DBMoto Release Notes Version 8.x

Version	Date	Changes
8.5.3.3	10/14/15	**General/Common** • Fixed an issue with the Oracle Log Reader that causes a record to be skipped in log reads between mirroring sessions. **Management Center** • Fixed a problem that occurred when opening metadata properties before loading the metadata, with the Data Replicator running. • Fixed an issue that occurred when selecting tables from Oracle: views were not displayed. • Fixed a problem with replications using triggers: In the Validate Replications dialog, the generate script function was generating a null reference exception. • Fixed a problem in the Create Table Wizard, where the error "The column scale cannot be greater than the precision" occured when changing scale on Oracle timestamp columns. **Data Replicator** • Improved messaging when an error occurred while executing a mapping expression and the field name was incorrect. • Fixed a problem that occurred when replicating to MySQL: the datetime/timestamp millisecond became 0 in MySQL. • Fixed a problem in replicating from Oracle where an error occurred when applying mapping with decimal precision greater than 28 using machines with different language settings. **Other** • DBMoto makes use of the FastColoredTextBox class without changes. License and Copyright.
8.5.2.7	8/31/15	**General/Common** • Fixed a problem with the Transaction Latency Threshold. The value now is saved properly in the DBMoto.server.config. **Management Center** • Fixed problem in the Metadata Custom Restore. The requested operation was not completed because the metadata was modified by another user. • Fixed "Connection timeout" and "Isolation level" tokens inside the connection string for the SAP HANA .Net Data Provider.

		- Fixed a problem in the Global Event Alerts where the value for "Reached Max Data Replicator Downtime" was not properly saved. - Fixed a problem in the Event Alerts where, when scheduling a Replication Down alert, it was also signaled on refresh replications. - Fixed a problem in the Multiple Replication Wizard that occurred when selecting triggers. The scheduling step had disabled fields. - Fixed a problem where a null column type was not managed properly causing the Management Center "Select Tables..." option to return "Object reference not set to an instance of an object." **Data Replicator** - Added support for new requirements inside the bulk copy class for the SAP HANA .Net data provider (1.0.90 and later) - Fixed a problem where inside a group the initial refresh was not working properly in some specific cases for PostgreSQL Database. - Fixed a MySQL Log Reader problem that threw an exception during mirroring replications if the user password was blank. - Fixed a problem with refresh when the target connection was a file. - Fixed a problem that occurred when refreshing to a target file with transaction information set to None. - Fixed a problem with PostgreSQL where sometimes the data type passed was not compatible (in particular for decimal data types when source database was Oracle). - Fixed a problem with skipped transactions that occurred in specific cases when there were tables with similar name in a group. **Other** DBMoto makes use of the [FastColoredTextBox](#) class without changes. [License and Copyright](#).
8.5.1.6	6/12/15	**General/Common** - Implemented transactional support (using triggers) for Microsoft Azure SQL Database. - Fixed a problem that occurred when attaching DBMoto log to an alert where the temporary log files are not removed. **Management Center** - Added support for import of Primary Key definitions from original tables in the Metadata Custom Restore Wizard and Export Replications Wizard. - Added support for import of CCSID definitions from original tables in the Metadata Custom Restore wizard. - Implemented Shift+F10 to expand a context menu (same as right click).

- Modified the replication scheduler to accept mirroring interruptions for more than 23:59:59, to allow interruptions to span for more than one day.
- Corrected captions in the Create Replication Wizard with Oracle sources and the Create Connection wizard with IBM DB2.
- Fixed a problem with the Oracle log reader implementation where there was an error on removing a replication: "System.InvalidOperationException: OracleCommand.CommandText is invalid."
- Fixed a compile expression error that occurred when the replication script had no empty rows before the ReplicationScript class header.
- Fixed a problem in the Metadata Custom Restore wizard where it did not import group information from the metadata backup.
- Fixed a problem in the in Metadata Custom Restore where the requested operation was not completed when the metadata was modified by another user.

