



HEPiX Autumn 2019 Workshop Wrap-Up

Helge Meinhard / CERN
HEPiX Amsterdam (The Netherlands)
18 Oct 2019

Contributions by
Andrea Chierici, Sebastien Gadrat, Martin Gasthuber, Pete Gronbech,
Andreas Haupt, Chris Hollowell, Shawn McKee, Michele Michelotto,
Tomoaki Nakamura, Georg Rath, Wayne Salter, Jingyan Shi,
Mattias Wadenstein

Attendees

- 113 registered participants
 - Healthy mixture of experienced and first-time attendees
 - Academia: 81 from Europe (including 8 from Nikhef), 13 from North America, 8 from Asia; companies: 11
 - 20 Switzerland, 18 The Netherlands, 11 Germany, 10 France, 8 United Kingdom, 4 Italy, 3 Czechia, 2 Hungary, 2 Russia, 2 Sweden, 1 Spain; 11 USA, 2 Canada; 4 PR China, 2 Japan, 2 Taiwan
- 50 different affiliations
 - 30 from Europe, 9 from North America, 3 from Asia, 8 companies
 - Significant participation from non-HEP institutes: Life sciences, photon sciences, fusion research, ...

Attendees (cont'd)



Programme

- 67 contributions
 - Scheduled total duration: 25 hours 15 minutes
 - Plus one contribution with material only, no presentation
 - Rich, very interesting programme
- Very high quality, interest and relevance of presentations
- Thanks to all speakers for their contributions
- Thanks to all speakers and chair persons for good time-keeping

Programme (cont'd)

Not part of HEPiX, but taking advantage of it:

- ARC(-CE) workshop following lunch break
 - Relevant in context of EOL of CREAM-CE
 - One of the potential replacements next to HTCondor-CE
- Security Operations Centre workshop 21 to 23 October at Nikhef
 - See David Crook's presentation

Tracks and Trends (1)

- Basic IT services: 6 contributions, 2h30'
 - Several talks on logins, credential managements, AAI
 - Monitoring: Prometheus+ELK at DESY; Infiniband networks
- Grids, clouds, virtualisation: 5 contributions, 2h05'
 - Openstack at CERN: Nice success story – for CERN and Openstack
 - Distributed computing for LHAASO using cloud technology successful
 - Data lake R&D in Russia
 - Life Sciences (JGI) has very similar requirements to HEP on distributed computing – started successfully, extension to public clouds planned
 - SLATE: Service delivery via container orchestration, a step towards no-ops operations
 - Challenges on trust and security

Tracks and Trends (2)

- Computing and batch services: 8 contributions, 3h20'
 - HTCondor: Workshop report; coming features; bulk deployment in Bonn (Singularity) and at DESY; performance of file transfer mechanism
 - No other batch systems mentioned at all
 - Benchmarking: Impressive progress on framework as well as workload from LHC (SPEC-CPU 2017 not suitable). Other communities? How to move to HS06 successor?

Tracks and Trends (3)

- End-user services and operating systems: 6 contributions, 2h30'
 - CERN MALT: Telephony, mail, home directories moving away from commercial solutions
 - W7 to W10: upgrade rather than re-install

Tracks and Trends (4)

- IT facilities: 2 contributions, 0h50' (***we really can do with more!***)
 - CERN repatriates equipment from Wigner in containers at LHCb (for Run 3); moving ahead with new data centre (early days, budget cuts)
 - Open Compute Project: Industry support, more variety, more market penetration
 - Not quite competitive yet, but getting closer

Tracks and Trends (6)

