ÇUKUROVA UNIVERSITY
FACULTY OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT

EXERCISE SHEET 5 – RTO and TCP Flow Control

Task 1

Consider the following sequence $(RTT_i)_{i=1,\ldots,50}$ of measured RTT values;

$(RTT_i)_{i=1,\ldots,50}$ = (2.18, 2.11, 2.43, 2.44, 2.00, 2.67, 2.83, 2.43, 1.83, 1.83, 2.00, 2.21, 2.25, 2.48, 2.49, 2.51, 2.30, 2.17, 1.07, 2.32, 2.40, 2.34, 4.11, 4.54, 5.76, 5.76, 5.76, 1.45, 1.62, 2.34, 1.57, 1.53, 2.23, 2.27, 2.28, 2.72, 2.39, 1.65, 2.64, 2.83, 2.83, 2.60, 3.00, 3.55, 2.81, 3.81, 4.00, 4.30, 4.59, 4.60)

a. Use MS Excel to calculate the corresponding sequence of RTO values according to Jacobson's algorithm. Take the smoothing factors alpha = 7/8 and beta = 7/8 and the margin factor gamma = 4. Set the starting values for SRTT and SDEV according to RFC 1122.

b. Present your results with an Excel line diagram.

Task 2

The following figure illustrates the working principle of TCP's sliding window management. Describe the legends for each of the colors below which represent the current status of arriving and sending segments.