Oracle Utilities Live Energy Connect

Release Notes

Release 7.1.0.0.0 (Patch 18)

F33039-16

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Oracle Utilities Live Energy Connect Release Notes, Release 7.1.0.0.0

F33039-16

Current Release

This section focuses on enhancements and known issues in Oracle Utilities Live Energy Connect Version 7.1.0.0.18.

Note: To install the Oracle Utilities Live Energy Connect 7.1.0.0.18 patch, refer to the instructions in the README file included in your download of the patch. The patch is available to download from customer's My Oracle Support portal.

Enhancements in Oracle Utilities Live Energy Connect Version 7.1.0.0.18

New and enhanced features in Oracle Utilities Live Energy Connect Version 7.1.0.0.18 are listed below.

Oracle Utilities Live Energy Connect Server Enhancements

- Fixed crash associated with change in master control state for GE ISx tags.

- Set log file security settings based on those of log directory.

- Fixed bug that rejected valid ACSE/Secure ICCP X.509 certificates with multiple Relative Distinguished Names.

- Removed M2Crypto library.

Known Issues in Oracle Utilities Live Energy Connect Version 7.1.0.0.18

This section focuses on the known issues at the time of this release.

Oracle Utilities Live Energy Connect Configuration Manager

- In previous releases (called LiveData Utilities RTI Server) running multiple instances of the Configuration Manager simultaneously could lead to unexpected behavior isolated to the Configuration Manager application.

- Do not run multiple instances of the Configuration Manager on one machine simultaneously. The Configuration Manager is designed to edit and monitor multiple server instances by using configuration aliases.

Previous Releases

This section provides details about the existing features and enhancements in the previous Oracle Utilities Live Energy Connect releases.

Oracle Utilities Live Energy Connect 7.1.0.0.17

The changes or enhancements to Oracle Utilities Live Energy Connect in this release are:

Oracle Utilities Live Energy Connect Server Enhancements

- Added support for MultiSpeak client and server functionality
- Fixed bug related to Secure ICCP ACSE-level authentication.

Oracle Utilities Live Energy Connect 7.1.0.0.16

The changes or enhancements to Oracle Utilities Live Energy Connect in this release are:

Oracle Utilities Live Energy Connect Server Enhancements

- Added ability to support a mix of secure and non-secure ICCP associations within a single LEC server instance.
- Fixed bugs related to dynamic (online) configuration loading when loading large numbers of configurations.
- Enhanced LEC's ISx interface by adding support for phase information to ISD status objects
- Internal fixes and improvements made to core server code.

Oracle Utilities Live Energy Connect 7.1.0.0.15

The changes or enhancements to Oracle Utilities Live Energy Connect in this release are:

Oracle Utilities Live Energy Connect Server Enhancements

- Added the MaxMmsRecursion parameter to the srvxnt.ini configuration file to allow users to specify a limit on the priority and amount of processing of incoming MMS/ICCP messages. In some configurations with very large amounts of inbound ICCP traffic, this can prevent the starvation of other LEC Server tasks.
- Cleaned up DNP ACK log error message when DNP connection has closed.
- Internal fixes and improvements made to core server code.

Oracle Utilities Live Energy Connect 7.1.0.0.14

The changes or enhancements to Oracle Utilities Live Energy Connect in this release are:

Oracle Utilities Live Energy Connect Server Enhancements
- Internal fixes and improvements made to core server code.
- Integrated v7.0 of the GE's ISx Data API.

Oracle Utilities Live Energy Connect 7.1.0.0.13

The changes or enhancements to Oracle Utilities Live Energy Connect in this release are:

Oracle Utilities Live Energy Connect Server Enhancements

- Fixed an ICCP transfer set control regression that could have affected certain ICCP configurations

- Enhanced the SharedScript Python module to allow for online loading/unloading of batch files in configurations that use custom SharedScript-based Python script filters.

- Added an OPC UA certificate generation script and certificate installer tool.

- Fixed a crash resolving ICCP peer when certain fields are mismatched with the local LDIB table.

