

## Release Notes for V511 Project Cycle 06/04/2013

### KEPDirect 5.11 (changes for release builds 5.6 – 5.11)

#### General

Windows 2000 is no longer supported for server versions V5.9 and up.

Windows 8 and Server 2012 are now officially supported.

#### Server Administration

Added a new ProgID Redirect feature that allows users to map another server's OPC registration to KEPDirect. This feature may be accessed through the Administration menu by clicking **Settings | ProgID Redirect**.

Moved the User Manager from a separate dialog that was launched from the Administration menu to a tab in the **Settings** dialog (which is located through the Administration menu by clicking **Settings | User Manager**).

Enhanced the User Manager by adding granularity to specify whether users can modify channels, devices, and tags. Added a built-in user profile called "Data Client" to control whether clients can access Dynamic (Native) Tags.

Removed the "Allow clients to write to system level tags" option from the **Runtime Options** tab in the **Settings** dialog. Added it to the permissions list of the Data Client profile in the **User Manager** tab in the **Settings** dialog.

Updated the **Event Log** tab in the **Settings** dialog to provide grid control for Event Log persistence enhancements.

Fixed an issue where the User Access Control was not applied consistently to all the functions that required it in the Server Administration User Interface.

Removed the "Modify Server Settings" privilege from the Default User's list of privileges in the User Manager. The setting never allowed the Default User the privilege even when it was enabled.

Fixed an issue where privileged changes made in the User Manager were not applied to the active Configuration session.

Fixed an issue where the Help button located on the User Manager page linked to the wrong help file topic.

Fixed an issue where the server's Administration icon in the notification area of the Windows Taskbar was disappearing on Windows 7 64 bit operating systems.

### **Server Runtime**

Added a new OPC Diagnostic message to indicate that the client-supplied shutdown notification sink is being called. The new filter "ShutdownRequest" was added to the Filter dialog beneath "IConnectionPoint (Server)" to enable this event. It is displayed in the OPC Diagnostics View as "Calling registered shutdown sink". The detail shows the return value from the call as "Client returned = <HRESULT>."

Altered the shutdown sequence to ensure that the OPC Diagnostics generated during Runtime shutdown will be delivered to the Configuration before it disconnects.

Fixed a server initialization issue that could result in a non-responsive service on system startup (which may cause a lockup).

Fixed an issue where items in an OPC group could fail to update after Advise and Unadvise calls occurred during a call to the client's data change handler.

Upgraded OPC Core Components to version 3.00.105.1. This version resolves conflicts between x64 and x86 versions of OpcEnum.

Added a new system tag called "\_OpcClientNames" that lists the names of all OPC clients that connect to the server and register their name through the IOPCCommon::SetClientName method.

Changed the OPC DA "Return Initial updates for items in a single callback" compliance setting to be disabled by default for new installations of the server. In case of slow communications (slow protocols), it is recommended that this server configuration setting be disabled to improve responsiveness. This setting can be located in the server configuration by clicking **File | Project Properties | OPC DA Compliance**.

Fixed an issue where a deadlock could occur in Communications Diagnostics when diagnostics were published from a driver at the same time that a project was automatically saving.

The Administrator user will now always assume write privileges when logging in from the Server Configuration. Any existing writers (users) will be demoted for as long as the Administrator session is active. Overlapping Administrator logins will always favor the most recent.

Fixed an issue where Ethernet Encapsulation would not initialize properly when the user switched from an invalid COM port to Ethernet Encapsulation.

Added support for automatically persisting channel and device diagnostics data to disk.

Added support for automatically persisting OPC diagnostics data to disk. OPC Diagnostics capture must now be enabled through **OPC DA Settings** (located in the server by clicking **File | Project Properties**).

Eliminated Property Tags from System Tags for consistency with 4.x. This also reduces memory consumption when a client browses a server address space that contains a large number of devices.

Prevented the server from loading drivers and plug-ins that fail digital signature verification.

Fixed an issue where the Key Service failed to start, resulting in an "Invalid or missing user information" message.

Reduced unnecessary memory consumption by waiting to load Internal Tags on demand instead of loading them all at once on startup. The on demand portion is prompted when clients connect to the server and request items. For certain applications, this update could yield a 50% reduction in memory use by the Runtime.

Updated the Runtime to require that the Windows TAPI service is a dependency when the Runtime is installed as a service. This resolved an issue where the Runtime could fail to load after PC reboot if the server project contained serial drivers. The issue was initially identified by internal testing, and was found on Windows 7 operating systems and above.

