



DESY Site Report

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HEPiX online from Hamburg
2020-10-12

Developments at the Lab

Changes at the top

Director of Particle Physics is changing jobs

- Prof. Dr. Joachim Mnich is taking on the job of Director for Research and Computing at CERN
- after 12 years in charge at DESY for Particle Physics Research – and also for the IT group
- “It is not easy for me to leave DESY. I have spent many exciting years here. But I am also looking forward to continue to actively shape the future of our research field at CERN.”



IT computing center related expansions

Electrical Power

Power distribution in CC

- New distribution units in use since Summer of 2019
- on 08.10.2019 crossed the 1 MW power usage
- In March 2020 new UPS for secondary powerlines came online
- Also, construction of a third cluster of water cooled racks has started
 - first HPC systems being installed now



IT – Networks

Networking Connectivity

- April 2019: 100Gbps X-Win connectivity went into production
- November 2019 Hamburg-Zeuthen connection upgraded from 2x10 to 4x10 Gbps
- November 2019 100Gbps link to National Centre for Nuclear Research NCBJ (near Warsaw, Poland) in operation – coupling Polish HPC resources into EuXFEL analysis computing
- Inaugurated June 2020: The full functionality of the connection was demonstrated on 12th June during a ceremony attended by Polish and German Deputy Ministers of Science, which took place simultaneously on both sides of the link.

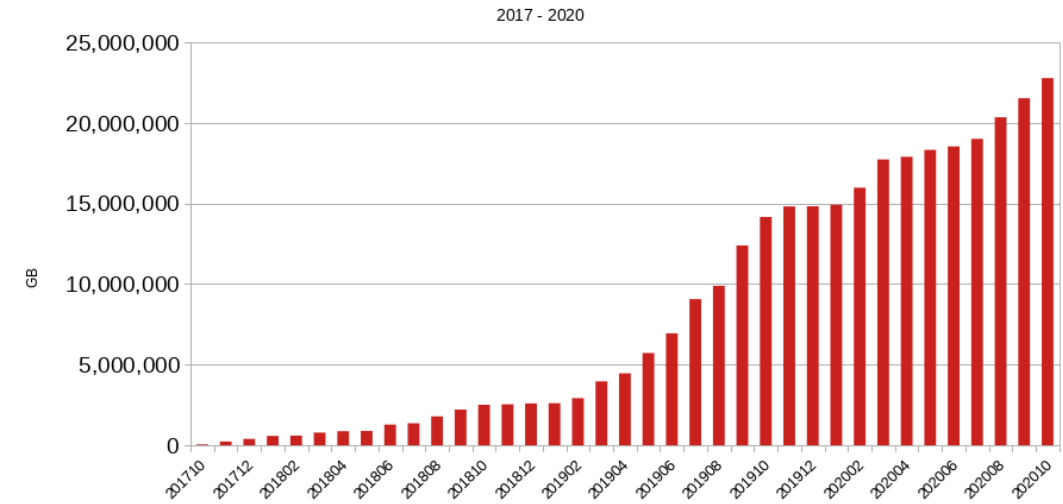


IT – Mass Data Management

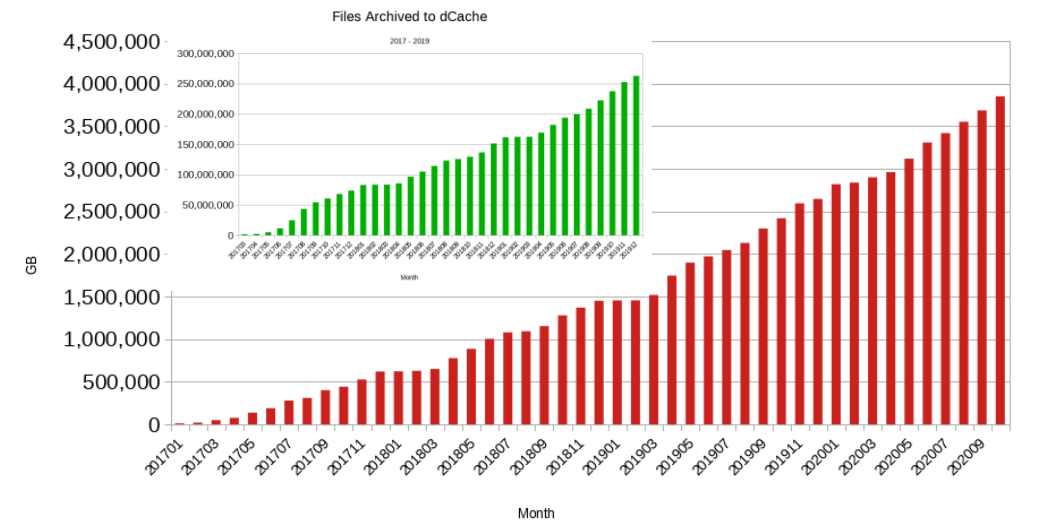
Data taking at Petra III and EXFEL ever more demanding

