

GSI Site Report

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https://www.gsi.de/en/about_us/50_years_gsi/timeline.htm





GSI Main control room 1975

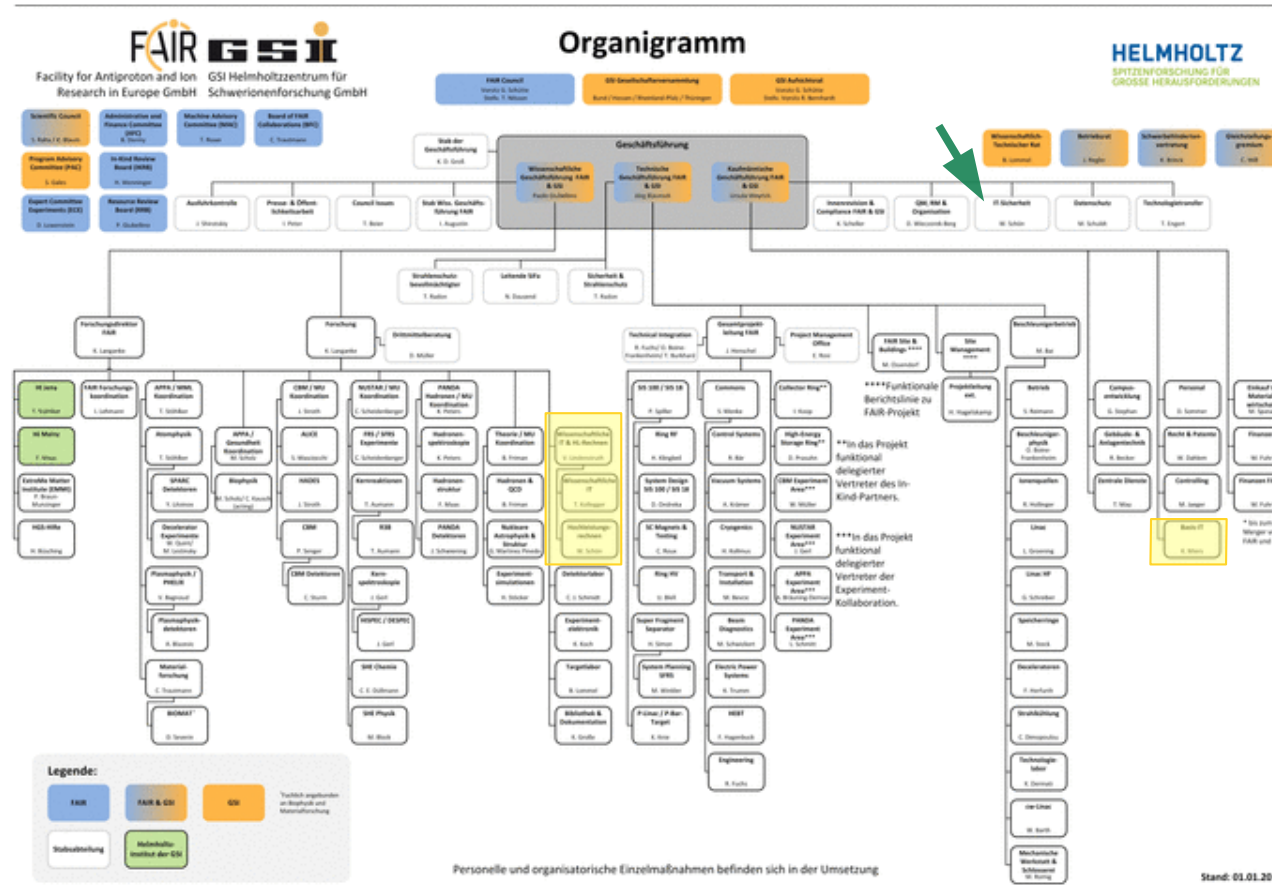




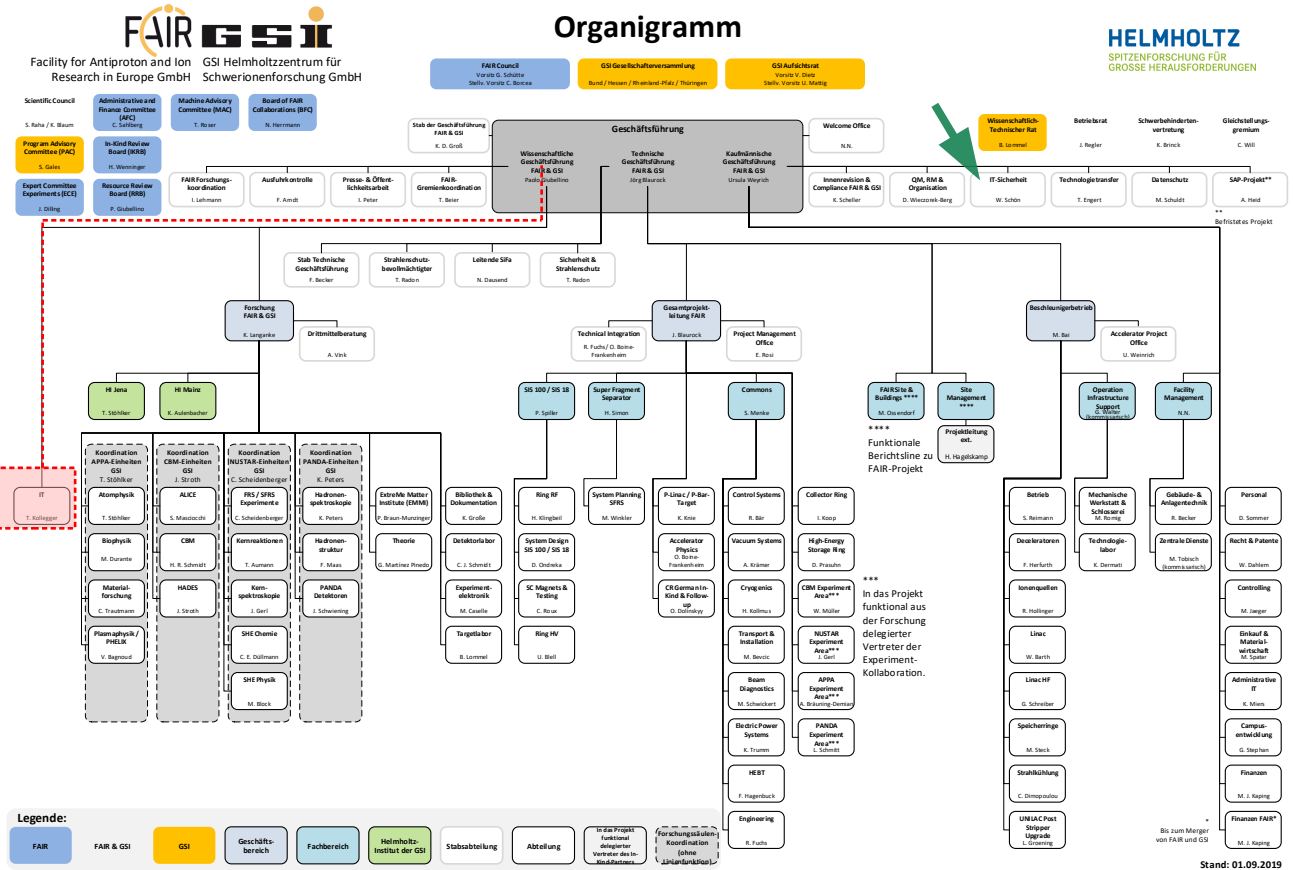


- Concrete works for first segment of SIS100 tunnel finished
