

The ATLAS "DQ2 Accounting and Storage Usage Service"

The ATLAS Distributed Data Management System: DQ2

Today, the data volume represents more than: **10 Peta bytes** **120 Million files** **1.3 Million dataset replicas** replicated over around **90 grid sites** that correspond to over **500 srmv2 space token end-points**

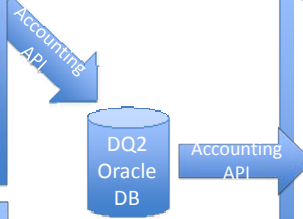
Accounting System architecture

SRM Agent:

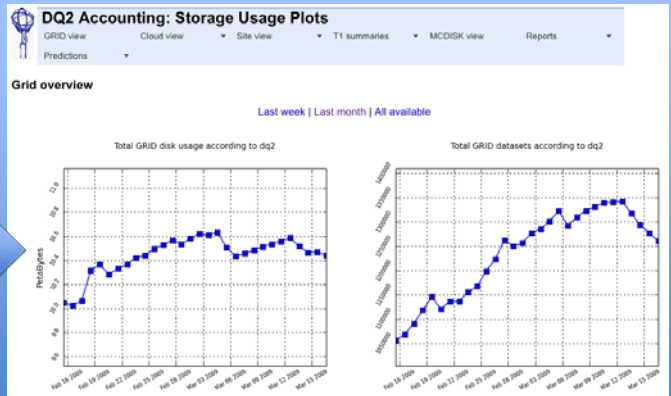
1. Update list of sites from the information system
2. Query sites for their disk space information
3. Storage in the DQ2 Oracle DB

DQ2 Agent:

1. SQL requests to the Location Catalog
2. Storage in DQ2 Oracle Database



http://atlddm02.cern.ch/dq2/accounting/global_view/30/



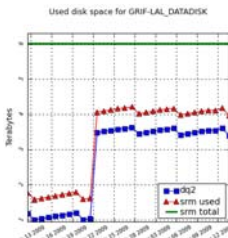
Accounting web interface specifications:

- Running on Apache server
- Python application using Django Framework
- Plots generated using Matplotlib

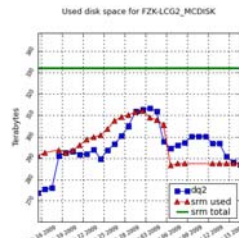
Uses

- Monitor disk space occupancy and its evolution on sites
- Check consistency between DQ2 and SRM disk space information:

- Dark data not known by DQ2
- SRM misconfigurations and publication problems
- Losses of SRM information
- Multiple registrations of files in overlapping datasets

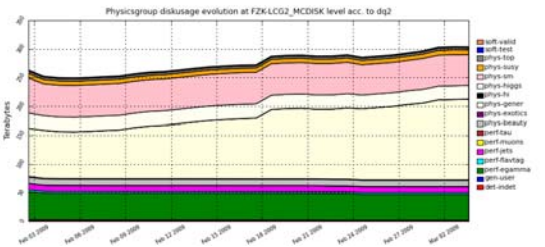


Example of dark data at site producing a constant shift between the curves



Example of consistency check

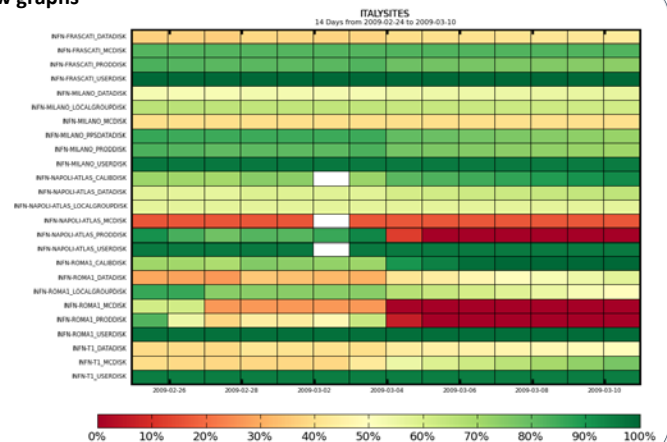
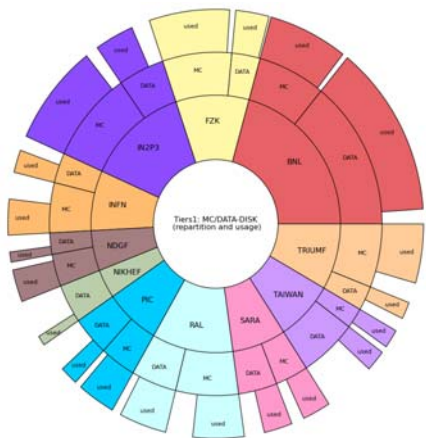
Monitor shares between groups



Other functions

- Overviews:
 - By cloud
 - T1 space token summary
- Monitoring of not responding site
- Alert system for site responsible about full disks

T1, T2 and cloud reports with different overview graphs



References

DQ2: <https://twiki.cern.ch/twiki/bin/view/Atlas/DistributedDataManagement>

Django: <http://www.djangoproject.com/>

SRM V2: <http://sdm.lbl.gov/srm-wg/>

Matplotlib: <http://matplotlib.sourceforge.net/>

Apache: <http://www.apache.org/>

Graphtool: <http://t2.unl.edu/documentation/using-graphtool>

Fernando H. Barreiro Megino (CERN), Vincent Garonne (CERN), Stephane Jezequel (LAPP), Miguel Branco (CERN), Mario Lassnig (CERN), Pedro Salgado (CERN)

