

# OPC Unified Architecture

## Communication Protocol for Automation, Industrial Internet, Industry 4.0 and Internet of Things

### OPC Unified Architecture

OPC Unified Architecture (UA) is a platform-independent standard through which various kinds of systems and devices can communicate by sending Messages between Clients and Servers over various types of networks.

The OPC Unified Architecture (UA) is THE next generation OPC standard that provides a cohesive, secure and reliable cross platform framework for access to real time and historical data and events.

OPC UA defines standard sets of Services that Servers may provide, and individual Servers specify to Clients what Service sets they support.

OPC UA can be mapped onto a variety of communication protocols and data can be encoded in various ways to trade off portability and efficiency.



- Secure, Reliable and Platform-Independent Exchange of Information
- Platform and Vendor Independent
- Standardized Communication via Internet & Firewalls
- Service-Oriented Architecture
- Protection against unauthorized access
- OPC UA is standardized as IEC 62541

### Overview

OPC Unified Architecture (UA) is the industry standard technology for communication of process values and events for Automation, Industrial Internet, Industry 4.0 and Internet of Things. It connects devices, machines and systems from different manufacturers using the same interface. OPC UA server adds remarkable amount of value for device, machine or system, as it reduces any integration or application software development costs. Similarly OPC UA clients made for one OPC UA server can be connected to any other OPC UA server without time consuming customization.

OPC Unified Architecture (UA) supports various platforms and removes the limitations of the Classic OPC Interfaces, whereas solutions for several new application areas are now possible. The German initiative Industrie 4.0 is recommending OPC UA as the communication layer of the **Reference Architecture Model Industrie 4.0** (RAMI4.0).

Technosoftware's knowledge and experiences of OPC UA makes us an ideal partner for companies that want to take advantage of this technology. Shorten the time-to-market by combining our consulting services with selected software solutions.



For more information of our solutions and services please visit us on the Web at:  
[www.technosoftware.com](http://www.technosoftware.com)

### Technosoftware GmbH

Windleweg 3  
5235 Rufenach, AG  
Switzerland

@ [sales@technosoftware.com](mailto:sales@technosoftware.com)

## Solutions and Services from Technosoftware GmbH



### Where to Start?

You are new to OPC UA and want to get more information on how it fits into your project? We can help you understand this communication technology. Get in contact with us via Email or Phone and ask for a short presentation.



### On-Site Training

Whether you need to implement an OPC Server or OPC Client or just need to integrate OPC technology in your projects - Technosoftware GmbH can offer a customized training package.

Whether you are an automation professional, IT personnel, integrator, engineer, operator or just someone who is responsible for data connectivity within process control and manufacturing, Technosoftware GmbH delivers the right training package, from beginner to advance group training.



### Consulting

Whether Design or development of an OPC server or Client, integration of the OPC technology into existing systems or the execution of customized training courses - Technosoftware GmbH supports you individually within all ranges of the OPC technology. Technosoftware GmbH is currently using .NET C# or VB.NET, C/C++ and Java for OPC UA development. Main platforms are Windows and Linux.



### Why Technosoftware GmbH?

#### **Professionalism**

Technosoftware GmbH is, measured by the number of employees, truly not a big company. However when it comes to flexibility, service quality, and adherence to schedules and reliability, we are surely a great company which can compete against the so called leaders in the industry. And this is THE crucial point for our customers.

#### **High Quality of Work**

We reach this by a small, competent and dynamic team of coworkers, which apart from the satisfaction of the customer; take care of a high quality of work. We concern the steps necessary for it together with consideration of the customers' requirements.

#### **Continuous progress**

Lifelong learning and continuing education is, especially in the information technology, essential for future success. Concerning our customers, we will constantly accepting new challenges and exceeding their requirements again and again. We will continue to do everything to fulfill the needs of our customers and to meet our own standards.

### OPC Unified Architecture Basics (1 day)

History of OPC, Overview of OPC

Introduction in the technology and how it works

Samples of OPC UA products

Configuration, Commissioning and troubleshooting

### OPC Unified Architecture Development with .NET ( 2 days)

Definition and Implementation of an UA AddressSpace

Basics of an UA client connection

Read and Write of data

Definition of subscriptions and monitoring of data and event changes

Usage of the UA services



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