



Introduction to HPC Systems at RRZE

https://hpc.fau.de









Who are we?



TIER 2 academic HPC computing center



- 2 main and 4 special purpose systems
- In total 1659 nodes and 134 GPGPUs
- 4 people for software and support
- 2 system administrators



Associated computer science research group

- Performance Engineering
- Performance Modeling
- Tool development
- Sparse and stencil solvers













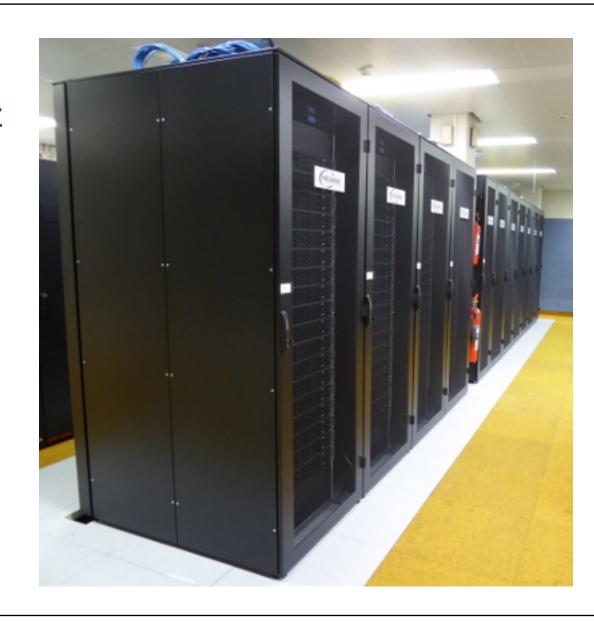


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Meggie cluster



- 728 compute nodes
 - 2x Intel Xeon E5-2630 v4 @ 2.2GHz
 (10 cores per socket + SMT)
 - 64 GB RAM
 - Intel OmniPath interconnect:
 ≈ 100GBit/s bi-directional
 - Lustre-based parallel filesystem:
 ≈ 1 PB capacity
 No local disks
 - Batch sy MEGWARE urm
 - Vendor:



How to get an account?



- Each user gets an own account:
 - m85q00xx
 - \$HOME with 10GB capacity (NFS)

- Contact via private Zoom chat:
 - Thomas Gruber
 - Gerald Mathias
 - Carla Guillen

Please prepare passport or identification card

04.06.2020

Access to Meggie



- Connect to dialog server: ssh m85q00XX@cshpc.rrze.fau.de Nomachine NX with KDE3:
 - Protocol SSH
 - Use the system login
 - Authentication by Password
 - Start KDE3: starttde
- Connect to frontends of meggie: ssh meggie

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Compilation



- Software environment:
 - CentOS with common module software system
 - Intel compiler/mpi/mkl module: intel64
 - Intel OneAPI module: oneapi
 - LIKWID module: likwid/5.0.1

 All compilation must be done on frontends Compute nodes don't have any headers

Open two shells:

- Compilation
- Running

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Batch system



• Interactive batch job:

```
srun -N X -t 08:00:00
      --reservation=PRACE-dayY \
                                              Hardware
      -C hwperf \
                                              counter access
      --pty /bin/bash -l ←
                                              Inherit modules
                                              from frontend
```

Always exclusive access to nodes

 $Y = \{1,2,3\}$

and more