Oracle Utilities Live Energy Connect 7.1.0.0.12

The changes or enhancements to Oracle Utilities Live Energy Connect in this release are:

Oracle Utilities Live Energy Connect Server Enhancements

- Enhanced ICCP transfer set control and monitoring

- Improved configuration batch load performance

- Fixed bug in backpressure/circuit breaker mechanism for large configurations

- Allow on-demand ICCP transfer set read (integrity scan)

- Corrected Secure OPC UA configuration parameters

- Moved OPC UA Software Version and Service Level to standard server locations

- Internal fixes and improvements

Oracle Utilities Live Energy Connect 7.1.0.0.11

The changes or enhancements to Oracle Utilities Live Energy Connect in this release are:

Oracle Utilities Live Energy Connect Server Enhancements

- Fixed crash after ICCP association disconnec**t.**

- Fixes and improvements to Secure OPC UA.

Oracle Utilities Live Energy Connect 7.1.0.0.10

The changes or enhancements to Oracle Utilities Live Energy Connect in this release are:

Oracle Utilities Live Energy Connect Server Enhancements

- Fixed crash in DsDefine RTX related to reporting ICCP transfer set mismatches.

Oracle Utilities Live Energy Connect 7.1.0.0.9

The changes or enhancements to Oracle Utilities Live Energy Connect in this release are:

Oracle Utilities Live Energy Connect Server Enhancements

- Fixes and enhancements to the GE ISx interface.
- Fixed bug in the TransmitGate filter related to Python 3.8 syntax error.

- Fixed bug that could occur during DNP3 Master control/write operations.
- Fixed that could occur during online loading of batch files (i.e. loading and unloading batch files while LEC Server is running).
- Enhanced the LecAioHttp Python module/framework to allow scripts to pass authentication credentials to in to client requests.
- Fixed bug in the SharedScript Python module/framework that is used to create custom user filters.
- Internal fixes and improvements.

Oracle Utilities Live Energy Connect 7.1.0.0.8

The changes or enhancements to Oracle Utilities Live Energy Connect in this release are:

- Fixed shutdown crash in GE ISx interface
- Updated to latest GE ISx API

Oracle Utilities Live Energy Connect 7.1.0.0.7

The changes or enhancements to Oracle Utilities Live Energy Connect in this release are:

- Updated LEC's support for the GE ISx protocol.
- Fixed a server startup crash when users runs server as a service with double quotes in the command line parameters.
- Added integrity scan capability to DNP3 Master VMD.
- Update LiveDataBase.py database access script for Python 3.
- Updated LiveDataOfflineLoad.py utility script for Python 3.

Oracle Utilities Live Energy Connect 7.1.0.0.6

The changes or enhancements to Oracle Utilities Live Energy Connect in this release are:

- Updated LEC's support for the GE ISx protocol.
- Fixed Live server crash on online batch unload.
- Fixed duplicate LDIB error for prototype-generated VMDs.
- Fixed ICCP association control when ICCP verification fails.
- Added the MASTER_RESET_FLAG association control flag.
- Updated LEC cluster resource for Windows Failover Clustering.
- Fixed LEC server crash on supersede of established ICCP association.

Oracle Utilities Live Energy Connect 7.1.0.0.5

The changes or enhancements to Oracle Utilities Live Energy Connect in this release are:

- Updates and fixes for LEC's support for the GE ISx protocol.

Oracle Utilities Live Energy Connect 7.1.0.0.4

The changes or enhancements to Oracle Utilities Live Energy Connect in this release are:

- Updates and fixes to GE ISx protocol interface.

Oracle Utilities Live Energy Connect 7.1.0.0.3

The changes or enhancements to Oracle Utilities Live Energy Connect in this release are:

- Fixed a bug related to Oracle Utilities Live Energy Connect Server's time synchronization with OS that causes crashes on some systems.

Oracle Utilities Live Energy Connect 7.1.0.0.2

The changes or enhancements to Oracle Utilities Live Energy Connect in this release are:

- Further enhanced Oracle Utilities Live Energy Connect's support for the GE ISx protocol.
- Fixed a bug that prevented the Live Energy Connect Server from notifying the Live Energy Connect Configuration Manager that it was not running when it was stopped by the user.
- Updated contents of the Oracle Utilities Live Energy Connect Asset ID Manager User Guide document.

