

## RESEARCH TEAM PROFILES

### FACULTY

Faculty of Business and Economics

### RESEARCH AREA

Computer Networks

### RESEARCH TEAM

Martin Pokorný, PhD., team leader, contact: martin.pokorny@mendelu.cz, tel.: +420 545 132 227

Jiří Balej, Mendel University in Brno, Czech Republic

Petr Zach, Mendel University in Brno, Czech Republic

Ludmila Kunderová, Mendel University in Brno, Czech Republic

Michal Šturma, Mendel University in Brno, Czech Republic

Jan Zima, Mendel University in Brno, Czech Republic

### EXPERT/TECHNICAL PROFILE OF THE TEAM (SPECIFIC PART OF RESEARCH)

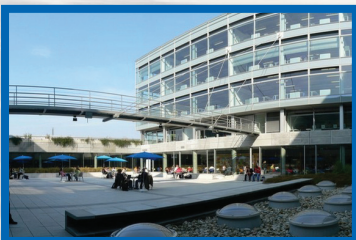
The working group of computer networking is primarily engaged in practical implementations of contemporary networking technologies in the area of routing, switching, security, wireless networks, IP telephony, virtualization and high availability. As for the research it deals with technologies that ensure quality assessment of data transmissions (QoS - Quality of Service and QoE - Quality of Experience), software-defined networking, time convergence measurements of highly available networks, design and implementation of a management suite that maintains end hosts in a large scale deployments, and software tool for generating user network traffic.

The working group is also responsible for the Mendel university computer network maintenance and development.

Three members of the group are certified instructors in networking academies – our group guarantees networking courses in three world-wide recognized networking academies: Cisco Networking Academy, Juniper Networks Academic Alliance, and MikroTik Academy.

### INDUSTRY CERTIFICATIONS

- Martin Pokorný: CCNP® R&S, CCNA® Security, CCNA® Voice, CCNA® Wireless, JNCIA-Junos, MTCNA, MTCTCE, LPIC-1, 4011 Recognition
- Jiří Balej: CCNA® R&S, JNCIA-Junos, MTCNA, MTCTCE
- Petr Zach: CCNA® R&S, JNCIA-Junos, MTCNA, MTCTCE
- Michal Šturma: MTCNA



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## EXPERIENCE

### Participation in national projects (programme and provider)

- Research on the impact of parameter changes on the quality of network service (Internal Grant Agency, Mendel University in Brno, 2013)

### Involvement in cross-border / regional and bilateral cooperation

- Cooperation with Hewlett Packard (Czech Republic, Software Defined Networking)
- Membership in the Cisco Networking Academy (Czech Republic), Juniper Networks Academic Alliance (USA), MikroTik Academy (Latvia)
- Cooperation with Sevana Oy, (Finland, Audio quality testing, AQuA, PVQA)
- Cooperation with CDC Data, s.r.o. (Czech Republic, Networking)
- Cooperation with the Department of Information Technologies MENDELU (Czech Republic, Networking)
- Planned cooperation: University of Žilina (Slovakia, Networking)

### Other foreign activities and contacts (active participation in conferences, publications, membership in international bodies etc.)

- 4<sup>th</sup> European Conference of Communications (ECCOM '13)
- Enterprise and Competitive Environment 2013
- Enterprise and Competitive Environment 2014

### Selected publications

- POKORNÝ, M., ZACH, P., BALEJ, J., FEJFAR, J. The Impact of Traffic Management Tools Application on the Business Computer Network Performance. *Procedia Economics and Finance*. 2014. sv. 12, č. 1, s. 539–548. ISSN 2212-5671.
- ZACH, P., POKORNÝ, M., BALEJ, J. Quality of Experience of Voice Services in Corporate Network. *Procedia Economics and Finance*. 2014. sv. 12, č. 1, s. 771–779. ISSN 2212-5671
- ZACH, P., POKORNÝ, M., MOTYČKA, A. Design of Software Network Traffic Generator. In *Proceedings of the 4<sup>th</sup> European Conference of Communications (ECCOM '13)*. 1. vyd. Paris, France: WSEAS Press, 2013, s. 244–251. ISBN 978-960-474-341-4
- POKORNÝ, M., ZACH, P. Design, implementation and security of a typical educational laboratory computer network. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*. 2013. sv. 61, č. 4, s. 1077–1087. ISSN 1211-8516
- FEJFAR, J., ŠŤASTNÝ, J., POKORNÝ, M., BALEJ, J., ZACH, P. Analysis of sound data streamed over the network. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*. 2013. sv. 61, č. 7, s. 2105–2110. ISSN 1211-8516

### Topics for cooperation in H2020/project proposal

- Software-defined networking
- Non-intrusive voice quality estimation
- Voice quality in wireless networks
- Computer networks high availability
- IP Geolocation



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