Technical Meeting COMPASS DCS / EN-ICE

Date: 22 January 2009 from 2:00pm to 4:00am
Place: Scada Lab
This meeting was attended by:
Catarina Quintans (COMPASS DCS) (CQ)
Christophe Pires (COMPASS DCS) (CP)
Mathias Dutour (EN ICE) (MD)
Piotr Golonka (EN ICE) (PG)

Note: Some items from the previous meeting have been integrated *in italic*.

Content:

General news:
Following the CERN reorganization, the new EN-ICE group was presented to COMPASS. MD and PG reassured COMPASS that the offered support will proceed and the solutions used in COMPASS developed by the former IT CO group will be maintained.
The COMPASS run is planned to start on the 4th May 2009 and to last for 5 months. Hadron and muon beams will be used.
CQ is only present physically at CERN only once a week per month during the winter season and fulltime starting from April. Ana Sofia Nunes (COMPASS DCS) will join CP at CERN by mid-February 2009 for the preparation of the run.

COMPASS 2009 run:

CQ plans to have several “high load scenario” to stress-test the DCS functionality prior to the run. Among which will be tested the Oracle archiving, the configuration database and the readout of the calorimeter information (integration of MySQL data in DCS is pending).

Previously identified actions:
Action COMPASS*: Provide a description of the expected behavior of the DCS system and list of identified risks.*
(Not closed yet).

Expectations and means to integrate the calorimeter in COMPASS DCS have to be identified.
Action CP*: Schedule a separate meeting with ITCO to address this point.*
(Not closed yet).

CQ also indicated that PLC data (through Modbus TCP) and CAEN SY127 power supply data (though Channel Access / EPICS) have to be integrated in the DCS for the run.

PVSS / General:

Potential COMPASS migration to PVSS 3.8:

PG indicated that a beta JCOP Framework version for PVSS 3.8 is available for the CERN users to evaluate and start porting their PVSS applications. The LHC experiments are planning to use PVSS 3.8 for the next run. PG also indicated that PVSS 3.6 will be supported as long as PVSS _3.6_ is the up to date release. PG informed that the official support for PVSS 3.1 at ETM ended in December 2008, and no more patches will be available for this version. The official support for PVSS 3.6 (provided by ETM) will most likely terminate when the new major version of PVSS (3.9) is released, which is currently expected in Autumn 2009.

If interested, MD advised COMPASS to setup a machine with a copy of the operational project and to port it to PVSS 3.8 for testing purpose. CQ asked about the requirement for the migration: PG indicated that the initial laboratory tests suggest that the upgraded database schema works also with PVSS 3.6SP2 with patch P048, hence the migration of the project to PVSS 3.8 could be performed AFTER the database schema upgrade.

PVSS/ Oracle archiving:

The DCS data this year will be archive in Oracle. CQ is worried that the Oracle archiving presents some flaws during the data taking. MD suggested to identify critical scenario and to use them proof-test the Oracle archiving before the run.

CQ is also looking for a solution to give access to archived data in parallel to the archiving process itself. CQ foresees a set of PVSS panels to give access to the data while PG indicated the possibility of using the "PVSS RDB Archiver Data Access Interface for External Applications" - an extension of database schema developed in IT/CO-BE. That would make it possible to use the data from applications such as ROOT, yet the details would need to be clarified.
In any case, the Database Administrators already set up a "reader"-type account, and put a protection mechanism on them, which assures that too expensive queries are dropped in order to conserve database resources and keep the data-storing process reliable. It is up to COMPASS to try this mechanism. Database Administrator need to gather statistical information about the typical queries so that they could tune the database further.

PVSS/ConfigurationDB:

To prevent the incident that occurred in 2008 on a wrongly configured ISEG module (see Minutes of October 2008), CQ would like to secure the operations of the ConfigurationDB, in particular for Detector people with little experience of the ConfigurationDB.

