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ChimeraTK: A tool kit for modular control applications

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ChimeraTK (formerly called MTCA4U) is a collection of C++ libraries which facilitate the development of control applications. Special importance has been placed on abstraction from communication layers to simplify writing applications in heterogeneous environments or reusing applications in different facilities.

In close collaboration between DESY, HZDR, TU Dresden and Aquenos GmbH a control system adapter has been developed. It allows to operate the same application with different SCADA systems and in different control system environments, without changing a single line of code in the application proper.

As a first project a Low Level RF controller server has been ported to the adapter. SCADA plugins for DOOCS, OPC-UA and EPICS 3 have been implemented, which will be used for FLASH and the European XFEL at DESY, ELBE at HZDR, and FLUTE at KIT, respectively.

In addition to the control system adapter, ChimeraTK features the DeviceAccess library with an extensible register-based interface and the VirtualLab library for code testing and simulation.

Written in modern C++ and published under the open GPL and LGPL licenses, ChimeraTK is designed to foster the collaboration between different facilities, especially in the accelerator and research community.

Topic (ARD or DTS)

ARD

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