Magic xpi 4.12.2 Release Notes

New Features, Feature Enhancements and Behavior Changes

Activity Log Optimization

The Activity Log mechanism is now optimized for better performance and handling of large volume of activity logs.

API Support

The Salesforce and ServiceMax connectors are upgraded to support the API version 48.0.

Non-Supported Feature

The installation of the Magic xpi Monitoring App from the Salesforce AppExchange is not required anymore for the Salesforce and ServiceMax connectors to work.

Known Issues

- The log for the Magic Monitor will not be deleted when the locale is set to German. To fix the issue, set the Default Language of the Magic xpi database (MGXPI4_1) to English.

  Refer to the Monitor Troubleshooting section in the Magic xpi Help, for further details.

- The Unicode to Custom code page conversion in the Data Mapper may fail on the Linux platform as the default system code page on Linux is UTF-8. Magic xpi requires the code page value to be 1252.

  This can be resolved by adding the **SpecialInternalNonUnicodeCodepage** flag to the **MAGIC_SPECIALS** section of the Magic.ini or ifs.ini file and setting its value to **1252**.

  For example,

  [MAGIC_SPECIALS]

  SpecialInternalNonUnicodeCodepage = 1252

- The JSON Validation doesn't work when the Validation property is set to Yes for the Data Mapper source on Magic xpi 4.12.2 Linux version and gives inappropriate results.

- The C.sys.LastErrorDescription variable does not get updated correctly when Database is used in the Data Mapper destination.

- Magic Monitor throws an error, when Oracle is used as an internal database and the output blob size is big.

Fixed Issues

QCR #	Description
MXPI-1242	The SAP R3 connector returned, "IDOC_ERROR_FIELD_NOT_FOUND: Field is not a member of IDocRecord" error randomly when the IDoc Send operation was used.
MXPI-11080	When a flow was enabled for DB transaction with MS-SQL database resource, it failed with an error "DB Transaction error:xxxxx : Login failed for user".
MXPI-11166	When the Data Mapper step was configured with the DB2/400 database with Select statement, the flow execution got stuck and resulted in a server crash.
MXPI-11178	When a project having IBM i connector was deployed and run on the Linux platform, the server got crashed and restarted.
MXPI-11207	Data Mapper couldn't identify certain types in the XML Schema (XSD) file.
MXPI-11208	For the Email component, the line feed (LF) character was removed from the email body, if the email contained an attachment for the QuickSend method of the Email adapter.
MXPI-11556	After performing the Move operation on a file in the SharePoint component, the Delete operation failed to delete the file in some cases.
MXPI-11781	The SAP ERP Trigger configuration threw an error, "No available extensions for IDoc.xxx". when configuring the Extension.
MXPI-11895	The trigger for IBM i connector failed to handle the messages in the correct sequence (FIFO/FILO) from the data queue. In order to fix this issue, a new INI flag *IBM_I_ORDERED* has been introduced, needs to be set in the Magic.ini or ifs.ini file under the *MAGICXPI_GS* section with value as **Y**.
MXPI-12286	In case of the HTTP component, the names with special characters in the body of the REST and POST methods were shown incorrectly when a project was migrated from Magic xpi 4.6 to Magic xpi 4.12.
MXPI-12551	When using the FTP component to transfer files to a shared drive, an exception "FTP Error. com.enterprisedt.net.ftp.FTPException: 425 Data channel timed out due to not meeting the minimum bandwidth requirement" was thrown at runtime.
MXPI-12770	The connection string in the SAP ERP component did not encrypt the password when the RFC call was made through Magic xpi.

QCR #	Description
MXPI-13047	When using the Email component as a trigger an "Error Code: 103 Error Description: Email Trigger java.io.FileNotFoundException:" was shown in the Magic Monitor.
MXPI-13232	While cleaning up the expired messages, the magicxpi.logs file displayed an error, "Cannot write a null or empty entries array".
MXPI-13234	The Replicate Last Updates and Replicate All Data methods of the Salesforce Connector failed to populate the columns of the Time data type in the database.
MXPI-13397	The user was unable to login with correct credentials to Magic Monitor once the current session was terminated after the inactivity period of more than 15 minutes and an error "Invalid Login! Please try again" error was shown in the log file.
MXPI-13654	The Data Mapper generated an XML with elements in the wrong order when the Append Data option was selected.
MXPI-13873	The Web Services Client failed to load a specific WSDL with error, "WithProgressBar method exception: The request was aborted: Could not create SSL/TLS secure channel"
MXPI-13883	The CallPublic function used in Data Mapper failed to run causing the Mapper step to be stuck in some cases after migrating a project from any version up to 4.7.5. This defect is a side effect of an enhancement to the CallPublic function. To switch to the older behavior of using the Data Mapper source nodes into the CallPublic function, add an INI flag with the name **CallPublicBuildWithSpecialStringHandling** to the [MAGIC_IBOLT] section of the Magic.ini file and set the value to Y. Rebuild the project for the flag to take effect.
MXPI-14003	The Magic xpi engine crashed when executing the Data Mapper step which was configured with the PostgreSQL database using the ODBC driver.
MXPI-15184	The Email component threw an error in runtime when configured with TLS 1.2 encryption to communicate with the internal E-mail server.
MXPI-15500	The Directory scanner trigger failed to work when it was configured with a folder containing sub-directories.

Note: All the maintenance versions are cumulative in nature and include all the fixes from all the previous maintenance versions.

Past Release Notes

Magic xpi 4.12.1: New Features, Feature Enhancements and Behavior Changes

Running the Database Scripts Manually

The database definition has been optimized for better performance in Magic xpi 4.12.1. The implementation for the same requires the user to manually run the scripts after installing Magic xpi.

The installer will only install the database related scripts, but it will not run them automatically at the end of the maintenance installation.

Refer the **Readme_Maintenance.txt** file located inside the <Magic xpi INSTALLATION_PATH>\DB\ folder, to know the instructions on how to run the database related scripts.

The folder <INSTALLATION_PATH>\DB\<DBType>\ contains the SQL scripts for Installation, Data Migration and Uninstallation/Rollback for the maintenance release. For MS-SQL and Oracle database type the scripts will be present under the Enterprise and Standard folders based on the edition used. For the other databases like MySQL, DB2, DB2/400 the scripts will be present directly under the database type folder.

The migration scripts, if needed, should be executed immediately, before running any projects. Running them later might cause issues with data consistency.
Please verify the execution of the scripts post-installation. If there is a failure in the execution of the scripts, the GigaSpaces service will fail to start or it will start incorrectly with errors.

> **i** If the database name is different than the default "MGXPI4_1" name, then the database scripts need to be modified manually with the appropriate name of the database. For more information, refer the **Known Issues** section given below.

