

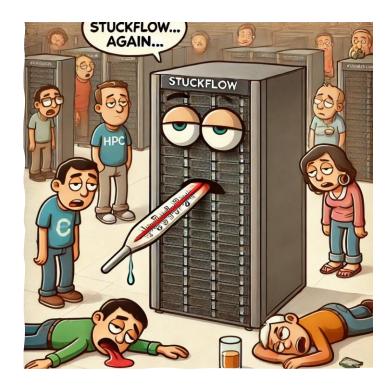
AWI updates – 7905 HPCE

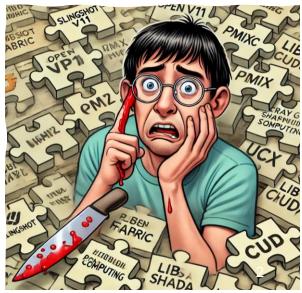
AWI Meeting 2025-03-03

- Derek Feichtinger
- PSI, 3 March 2025

Merlin7@Alps

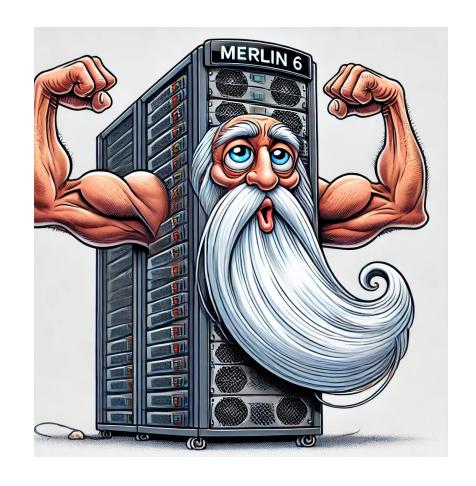
- Delay for moving projects and entering full production
- Slingshot Network problem since end of December that causes escalating "Stuckflow" condition upon massive file transfering from PSI (or generally from outside) to Merlin7@Alps nodes.
 - CSCS networker was able to reproduce problem independent of Merlin7 VLAN. Happens in every ALPS VLAN that is not the default VLAN
 - CSCS + HPE/Cray intensivley investigating. Were not able to reproduce the behavior on test systems with newer SSHOT versions
 - CSCS + HPCE planning to update Alps Slingshot network and rebuild fabric
- Intensive work to get optimal SW builds on Merlin7
- Bleeding edge challenge: Optimal integration of Slingshot versions with MPI flavors, making everything work across multiple GPUs and nodes, also on Grace Hopper architecture.
- Challenging for SW that brings own parts of the stack (e.g. ANSYS bringing own libfabric)
- Bio SW: Investigating slow performance of Relion on A100, storage bottlenecks. Getting Relion compiled for Grace Hopper nodes.





Merlin6 extension - aging, but still going strong for part of 2025

- To mitigate the further delays in ALPS and uphold support for essential stakeholder projects (e.g. IMPACT for CNM), we continue to provide Merlin6 for as long as possible this year
 - Depends on available capacity in data center, as SLS2 systems get procured/installed.
 - Requires updating merlin6 to RHEL8 and major update of GPFS appliance version
 - Initial update tests on compute nodes being carried out
 - HW is aging (we built Merlin6 in 2019)!



LHC CMS Computing

PSI Tier-3 cluster

- Stays at PSI. Could not been moved to Alps (Decision last Autumn).
- Procured storage and compute node upgrades. Being installed these weeks
- Whole system must get upgraded to RHEL9 (parts RHEL8)
- Upgrades of most services (LDAP, slurm, dCache) and introducing stronger security

CSCS Tier-2

• CSCS agreed in Nov to build this as an extra cluster (Alps not being ideal for the I/O requirements). Evaluating Architecture proposal within CHIPP.