Oracle Utilities Live Energy Connect 7.1.0.0.1

The changes or enhancements to Oracle Utilities Live Energy Connect in this release are:

- Enhanced Oracle Utilities Live Energy Connect's support for the GE ISx protocol.
- Found root cause and resolved spurious crash in SOAP server used for communication between the Configuration Manager and the Live Energy Connect server.
- Fixed a bug related to runtime crashes in some Live Energy Connect configurations due to a heap corruption error.

Oracle Utilities Live Energy Connect 7.1.0.0.0

The changes or enhancements to Oracle Utilities Live Energy Connect in this release are:

- Implemented Oracle Utilities Live Energy Connect software as a 64-bit Windows application. Previous versions of the software (called the RTI Platform) were 32-bit Windows applications.
- Upgraded the Oracle Utilities Live Energy Connect server's embedded Python interpreter to Python 3.8.3.
- Upgraded open source software used to implement Secure ICCP. OpenSSL was upgraded from version 1.0.1g to version 1.1.1g (OpenSSL's current LTS release). Stunnel was upgraded from version 5.53 to 5.56.
- Oracle Utilities Live Energy Connect now registers two Stunnel Windows services at install instead of launching Stunnel processes from Live Energy Connect. These Stunnel services are to be managed by the user through the Window Services Manager.
- This release does not have a Secure ICCP Certificate Manager. Instead, follow the procedure for deploying certificates described in the Oracle Utilities Live Energy Connect Secure ICCP Certificate Deployment Procedure document.
- Updated the Python scripts used by Oracle Utilities Live Energy Connect Configuration Manager to work with Python 3.8.3.
- By default, the Oracle Utilities Live Energy Connect server now listens on LOCALHOST (i.e. 127.0.0.1) for incoming MMS/ICCP associations. In previous releases (called LiveData Utilities RTI Server), the server listened on all interfaces (i.e. 0.0.0.0). With the current release, if you require inbound MMS/ICCP associations from remote peers (i.e. VCC's on other machines), you will need to modify your Oracle Utilities Live Energy Connect configuration to allow the server to listen on the appropriate external interface. To do this, select the appropriate configuration alias in the Oracle Utilities Live Energy Connect Configuration Manager and open the Server tab of the Properties panel. In the Extra params field, add "/listen=<ip_address>" (e.g. "/listen=192.168.1.10").
- The MMS OCX interface that some customer applications use to access objects on the server is implemented in this release with 64-bit ActiveX (OCX) controls. Previous releases (called LiveData Utilities RTI Server) implemented the MMS OCX interface with 32-bit ActiveX (OCX) controls.
- Made logging more configurable by organizing the Oracle Utilities Live Energy Connect server functions into "logging modules" whose level of logging can be individually specified in the srvxnt.ini file.

- This release does not have a License Manager application. Follow the terms of our Software License Agreement.
- Created the option to log all ICCP traffic (across multiple VCCs) in srvxnt.ini file.
- Changed behavior of the DNP Master functionality to close and reinitiate connections if there is a failure receiving a response from an outstation.
- Fixed a regression found in the previous release that left the server unable to load custom macros that used the SharedScript Python module.
- Created a new dataflow filter that can be used to bridge 2-way connectors to 1-way output connectors (useful in control applications).
- Discontinued Adapters and Integrations
  The following adapters and integrations are not supported in Oracle Utilities Live Energy Connect Version 7.1.0.0.0. Discontinued adapters may be replaced with updated adapters in future releases.
    - SPP Marketplace Adapter for Day Ahead Markets
    - MISO Market Adapter for Day Ahead Markets
    - MISO Market Interface Support
    - Block 4 ISEO Simulator
    - Legacy COM-based OPC DA
    - 32-bit ActiveX (OCX) controls for the MMS OCX interface

    Note: Any application that makes use of the MMS OCX interface with 32-bit ActiveX controls in previous releases will need to be modified to work with the 64-bit MMS OCX interface in the latest release. If you want to upgrade to the latest release of Oracle Utilities Live Energy Connect and your organization uses such an application, contact My Oracle Support.

- Updated tool tips in the Configuration Manager for certain filter nodes based on customer feedback.
- Added a "Restarting" state to the reporting of Live Energy Connect server states when reloading batch files in configs that use the Asset ID Manager.
- Added configurable file size limits and roll-over settings to the tm.log file created by the Asset ID Manager.

