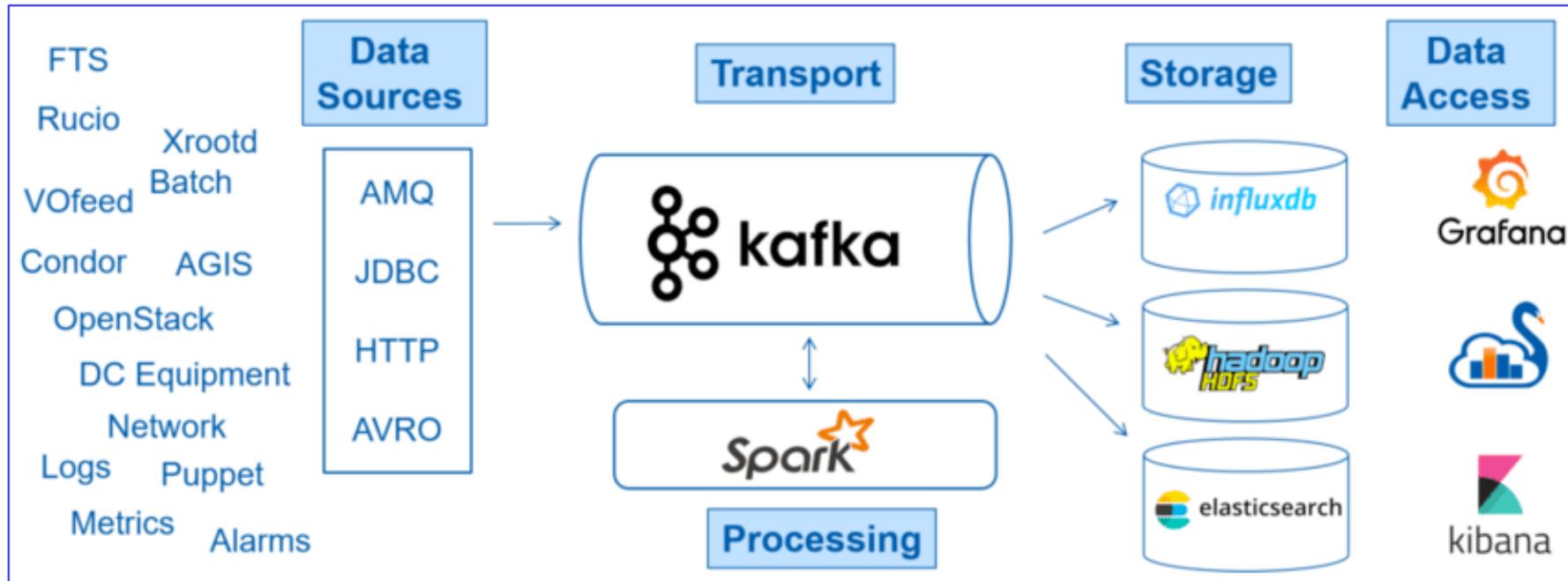


ADC Monitoring & Accounting Progress and Evolution

Dario Barberis
University & INFN Genoa

Mon&Acc data pipeline in Run 3

Functional schema and data flow provided by CERN-IT MonIT team



Most components updated or replaced during LS2

All major functionalities in stable operation

Dashboard Index

Jobs Monitoring & Accounting	DDM Monitoring	Site Monitoring	Other Dashboards	Users Dashboards	EventIndex
Jobs Monitoring & Accounting HSZ3 Reports ☆	DDM Global Accounting (Historical) ☆	Site Errors View ☆	ATLAS Art Results ☆	Accounting Portal ☆	ATLAS EI - Primary Dashboard ☆
Jobs Monitoring ☆	DDM Monitoring	Site monitoring	Other	Users Dashboards	EventIndex Monitoring
Job Accounting (Historical data) ☆	DDM Global Accounting (Popularity) ☆	Site Status Board - Panda Jobs ☆	ATLAS Squid Availability ☆	Daily Group Popularity ☆	ATLAS EI - Disc Overview ☆
Jobs Monitoring	DDM Monitoring	Site monitoring	Other	Users Dashboards	EventIndex Monitoring
Jobs Monitoring (grid) ☆	DDM Global Accounting (Snapshot) ☆	Site Status Board - SAM3 ☆	Datasets Info ☆	Datasets Popularity [from 2017] ☆	ATLAS EI Event Picking Service ☆
Jobs Monitoring	DDM Monitoring	Site monitoring	Other	Users Dashboards	EventIndex Monitoring
