



ADCoS Overview

Armen Vartapetian
University of Texas, Arlington

US ATLAS Computing Facilities Face-to-Face at SLAC
November 30, 2022

Introduction



- **ADCoS** - ATLAS Distributed Computing operations Shifts
- ADCoS is the integral part of the **ADC operations**
- Will give a brief overview of **ADCoS structure and activities**
- ADCoS is also involved in additional activities like **development of monitoring tools, and other components of the ADC infrastructure, as well as reviewing their performance and reporting issues**
- Current state of shift coverage, and benefits of ADCoS participation

Shift Organization, Activities



- **Monitoring ADC production and reporting issues** (failing transfers, job/task failures, site issues, Tier0 Exports, issues in Central Services, Frontier/Squids, etc.)
- ADCoS shifts provide **24/7 coverage**, in 3 time zones: **AP, EU, US**
- ADCoS has three shift levels: **Expert, Senior, Trainee**
- Daily shift period (CERN time): **AP(0-8), EU(8-16), US(16-24)**
- Shift duration: 8 hours for Senior/Trainee, 9 hours for Expert shifts
- ADCoS is counted as **Class 2 service in OTP**
- Attractive feature that any ADCoS shift can be **done remotely, no need to be at CERN**
- **With any question or to join the ADCoS team** please contact the ADCoS coordination list: atlas-adc-adcos-coordinators@cern.ch

Shift Management



- The [ADCoS main TWiki](#) contains the **key block of our documentation**, describing the general procedures, providing links to service and monitoring pages
- Besides the main page ADCoS has about a dozen other pages on specific subjects, like:
 - [ADCoSClock](#) interactively guiding shifters through the shift process,
 - [For ADCoS Shifters](#) a graphical interface to all the important pages used during the shift,
 - [ADCoSKnownProblems](#) a dynamic page on known issues, ongoing events, exceptions ... stuff shifters need to know,
 - [ADCoSExpert](#) with Expert shifter procedures,
 - ...
- Fair amount of effort goes into **maintaining those pages** and keeping all that information up-to-date
- That is achieved by following and understanding the **changes in production, data management and monitoring infrastructure**. Some of those may need to be promptly propagated to operational procedures in the shifter documentation, and then communicated to shifters.
- Following **day-to-day shift operations**, including shifter support, ensuring that proper ADCoS procedures are followed. At the same time keeping an eye on the **training process of the new shifters**, giving guidance when necessary, **evaluating their performance** for possible promotion.
- Using [weekly ADCoS meetings](#) to discuss hot topics, ongoing events, and based on that decide if any action, or possible optimization of the shift procedures and policies is warranted.

ADCoS Additional Activities



- ADCoS continues its participation in development of various tools and monitoring pages. Also as ADCoS uses a bunch of monitoring tools and many service pages, very often we are the first to notice, report and follow up on the issues when things break. Shifter documentation carries the procedures on how to investigate and report issues with the tools we use.
- Significant ADCoS participation in the work with the Monitoring group on the DDM dashboard interface and functionality. Debugging its early versions, and as the main users continuing to report whenever we see issues. Also contributions in development of other Grafana dashboards like DDM Site Accounting dashboard, ATLAS Central Services dashboard, etc.
- BigPanda page continues to be the main tool for monitoring and debugging job failures. We have proposed a new job statistics page with correlational table Request/Task vs. Region/Site and helped pandamon team with creation of the page. It is part of BigPanda monitoring under Scattering Matrix name.
- Also significant participation in discussions on design, functionality and debugging of the SSB interface. Partially completed SSB dashboard version is in production, but the evaluation and debugging is ongoing.
- Work with ELisA developers on the interface and functionality of the new ADC and ADC Shift Reports logbooks, the replacement for the previous ADC logbooks (eLog).
- Continuing to provide feedback for Operational Intelligence projects (Jobs Buster, Rucio Oplnt) on performance, how best to exploit and present the information.
- A bunch of other tools, like GGUS, Mattermost, CRIC, OTP, etc., are regularly being used by ADCoS shifters, and as we observe issues, we report the problem, and often, as experienced users, we may engage in discussions with the experts, and share our view on how best to address the issue.

