

Magic xpi 4.0a Release Notes



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Important Version Upgrade Information

Installation

It is strongly advised that you install a new copy of Magic xpi 4.0a instead of upgrading your existing Magic xpi 4.0 installation.

Encoding

As a result of the encoding enhancements (described below), it is highly recommended that you read the **Content Encoding Handling** section of the *Magic xpi Help* before migrating projects from Magic xpi 3.4 or 4.0 to Magic xpi 4.0a. Familiarizing yourself with the enhancements will help avoid unexpected results. For example, scenarios that previously generated ANSI output may now generate Unicode output. The content is not harmed, but the encoding is different.

New Features, Feature Enhancements and Behavior Changes

SugarCRM Connector

Magic xpi 4.0a contains the SugarCRM connector, which enables a magic xpi project to work with the SugarCRM application.

Content Encoding

Magic xpi 4.0a includes the following new functions to use for encoding different content types:

- **BlobAddBOM**
- **BlobRemoveBOM**
- **UTF8fromUnicode**
- **UTF8toUnicode**

The Data Mapper's **Node Properties** dialog box's **General** tab now contains a **Content Encoding** property. This lets you define the encoding of nodes' variables when you select **Call Flow** as a Destination type.

In addition, the Flow Data Configuration dialog box contains a new **Encoding** column. Here, you can indicate the encoding type for updated BLOB and Alpha variables.

FlowTimeoutGraceTime= Flag

A new flag named **FlowTimeoutGraceTime=** has been added to Magic xpi's **ifs.ini** file. This flag lets you determine the length of time (in seconds) that elapses between the end of the flow timeout and the termination of the worker thread.

UseDBdateFormat= Flag

A new flag named **UseDBdateFormat=** has been added to the **[MAGIC_IBOLT]** section of Magic xpi's **Magic.ini** file. This flag lets you determine the format of the Oracle DB string that is returned from the database SELECT statement.

SharePoint Connector Online Support

The Magic xpi SharePoint connector's resource settings now allow you to specify which SharePoint deployment type you want to work with.

SAP R/3 and SAP A1 Message Server Support

When working with Magic xpi's SAP R/3 and SAP A1 connectors, you can now determine which connection type the connectors' resources will use.

SAP R/3 and SAP A1 Implementation

From now on, only the JCO-based implementation for the SAP R/3 and SAP A1 connectors is available.

SAP Business One Connector Enhancement

Magic xpi's SAP Business One 8.8 connector now supports MSSQL 2012.

Data Mapper Dynamic Error Behavior

The Magic xpi Data Mapper's **Error behavior** property has a new **Dynamic** option. This causes the step execution to end immediately if the error flow ends in an error. If the error flow clears the error, the flow will continue.

Salesforce – Caching

Magic xpi's Salesforce resource has a new **Connection Caching Level** parameter. This provides a caching mechanism to enhance performance and to reduce the use of Salesforce API calls.

Conversion Table – Refresh Conversions

A static conversion table's values are now stored in the Space, and are shared by all project servers.

Refreshing a Fixed License

You can now instruct workers to recapture new fixed license threads if you shut down a server where one or more of its workers are using a fixed license thread or if such a server is inaccessible.

Controlling GigaSpaces Ports

You can now set fixed ports for working with GigaSpaces, and are no longer restricted to using the default ports.

Salesforce API Version Upgrade

The Salesforce connector now supports API 28 and above.

Directory Scanner Trigger FTP Default

The default interval when selecting **FTP** as the **Source** property is five minutes (300,000 milliseconds).

Salesforce Connector Return Flag

A new flag called **Created** was added to the generated XSD's return section for working with the Salesforce connector's **Upsert** operation.

Web Service Provider Configurations

The Magic xpi Systinet installation now configures the Space and other requester-related settings according to the **Mgreq.ini** file defined in the Systinet scripts.

NIC_ADDR Property Addition

The **NIC_ADDR** property has been added to Magic.xpi's **magicxpi-setenv.bat** file.

Magic xpi Step-by-Step Video Clips

Magic now offers a collection of video clips that demonstrate how to use various Magic xpi features. New video clips are being added to our YouTube channel on an ongoing basis. To see the video clips, click [here](#).



