

Exercise 3

Create and simulate the ATM network for 5 largest Slovak cities (BA, KE, PO, ZA, ZV). Cities BA, KE and ZA are linked using duplex lines with a transfer rate of 155 MB/s (STM-1/OC3-c). Cities PO / ZV will be connected to the city KE / ZA using duplex E3 lines. In each city the backbone ATM will be connected to a WLAN network consisting of three AP with 20 connected mobile users (moving with Random Waypoint model). In BA, KE and ZA there will be servers for: VoIP communication (G.729a), database communication with Poisson distribution generating Interarrival Transaction Time & the video server.

1. Analyze voice communication between:
 - a) 25% of users across the network
 - b) 50% of users across the network
 - c) 75% of users across the network
2. Analyze database access traffic between:
 - a) 25% of users across the network
 - b) 50% of users across the network
 - c) 75% of users across the network
3. Analyze video communication between:
 - a) 25% of users across the network
 - b) 50% of users across the network
 - c) 75% of users across the network