ADCoS Shifts Coverage (past 3 months)



Expert Shifts

		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
Sep 22	9-18 Day 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	
Oct 22	9-18 Day 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	
Nov 22	9-18 Day 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	

Senior Shifts

		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
Sep 22	0-8 E.Asia-Pacif...	100	100			100	100	100	100	100			100	100	100	100				100	100	100	100	100			100	100	100	100	100	
	8-16 Europe-ME-Af...	100	100			100	100	100	100	100			100	100	100	100	50				100	100	100	100	100			100	100	100	100	
	16-24 Americas Shift	100	100			100	100	100	100	100			100	100	100	100	100				100	100	100	100	100			100	100	100	100	
Oct 22	0-8 E.Asia-Pacif...			100	100	100	100	100			100	100	100	100	100			100	100	100	100	100			100	100	100	100	100		100	
	8-16 Europe-ME-Af...			100	100	100	100	100			100	100	100	100	100			100	100	100	100	100			100	100	100	100	100		100	
	16-24 Americas Shift			100	100	100	100	100			100	100	100	100	100			100	100	100	100	100			100	100	100	100	100		100	
Nov 22	0-8 E.Asia-Pacif...	100	100	100	100			100	100	100	100	100			100	100	100	100	100			100	100	100	100	100			100	100	100	
	8-16 Europe-ME-Af...	100	100	100	100			100	100	100	100	100			100	100	100	100	100			100	100	100	100	100			100	100	100	
	16-24 Americas Shift	100	100	100	100			100	100	100	100	100			100	100	100	100	100			100	100	100	100	100			100	100	100	
Sep 22	0-8 E.Asia-Pacif...			100	100						100	100						100	100						100	100						
	8-16 Europe-ME-Af...			100	100						100	100						100	100						100	100						
	16-24 Americas Shift			100	100						100	100						100	100						100	100						
Oct 22	0-8 E.Asia-Pacif...	100	100						100	100						100	100						100	100						100	100	
	8-16 Europe-ME-Af...	100	100						100	100						100	100						100	100						100	100	
	16-24 Americas Shift	100	100						100	100						100	100						100	100						100	100	
Nov 22	0-8 E.Asia-Pacif...					100	100						100	100						100	100					100	100					
	8-16 Europe-ME-Af...					100	100						100	100						100	100					100	100					
	16-24 Americas Shift					100	100						100	100						100	100					100	100					

Trainee Shifts

		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
Sep 22	0-8 E.Asia-Pacif...	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
	8-16 Europe-ME-Af...	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
	16-24 Americas Shift	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
Oct 22	0-8 E.Asia-Pacif...	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
	8-16 Europe-ME-Af...	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
	16-24 Americas Shift	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
Nov 22	0-8 E.Asia-Pacif...	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
	8-16 Europe-ME-Af...	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
	16-24 Americas Shift	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	

- Quite low number of Expert shifters and Expert shift coverage
- The current Senior shifts coverage level is not bad, but down the road, the low number of new shifters (low activity in Trainee Shifts) will negatively impact the coverage of the Senior shifts. We need a flow of new shifters to replace the ones who leave.

US ATLAS Participation in ADCoS



- In recent years US participation in ADCoS was not strong. And last couple of years we had just single Senior Shifter from US, and looks like he is not returning next year.
- As already mentioned, ADCoS is an important part of the ADC Operations, to monitor that all the sites and services are healthy, transfers are flowing, production running.
- Any US ATLAS member can be ADCoS shifter – most of our shifters are from other ATLAS communities, and in most of the cases don't have any prior ADC experience.
- Also, any person with ADC and/or site management experience, particularly from ADC participating institutions, after quick training and some experience, can participate with Senior Shifts, and eventually could be a good match to become an Expert shifter.
- Taking shift usually is a minimal disruption to regular activities and duties, and particularly as shifts are done remotely, so no travel is involved.
- Also, there is an overall benefit of involvement of more local site support experts, as well as non-experts from various US sites in such general day-to-day ADC operations.