Outline of the data acquisition and online tools talk

Graham - May 1st 2012

The numbered items here may or may not be single slides. In some cases a diagram is worth 1000 words so there may be on one or more slides with diagrams or pictures.

1. **Introduction** - what is this talk covering.

2. **Organization and relationships** - Introduce the fact that there is a support group dedicated to the online and a support group dedicated to fast electronics. Introduce the idea of relatively small individual online groups who rely on the support groups for help with major installations. Discuss the relationship with IT and Acc divisions and the roles they play in supporting the online.

3. **Staffing and funding** - Discuss the staffing and skill mix in the DAQ support group and how it relates to 12 GeV installation and operation. Discuss the funding mechanism of the DAQ group.

4. **CODA and the 6 GeV program** - Introduce CODA as a common toolkit for online systems. Discuss the scope covered by CODA, it's successes and weaknesses.

5. **12 GeV online requirements rollup** - Recap of the 12 GeV rates.

6. **CODA and the 12 GeV program** - The plan to meet the requirements.

7. **Trigger and Front End electronics** - Briefly discuss the use of pipelined electronics to handle trigger rates (remember that this is a software review).

8. **Readout** - Linux at the front end processors with software to handle pipelined. Particularly point out the lack of a need for a "real time" operating system.

9. **Event builder and back-end software** - Discuss the parallel event builder and the issue of disentangling data from pipelined electronics into individual events.

10. **Data transport and messaging software** - Introduce the cMsg system for control and monitoring data and the ET system for bulk data transport and filtering.

11. **Experiment Control system** - Introduce AFECS and the new Experiment Control in particular how it solves the problem of handling large distributed systems.

12. **Online trigger and monitoring farms** - Briefly discuss how the ET system and AFECS can work together to provide a framework for monitoring and L3 triggers.

13. **Other online software and related services** - One or two slides on the following topics.

1. System administration, networking and security.

2. Data storage.

3. Databases.

4. Slow Control.

5. Logbook and hardware inventory.

6. Remote access.

14. **Current status** - Demonstrate where we are and what works now. In particular show how CODA 3 has been a progressive upgrade from CODA 2 with many parts already used in the 6 GeV program as they became available.

15. **The path forward** - Discuss what remains to be done and the plan to get from where we are, through testing of hardware as it arrives, detector testbeds and commissioning to a functioning online in each hall. In particular:

1. Installation

2. Testing.

3. Commissioning.

16. **Summary** - Summarize the important points. We have staff, funding, experience and a plan.