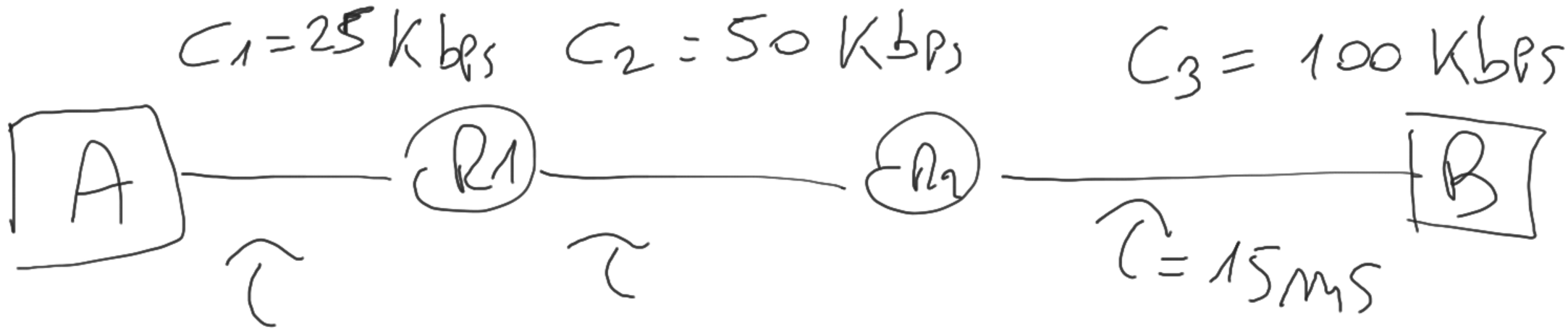


F = 2 KB

MSS = 200 B

SSTH = 400 B

Ack = 20 B

$T_{TOT} = ?$

$T_R = ?$

$T_{TX_1} = 4\, T_{TX_3}$

$T_{TX_2} = 2\, T_{TX_3}$

$$\frac{W \, MSS}{RTT} = C_1$$

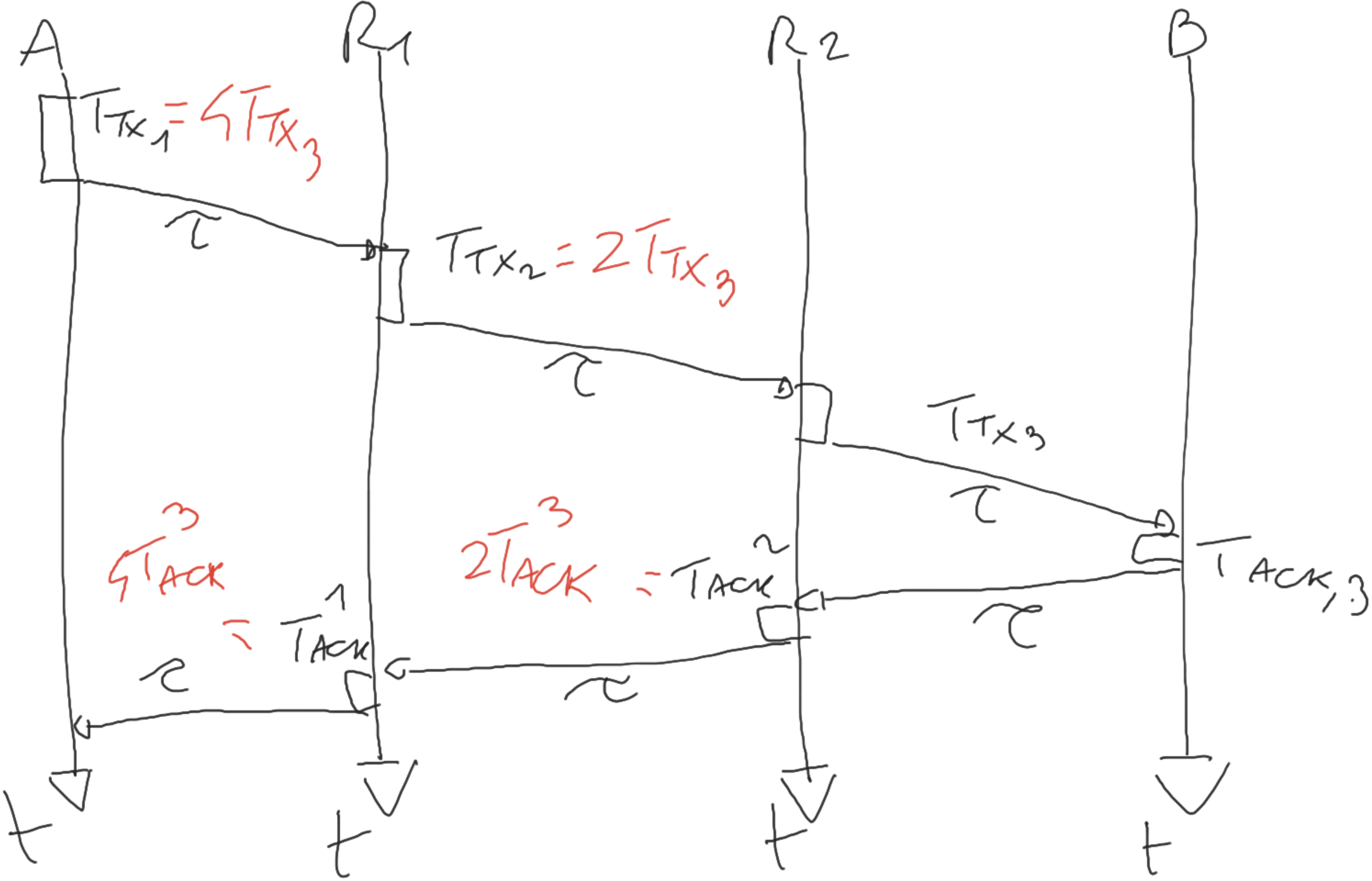
$W = 4$

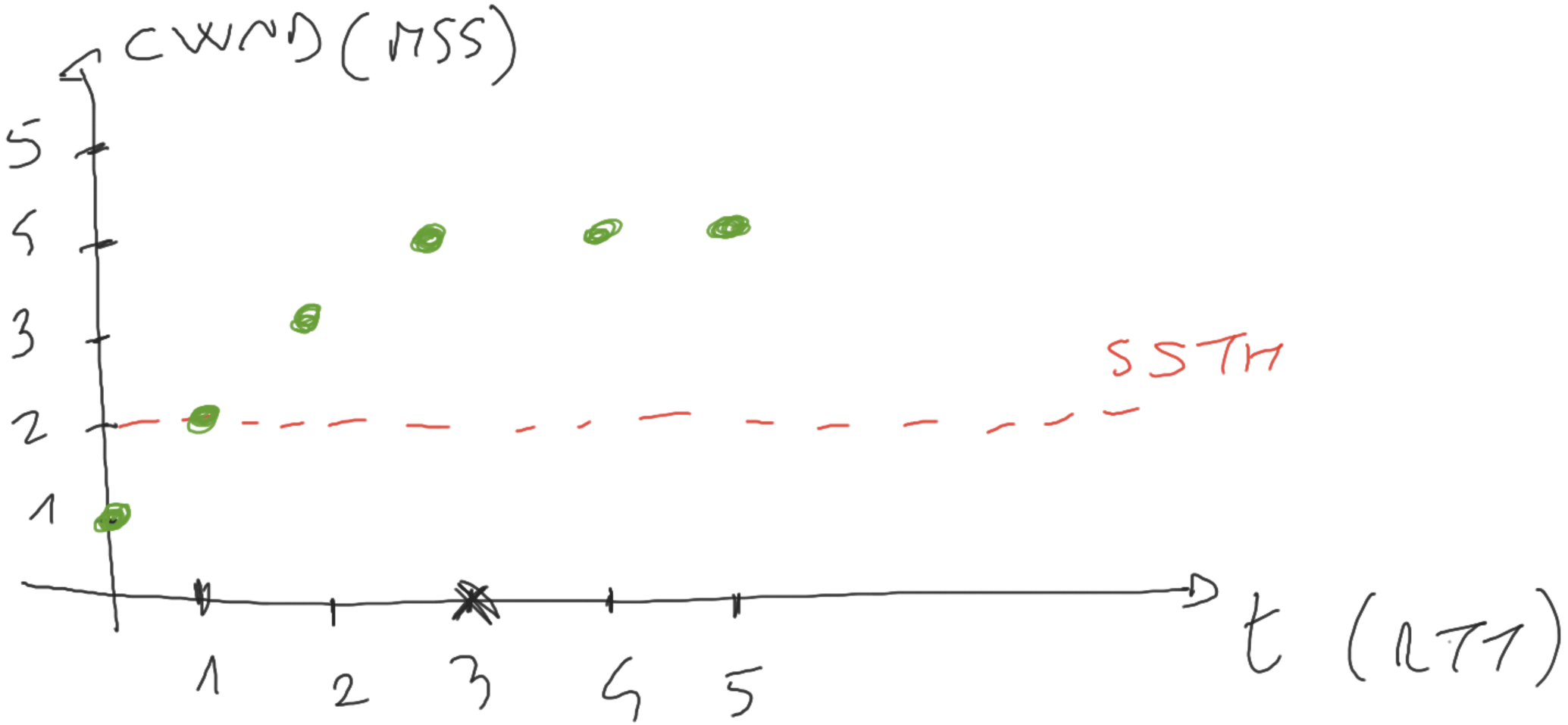
$RTT = 213{,}2$ ms

