Present and future of the DCS-COMPASS

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Outline

- 2004 Run: Status
- Programme for the long Shutdown
- Plans for the future DCS
- Considerations

2004 Run: Status

Newly implemented in PVSS (I)

- Monitoring of temperatures and humidities in Straws 05 and 06
  ↪ done on December 03
- Integration of channel trip alarms from MicroMegas and Drifts
  ↪ done on March
- Additional monitorings of temperature points in MicroMegas
  ↪ done on April
- Control of HV systems for Straws and Silicon stations (ISEG PS)
  ↪ done on May
- Control of VME-9U crates (Wiener Fan-trays) in PVSS rebuilt
  ↪ done on May
- Monitoring/control of LV PS and VME crates for MW1 (using ELMB)
  ↪ done on May
- Monitoring of target dipole and solenoid currents (using ELMB)
  ↪ done on May

2004 Run: Status

Newly implemented in PVSS (II)

- Control of HV and LV channels for GEM11
  ↪ done on May
- Control of 1 additional crate for Silicon LV system
  ↪ done on May
- Monitoring of temperatures and LV PS for W45
  ↪ done on May
- Monitoring of the General Gas distribution system status (ELMB)
  ↪ done on May
- Monitoring of the Gas system for MW1, from PLC3
  ↪ done on June
- Control of HV (CAEN) for Veto-Box and Hadron Trigger detectors
  ↪ done on June
- Integration of 2 HV crates (CAEN) for BMS
  ↪ done on June

2004 Run: Status

Newly implemented in PVSS (III)

- Segmentation of CAEN HV for RICH
  ↪ done on June
- Additional segmentation of CAEN HV for RICH – add new type of crate and use OPC Server
  ↪ done on July

2004 Run: Status

Recent modifications

- Automatic restart of the CAEN OPC Server every 6 hours – temporary fix communication problem
- New tool to extract Straws data from PVSS
- Bug in the code for MM and DC trips is fixed
- Archiving of all currents from HV channels in PVSS
- Alarm of "Under-Current" for GEM LV channels if I<500 mA
- Automatic restart of the CAEN OPC Server every 6 hours – temporary fix communication problem
- 2 MW1 VME crates swaped in PVSS – now fixed

2004 Run: Status

Current problems (I)

- CAEN OPC Server is not yet stable:
  - Tests done by DCS group show interference problems when using ethernet connection (a CERN network problem?)
  - Still some bugs in the OPC Server items definitions.
  - CAEN technician visited COMPASS in July to debug the problems. Discussions are still ongoing; another visit is foreseen, to do more tests, in September.
- Many fake alarms from CAEN HV channels:
  - Study of frequency per module shows almost all are equally bad;
  - Origin of fakes is unknown: hardware? SLiC? PVSS? Need more tests.

2004 Run: Status

Current problems (II)

- ELMBs sometimes reinitialize, for an unknown cause:
  - Seen on several ELMBs, but not easy to notice;
  - Sometimes the measurements absolute norm. change and cannot be recovered.
- PVSS getting slow, for an unknown reason:
  - May be correlated with **ssh** sessions left opened in the main DCS computer;
- Problems with the PVSS online-backup tool
  - Sometimes after the online-backup, the system cannot recover the access to the database.
  - When the problem appears, our only solution is to stop and restart PVSS ($\approx$ 30 minutes without DCS controls).

2004 Run: Status

Ongoing activities

- Integration of RICH and Straws Wiener LV PS in PVSS
- New ELMBs to monitor/control the cryogenic system of Cold Silicon stations → But we need to test in advance!
- Temperatures monitoring for Drift Chambers and RICH
- Monitoring of NIM crates status → waiting for cables from Trigger group
- Implement alarm for SM2 interlock status in PVSS (?)
- Write documentation and update web pages
- Planning of the new DCS architecture

Programme for the long Shutdown

Since there will be no data-taking in 2005, the main DCS activity for this period will be the complete redesign of the DCS.

Meanwhile, should the existent PVSS project continue to run?
↪ Detectors' gas systems

Call for new requests from the Detectors groups.

We need to know which equipments are foreseen to be added or replaced for 2006, well in advance! We will also need all the equipments ON, for testing purposes, 2 or 3 times during 2005.
↪ To be agreed upon with detectors groups

Plans for the future DCS

- We are preparing a note concerning the future DCS-COMPASS
- We prepare also the requests for IT/CO support, a first meeting will take place still this year
- But input from the detectors groups is needed!
  ↪ a DCS-COMPASS meeting shall be scheduled for November 2004 (?)

Plans for the future DCS

First ideas

- New version of PVSS will be used (PVSS II v 3.0)
- JCOP Framework 2.09 + COMPASS Framework will be used
- Generalize the use of OPC Servers
- New project will use different authorization levels: "[detector] expert", "DCS expert", "Operator" and "Observer"
- New project will have several pre-defined running conditions: "Physics running", "Access", "Alignment", ...
- ...

Considerations...

- The reason to redesign the project is the incompatibility between new and old (which we are using) versions of the JCOP Framework – Internal datapoint structures changed;
- No IT/CO-CERN support for SLiC in the future! This is the reason to redesign part of the front-end hardware and software – move from VMEs and Linux to Windows PCs; move from SLiC to OPC Servers.
- More ELMBs will be needed in the future. These will have to be of new type. Price will be much higher. Advantageous to coordinate orders of new ELMBs with other CERN experiments.
- Some equipments used in COMPASS are either very old (ex: Lecroy PS used for the Trigger system), or non-standard (ex: home-made LV PS). Are there plans to replace these?