Magic Monitor Session Timeout

The Magic Monitor login screen now provides the user an ability to stay logged in and keep the Magic Monitor session active. To enable this behavior, the Magic Monitor screen provides a checkbox named **Keep me logged in**. If the checkbox is left unchecked, the default timeout value is 15 minutes.

Magic xpi Platform Certifications

Magic xpi 4.12 now provides additional certification for compatibility with the following:

- Platforms and Operating Systems: Windows® 2019
- Databases: Microsoft® SQL Server 2019

Known Issues

- Before upgrading from any version older than Magic xpi 4.5, verify that the database name is same as the default **MGXPI4_1** name. If the name is different from the default, then the database scripts need to be tweaked to use the existing database name. Make sure that the scripts are modified accordingly before executing the same.

  Failing to do this, the database scripts will not execute and consequently the GigaSpaces service will fail to start.

- In the XSD files, if the value for the **maxOccurs** attribute for any XSD Element is greater than 999, then the flow execution will fail.

- The **Refresh XSD** operation should be run on the existing projects configured with the Notes DB component. This will update the Data Mapper schema and hence remapping of any connection broken due the changes is needed.

Fixed Issues

QCR #	Description
MXPI-919	The project with the JD Edwards Enterprise One component got restarted abnormally at runtime when the "Keep Session Open" property was not selected on the step.
MXPI-10271	The tool named **MgxpiLookupUpdator.exe** failed to update the value of flag **LookupLocators** in the MAGICXPI_GS section of magic.ini file located in the **Magic xpa x64** folder.
MXPI-10398	The Sugar connector failed to work as a trigger since Magic xpi 4.7.3 version and threw an error, "Error 7500:SugarCRM call error: com.magicsoftware.ibolt.sugarcrmonline.IBSugarCRMException".
MXPI-10424	Issues related to the Local Agent were fixed as part of this release. The updated Local Agent installer can be found at the **<Magic xpi installation folder>\LocalAgent** path.
MXPI-10433	Magic xpi server was not compatible with the specific **1.8.0_231** and **1.8.0_241** versions of Oracle JDK. This compatibility issue is addressed in this release.

Magic xpi 4.12: New Features, Feature Enhancements and Behavior Changes

Magic xpi Server is Now 64-bit

The Magic xpi server will now natively run as a 64-bit process providing better performance and larger memory capacity.

Local Agent Support

- Magic xpi has now introduced Local Agent feature to facilitate communication between the projects deployed in the multiple systems in the local network. With this feature a project on one system can make calls to a remote host to execute a project step in an on-premise environment and get the response back.

- The user can manage and monitor the Local Agent infrastructure through the Local Agent Management Console. The user can install Connectors to the Agents and manage their configuration and lifecycle.

- The Updater feature allows the user to update the Agent Service from the Management Console, without reinstalling it on the host machine.

- The Connector Builder is now enhanced to build the connectors to be compatible with Local Agent.

- The new SAP ERP connector can now be configured with the Local Agent support.

New SAP ERP Component

The new SAP ERP connector can now be configured with the Local Agent support.

SAP ERP Component Name Update

The SAP R/3 and SAP SDK components are now renamed as SAP ERP. Henceforth, any references found in the name of SAP R/3 or SAP SDK should be treated as SAP ERP.

Critical State Alert Mechanism in Magic xpi Dashboard

The Magic xpi Dashboard is now enhanced to show the status of critical alerts on the Magic Monitor Dashboard. A new alert mechanism is also provided to send email notifications to the administrators whenever there are critical alerts.

External JDK Selection

Magic xpi now allows the user to pick a compatible Java Development Kit (JDK) during the installation. The compatible JDK can be selected on the **Select JDK Locations** of the Magic xpi installer.

Open JDK Support

Magic xpi now supports different implementations of OpenJDK.

.Net Based Connector Builder

Connector Builder is now .NET based and it supports all the existing functionality.

License Key Request for Connector Builder

The License key for the new connector in the Connector Builder will now be fetched from the Endpoint URL pointing to the License Server from where the license will be generated and will be emailed to the user.

The Endpoint URL should be defined in the Magic.ini file with a property named **SDKLicenseURL** under the MAGIC_IBOLT section.

Support for Publishing HTTP and OData Endpoints with API Management Server

Magic xpi now supports publishing HTTP and OData endpoints into an API Management Server. The user can now add an API Management Server, Publish, un-publish or re-publish using the API Management interface from within the HTTP or OData Services configuration window from the Magic xpi Studio.

Web Services Client Implementation

The Web Service Client implementation in Magic xpi is now re-architected using SDK connector with XML interface. Due to this change the Web service utility will now be divided into two categories. One is the Web service trigger, which is still Systinet based to implement Web service and the other is Web Service Client which is added under the component section.
For each operation IN, OUT and FAULT (if provided by WSDL) XSD gets generated.

Migrating Projects with Flows Having Web Service Steps

- The migration process requires the WSDL file to be available, otherwise the Web Service Client step will fail to migrate correctly. The user will then have to reconfigure the step manually in the Studio.

- After migration, the user will have to set the 'Attachment Type' in the resource settings to 'Blank', if no attachments are required to be sent as part of a Web Service call.

- After migration, the user will have to change the 'Operation Out' property in the Web Service Client configuration dialog box, from Alpha to Blob.

- The migration process will fail, if the project is in Read-only mode, so before migrating, make sure that the project is not in Read-only mode.

Support for Microsoft® SQL Server with TLS 1.2

Magic xpi can now connect to SQL Servers with TLS 1.2; using the latest Microsoft® OLE DB Driver 18 for SQL Server®.
The Microsoft® OLE DB Driver 18 for SQL Server® is available for download at:
https://www.microsoft.com/en-us/download/details.aspx?id=56730

SharePoint Connector Advanced Capabilities

- The **Add** operation now allows the user to create folders and sub-folders and helps in managing the folders in Lists and Libraries.

- The **Query** operation now allows the user to query documents from a specific folder and its sub-folders and search within a date range.

- The **Query** operation now returns the complete Folder structure along with the documents.

  (Applicable only to SharePoint on-demand.)

SharePoint Query Include Sub-folders

The **Include Sub-folder** field for the SharePoint Connector Query operation now gives the users an additional option to include or exclude the sub-folders while running the query to fetch the data. (Applicable only to SharePoint on-demand.)

Using Custom Filter with SharePoint Connector

The SharePoint Connector now supports custom filter using the **Calculated Value** node property for **Created** or **Modified** nodes in the Data Mapper tree for applying a filter on the date range using the **Between** method.
For example, the calculated value of the **Created** node, when set to the string *'Between(2019-03-01,2019-03-10)'*, will return all objects created during the specified dates.
(Applicable only to SharePoint on-demand.)

SharePoint Connector Upgrade

Magic xpi SharePoint component now supports SharePoint 2019 (On-premise).