- Acceptance test finished for 50% of SIS100 dipole magnets
- New timelapse drone video:
<https://www.youtube.com/user/GSIHelmholtzzentrum>

IT – Reorganisation



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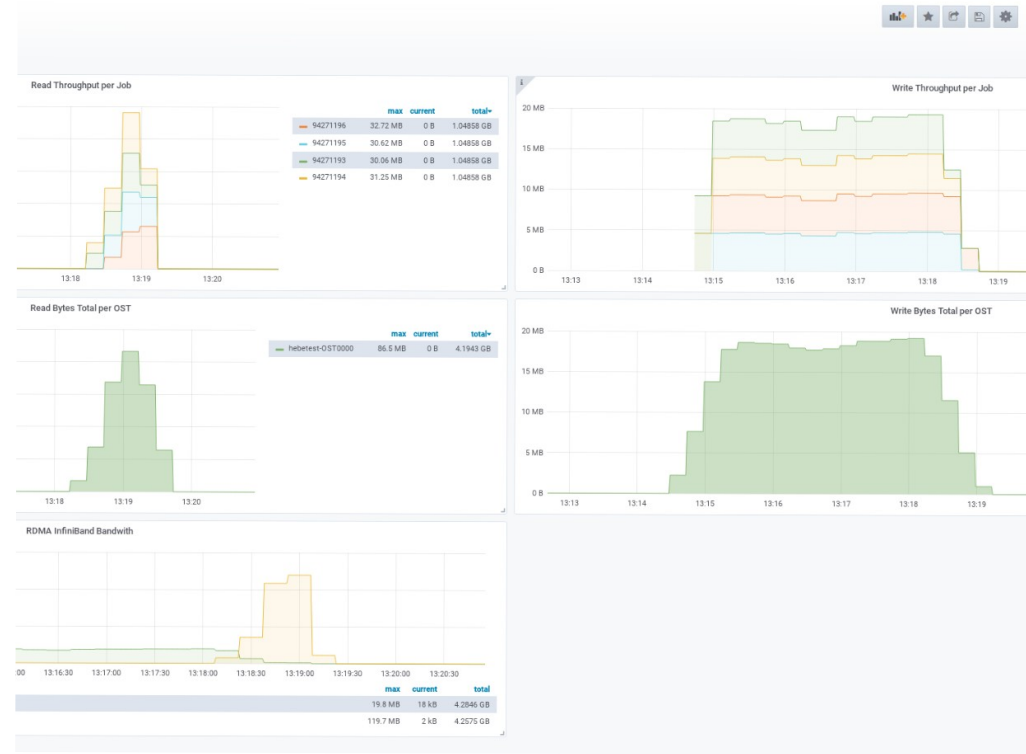
Farewell Jan Trautmann



