

MAX-DELBRÜCK-CENTER FOR MOLECULAR MEDICINE

Site Report

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Helmholtz Association

Largest research organization in Germany

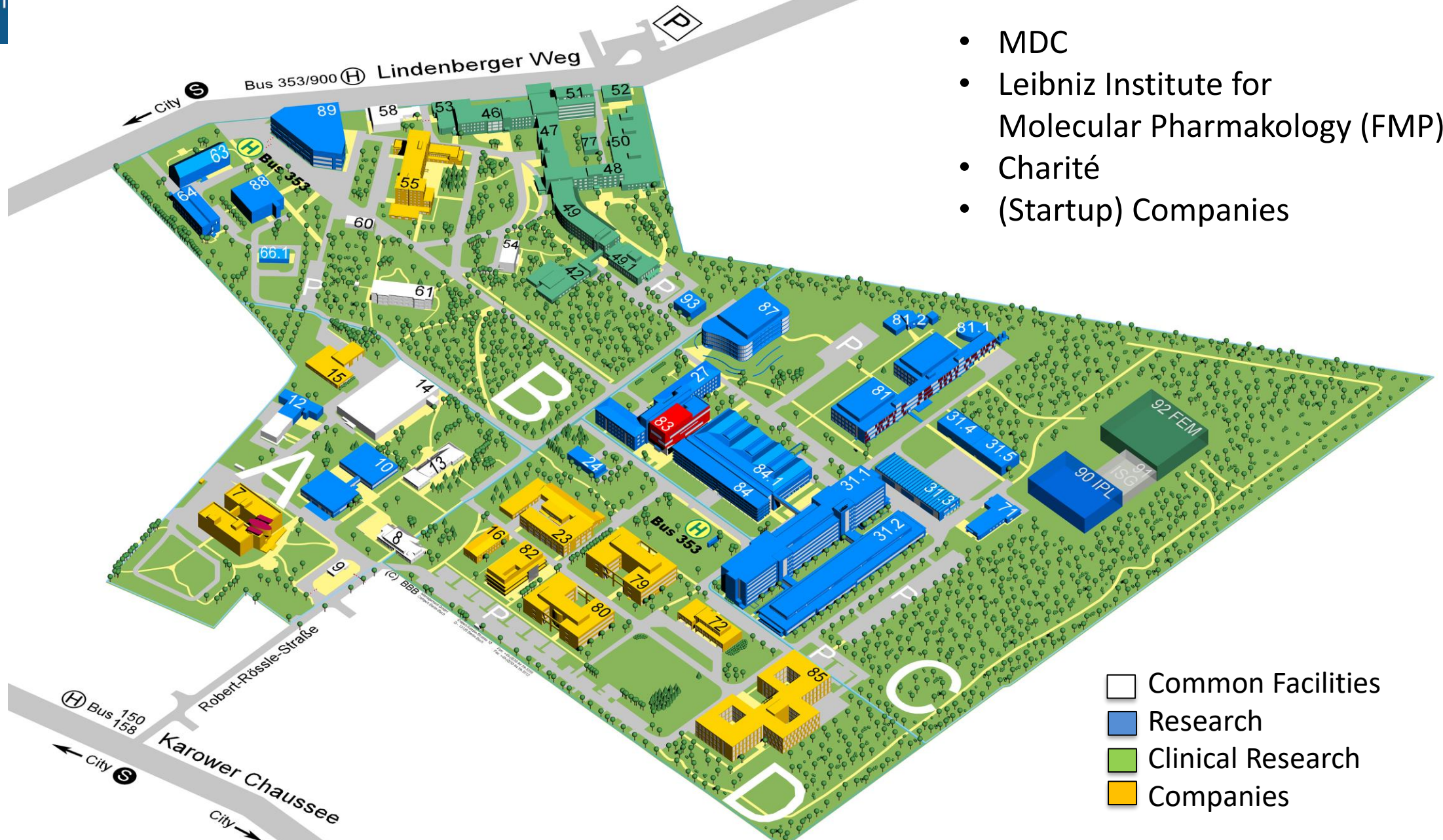
- 18 national research centers (6 with focus on **Health Research**)
- More than 38,000 staff
- Budget: more than € 4 bn

