~~CCRC09~~
STEP09

GDB, April 8 2009

Kors Bos, ATLAS
(Standing in for Graeme Stewart)

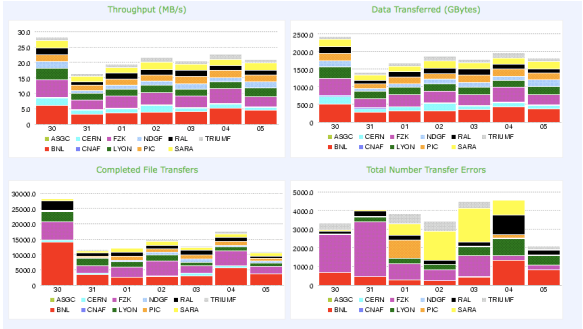
What ATLAS would like to test

- Full computing model
  - Data distribution
  - Detector data re-processing
  - Monte Carlo Simulation production
  - Simulation data re-reconstruction
  - Analysis
- Tape writing and reading simultaneously in T1's and T0
- Processing priorities and shares in T1- and -2's
- Monitoring of all those activities
- Simultaneously with other experiments (test shares)
- All at nominal rates for 2 weeks
- Full shift schedule in place like for cosmics data taking
- As little disruptive as possible for detector comissioning

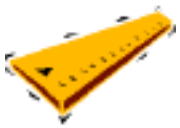
Data Distribution in STEP09

1. DDM Functional test (Simone Campana, Stephane Jezequel)
   - tests the full ATLAS data placement model including tape (RAW) writing:

     T0→ tape, T0→T1 (disk), T0→T1(tape), T1→T1 (disk),T1→T2(disk)
   - We can create "nominal" load and file sizes of all data types
   - Run at "average rate" 940 MB/sec out of CERN but for 24 hrs/day
   - Will calculate the T1 rates and volumes based on new (May C-RRB) shares
   - Also run calibration data distribution 4x T0→T2 (disk)



- Metrics
  - All T1's (including Taipei) must participate
  - No outage allowed for >12 hours
  - Allow 48 hours grace period at the end
  - 100% data must have been moved then, otherwise counted as inefficiency
  - All T2's must participate unless they sign out (before May 15)
  - No outage allowed for >24 hours



Simulation Production in STEP09

1. G4 HITS Production (Graeme Stewart, Borut Kersevan)
   - HITS production in T2's and upload to T1's
   - HITS merging in T1's and archive on tape (need to calculate bandwidth)
   - MC09 should have been started
   - We may have to run also ATLFAST2 (produces only AOD's)
   - but we can artificially increase the load with MC Functional Test machinery

- Metrics
  - Site participation like for DDM test
  - 15,000 jobs/day exclusively in Tier-2's
  - After 2 day grace period at the end all merged HITS on tape in T1

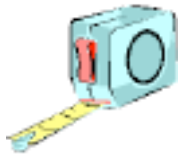
2. Monte Carlo reconstruction (Graeme Stewart, Borut Kersevan)
   - Needs pre-staging of merged HITS back from tape
   - Runs exclusively in T1's
   - Output AOD's merged and archived to tape
   - Merged AOD's distributed to other clouds T1→T1's and T1 → T2's

- Metrics
  - Site participation like above
  - 50% of all generated data should have been reconstructed (2 day grace period)
  - All output AOD's merged and distributed

Re-processing in STEP09

1. Repeat Cosmic Ray Data Re-processing (Douglas Smith, Pavel Nevski)
   - RAW pre-staging from Tape and data access from the WN's
   - Uses conditions data tar balls
   - Output ESD's and AOD's merged and archived to tape again
   - Merged ESD's and AOD's distributed to other clouds (T1—T1's and T1→ T2's)

- Metrics
  - Site perticipation as above
  - One full re-processing during the 2 weeks exclusively in T1's
  - >99.9% files processed after grace period of 2 days
  - All successful data merged and distributed



