DESY site report

Yves Kemp (for the DESY IT groups)

HEPiX 2024 Spring meeting

Paris, 15.4.2024

HELMHOLTZ

News from the lab: Directorate

Chair of directorate: Helmut Dosch

- will retire in 2025 … designated successor: Beate Heinemann

- will need sucession for Beate Heinemann as current High Energy Physics director

Photon Science: Edgar Weckert stepped back since retirement in hot phase of next Helmholtz funding round

- Franz X. Kärtner temporary head

Administration: Christian Harringa stepped back beginning of 2024

- Arik Willner (Chief Innovation Officer) temporary head

News from the lab: Management of IT division

- Volker Gülzow retired mid 2023

- Successor: Philipp Neumann will start officially in May 2024

- Philipp currently is professor and chair for High Performance Computing at the Hamburg Helmut-Schmidt-Universität

- Philipp will be head of IT division and professor at the Universität Hamburg for High Performance Computing and Data Science

Tracking working hours

- EU & German legislation: employers must use time tracking

  - DESY working on SAP based tracking, currently using Excel sheet

- Some questions came up:

  - Scheduled on-duty work, incl. off-hours interventions, are safe

  - What about unscheduled off-hours expert interventions?

  - How to arrange scientists time tracking?

  - How to control tracking? How to control in a max. 50% mobile office environment?

- Currently many discussions within DESY and some question marks

https://de.wikipedia.org/wiki/Stempeluhr#/media/Datei:2005-11_stempeluhr.JPG

CTA (Cherenkov Telescope Array) updates

- SMDC (Science Data Management Centre) building construction to be finished by summer this year

    – Also co-hosts our new canteen at the lake :-)

- Construction of Medium-sized telescopes started

    – 23 telescopes across both locations (Chile Atacama desert + La Palma, Canary Islands)

    – In coorperation with UC Santa Cruz (active mirror control systems), UCLA, SAO, NASA

- Zeuthen IT group will design, develop and operate the CTA online data centres remotely

    – 3 job advertisements to help doing these tasks will be opened in the next time

CTA test cluster

- Hosting CTA CI/CD pipeline service with remote access via VPN

  – Implemented as dmz at Zeuthen site

  – Hosted services include Harbor, Nexus, Jenkins, Gitlab, Sonarcube

- Automated deployment into a dmz-based virtual compute centre

  – Simulates onsite computing centre

  – Mix of physical and virtual hosts incl. K8s cluster (Rancher, RKE2, Longhorn)

MFA introduction & SSO

- Multi-Factor introduced for most/all external facing services

  - including large compute clusters, also accessed by non-DESY people

- Overall: Well received, only few problems reported

- Measure of success: e.g. Email/Phishing drastically decreased

- Currently being discussed:

  - Single-Log-Out : Yes or No?

  - Which combinations secure beyond passwd+2FA? Cert+2FA? Krb5+2FA?

  - Additional admin accounts – and workflows?
    For base Windows and Linux administration?
    For administration of services?

Goodbye to ATLASSIAN: Stash Jira Bamboo

Last few miles of the exit path

- As reported last year already: DESY is phasing out ATLASSIAN products

  - Moving towards more open-source, and less vendor-lockin , whenever possible

- Jira: Mostly migrate to self-hosted Gitlab (community edition)

  - One group with special needs → ATLASSIAN Cloud, another group → Redmine

- Stash / Bitbucket → self-hosted Gitlab

  - Migration to Gitlab using bulk migration script, user migration using git clone/push, or via UI

- Plan: Shutdown Jira & Bitbucket at the end of May. Bamboo already switches off since Nov. 2023

- A DESY group specializing in support for project management is building up an MS Project online environment for multi-project management

Goodbye to ▲ ATLASSIAN : ✖ Confluence

Last few miles of the exit path

XWIKI

- Confluence Spaces are being migrated into new service based on ✖ XWIKI https://xwiki.org

- New service is supported by service&support contract. Migration is supported by consultancy and development contracts (with Xwiki.com, a European company with HQ in Paris)

