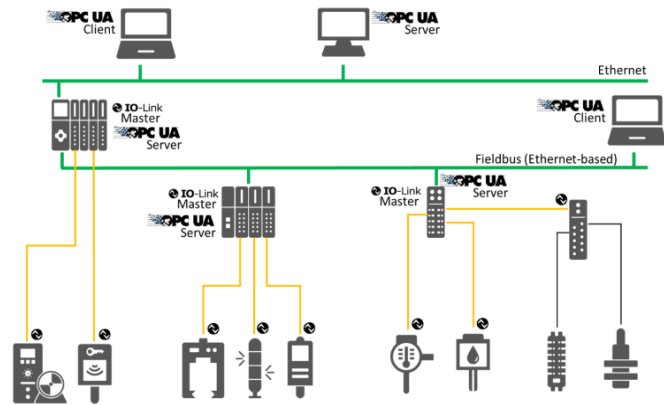




IO-Link to OPC UA Mapping



Overview

The IO-Link Community and the OPC UA Foundation have created a companion specification in a joint working group that describes the mapping of IO-Link into OPC UA systems. The mapping describes a generic model and an IODD-aware model. TEConcept offers an OPC UA server software package for the generic OPC UA model that is designed to run on small microcontroller platforms such as the CORTEX-M4 platform.

The OPC UA server interacts directly with an IO-Link Master that might run on the same microcontroller.

Any OPC UA client can connect to the generic OPC UA server, but it needs knowledge about the connected IO-Link Devices. The generic OPC UA server can in addition act as a slave to a higher level IODD-aware OPC UA server which allows the use of OPC UA clients that need no knowledge about the connected IO-Link Devices.

Features

- Identification and configuration of the IO-Link Master and its ports
- Generic identification and configuration of connected IO-Link Devices
- Interaction with connected IO-Link Devices
- Subscription of certain IO-Link parameters for periodic updates
- Optional operation- and failure statistics
- Plant supervision over a cloud system

Features

- Small footprint (~15kByte RAM per IO-Link port)
- OPC UA embedded stack written in ANSI C
- Demo implementation on STM32F4xx available
- Integration with IO-Link Master on the same microcontroller possible
- Chaining to an IODD aware OPC UA server supported
- Simple API interface to OPC UA stack to build custom address space.
- TCP based binary server access

Requirements

- CORTEX M4 with Ethernet port
- RTOS
- IO-Link Master stack with SMI support

Deliverables

- OPC UA server stack as embedded C source code
- Generic IO-Link model with generic Device model and integrated Master model and application
- Master Access Interface Module (based on SMI interface) for communication with the IO-Link master
- OPC UA extended Nano Server profile supported