Fixed Issues

- 314590/233445/430172** – A Scheduler with more than 16 entries did not work properly.
- 293102** – When the Invoke Flow service was used as a root step, the "Invalid project file" error was written to the **ifs.log** file and the project did not run.
- 138114** – When working with the SAP R/3 connector, an invalid schema was generated when special characters such as an ampersand (&) were used in the IDoc fields' names.
- 166801** – When several SAP R/3 triggers were configured with different program IDs, sent IDocs were always received by the first trigger that was configured with the first program ID.
- 314737** – The manual deployment of the Space failed.
- 439881** – The Data Mapper's Update operation failed when accessing a database with a Unicode field.
- 132693** – When working with Web services, sending or receiving attachments resulted in a timeout error.
- 303726** – The Web Service provider's header XML was missing a space, rendering the XML illegal.
- 437357** – When reading a text or HTML email, the HTML content is received as an attachment and not as part of the email body.
- 321547** – When working with the JD Edwards Enterprise One connector, an invalid schema was generated for the MBFCustomerMaster BSFN.
- 936402** – The Data Mapper's XML validation check failed when dealing with valid XMLs.
- 323376** – The uniPaaS RqHTTPStatusCode function did not work.
- 291925** – When setting the TCP Listener's port value with an environment variable, the service did not work.
- 497447** – The Data Mapper's XML connections were lost when the namespace alias was changed.
- 443989** – When using the Data Mapper with an MSSQL database, a "Could not create the project's ecf file" error was generated in some circumstances.
- 320362** – The **Flow Properties** dialog box's **Enablement** tab only worked with up to eight list entries.
- 570523** – The BlobSize function's evaluation resulted in a crash under a specific scenario.
- 410970** – The build process failed after migration from V2.5.
- 430018** – When installing Magic xpi with unicast discovery, the **LookupLocators** property was not updated.
- 280995** – When performing an Insert operation with the Data Mapper, there were duplicate database records under a specific scenario.
- 178992** – When deploying projects that were defined to run automatically on a clustered environment, two services tried to deploy the Space at the same time. In addition, the services also started the projects according to the definitions in the **projectsStartup.xml** file.
- 292501** – When using the Data Mapper to create a UTF-8 flat file, a UTF-16 BOM was added to UTF-8 data when the XML was saved using the Bib2File function.
- 557817** – When the Web requester sent a request parameter containing a single quote to the HTTP trigger, no value was received.

308420 – Breakpoints were cleared from the Space after the first execution of the Debugger.

443125 – When running the **Mgxpilookupupdater.exe** file to use the IP addresses of two locators, the **magicxpi-setenv.bat** file's **LOOKUPLOCATORS** value was surrounded by double quotes. This caused the GSA startup to fail.

422797 – When the Salesforce connector queried Salesforce for an object and its child object, the child object's unique ID was not returned.

436708 – If a Salesforce password contained percentage signs (%), the login process failed.

871933 – When working with the Salesforce connector's Bulk API, there were missing records when data contained special characters.

285111 – The **projectsStartup.xml.example** file in the **<Magic xpi installation>\config** folder had the wrong structure.

596364 – When upgrading a specific project, SAPB1 8.8 errors were not shown in the error list.

153675 – When using Web services as a consumer, previously configured steps lost their configuration after WSDL reload.

320076 – The SAP R/3 connector's RFC schema was not created properly when one of the import parameters was a table type (table of strings).

539639 – In some scenarios, the XML received in the trigger did not match the structure in the XSD when working with the SAP R/3 connector's IDoc interface.

865743 – The SAP R/3 connector's RFC interface did not work when there were no input parameters (no mappings in the Data Mapper).

188480 – When using Web services as a consumer, requests were truncated when sending a large request that required Windows authentication.

301391 – When debugging a flow containing an Invoke Flow service with a breakpoint, steps lost their position when the breakpoint was in the invoked flow.

121825 – When working with the Data Mapper, two percentage signs (%) in an SQL statement resulted in an error.

176896 – When Alpha data was received from a Web Service trigger, and its parameters were passed to parallel or stand-alone steps, only the first character was passed.

291700 – Web service triggers did not update the **C.sys.LastTriggerName** variable.

298992 – When working with a Web service as a provider, requests failed and the **java.lang.ClassCastException** error was generated in a specific scenario.

255484 – The Dynamics CRM connector generated the **updateOperation (Exception): For input string: ""** error when sending NULL() to a nullable=true field.

318888 – When trying to set a label using the MSMQ component's **Advanced Send** method (with the **Delivery** parameter set to **Recoverable** and the **App Specific** parameter set to any numeric value), the label was not sent.

295518 – While navigating a project in the Monitor at the flow's step level, the components were not always visible.