- Xwiki offers a migration tool that allows migration of single spaces or whole installations

    - Based on the size of the DESY Confluence installation: Migrating clusters of single spaces spread over time, no point-in-time full migration

    - Two-step-migration: → preview with user feedback/change requests → production environment

    - Users continue using Confluence until final migration … with then RO mode and XML/static HTML archive

- Whole process taking longer than planned: lack of human resources, (understandably) hesitant user groups

- Presentation on full migration process planned for Oklahoma HEPiX workshop

Windows

■ Security:

- Implementation of tool for IoC-Monitoring and AD-Backup&Recovery started

- removing access to Windows for unused / seldomly used accounts

■ Performance:

- Long lasting unspecific performance problems throughout clients

- pinned down to non-optimal performance setting in BIOS in AD controller

■ Migration Linux/Samba → Windows Print Server for Windows clients

- ~400 printers, each one with shared custom presets, using ~30 drivers

■ Migration Windows 10 → Windows 11

- Desktops & Laptops: ~30% Windows 11, 70% Windows 10 … will enforce migration in coming months

- Using the annual feature releases

Short news from NAF, Grid, Maxwell HPC

- Lot of work ahead: Migration to RHEL 9

- With end of EL7: No more VOMS

  - used at DESY for own communities

  - future under investigation

- Grid: APEL Accounting

  - EL9 & HTC23: APEL accounting currently not available

  - Going to deploy AUDITOR accounting alternative (developed at Freiburg Uni)

- Sectigo:

  - Sébastien → Günther // changing street names & DN // …

- More on NAF&Grid → Christoph tomorrow

- Photon science makes heavy use of Juypter

  - Using integration into Maxwell-SLURM since some years

 - Using Jupyter beyond just notebooks: combine with application frameworks

(Frank Schlünzen)
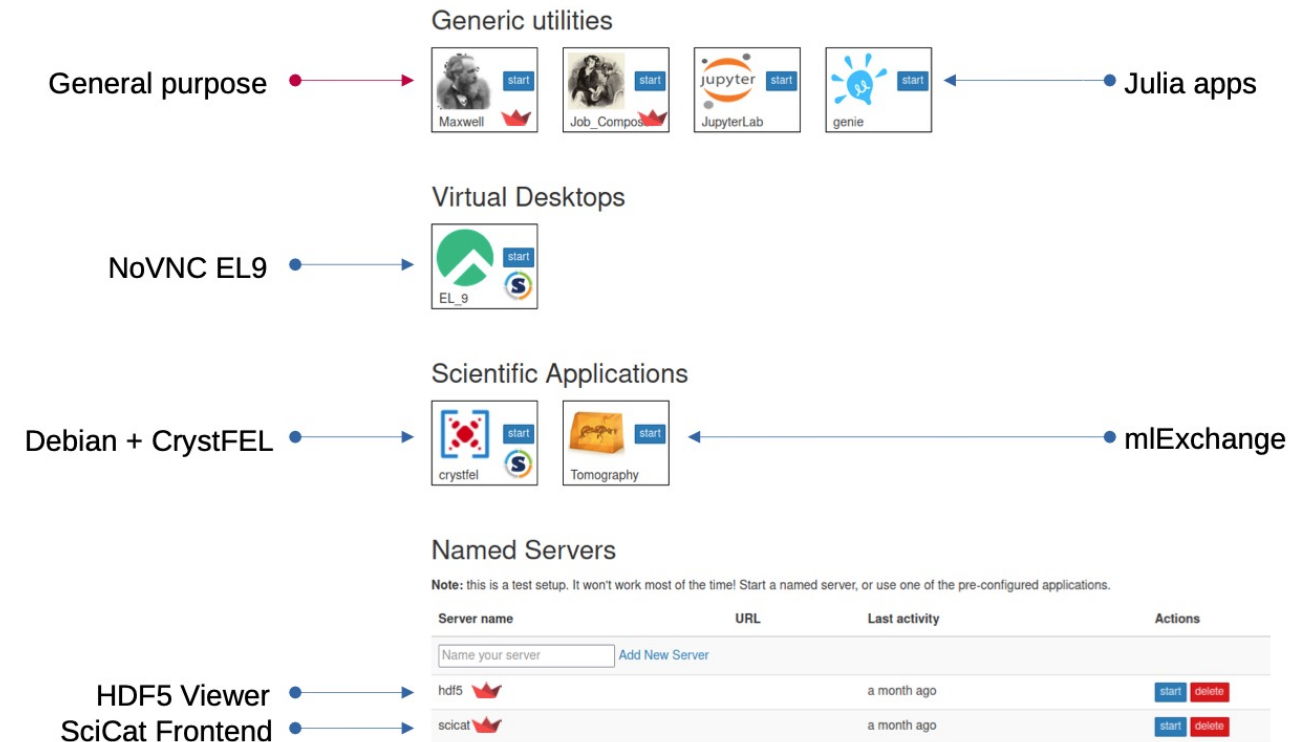
WLCG DC24   … and work for small local groups