$$W = \left\lceil \frac{RTT \cdot C_1}{MSS} \right\rceil = \left\lceil \frac{213{,}2 \cdot 10^{-3} \cdot 25 \cdot 10^3}{200 \cdot 8} \right\rceil$$

$$RTT = 6\tau + 7\left(\frac{MSS}{C_3} + \frac{ACK}{C_3}\right) =$$

$$= 6 \cdot 15 \cdot 10^{-3} + 7\left(\frac{200 \cdot 8}{100} + \frac{20 \cdot 8}{100}\right) \cdot 10^{-3} =$$


A
R1
R2
B
$T_{TX_1} = 4T_{TX_3}$
$T_{TX_2} = 2T_{TX_3}$
T_{TX_3}
τ
$4T_{ACK}^{3} = T_{ACK}^{1}$
$2T_{ACK}^{3} = T_{ACK}^{2}$
$T_{ACK,3}$
t


cwnd (MSS)
5
4
3
2
1
SSTH
1
2
3
4
5
t (RTT)

$$T_R = T_{SETUP} + 3RTT = 752\ ms$$

$$T_{SETUP} = 14\,T_{ACK} + 6T =$$

$$= 14\,\frac{ACK}{C_3} + 6T =$$

$$7$$

$$= 14\,\frac{26 \cdot 8}{10^6 \cdot 2} \cdot 10^{-3} + 6 \cdot 15 \cdot 10^{-3} = 112{,}4\ ms$$