Dynamics CRM Continue Request on Error

The Dynamics CRM connector can now continue processing the data even after any row within the data caused an error. To enable this behavior, the flag **DCRMContinueRequestOnError** needs to be set with value as **Y** in the **[MAGIC_IBOLT]** section of the **Magic.ini** or by adding **[MAGIC_IBOLT]DCRMContinueRequestOnError** to **ifs.ini** file and then setting the value as **Y**.

Maximum Records for SugarCRM Trigger

For the SugarCRM connector as a trigger, the maximum number of records to be fetched from the server can now be configured by adding the flag **SUGARCRM_Max_Number** to the **[MAGIC_IBOLT]** section of the **Magic.ini** file or by adding **[MAGIC_IBOLT]SUGARCRM_Max_Number** to the **ifs.ini** file.
For example, in ifs.ini file add it as:
[MAGIC_IBOLT]SUGARCRM_Max_Number=300
Default Value: 1000
That is, by default the flag does not exist and thus in absence of the flag, Max_number will be set to 1000.

Maximum Value: 1000
That is, if any value larger than 1000 is specified, the connector will fall back to 1000, as that is a SugarCRM server limit.

Maximum number of Records for Sugar Query

The Sugar connector now supports defining the maximum number of records to be fetched while performing the Query operation using the **Max Number of Records** field which can be specified on the Step.

The value can also be dynamically controlled using the Data Mapper Filter node with value **xpi_max_num**.

ODS Name Length Restriction

When the name of a Dynamic ODS for Update and Insert operation evaluates to a string longer than 30 characters, the Magic Monitor shows an error "The ODS name exceeds the limit of 30 characters".

Flow Timeout Behavior

Once the flow times out, the timeout being the total of Flow timeout and Flow Grace timeout values, the worker status changes to value as **STUCK** and the License status gets displayed as **CHECKED_IN**. The Flow will get aborted when the current step execution completes.

When a worker gets stuck, a new thread is called and the further requests are processed.

IBM Domino Server Support

Magic xpi now supports IBM Domino server v9.x and v10.x.

Increased Size of URL Dynamic Addition Parameter

The length of the URL Dynamic Addition string parameter for the REST method of an HTTP component is now increased to 20000 characters.

Picture Format Support in Data Mapper

- The Data Mapper now supports the custom picture formats of type N12.4ZC and N12.4CZ or any partial combination of these supported directives.

- The Checker will give a validation error for any other combination(s).

- For Schema types other than Flat file, these directives are only valid when the **Always use custom picture** property is set to **Yes**.

- For the Flat File schema, the directives should be defined inside the line definitions. These directives will be reflected at the node properties.

XML Position Forwarding

On passing a compound complex node to a call flow for XML Position Forwarding, user is now able to access all the direct and non-direct child elements inside the called flow for a given iteration as is. The limitation of passing the direct non-complex child elements through variables, to a called flow is now removed.

Alpha Fields in JD Edwards Enterprise One

The trailing spaces in the alpha fields in the Output XML of the JD Edwards connector will not be trimmed.

HTTP Request Body Encoding

For the Post operation in the HTTP component, the default encoding for the request body will always be URL-encoded, unless a header for Content-Type is specified. If the Content-Type is specified, the format of the body remains the user's responsibility.
In case the request body contains part of the request Query arguments to an xpi server, variable name "MG_POST_BODY" also needs to be added to the **HttpVars** section in **[xpi_runtime]\scripts\config\MGREQ.INI**. This is only applicable for IIS server.

Database Clients Installation

Magic xpi Runtime requires 64-bit clients or drivers for successful deployment of Database operations. The user has to make sure that 64-bit Oracle Client is installed and for ODBC, 64-bit ODBC driver is installed on the machine.
To validate Database resource in the Studio, 32-bit driver is required for all Databases.

Enhanced XML Append Rules

The XML Append functionality is now enhanced and is based on the following rules:

- The mapped multi-instance compound nearest to the root will be considered for the append operation.

- The element and its value will be added only if does not already exist in the destination XML.

- The append operation will be done to the last instance of the immediate parent.

- The append operation will be done to the parent compound and its direct non-compound children only if the parent compound has a mapping.

Microsoft SQL Date Data Type

For Microsoft SQL Server, the column with data type as Date in the Data Mapper will be of Type **Date** instead of **Unicode** String. Due to this change, the Data Mapper step connections with Microsoft SQL server Date data type will be lost and will need to be remapped on opening the Data Mapper step.

Known Issues

- If your project contains Dynamics CRM steps, then you will need to make some configurations manually. For more information refer, the "Dynamics CRM Troubleshooting" page in the Magic xpi Help file.

- On failing to process a row, the Dynamics CRM connector terminates and does not process the subsequent requests.
  To continue processing data even after an error, add the flag **DCRMContinueRequestOnError** in the MAGIC_IBOLT section of the **Magic.ini** or add **[MAGIC_IBOLT]DCRMContinueRequestOnError** to the **ifs.ini** file and set the value to **Y**.

- While processing large files in the Data Conversion component, the Magic xpi project gets stuck at **uninitialized** state.
  To fix the issue, increase the Java Memory Heap space allocation by setting the following values (or higher) to the **JVM_ARGS= -Xms256m -Xmx1024m** in the [MAGIC_JAVA] section of the **Magic.ini** file.

- Magic xpi server fails to start if specific version **1.8.0-231** of Oracle JDK is used. Using any previous JDK version it works fine.

- After the OData endpoint is published in the API Management server, any changes in the Machine name and port of OData service will not reflect automatically in the Target URL of API Management server. As a result of it, the API call will fail.

  To mitigate this limitation, change the Host Name and Port as per the OData resource configuration in the Target URL of the API Management server. In case of Tyk, the Target URL can be accessed on the published API page of the Tyk dashboard.

  These changes will not get reflected in the API Management dialog for the OData resource in the Magic xpi studio.

- The hyphen (-) character is not allowed as part of the database name in Data Mapper. To overcome this limitation enclose the database name within square brackets ([ ]).

- Magic xpi has a limitation for the size of payload to be sent and received as a Web Services provider. The verified, maximum payload size which can be processed is approximately 8 MB.

- The Attach to Project functionality in Debugger is not supported in Magic xpi.

- There is no Kerberos Authentication Type support available for Web Service Security Configuration at Runtime.

- The Magic Monitor Web UI fails to work in the Chrome browser for the operations like Stop and Restart projects.

- The business process, flow, step or branch containing an old implementation of the Web Service Client, will not be allowed to import.

- The Web Service Client steps, which are incorrectly migrated, will not have **Copy** or **Export** options available in the context menu.

- The OData Provider does not support sending multiple data types in one call for the Geography Collection types.

