



Advanced Networking 2013/14

January 30, 2014, 20nd session of the winter term

Instructions:

The solution time is 90min (1h:30). The time you have is limited, but the correction process keeps this into account: in any case sometimes you have to take decisions and include what is more important, leaving out details or less important issues.

Mark your preference for the oral exam (more than one option is welcome to make scheduling easier)

Your Name

	Fri 7/2	Mon 10/2
8.30-10.30		
10.30-12.30		
14.00-16.00		■
16.00-18.00	■	■

The results of the written with the timetable of orals will be published on the course web site within Wednesday Feb. 5.

The written and oral parts are graded in 16-th. Any vote above 30 makes 30 with lode.

Exercise 1

Consider the TCP protocol.

1. Describe how SRTT, RTTVAR and RTO are computed
2. Describe the Slow Start, Congestion Avoidance, Fast Retransmit and Fast Recovery algorithms
3. Draw and comment the temporal evolution of the transmission window of a TCP transmitter that transfers a file composed of 50 segments when the Advertised Receiver Window is 16 segments.
4. Repeat point 3. in case segments No. 20 and 35 are dropped in the network.
5. Repeat Point 3. in case segments 4, 5 and 6 are all dropped in the network.

Exercise 2

Draw and explain the exchange of messages in the SIP protocol to open a voice call between end-points A and B, registered and interconnected to the service through, respectively, proxy servers PA and PB.