

# ATLAS/MONIT Meeting

MONIT team

# Introduction

- Long collaboration since 2016
  - Requests and Incidents via SNOW
  - ADC Monitoring Meetings, chaired by Dario
  - DDM Transfers/Accounting, managed by Thomas
  - Job Accounting, managed by Sasha
  - Site Status Board, managed by Helmut

# MONIT/ADC Dashboards in Production

		Official (*)
WLCG/FTS Transfers	✓	Sep 2017
DDM Transfers	✓	May 2019
DDM Accounting	✓	May 2019
Job Accounting	✓	Jul 2019
WLCG Site Monitoring	🌞	Q4 2019
Site Status Board	🌞	tbd

(\*) old dashboards stopped and old infrastructure retired 3-4 months after that date

# MONIT recap

- **Flume, Kafka, Spark** for data transport and processing
  - 3 days buffering for DC, WLCG and experiment data
- **InfluxDB (IT-DB), ES (IT-CM), HDFS (IT-DB)** for storage
  - Each system with its own data retention, query performance, data schema and output format (e.g. weekly/monthly binning)
- **Grafana** as main dashboard tool
  - Plugin-based visualizations, user customizable, built-in alerting, multiple storage backends support
  - ~1000 active users, ~1200 dashboards, ~1M queries/day

# Main activities (storage)

- Storage optimization
  - Split InfluxDB job accounting databases on multiple instances, improved aggregation
- Imported historical data from Oracle
- Better internal monitoring (e.g. empty bins)
- Update of InfluxDB to v1.7.7 and ES to v6

# Main activities (visualization)

- Supported ATLAS creating their dashboards
  - DDM Transfers
    - Extensive review process from user feedback
    - Dashboard improvements from Thomas to optimize data access
    - Resulted in multiple dashboards for different use cases
  - Job Accounting
    - Single long dashboard for all use cases, old dashboard copy
    - All retention policies available from same dashboard
- Upgraded Grafana to version 6

# Further Improvements

- Further optimization of the InfluxDB storage
  - Automatic recovery of empty bins
  - New versions and query language (Flux)
- Streamline Job Accounting use cases
  - Multiple dashboards per use case
    - “Operations” vs “Historical” vs “Reports” views (like DDM)
    - Each using dedicated retention policies with optimal binning
  - Dedicated database views for special use cases

# Further Improvements

- Many features to learn/explore in Grafana
  - Less plots per dashboard (or collapsed plots)
  - 7d/30d bins comes from InfluxDB, new Flux may help
  - Try horizontal bars using multistat plugin
  - Try the boom theme plugin for tailored plots
  - Try clickable contents (provided in v6.4)
  - Configuration options for line/bar plots
- Speed up SSB migration, waiting ATLAS feedback



# Thank you

- Questions?