ALICE Online and Offline Computing Upgrade: Working Groups

19-Mar-13

Computing Working Group		Main tasks and topics	Milestones & Deliverables		Lifetime	Chair	Members	
							Project	Institutes
1	Architecture, Framework & Distrib. Comput.	- Propose the general architecture including the distributed computing	Q4 2013	Online system conceptual design note	2014	Thorsten Kollegger	DAQ	Budapest CERN
		- Design the overal framework, define components and interfaces	Q2 2014	Sw fw architecture proposal			HLT	Frankfurt
							Offline	CERN
2	Tools, guidelines, procedures	- Propose survey and evaluation procedures	Q2 2013	Procedures and policies draft prop.	2013 + when needed	Adriana Telesca	DAQ	CERN
		- Propose common guidelines and policies	Q3 2013	Procedures and policies proposal			HLT	
		- Select tools to implement procedures, policies and development environment	Q3 2013	Common tools proposal			Offline	CERN
3	Dataflow & Condition Data	- Design and develop mechanisms to exchange & share physics & conditions data	Q3 2013	Dataflow simulation	Perma-nent	Timo Breitner	DAQ	CERN
		- Communication, data transport, dataflow control and config, Shuttle, OCDB	Q4 2013	Dataflow design proposal			HLT	Frankfurt
		- Computing system simulation	Q2 2014	Dataflow demonstrator			Offline	Caltech
4	Data model	- Study the functional and performance aspects of the data model	Q42013	Data model proposal	Perma-nent	Andrei Gheata	DAQ	CERN
		- Data format and data exchange	Q2 2014	Data model demonstrator			HLT	Frankfurt
		- Data compression					Offline	CERN
5	Computing Platforms	- Study parallel technologies and alternative platforms (Atom, ARM, etc)	Q3 2013	Define list of platforms and benchmarks	2014	Matthias Kretz	DAQ	Budapest CERN
		- Define contraints for an effective usage of parallel technologies	Q4 2013	Guidelines use of parallel plaforms hw+sw			HLT	Frankfurt
		- Assess the advantages of sw contructions e.g. threads, processes	Q2 2014	Proposal on the use of parallelism			Offline	CERN
6	Calibration	- On-line calibration		Possible merge with PWG-PP Calibration	Perma-nent	TBD: PB, TPC, ITS	DAQ	
							HLT	
		- Asses the feasibility of automatic calibration procedures					Offline	INFN GSI Zagreb
7	Reconstruction	- Study the online frame-based reconstruction		Possible merge with PWG-PP Tracking and Alignment	Perma-nent	TBD: PB, TPC, ITS	DAQ	
							HLT	Frankfurt
		- Asses the feasibility of time frame based reconstruction					Offline	CERN GSI Mumbay
8	Physics simulation	- Study the physics simulation inc. on time-frames and continuous readout		Possible merge with PWG-PP Embedding & Mix, Monte-Carlo	Perma-nent	Andreas Morsch	DAQ	
							HLT	
		- Physics simulation packages					Offline	CERN Mumbay
9	QA, DQM, visualization	- Online and offline DQM and QA		Possibly merge with PWG-PP QA	Perma-nent	Barthelemy von Haller	DAQ	CERN
							HLT	
		- Data visualization, event display					Offline	CERN Warsaw
10	Control, config. & monitoring	- Control: Experiment control system	Q4 2013	Survey of methods and	Perma-nent	Vasco Chibante	DAQ	CERN
		- Configuration		tools for the exp. Control			HLT	Frankfurt
		- Bookeeping and monitoring : Alarm system and eLogBook	Q2 2014	Tools selection + demonstrator			Offline	CERN
11	Software Lifecycle	- Implement the complete software lifecycle : development, releases, QC	Q3 2013	Lifecycle draft proposal	Perma-nent	Peter Hristov	DAQ	CERN
		- Implement policies defined by CWG2 on the reference system	Q4 2013	Lifecycle proposal			HLT	
		- Code quality enforcement system	Q1 2014	Reference system in production			Offline	CERN
12	Computing hardware	- Test and recommend commercial hw			Perma-nent	HLT	DAQ	CERN
		- Design and develop custom hw	Q4 2013	First tests os the key technologies			HLT	Frankfurt
		- Purchase, install and administrate the reference and production systems	Q2 2014	A few options for each hw item			Offline	
13	Analysis	- Design and develop an analysis framework and associated tools	Q4 2013	Design note	Perma-nent	Offline	DAQ	
		- Define an AOD data format	Q2 2014	Demonstrate the improvement compared to the present framework			HLT	
		- Study the global performances for batch and interactive					Offline	