Hence CQ would appreciate a way to view the configuration before it is actually applied on the devices. In particular a mean to select in the tree of equipment the devices to be restored would be appreciated. PG indicated that the implementation of such Configuration DB feature has a low priority and may not

be ready before the Compass' run and pointed out that the feature requests are already registered in the Savannah bug tracker:
https://savannah.cern.ch/bugs/index.php?43050 and https://savannah.cern.ch/bugs/index.php?43048. After further discussions, we came to the conclusion that a safer approach would be to restore the devices from a snapshot and apply predefined recipes on them. PG also pointed out that the appropriate safety mechanisms, allowing reviewing the changes before applying them are already present for the recipes - they were one of the key requirements for the recipes and are there since a long time. Their use is demonstrated by the "Advanced Recipe Use" panel of the tool. This has been acknowledged by CP. COMPASS is going to provide customized panels to load/apply/review the settings for recipes, which is in line with the recommendations of PG.

Wiener:

From previous meeting:
Action MD: *MD proposed to look at the UEP6021 with which it is not possible to communicate.*
(Done, the UEP6021 is functional again and has been reintegrated)

MD indicated that Wiener agreed to provide the new OPC server for COMPASS to perform tests during the Winter break, (free of charge for testing purpose). For these tests, the Fantray EPROM firmware of UEL4020 (HI 5.07) tested by MD will be corrected and given back to COMPASS by the end of 2008. The proposal is to upgrade an entire CANbus with this new EPROMs, control the crates with the new OPC server for COMPASS to report any issue. If no communication issue is detected, the problem of blocking crates would be considered solved by this new fan tray firmware / OPC combination. MD strongly recommends this approach to reach a situation with support from Wiener, the sooner the tests can start the better. ASN indicated a discussion with the COMPASS Front End coordinator shall take place to address this issue.
Action COMPASS*: Check whether this strategy is acceptable.*
Action closed:
We discussed the possibility to upgrade an entire CANbus to run the OPC server tests. CQ indicated a CAN bus with 3 UEP6021 and 3 UEP5021 could be used for this purpose. (CQ prefers not to upgrade the UEP6021 for the time being.)

Action COMPASS*: Identify and organize the setup for these tests. (Possibly a dedicated PVSS project, an entire CANbus upgraded). ITCO will help to get this setup right.*
(Action pending).

Action MD: Contact Wiener again to get the corrected EEPROM for the UEP5021 fan trays.

CAEN:

Concerning the obsolescence management of CAENet equipment and software, CAEN will provide to CERN a model of their foreseen strategy before the end of

the year. The intention is for CAEN to clarify the level of support end users can expect w.r.t. their equipment and software on the long term.
Also MD and CAEN recommend a discussion to take place for COMPASS to present to CAEN its foreseen plans for the next runs regarding the CAENet devices and discuss potential support extensions, solution replacement etc…
***Action COMPASS**: Identify the right interface at COMPASS for such discussion.*
Action closed: A meeting was held on 27th January to discuss this point. The discussion aimed at pushing CAEN to clarify:

- Whether firmware upgrades were required on COMPASS CAENET equipment and how to proceed.
- The progress on the CAENET/SLC4 communication issue. (Low interest in CAEN to help on this)
- The support policy for CAENET devices in the future. (A document is being prepared in CAEN to address this very point).

MD also indicated that an alternative to SLiC is being developed in EN-ICE based on a technology used in the accelerator sector. Although this solution is not realistic for the run of 2009 due to technical limitations, a demo will be organized with COMPASS to collect direct feedback.

DIP:
Previously identified actions :
***Action COMPASS**: check how COMPASS DAQ gets data from CESAR.*
(Not yet investigated.)

***Action COMPASS**: Make sure the router for proper COMPASS<>TN networking bridge will be in place before the next run.*
(Not discussed during the meeting)

NIM Crates:
MD asked whether the remote control of NIM crates through Wiener OPC would be of interest to COMPASS, NA62 and E-Pool are interested in this solution. CQ is not sure whether this is required for COMPASS due to the few NIM crates in use.

Action CQ: Check whether the remote control of NIM crates through Wiener OPC would be useful for COMPASS.

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