Data Replicator

- Improved implementation of SAP HANA bulk insert feature. There is now no need to register the SAP HANA provider in the GAC using the specific version supported in DBMoto.
- For ORACLE Log Miner & Log Server transactional replications, increased the fractional part of timestamps (milliseconds) from 6 to 7 digits.
- Added a FetchSize property for Oracle replications to increase performance (especially in refresh mode).
- Improved performance for IBM DB2 UDB (v.9.7 and above) by using the TRUNCATE statement in place of DELETE for refresh replications.
- Added support for the GRAPHIC data type for Japanese CCSIDs.
- When using Microsoft SQL Server as a target, added a property to define UNICODE parameters by default for CHAR/VARCHAR columns.
- Fixed a problem with PostgreSQL Bulk Insert mode where there was an error processing the local cache.
- Fixed the following provider issues in PostgreSQL bulk insert: 1. System.InvalidOperationException was unhandled by user code; 2. Could not write to a BufferedStream while the read buffer was not empty if the underlying stream is not seekable; 3. Npgsql.NpgsqlException was unhandled.
  Message: An unhandled exception of type 'Npgsql.NpgsqlException' occurred in Npgsql.dll
- Investigated a memory leak issue using mirroring from Oracle with Oracle client 12c. The workaround is to enable Pooling in the provider properties.
- Fixed an issue where the Oracle log reader implementation reprocessed transactions when switching from refresh to mirroring.

		• Fixed an issue for replication to Oracle targets where an invalid number error was generated with decimal precision greater than 28 using different language settings. • Fixed an issue that caused the Oracle Log Server not to start when it was installed on a different system from DBMoto when the extra option SERVER_OUTPUT_LOG_FOLDER was used. • Fixed issues with the Oracle Log Server implementation that caused the value of CDB_CONNECTION_ID to be written incorrectly under certain conditions in the Transaction Setup dialog. • Fixed a problem in replication to Microsoft SQL Server where an "Invalid prepared statement" error was generated after a record execute error. • Fixed a problem with the MySql Log Reader which threw an exception during mirroring replications if the user password was blank. **Other** DBMoto makes use of the [FastColoredTextBox](#) class without changes. [License and Copyright](#).
8.5.0.11	2/20/15	**General/Common** • Added support for using IBM PureData/Netezza as a source database in mirroring. • Added a LogServer transactional replication option for Oracle • For PostgreSQL, added support for bulk insert when using refresh mode. To use bulk insert,.NET Provider must be registered using the Microsoft GAC tool. To change the version of the provider, specify the "newVersion" in the DBReplicator.exe.config file as follows: <dependentAssembly> <assemblyIdentity name="Npgsql" publicKeyToken="5d8b90d52f46fda7" culture="neutral"></assemblyIdentity> <bindingRedirect oldVersion="2.2.3.0" newVersion="2.2.3.0"></bindingRedirect> </dependentAssembly> • Added support for the new .Net data provider for SAP HANA. This requires revision 84 or later of the SAP HANA .NET provider (Sap.Data.Hana.v4.5.dll version 1.0.84.0 or later). To use future versions of the HANA provider, specify the "newVersion" in the DBReplicator.exe.config file as follows:s <dependentAssembly> <assemblyIdentity name="Sap.Data.Hana.v4.5" publicKeyToken="0326b8ea63db4bc4" culture="neutral" /> <bindingRedirect oldVersion="1.0.84.0" newVersion="1.0.84.0"/> </dependentAssembly> • For SAP Sybase ASE using .NET provider Sybase.AdoNet4.AseClient.dll with version 16.0 of Sybase ASE and above, added support for bulk insert during refresh mode. The bulk class of

the .Net provider (Sybase.AdoNet4.AseClient.dll) works the latest version of Sybase ASE (version 16.0). Bulk insert should be enabled on the Sybase ASE database, and the connection string should contain an extra token: "EnableBulkLoad=2;". charset should be set as follows: "Charset=iso_1;".

- Implemented support for Microsoft Azure SQL Database as a target or as a source in refresh replications.
- Fixed a problem where the ReadLastID() API returned System.Exception "Object reference not set to an instance of an object."
- Fixed a type mapping error that occurred when creating target table from an Oracle LOB type. The column was mapped to a varbinary(4000).
- Fixed an object reference exception that occurred when attempting to stop the Data Replicator with an invalid or expiring license.