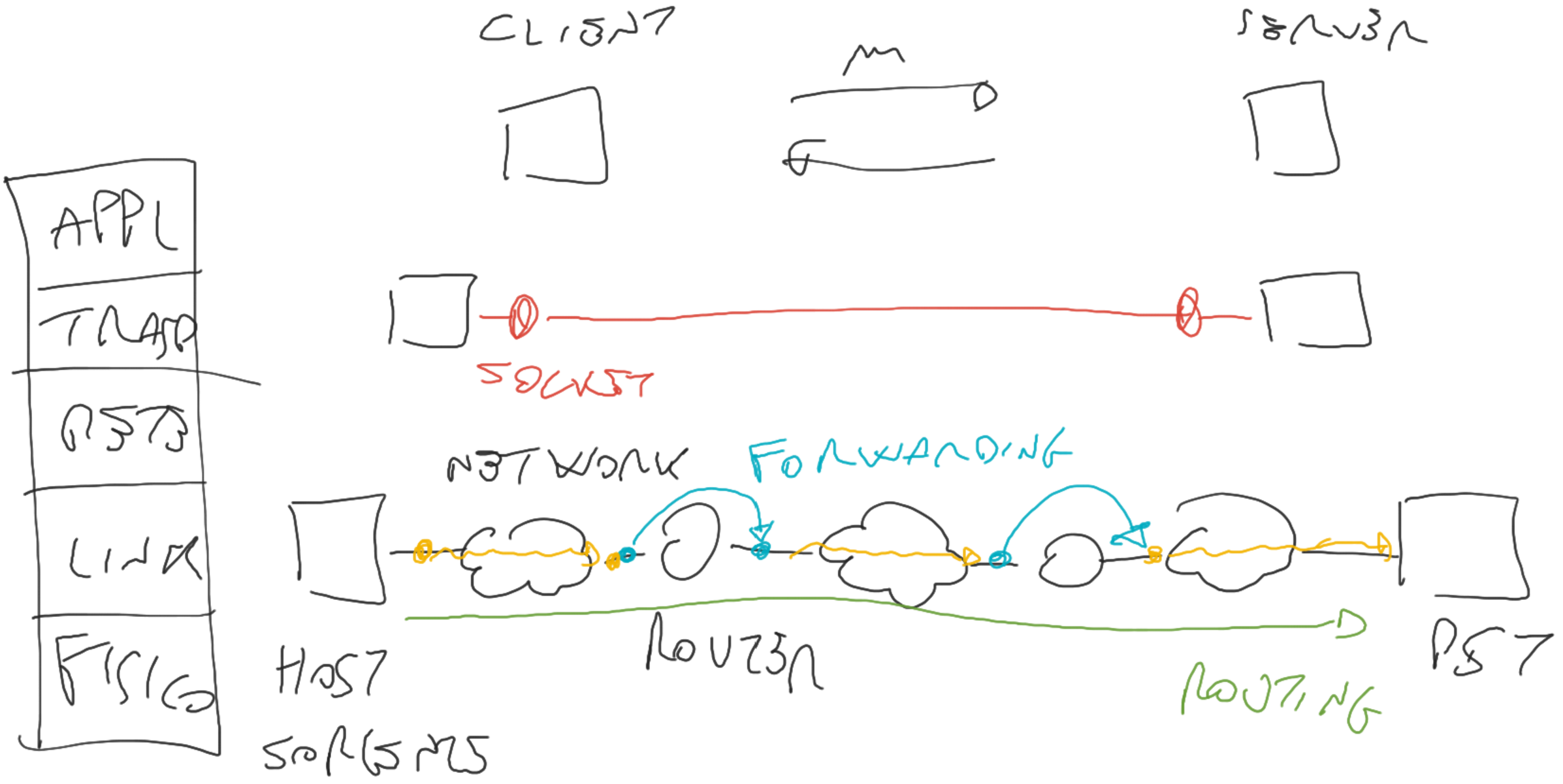
$$N_{SSG} = \frac{F}{MSS} = \frac{2000}{200} = 10$$

