

/* Assign the High (H) and Low (L) threshold values of the five-branches comb for the five DVFI groups of P packets.*/

$th_H[1,2,3,4,5] = \{25, 30, 35, 40, 45\}$

$th_L[1,2,3,4,5] = \{10, 17, 24, 31, 38\}$

while (a video packet arrives)

{

if (packet_type == 'I')

/* Merged thresholds of the Step Function for I packets. */

threshold_{high} = maximum_AC[2]_buffer_size - 1

threshold_{low} = maximum_AC[2]_buffer_size - 1

elseif (packet_type == 'P')

/* high and low thresholds according to DVFI grouping. */

switch DVFI {

case(DVFI belongs to group_1):

threshold_{high} = $th_H[1]$

threshold_{low} = $th_L[1]$

case(DVFI belongs to group_2):

threshold_{high} = $th_H[2]$

threshold_{low} = $th_L[2]$

case(DVFI belongs to group_3):

threshold_{high} = $th_H[3]$

threshold_{low} = $th_L[3]$

case(DVFI belongs to group_4):

threshold_{high} = $th_H[4]$

threshold_{low} = $th_L[4]$

case(DVFI belongs to group_5):

threshold_{high} = $th_H[5]$

threshold_{low} = $th_L[5]$

}

end

DVFI_CQM(packet_type, threshold_{low}, threshold_{high})

}

void DVFI_CQM(packet_type, threshold_{low}, threshold_{high}) {

if (length(AC[2]) < threshold_{low})

video packet → AC[2]

elseif (length(AC[2]) < threshold_{high})

if (packet_type == 'I')

video packet → AC[2]

else

$Prob_{transition} = \left\{ \frac{length(AC[2]) - threshold_{low}}{threshold_{high} - threshold_{low}} \right\}^2$

rn = uniform(0,1)

if (rn > prob_{transition})

video packet → AC[2]

else

Min_Delay()

end

end

else

Min_Delay()

end

}

void Min_Delay() {

if (AC[0] has a shorter queue delay than AC[1])

video packet → AC[0]

else

video packet → AC[1]

end

}