- After migrating a project with SAP R/3 resource and/or service, the user will have to recreate that resource and service. Please refer the migration log for more details.

- In Connector Builder, the SDK Trigger with Runtime Technology as **Java** with Trigger Invocation type as **External** is supported. Rest of the Runtime Technology and Invocation types are not supported.

- On 64 bit Magic xpi setup, the methods for Domino and Notes DB components with the Remote Access value set to **No**, will fail to work due to the unavailability of compatible 64 bit Lotus Notes Client.

- HTTP Framework of type SOAP is not supported on 64-bit installation. The supported types are DotNet and Java.

Fixed Issues

QCR #	Description
MXPI-10212	The Query Parameters configured on the REST Client Resource, were not passed at runtime for all HTTP operations except the GET operation.
MXPI-739	When accessing the Magic Monitor from a different machine in the same network and displaying the Blob attachment, the blob content was opened in a new window.
MXPI-581	The OData connector step became unresponsive when the server did not respond on consuming the request.
MXPI-579	The Query operation for SharePoint on-premise connector failed to retrieve the sub-site and querying list data and threw an "Error 1350: SharePoint call error: com.magicsoftware.ibolt.sharepoint.IBSharePointException: getSites (AxisFault)"
MXPI-526	The SAP R3 component failed to commit the data while creating the sales order on the SAP server.
MXPI-530	The Data Mapper failed to generate an output file from a template when the "Destination File Path" was generated dynamically using a variable. Rebuild the project for this fix to take effect.
MXPI-508	In the Magic xpi studio, in some scenario, the Checker and Build took more than expected time.
MXPI-332	In the Debugger Context view, the UDS table couldn't be opened as the button was disabled.
MXPI-323	When deploying the procedure **SBO_SP_PostTransactionNotice**, the connection to SAP B1 Company Database failed when the DB server name contained the "-" character.
MXPI-306	The Start button on the Magic Monitor was allowed to be pressed multiple times without delay, which resulted in multiple servers getting started.

Magic xpi 4.9: New Features, Feature Enhancements and Behavior Changes

REST Client

- The REST Client component is now available in Magic xpi. It enables the user to consume REST APIs.

- The REST Client component allows the user to add or remove the REST Path parameters and define the Query parameters, Header Parameters, and Request and Response Form parameters.

- It supports HTTP-Basic, HTTP-Digest, and OAuth2 authentication.

- The user can configure different Content Types and send and receive attachments as well.

- It also provides the ability to invoke the Get, Post, Put, Patch, Head and Delete operations on a given REST service.

Custom (EBCDIC) Encoding Support for Data Mapper Utility
The Source and Destination sides of the Data Mapper utility now have a provision for setting the Custom (EBCDIC) Encoding for the Flat File schemas. The Code page value has to be selected when the encoding is set to Custom.

Custom (EBCDIC) Encoding Support for File Management

The File Management component now supports Custom (EBCDIC) Encoding for Append Blob to File, Create File, and Write File methods. The Code page value has to be selected when the encoding is set to Custom.

EBCDIC Conversion Functions

UnicodeToCustomCodePage and **UnicodeFromCustomCodePage** functions are now added to the list of supported functions.

Authentication Support for OData Connector

The OData connector now supports the Basic, Digest, and Windows (NTLM) authentication.

Deep Insert Support for OData Connector

The OData connector supports generating payload for creating an entity with its related entities. This enables the deep insert call to the OData service.

Deep Insert Payload Support in OData Provider

The OData provider now supports handling of deep insert payload contained in the request.

OData Provider Support for Importing Metadata

Now the OData provider can load an existing service metadata (OData V4) from a file and expose a similar OData interface as the one defined with the loaded metadata.

XML Position Forwarding

XML Position Forwarding should not be used to access the direct non-compound children of the Parent in the called flow. Instead, direct non-compound children should be made available in the called flow using the flow variable. The caller flow should map direct non-compound children to flow variable(s) of the called flow.
Refer the **XML Position Forwarding** topic in the *Magic xpi Help* for specific instructions.

Platform Support in Sugar Resource

The Sugar resource now allows the user to specify a Sugar approved platform value.

SugarCRM V11.x REST API Support

Magic xpi was tested and is compatible to work with SugarCRM V11.x REST API.

Separate Trigger's Database Support for SAP B1 Connector

The SAP B1 connector now supports hosting of the SAP B1 trigger table on a different database than the company database. If the database holding the trigger table is hosted on a different server than the company database, then that server should be a Linked Server.

Implementation Changes for the Stored Procedure in Company Database

The ibolt_notification stored procedure and the ibolt_trigger table are not used in the SAP B1 company database anymore. If they already exist, the users are required to delete them.

TimeSheet Service Support in SAP B1

A **TimeSheet** service is now added to the list of available services in the Service Object List for the SAP B1 connector.

ProfitCenter Service Support in SAP B1

A **ProfitCenter** service is now added to the list of available services in the Service Object List for the SAP B1 connector.

Custom Web Server Location for Magic Monitor

The Web Server location for the Magic Monitor Display Server can now be changed by using the **WEB_SERVER_LOCATION** system property.

Log4net Support for Logging in the Dynamic CRM Connector

The Dynamic CRM connector now offers a dedicated logging support at the design time as well as at the runtime.

Retry Support in Engine to Load the ServerData Object

Now the Magic xpi engine has configurable retry support to load the ServerData object from the Magic Space.
The retry count can be configured in the [MAGICXPI_GS] section of the Magic.ini file with the flag **CheckServerEntryInspaceRetrytimes**.

Proxy Support for Magic xpi Debugger

The Magic xpi Debugger can now be configured to connect through a Proxy Server. Both System proxy server (configured in the Internet Explorer) and Custom proxy server (configured in the Studio specifically for the Debugger) are supported.

Proxy Support in SharePoint Connector

Now the SharePoint connector supports integration with On-premise or On-demand SharePoint application through the proxy server.

Proxy Support in Exchange Connector
Now the Exchange connector supports integration with application through the proxy server.

Custom Fault Schema Per Operation for WCF Client

The WCF Client step now generates a Custom Fault schema for each operation if the fault schema is defined for the operation.

Custom SOAP Headers Support

The WCF connector now supports defining and extracting the user defined custom SOAP Headers.

Additional Index for Log Table

An additional index is now added for the Activity Log table. This is added as a part of the SQL script file named ***_create_tables.sql**, which is shipped along with the product. This SQL script is available for the supported databases and will be installed under the database type folder.

The index will be added automatically during the product installation only if the user had selected the **DB Creation** option as 'now' during the main product installation. In case the **DB Creation** option is selected as 'later' then the user has to run the scripts manually after the installation. The automatic index creation only applies if the internal database is selected as MSSQL or Oracle.

Optimization in MGMirror Processing Unit

The MGMirror processing unit service is optimized to replicate the data from Magic_INFO Space to Activity Log Table.

