

Opc Unified Architecture

Digital computers, Unified modelling language, Computer technology, Control technology, Technology transfer, Data processing, Information exchange, Data transmission, Interfaces (data processing), Objects (programming language), Computer software, Information operations, Information marks, Data representation, Data sorting, Data organization

What is OPC UA is a very simple question. The answer when you are discussing a complex technology architecture like OPC UA isn't as simple. OPC UA which I will refer to as UA throughout this book is the next generation of OPC technology. UA is a more secure, open, reliable mechanism for transferring information between Servers and Clients. It provides more open transports, better security and a more complete information model than OPC which I will refer to as OPC Classic. UA provides a very flexible and adaptable mechanism for moving data between Enterprise type systems and the kinds of controls, monitoring devices and sensors that interact with real world data.

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Industrial, Fieldbus, Bus networks, Architectural design, Aggregates

INDUSTRIAL, FIELDBUS, BUS NETWORKS,

ARCHITECTURAL DESIGN, Interfaces (data processing)

Motivation for This Book The OPC Foundation provides specifications for data exchange in industrial automation. There is a long history of COM/DCOM-based specifications, most prominent OPC Data Access (DA), OPC Alarms and Events (A&E), and OPC Historical Data Access (HDA), which are widely accepted in the industry and implemented by almost every system targeting industrial automation. Now the OPC Foundation has released a new generation of OPC specifications called OPC Unified Architecture (OPC UA). With OPC UA, the OPC Foundation fulfills a technology shift from the retiring COM/DCOM technology to a service-oriented architecture providing data in a platform-independent manner via Web Services or its own optimized TCP-based protocol. OPC UA unifies the previous specifications into one single address space capable of dealing with current data, alarms and events and the history of current data as well as the event history. A remarkable enhancement of OPC UA is the Address Space Model by which vendors can expose a rich and extensible information model using object-oriented techniques. OPC UA scales well from intelligent devices, controllers, DCS, and SCADA systems up to MES and ERP systems. It also scales well in its ability to provide information; on the lower end, a model similar to Classic OPC can be used, providing only base information, while at the upper end, highly sophisticated models can be described, providing a large amount of metadata including complex type hierarchies.

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