

EVIDENCE - A control system for small experiments

Experiments integrating several hardware and software components require, except for the simplest cases, a control system. Comprehensive control system frameworks exist, for example EPICS, DOOCS or the commercial PVS-II. For a small scale application, these systems are however often too complicated and need professional support for their installation and maintenance. This presentation gives an overview of a control system development for smaller experiments. The development was originally started within the FACT project (First G-APD Cherenkov Telescope) and care was taken to keep it general to become applicable also for other projects.

The system, called EVIDENCE, allows for the integration of software with a minimum of extra coding on part of the specific application. It uses the CERN-developed DIM system (Distributed Information Management) as communication layer and the freely available Qt library for visualization.

EVIDENCE consists of a small C++ class and a few server programs that form the control system backbone. It supports central message logging and the distribution of standard warning and error conditions. Configuration information and data storage are centralized. It imposes only little definite structure on the programmer and is thus easy to integrate into existing programs.

The presentation will demonstrate the main features of the control system by an example of an application which is the FACT voltage feedback system, comprising three individual programs running on different computers.

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