Debugger On-premise Installation

Magic xpi now provides an additional service named **Magic xpi 4.9 Debugger** for configuring the Debugger on-premise installation hosted on the Tomcat Server.

UPSERT Support in Data Mapper

The UPSERT operation is now supported in the Data Mapper when Database is used as the Destination. The UPSERT statement can be enabled by setting the value for UPSERT as Yes in the Properties pane of the Database Schema properties. As of now, this functionality is supported for Oracle and MS-SQL Database type.

Undo and Redo Support in Data Mapper
Now the Data Mapper supports Undo and Redo actions for modifications to the schemas, connections, and properties (for both schemas and nodes), as well as colors.

Return Code Support for Command Line

The Command Line method of the File Management component now provides the Return/Exit Code for the batch file execution. This functionality is only available for the Windows based platforms, and the Timeout parameter is set to 0.

Sorted Flow List for Invoke Flow Utility

Now in Invoke Flow Utility, the Flow List displaying the list of flows to be invoked will be displayed in an ascending order.

Flow Timeout Behavior

Once the flow times out, the timeout being the total of Flow timeout and Flow Grace timeout values, the Worker Status changes to value as **STUCK** and the License status gets displayed as **CHECKED_IN**. Once the Flow delay step is completed, the flow will get aborted.

Non-supported Function

The function **RqHTTPHeader** is no longer supported in Maigc xpi. To retrieve the Request Header parameters, use the function getParam function. While using the HTTP trigger, setHTTPHeaders function should be used with FlowData to set the Response HTTP Headers while returning the HTTP response.

Known Issues

- If the password for the Magic Monitor contains all numeric digits then the password length should be greater than 6 characters. The restrictions do not apply in case of alphanumeric passwords. This issue has been observed only with the underlying database is MySQL.
- The SharePoint Online component Query fails for some Lists or Libraries or folders when the record size (including documents and folders) exceeds the value of 5000.
- The OData service does not support defining the entity properties as a Complex type property containing another Complex type property.
- The OData Provider does not support sending multiple data types in one call for the Geography Collection types.
- Magic xpi fails to create the ODBC connection for PostgreSQL Database when incompatible versions of the Postgre ODBC Database Driver are installed on the system.
  To fix the issue, install the 09.03.0400 or 10.00 version of Postgre ODBC Database Driver which are compatible with Magic xpi.
- When using the Salesforce Lightning Experience interface, the Alerts Report returns no results and displays the "This developer name is invalid. Provide the developer name for the report that contains the chart" error.
- In case of upgrading to Magic xpi 4.9 from the older version, the installation will overwrite the **FunctionDescription.en.xml** and/or **FunctionDescription.ja-JP.xml** in the Studio directory in the Magic xpi installation. To avoid losing the data in files, the users should take a back-up of the files before installing the product and then merge the modifications, if any, post installation.
- Passing the Data Mapper source nodes as input values to the CallPublic function, arguments will result in an unexpected response.
- The Command Line operation for the File Management component fails to work, if the file selected for execution contains a space character in the file path.
- In XML Position Forwarding scenario, accessing the direct non-compound children in the called flow would lead to unintended behavior as the checker is unable to catch this mapping as wrong mapping.
- If Microsoft Visual C ++ 2010 Redistributable x64 is not installed, IIS/.Net Web requester (MgWebRequester) will not work. You can download the same from
  https://www.microsoft.com/en-in/download/details.aspx?id=14632

Magic xpi 4.7: New Features, Feature Enhancements and Behavior Changes

OData Provider

The OData Provider is now available as a service in Magic xpi. The OData service also provides an Entity Helper for the user to define the OData Service structure.

Encoding Parameter

The Encoding parameter is now added to the HTTP component. With this, it is now possible to control the encoding of the request body for the POST and REST methods of the HTTP step.

The Encoding parameter is also added to the File Management component. With this, it is now possible to control the encoding of the file written using the Append BLOB To File, Create File, and Write File methods.

Undo and Redo Commands

Magic xpi now enables you to undo one or more operations in the Flow Editor and redo the undone changes.

Required Licensing

The Required Licensing menu is now available under the Help menu of the Magic xpi Studio. It shows the license features required for the project which is open.

Flow Editor Enhancement

The following features are now available in the studio:
- Copying and pasting multiple steps
- Inserting a step between a parent of a branch and the branch
- The Project path link (BP and Flow) in a Data Mapper which allows to navigate back to the Flow Editor pointing to the corresponding Data Mapper step

Magic xpa Runtime Support

The Connector Builder utility now supports Magic xpa as a runtime technology. This option is available for the step as well as the trigger in the Flow Editor.

Installation Upgrade

It is now possible to upgrade the existing installation of Magic xpi 4.5 and higher to the Magic xpi 4.7 version.

Solution Explorer Icon Indication

The Solution Explorer now displays new icons to indicate the state of the flow.

Monitor Enhancements

For the Activity Log table in Magic Monitor, a **Step** column was added.

For the Filtered Activity Log table, **Step**, **FSID**, **Root FSID** and **Flow Request ID** columns were added along with an **Attached Blob** button.

SAPB1 – SLD Server Support

Magic xpi now offers SAPB1 support for SLD Server. A new property added to the resource allows the user to select between the License Server and the SLD Server.

SharePoint ADFS Support

The SharePoint Online connector now supports Active Directory Federation Services (ADFS).

Dynamics 365 Support

Magic xpi was tested and is now compatible to work with Dynamics 365.

Salesforce Connector Upgrade

Magic xpi now works with Salesforce API 39.

WebSphere MQ Resource

The WebSphere MQ Resource now supports the User ID and Password based authentication.

InventoryTransferRequest

The InventoryTransferRequest object is now available as a part of the Magic xpi Objects support.

SAPB1 9.3 support

Magic xpi now supports SAP B1 9.3 with the MSSQL 2016 database.

Non-supported Feature

The SNMP component is no longer supported in Magic xpi.

Known Issues

- If a project is referring to files outside the project folder using the relative path, then after migration the references are not restored in the newly created projects. To restore the references, open and save all Data Mappers that use the external references. To find such Data Mappers, run Checker on the project.
- When sending an HTTP request with Body (POST/PUT), the content type and encoding header should be specified and should match the body content. For example, in case we send a POST request with UTF-8 encoded JSON body, we should specify the following header:
  Content-type: application/json; charset=utf-8
- Since Magic xpi 4.7, if the default value of a variable is used, then the spaces will be trimmed from the variable value.
- Since Magic xpi 4.7, at runtime, the default value of a variable will be trimmed as per the length defined for it.