### **Server Configuration**

Removed the Diagnostics sub-menu from the View menu, and then moved items from the Diagnostics sub-menu to the View menu.

Added a device detail view to the server's right pane. When a channel is selected, the right pane will now display a list of devices that are assigned to that channel.

Provided the ability to enforce a scan rate floor or fixed scan rate when polling underlying data sources. This feature can override the rates requested by client applications.

Added communication serialization to the Channel Wizard Summary dialog.

Channel Diagnostics are now referred to as "Communications Diagnostics". As part of this change, Communications Diagnostics can now be displayed at the device level.

Fixed the font corruption occurring on some non-English OS configurations that was caused by the unexpected destruction of a needed resource. Applied dynamic font replacement to the Device View in order to correct the inconsistent appearance under these same conditions.

Fixed the following issues in the GUI:

1. Fixed performance issues when processing Runtime updates after Automatic Tag Generation (ATG) completes and includes a large number of nested tag groups.
2. Fixed an issue where display of the Alias Name dialog or Tag Browser window was slow.
3. Fixed the slow processing of multi-tag deletion.
4. Fixed the incorrect advancement of the progress gauge on the Status Bar.
5. Fixed the missing view updates in listen-only clients when processing a Runtime update that signals the addition of multiple devices or individual tags.
6. Fixed the Tag Browser window's position restoration logic so that it works properly in multi-monitor situations.
7. Prevented the Multiple Tag Generator Tool from replacing the active selection out from under the tag dialog after tag generation. This was causing problems in situations where a tag was selected in the dialog before the Multiple Tag Generator Tool was invoked.
8. Fixed a failure to undo a CSV import.

Added tag description length validation on both Automatic Tag Generation and CSV Import.

Changed the Communication Diagnostics view's color scheme to a grey background for RX and to green text for TX. The text and background color of TX and RX events is always set, so coloring will be consistent even on systems that have custom window colorings defined.

Resolved an issue where pressing the Tab key when the focus was on the Channel/Device pane (and no channels were defined) caused the Configuration to crash.

Corrected a failure to show `_Statistics` at the channel and device level when working in the Alias Name and Tag Browser dialogs.

### **Server Event Log**

Improved the Event Log's performance by increasing the number of records sent per packet.

Added new persistence settings to support extended data storage. These settings are configured from the **Event Log** tab in the **Settings** dialog.

## Install

Fixed an issue where the install would not proceed if a Visual Studio 2005 redistributable that is newer than the one we expect to install already exists on the target computer.

Added support for Hyper-V.

A user is now allowed to transfer licenses between Virtual Machines. Eliminated the Virtual Machine (VM) detection and User Agreement UI seen prior to 5.8 when installing on a VM.

Updated the OPC DA 2.0 Automation Wrapper examples in the install to run correctly on 64 bit operating systems. They will now run under WOW64.

Fixed an issue where uninstalling the Wonderware InTouch Client Driver would inadvertently unregister the shared components required by Rockwell Automation's FactoryTalk HMI for loading its projects.

Removed the VS2005 Runtime redistributable from the install's payload because it is no longer being used.

## Utilities

### License Utility

Made minor cosmetic changes to the **View License Details for this Computer** dialog.

Updated the hardware certificate import for files with extensions besides ".lic". The import will now replace the file name's extension with ".lic" instead of appending ".lic".

Updated all title bars to display the product name instead of the company name. Eliminated the restriction of software license transfers on Virtual Machines.

Resolved an issue where the License Utility could stop running when launched on certain PCs. The issue was reported by a customer using a 64 bit Windows 2008 PC with a language selection of Korean. It was caused by an invalid method used (by the utility) to de-allocate String memory.

Improved support for RAID hard drives, virtual environments and Operating System configurations.

### OPC Quick Client

Added a **Performance** tab to the **Tools | Test Modes** dialog.

### Application Report Utility

Added a function that searches the registry for mapped ProgIDs when the **Registry Info** option is checked.

# Client Interfaces

## DDE / Advanced DDE Interface

Reworked write complete notifications for tags being referenced through multiple client interfaces. It was possible that a write complete notification could be consumed by an interface that was not responsible for the write request. To ensure proper on write complete notification handling, the interface now performs a check to determine if the notification was intended for it.

## iFIX PDB/NIO Interface

Fixed an issue where the iFIX PDB Settings (located in **File | Project Properties**) would be disabled when the **Restore Defaults** button was pressed.

