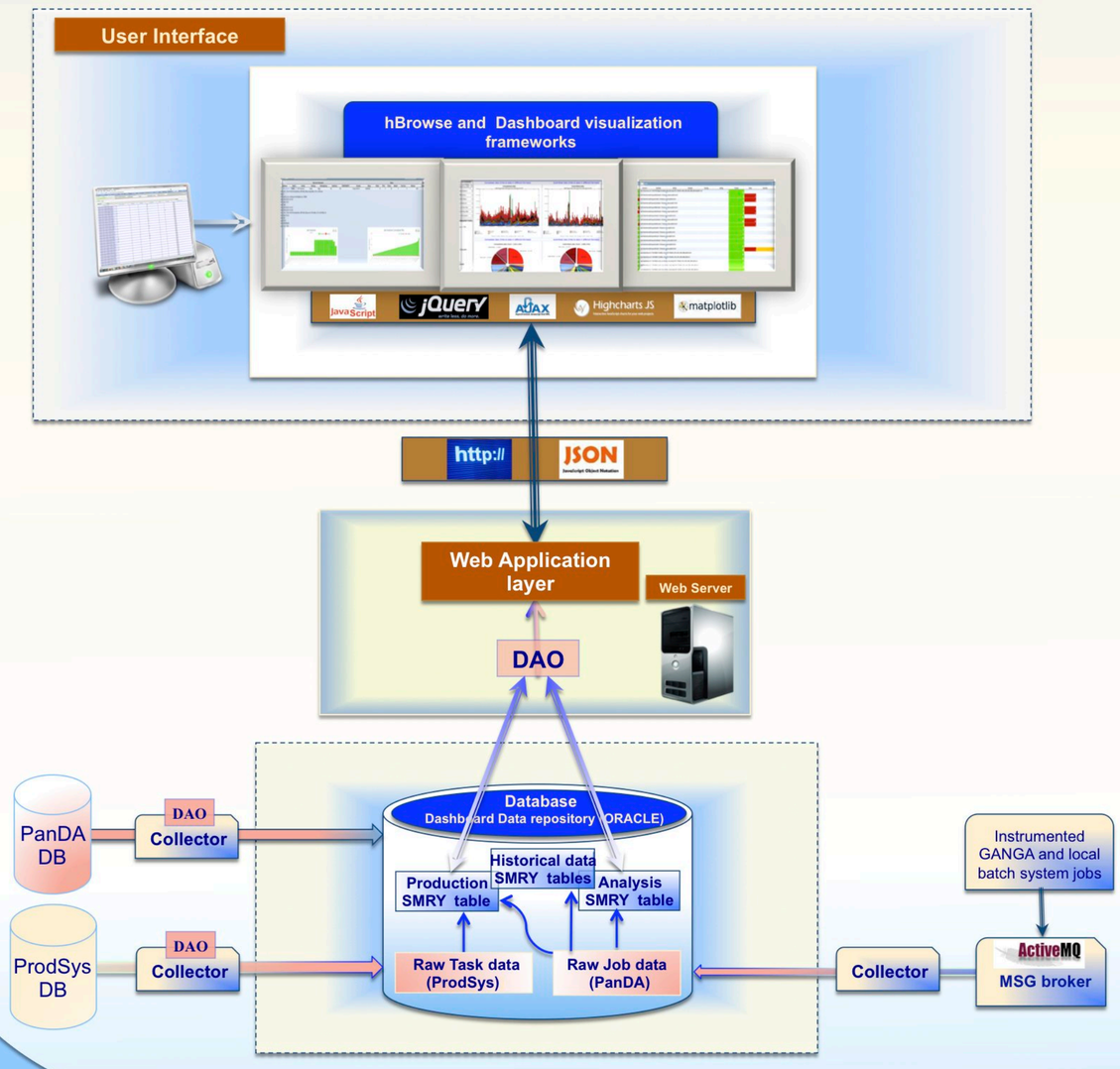
ATLAS job monitoring in the Dashboard Framework

J. Andreeva, S. Campana, E. Karavakis, Ł. Kokoszkiewicz, P. Saiz, L. Sargsyan, J. Schovancova, D. Tuckett on behalf of the ATLAS Collaboration

The ATLAS community runs daily more than 600k jobs on the GRID. The number of ATLAS jobs is growing every year and a scalable, robust monitoring system is required in order to follow distributed job processing and to quickly detect and resolve possible problems. The Experiment Dashboard provides a common job monitoring solution, which is shared by ATLAS and CMS experiments. This includes an accounting portal as well as real-time monitoring of production and user analysis jobs. Usage of Dashboard-based job monitoring applications will decrease load on the PanDA database, which can then be used solely for operations. Aggregation of the task/job metrics from different sources provides complete view of job processing activity in ATLAS scope

