
Summary

— Andrej & Ale —

Overviews

- no need of real summary for those
 - very detailed info related to e.g. workflows

- a lot of discussions about the long term strategy about storage
 - more discussions at next week WLCG workshop

Tier-2 consolidation

- Bigger and smaller number of Storage Endpoints
 - sites below 300TB are not very useful for ATLAS
- Planning the pledges
 - sites with 300TB are encouraged to invest in CPU and not in storage
- To evaluate the possible scenarios:
 - federation
 - distributed SEs
 - concentrated SEs

Workload Management

- MSCORE partitioning:
 - MSCORE jobs majority, but still plenty of SCORE jobs (evgen, derivation)
 - dynamic allocation needed - can vary from 10% to 90%
- Old cloud vs WORLD cloud:
 - Tier-1 + attached Tier-2 still remain, the role of Tier-1 stays the same
 - WORLD cloud is internal solution for Workload Management System
- Network awareness embedded in PanDA - dynamic and adaptive system (transfer cost matrix)
- Global Fair-Shares for activities:
 - avoid micromanagement at the site level

MAXRSS

- VMEM is gone, everything expressed in terms of MAXRSS (physical memory)
- limits in AGIS should be set
- sites should find a solution to adapt the batch systems (eg cgroups or vmem scaling)

ObjectStores and EventService

- 3 ObjectStores in production - no need for more for now
- Evaluation of ES performance and scalability in the next months
- ObjectStore as a Storage Element:
 - too early to say
 - a prototype will be developed
- To evaluate if ObjectStore can provide a different storage/access model, eg events instead of files

DDM

- Rucio now with internal queue to better handle bursty activity
- Caches: RucioCache developed for ARC-CE
- R2D2 - (LOCALGROUPDISK)
 - notifications improvements!
 - approval above a threshold for closed dataset/container requests discussed.
 - in 3 weeks, we propose to review the status
- Storage Federations
 - in 4 weeks @ ADC weekly we will have a checkpoint to understand at least all the people/pieces involved

Data Access: new pilot movers

- simplification of storage-related attributes in PandaQueues
 - was becoming impossible (very time expensive) to extend the old or create the new movers
 - from ~15 attributes down to ~4-5!
 - possibility to use multiple protocols
 - suggestion to use this solution also for alternative stagingin or stageout
- tests ongoing now with the lcgcp and xrdcp movers re-adapted to the new schema
- new Rucio mover could be a powerful further simplification
 - based on the new schema
- waiting new AGIS webUI to be able to define the new SchedConfig attributes
 - foreseen in few weeks from now

Networking

- new perfSonar toolkit much simpler to deploy!
- Need for efficient network performance and connectivity monitoring
 - ESNNet provides central and full monitoring overview - in discussion to extend it to Geant
- Packet loss is critical for high RTT
 - needs to be propagated to the network operators
- Crucial in view of concentration of the storage and remote access
- Integration in ATLAS DDM dashboard would be useful!

DPM Status

- Healthy and evolving, code restructured
- Following up the evolution of access protocols
- Distributed model to be tested in Italy in the next couple of months
- We can rely on DPM in the near and long term future

Tape

- GROUPTAPE
 - many datasets - action on DDM to smoothen bursty writes
- SARA migration to new data center - careful planning to avoid data taking and production issues in 2016
- To rethink the tape families
- File size: review the situation of the “last year”
- Review the tape archival in view of data preservation requirements

Communication & Documentation

- Never enough, especially for new technologies or approaches !!!
 - ... but things are changing fast, sites, CloudSquads/SiteAdmin really need to stay tuned!
 - e.g. new “Closed” status in Panda if you’re checking jobs through BigPanda filtering on exit codes
 - SchedConfig parameters...
- Work needed on both the ADC and the Sites/CloudSquad side.
- CloudSquads are critical.
 - a clarification of their role foreseen in few weeks from now in ADC weekly
 - site issues through GGUS!

Conclusions

- **Stable ADC system:** could have not been possible without **stable Sites!**
 - thanks!
- **Room for many improvements in view of**
 - better resource usage
 - automation and reducing operational cost
- 2016 data taking - much more data is expected - 5-10x more than 2015
 - full potential of the new systems needs to be exploited

Thank you all for participation in this Jamboree

Looking forward to continue working in such an excellent environment.