

Exercise Multimedia Technology WS 2004/2005

Sheet 7 (December 10th 2004)

7.1 Flow Control

Two sites are connected via satellite. The transmission rate is 64 kBits/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 36 000 km.

7.1.1 Utilization

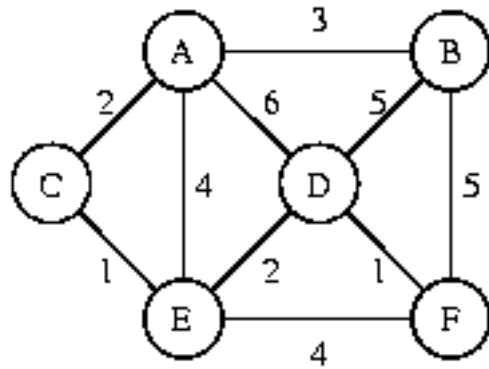
How optimally will the available capacity be exploited (in percent) when a window size of 10 packets is used?

7.1.2 Optimal Window Size

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

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 cost.



7.3 Multimedia Transmission in Classical Networks

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