SSG TX	CWND	RTT
0	1	0
1	2	1
3	3	2
6	4	3

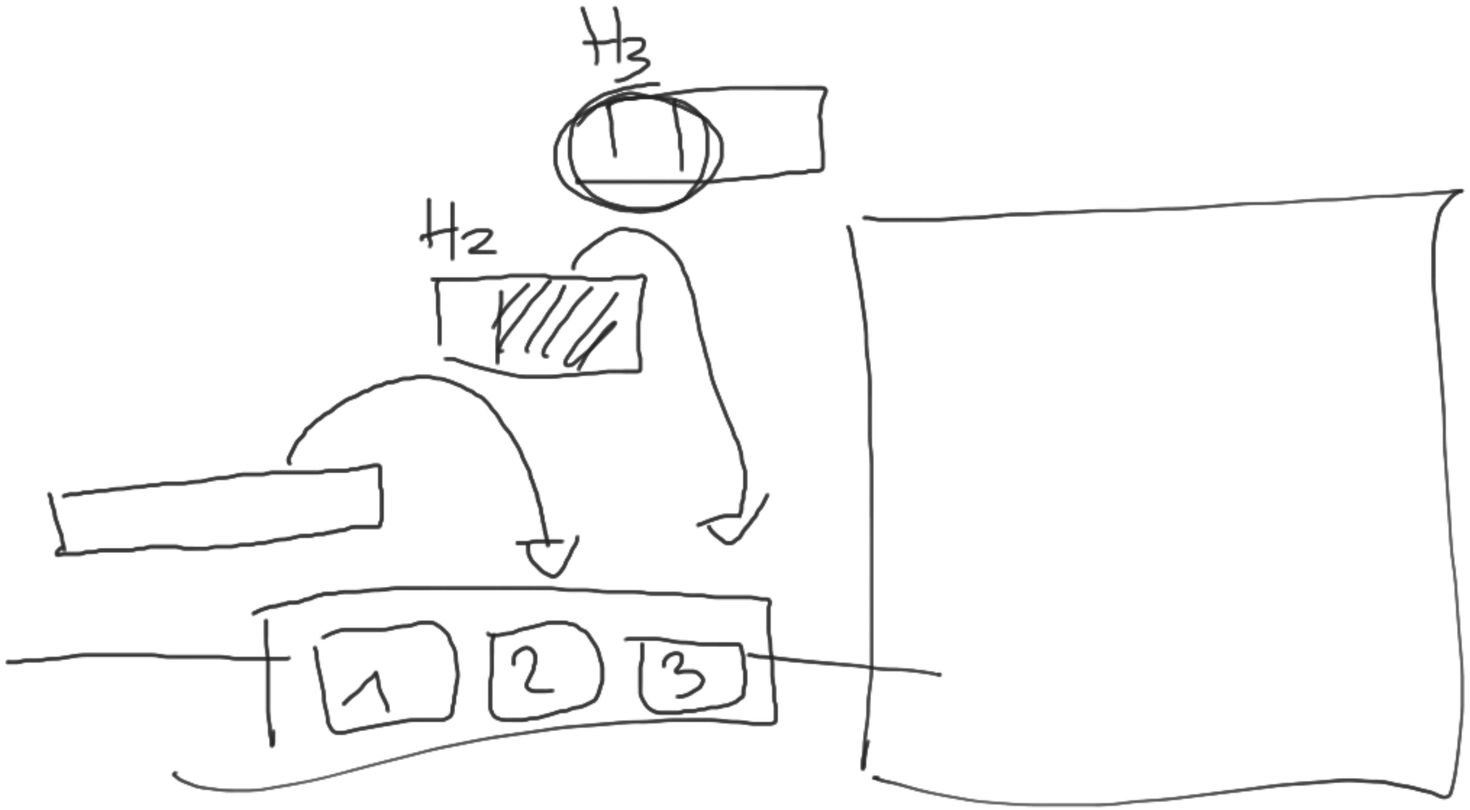
$$T_{TOT} = T_{SETUP} + 3RTT +$$