Management Center

- Implemented DBMoto Dashboard tab with tools to show total records processed for a group or replications in a time range.
- Implemented a feature to show server or metadata modified status in the Management Center status bar.
- Modified a warning message when launching the Verifier. Added a "Do not show again" checkbox for the warning message: "This replication is currently enabled and running. The verification may be inaccurate."
- Added a "Yes To All" button to the Refresh Schema function in the Management Center.
- Masked the FTP Password field when inserted in the SAP HANA ODBC Connection settings.
- Improved the Custom Restore wizard. Now the user is asked to confirm whether to create replications when the source or the target table has a structure that does not match the one stored in the metadata.
- Introduced a connection parameter "Convert Zero Datetime" that works in conjunction with the "Allow Zero Datetime" property to manage MySQL ZeroDateTime values.
- Implemented functionality to customize CREATE TABLE statements when creating a target table.
- Fixed an issue so that IDENTITY columns are now shown properly in table properties for HP Vertica.
- Fixed a problem where the Create Table wizard was not correctly managing text fields with a size greater than 32000 when mapping to Vectorwise.
- Fixed a problem that occurred when re-adding a metadata from an existing SQL CE database. The error message was: "The requested operation was not completed because the metadata 'metadata' have been modified by another user. Refresh the Server Agent to resynchronize its content."

- Fixed an object reference exception that occurred after Server Agent restart, when selecting "Run Initial Refresh".
- Fixed a problem where the Alert option "Reached Max Quota for Traces" is defined in Mb, but the alert email reported values in Kb.
- Fixed a problem in MySQL where, when creating the target table, text type was mapped to varchar, and BLOB was mapped to varbinary.
- Fixed a problem where, when a license was expiring, the message showed an incorrect number of days before expiration.
- Fixed a problem in the Replication Properties dialog. When switching replication mode, in some cases the transactional log setup was not enforced.
- Fixed an issue where the Login Form did not save the password, even if the 'Remember Password' option was checked.
- Fixed a problem in synchronization where the number of processed records was not updated in the Replication Monitor during refresh operations.

Data Replicator

- Added support for Oracle LOBs.
- Added support for MySQL 5.6.
- Fixed an issue in the Data Replicator options. When setting the DBMoto log to database, it was not possible to specify a qualifier.
- Fixed an issue with reporting when a GROOM table is detected for an IBm PureData/Netezza source table.
- Fixed an issue that occurred when creating a table from MS SQL Server with fields defined as TINYINT. When running the Multiple Replications wizard or Create Table wizard, table creation failed with the error "configuration for enmTypes Tinyint cannot be found".
- Fixed a problem with the File Provider. While initializing refresh, an object reference exception was thrown if the target table did not contain primary keys.
- Fixed a problem in refresh replications to a File target connection where the Summary Info in the DBMoto.log showed a total number of records incremented by 1.
- DBMoto Data Replicator now supports bulk operations with the SAP HANA .Net Data Provider from version 1.0.84.0 (current release).
- Fixed a problem that occurred when using the specified string delimiter while parsing the input file.
- Fixed a problem with the Replication Manager thread where there was an exception accessing the Server Agent metadata.
- Fixed a syntax error in the bulk insert feature on MySQL versions prior to 5.0.38.
- Fixed a problem in the IBM DB2UDB log reader that caused mirroring from a table that included LOB columns to fail.

		• Fixed a problem that caused the MySQL Log Reader to throw an exception on tables that had a TEXT column. • Fixed a problem that caused the MySQL Log Reader to throw an exception on tables that had a CHAR column with length greater than 85. This issue only occurred with MySQL 5.6 and later. • Fixed a problem that occurred when replicating from Oracle in synchronization. The Log Miner threw the error "SCN range specified is invalid" right after starting the Data Replicator. • Fixed a problem with transactional replications from IBM DB2 for i. If the Host Code Page field was left blank, the following error was generated: "System.FormatException: Input string was not in a correct format." • Fixed a problem in the log reader for Oracle where a missing log file error occurred when multiple archived logs had the same STAMP value. • Fixed a problem in the log reader for IBM DB2 for i where GRAPHIC and VARGRAPHIC datatypes were not converted into text format both in refresh and mirroring. • Fixed a problem in the log reader for IBM DB2 LUW to avoid truncation of the fractional part of a TIMESTAMP column to milliseconds. **Other** DBMoto makes use of the FastColoredTextBox class without changes. License and Copyright.
8.2.2.9	10/30/14	**General/Common:** • Modified the behavior of Stop Trace in Service Monitor. The setting is now permanent and changes value to the trace settings in the Server Agent. • Fixed a problem with the Server Agent that occurred when the AlertManager was accessed by multiple threads. • Fixed an issue that occurred when serializing parameters in the log messages sent from the Data Replicator to the Server Agent. • Fixed a replication script compile error that occurred when upgrading metadata in version 8.2.1.10. • Fixed a problem in Oracle transactional replications. When the Oracle connection contained an explicit assembly path, a connection error was thrown when reading the last ID. **Management Center:** • Fixed an issue where in some cases the Management Center stayed unresponsive and the only possible action was killing the application. • Fixed a null reference exception that occurred in the Validate Replication dialog when selecting an IBM DB2 for i replication and clicking Rebuild. • Fixed a problem in the Data Replicator Options dialog where a Mail password was saved unencrypted in the DBMoto config file.

