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Connections

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- LtuProblems
- CaenBranchUpdate
- Spd Naming Convention (PDF)
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- SPD Mood
- Analyzing Consistency Errors
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General Information

This is a distributed control software composed by:

- One or more **FED (Front End Device) Servers**: that physically control the hardware through a VME bus interface and that can receive commands through a DIM interface
- **PVSS Control Layer**: PVSS is a SCADA language wish enables the development of distributed and redundant control systems
- **An Online Analysis tool**: for data displaying, debugging and the creation of configuration registers

All the communication is based in DIM (Distributed Information Management) server clients developed in CERN For On-Line and displaying and analysis we are using ROOT: a analysis framework also developed here in CERN

The Control system will have to, control, configure in real time and characterize all the readout system of the detector wish includes 20 Routers, 60 Link Receivers, 120 MCM s, through all the 9 830 400 existing channels of the detector.

**Links**: ROOT, DIM, PVSS, JCobe Framework

Fed Server

Fed Server or Front end Server its a software developed in C++ and compiled with DIM and acts as the hardware driver layer in the DCS software.
SPD Mood

SPDMood is a monitoring program based on an older version of "Mood", it follows the standard DAQ data path and has been developed specifically for the testing of the SPD. You can get more information in Henrik’s Tydesjö page Here.

PVSS

PVSS Layers:

PVSS II is a SCADA system. SCADA stands for Supervisory Control And Data Acquisition. PVSS will be used to connect to hardware (or software) devices, acquire the data they produce and use it for their supervision, i.e. to monitor their behaviour and to initialize, configure and operate them.

On-Line Analisys Tool

Main Classes Developed

- **RootDimSrv**: Class that handles the communication with PVSS that works like the big master of all the system. PVSS can send commands through this class to stop, start data acquisition and control all of the status of the application.
- **Pixel**: Class that handles the communication with the FED server, sends data requests in our "handshacked" receives and saves data and manages the files created.
- **DParser**: Data parser, receives the raw data from the FED and parses it to global memory files. This class also does consistency checks on the data received.
- **MeanTTHanalizer**: Class responsible for the Mean Threshold Scan analysis, takes from the efficiency matrix all of the scurves and calculates the sigma and mean maps for one Half Stave, there is also a display class created in ROOT just for this. More classes like this will have to be created in the future for the characterization of the detector.
- **SPDLogger**: a class that handles all of the logging options of the application
- **ROOT Panels**: There are several ROOT panels created to browse through the on-line data and to show the analysis of several tests and scans.

Classes Diagram

Main Classes Developed

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