Software and Physics

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Outline

- Overall status and schedule
- Local software deliverables
- Validation and local work for Rome (Davide)

Overall status and schedule –DC2

- Simulation phase using "final geometry" – Used Grid — AImost done, 10M events, mixed physics.
- Tier0/Tier1 data test at CERN, simulates full data flow – October 2004
- Distributed Reconstruction — Starts October 2004
- Combined Test beam – Little local impact on software effort. But big conflict with DC2/Rome for atlas in general

Overall status and schedule –Rome meeting

Very tight schedule

- July 2005: vacation.
- June 2005: Rome meeting. Focus on initial geometry and "Physics commissioning". About 15M events total. Reconstructed with different levels of pile-up. Extensive use of ESD/AOD (vital to optimize design). No centralized ntuple production.
- March 2005. All events reconstructed at least once and distributed for "analysis". Using software release 10.0.0
- end January 2005: Simulation (G4) 15M events complete
- Mid November 2004: Simulation starts
- end 2004 Most SM background simulation complete (10M events)

- November 6-8 2004 Physics week at CERN. All groups to present plan for what they will show in Rome.
- 30 October: complete validation of "initial geometry" simulation: release 9.0.0
- 10 October Define content of SM simulation (10M), must be internally consistent.

Critical shortage of production manpower

Confilct between TestBeam and DC2, both of which are delayed

Overall status and schedule – General software

- Computing model paper due end 2004. Uses DC2 experience
- Computing MOU's: April 2005 (perhaps earlier, depends on LCG)
- Computing TDR due mid 2005. Uses data from DC2
- DC3 starts end of 2005, needs "beta" software for entire system.
- Physics Readyness report June 2006 (actually $t_o - 1year$). Uses DC3 data. problem here due ti insufficent time to produce data???
- Commissioning data: October 2006

Local Project activities

This covers people on project money: Wim, Charles, Paulo David, Massimo, Giorgos

- Physics support Giorgos. Monte Carlo support ongoing, new packages being integrated. Tutorial at November Physics week.

- Core software.
  - David: has been renominated as atlas software leader; will stay at CERN for some time longer
  - Charles now has day-to-day responsibility for Gaudi. New/upcoming: Mac OSX support; better threading; Pool (LGC persistency tool) support; new input format using Python scripts; new History objects.
  - Paulo: Recently completed Pileup support for DC2. Ongoing Athena leader, Tranient data store.
  - Massimo works full time as part of the atlas contribution to LCG. He is working on SEAL (Common tools, libraries and infrastructure for LHC). This will be reevaluated when he moves back to LBL. He is also working on Mac support as

Mac OS will become the second supported LCG platform. Important milestones on ROOT integration.

  - Wim. Python scripting and user interface: GUI to drive Athena (much easier for beginners); ROOT integration via PyRoot (can launch ROOT and access ROOT libraries from Athena and vice versa. Can use Python instead of CINT for ROOT scripts). Athena job configuration becoming easier. Essential give extension of user base for Rome.

- We are looking for a new person starting in January 2005. S/he will work with Wim on improving the user interface to Athena. This post is funded.

- Upcoming new stuff (next 9 months)

  Transition to Gaudi 15. Recall that Gaudi is a joint project with LHCb.

  Migrate to pylcgdict2, SEAL plugins.

  Reconstruction on demand

  make existing algos and services more usable in an interactive context

  evolve existing event loop manager to new python base

Implements Folders in the Transient memory store (Storegate).

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