CXv4, a Modular Control System

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CX

- Developed in BINP since late 1990s
- Runs on Linux and *NIX
- Supported hardware includes CAMAC, PCI/cPCI, VME, CAN, RS485
- Used at VEPP-5, LIA-2 and several smaller facilities

VEPP-5 will supply e+ and e- to BINP e+/e- colliders VEPP-4 and VEPP-2000. Thus, communication with their diverse control systems is required in CX. HOW?

Solution: make everything modular.
- Drivers, network protocol implementation (at both client and server sides) are plugins.
- Server is a library.

Conventional 3-layer control system layout

CXv4 modular structure

Possible combinations of CX modules

Drivers can access channels from neighbor drivers like clients.

Unified API for local and remote.

GUI / Logic

- cda
- insrv
- cxs

Device drivers

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- cda
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Device drivers

GUI+server+drivers combined into a single simple application with no network

GUI+server+drivers combined into a single simple application with remote access

Network-access-enabled existing application