- Fixed a problem where, in some cases, the main interface is loaded with all panels closed.
- Fixed an error that occurred when running the Management Center through VNC remote viewer. A DELETE keypress event was sent to the application.
- Fixed an issue with the Replication wizard where, when selecting a group for the replication, the Execute Initial Refresh checkbox could not be disabled.

Data Replicator:

- Fixed a problem that occurred when an Oracle replication had a transaction ID not contained in the log files--no error was generated.
- Fixed a problem where in some cases a group was disabled if the target connection was temporarily unavailable.
- Fixed a problem in grouped replications where the replication IDs were not aligned at the end of a mirroring session.
- Fixed a problem in refresh to IBM DB2 for i multimember tables where the truncate operation would clean up the default member.
- Improved installation so that the Data Replicator service is now installed in automatic startup type.
- Fixed a problem that occurred when replicating to PostgreSQL numeric fields with precision greater than 28.
- Fixed an inconsistency replicating from IBM i where in some cases the Transaction TS format was 0001-01-01.
- Fixed a MySQL error on tinyint columns in mirroring. The error message was: "Value was either too large or too small for an unsigned byte" when assigning a negative value.
- Fixed the following error that occurred when a grouped replication is first executed and then removed: "Error in the Replication Manager thread: exception accessing the Server Agent metadata.
  The metadata connection is in recovery mode.
  System.ServiceModel.FaultException`1[DBMetadata.Remoting.MetadataFault]: Error in IReplications.Save on replication 'XIN_T070LIST'.
  Conflict occurred with changes applied by other users. Update metadata with the Refresh command and repeat the operation."
- Fixed the error "Index was outside the bounds of the array" in a group with a pending refresh.
- Fixed a problem that caused mirroring to fail with the error: System.Exception: ERROR CODE=1236, SQLSTATE="HY000", MESSAGE="Could not find first log file name in binary log index file" when
  replicating from a MySQL Version 5.6 database.
- Fixed a problem where, in some cases, transactions were re-executed after a refresh.
- Fixed a problem with Oracle replications in mirroring mode and in groups where the transaction read point was not contained in the Oracle logs after a refresh.

8.2.1.10	6/25/14	**General/Common:**

General/Common:
- Introduced support for replicating Oracle XMLType in mirroring mode
- Added Informix support for BIGINT and BIGSERIAL datatypes
- Implemented support for PostgreSQL XML and UUID data types
- Added the possibility to filter data during refresh operations as a WHERE condition on source and target tables
- Introduced logical operators in the filter properties for alerts
- Added support for SAP HANA ODBC 32-bit driver
- Improved performance restoring metadata on MySQL
- Fixed a problem in the SendMail function where multiple destination addresses did not work correctly

Management Center:
- Added support for IDENTITY column on IBM DB2 for i (identity flag is now correctly set in the column properties)
- Allowed the installing/uninstalling supplemental logs from an Oracle 12c PDB connection
- Improved usability of Validate Replications dialog for functions that generate scripts to create/remove transactional objects
- Added support for the case where a metadata databae is defined but the DBMMSysValues is empty. The Management Center now asks if the metadata should be recreated
- Fixed a problem where the DBMoto Verifier did not apply the Refresh filter option of a single replication properly when verifying multiple replications at the same time. In addition, the "Record Count Only" did not work correctly in this special case
- Fixed a problem that occurred when loading metadata assigned to another server using a DBMoto user without permissions to change metadata. The error message was: STR_ERRMETADATALOCKED string resource not found
- Fixed a problem with a non-multitenant Oracle 12c. The CDB Database Identifier should be set to null
- Fixed the error 'Input string was not in a correct format' that occurred when enabling a replication using a 12c non-multitenant database
- Fixed a problem in the Oracle transactional setup dialog that occurred when verifying if a CDB is the container of a specific PDB database.

