

# Software summary

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**(brief, many topics omitted)**

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# PAT



- ❑ Reorganisation on-going. In particular:
  - Identified domain coordinators
  - Improved connection with physics/combined performance group
- ❑ D3PD production and reading
- ❑ AODFix:
  - Needed for fall reprocessing for Staco in particular, but also egamma, tau, missingET
  - “Clean” long term scheme...
  - ...but agreement to proceed now with a simple fix:
    - One master joboption calling algorithm from a dedicated analysis cache
    - Main difficulty is to make sure the fix is applied once and only once and only when relevant

# Event Management Board



- ❑ Backward compatibility breaking approved: cleanup of obsolete persistent classes can begin (cleanup=delete or move in separate “attic” packages)
- ❑ ESD size (remind that they are twice too large):
  - Some improvements in the pipe line (some already in fall reprocessing)
  - But gaining the factor two need more radical changes
  - Some studies need the full current ESD...but do they need full ESD on  $1E9$  events ?
    - May need to introduce the “fat” ESD concept: a heavily prescaled DESD with more information than in ESD. Would need a revamp of athena job within Reco\_trf.

# Performance Management Board



- ❑ Significant progress in high lumi digitisation (5  $10^{34}$  in 6GB VMEM 64bit)
- ❑ VMEM : Data reco VMEM increased to 2.5GB (past improvements overtaken by pileup)
- ❑ CPU : now reaching 20s/evt on the JETTAUETMISS with 3.7 coll per bc (most representative of the future)
  - More than half from ID, expected, can only be improved by increase of Pt threshold (non trivial implication)
  - Jet now contributes by 25% unexpected
  - But many contribution higher than they should
- ❑ Continuous lack of focus from system and combined performance on sw performance issues

# Reconstruction



- ❑ Pixel clusterization show clear problem.  
Task force to fix it for spring reprocessing.
- ❑ The reprocessing STACO bug is serious (efficiency drop to zero in barrel) but fixable in AOD (first version of code available)
- ❑ Asymmetric field improve significantly muon reconstruction in transition region
- ❑ Feedback from trigger on sw infrastructure, reco, simulation

# Simulation



- ❑ Summer/fall campaign largely done
- ❑ Preparation of spring 2011 one (which energy ?)
- ❑ Forward detector progresses
- ❑ EMEC simulation rewritten
- ❑ Geant4 updates
- ❑ Overlay : ready for large scale production tests, validation by perf group

# SIT



- ❑ Release building and distributing is a complex, manpower intensive task:
  - To crank the wheel for any new release
  - To improve the system
  - Automate as much as possible
- ❑ Grok to replace LXR by end 2011 :OpenGrok (OG) server is put in production at <http://alxr.usatlas.bnl.gov/og>
- ❑ Asetup now in production : some hiccup but more flexible and handy than AtlasLogin:
  - Agreed to change the default to not set testarea
- ❑ RTT : significant improvements in the last 6 months
- ❑ TagCollector and Savannah account management : connection to afs login possible but not enforced
- ❑ CVMFS will ease up release size management (but cleanup of releases will still be useful !)

# Reprocessing



- ❑ (my own summary) (note that ID feedback has been attached to agenda under Nicolas talk)
- ❑ Need a shorter campaign (3 months is too much)
- ❑ Need more written procedures and documentation
- ❑ Need shorter physics validation cycle (making a bug-free cache, building it, distributing it, running the samples, analysing them, reporting)
- ❑ Need better handling of production problems (concerning sw): from error reporting to savannah bug management
- ❑ Computing model and offline sw should be optimised simultaneously



# Rel 17 deliverables



- ❑ Spring reprocessing data and MC for summer conferences analysis
  - ❑ Also frozen Tier0 running from april/may till end of the year pileup up to 4-6 per bc, in time and out of time
- ❑ Deadline 14<sup>th</sup> February. Meeting 14<sup>th</sup> Dec 4PM and wiki:

<https://twiki.cern.ch/twiki/bin/viewauth/Atlas/DeliverablesForRelease17>

- ❑ (Data/MC workshop 15<sup>th</sup> December also relevant)
- ❑ Some major items are emerging:
  - ❑ Asymmetric B field map (muon)
  - ❑ Pixel clustering overhauling (consequence in b tagging, conversion finding (egamma))
  - ❑ ID tracking Pt threshold ???
  - ❑ Obsolete persistent classes and geometries cleanup
- ❑ Merge in:
  - Heavy Ion reconstruction (16.2.0)
  - Upgrade digi/reconstruction (16.4.0)