OPC UA Device Support

Overview and Status

Ralph Lange, ITER Organization

Disclaimer: The views and opinions expressed herein do not necessarily reflect those of the ITER Organization

OPC UA Background

- Industrial protocol to interface SCADA to PLCs
  - Covers live data, alarms, events, historical data
- Based on OPC Classic (Microsoft), OPC UA provides
  - Functional equivalence
  - Portability
  - Safety (authentication, encryption)
  - Information modeling (user defined structures)
- Gaining traction as a universal integration tool

EPICS Device Support

- Based on commercial C++ Client SDK
  - By Unified Automation: ~3.5k€ for sources and 1yr support
  - Binaries can be distributed royalty-free
  - Platform: Windows and Linux
- Prototype by Bernhard Kuner (HZB / BESSY II)
  https://github.com/bkuner/opcUaUnifiedAutomation
- ITER use cases tested by F4E (ITER) and TCS (India):
  - S7-1500 embedded OPC UA server
  - WinCC-OA embedded OPC UA server

Status and Roadmap

- Requirements Specification v1.0 reviewed and agreed: https://bit.ly/opcua-srs-10
- Design done (no formal doc, yet)
- Currently working on “proper” implementation

- First (incomplete) pre-release later this summer
- Complete implementation by end of 2018
- Under EPICS license, upstream repository on GitHub