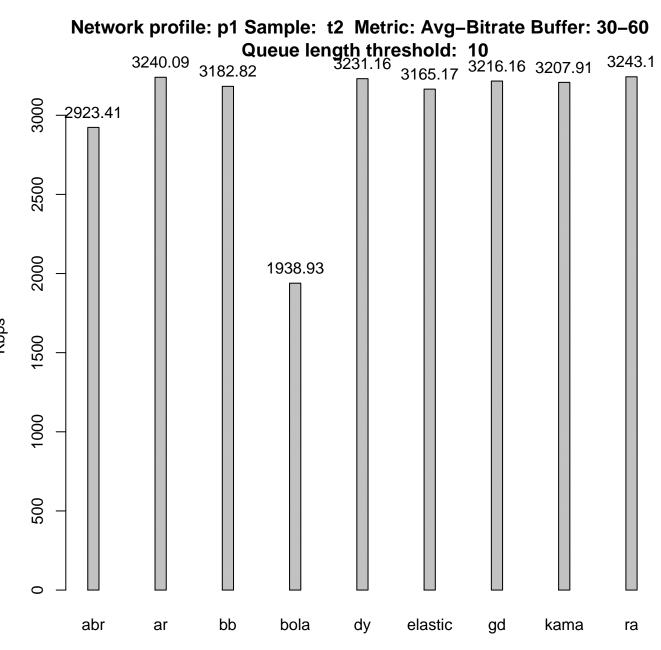


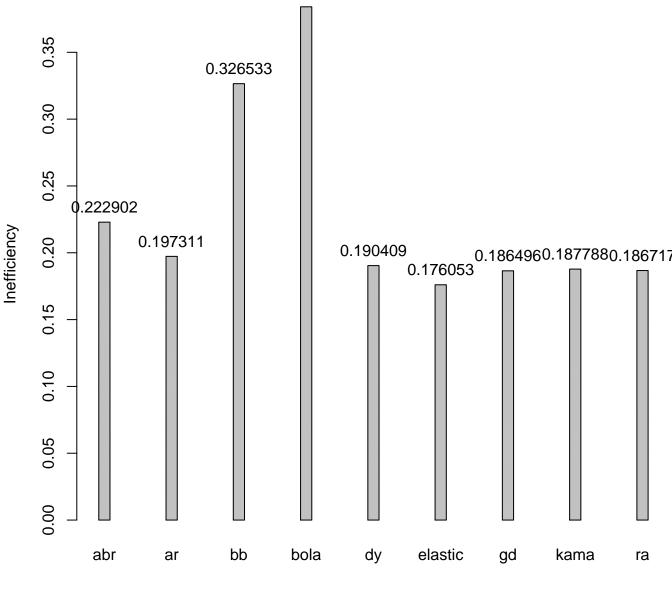
Network profile: p1 Sample: t1 Metric: Inefficiency Buffer: 30–60 Queue length threshold: 10 0.29408 .270815 0.221014^{0.228043} 0.214442 0.226908 0.218952 0.201258 0.2 abr bola elastic ar bb dy gd kama ra

Inefficiency

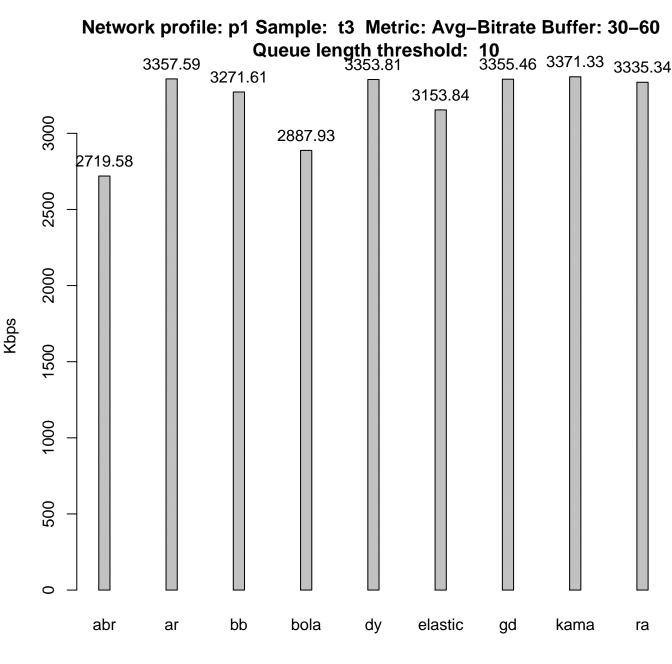
Network profile: p1 Sample: t1 Metric: # quality change Buffer: 30-60 Queue length threshold: 10 95 80 73 73 69 65 9 57 40 37 33 20 elastic abr bb bola dy kama ar gd ra