307773 – In the Magic xpi installation, the **Mgxpilookup.bat** file was configured to load all of the jars from the **javallib** folder, causing an error. Also, Magic xpi could not connect to the Space if JDE jar files were also present in the **javallib** folder.

432356 – The MSMQ component's Help topic did not explain that you could not read data from the queue if the service was defined as the local system account.

159242 – If an email address with a minus symbol was defined in the **Email** component's **Project Properties** dialog box's **Environment** tab, an error occurred.

305174 – In an error flow that was called from a trigger error, the values of the **C.sys.XXXXX** variables were empty.

3597 – In the Server and Monitor-only installation, the XML Handling component did not work.

797661 – The **MgSQLDesc.dll** file was missing in the Server and Monitor-only installation.

391542 – The Microsoft Excel connector did not create an **.xlsx** file if no changes were made in the worksheets. But if the **.xls** file extension was selected in the same scenario, the file was created.

296457 – When using the Data Mapper with an ODBC database, a MySQL source with a **DATE_FORMAT** function in the SQL query caused the wrong display in the mapping window.

484043 – If a Data Mapper's XML Destination contained only expressions and no mappings, all the Destination values were deleted after a project was rebuilt.

257031 – If a library name was changed (updated) in SharePoint, a failure occurred during runtime if a document was updated in this library in previously configured steps.

632589 – When validating an expression in the Data Mapper with a path containing the word "date", the string "date" was changed to "Date". This rendered the path invalid.

968279 – When working with the File Management component's **Create File** and **Write File** methods to create a file with binary content, such as ZIP, the file was corrupted.

287780/434175 – The Debugger failed to stop on breakpoints in some installations.

318588 – The Data Mapper's single instance filter did not work when creating a filter based on an attribute.

434062 – When working with a Database Source or Destination, the Data Mapper did not pass a variable that held a negative value in the WHERE clause.

416268 – When performing a Task query with the Exchange 2007 connector, there was a comma (,) at the end of the Companies upon completion of the query.

712948 – When performing an Add operation with the Exchange 2007 connector, "ChangeKey" was not returned as output.

630722 – The Email component's **Quick Receive** method did not work even for a valid email address if the "from" address contained illegal characters.

713335 – The Exchange 2007 connector's trigger XSD was missing.

82323 – When working with the WebSphere MQ component's **Advanced Quick Get** and **Advanced Get** methods, a file of 32K was generated with NULL data appended to actual data when a BLOB type was used and the **Save to File** parameter was set to **Yes**.

110817 – The System i connector's **Program Call** method ended with a 'Decimal-data error occurred' error if a program's **Argument Type** parameter was set to **Zoned**.

318953 – A Magic xpi project removed the second **LookupLocators** entry value from the **Magic.ini** file upon startup.

310415 – The Salesforce connector's **Always Create Nodes** check box was not selected by default. As a result, it was not possible to pass null values.

164664 – When working with the Data Mapper, an SQL statement containing TAB generated the "Error 9805: No value given for one or more required parameters." error at runtime.

- 284304** – When attempting to use the Salesforce connector’s getObjectIDbyField function with a Numeric field value, an error occurred.
- 100229** – The Salesforce connector’s **Bulk Create** operation did not permit the insertion of null numeric values.
- 292530** – The Salesforce connector trigger’s component logging did not work.
- 301730** – The Salesforce connector’s **Upsert** operation did not work if the **Batch Size** parameter was set to **1**.
- 306189** – The Salesforce connector’s **Upsert** operation’s result XML was missing information about the Yes/No state of created objects.
- 662348** – When validating the Salesforce resource, the "Invalid pseudo reference!" error was generated when the resource was added from the Service Repository.
- 712550** – When working with the Salesforce connector, the schema that was generated for the child objects defined an element called 'Fields', while the actual XML that was produced used an element called 'fields'.
- 720865** – When the Salesforce connector’s **Bulk Create** operation was performed on an entity with three long text fields (32,000), the batch CSV file was not created and the new entities were not created in Salesforce.
- 881260** – Negative values for Numeric fields could not be sent with the Salesforce connector’s **Bulk** operations.
- 998643** – If the Salesforce connector’s **Bulk** operations contained a number sign (#) as a field format, a record was not inserted.
- 740982** – The FTP component’s **Delete File** method did not work with a VMS FTP server.
- 175655** – When configuring a Web service as a consumer, it was possible to set the **Security Level** parameter to **None** and the **Authentication Type** parameter to **Basic**, which were meaningless values in this context.
- 597895** – A request to a Web service containing an XML encoded in UTF-8 (but without a BOM) was sent incorrectly.
- 638295** – Consuming an external Web service using a URL path containing spaces returned a fault.
- 288728** – When working with a Web services header, the header was received as Unicode without a UTF-16 encoding declaration.
- 425203** – When using a Web requester to send an HTTP request to Magic xpi 4.0, non-ASCII characters were shown as '?' in the **C.HTTP_Body** variable.
- 465818** – When a project with a Web services consumer (located under a shared folder instead of under the **projects** folder) was deployed in a clustered environment on the same machine, and the project contained a Web Services service as a step, the path to the jar file in the classpath was truncated and the Web services call failed.
- 311112** – The **C:\logs** folder was created when **Magicxpi_deploy.bat** was started manually.
- 165206** – The Studio crashed when trying to import a flow on a Windows 8 machine.
- 413174** – License details were not refreshed in the Space if a license with the same serial number, but with an extended expiration date, was loaded.

