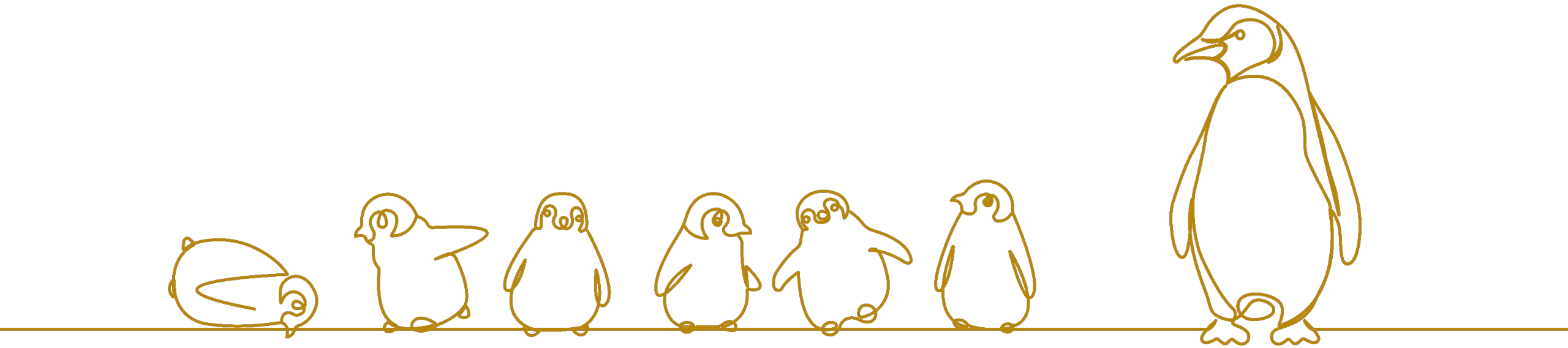
VIENNA SCIENTIFIC CLUSTER

Linux Command Line

9:00 Welcome & Login to VSC

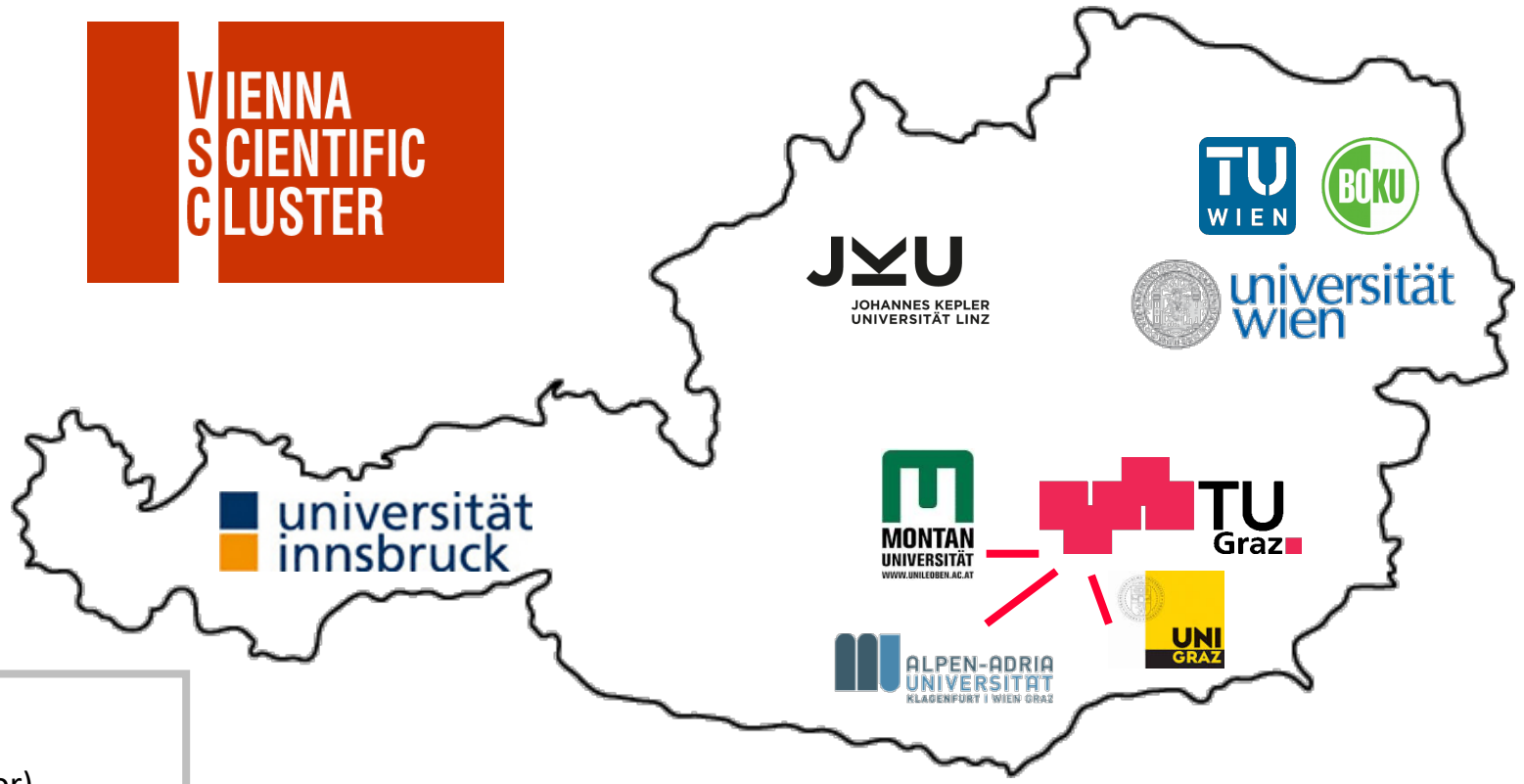


VSC – Vienna Scientific Cluster

VSC is a joint high-performance computing (HPC) facility of **Austrian universities**.

- vsc.ac.at
- vsc.ac.at/access
- vsc.ac.at/training

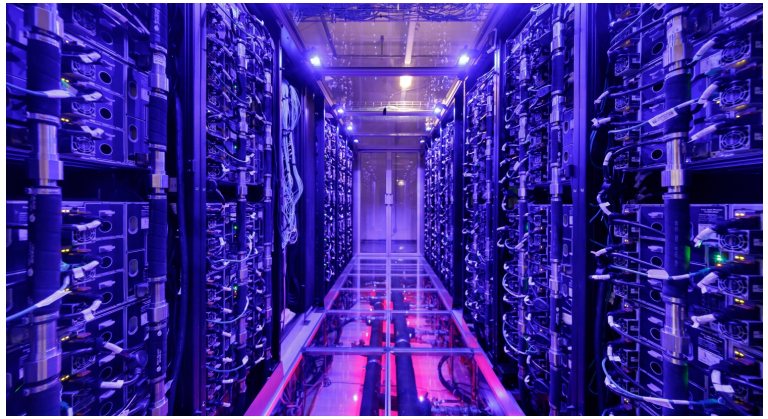
VSC is primarily devoted to research.



EURO AUSTRIA

+ VSC
+ INiTS (business incubator)
+ ACA (Advanced Computing Austria)

VSC – systems



VSC-4 (2019 → ...)