Fixed an issue with loading error message strings.

Reworked write complete notifications for tags being referenced through multiple client interfaces. It was possible that a write complete notification could be consumed by an interface that was not responsible for the write request. To ensure proper on write complete notification handling, the interface now performs a check to determine if the notification was intended for it.

Fixed an issue where items being referenced using the dynamic tag address "@" data type override functionality in the iFIX database would go off scan when the device was unavailable.

Added the new "Use iFIX Startup Configuration File" setting, which allows iFIX users to enable or disable a special iFIX configuration file that is used by the server to automatically start scanning items before iFIX requests item data.

## FastDDE/SuiteLink Interface

Reworked write complete notifications for tags being referenced through multiple client interfaces. It was possible that a write complete notification could be consumed by an interface that was not responsible for the write request. To ensure proper on write complete notification handling, the interface now performs a check to determine if the notification was intended for it.

Added the ability to configure the Application Name in the **FastDDE/SuiteLink** tab (located through the Configuration by clicking **File | Project Properties**).

Fixed an issue where the server would add duplicate Topics and Items under certain circumstances where network connectivity issues were observed. Because the client doesn't inform the server about connection loss, it never gives the server a chance to release the resources associated with the lost connection. When updating the client, this causes an increase in memory consumption and a decrease in performance. By checking for duplicates when new item references are added, this situation may be avoided.

### **OPC DA Server Interface**

Version 5.7 of the OPC DA Server passed certification by the OPC Foundation's Certification Test Lab.

Fixed an issue where the server set errors for individual properties in the "IOPCItemProperties::GetItemProperties ()" call to "E\_FAIL" rather than to "OPC\_E\_INVALID\_PID".

Fixed an issue where two updates occurred for each tag that was added to a group on an initial update. This could occur if a client requested an "Advise" on a group before any items were added and subsequent active items were then added to the group.

Resolved an issue experienced by a customer that was using a custom OPC client application where the server was producing two updates for each item's initial update following addition to a group.

Addressed the cache refresh that was returning Bad Quality for items that had not yet received an initial update.

Fixed an issue where the incorrect item time was being returned to the client when querying item properties. The time was being returned as local time, but should have been returned as UTC in a variant (using the VT\_DATE type).

### **OPC UA Server Interface**

Fixed a deadlock issue that had the potential to occur when items were being added to the server. This only affects OPC UA connectivity.

Added the ability to modify the advanced OPC UA Server properties MaxDataQueueSize, MaxNotificationsPerPublish, and MaxRetransmissionQueueSize.

Improvements have been made to utilize less CPU when faster publishing intervals have been set.

Updated the GUI to limit the length of the "Max Notifications Per Publish" and "Max Retransmit Queue Size" property controls to agree with the length of the maximum value that is allowed for these properties.

Fixed an issue where the UA service "FindServers" returned an incorrect endpoint when multiple endpoints were configured. The service also now correctly handles URLs with mixed case, URLs that exclude the domain postfix, and "localhost" URLs.

Resolved an issue where the Server interface allowed remote connection to Local Endpoint when remote endpoints were disabled.

# DRIVERS

## All Drivers

Provided the ability to enforce a scan rate floor or fixed scan rate when polling underlying data sources. This feature can override the rates requested by client applications.

Fixed an issue that could result in an application deadlock if multiple clients connected to the server.

In "Device Properties – Timing", the "Request Timeout" range was extended from 100-30000 milliseconds to 100-99999 milliseconds.

Added device-level diagnostic support.

Enhanced drivers to support non-normalized floating point values, which are values that exist outside of the normalized floating point range. These enhanced drivers include a setting that allows users to specify how the non-normalized values should be handled.

Updated the driver library to prioritize a tag read following the failure of a tag write in order to expedite an update of the tag's quality.

## AutomationDirect ECOM

Fixed a threading issue that could cause a channel to stop communicating on systems with multiple CPUs.

## AutomationDirect DirectNet Serial

Enhanced error handling when receiving unexpected responses, and special detection of a K-Sequence response to a DirectNet inquiry. On receiving a K-Sequence response to a DirectNet inquiry, an error message will be logged, all tags will be failed, and the driver will continue to silently retry for good communications.

## AutomationDirect Productivity 3000 Ethernet

Added array element blocking for continuous, non-string arrays. This allows multiple elements from the same array to be requested in a single transaction.