Real Time Integration Platform 6.03.002

The changes or enhancements to Real Time Integration Server in this release are:

- Launched the Real Time Integration Platform Installer that no longer requires a password.
- Added ICCP Block 4 support for dual-role VCCs (VCCs that are both a client and a server).
- Added the ability to set initial node values of points in a server VCC.
- Changed behavior of the server so that internal points available to OPC UA clients without a timestamp will have their OPC Source timestamp set to null instead of using the server's local time.

Real Time Integration Platform 6.03.001

The changes or enhancements to Real Time Integration Server in this release are:

- Implemented a RESTful interface for the server (See the *RTI REST API Specification 1.5* for details).
- Upgraded to Unified Automation OPC UA SDK version 2.6.3.
- Enhanced OPC UA functionality to support interoperability with ICCP Block 4 (Message/File Transfer).
- Enhanced the OPC UA client point fanout to support different ICCP types.
- Updated implementation of Secure ICCP so that it uses Stunnel 5.53. If Stunnel issues any critical security fixes, upgrade Stunnel without upgrading the server.
- Removed unwanted, repeated log messages with SOAP content generated when Real Time Integration Configuration Manager reads certain the variables. To log these messages, set the SpecialLogging parameter of the LiveData.ini file to 16 ("SpecialLogging =16").
- Implemented consistent log message indentation and fixed known spelling errors in log messages.
- Changed the default log level to 2. At this level, the server logs: errors (0), warnings (1) and major events (2).
- Added the VCC name in log messages generated while making ICCP associations including domain names if the association fails.
- Fixed a bug so that the Server no longer crashes at startup when running on CPUs without AVX instructions.
- Fixed a bug that could have led to memory corruption and crashing when MMS connections are attempted with 0-length source TSEL values.
- Fixed the Real Time Integration Stream for InfluxDB to manage incoming NaN values correctly.
- Deprecated the CircumventSiemensBug flag (for VCCs) in favor of the backward-compatible SiemensCompatibility flag. If you need to work around Siemen's non-conforming naming convention, set the SiemensCompatibility flag to 1.

Real Time Integration Platform 6.03.000

The changes or enhancements to Real Time Integration Server in this release are:

- Upgraded our developer build-tools to Visual Studio 2017.
- Fixed dynamic loading and unloading of batch files via external scripts.
- Enlarged the default value of the TCP/IP send buffer to 4 MB to improve performance of communication between VCCs when sending outbound data.
- Simplified the procedure for deploying certificates used in Secure ICCP.
  Refer to the *Oracle Utilities Live Energy Connect Real Time Integration Platform Installation Guide* for more information.
- Added an option to start the transmission of a requested ICCP Data Set Transfer Set, even when a remote ICCP client delays the requested DS transfer set start time.

- Changed behavior of the "Stale time**"** property of VccAssocOutControl and VccAssocInControl nodes. The server logs an error if this property is specified for a VCC that is only a server. If specified on a client VCC, points from a stale association are flagged using quality bits.
- Fixed Real Time Integration's OPC UA server to ensure that all per point ICCP transfer set data changes are relayed to connected OPC UA clients.
- Improved the implementation of OPC UA security to allow customers to store certificates in the Windows Certificate Store.
- The server notifies the ICCP client if a write to a remote OPC UA device fails.
- Improved mapping between the OPC UA status and ICCP quality bits.
- Fixed Real Time Integration's OPC UA server to report a connection timeout if an Real Time Integration OPC UA client has problems connecting to a remote SCADA OPC UA server.
- Fixed Real Time Integration's OPC UA server to report if Real Time Integration's OPC UA client has difficulties subscribing to data points from SCADA's OPC UA server.
- Added ability for OPC UA to report changes in the Real Time Integration's master control variable by indicating this status in the quality bits of the ICCP client.
- Fixed the server to set the status of each OPC UA server point or points to indicate when a subscription to one or more remote ICCP server points fails. Even after the initial subscription has succeeded, if the ICCP peer at the remote site aborts and reconfigures, then the Real Time Integration server resets the status of each OPC UA server point or points to bad, so no points are lost in the reconfiguration.
- Improved the OPC UA server to set the quality of each point or points to bad if transmission of a transfer set times out.
- Eliminated a possible race condition that occurs when an OPC UA client tries to connect while Real Time Integration's ICCP server is starting up. Setting initial values for points (which are to be transferred to a peer ICCP client) before an OPC UA client connection is made ensures that the ICCP client will never get a mix of initial and actual data.