Data Replicator:
- Introduced support for one-to-many refresh within the same group
- Fixed a problem where the Hana FTP password was changed improperly when changing a value in the Connection Properties dialog

		• Fixed an error that occurred when starting the Data Replicator with unloaded metadata. This error caused the following message when starting the Data Replicator from the Service Monitor: "The DBMoto Service Monitor has encountered an error starting the application DBReplicator.exe" • Fixed a problem that caused the application to crash when a group-scheduled refresh was starting • Fixed a problem in the Replication Manager thread: 'There was an error while trying to deserialize parameter ...:logMessages.' • Fixed a regression bug where customized a CCSID on IBM DB2 for i columns was not applying the correct data conversion • Fixed a problem that occurred when running an initial refresh in a group. All the replications' transaction IDs were aligned to the transaction ID after the refresh • Fixed an inconsistency in transactional replications using Oracle as source. If the transaction ID was not contained in the log files, no error was generated • Fixed a problem that caused incorrect messaging during refresh in a group in many-to-one replications • Fixed a problem that prevented DBMoto from recovering correctly during a refresh when a cable is disconnected during the last bulk block • Fixed an issue with refresh on a target Oracle BINARY_FLOAT field with values greater than 10,000,000 • Fixed an issue with refresh recovery where recovery would run continuously, not waiting for the interval time. • Fixed an error that occurred while replicating using triggers. The error message was "System.IndexOutOfRangeException: index was outside the bounds of the array. **Other** DBMoto makes use of the [FastColoredTextBox](#) class without changes. [License and Copyright](#).
8.2.0.10	3/14/14	**General/Common:** • Added support for SAP Sybase IQ as a replication target • Added support for silent installation of DBMoto from the Microsoft Windows command line • Introduced C# as the default script language in the Global Script, Replication Script and Expression editors, in addition to support for VB.NET • Implemented a partial refresh feature to allow refresh of a subset of replications in a group. • Added support for the Informix INTERVAL data type • Introduced a license expiration warning in the Management Center and Data Replicator log when the license is approaching its expiration date (default value 3 days in advance) • For performance optimization when performing a refresh to PostgreSQL databases, introduced TRUNCATE statement of DELETE

- Added IMetadata.ScriptCompile, IReplication.ScriptCompile and IFieldMapping.ScriptCompile functions to test a script compile of, respectively, the global script, the replication script and the expression script
- Fixed a problem that occurred when saving the mirroring interval of a group. The mirroring interval did not change in the replications belonging to the group.
- Fixed a problem with the replication monitor notification system where the connection to the Server Agent was lost when switching DNS while the DR was running.

Management Center:

- Introduced new text editor for scripting. The new editor features colored syntax, auto-indentation and code boxing.
- Implemented a colored text editor for the SQL Command dialog.
- Introduced new logic to restart a replication with an initial refresh.
- Reintroduced the option to backup metadata, even if the metadata cannot be loaded (useful in cases of corrupted or older metadata).
- Introduced the option to load unique indexes in DB2 for i (AS/400) tables if primary keys do not exist.
  Fixed a problem with floating windows not working as expected with .NET 4.5 (preinstalled in Windows 8 and Windows Server 2012).
- Fixed an issue with SAP HANA where a wrong password was not saved in the connection string. The modified connection string inserted in the connection dialog is saved regardless of the success or not of the connection attempt. The connection dialog also gives a warning message if the connection to the database cannot be established.
- Fixed an issue in the Verifier where the number of errors during the resolve differences operation was not counted properly.
- Fixed a problem that occurred when installing the DBMOTOLIB on the IBM i (AS/400). The CRTSAVF command was executed in lower case and it would generate an error in some systems.
- Fixed an error where, after the latest upgrade, the main form started with all panels unloaded.
- Fixed a problem in the Verifier. It now properly manages all custom mappings (TransactionTS, RecordID, ReceiverName, Now...) and takes care of special settings like minimum date for SQL Server during the reconcile process
- Fixed a problem where Custom Restore and Export Replication wizards did not import unmapped fields
- Fixed a problem where Custom Restore and Export Replication wizards did not import alert items
- Fixed a problem where alert items were not removed from metadata when the replication was removed
- Fixed a socket exception that occurred when calling the script function GetReceiversInUse

- Fixed a problem that occurred when adding a reference in the script dialog. If the reference path contained spaces, the path was split into tokens in the reference list.