Max Delbrück Center for Molecular Medicine

Basic Facts 2014

MDC Core Budget 2014	€ 81 M
Extramural Funding 2014	€ 23 M
Shared 2nd place for DFG-funding nationwide	
European Research Council (ERC) Grants	14
Research Groups	60
Staff (incl. guests), 25% international	1,653
Postdocs (incl. guests), 50% international	229
PhD Students (incl. guests), 44% international	374
Patent families	95

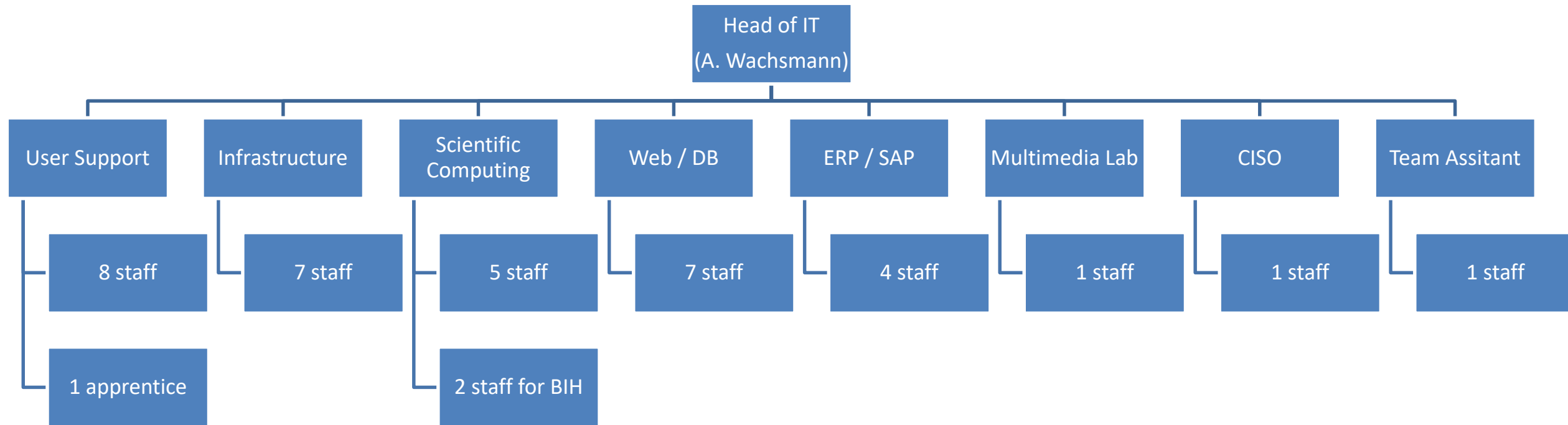




- MDC
- Leibniz Institute for Molecular Pharmacology (FMP)
- Charité
- (Startup) Companies

- Common Facilities
- Research
- Clinical Research
- Companies

IT DEPARTMENT



38 total staff in IT...
... and we are hiring

NETWORKING

- WAN:
 - Redundant 1 Gb/s connection to DFN (141.80.0.0/16 Class B network; mdc-berlin.de domain)
 - Redundant 10 Gb/s connection to BRAIN (Berlin Research Area Information Network)
- Extreme Network for campus networking (2016/17 upgrade of building switches to 40 Gb/s)
- Core routers are 10 Gb/s 6509 Cisco but will be changed this year to 40 Gb/s Extreme Network
- Firewall Fortinet FortiGate 1500D (8x10 Gb/s ports)
- WLAN controllers and APs are from Cisco
- HPC is using Dell/Force 10 but will change depending on tender results

