

Using GPUs in the ELKH Cloud

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Content

- Wigner Datacenter
- ELKH (formerly MTA) Cloud
- Hardware and software at present
- Case studies
- The hardware and software in the near future

Wigner Datacenter

- Wigner Research Centre for Physics
 - Datacenter
- Services:
 - DCaaS
 - IaaS (PaaS)
 - [CERN LHC Tier-0 datacenter]

DCaaS details

- Rackspace
- Power (PDUs, UPS- and aggregator-protected)
- Cooling
- High-precision fire alarm and automatic fire extinguisher
- Monitored environment
- 7/24 operational staff
- Physical security

DCaaS customers

- Government-related organizations
- Research groups
 - ALICE AF
- ELKH Cloud

IaaS

- ELKH Cloud
 - Started in 2016
 - MTA funded scientific research cloud services
 - Hosted physically at two places
 - SZTAKI (Institute for Computer Science and Control)
 - Wigner FK, Datacenter
 - Free of charge IaaS for research projects initiated by Hungarian research institute members

ELKH Cloud hardware

- Present (SZTAKI+Wigner):
 - 1 368 vCPU
 - 3.25 TB memory
 - 527 TB storage
 - 12 GPGPU
- Wigner Datacenter:
 - Tape library

ELKH Cloud network, software

- Network
 - Spine-leaf
 - 100Gbps capable, at the moment 10Gbps
- Software
 - Ceph
 - Openstack
 - OpenVPN