CWG13 Meeting, 04/04/2014 11:00 301-R-007

Present: Barth, Charis, Matthias, Mohammad, Peter, Raffaele, Ruben, Sylvain, Vasco
Remote: Ken, (people from GSI?)

Introduction (Peter) + discussion during the presentation:
- Circulate the C++11 performance comparison presented by Axel in Saas Fee and CHEP (Barth);
- Everyone should think about the workflow to be used (cf Git);
- Next week discussion about the data model (cf event.h). Probably we will need much more changes to implement the time frames than simply extension of the existing raw data. The design of the data model should correspond to the requirements of CWG3 (data flow);
- ALFA is the layer that is configuring the system topology, takes care about the messaging between the system components and data transport. It doesn't implement the control flow, the state machines, etc.
- The logging tool is not part of ALFA, but it already exists and we can reuse it;
- We decided to have detailed presentation and discussion on ALFA at the first meeting after Eastern;
- Barth, Sylvain and Vasco do not manage the DAQ test machines. We have to discuss with the system administrator the way to access them, the installation, etc. DAQ people will send details on the test nodes available and will enquiry what policy will apply for them;
- The goals we want to achieve with the prototype have to be discussed in details during the next meeting:
  - The prototype have to implement the design of the O2 system (FLP/EPN, etc.);
  - We have to establish "scaling" between the prototype and the full system and to say what part of the full system is implemented/tested;
  - Propose set of tests on the online system;
  - Possibility to reuse old raw data for the tests;
  - Discuss the interface to the data model.
- Basic commonalities (logs, ...) should be defined and for each we shall see if we already have something available in our respective groups.

Data model: we decided to postpone the presentation for the next week (11/04/2014) and to have detailed discussion during the next meeting.

Experience with online systems (Matthias):
- We agreed that particular attention should be paid to the technical challenges: data transport, cluster infrastructure, file systems and package distribution, access of large data sets, process orchestration;
- The designed considerations (slide 3) are good basis for the future discussion of the prototype;
- The prototype should be considered as "sand box" for the developers;

- We need practical approach for the next 6 months since this is the time to provide input for the TDR.

Discussion:
- Sylvain's presented the functionality of the O2 prototype from DAQ point of view (see the link to his slide);
- We agreed to try a first implementation of the topology from the slide based on the FairRoot components. This would permit to gain experience with ZeroMQ, to do some networking tests and to work on the interface of the logging system.

Action list (see the presentation of Peter) + in addition:
- Discussion on the data model during the next meeting (11/04/2014);
- Policy for the DAQ test nodes;
- Discussion on the goals of the prototype.

Sylvain sent the description of the machines available for tests in the DAQ lab:

8 machines

Sandy Bridge-EP, dual E5-2690 0 @ 2.90GHz, 64GB RAM
2x8 hw cores, 32 threads

4x with 40G Ethernet
4x with 10G Ethernet

They are on a private network accessible through a SSH gateway, without direct access to GPN.