Jobs Monitoring (Panda API) ☆	DDM Site Accounting ☆	Site Status Board - Site Details ☆	Harvester ☆	Historical Popularity (Groups of Datasets) ☆	ATLAS EI Event Picking Tests ☆
Jobs Monitoring	DDM Monitoring	Site monitoring	Other	Users Dashboards	EventIndex Monitoring
	DDM Transfers ☆	Site Status Board Help ☆	Harvester - PQ/CE monitoring ☆	Host Metrics tbird01 ☆	ATLAS EI Grid jobs ☆
	DDM Monitoring	Site monitoring	Other	Users Dashboards	EventIndex Monitoring
	DDM Transfers (Historical data) ☆	Site Status Board Overview ☆	iDDS Monitoring ☆	Job Accounting (DE Cloud) ☆	ATLAS EI Grid Production ☆
	DDM Monitoring	Site monitoring	Other	Users Dashboards	EventIndex Monitoring
		Site-oriented dashboard ☆	Plots for BigPanDA monitoring ☆	Job Accounting (UK Cloud) ☆	ATLAS EI Hadoop Cluster ☆
		Site monitoring	Other	Users Dashboards	EventIndex Monitoring
		Suspicious sites ☆	Tier-0 ☆	Operational Analytics ☆	ATLAS EI HADOOP Data Volumes ☆
		Site monitoring	Other	Users Dashboards	EventIndex Monitoring
				PanDA Queues Workload Extended ☆	ATLAS EI HOSTS ☆
				Users Dashboards	EventIndex Monitoring

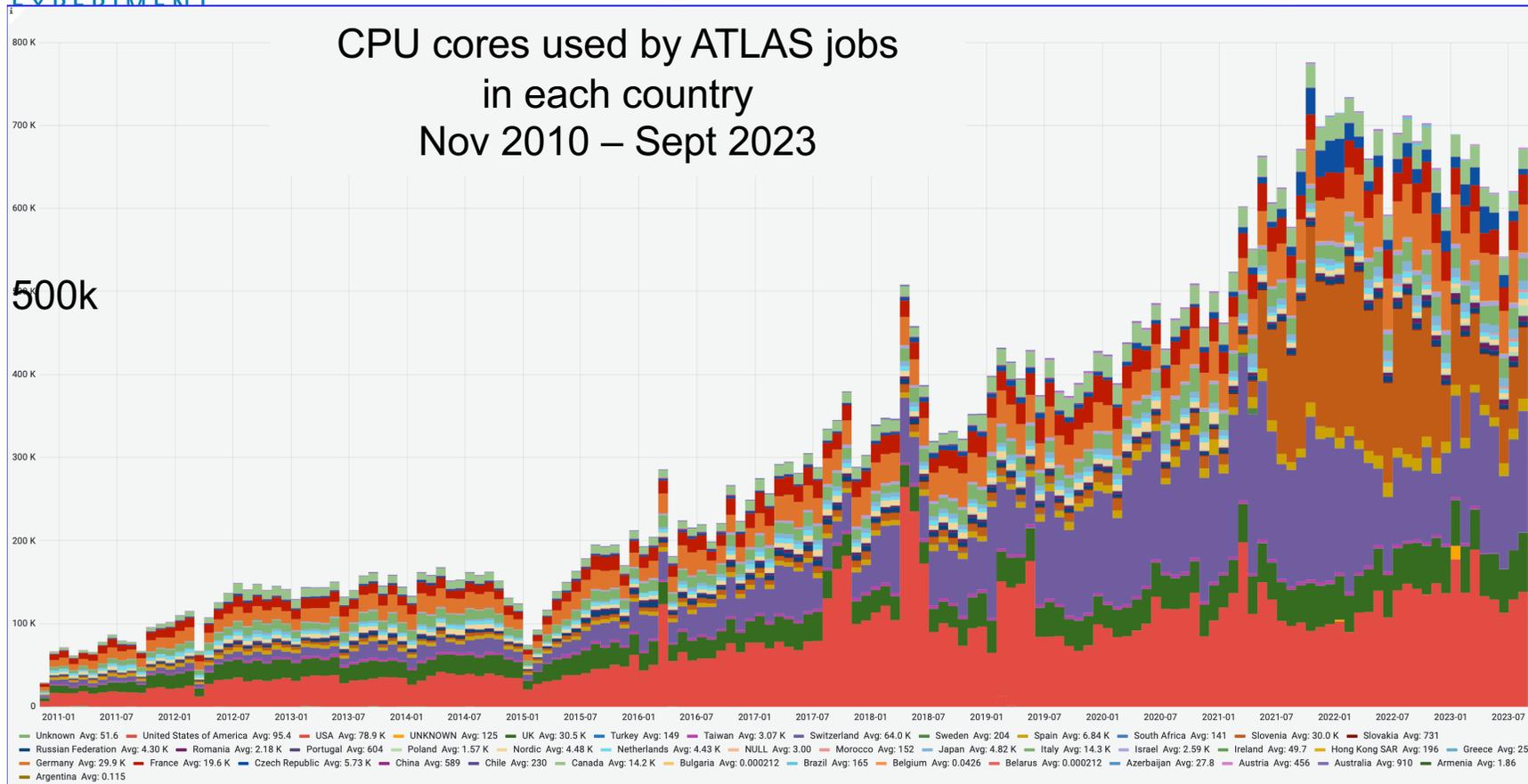
<https://monit-grafana.cern.ch/d/000000301/home?orgId=17>

