



# HEPiX Autumn 2020 Closing Remarks

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# Participants

- Last week, around 200 registrants
- During the week even more people joining us
- Currently: 321 registered participants
- From at least 27 countries
  
- And very disciplined you were –  
video conferencing etiquette was well observed!
  
- Thank you – give yourself a hand!

# Programme

- All regular tracks were present
- Workshop running from Monday through Thursday
  - Morning sessions primarily aimed at Asia & Europe
    - 09:00h – 12:00h CEST
  - Evening sessions primarily aimed at North America and Europe
    - 17:00h – 20:00h CEST
- All sessions have been recorded and will be made available online
  - Big thanks to all who have helped making failsafe recordings from different sites
- Morning sessions had higher attendance (~80) than evenings (~65)
  - Universal truth: Thursday morning started with 44 hard core attendees

# Site reports – general trends

- usage of GPU
- move from almost all intel to AMD
- exploitation of HPC resources
- increasing use of Container, Docker, Singularity
- Jupyter notebooks, and their integration in local batch systems
- network BW improvements
- tape archive migrations - software and tape technologies
- security concerns
- expanding features of institutional "storage boxes"
- implementing 2FA / MFA
  
- coping with COVID but also using CPU to fight COVID
- Tools for collaboration and communication under COVID and beyond
  - I think the community ever adapted a single tool as universally and quickly as Zoom

# Basic IT Services

- Corona pandemic heavily pushes online services for workflows that had been established face-to-face / in-person.
- Graeme Stewart reported experiences and best practices for worldwide online conferences/workshops:
  - best times for meetings with participants in different time zones
  - zoom established as quasi standard, chat as second channel beneficial
- KEK establishes an online application portal to avoid manual paperwork for standard workflows.
- BNL establishes and enhances many end-user services such as "BNLbox", "Invenio" as large-scale digital repository. It furthermore moves its CMS from Plone to Drupal.
- CERN works on making SQL-Databases highly available
- BYOD usage is increasingly established. A challenge is to provide institute-internal software for those diverse devices. CERN offers a common app store service.

# Networking & Security

- several activities to meet future requirements of HL-LHC
  - jointly with other Data-Intensive research communities and R&E networks
- developments in perfSONAR and on marking packets to identify research activity
  - all to better understand use of networks
- IPv6 working group investigating move to IPv6-only
- work on CERN DNS load-balancing and NOTED project identifying large transfers in FTS
  
- traditional updates on security from CERN
- training users to avoid Phishing
- how to best cope with pandemic teleworking and use of virtual conferences
  - personally I would like a training on social engineering...
  
- work on Identity Management at BNL

# Computing & Batch

- Operating a production HTCondor cluster & Seamless automated maintenance,
- Learning-based Approaches to Estimate Job Wait Time in HTC Datacenters
- Status report of Benchmarking Working Group
  - Building domain specific HEP benchmark from HEP workloads (for experiment but also for type of processing) – using docker and singularity
  - HEP-Score v1.0 to be released soon – candidate to replace HS06 - HEP Benchmark Suite
  - Benchmarking not only HEP/WLCG sites but also HPC resources that are being pledged increasingly
- HTCondor 2020 workshop report
  - first online/virtual HTCondor workshop
  - very successful companion to HTCondor week
  - online workshop organization

# Storage & Filesystems

- Alice showed that with latest centos8 it's possible to improve performance close to nominal in transfers to EOS
- Xcache is looking very promising to help storage-less sites as well to access data from remote sites.
- CVMFS is very stable and reliable, roadmap full of new and interesting features (containers)
- FTS is adding new interesting features to support QoS, Authentication and monitoring.
- research institutes in Germany federated through HIFIS
  - relying on FTS for data transfers with several ancillar solutions, with optimal results
- EOS+CTA tape service for atlas in production, replacing CASTOR
  - Proved to be fast and reliable
- HPSS migration to IBM tape technologies at BNL
- scalable High Performance Storage based on Lustre/ZFS over NVMe SSD
- dCache in the cloud environment



# Basic IT services

- status report on MALT project
  - Goal is to reduce dependencies on commercial software, time scale to completion end of 2021
  - Collaboration with other institutes going through similar processes very welcome (e.g. on AAI)
- IoT network at CERN
  - Build a robust, secure and reliable IOT network at CERN
- storage and transfers monitoring with Elastic Search at BNL
- CERNphone

# IT Facilities & Business Continuity

## Miscellaneous



- CERN's Business Continuity Working Group
- anomaly detection for the Centralized Elasticsearch service at CERN
- interesting talks from non-HEP activities
- plans for the new Data Centre in Beijing for the upcoming High Energy Photon Source (HEPS)
- work at Nikhef on a EU-based gateway to access the data from the International Gravitational Wave Observatories

# Grids, Clouds & Virtualisation

- CERN Cloud Infrastructure status update
- Kubernetes in the CERN Cloud
- running event-driven workflows with dCache storage events at CC-IN2P3
- a BNL Evaluation of Podman
- cloud computing to support experiment online computing from the data center at BNL

# Group feeling



Thanks to Sebastian for the idea and realisation

# Comments and Discussions

- Of course HEPiX thrives on offline discussions and brief ‘coffee break’ exchanges
- These were –unfortunately- not possible this week; at least not in person
- Use of the Google shared document proved successful
  - background questions to speakers
  - offline discussions with people sharing an interest
- although prone to misuse – we are looking at alternatives

# Board meeting

- review of current meeting
  - lessons learned, what to keep, what to change
- planning ahead – physical meetings unlikely
  - virtual meetings seem to be our near future
- big thanks to Helge Meinhard for his 8 years as European co-chair



# Drawing to a close

- Your feedback is welcome!
- Share your thoughts and comments with us, via email  
hepix-board (at) hepix.org

Finally



Hope to see you again in Spring 2021  
15 – 19 March 2021



Academia Sinica – ASGC  
Taipei

or