Magic xpi 4.0 New Features, Feature Enhancements and Behavior Changes

Enhanced Architecture

Magic xpi 4.0 provides an enhanced and robust architecture. The messaging layer has been replaced with the award winning XAP middleware from GigaSpaces, which uses a distributed, self healing and scalable architecture. These benefits directly enhance Magic xpi 4.0 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.

For more information about Magic xpi 4.0's architecture, please have a look at the [Magic xpi 4.0 Architecture](#) concept paper and the **Quick Start Guide**, which you can find in the **help** folder.

Many of the changes to this version were made to accommodate the new architecture.

Highlights

- **Self Healing** – Health monitoring of all Magic xpi entities, such as servers, workers and triggers, is now handled in the Space. These entities are automatically recovered if they fail to report their status.

The Recovery mechanism of flows was enhanced as well to give a robust solution for data recovery.

- **Scalability** – In Magic xpi 4.0's new architecture, the project entity is no longer bound to a single process. The project is now an entity in the Space, which means that many Magic xpi processes can serve the same project.

All operations and data that forced the Project = Server equation are now handled in the Space and, as such, are shared by all Magic xpi servers that run the project. A few examples are Locking, Global, and Business Process (BP) variables, and so on.

- **Management** – Magic xpi 4.0 introduces an **Advanced Monitoring Console**, which displays the project's real time data. The Monitor displays information about the project's servers, the server's workers, the status of each worker, the **Max instance** values of each flow, the license consumption, the trigger's state, and much more.

In addition, it is possible to add more servers to a project and shut down individual servers.

Monitor Changes

In addition to the new **Advanced Monitoring Console**, some of the columns and parameters in the Monitor have been changed and others have been removed. For additional information, please see the [What's Different in Magic xpi 4.0](#) topic in the *Magic xpi Help*.

Debugger Changes

The **Attach to Server** dialog box has been renamed to **Attach to Project**.

The **Space Name** and **Lookup Group** parameters have been added to this dialog box, and the **Server Address** and **Server Password** parameters have been removed.

Licensing

The license mechanism now supports a combination of floating and fixed license thread allocation.

A new property called **ReservedLicenseThreads** was introduced to allow the user to reserve a fixed amount of threads to a project.

Calling a Flow Using the uniPaaS Call Remote Operation

To call a flow using the uniPaaS Call Remote operation, follow these steps:

1. From Magic xpi 4.0, the following jar files need to be made available in the classpath (either in the machine's environment variable or in the CLASSPATH entry in the **Magic.ini** file):
 - From **<magic xpi>\javallib**:
 - mgxpi-commons.jar
 - log-commons-logging.jar
 - uniRequester.jar
 - mgxpi-gs.jar
 - log4j-1.2.16.jar
 - From **<magic xpi>GigaSpaces\lib\required**:
 - All the jar files

Note: If you are using the Magic xpi 4.0 installation for your uniPaaS development, the jars required for GigaSpaces are already defined in the **Magic.ini** file's CLASSPATH entry. You should then add the jars that are located under the **<magic xpi>\javallib** defined above.

2. From uniPaaS, create a new Magic xpi type server. In the **Server Address** field, define the following value:

```
SpaceName=MAGIC_SPACE&LookupGroupName=<name>&LookupLocators=<host:[port]>
```

Note: The **LookupGroupName** and/or the **LookupLocators** values should be taken from the Magic xpi **Magic.ini** file. If you do not have a value for the **LookupLocators** property, the entry should still exist with the equal sign (=) at the end.

