

# Distributed Analysis Shift Report: DAST

Farida Fassi

University Mohammed V in Rabat, Morocco

ATLAS Sites Jambore

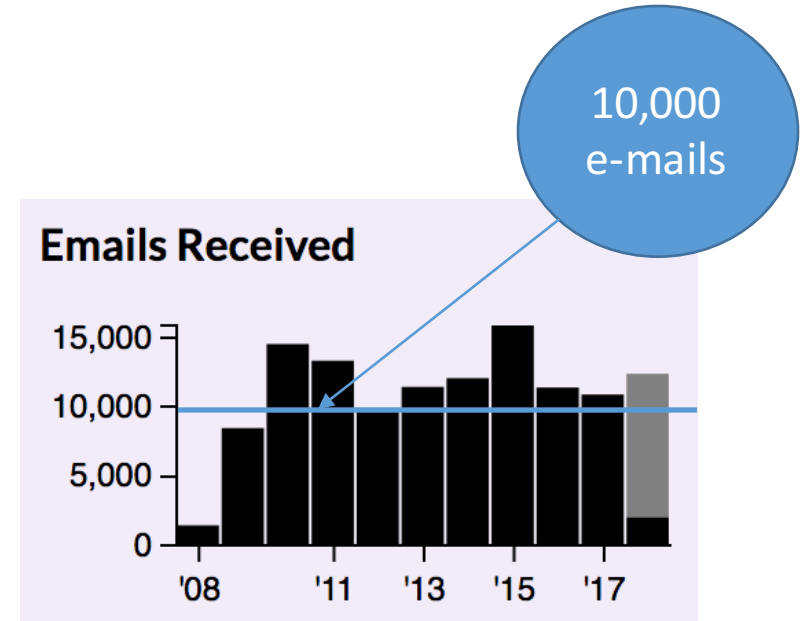
5th-7th Mars 2018

# DAST shifts overview

- **Distributed Analysis Support Team (DAST) shifts are remote shifts (Class 2)**
- **We have many active users using Grid, very few of them are distributed computing experts**
- **Supporting users is critical to get physics results fast**
  - **DAST provide the front line support to all distributed analysis issues on the grid.**
  - **DAST shifters form the interface between resource managers, experts and the users.**
  - Support is provided via a forum in e-groups: [hn-atlas-dist-analysis-help@cern.ch](mailto:hn-atlas-dist-analysis-help@cern.ch)
  - DAST helps directly by solving the problem or escalating to relevant experts **after the right canalization**
- **DAST Organization:**
- **Two time zones:**
  - **European (EU) 08:00 - 16:00**
  - **North American (NA) 16:00 - 24:00**
    - 1st level, shift credit 100%, 5 days/week (can be combined with other shifter – more flexibility)
    - Trainee level, trainee shifter, shift credit 50%, 5 days/week
- **Coordinators ensure that 1<sup>st</sup> Level shifts are covered in both time zones. Not always the case!!!**

