Technical Meeting Compass DCS / IT-CO

Date: 15 November 2007 from 10:00am to 12:00am
Place: IT-CO SCADA Lab.

This meeting was attended by:

Mathias Dutour (ITCO)
Piotr Golonka (ITCO)
Manuel Gonzalez Berges (ITCO)
Catarina Quintans (COMPASS DCS)
Ana Sofia Nunes (COMPASS DCS)
Christophe Pires (COMPASS DCS)

Content:

General news:

CQ reported that the COMPASS DCS group has a new member, software engineer, Christophe Pires, who will stay in CERN for two years. CQ and ASN will leave CERN for Portugal during the winter break.
CQ also reported that the COMPASS 2007 run ended on November 11th as planned. During the shutdown period, the DCS group will prepare for the foreseen COMPASS 2008 run, now with hadron beam (official decision in December 2007), which will imply significant changes in the detector, such as removal of subdetectors and installation of new subdetectors. New power supplies and other items will have to be monitored by the DCS. From the PVSS point of view, usage of Oracle archiving and the ConfigurationDB tool will be tested by the COMPASS DCS group to be operational for the hadron run in spring 2008.
MGB announced that PVSS 3.7 was released last week and is being tested at ITCO. A service pack will be provided next spring.

Status of open issues / specific actions.

<u>FSM integration:</u>
CQ indicated the integration of the FSM is not an option anymore for the 2008 hadron run.

<u>Oracle archiving:</u>
ASN reported that successful tests were done with PVSS 3.6 SP2 and the integration of Oracle DB. MGB informed that in ALICE collaboration PVSS historical data was successfully converted into an Oracle DB (by expert Svetozar Kapusta), and that ITCO

will provide the support needed in this process of conversion of the COMPASS DCS data. For data only in ASCII format, no conversion from PVSS is possible at the moment. Furthermore MGB advised COMPASS to request an account to archive the DCS data in the COMPASS production Oracle database. The requirements in terms of space and data rates have to be discussed with the database administrators to guarantee that the DB server will cope with the data for the run next year.
Action ASN: Test the PVSS tool for conversion of historical PVSS data to Oracle with data from a small interval of time.
Action ASN: Ask for a production Oracle database to CDR ASAP.

ConfigurationDB:
PG reported that the ConfigurationDB tool is now stable and used by all of the LHC experiments successfully. PG indicated he could provide a training session for the COMPASS DCS since the documentation is out of date.
ASN indicated she could start working on the configuration database integration in January 2008.

CT376974 Wiener equipment communication problems (closed and tracked offline):
CQ reported on the meeting from 14/11/2007 between COMPASS DCS, the COMPASS technical coordinator and a responsible for many of COMPASS' Wiener equipments. There was an agreement to proceed with the firmware upgrade for the PL500 power supplies. All agreed that the “check of functions” in Wiener's proposal must be clarified. In particular the power supplies shall be returned to COMPASS with correct settings and verified channel voltage output.
MD informed that the new Wiener OPC server is expected to be released for CERN tests before the end of the year and is convinced a stable version will be available for next COMPASS run. MD reaffirmed the need to update the OPC server as well whenever available and all agreed a trial can be discussed with Wiener before negotiating licensing aspects.
Action CQ: Check with owners of VME crates which modifications have been done, since this may have an impact in the process of firmware upgrade. Ask for one owner to provide one spare VME crate (power supply model UEP 5021) to test the firmware upgrade.
Action CQ: Contact Urs Vogt for clarification of the “check of functions” and negotiate the details of the full operation.
Action MD: Investigate how other non –LHC experiments at CERN are dealing with Wiener contract management.

Caen problem with poor data reliability reading status bits (remedy case CT461801):
MD reported about his test with one SY403 crate that he could reproduced a similar behavior as observed in COMPASS DCS, and his contact with CAEN about this subject. CAEN has informed not to have knowledge of this behavior. CAEN contact (Gianni di Maio / GDM) tried an EEPROM reset and different reading parameters on the module used by MD for the test (A503) without success. GDM indicated as well the developer of the CAENNET-related software has left CAEN.

Action MD: Send a simplified version of SLIC to CAEN so that CAEN can also reproduce the problem.
Action CQ/ASN: Check with the owners whether the equipment/software involved is still under warranty.

New points arising:

Load of the COMPASS DCS PVSS project:
CQ and ASN reported the limitation seen in the number of points displayed in PVSS trends. MGB explained the trends behavior, inherent displaying limitations and its interaction with database for data extraction. Regarding bottlenecks that may arise from the usage of PVSS' RDB manager, MGB and PG informed that there is an option "QueryRDBDirect" that allows that the queries to the database don't pass through the Event Manager. Trends are not using this kind of query at the moment, reason why trending has a big impact on the CPU load of the running project.
MD and MGB indicated better PVSS project performance could be achieved by spreading the PVSS tasks over multiple CPUs. COMPASS asked if scattered or distributed project should be tried to improve the performance of the DCS – it was agreed that it would imply major changes in the set of datapoints of the existing project. MGB and PG explained that moving to scattered or distributed system is costly in terms of development, so as a first step it is better to upgrade the more than 3 year old central PC of COMPASS. As an example, ATLAS is buying now PCs with two quad core Xeon processors (8 cores in total), with redundant hardisks and with redundant power supplies. Such a PC cost in order of 4K CHF, which would be much cheaper than the effort development effort to move to a distributed system.

Use of ELMBs to send commands:
There has been a request from COMPASS detector experts to use ELMB's to send commands to devices in 2008. MD recommended contacting Jim Cook (ATLAS) for information on the maximum rate of updates and on how to deal with the problem of possible offsets when restarting the ELMBs.

Misc.:

Visit to COMPASS hall:
MD has asked for a guided tour for an ITCO group to the COMPASS experimental hall, and CQ has agreed to contact Susanne Koblitz, the official COMPASS guide, for the needed arrangements.

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