Table and Subform controls was changed to 0.
- The Corner Radius property is now set to 0 when placing controls on a table. This was done to improve the runtime performance.
- A pixel is no longer added to the border width when a control (with a non-system color) is in focus. If you want to replicate the previous behavior, you should set the Border Focus Width property manually.
- The option to capture movies when opening the camera using the ClientFileOpenDlg function was removed.
- It is now possible to define the header color of the Table control by setting a value in the new Title Color property.
- It is now possible to define the color of the Tab control titles by setting a value in the Tab control's Color property.
- New samples were added for printing an HTML string to the printer, using offline digital signatures and interacting with the device calendar.

Android Specific Functionality

- The Android client now supports printing PDFs using the Google Cloud Print protocol.
- Material design support – Native controls will now be displayed using the Android 5.0 material design. As part of this change:
 - The application icon is no longer shown in the title bar of the forms.
 - The title bar color is now a flat gray, without a shadow effect.
 - The Label control color is now light gray.
 - The Edit control appears as a flat line.
 - Buttons appear flat and no longer have a transparent effect.

- The Combo Box appearance was changed to a small triangle.
 - Improved Tab control – The Tab control was changed (in all Android versions) and it will now look like an Android 5 native tab. As part of this change:
 - The tabs will no longer be added to the title bar when executed on tablets.
 - A tab with a system color will be shown in the same color as the form's title bar color.
 - The selected tab indicator will be colored with the same color as the text.
 - Unselected tabs will have a non-selection effect.
 - Native color customization – By changing the application theme you can change the native color of the following objects:
 - Underline color for an Edit control that has focus
 - Check Box color
 - Combo Box rectangle color
 - Navigation drawer indication icon color
- Refer to the **Native color customization** section of the **Display for Mobile Devices** topic in the *Magic xpa Help* for additional information.
- Android 2.3.x and 3.x are no longer supported. Magic xpa is compatible with Android 4.0.3 and above.
 - The Android client now requires compilation using Android SDK 21 or above. This requirement is only for compilation.
 - On Android devices, a Local database is limited to 1 MB per record.
 - Defining a context menu per control is no longer supported.

iOS Specific Functionality

- The iPad mini resolution was fixed and now controls on the iPad mini will have the same size as other iOS platforms.
- The iOS client now supports a more native look for controls defined with a system color. If you need your controls to appear non-native, you should define them with a non-system color. As part of this change:
 - The Edit and Combo Box controls will not have a border (as in Android).
 - The default background color of the Table control is White.
- Some of the splash screen images were removed and some new images were added to properly support iPhone 6 and iPhone 6+ devices.
- A new sample for using the Touch ID capabilities was added.

Windows Mobile

The Windows Mobile client is no longer supported.

Additional Documentation

Two new documents describing the steps required to deploy a Rich Client application were added:

1. **Deploying Rich Client Applications.pdf** – This document contains the basic guidelines and instructions for preparing applications for deployment and configuring the deployment environment. In this document, the messaging middleware is the Magic Request Broker.
2. **Deploying Applications on GigaSpaces.pdf** – This document contains information about the GigaSpaces configuration required for deployment of RIA applications.

These documents can be found in the **Support** folder or in the **Concept Paper** section of the *Magic xpa Help* and can be accessed via a link from the **Start** menu.

Courses

The following three courses have been revised and upgraded for Magic xpa 3.0:

- Getting Started with Magic xpa 3.x and Mobile
- Going Mobile with Magic xpa 3.x
- Migration from uniPaaS V1.x to Magic xpa 3.x

You can download the PDF for these courses from:

<http://www.magicsoftware.com/resources#selfpace>.

To take the course in a classroom setting, please contact your local branch.

Prerequisite Changes

.NET Framework

The Studio and Runtime modules of Magic xpa are based on the .NET Framework. The following .NET Framework requirements apply:

- To develop an application using the Magic xpa Studio, you must have .NET Framework V4.0 (or above) installed on your machine.
- The Magic xpa In-Memory Data Grid requester requires .NET Framework V4.0 (or above).

Studio Installation

The Magic xpa Studio is based on Microsoft Visual Studio, which cannot be started from a network folder. Therefore, it is not possible to start the Magic xpa Studio from a network folder.

About Magic Software Enterprises

Magic Software Enterprises (NASDAQ: MGIC) empowers customers and partners around the globe with smarter technology that provides a multi-channel user experience of enterprise logic and data.

We draw on 30 years of experience, millions of installations worldwide, and strategic alliances with global IT leaders, including IBM, Microsoft, Oracle, Salesforce.com, and SAP, to enable our customers to seamlessly adopt new technologies and maximize business opportunities.

For more information, visit www.magicsoftware.com.



Magic Software Enterprises Ltd provides the information in this document as is and without any warranties, including merchantability and fitness for a particular purpose. In no event will Magic Software Enterprises Ltd be liable for any loss of profit, business, use, or data or for indirect, special, incidental or consequential damages of any kind whether based in contract, negligence, or other tort. Magic Software Enterprises Ltd may make changes to this document and the product information at any time without notice and without obligation to update the materials contained in this document.

Magic is a trademark of Magic Software Enterprises Ltd.

Copyright © Magic Software Enterprises, 2016