- DESY participated successfully in DC24

- no limitations seen on the dCache side - rotating disks, movers,... have been able to cope without a dent

- network however: reached saturation

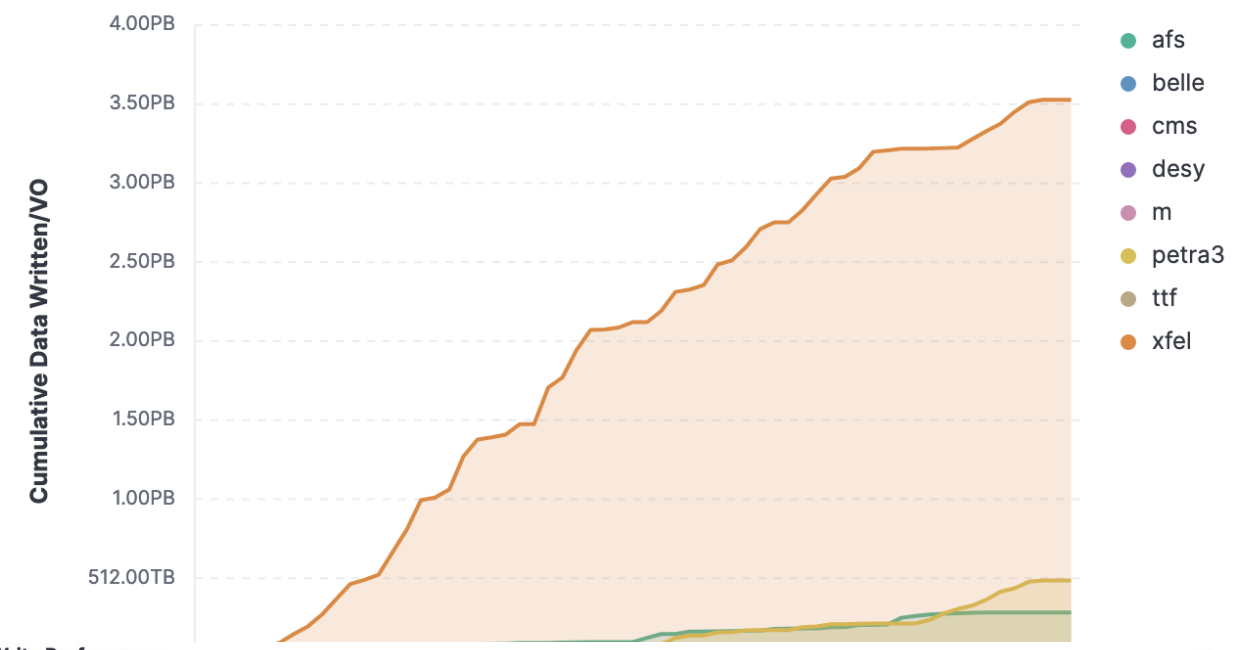 - cap LHCONE traffic to avoid fallout to general DESY WAN
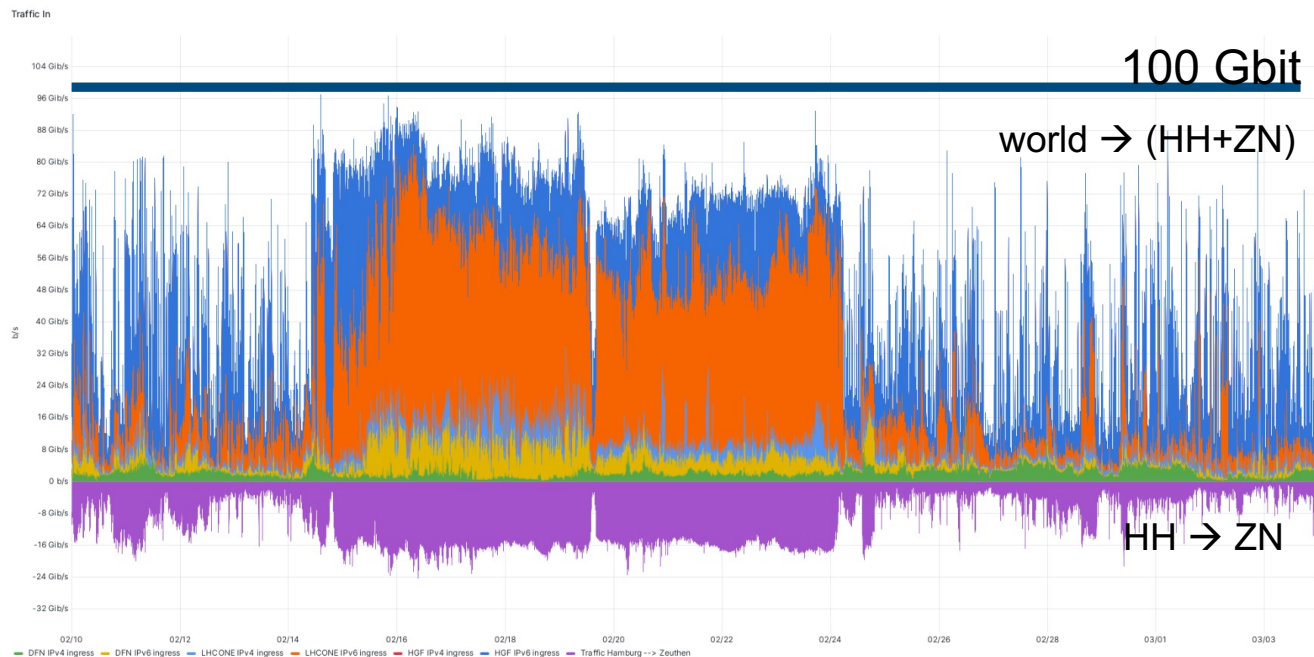