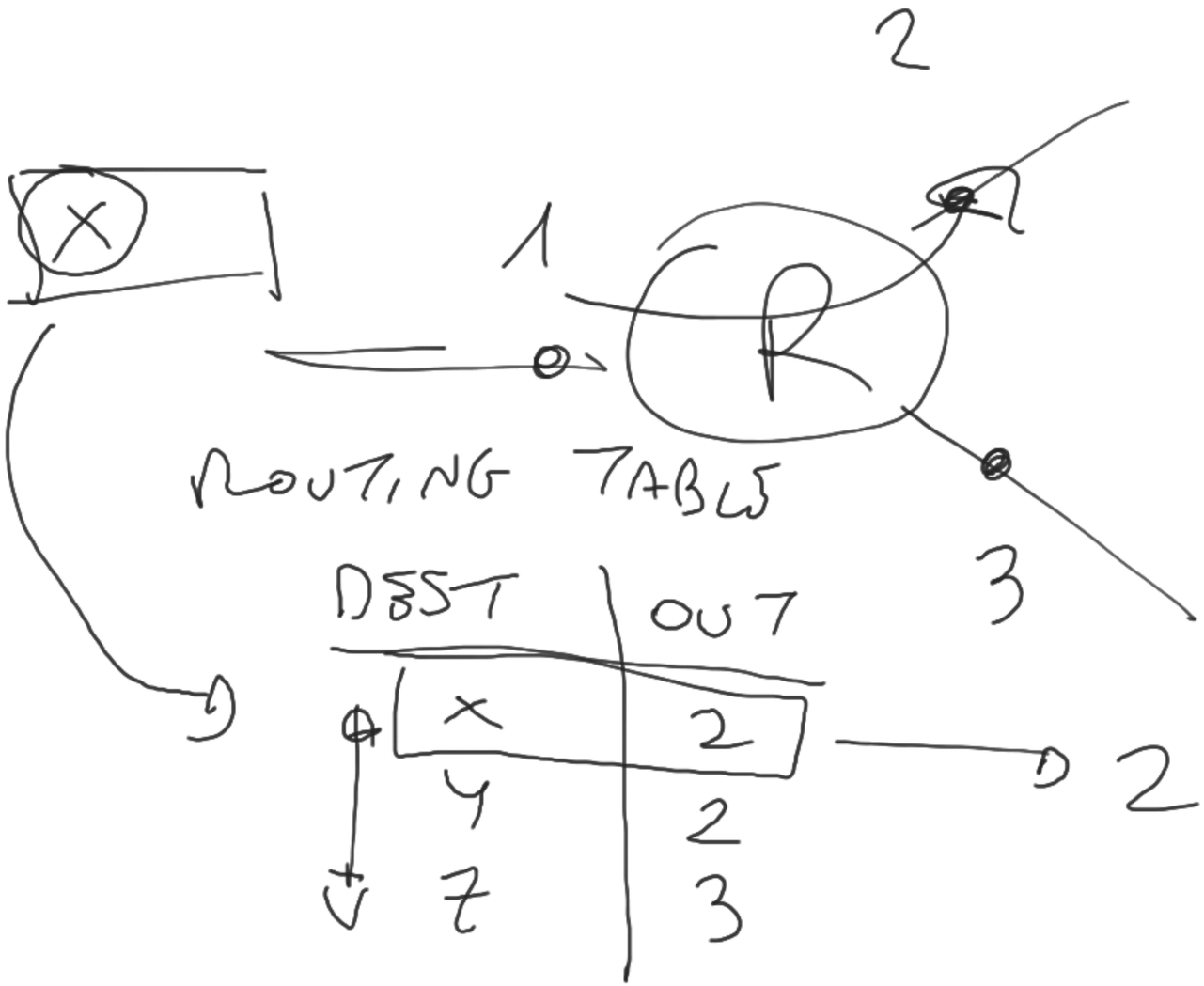
$$+ \frac{(N_{SEG} - SST\_TX - 1)MSS}{C_1} +$$

