PAUL SCHERRER INSTITUT

WIR SCHAFFEN WISSEN – HEUTE FÜR MORGEN

Derek Feichtinger ::

HPCE group update

22. July 2024

Outline

Timeline
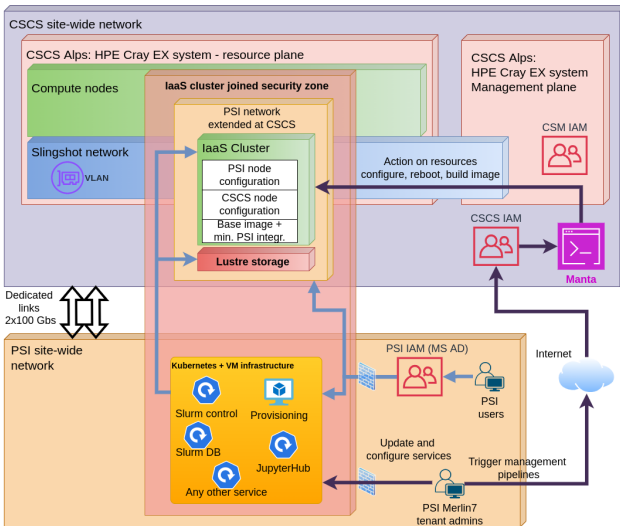
Status – Timeline as of July 7th
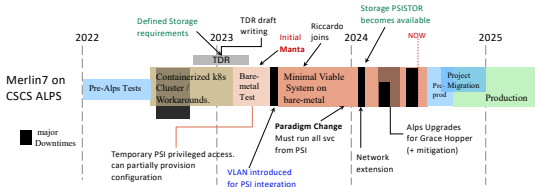
- **1st of August**: **Preproduction**: for x86 multicore nodes. Not yet clear for Grace Hopper GPU nodes
  - Selected Test Users and Stakeholders
- **1st of October**: **Production**
  - Migration of projects and project storage areas
- **End of December**: Decommissioning of Merlin6 at PSI

Architecture

CSCS IaaS status

- System not available for most of June
    - Major Downtime for recabling that CSCS had to extend
    - Power cut affecting CSCS and Lugano area with some fallout
- In first week of July CSCS made the newly defined Alps vClusters available
    - CSCS added functionality to the *manta* management tool that will allow us to move systems between vClusters
- Grace Hopper nodes will become available some time in August

"Burst" vCluster: merlin7 + gmerlin7

79	2 x AMD EPYC 7742 64 cores
3	AMD EPYC 7713 64 cores, NVidia A100

"Sichle" vCluster: Test system

3	2 x AMD EPYC 7742 64 cores
1	AMD EPYC 7713 64 cores, NVidia A100

PSI Merlin7 platform deployment

- finishing initial version of PSI provisioning layers
- Slurm
    - V23.11.8 now compiled with HPE Cray *Slingshot* integration
    - *configless* mode allows dynamic joining/leaving of nodes
- Scientific SW deployment on AFS
    - efficient local caching of AFS allows us to offer end users to install their own python environments (metadata-heavy, problematic on lustre)
    - initial pmodule + Spack based deployments
- dedicated Lustre storage applicance "PSISTOR"
    - ~9PB User and Project areas
    - 1TB "local" scratch per node (using SSD pool)
    - ~20TB fast cluster shared scratch (using SSD pool)
- SSH and nomachine access

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Stakeholders + Test users

Stakeholders

Stakeholder	Multicore nodes	GPU nodes	Lustre Storage/PB
CNM/MeG (Ritt)	5		2.0
SCD/LTC (Läuchli)	12		
CLS (Steinmetz)			3.5
CAS [GFA] (Kiselev)	10		
CNM/mu3e (Ritt)	4		1.2
SCD/LMS (Marzari)	3		
CENTRAL	48	9	1.3
TOTAL	82	9	8.0

- Intitial Test Users x86: SCD/LMS: M. Krack (CP2K), GFA (Ansys), CNM/MeG S. Ritt
- Initial Test Users GPU: CLS (=BIO) may want to test current x86/A100 nodes

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PSI TransAlps Administrative

- Contract with CSCS for IaaS
  - to be iterated and finalized with CSCS over August
  - no standard SLA, but agreed to define a number of expected SLOs
- agreement in PSI/CSCS Steering board
  - CSCS will continue to offer same level of development support until end of year (compensation of delays)
  - PSI will receive better access to HPE Cray information through CSCS