

Computing shifts to monitor ATLAS distributed computing infrastructure and operations



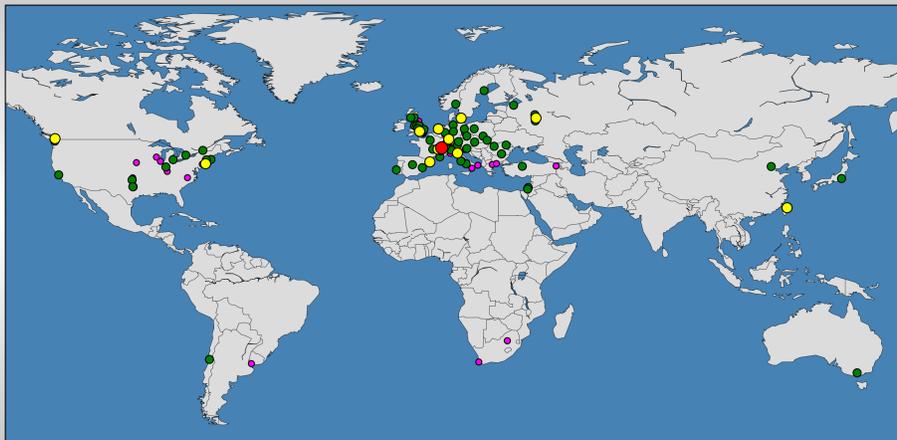
C. Adam, D. Barberis, S. Crépé-Renaudin, K. De, F. Fassi, A. Stradling,
M. Svatos, A. Vartapetian, H. Wolters

On behalf of the ATLAS Collaboration

CHEP 2016



ATLAS Distributed Computing



To process data and simulations, the ATLAS Distributed Computing (ADC) uses heterogeneous computing resources

- Worldwide LHC Computing Grid (WLCG) sites,
- Cloud resources,
- HPCs,
- Volunteer computing (BOINC), etc.

It means, ADC must

- manage more than 700 storage endpoints on more than 150 sites
- manage more than 200 PB of data
- support more than 5000 users

The very complex ADC infrastructure is managed by a team of ADC experts which are constantly under heavy load, even after continuous efforts to automatize management of ADC resources.

Computing Run Coordinator

Computing Run Coordinator (**CRC**) shift was established to decrease load on ADC experts. CRC shifter is a person with a good overview of the ADC activities who

- coordinates the daily ADC operations
- is the main link within the ATLAS ADC communities
- reports and represents ADC in relevant meetings
- follows up and tracks open issues
- facilitates the communication between the ADC shifters (**ADCoS** and **DAST**) and the ADC experts team