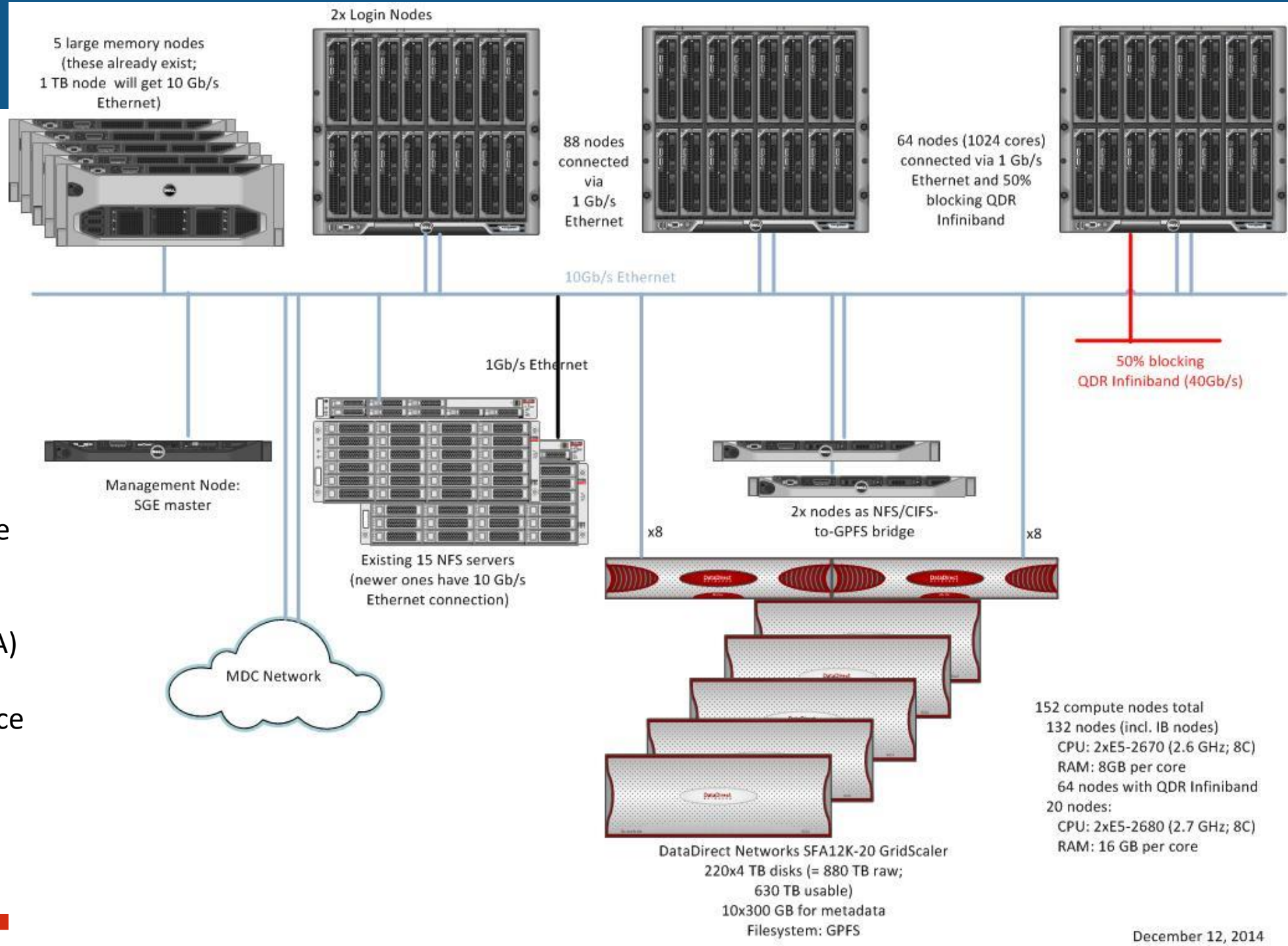
- No IPv6 yet

HPC

RFP is out for
~70 compute nodes with
a 40 Gb/s backbone and
5 Tesla P100 GPUs

GPFS is now ~830 TB usable

NFS space on
5 Oracle ZFS appliances (HA)
and 2 Dell servers.
Total of ~3.4 PB usable space



INFRASTRUCTURE

- Authentication/Authorization
 - Active Directory (also for Linux and HPC)
- Email
 - Microsoft Exchange; Kemp Load Balancer/Proxy for OWA
- Backup / Archive
 - Just replaced 4 Oracle SL500 with 2 frames of IBM T4500 with 12 Jaguar drives (15 PB total capacity)
 - Moved from Oracle SAM-FS to Varsity (new implementation of SAM-FS on Linux) as HSM
 - Veritas NetBackup
- Telephony
 - Not (yet) in IT. No comprehensive VoIP strategy yet.