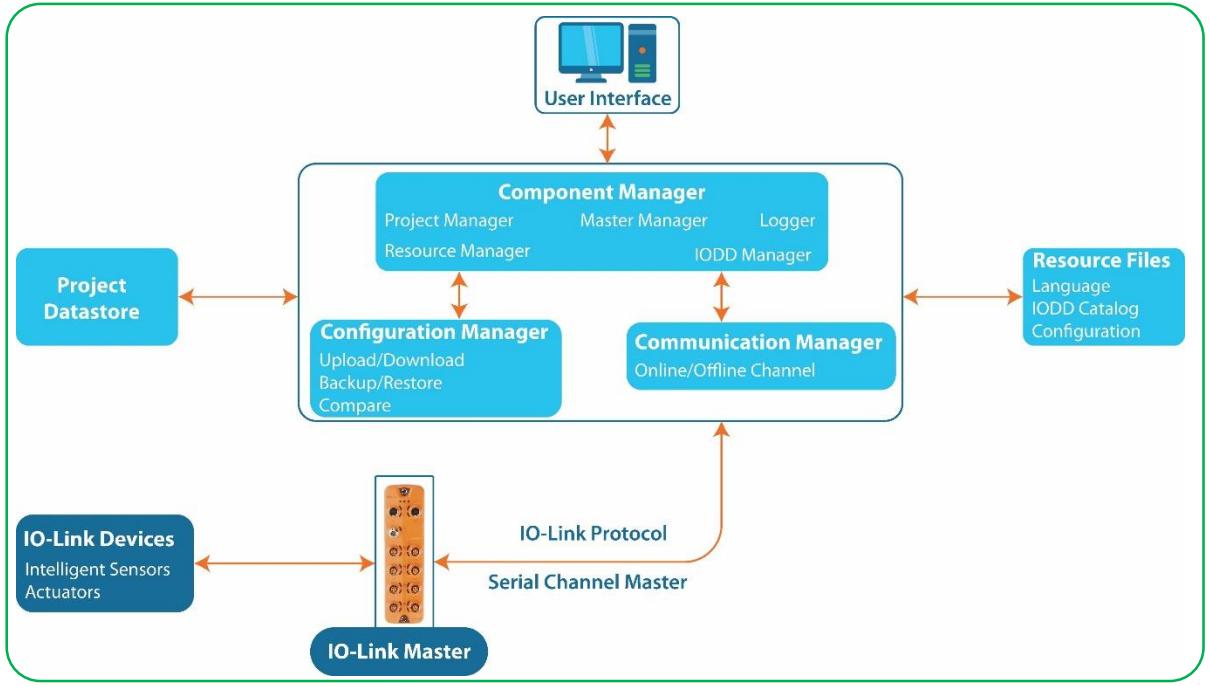
Configuration Tool For IO-Link Master Modules To Increase Productivity

Problem Statement

The client is a global Japanese electrical and electronic OEM catering to factory automation. Their product portfolio includes micro controllers, drives and modular PLCs. The client's service teams lacked an easy-to-use configuration tool for commissioning, maintenance and communication with their IO-Link systems. This compromised the overall visibility and productivity when performing device configuration, process measurements and collecting diagnostic information from the IO-Link devices.



Challenges

- Manual configuration of IO-Link master modules was a time consuming process
- Absence of an intuitive user interface for configuration and communication
- Reduced availability of IO-Link data for service and quality teams
- Lack of access to the IO-Link device description (IODD) file to compare online and offline data
- Weak support for detection and diagnostics capabilities to identify device deterioration and failure

Solution

- Developed a standalone Windows configuration tool with customized firmware built upon Utthunga's IO-Link Master Stack. This included support for custom hardware drivers, services for backplane interface and support for multiple ports
- Provided support to configure any 3rd party IO-Link master module via USB with the help of the saved IODD file
- Support for the devices to operate in various IO-Link operating modes: IO-Link, DI, DQ & Deactivated modes
- Intuitive graphical controls (using WPF) to determine run time behavior of process variables for further analysis
- Provided support for backup and restore functionality of the channel parameters
- Multiple language support with minimal development efforts by only providing the resource strings in XML

Benefits

- Reduced the time for device configuration, process measurements and diagnostic information by at least 40%
- With service engineers located world-wide, the multilingual support led to a wider adoption of the tool
- Increase in end-user satisfaction as the device replacement process was much faster. This substantially lowered downtimes
- Reduction in device maintenance and failures, hence adding to the bottom-line of the services P/L