



News Release



OPC Foundation and FieldComm Group Cooperate to Develop an Instrumentation Device Profile for OPC UA Field eXchange

Cooperation will harmonize OPC UA-based field instruments and accelerate development and adoption in automation

Frankfurt, Germany – August 23rd, 2022 - The OPC Foundation (OPCF) and the FieldComm Group (FCG) are pleased to announce a collaboration to drive multi-vendor interoperability of instrumentation devices based on OPC UA and the extensions for the field level, named OPC UA FX (Field eXchange). This development will incorporate preliminary work by both organizations. This will ensure that the market will have only one single standard. The aim is to provide an interoperable interface between PLC / DCS and instrumentation devices, such as transmitters, instruments, and actuators. The solution shall support different industries such as oil & gas, pharmaceuticals, chemicals, energy, water & wastewater, and pulp & paper.

To begin this work, a new OPC UA Instrumentation Working Group is being hosted by the OPC Foundation, under the leadership of the Field Level Communications (FLC) Initiative. Participation in the working group is open to members of the OPC Foundation, as well as corporate entity members of the FieldComm Group. Many well-known manufacturers in the process and factory automation industries are represented within this working group to ensure a uniform, worldwide, and coordinated standard for OPC UA-based instrumentation devices.

In order to achieve inter-vendor interoperability of instrumentation devices, the working group will add to the UAFX base specifications the definition of interfaces and behaviors which are typical for instrumentation devices, including:

- commonly used interfaces and data types for the industries mentioned above including functional safety,
- diagnostic information specific to instrumentation devices,
- operation modes of instrumentation devices,
- state machines and timing models for instrumentation-specific functionality, where appropriate.

The new instrumentation device profile specification will use PubSub and can be combined with different underlying communication protocols (e.g. UDP/IP) and physical layers (e.g. Ethernet-APL) to support all relevant use cases in discrete and process manufacturing, including safety instrumentation based on OPC UA Safety and deterministic data exchange based on Ethernet Time-Sensitive Networking (TSN), where appropriate.

The Instrumentation Facet shall be complementary to the jointly-owned OPC 30081 / FCG TS10098 “OPC UA for Process Automation Devices (PA-DIM)” and other Companion Specifications. The working group will also strive to manage overlap with other information models already released or under



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development. Examples include, the models for “Calibration” (a Harmonization sub-group) and “Laboratory and Analytical Devices” (LADS working group).

Thoralf Schulz (ABB), Chairperson FCG says: “OPC Foundation and FieldComm Group joining forces in the Instrumentation Working Group is a significant milestone. This collaboration unifies separate volunteer initiatives previously underway in each organization, and creates the basis for a broadly accepted single standard. It will harmonize device integration while supporting the transition of existing device technologies and their installations into the future. Combined with FDI-based device management and the Advanced Physical Layer (APL) for the lower-layer connectivity, this is a major milestone towards a harmonized data exchange infrastructure, which will benefit both users of process automation as well as vendors of process automation products and solutions.”

Thomas Hahn (Siemens), Vice President OPCF says: “Digitization needs interoperability. Interoperability needs standards. Extending the OPC UA framework to include an information model for instrumentation devices is important to ensure cross-vendor interoperability and common semantics. No single organization can achieve this alone! Therefore, cross-organizational collaboration is essential - from process automation to discrete manufacturing, from customer to provider, from machine tool builder to solution partners, and so on. Through this collaboration, an important step towards meeting the needs of our customers and the industry is achieved.”

“Extending the OPC UA Framework with an information model for instrumentation devices is important to ensure – in combination with OPC UA Safety, Deterministic Communication, Motion and Ethernet-APL/SPE – cross-vendor interoperability and common semantics, not only for the Controller-to-Controller and Controller-to-Device use cases in Factory and Process Automation, but also supporting OPC UA as a fully scalable technology from the sensor across all levels to MES / ERP and also to the cloud,” stated Peter Lutz, Director FLC Initiative at OPC Foundation.

Further information can be downloaded from the OPCF’s website:

www.opcfoundation.org/flc
www.opcfoundation.org/apl

About the OPC Foundation:

Since 1996, the OPC Foundation has facilitated the development and adoption of the OPC information exchange standards. As both advocate and custodian of these specifications, the Foundation’s mission is to help industry vendors, end-users, and software developers maintain interoperability in their manufacturing and automation assets. The OPC Foundation is dedicated to providing the best specifications, technology, process, and certification to achieve multivendor, multiplatform, secure, reliable, interoperability for moving data and information from the embedded world to the enterprise cloud. The Foundation serves over 880 members worldwide in the Industrial Automation, IT, IoT, IIoT, M2M, Industrie 4.0, Building Automation, machine tools, pharmaceutical, petrochemical, oil & gas, water treatment, and Smart Energy sectors.



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For more information about the OPC Foundation, please visit www.opcfoundation.org

About the Field Level Communications Initiative:

The following companies are members of the Field Level Communications Steering Committee, providing both technical and much appreciated financial support: ABB, Beckhoff, Rexroth, B&R, Cisco, Emerson, Festo, Hilscher, Hirschmann, Huawei, Intel, Kalycito, Kuka, Lenze, Mitsubishi Electric, Molex, Moxa, Murrelektronik, Omron, Phoenix Contact, Pilz, Rockwell Automation, Schneider Electric, Siemens, TTEch, Wago, Yokogawa. The technical working groups of the Field Level Communications Initiative are open to all OPC Foundation members.

About The FieldComm Group:

The FieldComm Group is a global standards organization consisting of leading process end users, manufacturers, universities and research organizations that work together to direct the development, incorporation and implementation of new technologies and serves as the source for FDI technology. FieldComm Group's mission is to develop, manage, and promote global standards for integrating digital devices to on-site, mobile, and cloud-based systems; provide services for standards conformance and implementation of process automation devices and systems that enable and improve reliability and multi-vendor interoperability; lead the development of a unified information model of process automation field devices while building upon industry investment in the HART®, FOUNDATION™ Fieldbus and FDI® standards. Membership is open to anyone interested in the use of the technologies. For more information, please visit www.fieldcommgroup.org

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