

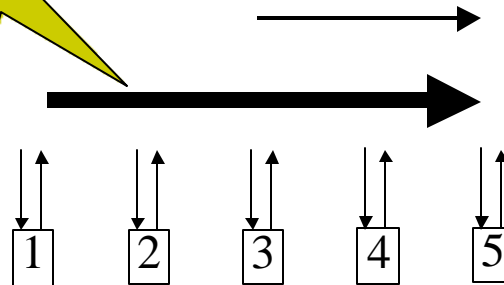
Dynamic Downstream Tiny Usage: RPR's worst scenario?

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Problem scenario

From 1 to 5:
Send as much
as possible

From 3 to 5:
Tiny usage.
5 % of max
bandwidth



Case 1:
2 km links.
Congestion
2 stations away
(20 us distance)

Case 2:
100 km links.
Congestion
2 stations away
(1 ms distance)

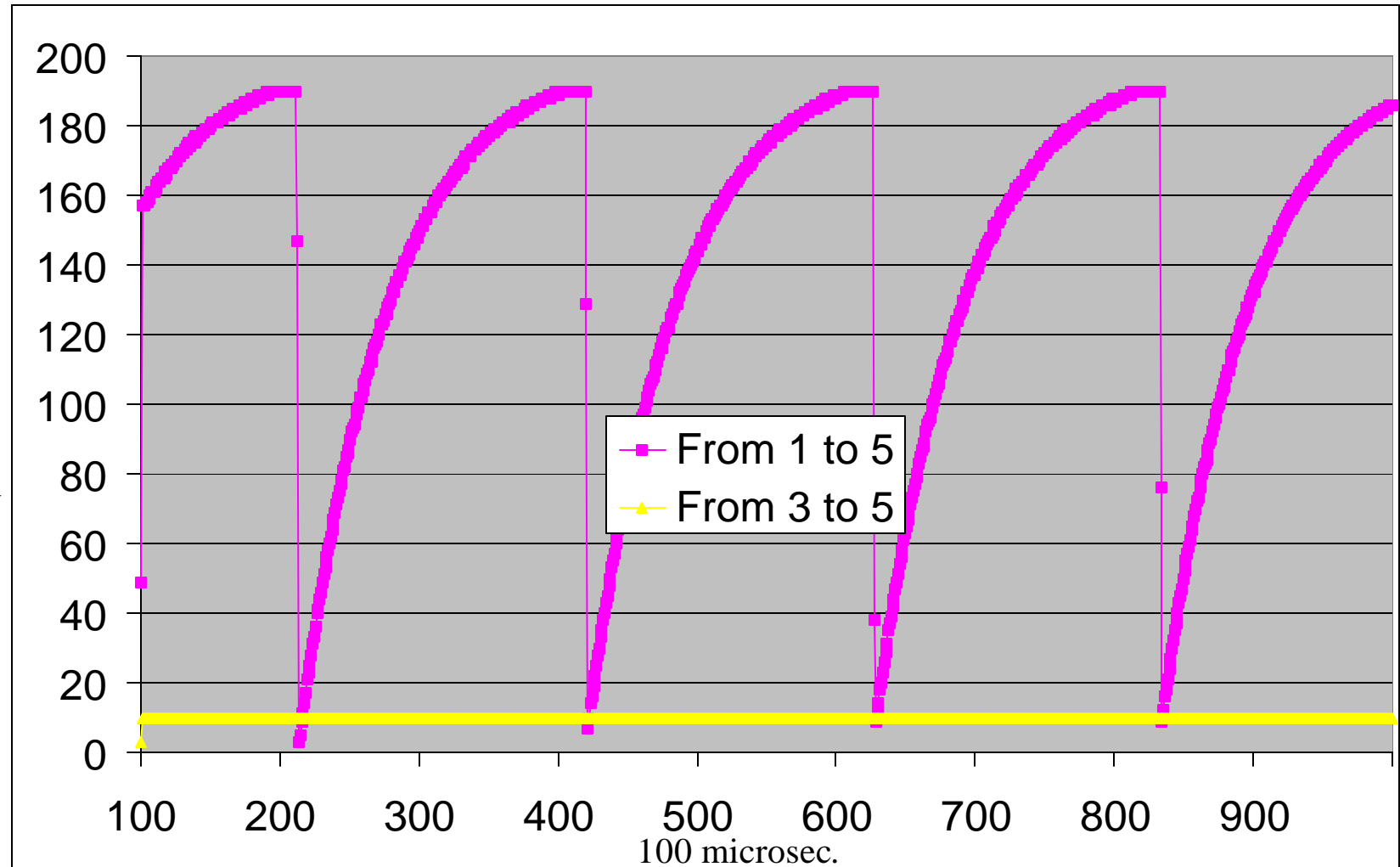
Case 3:
1000 km links.
Congestion
2 stations away
(10 ms distance)

