



Enabling Grids for E-science

# CCRC'08 Monitoring and reporting requirements

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- **LHC experiments are using multiple solutions regarding monitoring:**
  - *Central systems (SAM, GridView...)*
  - *Monitoring tools developed as a part of the workload management and data management systems of the experiments (Phedex, Dirac, Alien...)*
  - *Experiment Dashboards*
  - *MonALISA (ALICE)*
- **Existing monitoring tools provide rather complete view of the activities of the LHC experiments on the GRID and cover most of the critical services**
- **Still common issues do exist and have to be addressed in a common way where possible.**



- Lack of the reliable and detailed information about space availability at the SE (per VO, per pool/space token)

*There is a prototype of the storage space monitor running at the Italian sites.*

*All sites should be covered.*

*Central repository for this information (BDII?)*



- **Monitoring of the FTS channels.**
  - *Is required for data transfer operators to follow actual data transfer, for site admins to detect and resolve eventual problems at the sites, for integration with the Data Management systems of the experiments (Phedex, ATLAS DDM...).*
  - *One of the areas where there is a need for reliable and scalable messaging system.*
  - *Information should be available via API.*
  - *Recently considerable improvement in systematization of errors.*
  - *Currently several parallel developments (Tier0, some of Tier1). Need to coordinated this effort taking into account requirements of various users and possible clients.*



## Common issues. Data Management.



- Following inconsistencies between local catalogue and storage.

*Looks like the overhead of the regular consistency check of the full content of the catalogue for the sites with big storage elements is too big. The solution chosen by ATLAS seems to be a correct approach - to record inconsistencies for the requested files, in case the inconsistency is detected it is recorded in the ATLAS dashboard.*



## Common issues. Work Load Management.



- **Reliable information about pending/running jobs per VO at the site available via API.**
- *Information in BDII is not always reliable. Information from LB is not complete (not covers jobs submitted bypassing RB) . Information in LB can contradict with information of the local batch system (buggy WMS endlessly resubmitting jobs, even successful ones).*
- *Experiment dashboards information is based on two independent sources: LB related sources and jobs reporting their progress from the WN via MonALISA. Provides reliable information about running and accomplished jobs. Information is available in XML or CSV format. Number of pending jobs is in question.*
- *The most reliable source of information about jobs processed at the site is currently Grilice. Integrated with the Experiment dashboards. Not running at all sites. Regard the possibility to adapt Gridlce development related to job monitoring for the sites which do not run Gridlce.*
- **Experiments expressed their interest for WMS monitoring information (monitoring of CERN and CNAF WMSs by Yvan Calas)**



# Site availability



- **Site downtime information. Make it available in the Experiment Dashboards.**

*Available via programmatic interface from SAM . SAM retrieves it from GOCDB.*

- **Increasing granularity of SAM tests**

*Running tests locally with finer granularity.*

*Aggregating results of the sanity checks done in the regular VO jobs and publishing results in SAM (LHCb).*



## Other suggestions



- **ALICE suggested to use a logbook for CCRC'08**

*This logbook should be accessible and populated by the experiment and services responsible and should serve as a central information system of the challenge.*

*Can try the log-book tool used by the on-line community*





# Conclusions



- The discussion at the WLCG workshop was very useful to understand the common needs of the experiments. What is still missing in terms of monitoring.
- There are some tools which had been developed for a particular experiment but can be useful for others. These cases will be reviewed by the System Analysis Working Group.
- The main outcome of this discussion is understanding where the future effort has to be concentrated.