TRAFFIC MANAGEMENT AT FLOW AGGREGATE LEVEL

WEIGHTED FAIR QUEUEING

Weighted fair queueing addresses the situation in which different users have different requirements. As before, each user flow has its own queue, but each user flow also has a weight that determines its relative share of the bandwidth. Thus if queue 1 has weight 1 and queue 2 has weight 3, then when both queues
are nonempty, queue 1 will receive 1fl…1 + 3† = 1fl4 of the bandwidth and queue 2 will receive 3/4 of the bandwidth. Figure 7.49 shows the completion times for the

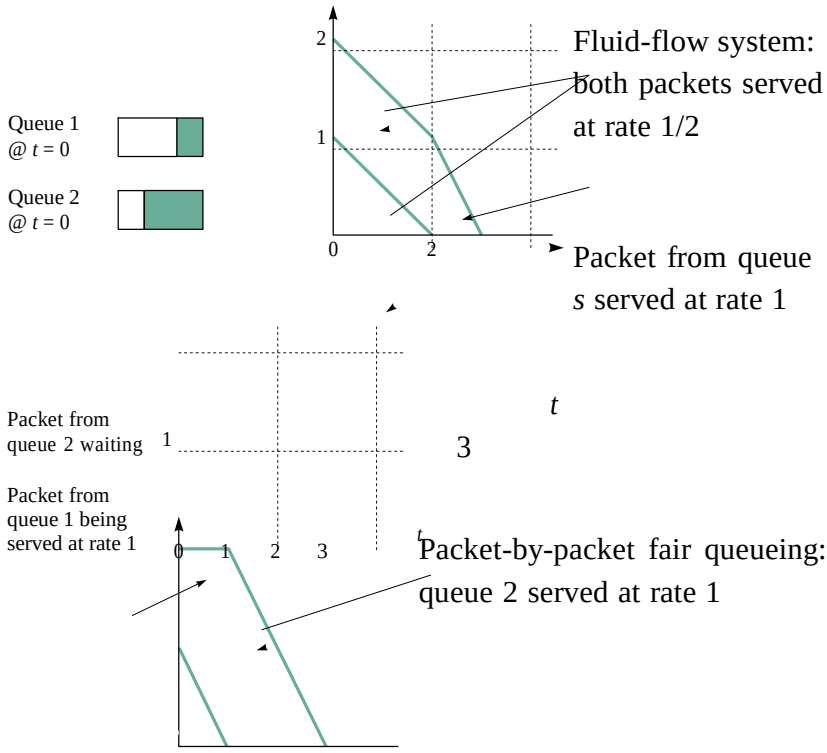

FIGURE 2.48 Fluid flow and packet-by-packet fair queueing (two packets of different lengths)

-flow case where both queues have a one-unit length packet at time t= 0.The transmission of the packet from queue 2 is now completed at time t =4fl3, and the packet from queue 1 is completed at t = 2. The bit-by-bit approximation to weighted fair queuing would operate by allotting each queue a different number of bits/round. In the preceding example, queue 1 would receive 1 bit/round and queue 2 would receive 3 bits/round.

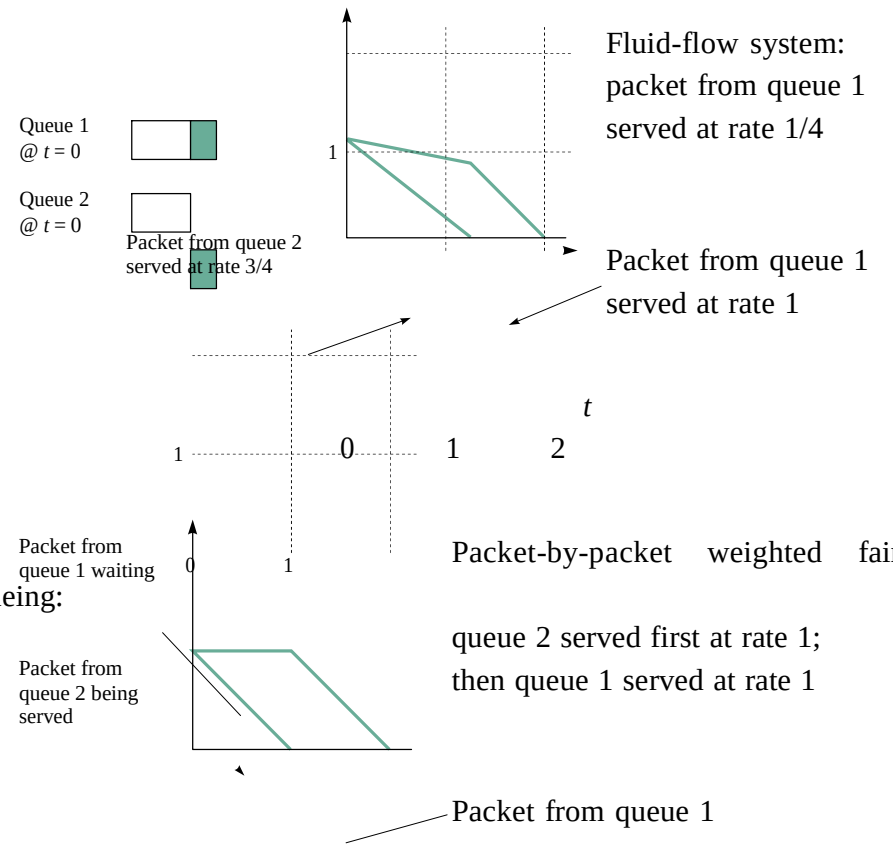

FIGURE2.49 Fluid flow and packetized, weighted fair queueing

Weighted fair-queueing systems are a means for providing QoS guarantees. Suppose a given user flow has weight w_i and suppose that the sum of the weights of all the user flows is W. In the worst case when all the user queues are non- empty, the given user flow will receive a fraction w_i flW of the bandwidth C.

When other user queues are empty, the given user flow will receive a greater

share.

Source : http://elearningatria.files.wordpress.com/2013/10/cse-vi-computer-networks-ii-10cs64-notes.pdf