



Enabling Grids for
E-science in Europe

Status of the ATLAS Service Challenge

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Overview

- The ATLAS SC3 will officially start November 1st
- Atlas did not participate actively to SC3 in July-August
 - Agreed from the real beginning
 - “Interested observers” for the throughput phase
 - Mostly developing code and integrating Middleware components into the ATLAS Distributed Data Management and Production System
 - FTS, LFC, gLite WMS
- Two distinct activities:
 - **T0 exercise**: distribution of data from T0 to T1 (similar to the SC3 throughput phase)
 - **Distributed production**: event generation, simulation, digitization and reconstruction on Grid.

ATLAS Tier0 throughput phase

- At the moment it is the main focus
 - and will probably be for November-December
- Events reconstructed at CERN will be dispatched to T1 (and T2)
 - Reconstruction of “Rome Data” run on local batch system at CERN
 - Dispatch via the ATLAS DDM
- Pre-Testing phase of DDM (only partially in the LCG infrastructure)
 - Focus has been given on exercising FTS (preferable for Tier0 data flow)
 - Small scale tests have used up to 9 sites on LCG: CERN, GridKA, BNL, Taiwan, CNAF, IN2P3, RAL, PIC (+ PISA as Tier2)
 - Faked LRC catalogs, faked VO boxes
- DDM has been tested (and continues to be tested) transferring data between Tier0 and Tier1s for at least one month
 - Failures from time to time, but nothing in particular to report

Distributed Production

- Will be the main focus starting from January 2006
 - Some smaller scale production planned also for Nov/Dec2005
- A lot of changes in ATLAS specific components
 - Some components are new, other have been rewritten
- Evaluation and Integration of the gLite WMS
 - Performance tests are being carried on
 - Submission speed was an issue in previous productions
 - Encouraging results, but a final conclusion still has to be reached.
- Migration from central file catalog to local catalogs
 - Tests of migration RLS to LFC performed successfully in the summer
 - ATLAS RLS will be decommissioned at the end of the year
- Integration of ATLAS prodsys with DDM
 - Some development needed in ATLAS DDM and prodsys
 - Especially for input/output file download/upload
 - The RB is being interfaced with DDM through the DLI interface
 - Under development now

Deployment of components

- LCG/gLite components (main focus on T0 exercise)
 - FTS server at T0 and T1
 - LFC catalog at T0, T1 and T2
 - VOBOX at T0, T1 and T2
 - SRM Storage element at T0, T1 and T2
- ATLAS specific components
 - Central dataset catalog
 - Central DDM server
 - DDM components at sites
 - Sitting in VOBOXes
- Should make sure the infrastructure is there for a reasonable number of sites (especially T1s)

Testing of the components

- So far, the infrastructure for T0 exercise has been deployed just in a few sites
 - CERN, CNAF, Milano, Pisa.
- Represents a good test environment for T0->T1->T2 distribution
- Test focused initially on “new” LCG/gLite Data Management components
 - FTS,LFC,VOBOX
 - SFT already test every site every day for many services.
 - In the the throughput phase FTS has been employed intensively
- Recently, the complete set of ATLAS components have been tested in the infrastructure

Issues

- Some configuration problem encountered here and there
 - Missing FTS channels, wrong entries in the IS, services temporary unavailable ...
 - All this is normal: this is why you test things.
- The FTS server at CERN was not accessible from the WAN
 - Could not trigger T0->T1 transfers from the T1 or T2 VOBOX
 - A new web server has been installed and configured.
- The “MyProxy” issue
 - FTS needs a proxy (in MyProxy server) with pwd, the RB and VOBOX need a proxy w/o pwd.
 - Which MyProxy to use? Question valid for both T1 admins and VOs
 - See document of James Casey about short and long term plans:
 - <https://uimon.cern.ch/twiki/bin/view/LCG/MyproxyConfigurationSetup13>
- The Information System does not contain FTS infos
 - Missing Information provider
 - Those info are available only form SC3 Wiki Pages.
 - Seen as a priority, will have it soon.
- Accessing information and problem reporting
 - SC3 Wiki Pages should be reorganized/completed to facilitate the consultation.
 - A single point of entry for problem reporting must be defined (too many mailing lists).
 - All necessary information should be in the Information System (see previous item)

What is missing (focus on T0 exercise)

- Large scale tests using DDM software
 - Transferring very large datasets in a single go
- The basic tests should be properly formalized and included in SFT
 - For both LCG/gLite components and ATLAS DDM components
 - Right now tests have been run “by hand”
- More T1s (and T2) should be brought into the game
 - Tentatively, RAL (+Lancaster), PIC (+IFIC) and Taipei look like good candidates to start with.
 - More sites (especially T1) should follow right after
 - Based on availability, support ...
 - Agreements already made with PIC and Taipei
 - Will be ready in the second part of October

What is missing: the VOBOX business ...

- The VOBOX issue will be treated in more details in Miguel's talk
 - I will not go in the details of the implementation of ATLAS services
 - I would just like people to understand why ATLAS needs VOBOXes
- ATLAS services running in the VOBOX are:
 - A **Subscription Service** for file transfers
 - I am "Site A" and I would like "Dataset X" in my SE
 - A **Claim Service** for files and datasets
 - I am about to access "Dataset X". Please, make sure it will be "ready".
 - "Ready" means staged on disk and pinned for a certain amount of time
- Such services are NOT provided by the Middleware at the moment
 - The gLite File Placement Service would already be a big step forward
- It would be convenient if such services could be part of the LCG infrastructure
 - Would be simpler for ATLAS in terms of operations and management
 - Would probably be more acceptable from the sites point of view
- For the moment must rely on ATLAS-specific components at the site
- ATLAS will not be able to include in the exercise sites not deploying a VOBOX.
 - True for both T0 exercise and Distributed Production