The changes or enhancements to Live Energy Connect Asset ID Manager in this release are:

- Updated the Live Energy Connect Asset ID Manager menu prompts.

Real Time Integration Platform 6.02.008

The changes or enhancements to Real Time Integration Server in this release are:

- Added a back-pressure mechanism and an internal "dataflow circuit breaker" to provide flow-control in high volume MMS/ICCP applications. These are set by default in the Real Time Integration server and are configurable in the LiveData.ini file.
- Enhanced the ICCP Block 5 (Control) functionality.

Real Time Integration Platform 6.02.007

The changes or enhancements to Real Time Integration Server in this release are:

- Disabled logging from internal SOAP server unless it is explicitly enabled.

Real Time Integration Platform 6.02.006

The changes or enhancements to Live Energy Connect Configuration Manager in this release are:

- Improved the log level resolution.

The changes or enhancements to Real Time Integration Server in this release are:

- Implemented licensing and subscription logic for OPC UA devices.
- Improved remote batch file loading.
- Added the ability to specify use of Secure ICCP from batch files.

Real Time Integration Platform 6.02.005

The changes or enhancements to Real Time Integration Configuration Manager in this release are:

- Streamlined the configuration of OPC UA devices.
- Improved the handling of subtask cleanup for connectors and added additional error handling.
- Discovered and fixed memory leaks.

The changes or enhancements to Real Time Integration Asset ID Manager in this release are:

- Introduced Real Time Integration Asset ID Manager as a product. It interacts with the SCADA system, Real Time Integration Server, and Oracle Utilities Network Management System or CGI OMS. It creates and loads the Real Time Integration batch files that it generates from existing SCADA and Management System configurations.
- It supports one-to-many relationships between a given device in a Management System and its related SCADA points.

The changes or enhancements to Real Time Integration Connect for InfluxDB in this release are:

- Created an interface for storing Real Time Integration-managed data in an InfluxDB database (historian).
- Data retention can be specified for 3 data categories: analog, discrete, and one custom category.
- Downsampling can be specified for 2 data categories: analog and discrete.

Real Time Integration Platform 6.02.003

The changes or enhancements to Real Time Integration Configuration Manager in this release are:

- Fixed an issue with duplicate keys in the LDIB table.

The changes or enhancements to Real Time Integration Server in this release are:

- Enhanced the functionality of using the Server OPC UA Server and Client.

Real Time Integration Platform 6.02.002

The changes or enhancements to Real Time Integration Configuration Manager in this release are:

- Added the capacity to perform background updates to configuration databases and automatically refresh the Node Table as the updates are made.
- Included the ability to create a separate service for each alias. You can now manage multiple Real Time Integration server instances on the same machine with Configuration Manager. This is useful for testing the server configurations.
- Added the ability to delete a configuration alias.
- Added the ability to gather all system diagnostic data into a single compressed file to aid in remote system debugging.
- Added the capacity to select an editor, such as Notepad++, to open a log from RCM directly.

  For example: Select Notepad++ and you can see the Real Time Integration server write to the log as you are examining it in Notepad ++.

The changes or enhancements to Real Time Integration Server in this release are:

- Fixed discovered bugs and improved the functionality of using the server as an OPC UA Server and Client.
- Added the ability to execute remote batch and command files.

Real Time Integration Platform 6.02.001

The changes or enhancements to Real Time Integration Configuration Manager in this release are:

- Fixed discovered bugs and made improvements to the GUI.

Real Time Integration Platform 6.02.000

The changes or enhancements to Real Time Integration Configuration Manager in this release are:

- Updated the installation wizard.
- Added the DISCRETE flag to the **Flags** field in the ControlFromOpcUa, ControlToOpcUa, and ControlXToOpcUa nodes.
- Added the ability to find the configuration of the MMS Listen IP address within the LiveData.ini file.
- Improved the handling of connector indices.
- Fixed a bug that caused Configuration Manager to be unable to unload batch files in certain states.
- Fixed a bug that caused Configuration Manager to crash if **Restore default layout** or **Save as** was selected.
- Fixed the **Help > About** link to display the product version number.
- Fixed a bug that caused Configuration Manager to display the server state as RUNNING after the Real Time Integration server was stopped.

