Technical Meeting COMPASS DCS / EN-ICE

Date: April 6th 2009, from 3:00pm to 4:30pm
Place: Scada Lab
This meeting was attended by:
Mathias Dutour (EN ICE) (MD)
Piotr Golonka (EN ICE) (PG)
Ana Sofia Nunes (COMPASS DCS) (ASN)
Christophe Pires (COMPASS DCS) (CP)

Content:

General news:

The COMPASS 2009 Run is scheduled to start on May 15th. COMPASS DCS aims at having the DCS project operational by the beginning of May, since users are expected to start using it before beam arrives to the experimental hall.

PG will be on holidays from April 8th until May 3rd and therefore the support for PVSS in Linux will be limited during this period. COMPASS DCS stressed that this is a critical period because the DCS project has to be ready for the beginning of the Run. MD and PG assured that the EN-ICE team, namely Manuel Gonzalez Berges, will be available for critical fixes for Linux if needed, although he has many other responsibilities.

PVSS / General:

PG informed that the PVSS 3.8 Service Pack 1 is foreseen to be released on April 6th (on the day of the meeting). It will correct bugs identified in PVSS 3.8, among which are problems with the RDB manager and problems with the PVSS user interface in Windows. The release notes have not been made available yet.

Potential COMPASS migration to PVSS 3.8

PG recalled that the main new feature in PVSS 3.8 is the local buffering mechanism. With PVSS 3.6 SP2 there is no workaround to prevent the loss of data in case the connection to the Oracle database, or the database itself, is

broken. MD pointed out that PVSS 3.8 with its new safer archiving mechanism was not envisaged at the time COMPASS DCS chose to adopt Oracle archiving. Regarding the option to revert to disk storage, in case of problem, PG said it would not be simple to have the data stored in Oracle converted to PVSS database format. MD asked if it would be possible to implement the local buffering mechanism in PVSS 3.6 SP2; PG answered this would be extremely difficult, because a scattered system could in theory be set up, but the RDB manager and the Data manager have many dependencies.

PG reported that ATLAS and CMS had already migrated to PVSS 3.8 whereas ALICE and LHCb decided to wait for PVSS 3.8 SP1. The accelerator control system decided to stick with PVSS 3.6 and PVSS local databases. There where many problems found in PVSS 3.8. Among them, the time interval for flushing the data to the database, in Linux, was sometimes different from the one used for configuration of the RDB manager and was seen to be as large as three minutes, during which time the data was not available, e.g. for trending. This bug was never observed in PVSS 3.6 and is expected to be fixed in PVSS 3.8 SP1.

MD and PG discouraged the migration to PVSS 3.8 due to the very tight schedule and the distribution being relatively new and not stable enough.

COMPASS DCS reported that the communication with the Physics Databases Services has had some delays and that the reason for the problems observed during the upgrades of schema versions in test database accounts is not clear yet. MD recommended to contact Maria Girone directly if needed. MD also recommended to clarify the Physics Databases Services support policy during the Run in a dedicated meeting. PG pointed out one should expect problems mainly during upgrades of schema version and recommended not to upgrade the schema version for the 2009 Run due to the short timescale.

MD advised to contact the end users to get as much data as possible (and run the complementary stress tests).

PG confirmed that the fixing of bugs eventually found in PVSS 3.6 is guaranteed (by ETM and EN-ICE), although from a ETM perspective (which is different from the one from EN-ICE), there will be a quicker support for PVSS 3.8.

MD asked weather JCOP Framework 4.0 is required for COMPASS DCS. PG does not recommend it: it is basically a collection of the most up to date components for JCOP Framework 3, adapted to take into account PVSS 3.8 specificities.

MD informed that, for a possible future use of the new fwWiener component by COMPASS DCS, a panel is included in the distribution to allow the migration of the old OPC server CAN bus and crate datapoints to the new ones. Soon there will also be a release that will allow to correct the differences in the PVSS project and in the ConfigurationDB.
EDIT: this functionality is included in the most recently released version of the fwWiener component.

JCOP Framework/ConfigurationDB:

COMPASS DCS asked for the possibility to include, in future distributions of the fwConfigurationDB component, the option to save, in configurations and recipes, comments from datapoints and/or aliases from datapoint elements (e.g. voltages and currents). The JCOP Framework mass configuration tool could also have panels to automatically set these aliases.

Wiener:

COMPASS DCS informed that some of the VME crates will be moved and therefore the CAN bus assignment will change. There were no communication problems observed during the shutdown period. MD reported that Wiener had asked for a crate from COMPASS to test their new firmware. MD advised to stick to the current setup due to timescale constraints. The JCOP Framework component to use with Krakow server is fwWiener 3.1.0. MD informed that the latest version of this component, as well as future versions, is not fully compatible with the Krakow server.

CAEN:

COMPASS DCS informed that a test had been done with a CAEN crate from COMPASS, following the email from CAEN where the problems of communication observed in SLC4 were explained as being a consequence of the parameter HZ (number of jiffies per second) having been redefined in kernels

of generation 2.6, and that a corresponding factor of ten would have to be multiplied to the timeout (which is in units of jiffies) in CAENet code in SLC4. If the explanation is correct, we would expect to see the same number of fake readings in SLC3, with respect to what is observed in SLC4, if we divide by ten the timeout used in SLC4. The test was done with a timeout value of 20 jiffies (200 ms), a crate SY527 with 8 modules, the module monitored being A516 with 8 channels. The channels were off, but fake readings in the settings would be observable. The test lasted for 30 hours and no fake readings were observed. According to CAEN, such a small value for the timeout could have additional consequences and there are possibly other differences in kernel versions that are important.

MD has asked CAEN for the detail protocol of their tests and for an explanation on why they could not reproduce the problem sooner. MD advised the COMPASS DCS group to reproduce the tests done in October in SLC4 in the same conditions, using the timeout recommended by CAEN.
Action COMPASS DCS: repeat the tests done in October, but with timeout slightly above 200. Sending of commands should also be tested.
Action MD: test CAEN OPC server in Windows for monitoring and control of CAEN crates communicating via CAENet.

Laser control:

COMPASS DCS reported a request to integrate the control of a laser in the DCS, using a DAC.
Action COMPASS DCS: clarify which previous control system was in use.

EPICS/PLC/Calorimeters/Router:

No news.

Other issues:

MD suggested to anticipate the regular meeting between EN-ICE and COMPASS-DCS to end of April to allow a timely discussion of the status of the DCS project.

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