(Distance: latency from station 1 to station 3)

1 Gbyte/sec, 500 bytes packets, packets received every 100 us at station 5 are logged
Secondary transit queue: 12 500 bytes congestion threshold, 25 000 bytes: no add

Case 1: 20 us distance

2 km links

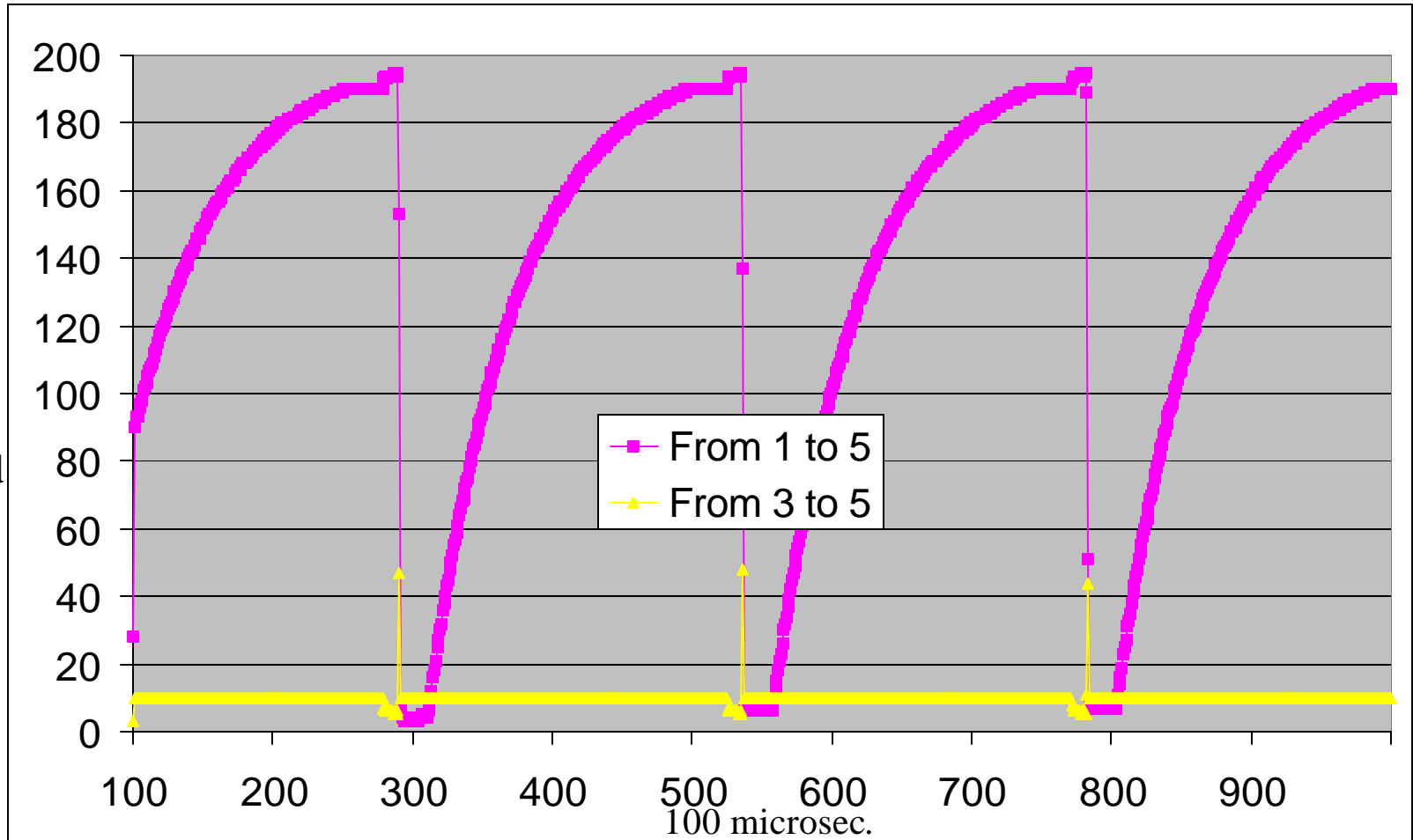


77 % bandwidth utilization

20 ms oscillations

Case 2: 1 ms distance

100 km links