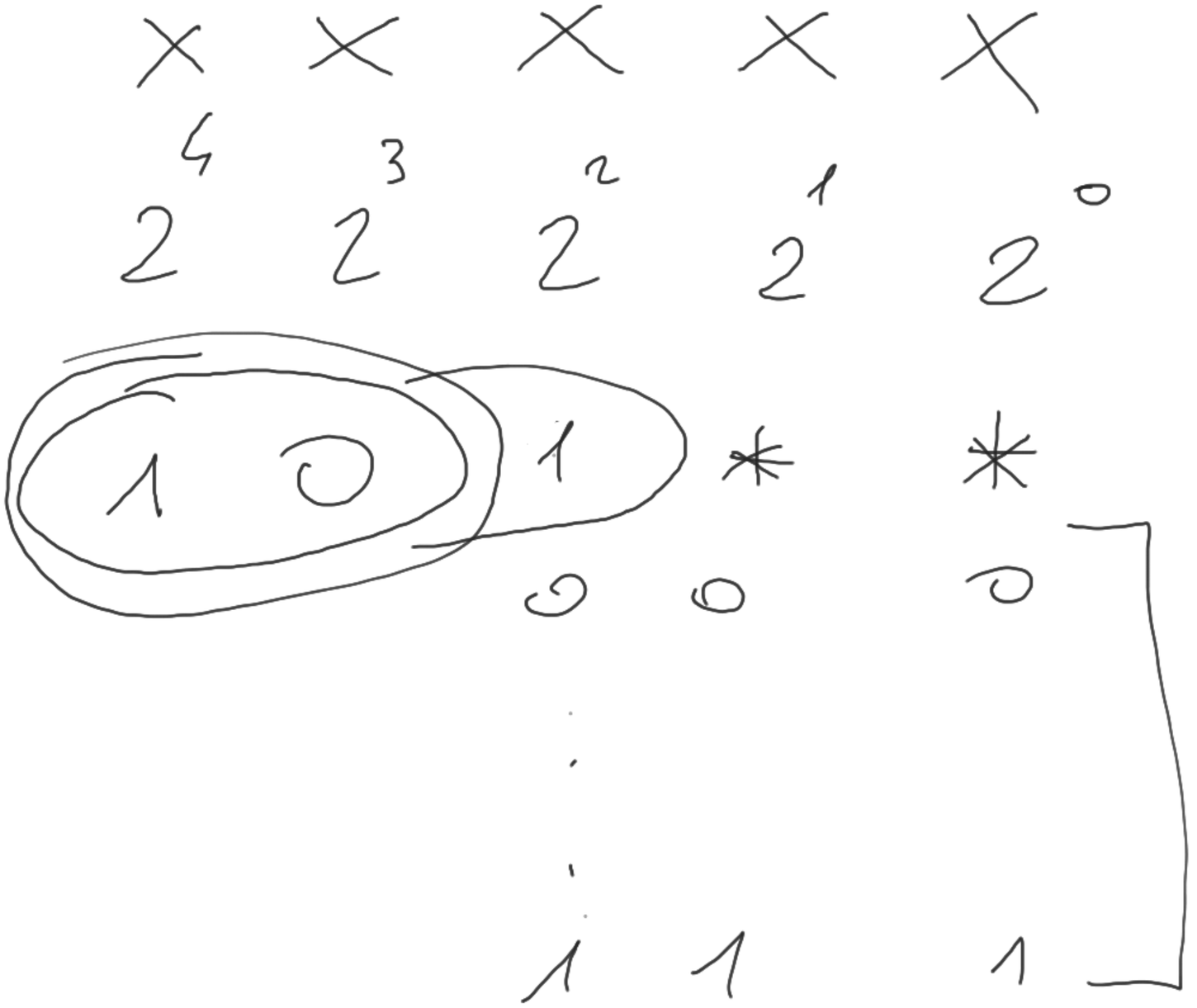
$$RTT =$$

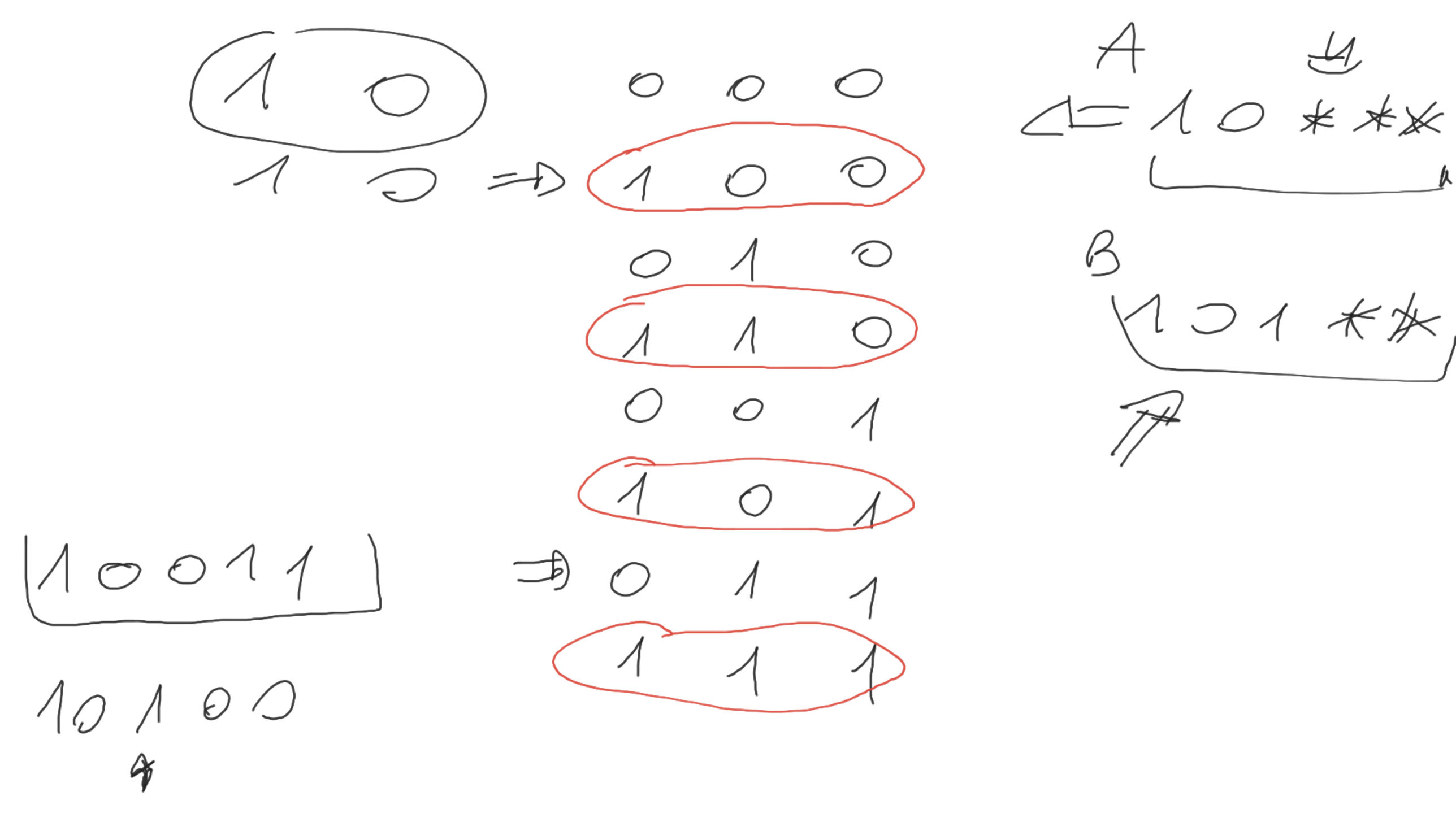

CLIENT
SERVER
APPL
TRANS
NETW
LINK
PHYS
SOCKET
NETWORK
FORWARDING
ROUTER
ROUTING
HOST
SOFTWARE
PST


DATA
PLANE
CONTROL
PLANE
FORWARDING
ROUTING
BGP


H3
H2
1
2
3


2
X
1
R
ROUTING TABLE
DEST
OUT
X
2
4
2
7
3
3
2


X X X X X
4 3 2 1 0
2 2 2 2 2
1 0 1 * *
0 0 0
1 1 1


A
B