Masaryk University IT services

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Institute of Computer Science

Service hierarchy

- **CESNET (Czech Education and Scientific Network), CR**

- **Institute of Computer Science, MU/Brno**

- **IT departments, faculties**

- **Emploees (lab technicians, PhD students...) at departmens**

■ CESNET

Assotiation of Czech Universities and the Czech Academy of Sciences

Founded 1996
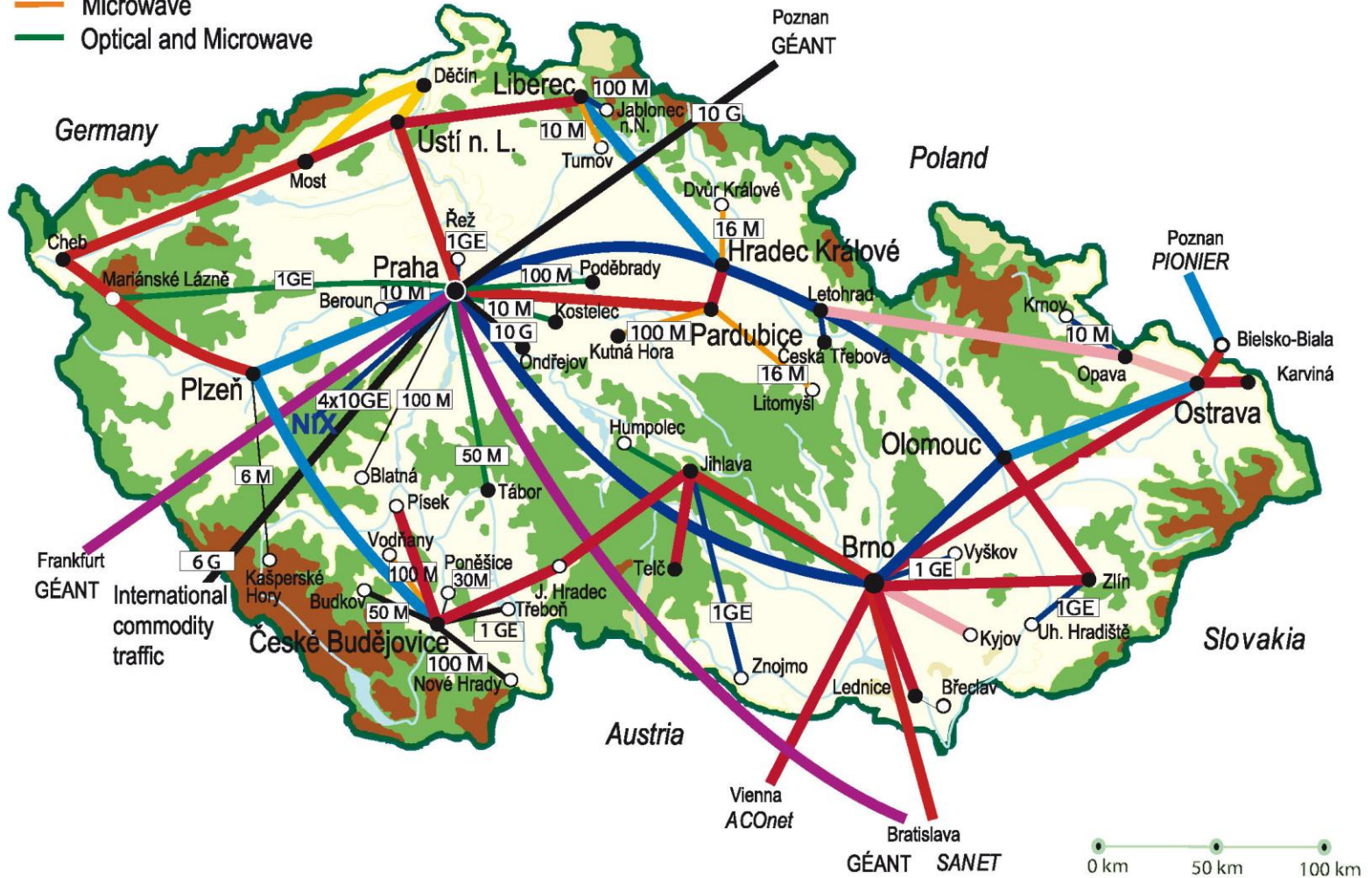
- **Resource sharing**
- **Independence**

Funding

- **Payments from members**
- **External funding**

National (academic) IT services

- Networking

- Computing&storage

- Collaboration/communication support

- Security (CSIRT)