Magic xpi 4.6: New Features, Feature Enhancements and Behavior Changes

OData Connector

The OData connector enables you to consume OData V4 services. The OData connector offers the following:

- Use of the OData service metadata to automatically generate structures for Magic xpi.
- Support of all CRUD operations including patch.
- A query builder to build complex queries while still allowing you to manually enter and modify queries.
- The ability to add any HTTP headers to the requests.

ServiceMax Connector

The ServiceMax connector provides you with connectivity to the ServiceMax field service application.

Import/Export

Magic xpi now has Import/Export functionality, providing a convenient way to easily save or load project objects.
You can also import resources and services that you previously created and saved in other projects.

Dynamics CRM Enhancements

The Dynamics CRM connector now supports the **Upsert** operation. The connector also has a new method interface that supports Querying by FetchXML.
Since 4.6, by default, both the on-premise and on-demand implementations are .NET-based. This means that any new functionality, such as the Upsert operation, which was added since 4.6, will only work during Runtime on Windows operating systems. Before 4.6, the on-premise implementation was .NET-based and the on-demand implementation was Java-based. If you want the previous behavior, where the online implementation was Java-based, change the value of the new **DCRMOnlineSDK** flag to **N**.

SAP R/3 Connector Enhancement

The SAP R/3 connector now uses JCO 3.0.15.

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SAPB1 HANA support

Magic xpi now supports SAP B1 based on the SAP HANA database.

SAPB1 Services Support

Magic xpi now supports selected the SAP Business One **Messages** service.

HTTP Framework Setting

The **Magic.ini** file's **[MAGIC_ENV]** section now contains the HTTP Framework global environment setting, which specifies the underlying HTTP library to be used for the HTTP component. This change was done to support TLS1.2 for the HTTP functionality

Connector Builder Enhancement

The Connector Builder now has an **Endpoint** trigger invocation type, which runs outside of the Magic xpi engine.

Project Documentation

Magic xpi can now generate detailed printable reports of your projects.

IBM WebSphere® MQ 8.0 Support

Magic xpi was tested and is compatible to work with the IBM WebSphere® 8.0 client/server.

Microsoft® Windows Server 2016 Support

Magic xpi was tested and is compatible to work with Microsoft® Windows Server 2016.

Known Issues

- In an upgraded Magic xpi 4.5 or 4.5a project, you cannot modify an existing SAPB1 resource to use a SAP HANA database. You need to create a new SAPB1 resource instead.
- To use the native Microsoft® ODBC Driver for SQL Server® with the Magic xpi Studio, you need to replace the information in the **data_types.xml** file with the information from the **data_types_MSSQLODBC.xml** file. Both of these files are located at: **<Magic xpi installation>\Studio**.

Magic xpi 4.5a: New Features, Feature Enhancements and Behavior Changes

Salesforce Licensing Prerequisites

To be able to use a Magic xpi license for Salesforce, you have to install the Magic xpi monitoring app that is on the Salesforce AppExchange. For information about how to do this, see the **How Do I Install the Magic xpi Salesforce App?** topic in the *Magic xpi Help*.

Salesforce Monitoring Utility

You can monitor your Magic xpi environments, view running projects, receive alerts, and get chatter notification about various events using the Magic xpi Force.com monitoring utility. For information about how to do this, see the **How Can I Monitor My Project Using Salesforce?** topic in the *Magic xpi Help*.

Java 8.0 Support

Magic xpi was tested and is compatible to work with JRE 8.0.
Note: JRE 8.0 is not supported for Systinet-based Web services (both consumer and provider). For the Windows operating system, to use a Web service consumer, you can use the WCF client.

SAP S/4 HANA Support

Magic xpi was tested and is compatible to work with the SAP S/4 HANA platform.

Field Type Behavior Change

Magic xpi does not have a default picture to handle **xs:union** field types. If your schema contains an **xs:union** field type, you need to add this type to the **Default Data Format** repository.
During migration, if you had an **xs:union** field type and it was mapped, after the migration process you will get a Checker error letting you know that you need to define your **xs:union** field type.

Known Issues

- Before migrating a project to Magic xpi 4.5a, make sure that all XSD files used by the Data Mapper are available in their declared location.
- The percent sign (%) cannot be used in a database resource password.

Magic xpi 4.5 General Information

Introducing Magic xpi 4.5

We are delighted to provide you with the new major release of Magic Software's Magic xpi Integration Platform. The new features and enhancements are designed to improve your user experience with the new look-and-feel as well as provide additional functionality for your integration projects.

Magic xpi 4.5 is based on Magic xpa 3.1.

Migrating from Magic xpi 4.1 to Magic xpi 4.5

The Migration wizard automatically opens when you open an existing .ibs file.

Note: If the object names in your projects are in the language of your locale (such as flow names or variable names in German), the locale of the machine must match the locale used in the project when doing the migration. In addition, the **magic.ini** file's **[MAGIC_ENV]ExternalCodePage** flag must also match the used locale.

Steps Required After Migration

- uniPaaS steps and Component SDK steps that were created in uniPaaS need to be migrated manually to Magic xpa.
- Web Service servers need to be deployed manually after migration.
- External files need to be copied to the new project's location according to the old project's hierarchy.
- The migration process does not change any .ini files or its values. To use new values, after migration, delete or rename the old **ifs.ini** file and build the project. A new **ifs.ini** file will be created with new values.
- If you had logical names defined in your **Magic.ini** file (not in the **ifs.ini** file), when migrating a project add the logical names (environment variables) to the **Magic.ini** or **ifs.ini** file. If the environment variables are project specific, you can add them to the project's **ifs.ini** file. For non-project specific environment variables, copy them to the **Magic.ini** file. Note that Magic xpi 4.5 is project centric, meaning that the Studio loads the environment variables from the **ifs.ini** file.
- If the Invoke Flow utility uses an expression containing hard-code IDs, it might not point to the correct ID after the migration process, since these IDs may change during the migration. It is recommended to use the dedicated functions, such as **GetFlowID** and **GetBPID**, which calculate the ID at runtime based on the flow or business process name.
- If the **SpecialExpReturnNull** flag is not already present in the migrated project's **ifs.ini** file, you should add it to that file's **[MAGIC_SPECIALS]** section and set it to **Y** to maintain backward compatibility with projects created in earlier versions of Magic xpi or iBOLT. This flag maintains backward compatibility when comparing a variable that has a Null value to an empty value.

- If your migrated project has any user-defined components, the folder containing them must be copied from its old location to the new location. Any changes to the **Resource_types.xml** and **Service_types.xml** files that are connected to user-defined components must be done manually.
- JD Edwards World resource definitions should be updated with a library if such definitions do not exist.
- The JD Edwards Enterprise One configuration has been simplified and now uses a dedicated class loader. It is no longer required to list all of the jar files in the **Magic.ini** classpath. If you are using the new class loader, make sure to exclude the **j2ee1_3.jar** from the **jar** folder. Refer to the **Configuring the JD Edwards Enterprise One Connector** topic in the *Magic xpi Help* for specific instructions.
- Due to major changes in the Salesforce metadata API, you will have to reconfigure the Metadata CRUD method's **Update** and **Delete** operations.