790 nodes
- 2 x Intel **Skylake** Platinum CPUs
- 2 x 24 cores/CPU
- 96 GB/node (384 GB / 768 GB)

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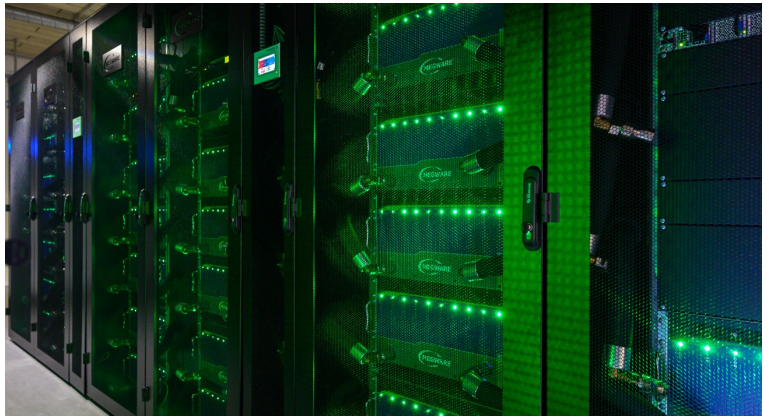
48 nodes (2022 @VSC-5)
- 2 x Intel **Cascadelake** CPUs
- 2 x 48 cores/CPU
- 384 GB/node



VSC-5 (2022 → ...)

770 nodes
- 2 x AMD EPYC Milan (**Zen3**)
- 2 x 64 cores/CPU
- 512 GB/node (1 TB / 2 TB)

60 GPU nodes 2 x NVIDIA **A100** (Zen3)

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40 GPU nodes 2 x NVIDIA **A40** (Zen2)

