ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE

**FAKULTA ELEKTROTECHNICKÁ**

**KATEDRA TELEKOMUNIKAČNÍ TECHNIKY**

# 601ka's SP, BP and DP Assignment

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# Sniffer for Wi-Fi Network

- Target: BP, DP

- Make a sniffer for Wi-Fi devices in neighborhoods

- Sniff Access Point and Clients too

- Sniff in all bandwidth – 5, 10, 20, 40, 80, 160 MHz and all bands 2,4; 5 GHz

- Implement the sniffer to Linux Embedded device based on OpenWRT

# Very High Speed Networks Testing

- Target: BP, DP

- Make a proposal for Very High Speed Networks (VHS) testing

- Survey of "typical" VHS access possibilities in Czech Republic

- Prepare a methodology for network testing based on common standards (IETF, ITU etc.).

- The methodology have to cover static, nomadic and mobile measurement

# Data Visualization – Maps

- Target: BP, DP

- Make a visualization engine for off-line data visualization on to maps based on OpenStreetMap.

- Source data are acquired by F-Tester 4drive-box device – JSON telemetry output

- Map visualization have to be done on web browser without internet access

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# eShaper Performance Evaluation

- Target: BP, DP

- Prepare and verify methodology for eShaper device performance evaluation

- Use latest standards (IETF, ITU etc.)

- Use all eShaper parameters and features – mainly possibility to change parameters over time

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# eShaper xDSL (LTE, 5g, ...) emulation

- Target: BP, DP
- Survey of "typical" xDSL performance parameters in Czech republic
- Setup testbed for xDSL emulation (F-Tester & eShaper LAB)
- Create network model and emulation profiles for eShaper platform based on xDSL survey and selected xDSL measurements
- Verify and measure fidelity of network emulation