Data Replicator:

- Implemented support for Oracle 12c multitenant (CDB) database.
- Added internal class ConvertMappingDateTimeOffsetToDateTime to manage the DateTimeOffset mapping properly.
- Removed a check based on the IP address of the metadata where, if the IP did not match the server agent machine, the Data Replicator would stop.
- Fixed an issue for replication targets that use a staging table (SAP HANA, HP Vertica, Actian Vectorwise, IBM PureData/Netezza) where the staging table is now deleted after mapping has changed, and recreated for the following replication.
- Fixed an issue that occurred when mirroring right after a refresh. If the Data Replicator was stopped in the mirroring phase, when restarting it could throw duplicate key or record not found errors.
- Fixed a problem that occurred when stopping the Data Replicator after a refresh was done and while running the first mirroring. If transactions were launched during the refresh, stopping the Data Replicator would keep those transactions from being replicated.
- Fixed an issue in the Informix Log Reader Service that caused the Data Replicator to issue missing record errors when there were actually no missing records.
- Fixed a problem so that mirroring to File does not throw exceptions if the target folder is read-only.
- Fixed a problem in IBM DB2 trigger-based replications where, if the source connection was not available, the error was not logged in the log and the replication status was Success.

Other

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8.1.1.3	12/02/13	**General/Common:**

General/Common:

- For Vertica targets, added a replication setting "Delete Before Insert" which is enabled by default. To avoid errors and duplicates in mirroring, before inserting a record in Vertica, DBMoto first checks to see if the record exists, deletes it, then inserts the entire record from the source table. The delete/insert process can impact performance, so in cases where only new records are being inserted in Vertica, this feature can be disabled to improve performance.
- Fixed a problem with the Oracle log reader that caused mirroring replications (with archived logs and continuous mine enabled) to become unresponsive.

Management Center:

- Added replication property "Skip Record Count" to provide an option not to perform SELECT COUNT(*) during a refresh operation;
- Fixed a problem in the history log where sometimes the session time was written twice for two mirroring intervals next to each other;
- Fixed a problem in Replication Alerts, where the enabled status was not persistent in the metadata;
- Fixed a problem where the Replication Browser does not get updated when alerts are defined or removed;
- Fixed a problem that occurs when alerts are defined per replication and group messages are generated in the log.

Data Replicator:

- Implemented a backup of the Informix log position file when a new binary log file is created. This allows manual recovery in the rare case of a hard system crash where the log position file is corrupted. The user can cut and paste the content from the backup file;
- Fixed a problem where, if DBMoto is installed on a system configured to use a comma, or any character different from '.', as decimal point, the following error could happen when using an Oracle source and a NUMBER field: "Input string was not in a correct format".

8.1.0.14	10/21/13	**General/Common:**

- Added support for configuring email notifications using the Management Center GUI;
- Added support for SAP HANA database and bulk mirroring with SAP HANA as a target;
- Added support for using Log4Net to log DBMoto events;
- Implemented a function to validate trigger based replications and generate SQL scripts needed to create or drop the transactional objects outside DBMoto;
- In the setup, fixed an issue with multiple DBMoto entries in the Windows Programs and Features list. The uninstaller not removing the DBMoto entry in so after installing and uninstalling multiple times, several DBMoto entries were in the list of installed applications.
- In the setup, fixed a problem where uninstall on 64-bit versions did not remove the installed files;
- Optimized performance when loading the metadata in memory;
- Fixed an issue with the Server Agent where, in some cases, pending changes to the metadata were not committed when closing the Server Agent.

Management Center:

- Implemented a Custom Mapping script function overload by adding size, precision and scale parameters for the source and target fields;

- Fixed a null reference exception that occurred when refreshing the schema info on a table with no columns;
- Fixed an issue that occurred when creating a target table on MySQL where numeric and decimal types with precision greater than 15 were mapped to 'double' column type;
- Fixed a problem that occurred when checking a license, where the check failed when the license file contained a valid license and any number of invalid licenses;
- Fixed an issue with license check where, if a metadata contained connections or replications not allowed by the license, removing them from the metadata still generated license warnings until a reboot of the server agent;
- Fixed a problem with mappings where changes to existing mappings were canceled once the agent was restarted;
- Fixed a memory exception issue that occurred when restoring metadata from a big backup file;
- Fixed a cast exception in the Getting Started Wizard that occurred while attempting to backup an old metadata before running an upgrade;
- Fixed an issue with replicating to Vertica where the "Allows Nulls" property displayed by the MC Object browser for all Vertica data types was always set to false;
- Fixed a problem with Refresh Schema Information for DB2 for i tables. The DateFormat did not get updated;
- Fixed an unstable condition with the metadata that occurred after restarting Server Agent: an object reference exception was thrown when clicking on any metadata child node.