- Identity and digital certificates

CESNET2 Topology (June 2013)

Storage & Computing

16 PB storage (including tapes)

Coordinator of MetaCentrum (NGI, part of EGI)

- **Computing resources**
- **National/European Grid Infrastructure**

National e-infrastructure coordination (IT support for R&D, „Big Infrastructure")

Collaboration support

Video - and webconferencing

National (academic) installation of Adobe Connect (MUST, Wednesday Morning)

Booking system

IP telephony (free telephony within CESNET, IP telephony abroad)

Identity and certificates

eduID.cz federation (Shibboleth)

TERENA certificates (personal and server)

RT (Request Tracker) system

Institute of Computer Science

IT Service provider for MU (and Brno)

Central MU facilities

Close cooperation with CESNET

- Common projects

Faculties

IT departments

- Local IT support (installations, repairs)
- Local mail/webservers, local networks, …

Technicians at Departments

- Lowest-level IT Support or Specialized Services

Identity management

UČO (University Personal Number)

Primary and Secondary Password

Identity Cards

+ CESNET EduID federation

Information systems

MU Intranet (INET) (MUST, Friday Morning)

- Developed by ICS

- Economics, accounting

- HR, personal data

- Project management

- Financial control

- ...

Information systems

MU Information System (IS MU) (MUST, Wednesday Afternoon)

- developed by FI
- Study administration (enrollment, exams, e-learning, timetables)
- Discussion forums, e-votes, document server
- ... and much more

Libraries

(MUST, Wednesday Morning)

Support for library services (ALEPH system)

Information resources – e-magazines, scientific publications (Wiley, Springer, Elsevier...)

Networking

Brno's Academic Computer Network (BAPS) – 150 km of optical cables

10 Gbps Core Network

Customers (commercial): Courts, Schools, T-Mobile

WiFi AP – Eduroam and MUNI (captive portal)

VPN

MU network management and monitoring

Telephony – internal phone system

- free calls within the MU (and other Universities in CR and Slovakia over CESNET)

- Cheap calls abroad (VoIP to peers, over CESNET)

- Currently installing new Phone System (support for Unified Messaging coming soon)

Data Storage

"standard" – small (20 GB/emploee), fast, reliable

- **Samba, SCP**
- **Every Emploee**
- **Students/Partners on Demand**
- **Self-Service, Web Interface**

"middle" – 100s of GB – best effort

BIG – 10s to 100s of TBs (CERIT SC in cooperation with CESNET) (MUST, Thursday Afternoon)

Data Storage

OwnCloud (CESNET, „private dropbox", 100 GB/person)

FileSender (CESNET, sending big files, 500 GB)

MS: OneDrive, Sharepoint

Google: Gdrive, GDocs

(Super)computing

CERIT SC (MUST, Thursday Afternoon)

- project/national storage and computing center, part of national e-infrastructure

- 3,5 PB storage (incl. Tapes)

- 3500 processor cores

- Scheduling, job planning, resource allocation

Hosting and Virtualization

Webhosting (CMS Umbraco) (MUST, Thursday Morning)

Linux hosting (Linux Account, OpenVZ containers)

VMWare virtualization system (100 cores)

Virtual machines on CERIT "cloud" – Open Nebula over KVM/Xen/VMWare)

Audio/Video

(MUST, Wednesday Morning)

Lecture recording support, transcoding, publishing

Videoconferencing (Adobe Connect, Tandberg/Polycom)

UltraGrid – support for Ultra-High Definition low-latency video – up to 4k, algorithm development

Central Computer Management

(MUST, Tuesday Afternoon)

Deployment – OPSI system

Management - Active Directory

Software

Campus-wide licences

- MS EES (Office)
- Servant Salamander
- Statistica, SPSS, SAS
- ArcGIS
- ASPI (juridicial SW)

Software

Concurrent licences

- – Maple

- – Matlab

MS Software - MS Select

Adobe - Adobe contract (Creative Cloud ☹)

Antivir – NOD/AVG

Computer rooms

(MUST, Tuesday Afternoon)

About 1000 computers accessible for students

University computer centre – 130 computers available 24/7 at Komenskeho square

Printing/scanning

IT Security

(MUST, Thursday Afternoon)

- Network Traffic Monitoring

- Incident Handling

- Research, Cooperation with Industry

- Cooperation with National Security Authority and Police

Others

Large-format prints (up to A0)

Identity cards printing

ICS structure

Divisions:

Communication infrastructure

Computational and Storage infrastructure

Information Systems

User Support

Q&A?

Jméno Příjmení

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