ALPS & IT: Pipeline using Gitlab, Containers and CVMS for NAF software deployment.
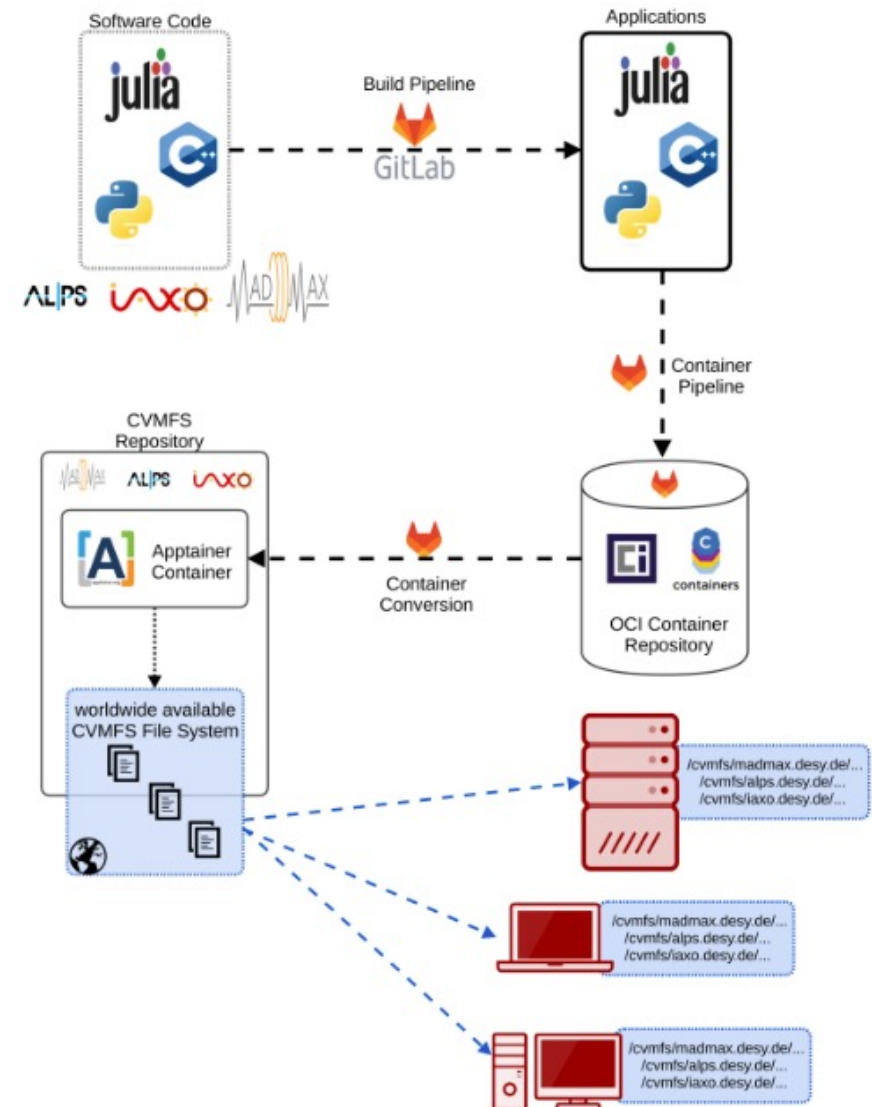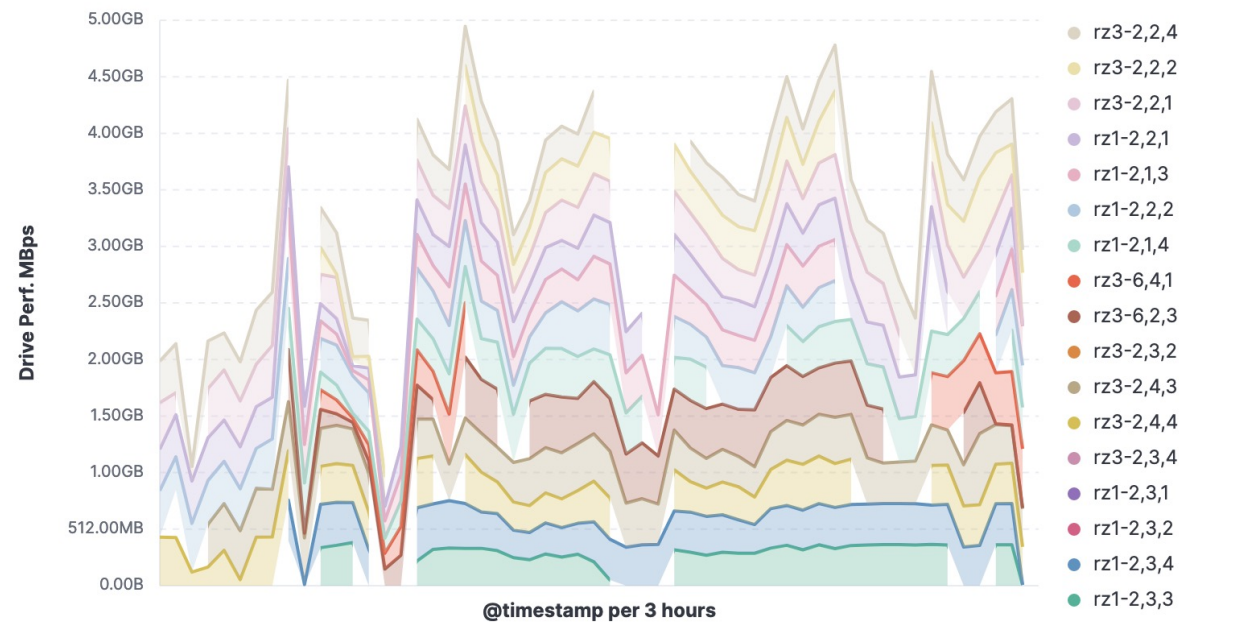
dCache & CTA (CERN Tape Archive)