Licensing

To use Magic xpi 4.5, you need to obtain version 4.x licenses. To obtain Magic xpi licenses, please contact your local Magic Software representative.

Prerequisite Changes

.NET Framework

The Studio module of Magic xpi is based on the .NET Framework. The following .NET Framework requirements apply:

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

Studio Installation

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

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Internal Database Changes

Writing and reading from the internal database is done using JDBC and not by using the Magic xpa gateways. Magic xpi provides the JDBC driver (JAR file) for MSSQL databases. To work with any of the other databases:

1. Copy your JDBC drivers to the following folder: **<Magic xpi 4.5>\Runtime\java\DatabaseDrivers**.

2. Configure the database settings in the **Runtime\config\datasource.xml** file to match your DBMS. Make sure that the **driverClassName** defined in the **datasource.xml** is compatible with the JDBC driver.

New Features, Feature Enhancements and Behavior Changes

New and Improved Studio

The new Visual Studio-based Studio offers an intuitive and user-friendly experience. The new Studio offers a variety of enhancements, including:

- Docking capabilities.
- A MiniMap to enable you to navigate quickly within long or wide flows.
- A Toolbox pane that replaces the **Components** pane. All the Magic xpi components and utilities appear in this pane, grouped together under specific categories.
- A Solution Explorer that replaces the **Navigation** pane.
- A dedicated **Properties** pane that displays the properties of whichever part of the project that you are parked on.
- A **Settings** dialog box that includes the Resource Repository, Service Repository, and **IFS Settings** dialog box from Magic xpi 4.1. This also includes the **Magic.ini** file settings. This can also be accessed as a stand-alone editor, allowing you to configure your project without opening the Magic xpi Studio.
- A combined search functionality. The **Find Name** and **Text Search** of Magic xpi 4.1 were combined into the **Find Text** dialog box.
- The copy and paste mechanism has been enhanced, including the support of multiple pasting of steps and branches.
- Non-English characters can be used in the names of business processes, flows, and steps, as well as in descriptions. The names of projects, resources, services and variables can only be written in English characters or the language of your machine.

Behavior Changes

- In Magic xpi 4.1, since the **Magic.ini** file took precedence in the Studio and the **ifs.ini** file took precedence in Runtime, you had to maintain your environment variables in both files. Now, in Magic xpi 4.5, the **ifs.ini** file always takes precedence over the **Magic.ini** file, both in the Studio and in Runtime.
- The keyboard combination for opening an existing project is now **Ctrl+SHIFT+O** instead of **Ctrl+O**. The keyboard combination for creating a new project is now **Ctrl+SHIFT+N** instead of **Ctrl+N**.
- Inserting a flow or business process is now done using the **Project > Add** menu.
- The default project location is now under your **My Documents** directory, in the **Magic** folder.
- Setting how the Studio opens is done using the **At Startup** drop-down list. This is accessed by going to the **Tools** menu, clicking **Options**, and selecting **Startup** in the **Environment** section. This is similar to the **Startup As** property that was available in Magic xpi 4.1's **Customize** dialog box.
- The disabling, enabling, and deactivating of individual flows is now done through that flow's **Properties** pane.

- Flow IDs in Magic xpi 4.5 are unique to a specific project, whereas in Magic xpi 4.1 flow IDs were unique to a business process.
- The IFC Model is now available as an option in the **XML Properties**. It is available for components with a static XML interface.
- The **Clear Mode** property has been moved to the **Project Properties** window, and can now be used to clear ODS information only.
- Defining a flat file structure is done using the **Lines** property.
- The following functions were added to the Expression Editor:
    o ClientCertificateAdd
    o ClientCertificateDiscard
    o RqHTTPHeader
    o UTCDate
    o UTCmTime
    o UTCTime

Magic Monitor

- The Magic Monitor now offers all of the monitor capabilities for Magic xpi, including the new support for the Activity Log, ODS, and BAM.
- In addition, Activity Log messages can now be filtered when working offline.
- You can click the new **Messages History Export** button to generate and download a zip file containing a CSV file that holds all the messages related to the selected project.
- The Magic Monitor lets you force the immediate invocation of a Scheduler on a specific flow, without changing the next trigger invocation time, once the project is running again. You do this by selecting **Invoke** from the Scheduler's context menu.
- The Magic Monitor allows new drill-down capabilities based on the FSID, Root FSID and Flow Request ID.

Behavior Changes

- In the Monitor, during runtime, the server deletes all ODS records belonging to a completed FSID. In Magic xpi 4.1, these records appeared even when they were no longer active.
- BLOB variables in Save Message steps can now be saved to the file system instead of the database. The **FILELOCATION** column in the **ifs_actlog** table stores the value from the **[MAGIC_IBOLT]ActivityBlobFileLocation** flag concatenated with the file name when the project loads. The BLOB will be shown in the Magic Monitor whether it is saved in the BLOB variable or in the file system. If the BLOB is saved in the file system, the Magic Monitor will search the BLOB according to the **FILELOCATION** column. When clearing the Activity Log from the Magic Monitor, these BLOBs will be deleted whether they are saved to the database or on the disk.

Enhanced Connector Builder

The SDK from previous versions has been enhanced. The new Connector Builder lets 3GL programmers build, distribute and sell professional looking connectors. The Connector Builder offers:

- The ability to combine steps and triggers in a single connector
- Out-of-the-box support for the Magic xpi Studio utilities
- Customizable UI configuration for both steps and triggers
- Data Mapper support for a dynamic step
- Java and .NET runtime technology
- Runtime isolation via a class loader
- Licensing
- Encryption

For an in-depth explanation of how to use the Connector Builder, see the *Magic xpi Connector Builder* PDF in the Magic xpi installation.

Data Mapper Enhancements

JSON Support

The Data Mapper can now work with JSON schemas.

Default Database Schemas

- You can now determine which database schema will be loaded by default from the cache (offline) and which will attempt to connect to the database in order to refresh its structure (online).
- You can refresh multiple database schemas by clicking the ⚙ button on the toolbar or by clicking the **Edit** menu and selecting **Refresh Database Schemas**.

WCF Client Connector

The WCF Client connector generates C# code to access .dll files and schemas for later use during runtime. This new connector provides easy and secure access and consumption to a large library of services based on this worldwide standard.

Dynamics AX 2012 Connector

The Dynamics AX 2012 connector is now offered as a built-in connector in Magic xpi 4.5.

MQTT Connector

The MQTT connector lets you work with MQ Telemetry Transport (MQTT), a lightweight network protocol used for publish-subscribe messaging between devices.