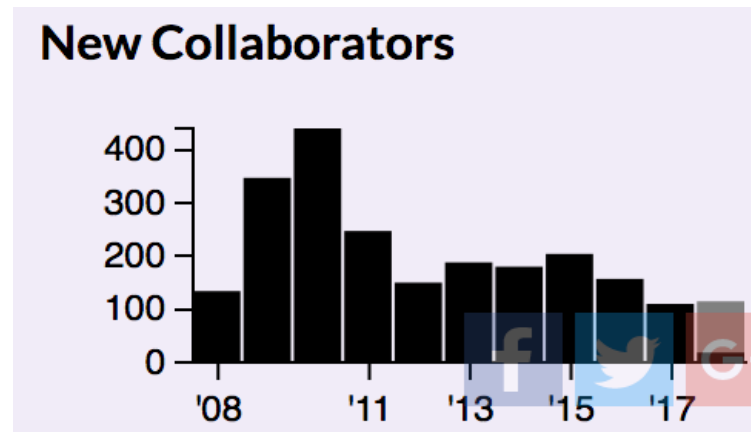
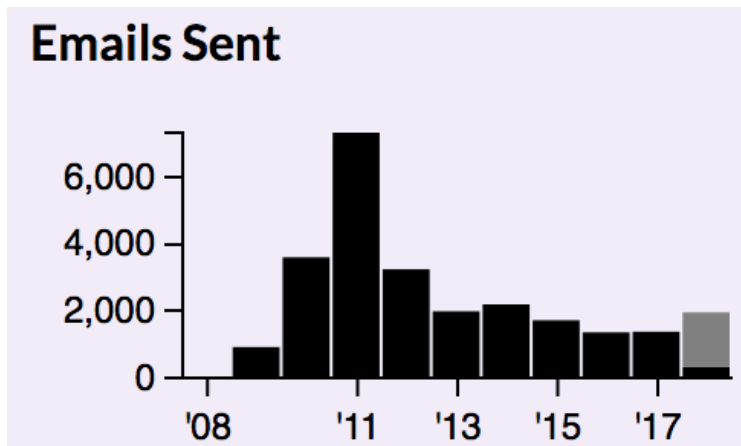
# DAST Gmail ticketing interface traffic

- ▶ **From 1,414 users, we have exchanged 135,513 email since Oct. 2008** (more than 10,000 a year)
- ▶ Steady average of a couple of relevant emails per working hour



27 Oct 2008 - 02 Mar 2018

9.3 years



# DAST & Other Services

- **Panda/JEDI**

- Good support. Some documentation needs to be improved
  - related to how to run partial-file job splitting with pathena ([ATLASJT-377](#))

- **DDM/Rucio**

- Impacts users directly, but has been running smoothly so far.
- Good support from DDM folks

- **BigPanda Monitoring**

- The favourite tool to track job progress.
- BigPanda experts try to improve the view for users based on DAST feedback

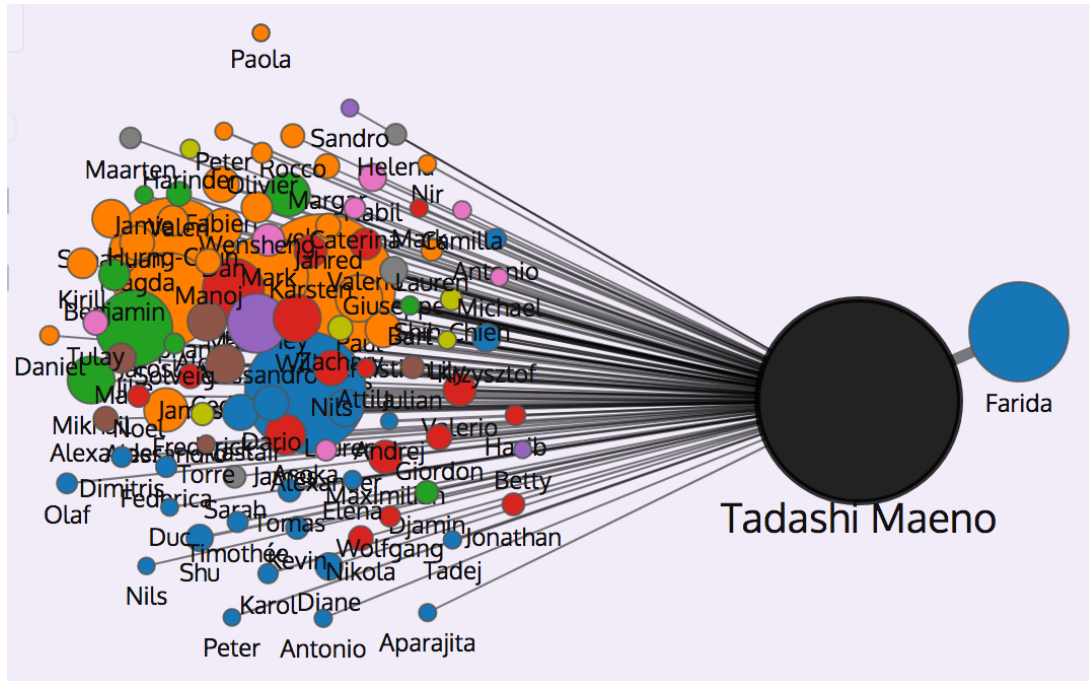
- **Site monitoring systems**

- DAST shifters use Site Status Dashboard, Service Level Status and AGIS to check the site services status
- Helps to reduce the number of issues escalated to cloud support