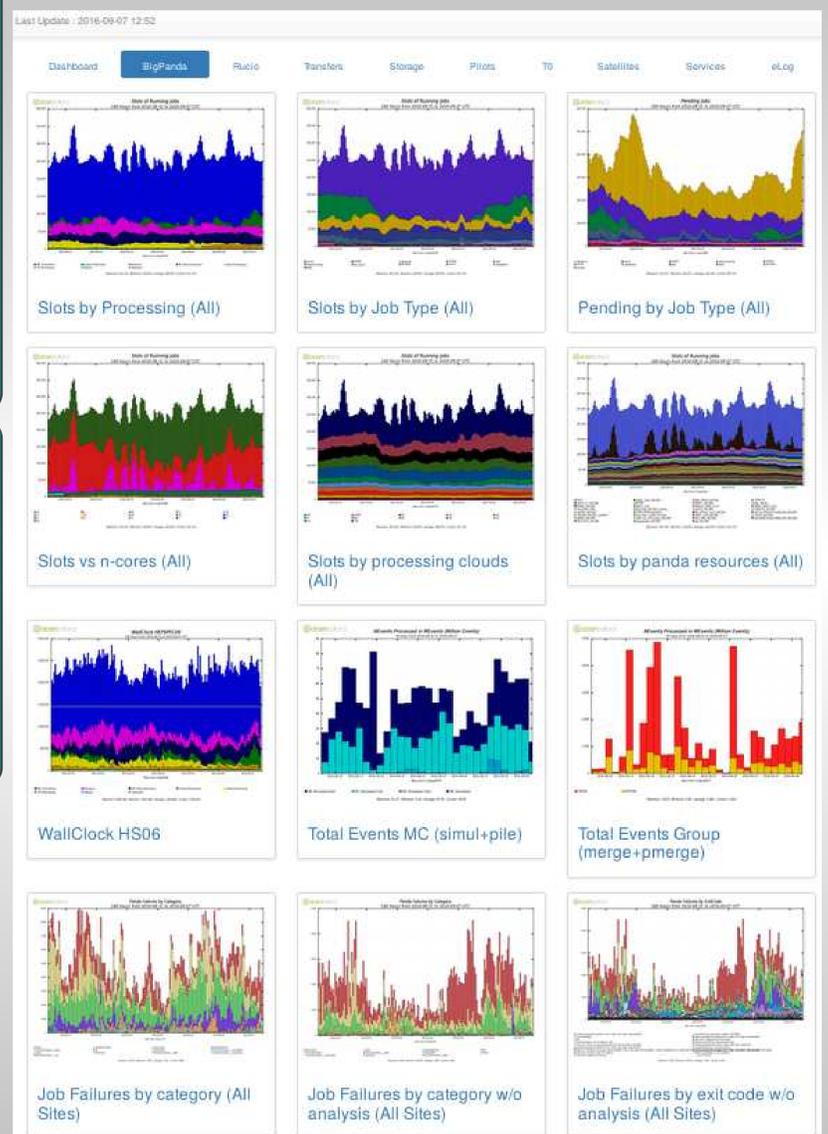
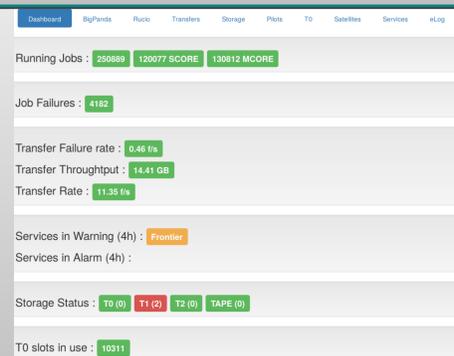
The shift is one week long, with one additional shadow shift in the beginning and requires presence at CERN.

One year of experience showed that

- CRC can contribute to the successful training of new ADC experts
- CRC collaborates very well with ADCoS and, to a less intense extent, with DAST
 - CRC shifters recognize the efficiency of ADCoS shifters' activity when shifts are well covered and ADCoS shifters recognize the helpful support of CRC shifters
 - ADCoS experts and CRC give a combined report on ADC weekly meeting
- the goal of lowering the load on ADC experts has been achieved - "CRC has shown to be very useful and efficient"
- training of a CRC shifter is a lengthy process

Monitoring tools

- various monitoring pages: transfers, production, services monitoring
- live-page
 - aggregated informations from different monitoring pages/frameworks
 - developed and maintained by CRC shifters



ADC live page [1]

ATLAS Distributed Computing Operations Shifts

ATLAS Distributed Computing Operations Shifts (**ADCoS**) provide response to production system incidents. The most important duties of ADCoS shifters are to follow and report failing jobs and tasks run by ATLAS, failing transfers between individual sites, degradation of central services of ATLAS computing, export of raw data from CERN, staging and deletion errors, failing frontier servers, etc. Coverage by ADCoS shifters is 24/7.

The ADCoS shift can be done remotely from home institution.

Distributed Analysis Support Team

Distributed Analysis Support Team (**DAST**) is a group of experts shifters that provide to user the first point of contact to address all distributed analysis questions. User support is crucial to ensure that each and everyone is able to analyse the collision data distributed among hundreds of computing sites worldwide. DAST provides the first contact point to help user. DAST shifters solve user issues by escalating the issue to the relevant experts when needed, making sure that their intervention is necessary. DAST shifters cover EU and US time zones. DAST shift can be done remotely from home institution.

References

[1] <http://atlasdistributedcomputing-live.web.cern.ch/ATLASDistributedComputing-live/>