ATLAS & Service Challenges

Service Challenges

CC-IN2P3 Lyon

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ATLAS & SC

❑ Discussion just starting

❑ ATLAS is highly interested to participate to SC3

- o Test of Computing Model; Production system; ATLAS Data Management system (DonQuijote) in distributing data from CERN to several sites

- o Early phase test DMS and connections to external sites
  - ➢ Learning exercise
  - ➢ Understand how we can operate our DMS system with the Service

- o > September:
  - ➢ When the service is in place
  - ➢ "Tier0-SC" exercise
    - • Testing ATLAS Computing model; Production and DMS systems

Tier0-SC exercise

❑ Testing of ATLAS Production & Data Management System and ATLAS computing model

❑ Objective: Move data through all Tier 0 processing phases, with raw data input organized as though it had come from the Event Filter
- o Input: "mixed" event samples in bytestream (~raw data) format
- o Stage 0: Register data in Grid file catalog
- o Stage 1: "mixed" event samples (RAW)→ESD
- o Stage 2: ESD→AOD (multiple streams) and collection fragments
- o Stage 3: merge collection fragments for the run
- o Stage 4: build cumulative (multi-run) collections

❑ In parallel
- o Tier 0→Tier 1 data transfer of BS-raw data
- o Tier 0→Tier 1 data transfer of ESD; AOD and collections

❑ Scale to be defined

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❑ Later on add complexity
  o MC data (moving from Tier2 to Tier1)
  o Calibration
    ➢ Some done at Tier1 should be distributed
  o Reprocessing
    ➢ To be done at Tier1 (where raw data is)
  o Analysis

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❑ July: SC3 phase 1
  - o Infrastructure performance demonstration
  - o Little direct ATLAS involvement
  - o ATLAS observes performance of components and services to guide future adoption decisions

  - o **Input from ATLAS database group**

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- ❑ September: SC3 phase 2
  - o Experiment testing of computing model
  - o Running
    - ➢ 'real' software
    - ➢ production and data management systems
    - ➢ but working with throw-away data.
    - ➢ ATLAS production involvement
    - ➢ Release 11 scaling debugging
    - ➢ Debug scaling for distributed conditions data access, calibration/alignment, DDM, event data distribution and discovery
    - ➢ T0 exercise testing

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❑ Mid-October: SC3 phase 3

- o Service phase: becomes a production facility
- o Production, adding more T2s
- o Operations at SC3 scale producing and distributing useful data
- o New DDM system deployed and operating
- o Conduct distributed calibration/align scaling test
- o Conduct T0 exercise
- o Progressively integrate new tier centers into DDM system.
- o After T0 exercise move to steady state operations for T0 processing and data handling workflows