- **Escalation to Cloud support**

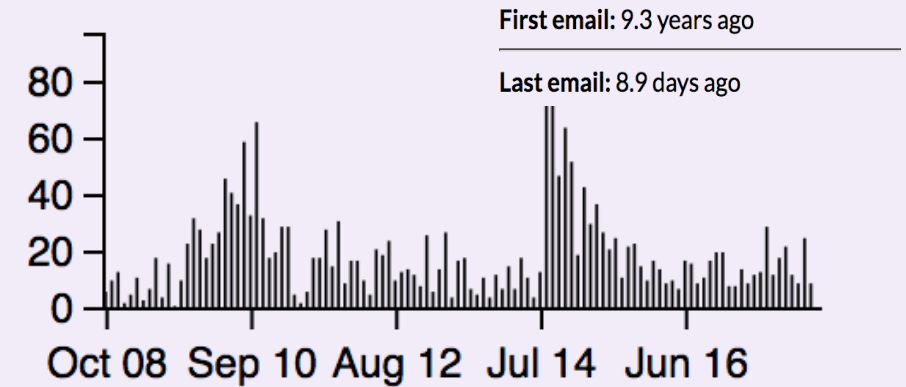
- Works ok - thanks to Cloud and site support personnel.
- **But it needs to be improve for some sites, the response may take 2 days!!!**

# Communication with experts the top collaborators!



## Interaction volume

## Tadashi Maeno



# Manpower as of today!

▶ **6 shifters in EU time zone**, including myself and 5 excellent and experienced shifters.

▶ **3 shifters** in the NA time zone

▶ **3 excellent and experienced shifters**

▶ Shifters leave for dissertation/other responsibilities

Current active Members	Zone
Yun-Ha SHIN	NA
Otilia Oducu	NA
Kevin Finelli	NA

Less active Members	Zone
Dengfeng Zhang	NA
Chris WALKER	NA
Harinder Singh BAWA	NA

Current active Members	Zone
Farida FASSI	EU
Mattias Ellert	EU
Laurent Dufлот	EU
Max Isacson	EU
Mayuko Kataoka	EU
Tim Adye	EU

**EU coordinator**

**NA coordinator**

**Again, a real deficit from NA group and coverage in the NA timezone**

▶ **DAST is a small team – and is shrinking.**

▶ **The load is hardly manageable in the medium/long term.**

# Support from Physics community

▶ In the past...

▶ There were **7-8 active EU shifters**. The US has been thin for longer (5 active shifters)

▶ **The EU has historically carried the heavier load.**

▶ **We've tried several recruiting approaches as such;**

▶ Advertising and discussions with management, etc

▶ **Thanks to the Physics community (PC) we have excellent shifters: Kevin, Otilia, Max**

▶ **Support from the PC is urgently needed to find 3/4 shifters.**

▶ **Several former EU shifters are helping out as they can, but leave specifically because of workload/dissertation issues!!!**

# The OTP panel: seeing red dominated...

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Mar 18	8-16 European shift	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
	16-24 American shift	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
Apr 18	8-16 European shift	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
	16-24 American shift	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
May 18	8-16 European shift	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
	16-24 American shift	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
Jun 18	8-16 European shift	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
	16-24 American shift	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	

- ▶ A shift once every couple of months is very different from one every 3/2 weeks.
  - ▶ Much lower impact, easier to plan around other duties.
- ▶ Not sustainable model - risking to eventually lose us these most dedicated and experienced members of the team
  - ▶ Support from Physics community (PC) is needed and efficient, in addition
  - ▶ To build a permanent DAST team, could DAST activity be added to the high priority tasks list on the twiki page:
    - ▶ [https://twiki.cern.ch/twiki/bin/view/AtlasProtected/AuthorShipCommittee#High\\_priority\\_tasks\\_from\\_Softwar](https://twiki.cern.ch/twiki/bin/view/AtlasProtected/AuthorShipCommittee#High_priority_tasks_from_Softwar)