Data Replicator:

- Modified the log reader for Oracle to define a parameter to set the number of log files loaded to the logminer for each read block;
- Fixed a problem in the log reader for Oracle where, in RAC environments using archived logs, some log sequences could be ignored causing missing records on the target;
- Fixed a problem that under some conditions caused the Informix Log Reader to fail to start with the message "Unknown packet type: 0x0" in the trace;
- Added support for GRAPHIC and VARGRAPHIC data types in IBM DB2 UDB;
- Introduced a CONTINUOUS_MINE clause for use when reading the log from Oracle to load archived logs dynamically into the LogMiner session;
- Fixed a problem with an ORA-936 error when mirroring from an Oracle RAC;
- Fixed a problem where a null datetime on SQL Server as a source database was not managed properly in mirroring mode;
- Fixed an error that occurred when reading a record with a continuation flag from a SQL Server transaction log;

- Fixed a problem that caused DBMOTO to throw an System.NullReferenceException exception when using the Informix Log Reader to replicate a source table containing a column with an unsupported datatype such as "interval" (even if the column is not mapped);
- Fixed an exception that occurred in the Replication Manager thread accessing the Server Agent metadata;
- Fixed an issue that occurred when an IBM DB2 target database stopped, and DBMoto disabled the replication instead of setting recovery mode;
- Fixed an issue in Ritmo/DB2 that could cause transactions to be lost when mirroring to an IBM DB2 target;
- Fix a problem that under some conditions caused the IBM DB2 Log Reader to process a record twice, generating a replication warning;
- Fixed MySQL log reader problem that incorrectly returned a TINYINT column value as unsigned;
- Fixed a problem that occurred when SQL Server bulk insert failed and then switched to single insert mode; if there were decimals with precision > 28 the following conversion error was reported: "System.InvalidCastException: Failed to convert parameter value from a SqlDecimal to a String. ---> System.InvalidCastException: Object must implement IConvertible.";
- Fixed an issue that occurred when using PostgreSQL as a target where, when a CHAR field was used as a primary key, the Data Replicator did not find the record on updates and deletes;
- Fixed an issue that occurred when DBMOTO encountered a database timeout while reading MySQL log. DBMoto sometimes did not properly close the connection, causing replication errors until the Replicator was restarted.
- Fixed a problem that occurred when accessing the Server Agent metadata with ISysValues.Save.

API:
- Fixed an issue with IMetadata.IsRunning where it returned an incorrect value if tested just after having loaded the metadata;
- Removed a constraint in IServer.StartReplicationManager and IServer.StopReplicationManager, that required the default metadata to be loaded;
- Fixed an issue with Vertica where the Bigint data type (64bit) was managed as Integer 32bit inside DBMoto, so the replication of a big number generated an exception: "Value was either too large or too small for an Int32.".

8.0.0.21	04/10/13	**General/Common:**

General/Common:

- Enhanced the Server Agent to function as the metadata manager: the Data Replicator and the Management Center access a copy of the metadata loaded and maintained by the Server Agent;
- Implemented server and metadata synchronization among clients (data changes from one client are seen by other connected clients);
- Enhanced application security using integration with WCF security. Added certificate security mode and expanded security model to use either TCP/IP or HTTP.
- Upgraded the SQL Server CE .NET Provider installed with DBMoto to version 4.0;
- Introduced the requirement to use Microsoft .NET Framework 4 or above;
- Added support for HP Vertica as a target database;
- Implemented the script function GetRecordInfo to print out the content of a record from script-related functions;
- Fixed a setup issue where either DBMoto 32-bit or the DBMoto 64-bit version could be installed on a 64-bit system.

