

ChimeraTK: Hardware Access and Control System Integration (not only) for MicroTCA

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In the past year, the ControlSystemAdapter and the ApplicationCore libraries of ChimeraTK have done the step from proof of concept implementations to Tools which are ready for productive use. They provide a framework for writing a control application which publishes process variables to a control system without being dependent on a particular middleware. A full LLRF controller server for a System based on MicroTCA.4 hardware has been developed at DESY using ApplicationCore and DOOCS, and has successfully been integrated at the ELBE accelerator at HZDR using OPC UA, without changing a single line of code. Only the configuration for the system integration had to be adapted.

Together with the DeviceAccess library, which comes with ready-to-use PCI-Express drivers, ChimeraTK is geared towards the implementation of control applications in MicroTCA.4. However, living completely in the user space of a CPU and having a flexible hardware abstraction layer, ChimeraTK is not limited to MicroTCA and a powerful, easy to use library for control software which has to be integrated into multiple control system environments.

Primary authors: HIERHOLZER, Martin (DESY); KILLENBERG, Martin (DESY)

Presenter: KILLENBERG, Martin (DESY)

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