- running CentOS 7 with additional packages from OpenHPC
- Slurm workload manager 18.08.8
- Computing environments encapsulated in Singularity containers
- Alice-Grid-Jobs already migrated from old batch system
- Plasma physics calculations (big parallel jobs) to be migrated next

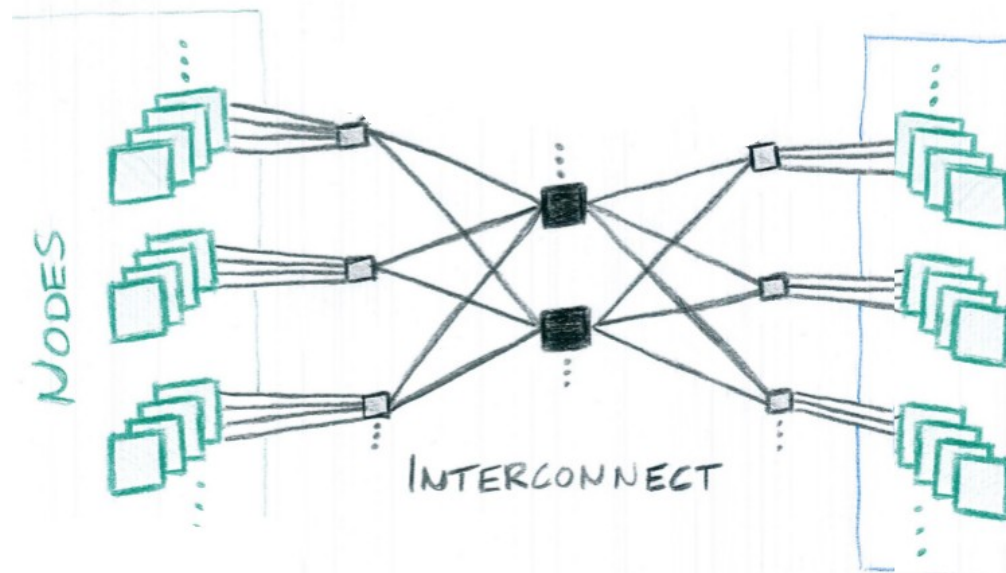
- New cluster consists of 120 nodes with dual socket AMD Epyc 7551
 - 15000 cores (with HT enabled)
- 2U nodes may be equipped with one or two GPUs later on
 - Options currently under evaluation

- EOL for old Lustre file system „Nyx“
- ~ 17 PB copied group by group
- Eternal mountpoint `/lustre`
 - Replaces periodically changing `/lustre/nickname`
- Upcoming new monitoring with Prometheus and Grafana
 - Metrics per Slurm Job-ID