- Migration of three dCache instances with tape backend done (DESY, XFEL, Photon)

  - ~130 PB, ~32M files, ~ 300 tape pools

- Configured three additional instances:

  - ATLAS, CMS, Machine division

- Operating CTA:

  - Performance OK

  - average 3-4 GB/s, 25 PB archived so far

Archived Data

Legend: afs, belle, cms, desy, m, petra3, ttf, xfel

Write Performance

Legend: rz3-2,2,4 · rz3-2,2,2 · rz3-2,2,1 · rz1-2,2,1 · rz1-2,1,3 · rz1-2,2,2 · rz1-2,1,4 · rz3-6,4,1 · rz3-6,2,3 · rz3-2,3,2 · rz3-2,4,3 · rz3-2,4,4 · rz3-2,3,4 · rz1-2,3,1 · rz1-2,3,2 · rz1-2,3,4 · rz1-2,3,3

@timestamp per 3 hours

dCache + EL9 … or: SHA1 issues

- EL9 globus based clients

  - Client always request proxy delegation

  - dCache <= 9.2.17 uses SHA1 for proxy delegation using 3rd party library

- dCache on EL9

  - Some root CA signed with SHA1

  - fetch-crl fails to update CRL

  - dCache rejects user certificates signed by such CA

- Solution on clients and servers:

  - update-crypty-policies --set DEFAULT:SHA1

  - until the last SHA1 root CA has gone

ChatGPT generated, artistic SHA1 logo

Providing OpenData access for Photon Science: A first sketch

OAI-PMH → OpenAIRE B2FIND

DOI minting — DataCite

We try to use standard protocols only to allow components to be replaced by components with similar functionality.

OPEN DATA (dCache)
Public Helmholtz Spaces

Sci Cat — Open Catalogue

Data Exploitation: e.g.: silx, VISA, jupyter ...

HELMHOLTZ ID
Helmholtz AAI

Out of Embargo

Embargo'ed Data (dCache)
Synchrotron owned Storage Spaces

Sci Cat — Access Controlled internal Catalogue

DESY Maxwell HPC System

DESY R2

Protected Network

… more DESY presentations

Secret management with HashiCorp Vault at DESY

In this talk we present how HashiCorp Vault is used at DESY to address this challenge and how the system

👥 *Sven Sternberger (DESY), Kai Wiemann (DESY Hamburg), et al.*

📅 *19 April 2024 11:35*

📍 *Amphithéatre Buffon (Laboratoire Astroparticule et Cosmologie (APC) de l'Université Paris-Cité)*

🔗 HEPiX Spring 2024 Workshop

Status and plans at DESY

👤 *Yves Kemp (Deutsches Elektronen-Synchrotron (DE))*

📅 *15 April 2024 15:50*

📍 *Amphithéatre Buffon (Laboratoire Astroparticule et Cosmologie (APC) de l'Université Paris-Cité)*

🔗 HEPiX Spring 2024 Workshop

News from the DESY clusters

We will give an overview and status, what over the past year is new and where we plan to go with our compute clusters. The migration to EL9 will be used for an overall update of Condor & Jupyter including a renovation & rewrite of the curre

👥 *Christoph Beyer, Thomas Hartmann (Deutsches Elektronen-Synchrotron (DE))*

📅 *16 April 2024 13:55*

📍 *Amphithéatre Buffon (Laboratoire Astroparticule et Cosmologie (APC) de l'Université Paris-Cité)*

🔗 HEPiX Spring 2024 Workshop