Dashboard groups

- **Jobs Monitoring and Accounting:**
 - Contains monitoring and accounting dashboards which provide information about processing computing jobs.
 - It uses snapshots of several tables in PanDA database.
- **DDM Monitoring:**
 - Dashboards providing information about all data transfer operation and storages.
 - They use information from the Rucio system.
- **Site Monitoring:**
 - The dashboards in this group combine information from the PanDA and Rucio to enable monitoring of the local infrastructure on each site.
- **Other:**
 - This group includes other monitoring utilities that provide information about the health of the services in ATLAS infrastructure, or analytics (e.g. data popularity)
- **User:**
 - Dashboards provided by user communities for their own needs.
- **EventIndex:**
 - Dashboards monitoring the health of EventIndex servers and operational load.
- **Development:**
 - Dashboards used to test new views before going to production.



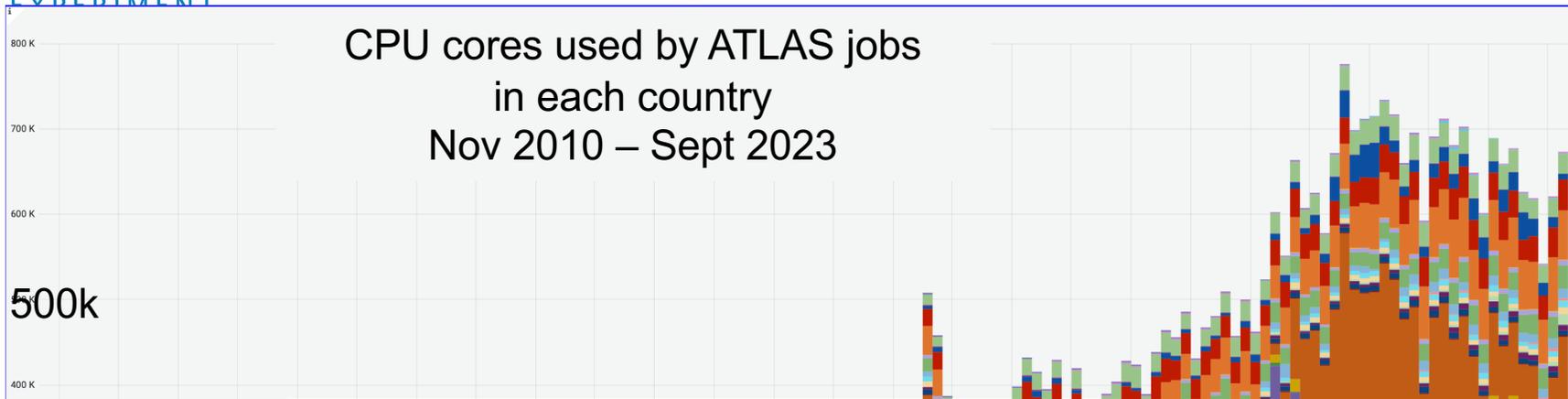
Monitoring and Accounting Tools



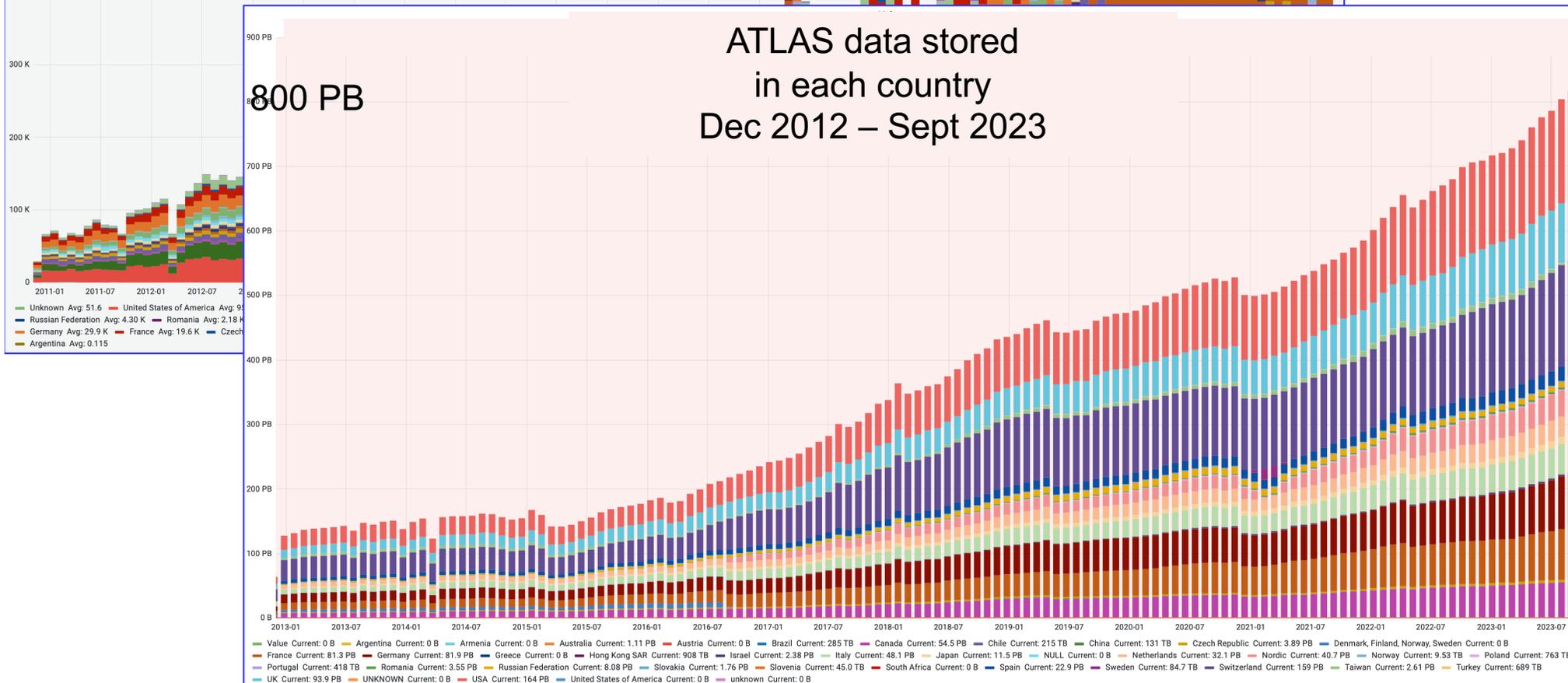


Monitoring and Accounting Tools

CPU cores used by ATLAS jobs
in each country
Nov 2010 – Sept 2023



ATLAS data stored
in each country
Dec 2012 – Sept 2023



Site-oriented Dashboard



Dashboard for INFN-GENOVA in 2023

Plots and tables derived from the Job Accounting and Data Monitoring dashboards, grouped by site

Work needed

- Maintenance of current infrastructure (with CERN-IT MonIT team)
- Implementation of new requests
- Evaluation, deployment and upgrades to new tools when available
- Personpower problem!
 - Only fractions of 2 people (Sasha Alekseev and Michal Svatos), who have also other tasks

2023 publications

- CHEP2023 contributions:
 - Accounting and monitoring tools enhancement for Run 3 in ATLAS distributed computing
 - Poster: <https://cds.cern.ch/record/2857829>
 - Proceedings: <https://cds.cern.ch/record/2869031>