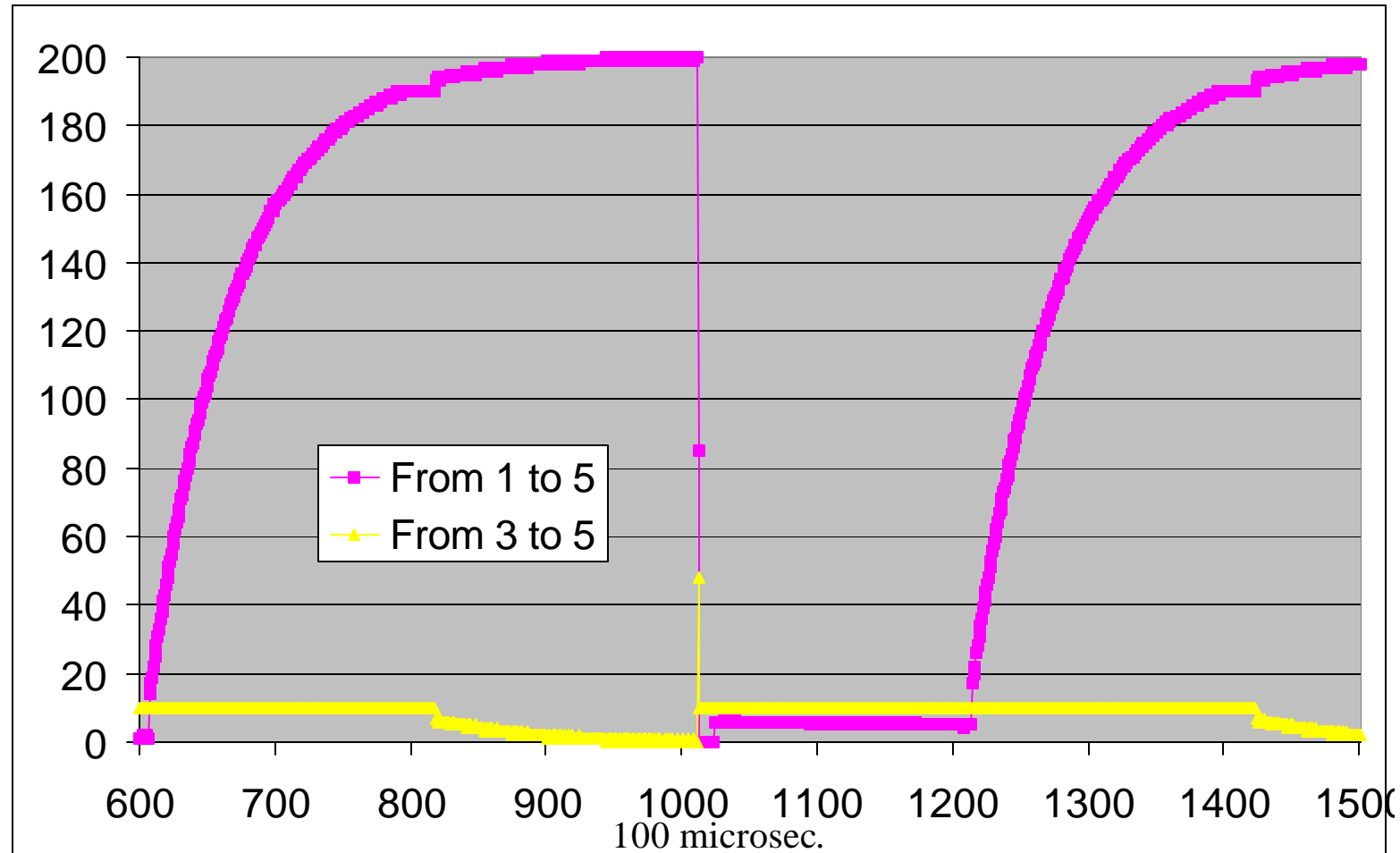


75 % bandwidth utilization

25 ms oscillations

Case 3: 10 ms distance

1000 km links



63 % bandwidth utilization

60 ms oscillations

Conclusion

- In the worst case, and probably for a very short time, utilization is down to 60%
- Is that so bad ?
- And remember, with such long distances between stations, all information exchange between stations will take time !