The changes or enhancements to Real Time Integration Server in this release are:

- Updated to Python 2.7.13.
- Updated to Apache HTTP Server 2.2.32.

Real Time Integration Platform 6.01.010

The changes or enhancements to Real Time Integration Server in this release are:

- Expanded functionality of the server to support multiple VMD's for OPC UA and OPC DA by providing the ability to enable or disable OPC DA.
- Fixed a bug in which the server occasionally crashed while editing the configuration in Real Time Integration Configuration Manager.

Real Time Integration Platform 6.01.009

The changes or enhancements to Real Time Integration Server in this release are:

- Fixed an issue with MMS-DL string parsing that prevented 8-bit characters from being interpreted as valid.

The changes or enhancements to Real Time Integration Configuration Manager in this release are:

- Improved how the Variable Access tool displays strings and structures.
- Fixed the way the **Properties** panel is displayed so it no longer occasionally jiggles.
- Fixed the Node Monitor so that it collapses VMDs efficiently.

Real Time Integration Platform 6.01.008

The changes or enhancements to Real Time Integration Server in this release are:

- Expanded OPC DA support by adding macros and scripts to process ICCP Block 4 and Block 5 data.

Real Time Integration Platform 6.01.007

The changes or enhancements to Real Time Integration Server in this release are:

- Fixed underlying causes potential Real Time Integration crashes during startup.
- Fixed a bug in which the server does not restart after crashing for certain configurations.

The changes or enhancements to Real Time Integration Configuration Manager in this release are:

- Improved the method for building connectors in Configuration Manager.
- Fixed the checkbox that enables Secure ICCP.
- Addressed the issue of pythonw.exe stopping while Configuration Manager is running. Configuration Manager now provides an informative message when this occurs.
- Improved logging for remote devices.

- Changed the way items in a Combine Group are displayed.
- Enabled Configuration Manager to display selected node even if it is hidden within a collapsed Combine Group.
- Fixed bug in which Configuration Manager occasionally crashed when editing ruled in the Node Filter tool.

Real Time Integration Platform 6.01.006

The changes or enhancements to Real Time Integration Server in this release are:

- Added OPC UA support. The following OPC UA features are not supported:
- ICCP types with a COV
- Secure OPC UA
- Configurability of the mapping between OPC quality and ICCP quality
- Group controls

The changes or enhancements to Real Time Integration Configuration Manager in this release are:

- Fixed Configuration Manager to provide the Network Monitor by default.
- Added a button to open a log file in a text editor.
- Provided synchronizing of server state and related data to ensure that the data is correctly displayed when changing configuration aliases.
- Fixed various bugs related to unnecessary or erroneous messages.
- Allowed deletion of connectors.
- Allowed configuration of SOAP port used for a configuration alias and Real Time Integration server instance.
- Fixed underlying cause of spurious Configuration Manager crash when reloading macros.
- Created requirement of Administrator privileges to alter the registry for an Real Time Integration ServerService from Configuration Manager.

Real Time Integration Platform 6.01.005

The changes or enhancements to Real Time Integration Configuration Manager in this release are:

- Eliminated extraneous entries from the LDIB Editor table.
- Included the Real Time Integration server version number in the About panel within Help.
- Added functionality to Configuration Manager to scan for the DataflowMacros.pdi version while starting Configuration Manager, selecting a new alias, or importing a different configuration.
- Added a warning message for outdated macros loaded in a configuration.
- Decreased the time taken to reload a batch file using the Incremental option.
- Improved the order of the fields in each of the VMD, Setup, Input, Filter, Output, and Connector creation forms.

Real Time Integration Platform 6.01.004

The changes or enhancements to Real Time Integration Server in this release are:

- Identified and fixed root causes for Real Time Integration crashes during shutdown specifically when using either the OPC server.
- Fixed an OPC UA timestamp error.
- Simplified the OPC UA macros.
- Fixed a buffer overrun that could potentially cause a crash.
- Added a feature that allows the OPC UA client and server to read and write real values.

