WP5: Data acquisition system for beam tests

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WP5 groups: University of Bristol, DESY Hamburg, Institute of Physics AS CR Prague, University of Sussex, UCL

Brief introduction to meeting

WP5 session — Annual Meeting, DESY, 14 June 2016

Meeting goals

- General review of overall progress and tasks.
- Provide input to D. Cussans' plenary presentation.
- Status and discussion of first deliverable (and milestone).

WP5 tasks

- Task 5.1 Scientific coordination
- Task 5.2 Interface, synchronisation and control of multiple-detector systems
- Task 5.3 Development of central DAQ software and run control system
- Task 5.4 Development of data quality and slow control monitoring
- Task 5.5 Event model for combined DAQ

Agenda

14:00	**Introduction** *Seminar room 4a (Bldg.01b), DESY*	*Matthew Wing* 14:00 - 14:10
	Status of monitoring *Seminar room 4a (Bldg.01b), DESY*	*Tom Coates* 14:10 - 14:35
	Online event model *Seminar room 4a (Bldg.01b), DESY*	*Dr. Adrian Irles* 14:35 - 15:00
15:00	**EUDAQ and EUDAQ2 status** *Seminar room 4a (Bldg.01b), DESY*	*Yi Liu* 15:00 - 15:30
	SiECAL and SDHCAL DAQ *Seminar room 4a (Bldg.01b), DESY*	*Christophe Combaret* 15:30 - 16:00
16:00		
	Common testbeam AHCAL+BIF experience with EUDAQ1 and EUDAQ2 *Seminar room 4a (Bldg.01b), DESY*	*Dr. Adrian Irles* 16:20 - 16:50
	BIF hardware, capabilities, exportability to other testbeams and results *Seminar room 4a (Bldg.01b), DESY*	*Jiri Kvasnicka* 16:50 - 17:20
17:00	**TLU and interface document** *Seminar room 4a (Bldg.01b), DESY*	*David Cussans* 17:20 - 17:50
	Discussion *Seminar room 4a (Bldg.01b), DESY*	17:50 - 18:00
18:00		

Some news

- Adrian has set up a wiki so we can collect together information

  http://flcwiki.desy.de/AIDA2020WP5

  also linked from AIDA-2020 WP5 home page.
- Proof of concept fund available for knowledge exchange, working with industry, development of new concepts.
  - Meeting in Thursday WP2 parallel session.
  - Not sure there are any candidates from our WP.

Deliverable and Milestone

List of deliverables

Deliverable Number [14]	Deliverable Title	Lead beneficiary	Type [15]	Dissemination level [16]	Due Date (in months) [17]
D5.1	Interface definition	30 - UCL	Report	Public	15

- D5.1 Definition of interface standards for the common DAQ system which will describe how the detector DAQ system connects to the common DAQ. (Task 5.2)

Number	Definition	Beneficiary	Month	Verification
MS25	Definition of detector interface standards with common DAQ (Definition of interface standards for the common DAQ system which will describe how the detector DAQ system connects to the common DAQ, Task 5.2)	UCL	15	Report to StCom

- The deliverable and milestone are the same. Delivery is Month 15, i.e. end of July 2016.
- It is contractually important, but also key for this workpackage.
- See in particular David's talk and document.

- The next deliverables are first versions of the various parts, by Month 30, i.e. end of October 2017. Milestones are at various points through that period.

Back-up

Project management – deliverables

List of deliverables

Deliverable Number [14]	Deliverable Title	Lead beneficiary	Type [15]	Dissemination level [16]	Due Date (in months) [17]
D5.1	Interface definition	30 - UCL	Report	Public	15
D5.2	Trigger Logic Unit ready	31 - UNIBRIS	Demonstrator	Public	30
D5.3	Data acquisition software	30 - UCL	Report	Public	30
D5.4	Data acquisition hardware	31 - UNIBRIS	Demonstrator	Public	30
D5.5	Online event data model	9 - DESY	Report	Public	30
D5.6	Common DAQ system used in combined beam tests	30 - UCL	Report	Public	45

First deliverable (and milestone)

- D5.1 Definition of interface standards for the common DAQ system which will describe how the detector DAQ system connects to the common DAQ. (Task 5.2)
- D5.2 The TLU hardware, including interface to CCC, will be ready, along with first versions of firmware and software for testing and integration with detector systems. (Task 5.2)
- D5.3 A software, including EUDAQ interfaces, run control, data monitoring and slow control will be available for common detector test-beams. (Tasks 5.3, 5.4)
- D5.4 As well as the TLU and software, the computing infrastructure, principally PCs, disks and networking, will be ready. (Tasks 5.2, 5.3)
- D5.5 Definition of the online event data model, i.e. the concept of an event for detector systems having very different integration times, compatible with the offline software and in coordination with WP3. (Task 5.5)
- D5.6 The DAQ system will be in use in common test-beam campaigns and the final description of the implementation and performance results will be presented in a report. (Tasks 5.1, 5.2, 5.3, 5.4, 5.5)

Project management – milestones

Number	Definition	Beneficiary	Month	Verification
MS25	Definition of detector interface standards with common DAQ (Definition of interface standards for the common DAQ system which will describe how the detector DAQ system connects to the common DAQ, Task 5.2)	UCL	15	Report to StCom
MS43	Trigger logic unit (TLU) design ready (This will include the design of the interface to the CCC as well as firmware block diagrams and implementation plan,Task 5.2)	Bristol	21	Report to StCom
MS46	EUDAQ interfaces to other DAQs available (EUDAQ interfaces to other DAQs available for integrating different software and hence different detector systems into the central common system, Task 5.3)	DESY	24	Test running results
MS47	Online event data model available (Definition of the online event data model, i.e. the concept of an event for detector systems having very different integration times, compatible with the offline software and in coordination with WP3,Task 5.5)	DESY	24	Test running results
MS62	Development of run control ready (Development of run control ready, incorporating controls for data taking, the ability to send and receive configuration data and receive status messages, Task 5.3)	UCL	27	Test running results
MS66	TLU hardware, firmware and software ready for tests beams (The hardware, along with the interface to the CCC, as well as the firmware and software will be ready for integration by detector systems, Task 5.2)	Bristol	30	Test running results
MS67	Data quality monitoring tools ready (Data quality monitoring tools ready, comparing quantities as soon as possible after data taking but as accurate as possible as offline to expected distributions, Task 5.4)	UCL	30	Test running results
MS68	Slow control system ready (Slow control system ready to monitor environmental conditions from the various detector systems, providing a synchronised picture of the conditions, Task 5.4)	Prague	30	Test running results
MS80	Common DAQ system ready for combined test beams (Tasks 5.1, 5.2, 5.3, 5.4, 5.5)	UCL	36	Test running results