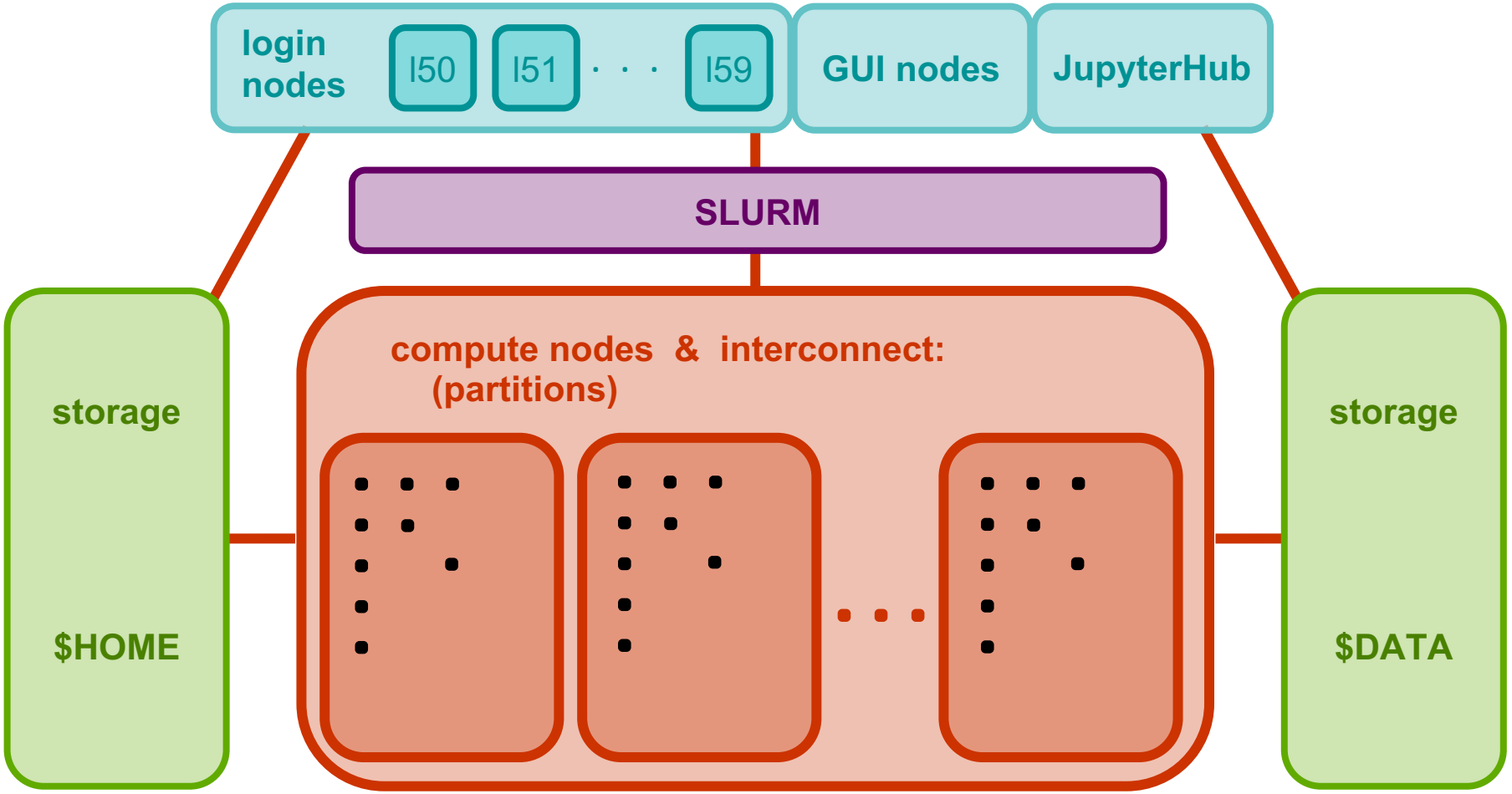
MUSICA (2024 → ...)

Vienna – 112 GPU + 72 CPU nodes
Innsbruck – 80 GPU + 48 CPU nodes
Linz – 80 GPU + 48 CPU nodes

GPU
- 4 x Nvidia **H100** 94 GB + NVLINK

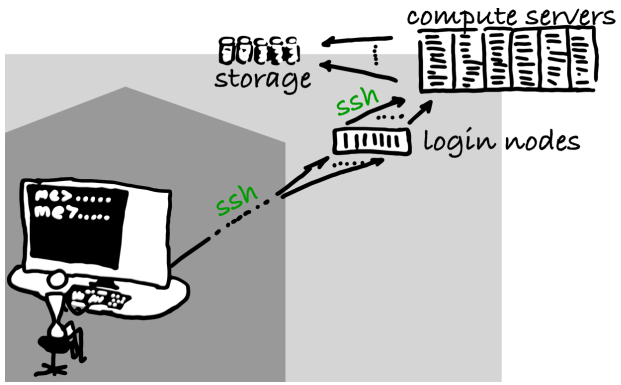
CPU
- 2 x AMD EPYC 9654
- 2 x 96 cores/CPU
- 768 GB/node

VSC-5 – components of a supercomputer



VSC – login training → everyone logged in ?

- username & password
  ➠ mobile phone number
- two-factor authentication
  ➠ OTP sent as SMS ➠ every 12 hours
- restricted IPs (firewall)
  ➠ at a VSC partner uni / jump host / VPN
- terminal
  ➠ xterm, terminal, PuTTY



- docs, PuTTY screenshots, ssh-keys (ssh -p 27)

```
username:  trainee##   (➠ ## ➠ ID )
password:  .......##   (➠ see email)
```

standard ssh (inside IP range of a VSC partner university):

```
ssh trainee##@vsc5.vsc.ac.at
```

trainee users only (no IP range restrictions):

```
ssh -t trainee##@vmos.vsc.ac.at vsc5
```

login via VSC JupyterHub

https://jupyterhub.vsc.ac.at
(just hit “Start” & open a terminal)