The changes or enhancements to Real Time Integration Configuration Manager in this release are:

- Added the Copy VMD function.
- Fixed a bug that occurred if a node had implicit connectors.
- Fixed an issue where the "busy" modal dialog disappeared prior to the change taking place.
- Allows you to select an alias at startup.
- Fixed a bug that caused the **Apply** button to remain active after property changes were made.
- Fixed a bug that prevented the user from renaming a copied or cloned VMD.
- Fixed a number of bugs that caused Configuration Manager to crash in certain circumstances that include the following using RCM via Remote Desktop Protocol (RDP):
- The default directory had no path in common with the "LiveData\ProgramData" directory.
- A connector or VMD was created and then canceled out of the form.
- An invalid string entry in a form.

Real Time Integration Platform 6.01.003

The changes or enhancements to Real Time Integration Server in this release are:

- Added the ability for the QualOperate filter node to support the Data_StateQ ICCP type.
- Fixed a bug in the configuration macros regarding ICCP Block 4.

Real Time Integration Platform 6.01.001

The changes or enhancements to Real Time Integration Server in this release are:

- Fixed servxtnt.exe crash on startup. Prior to this fix, servxtnt.exe could crash after loading a configuration using an unlicensed feature.

Real Time Integration Platform 6.01.000

The changes or enhancements to Real Time Integration Server in this release are:

- Fixed deadlock in logging mechanism that could prevent logging to the LIVEDATA.LOG file until the server was restarted.
- Enhanced the server support for Microsoft Scripting Host-based scripts (example: .vbs, .js) to support hosting 64-bit COM controls.
- Added some internal fixes and optimizations.

The changes or enhancements to Real Time Integration Configuration Manager in this release are:

- Introduced a native Windows Real Time Integration Configuration Manager application as a replacement for the web-based Configuration Manager tool.

Real Time Integration Platform 6.00.009

The changes or enhancements to Real Time Integration Server in this release are:

- Legacy Configuration Tool - Fixed bug in ICCP Block 8 that prevented Block 8 message distribution after a failure.
- Elevated LDTray system tray app privileges to communicate with Configuration Manager.
- Set the default "[LiveData.Cluster]MonitorApache" value to "FALSE" in the LiveData.ini file.
- Fixed a bug related to crashes in some configurations using Modbus TCP/IP.

Real Time Integration Platform 6.00.008

The changes or enhancements to Real Time Integration Server in this release are:

- Fixed connector optimization bugs in Legacy Configuration Tool.
- Added the server-side support for Real Time Integration Tag Manager.

Real Time Integration Platform 6.00.007

The changes or enhancements to Real Time Integration Server in this release are:

- Fixed bug in non-incremental batch load with sharing in Legacy Configuration Tool.
- Added some internal fixes and optimizations.

Real Time Integration Platform 6.00.006

The changes or enhancements to Real Time Integration Server in this release are:

- Made provision for overriding the ICCP standard in use when communicating to ICCP systems and devices that use the Draft ICCP Standard (DIS) or the UCA ICCP Standard.

Real Time Integration Platform 6.00.005

The changes or enhancements to Real Time Integration Server in this release are:

- Fixed some bugs and made performance improvements related to batch file processing.

Real Time Integration Platform 6.00.004

The changes or enhancements to Real Time Integration Server in this release are:

- Delayed agent RTX writing an initial value to a remote VMD until an association is established.

The changes or enhancements to Real Time Integration Configuration Manager in this release are:

- Created a "htdocs-webapp" directory under Apache to avoid Apache error.log reporting this folder missing.
- Fixed bugs and enhanced the configuration database interface.

Real Time Integration Platform 6.00.000

The changes or enhancements to Real Time Integration Server in this release are:

- Added DNP TCP/IP multidrop, which allows communication with multiple DNP devices with distinct station numbers over a single TCP/IP connection.
- Added the DnpEnableUnsolicited macro to allow initiation of unsolicited DNP messages.
- Optimized script-based DNP dataflow, reducing memory footprint and increasing data throughput for large DNP configurations.
- Added another script RTX to allow truly concurrent Python scripting on multi-core machines.
- Added incremental batch file load/unload, which facilitates loading/unloading of batch file change deltas instead of complete unload/reload.
- Fixed failure to prevent write bouncing on associations.
- Made improvements to batch load and server startup performance.
- Improved internal core server performance.