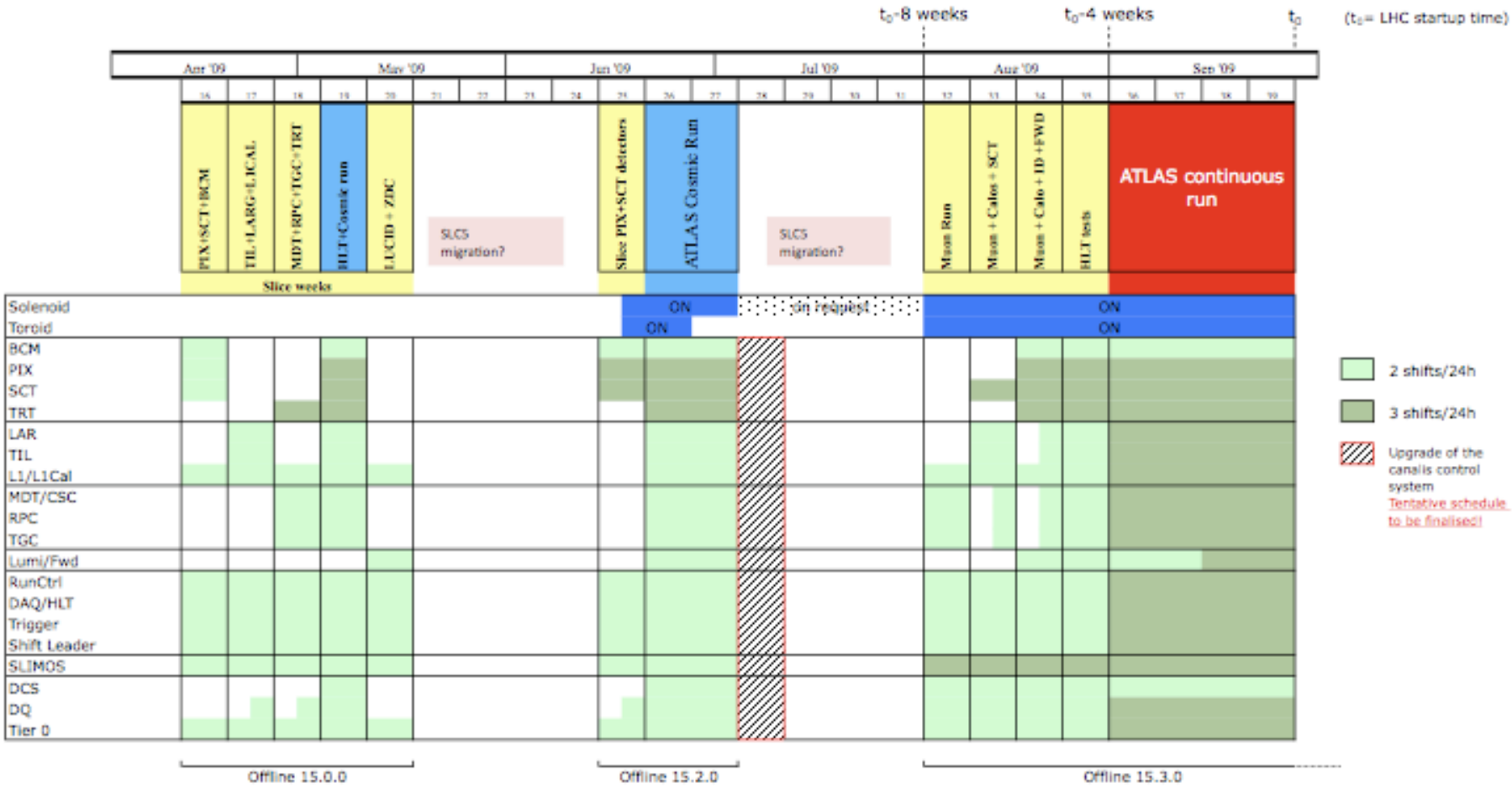
Analysis in STEP09

1. Run Hammercloud in all clouds (Dan van der Ster, Johannes Elmheuser)
   - Loads CPU capacity in T2's
   - Tests data access to the WN's
   - Exclusively ran in Tier-2's
   - Sharing CPU capacity with Simulation Production

- Metrics
  - Tier-2 participation as above
  - Occupy 50% of the ATLAS share of CPU capacity
  - Job effiency >85%, Rate >15 events/sec in each site (2 day grace period)

Run Coordination
Schedule for 2009 Combined Runs
version 1.3

April 2, 2009



ATLAS timing for STEP09

- Week 0 preparation May 25-31
  - Setting up all tests at lower rates
- Week 1 June 1-8
  - Real CCRC09, run all tests at full rate
- Week 2 June 8-12
  - Real STEP09, run all tests at full rate
  - Grace period June 13-14
- Week 3 June 15-19
  - Contingency
  - Reporting

- May shift 1 week up or down for other experiments

Conclusions for STEP09

- Very much a test for sites, so full participation needed
- Graeme Stewart coordinates STEP09 for ATLAS
- Goals and Metrics need to be further defined
- All components have been tested individually
- Some new functionality in merging and archiving
- Never all tested simultaneously
- Never tested simultaneously with other VO's