- Site reports: 17 contributions, 4h15'
 - HTCondor everywhere
 - JupyterHub spreading, spawner scripts allow to submit jobs on the local batch system, with sometimes switches to select the right resources to submit the job to (CPU or GPU for instance).
 - Kubernetes trend re-enforced (used for managing JupyterHub instances or containers)
 - Licensing problems everywhere: Many sites moving to Open Source or other less traditional software
 - Increasing usage of GPUs
 - Sometimes only few nodes to start a transition, sometimes with hundreds of GPU board
 - Increasing use of intermediate Ethernet speed (25 - 50 Gbps when 10 Gbps non sufficient)
 - Many sites study how to exploit HPC machines and/or commercial clouds
 - Peaks of demand; special grants; opportunistic usage
 - Presentations by photon science sites
 - Willingness to collaborate inter alia and with HEP despite cultural differences of community with respect to HEP

Tracks and Trends (7)

- Storage and file systems: 9 contributions, 3h55'
 - Tape: Moving out of Oracle drives and libraries; moving out of Castor; LTO increasingly deployed
 - Data Carousel proposal: new challenges for archive/cold storage systems in terms of guaranteed 'bring online' latency
 - CERN: MALT-related changes/challenges (e.g. SAMBA on EOS); CERNBox as focal point provided sync&share plus app integration (EU project); DboD: growing usage, HA features added to PostgreSQL and MySQL
 - Ceph and CephFS becoming commodity; interesting backup options
 - Storage usage statistics (2 presentations)

Breaks

- Coffee breaks
- Lunches
- Dinner, evening discussions
 - Welcome reception
 - Social event
- Countless hours of valuable discussion

Board Meeting (1)

- Current and next meetings
 - Confirmed 2020:
 - 02 - 06 March: ASGC, Taipei, Taiwan
 - October: IPHC Strasbourg, France
 - Probably 12 – 16 October, to be confirmed
 - Quite firm ideas about 2021 and 2022
 - Some expressions of interest even beyond 2022
 - Expressions of interest and proposals still very welcome
 - ... including for hosting the HTCondor workshop in Europe

Board Meeting (2)

- Working groups
 - Most WGs reported during the week
 - IPv6 to continue to phase 3 (IPv6 only)
 - Network function virtualisation to clarify whether continuing makes sense
- Infrastructure
 - Two technical issues with the mailing list server being followed up
- Dennis van Dok replaces Paul Kuipers as Nikhef board representative
- New European co-chair to be elected at Taipei board meeting; search committee formed
 - Dave Kelsey, Manfred Alef, Gang Chen, Shawn McKee

Take-aways

(Other than covered by tracks and trends)

- CSBS is OUR journal. Let's use it and publish our work! Many interesting things this week – consider writing an article!
 - <https://www.springer.com/journal/41781>
- Board strongly encourages YOU to propose presentations – HEPiX is all about sharing experience and ideas, even bad ones. Use it!
- IT Facilities are an integral part (track) of HEPiX. Report much more often!

Thanks

- ... to all participants
- ... to all speakers
 - ... for their contribution and for having accepted constraints and short-term changes
- ... to all conveners and session chairs
 - ... for having solicited contributions
 - ... for having kept sessions well within schedule
 - ... for having provided their track's highlights

Special Thanks

... to the sponsors

Without their support and their participation, many things would not have been possible

FUJIFILM

Western Digital®

DELL Technologies



AMD

FUJITSU



PROMISE
TECHNOLOGY

TYAN

Special Thanks (cont'd): Local Organisers

LOC:

- Dennis van Dok
- Bart van der Wal
- Joan Berger
- Paul Kuipers
- David Groep

Finances:

- Fred Bulten
- Muzaffer Pancar
- Eric Woortmann

- Tristan Suerink - Sponsor liaison
- Roel Roomeijer - Webmaster
- Ronald Blinderman - Photographer
- Wijnanda de Haan - Secretary and registrations

- Roel Aaij
- Jouke Roorda
- Daniel Kollmer
- Mary Hester
- Andrew Pickford
- Arthur Valentijn
- Jeff Templon
- Floris Bieshaar

Final Words

Have a safe trip back ...

... and ...

See you at ASGC in Taipei (Taiwan)!

02 – 06 March 2020

