Contribution ID: **1** Contribution code: **IOC**   Type: **Talk**

Autoparam, a generic asyn port driver with dynamic parameters

Thursday 22 September 2022 10:25 (20 minutes)

Implementing EPICS device support for a specific device can be tricky; implementing generic device support that can integrate different kinds of devices sharing a common interface is trickier still. Yet such a driver can save a lot of time down the road. A well-known example is the Modbus EPICS module: the same support module can be used to integrate any device that speaks the Modbus protocol. It is up to the EPICS database to map device registers to EPICS records. Because no changes to the driver code are needed to integrate a device, a lot of effort is saved. At Cosylab, we often encounter device controllers that speak bespoke protocols. To facilitate development of generic drivers, we wrote the Autoparam EPICS module. It is a base class derived from asynPortDriver that handles low-level details that are common to all generic drivers: it creates handles for device data based on information provided in EPICS records and provides facilities for handling hardware interrupts. Moreover, it strives to provide a more ergonomic API for handling device functions than vanilla asynPortDriver.

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Session Classification: Thursday morning session

Track Classification: IOC Developments