- EXFEL has just produced in a first run since shutdown some 1.2PB in 4 days to be stored as raw data onto tape
- Petrall data production steadily rising
- DESY has started a tender for a new library infrastructure
 - Results are expected by the end of the year
- The goal is having two independent library installations at the Hamburg site in two separate buildings
- To be commissioned in HY1/2021
- EuXFEL is commissioning 30 PB of dCache, 6 PB of GPFS and about 100 Maxwell HPC nodes...

EuXFEL Data Volume archived to dCache



PetraIII Data Volume archived to dCache



IT – Computing - Hardware

Purchases

- More and more AMD CPUs prove to be interesting alternatives, both in compute and storage
- Grid & HTCondor 2019 and 2020:
2x AMD 7402 (2,8 GHz, 24 Cores), 256 GB RAM, 2 TB SSD, 10 GE Network
- HPC 2020:
2x AMD 7402 (2,8 GHz, 24 Cores), 512 GB RAM, 240 GB SSD, HDR100 InfiniBand + 10 GE Network
(large scale purchase)



IT - Computing – Operating Systems

- Introduced CentOS 8 as server OS and Ubuntu 20.04 as server & desktop OS at DESY
- Change of default AFS: OpenAFS -> Auristor
- Migration away from Windows 7
 - basically successful, only few W7 systems left (smaller number than XP systems after XP EOL)
 - Now learning how to best perform one feature update per year, when many people are in home office ...



CentOS 8

The Community ENTERprise Operating System



Ubuntu 20.04 LTS

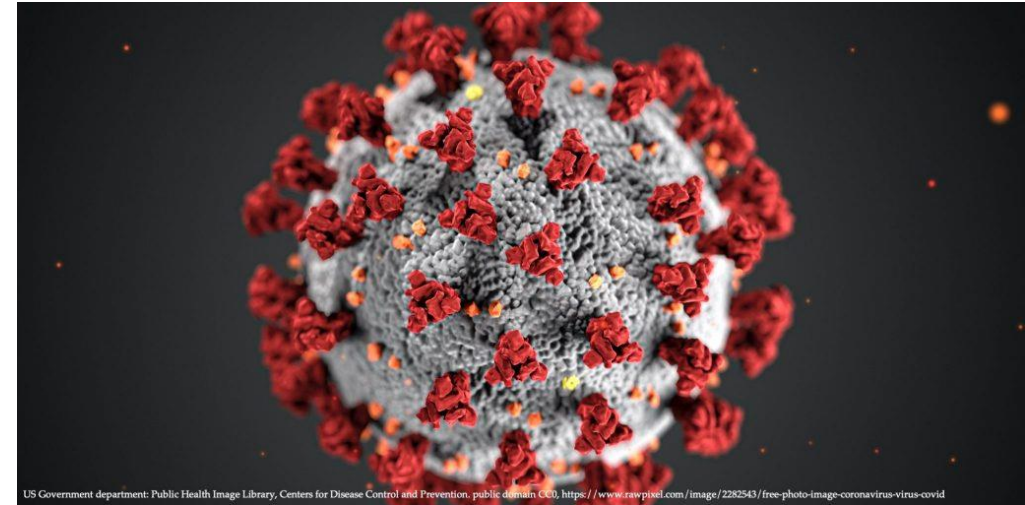
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IT – User Services

Corona pandemic push for many new services and activities

- Mattermost
- Zoom and videoconferencing in general
- 2FA for home-office-access to sensitive systems for personnel officers
- DESY access card deployment for canteen surveillance
- Large scale participation in COVID-19 related computing: Folding@Home, Rosetta@Home, analysis of SARS-CoV-2 proteome data taken at Petra-III
- supplemental access to DESY Intranet via SSH tunnels
 - Scaling and documentation also for Windows users
- Finalized Jupyter Integration into HTCondor and SLURM

Well utilized.



Many thanks to all contributors from IT

DESY Talk this week:

Storage Track: REST Interface for use of dCache in cloud environments
 Tigran Mkrtchyan