

ATCA control S/W in LHCb

Goal

- ▶ Integrate ATCA control in the CERN standard SCADA software – PVSS/WinCC
 - Control shelves and blades
 - Switch On/Off, reboot
 - Monitor parameters
 - Temperatures, voltages, fans, ...

Options

- ▶ IPMI Manager for PVSS
 - Doesn't seem to exist
- ▶ OpenHPI
 - OpenHPI client for PVSS
 - Doesn't seem to exist
 - SNMP
- ▶ Dedicated server
 - Use one of the available IPMI tools to communicate with the HW
 - Use DIM* to serve PVSS
 - DIM client readily available for PVSS

*Distributed Information Management System:
Provides a network transparent inter-process
communication layer for distributed/mixed environments

IPMI software

- ▶ Many options available
 - IPMItool
 - No library but is open source
 - OpenIPMI
 - Library available for Linux
 - Ipmitool
 - Library available for Linux and Windows
 - ...

Currently the one that seems to have better support for PICMG control is IPMItool

What we have

▶ IpmiSrv

- From the LHCb Farm Monitoring and Control (FMC) tools
- Uses DIM
- Works as is to control crate power
 - But not much else...
- Can be extended
- Uses ipmitool command line calls and parses the replies

▶ A new IPMI server

- Uses DIM
- Uses direct ipmitool RMCP calls
- Very early stages of development
 - Working test version with limited functionality

What we have

- ▶ Current integration with PV

Commands

List of PCs

Monitored Values

Device Editor & Navigator
Running on LBFMC

Hardware Logical FSM

- HLTE1122
- HLTE1123
- HLTE1124
- HLTE1125
- HLTE1126
- HLTE1127**
- HLTF01
- HLTF0101
- HLTF0102
- HLTF0103
- HLTF0104
- HLTF0105
- HLTF0106
- HLTF0107
- HLTF0108
- HLTF0109
- HLTF0110
- HLTF0111

IPMI

Power status
Status **ON**

Hardware command
OFF ON

Subscribe to sensor information?
 YES
 NO

Fans

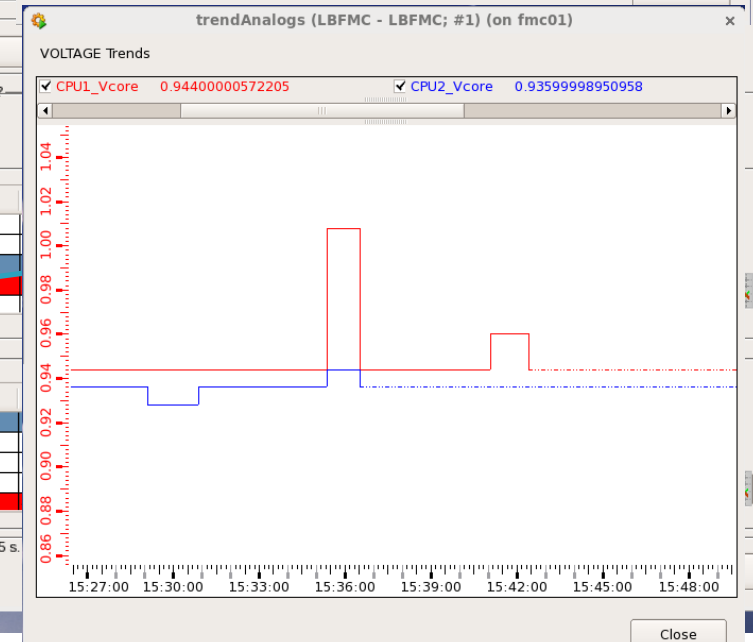
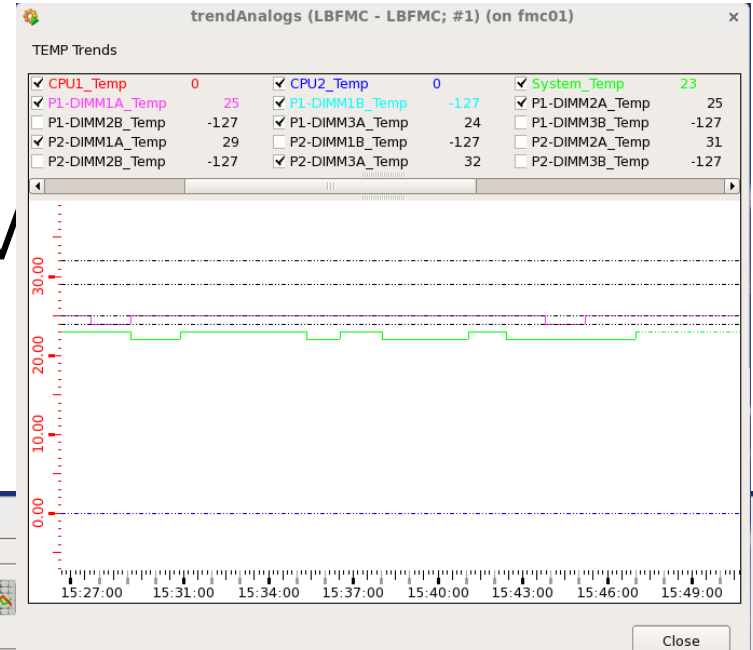
Name
Fan1
Fan2
Fan3
Fan4

Temperatures

Name
CPU1_Temp
CPU2_Temp
System_Temp
P1-DIMM1A_Temp
P1-DIMM1B_Temp

IPMI values are refreshed every 5 s.

Navigator mode Go to Editor Close



Next steps

- ▶ An ATCA crate was bought to continue the tests
 - Should be arriving soon
- ▶ More active development of the Server software