



Derek Feichtinger ::

HPCE update

AWI Department Meeting 21. 8. 2023



Outline

1 HPCE group

2 Merlin6

3 TransAlps



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3 TransAlps



- Krisztian Pozsa will join our group in October taking the third *SwissTwins* project position



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Spencer on the OpenEM project (in group 7903)

OpenEM is underway. It will improve open research data practices for Swiss electron microscopy facilities, making it easier for both researchers and the public to access, manage and reuse EM data via the SciCat Data Catalog.

- Two members have started (Spencer Bliven, PSI; Despina Adamopoulou, EMPA)
- additional open positions at UNIGE and UNIL

<https://swissopenem.github.io/jobs/>



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 - Slurm v22.05.9
- More details:
 - RHEL7.9 repo_tag prod-00187
 - CUDA 12.1 available for the GPU cluster (exception: Gwendolen DGX-A100)
 - OFED
 - v5.8-1.1.2.1 for ConnectX-4 and superior
 - v4.9-5.1.0.0 for ConnectX-3
 - Infiniband EDR Switches:
 - Mellanox: 3.10.4006
 - HPE: 3.9.3124



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- RHEL8
 - Merlin6 will not be upgraded to RHEL8, except for specific services:
 - Gwendolen DGX-A100 will be moved to RHEL8 on request by LSM
 - NVIDIA does not provide newer drivers and CUDA compatibility on RHEL7
 - Will be installed with RHEL8.8, OFED v5.8-3.0.7.0, GPFS v5.1.8, CUDA 12.0 and latest NVIDIA DGX software stack



■ Pmodules information

- Pmodules documentation: <http://pmodules.gitpages.psi.ch>
- **WIP** Overview of available Modules and changes:
https://pmodules.gitpages.psi.ch/Pmodules_tools/

Highlights

- New openmpi/4.1.5_slurm with all main dependencies installed on Pmodules (no longer relying on OS installed dependencies) -> strongly recommended
 - PMLx, Libfabrics, Libevent, Hwloc, UCX 1.14
 - Available for multiple compilers
 - GCC: gcc/10.4.0 gcc/11.2.0 gcc/11.4.0 gcc/12.3.0 gcc/13.1.0
 - Intel: intelcc/22.2
- New module: Julia, starting with v1.9.2



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 - Stakeholders have agreed and provided budget planning for their priority resources (GFA, NUM, BIO)
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- LHC/CMS Tier-3 Cluster moving to Alps
 - CSCS has agreed to also host the Tier-3 as another vCluster as part of the TransAlps project.
 - allows exploiting synergies with the Tier-2 that has been at CSCS since 2006.
 - Target: have a Tier-3 vCluster productive by mid 2024.

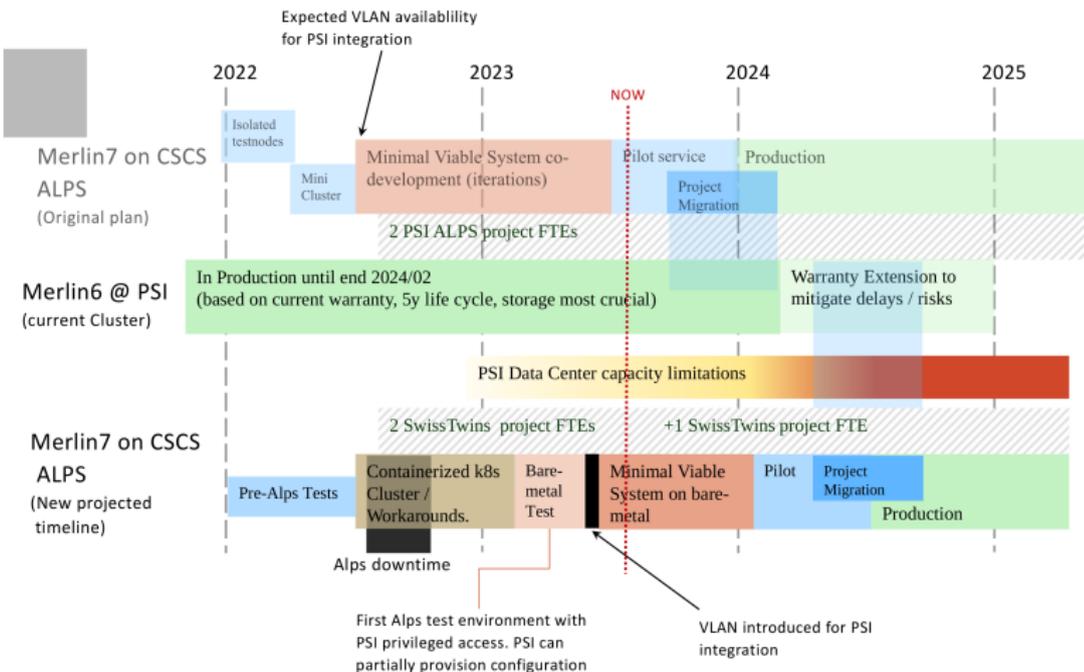


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 - Target: have a Tier-3 vCluster productive by mid 2024.
- CSCS will provide us with another minimal vCluster allowing us to implement CI/CD and testing without impacting the main testbed (ready this week!)
 - following initiative + CI/CD infrastructure proposal by Elsa and Hans.



Project Timeline





TransAlps activities/progress

TransAlps Project