Dynamics CRM Connector Enhancement

The Dynamics CRM supports additional authentication types. It is now a .NET connector for on-premise Dynamics CRM servers and not a Java connector as in previous versions. For online servers, it is still a Java connector.

Note: When you set the Dynamics CRM resource's **Secured Connection** property to **Yes** and the **Deployment Type** to **On Premise**, set the **DCRMAD** flag in the **Magic.ini** file's **[MAGIC_IBOLT]** section to **Y**.

SAP R/3 Connector Enhancement

The SAP R/3 connector enables communication over Secure Network Connections (SNC).

JD Edwards Enterprise One Jar Files

Magic xpi is now using a dedicated class loader for loading all of the JD Edwards Enterprise One jar files. It is no longer necessary to specify these jar files in the classpath (either the machine classpath or the **Magic.ini** classpath) and no longer necessary to copy them to the Magic xpi folder. The JDE connector now has a dedicated folder for all of its jar files.

Java Class Connector Jar Files

When using the Java Class connector, the Studio no longer loads the **Magic.ini** file's **classpath**. Instead, you need to list the jar files in the machine's **classpath** or copy the jar files to the **runtime\java\lib** folder.

Additional External Services

- A Flow Enablement service. Now the flow enablement can be defined as an external service and can be modified and affect a project without the need to rebuild the project.
- A Scheduler service. Now the scheduler can be defined as an external service and can be modified and affect a project without the need to rebuild the project.

SFTP Support

Magic xpi 4.5 offers support for the SFTP protocol in addition to the FTP protocol.

Salesforce TLS 1.2 Support

Magic xpi now supports the TLS 1.2 encryption protocol for the Salesforce connector.

Windows® 10 Support

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

An Additional Space and Processing Unit

In addition to the existing MAGIC_SPACE, Magic xpi now includes

- A MAGIC_INFO space that holds the Activity Log as well as statistics for the monitor and ODS data.
- An MGMirror processing unit, which is responsible for managing the write operation of the Activity Log and ODS data to the database.

Magic xpa User-Defined Functions

You can now use Magic xpa user-defined functions in Magic xpi.

Debugger Enhancements

The Breakpoints and Suspends pane is now accessible during development.

Behavior Changes

- Reconnecting the Debugger in the Studio: In Magic xpi 4.5, the Studio will try to reconnect when there are connectivity problems between the Debugger and the runtime project, according to a number of rules, such as several retries and timeouts. In Magic xpi 4.1, for these types of problems, the Studio terminated the debugging session.
- Starting the Debugger is done by pressing **F5** instead of **SHIFT+F7**.
- When a project is running in Debug mode and the Studio is terminated, after the Studio stops publishing that it is alive, the running project will terminate internally. This prevents projects in debug mode running without having a studio controlling them. In addition, when attaching to a running project and moving it into Debug mode, if the Studio stops publishing that it is alive, the project will move back to production mode.

Error Retry Enhancement

If the Magic xpi Server does not succeed in executing a step before reaching the retry limit, the last error received is now automatically held in the **C.sys.ErrorCode** context variable. This gives you the ability to check, in the next step's condition, if an error has occurred. You can clear the error from the variable by using the **ifs.ini** file's new **StepRetryClearError** flag. Setting the **StepRetryClearError** flag to **Y** will give you the same behavior as Magic xpi 4.1 In addition, you can control the delay between retries with the ifs.ini file's new **StepRetryDelayTnSec** flag.

Version Control Usage

Magic xpi supports version control for versioning. If there is a change to the project tree you need to get the entire project using the Version Control provider's Explorer.

Terminology Changes

The following terms were changed:

- Services to utilities: This is referring to the Services that were in the Components pane in Magic xpi 4.1.
- The uniPaaS component has been renamed to the Magic xpa component.
- The System i connector has been renamed to the IBM i connector.
- The SugarCRM connector has been renamed to the Sugar connector.
- The **Always use the new Picture** node property was renamed to **Always Use Custom Picture**.
- The **Exception Handling Flow** property in database destinations was renamed to **Error Handling Flow**.
- The project's executable extension was changed from **.ibs** to **.mgxpiproj**.
- Compound Level Computation is now called Multi Update.
- Cross Reference has been renamed to Find Reference.

Removed Functionality

The following features are no longer supported in Magic xpi:

- Rights Repository
- Security Groups Repository
- Users Repository
- Project Packager
- COM component: In migrated projects, during runtime, the COM triggers will be removed.
- EJB component: In migrated projects, during runtime, the EJB steps will be treated as NOP steps and triggers will be removed.
- Domino component as a trigger: In migrated projects, during runtime, the Domino triggers will be removed.
- W4 component: In migrated projects, during runtime, the W4 steps will be treated as NOP steps and triggers will be removed.
- ItemField component: In migrated projects, during runtime, ItemField components will be removed.
- Legacy monitor including the **ifm.ini** file
- Text Area tool

- The Find Reference feature is not available for resources and services. To find where a resource or service is used, use the **Find Text** option on the current project.
- WS bridge
- SharedValGet and SharedValSet functions
- Magic xpi 4.5 is no longer compatible with the Windows® 2003 operating system. This is because, by default, Microsoft does not support .NET Framework 4.5.2 (required by Magic xpi 4.5) with the Windows® 2003 operating system.
- The **Project Rename** option has been removed. To rename a project, you can use the **Save Copy As** option instead.
- Object names cannot contain any of the following characters: [space] ~ ` ! @ # , % ^ & * - = + ( ) { } [ ] | " ? / \ < > ; or more than one dot (.).

Currently Not Supported Features

The following features are currently not supported in Magic xpi:

- Import/Export
- Printing a project
- The **Customize** dialog box
- UDDI Server
- JSON schema elements that contain the word: **not**
- Topology and Business Process editors

Known Issues

The following are known issues in the current version of Magic xpi:

- When using the Java Class connector, the Studio no longer loads the **Magic.ini** file's **classpath**. Instead, you need to list the jar files in the machine's **classpath** or copy the jar files to th **runtime\java\lib** folder.
- Currently, Magic xpi supports source control for versioning. When there is a change to the project tree you need to get the entire project using the Source Control provider's Explorer.
- Setting the flow to suspended does not automatically check out the flow.
- The **Open with Editor** context menu option is not supported for mapper files.
- Environment variables are not currently supported for the Notes DB resource's **Host Name** property.
- The stand-alone editor can only edit resources and services if the **resources.xml** and **services.xml** files are located in the project's folder.
- For Numeric pictures, the **Picture** property in the Node Properties (for Data Mappers) can only contain numbers, decimal points and the letter N for negatives, such as N12.4.
- The Validation component's **Empty Field** method returns a False value when the **Input Value** parameter contains a string with spaces.

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.