Dashboard Job Monitoring data flow



User interface

- Provides user centric view. Depending on the application the user interface is implemented using either Experiment Dashboard or hBrowse visualization frameworks

Web Application layer

- Provides HTTP entry point to the data and serves information in different formats (JSON, XML, CSV)
- Data source is fully decoupled from the user interface
- Serialized data could be consumed by third-party clients

Database

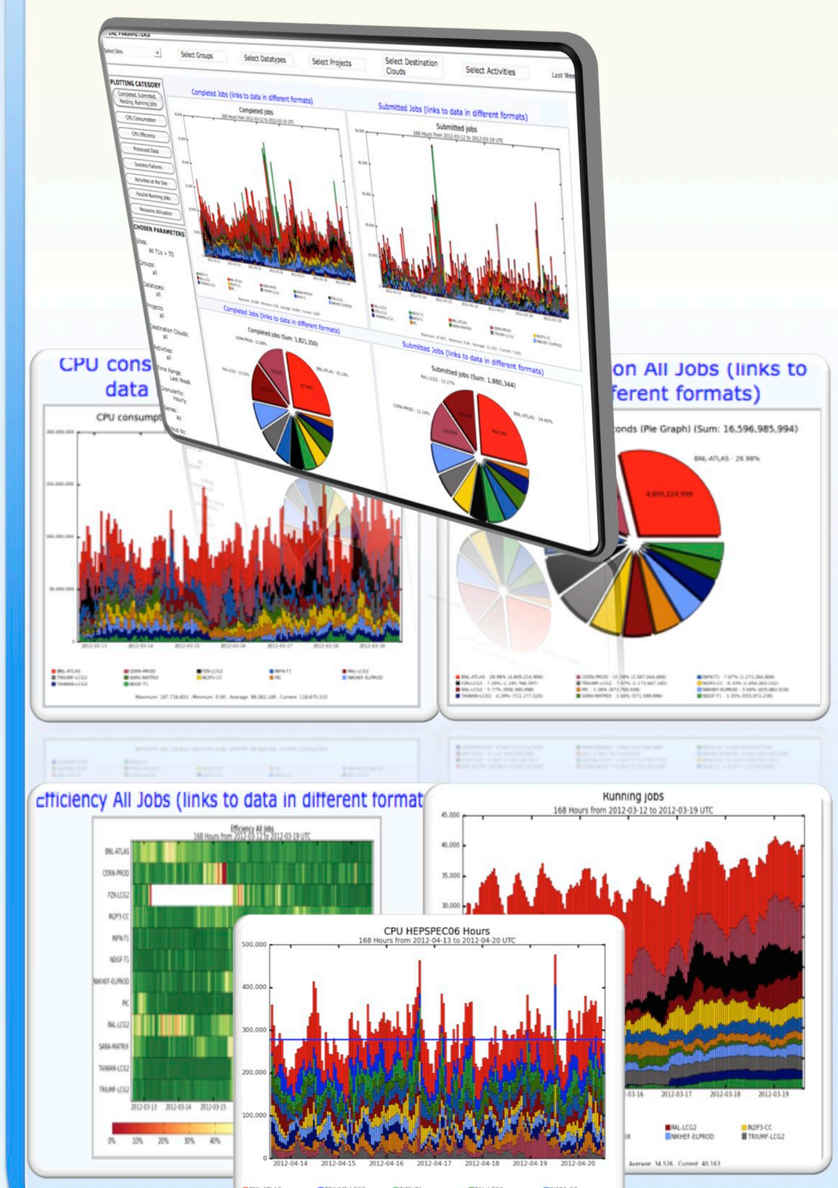
- Combines information from PanDA job processing DB, Production system DB and monitoring information from jobs submitted through GANGA to WMS or local batch systems
- Scheduled procedures aggregate data for high-level overviews
- Both read and write access to the database pass throw a data access abstraction method (DAO)

Collectors

- Fetch data via SQL calls (Prodsys DB, Panda DB) or HTTPS requests, and store it in the central Dashboard Data repository (ORACLE)

Historical Views

- Accounting-style UI. Job processing monitoring metrics as a function of time, resource utilization information
- Users: site admins, VO computing managers. Management perspective
- Serves to understand the nature of the infrastructure inefficiencies, reasons of failures
- Helps to resolve and predict problems



http://dashb-atlas-job.cern.ch/

Production Task Monitor

- Interface to monitor production tasks
- Users: production managers, shifters. Shifters perspective
- Task-oriented view of a production activity
- Provides an easily way to detect inefficiencies and/or delays in executing production tasks

http://dashb-atlas-job.cern.ch/templates/task-prod/

Analysis Task Monitor

- Monitoring tool for analysis users.
  Collects and exposes a user-centric set of the information to the user regarding submitted tasks
- Users: analysis users and user support
- Monitoring on the task and individual job level

https://dashb-atlas-task.cern.ch