

OPC UA and FactoryTalk Linx Launch

Stage Setting

The OPC Unified Architecture (UA) standard is an open data-exchange standard. It provides interoperability among connected “things” in converged industrial operations. Those things can range from sensors and mobile devices to machines and systems. The OPC UA standard is vendor neutral, which allows for open connectivity across different vendors’ hardware and software operating systems. It’s scalable from the device to the enterprise. And it has built-in security, including authentication and encryption.

All of this can help companies realize their smart-manufacturing or Industry 4.0 strategies. With greater operability between their devices, machines and software, they can extend the reach and potential of a Connected Enterprise.

Rockwell Automation and OPC UA

As a founding member of the OPC Foundation, Rockwell Automation has significantly contributed to the creation of OPC standards. We have been shipping products with OPC Data Access (DA) connectivity for more than 16 years. And we have one of the largest installed bases of OPC-enabled software products in the market. The OPC UA standard was a natural fit for us because it supports a broader range of hardware and software in a Connected Enterprise.

We actually helped develop the OPC UA specification, and we’re now adding OPC UA support into our portfolio. Our initial offering on the software side includes OPC UA client/server functionality in the FactoryTalk Linx software, which we’ll be launching in early 2018. We also have future product-line extensions planned for both our software and hardware portfolios.

FactoryTalk Linx Software

FactoryTalk Linx is a communications software included with the FactoryTalk Services Platform for use with the FactoryTalk software portfolio. You may know it by its old name: RSLinx Enterprise. Simply put, if information is the life blood of an automation system, the FactoryTalk Linx software is the heart. It pulls information from one area and delivers it to where it’s needed. This enables a Connected Enterprise by moving information between the automation and business layers.

The FactoryTalk Linx software is scalable from a single computer to large, high-volume distributed systems that share the common FactoryTalk Services Platform. It also provides data-server redundancy to maintain communications when a computer or network failure occurs, which helps support high-availability systems.

So how does the software support the OPC UA standard? First, the new FactoryTalk Linx OPC UA Connector can pull information from third-party OPC UA servers and deliver it to FactoryTalk software. This allows third-party equipment and data sources to be used in a Connected Enterprise. For example, operators can access information for devices from different vendors that coexist within one system.

Second, the FactoryTalk Linx Gateway provides an OPC UA server interface to deliver information collected by FactoryTalk Linx from Logix 5000 and other Allen-Bradley controllers to external OPC UA clients. This permits third-party software to coexist with FactoryTalk software. For example, custom-built MES applications can interact directly with the control layer to better coordinate production.

The FactoryTalk Linx Gateway also will include a new FactoryTalk Linx Data Bridge software service that will transfer sets of tag data from one data source to another at a user-defined rate. This permits movement of data between servers and, more importantly, enables Logix 5000 controllers to indirectly interface with OPC UA servers. Among its many uses, this software could allow Logix 5000 controllers to interact and control a robot, weight scale or similar automation device using OPC UA.

Studio 5000 Adoption

The next release of our Studio 5000 integrated development environment will include the FactoryTalk Linx software. The software, which will be available along with RSLinx Classic, adds communications services and a new network browser control to help users achieve faster system startups and faster repairs.

A higher-bandwidth connection provides significantly faster controller download times when using wireless or remote communications. The ability to configure Ethernet driver settings right in the browser instead of having to launch a separate application user interface can speed up system changes. And the new network browser interface provides inline runtime configuration changes to FactoryTalk Linx, searching and other extensions to enhance productivity when working with Logix 5000 controllers.

Other Benefits

Additional new benefits that users can experience with the FactoryTalk Linx software include:

Improved Network Redundancy: The FactoryTalk Linx software can support two network paths to a single controller or to two controllers in a ControlLogix-based redundancy system. This provides high-speed failure detection and can automatically switch communications to a secondary path with a minimal impact on monitoring software. It also improves FactoryTalk software operation in high-availability systems by reducing recovery times and keeping information flowing.

Increased Productivity With Alarm Data: The FactoryTalk Linx software can directly communicate with attributes of the Logix 5000 new tag-based alarm. This capability allows the FactoryTalk View SE HMI software to animate screens using alarm states and perform alarm interactions directly from graphical content. Eliminating the duplication of alarm states to HMI tags can enhance development productivity. And interaction with graphical content instead of alarm summaries can improve operational productivity.

New Energy-Usage Monitoring: The FactoryTalk Linx Gateway provides insights into CIP Energy data from EtherNet/IP devices, allowing users to monitor and track energy usage over time and compare usage across lines and factories. The software can read CIP Energy data from devices that have embedded CIP Energy support, including the Allen-Bradley E300 electronic overload relay, PowerFlex 755 drives, Kinetix 5500 servo drives, PowerMonitor 5000 and PowerMonitor 1000 energy monitors, and others.