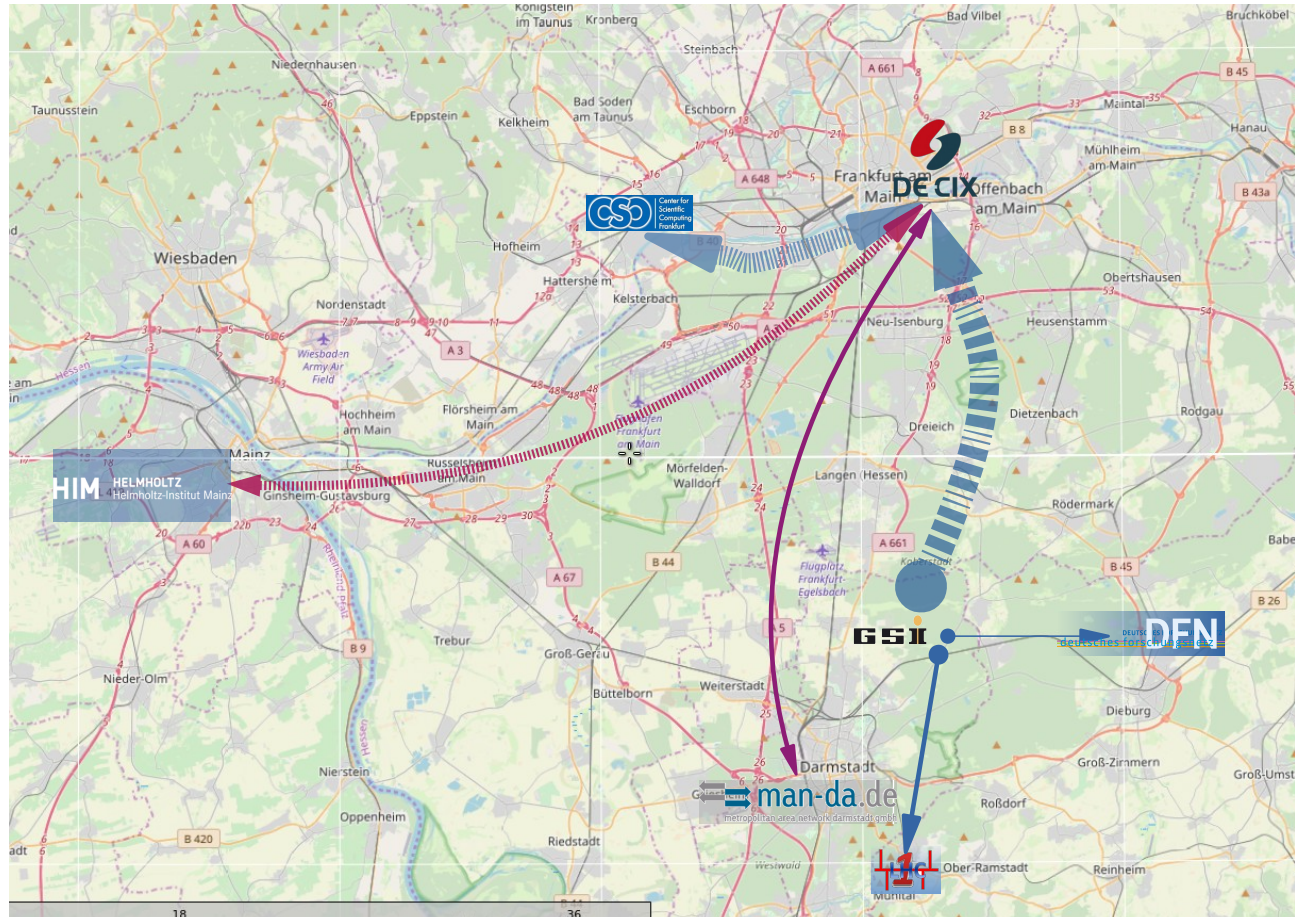


- successfully used for data taking at the HADES beamtime in Spring 2019
- In cooperation with DAQ framework DABC (from EEL department):
 - 380 TBytes archived to tape
 - 150 Mbyte/s sustained throughput
 - 800 MByte/s peak throughput
- Transferred to the lustre file system by the HSM copytool of LTSM
 - synchronization could not keep up with datarates during TSM disk2tape migration
 - Worked well in smaller scenarios (NUSTAR R3B, TASCA): synchronisation lag at most 15 minutes
 - Rsync workaround (delays of less than 1 hour)
 - New approach: intermediate caching service currently under development
- → Upcoming presentation at CHEP by Jörn Adamczewski

- Cumulus Linux + Mellanox
 - EVPN + VXLAN
 - <https://github.com/CumulusNetworks/cldemo-vagrant>



Network – new WAN connections



- Windows file shares moved to new servers and migrated to DFS, Quotas and ABE
- Windows OS Upgrades
 - 60% of ~2900 Clients upgraded from Windows 7 to Windows 10
 - 80% of > 200 Servers migrated from Windows 2008R2 to Windows 2012 and newer
- Exchange 2016 Migration
 - 70% of ~ 2900 mailboxes migrated from Exchange 2010 to Exchange 2016

- Ongoing: All racks retrofitted for power redundancy (currently only 50%)
- Preparations for commissioning of levels 3 and 4 has started
 - To be finished until 2022
- Aiming for data center redundancy between Green Cube and legacy „Rechenzentrum 1“
 - Upcoming Storage Virtualization project

Thank you!