# Resources

- **Documentation and tutorial are important to attract potential DAST candidate**
- **The current DAST Twiki gives a useful information on ATLAS software, Grid middleware, and a variety of other potential problems**
- **The potential for learning the systems and connecting with the experts is should motivate new DAST shifters**
- **The DAST Shifter Introductory Guide provides a clear guide to the day- to-day DAST shift activities and expectations**
- **DAST Twiki : <https://twiki.cern.ch/twiki/bin/view/AtlasComputing/AtlasDAST>**

# Proposed Solutions?

- Engagement from Physics community
- Stronger incentives?
  - **OTP Credit!**
    - Could set a minimum Class 1/Class 2 ratio to keep people from just going for the **richer shifts** and neglecting the others
  - **Nomination for a talk!**
    - DAST Shift work counts as a nomination for a talk!
    - Needs to be activated in GLANCE for every new shifter!
      - **How it works for no-computing shifts!**
- Balance OTP credits and nomination for talks are good arguments for new shifter
- DAST coordinators are ready to help newcomers to gain knowledge quickly

# Issues we commonly handle

- All kinds of problems are handled in the DAST help forum:
  - Rucio clients
    - Data access (both modes) at sites and data replication
    - AMI, good support!
  - Front-end tools (Panda/JEDI)
    - **Exhausted Task is the new hot topic!** for sites that do not support direct I/O, is causing issues, since we can not require longer jobs while limiting the amount of input.
    - **Should be fixed in AGIS (Who) or in JEDI!!! ([ATLASPANDA-426](#))**
  - Athena
    - Conditions, other database access
    - Transformations and crash analysis
  - Site/service problems
  - Monitoring system (BigPanda)
  - Physics Analysis Tools (good support)
- **DAST Shifters need to be competent to diagnose, escalate and solve this whole gamut**

# Conclusion & outlook

- **DAST is critical for users to help in getting physics results in a timely way.**
  - **Users are happy with the support from DAST.**
  - **Our unreserved thanks to experts, developers, and site/service support people.**
- **Lacking shifters in both time zones**
  - **DAST has a real deficit from NA time zones**
    - **We need to motivate users to come into DAST somehow.**
- **Build a durable DAST team that could take the commitment to last at least one year**
  - **Support from Physics community is an efficient approach**
    - **Could help to build a durable DAST team !**
  - **Call for shifters**
    - **DAST needs semi-experienced grad students and beginning postdocs/postdocs **immediately****
    - **Training time depends on experience and expertise (Customized and optimized)**



Not yet  
Certified as  
ATLAS  
Documentation

# AtlasDAST

- ↓ [Users Section \(Users, Please Read This First!\)](#)
  - ↓ [What do we need to know? \(Support Request Form\)](#)
- ↓ [Introduction](#)
- ↓ [Infrastructure in DAST](#)
  - ↓ [DAST shift credit](#)
- ↓ [New shifter training process in DAST](#)
- ↓ [The Team](#)
- ↓ [How to find who is on software and computing shift?](#)
- ↓ [Meetings](#)
- ↓ [References for shifters and users](#)
  - ↓ [Starting on the Grid](#)
  - ↓ [How to use Grid for your analysis](#)
  - ↓ [Reco\\_tf: General reconstruction transform](#)
  - ↓ [Clean account for Diagnostics](#)
  - ↓ [ATLAS Athena Guide:How to use Docker containers in ATLAS](#) **NEW**
  - ↓ [How to work with a CMake-based Project](#) **NEW**
  - ↓ [Usage of group production role in large scale analysis job submission](#) **NEW**

<https://twiki.cern.ch/twiki/bin/view/AtlasComputing/AtlasDAST>