

Testing Report

Test platforms are pod1-1 to pod1-2(A) and pod1-1 to escher01(B).

Avg-RTT of A: 152 microseconds

Avg-RTT of B: 973 microseconds

File size = 5700000

(1) (timeout = A:304 ,B:1946)

Table 1

Test cases	Duplicated Bytes	Time	bps
1A	2942	234.432000	194512694.512695
2A	2942	314.686000	144906351.092835
3A	2942	279.128000	163365910.979909
1B	0	3928.374000	11607856.074803
2B	4413	2012.157000	22662247.528399
3B	11768	1954.723000	23328113.497411

From the results above, sending packets takes lesser time and maintains stable when a sender is closer to its receivers. In this case, I chose 5700000 as my file size because many other cases ended within about 4 seconds in this size.

(ii) (dropwhen = 10)

Table 2

Test cases	Duplicated Bytes	Time	bps
1A	632530	663.325000	68744582.218370
2A	632530	634.069000	71916463.350203
3A	632530	717.988000	63510810.765640
1B	632530	4890.366000	9324455.470204
2B	632530	4699.907000	9702319.641644
3B	632530	4921.392000	9265671.175960

The action of forcing receivers to drop ACK plays a big part in the number of duplicated bytes. This impact mainly influences the performance of sending bits. In other words, the connection itself seems much more stable and reliable than I have expected.

(iii) (timeout = A:182 ,B:1167)

Table 3

Test cases	Duplicated Bytes	Time	bps
1A	4413	156.256000	291828793.774319
2A	4413	155.147000	293914803.380020
3A	7355	125.108000	364485084.886658
1B	10297	556.418000	81952776.509746
2B	14710	337.414000	135145548.198948
3B	11768	408.629000	111592667.187106

In this case, the numbers of duplicated bytes are varied with the block size parameter. And the average number of duplicated bytes are higher than the one in Table 1. One possible reason is overly aggressive retransmission because of 20% slack added over average RTT.