

# Exercise Multimedia Technology

## WS 2003/2004

Sheet 7 (December 5<sup>th</sup>, 2003)

### Exercise 7.1 Flow control

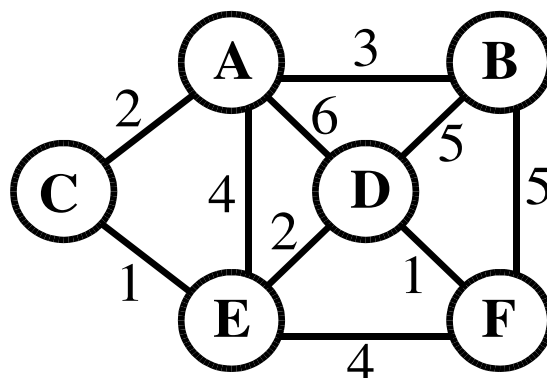
Two sites are connected via satellite. The transmission rate is 64kBits/s travelling at the speed of light, or approximately 300 000 km/s. The size of a single packet is 1000 Bit and the sliding window protocol is used for flow control. Geostationary satellites are located at an altitude of 36000 km.

7.1.1: How optimally will the available capacity be exploited (in percent) when a window size of 10 packets is used?

7.1.2: How large does the window have to be in order to utilize the whole capacity?

### Exercise 7.2 Routing

Evaluate the optimal path from node A to F using the shortest path approach based on the following network. The numbers on the links between the nodes depict the costs.



### **Exercise 7.3 Routing**

What mechanisms prevent the transmission of isochrone datastreams in packet-switched networks?