Management Center:

- Added a LastComeWins option to the synchronization conflict resolver;
- In the DBMoto Verifier, added support for defining an ORDER BY clause to override the default clause for use in the verification process;
- In the DBMoto Verifier, added support for saving result details when verifying multiple replications;
- In the DBMoto Verifier, added support for WHERE conditions to be used during the verification process to filter the result set to be compared;
- In the DBMoto Verifier, added support for resolving the differences between source and target databases identified during the verification process;
- In the DBMoto Verifier, added support to run the verifier when 'RecordID' is used in mapping between source and target tables;
- Introduced multiple flags to activate traces of the different DBMoto applications: Data Replicator, Server Agent, Management Center, API, Service Monitor;
- In the Export Replications wizard, added the option to create new replications with the transaction ID of the original replications;
- In the Replication Activity Viewer, Microsoft Windows Chart Controls (MSChart.exe) are no longer needed. The Microsoft Windows Chart Controls are part of .NET Framework 4.0, required to run DBMoto 8.
- Added two new columns to the Replication Monitor/Properties. LastRefreshLen and LastMirroringLen indicate the time when the last refresh or mirroring interval ended.
- Added an option to suppress the log message: "Record to update not found in target table, an insert will be attempted"

- Fixed an issue that occurred with Informix while retrieving primary and foreign key information;
- Fixed an error that occurred while opening the replication history. In some cases, the log file could not be parsed because it had an invalid format.
- Fixed a problem that occurred when creating a CSV connection. The ODBC setup dialog did not open for some drivers.
- Fixed a problem with replication scheduling in groups when setting up a refresh schedule and checking the Run One Time Only option;
- Fixed an problem that occurred when running the Replication Wizard or Multiple Replications Wizard with a File target connection. If the target tables needed to be created, an exception was generated.
- Fixed a problem in the Log Viewer that occurred when it was running as standalone application. The Log Viewer froze after clicking Open Log File;
- Fixed a problem in the DBMoto Verifier related to highlighting the proper columns in the source table (when mapping is from column to column) when there are differences with the target table;
- Fixed an issue where the server configuration hidden properties ReaderTimeout, MirrorBulkTmpFilesArchiveOpt and DB2UDBLogReaderVer were overwritten when the Data Replicator options were saved from the Management Center;
- Fixed an issue that occurred with Management Center traces where the trace settings showed only Trace Metadata Info with no way to set the Low Level Info flag.

Data Replicator:

- Added support for DB2 UDB v10.1 and higher;
- Added a LastComeWins option to the synchronization conflict resolver;
- Added configuration settings for an empty string in an Oracle database;
- Improved performance in transactional replications (using transaction log) with SQL Server as the source database;
- Added two new columns in the Replication Monitor/Properties. LastRefreshLen and LastMirroringLen indicate the time when the last refresh or mirroring interval ended.
- Improved handling of missing update-before and missing update-after records;
- The Informix Log Reader now supports not only the default, but also the codepage value defined in the DB_LOCALE setting;
- Fixed an issue that occurred during mirroring (or refresh) cycle. Some records failed because the event Replication_OnError did not receive the error message and the replication/group name.
- Fixed an issue where a scale 255 is shown in the DBMoto Object Browser for Informix numeric fields with no scale. If a source table contained one of these fields, the Create Target Table wizard could fail with an invalid precision error.

- Fixed a problem where mirroring replications from Oracle did not update the current transaction ID and current timestamp if the records processed were not changes on the source table. In some cases the replication seemed to freeze or stop working from the Management Center Monitor, but instead it was skipping unused log records.
- Fixed an invalid cast exception during mirroring with an IBM DB2 for i table containing a 4-byte FLOAT data type column;
- Fixed a problem that occurred when replicating to a Netezza target and creating a temp file when the target table name contained special characters;
- Fixed an issue that occurred when running a bulk insert on MySQL. Errors generated while preparing the bulk block were unhandled and caused the Data Replicator to close unexpectedly.

API:

- TheIDBMotoAPI interface and all its methods are no longer supported. This API was used for all programmatic interaction with DBMoto prior to the release of DBMoto 7.
- Implemented system catalog functions in the API Library to browse catalogs, schemas and tables;
- The Informix Log Reader can be now started and stopped from the API;
- Modified the IReplications.Save functions with a new Boolean parameter to determine if the operation will remove transactional objects or not in case of a replication deletion. The previous Save functions have been deprecated.
- In the DBMoto Verifier, added support to run the verifier when 'RecordID' is used in mapping between source and target tables;
- Added a property set to the DBMoto API IFieldMapping.TargetField property to make it editable;
- Fixed a problem where the function IFieldMappings.MappedFields generateds a null reference exception when invoked;
- Fixed a problem that occurred when changes were applied to a replication. When calling IReplications.Save() or IReplications.Save(IReplication) on a disabled replication that was subsequently enabled, the Data Replicator (if running) would not pick up those changes.