3. Define a new service, and choose the server that you created in the previous step.
4. Set the Magic xpi project name in the **Endpoint** field.
5. You can then use the Call Remote operation with the service that you defined.

Configuration File Changes

The **Mgrqispi.dll** Web requester has been replaced with a new Web requester called **MgWebRequester.dll**.

Customizing the Magic xpi Studio

The **Customize** dialog box's **General** tab now contains read-only **Space Name** and **Lookup Group** fields.

Data Mapper – 32K Limitation Removed

The 32K row limitation was removed from the Data Mapper when creating a flat file.

Office 365 Support – Dynamics CRM and SharePoint

Office 365 is now supported in the Dynamics CRM and SharePoint connectors.

Similar to the Dynamics CRM resource, the SharePoint resource now has a **Deployment Type** parameter for selecting **On Premise** or **On Demand**.

The SharePoint resource now enables selecting a site from the new Sites list.

Salesforce Connector Enhancements

In Bulk operations, the field picture and type can now be changed in the Objects fields screen.

GigaSpaces-Related Memory Settings

Memory Allocation Errors

From Magic xpi 4.0, any data from triggers and any data sent to parallel or stand alone branches goes through the Magic Space. This means that the default memory allocation settings may not be enough if a very large amount of content is sent, or if external triggers such as HTTP are being used.

The memory allocation settings for the various GigaSpaces entities can be found in the following location: **<magic xpi>\GigaSpaces\bin\magicxpi-gs-agent.bat**.

The GigaSpaces container (GSC) that holds the data in the Space is currently configured to 256MB. If you encounter any memory allocation errors, you should consider allocating at least 512MB to the GSC by changing the following line:

```
set GSC_JAVA_OPTIONS=-Xmx256m -  
Dcom.magicsoftware.ibolt.home="%MAGIC_XPI_HOME%"
```

To:

```
set GSC_JAVA_OPTIONS=-Xmx512m -  
Dcom.magicsoftware.ibolt.home="%MAGIC_XPI_HOME%"
```



Development Machine Settings

Currently, the default memory and clustering settings are configured for a production machine. In a development machine, the settings can be changed to decrease the application's footprint.

The recommended settings for the `<magic xpi>\GigaSpaces\bin\magicxpi-gs-agent.bat` file are as follows.

Memory

```
set GSA_JAVA_OPTIONS=-Xmx64m
set GSC_JAVA_OPTIONS=-Xmx256m -
Dcom.magicsoftware.ibolt.home="%MAGIC_XPI_HOME%"
set GSM_JAVA_OPTIONS=-Xmx64m
set LUS_JAVA_OPTIONS=-Xmx64m
```

In the line starting with `call gs-agent.bat`, set `gsa.gsc` to 1 instead of 2.

For example:

```
call gs-agent.bat gsa.gsc 1 gsa.global.gsm 1 gsa.global.lus 1 gsa.mgdeploy 1
```

Clustering

Clustering is defined in the `<magic xpi>\config\magicxpi_sla.xml` file.

By default, the Space is defined with two partitions and a backup for each partition. For a development machine, a single partition should be enough and the backup is therefore not required.

Use the following as the content of the `magicxpi_sla.xml` file:

```
<beans xmlns="http://www.springframework.org/schema/beans"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:os-
sla="http://www.openspaces.org/schema/sla"
xsi:schemaLocation="http://www.springframework.org/schema/beans
http://www.springframework.org/schema/beans/spring-beans-3.0.xsd
http://www.openspaces.org/schema/sla
http://www.openspaces.org/schema/8.0/sla/openspaces-sla.xsd">
    <os-sla:sla cluster-schema="partitioned-sync2backup" number-of-
instances="1" number-of-backups="0" max-instances-per-vm="1">
        </os-sla:sla>
</beans>
```

Non-Supported Features

The following features are no longer supported in Magic xpi:

- Two phase processing
- Routing

The following features are currently not supported in Magic xpi 4.0:

- The WS bridge
- The Web Monitor
- The SharedValGet and SharedValSet functions. For additional information, please see the [Migration from V3.x to V4](#) topic in the *Magic xpi Help*.
- The COM component
- The EJB component
- The Domino component as a trigger
- The W4 connector
- Outputting a form to a requester I/O device using the uniPaaS component

Magic xpi 3.x Release Notes

For information about Magic xpi 3.x releases, see the **PastReleaseNotes.pdf** file included in the Magic xpi 4.0 installation.

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