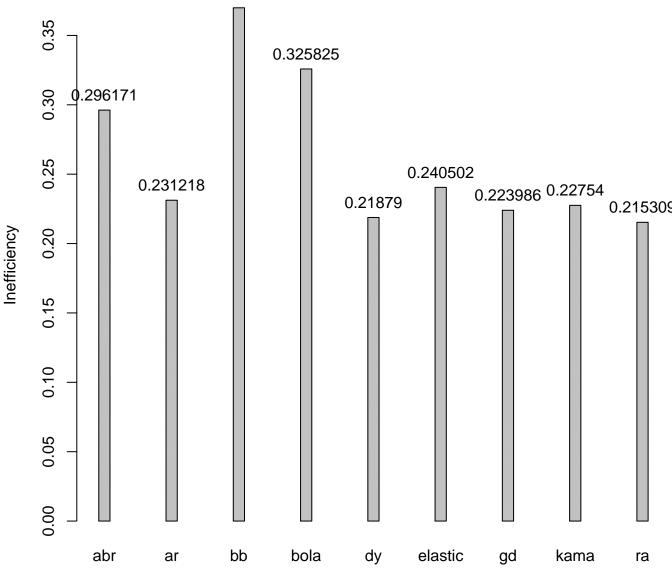
Network profile: p1 Sample: t2 Metric: Inefficiency Buffer: 30-60 Queue length threshold: 10



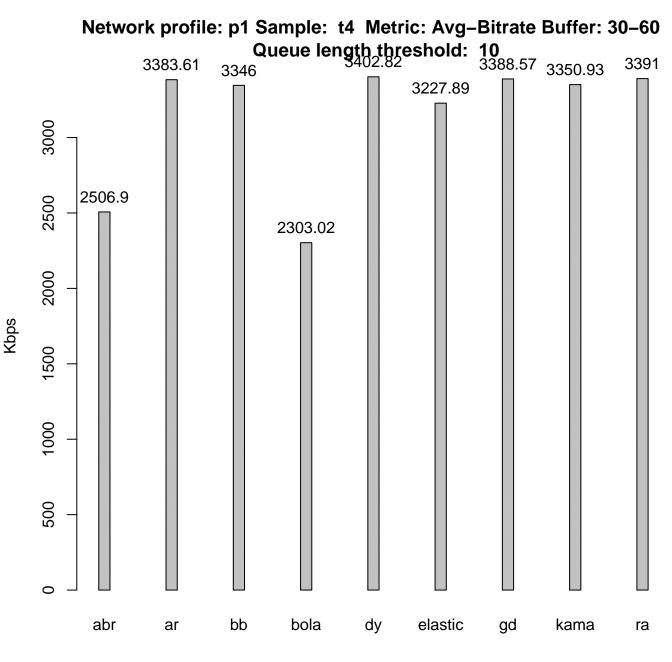
Network profile: p1 Sample: t2 Metric: # quality change Buffer: 30-60 Queue length threshold: 10 88 80 9 4 27 27 23 22 19 20 18 9 4 bola elastic abr bb dy kama ar gd ra



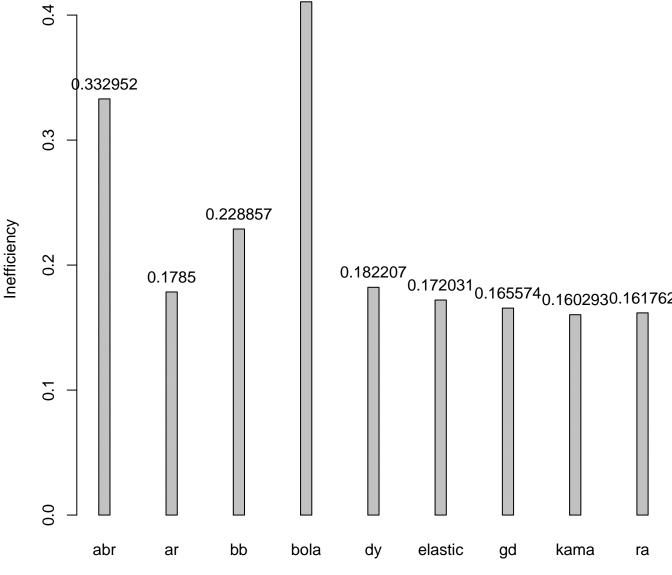
Network profile: p1 Sample: t3 Metric: Inefficiency Buffer: 30–60 Queue length threshold: 10



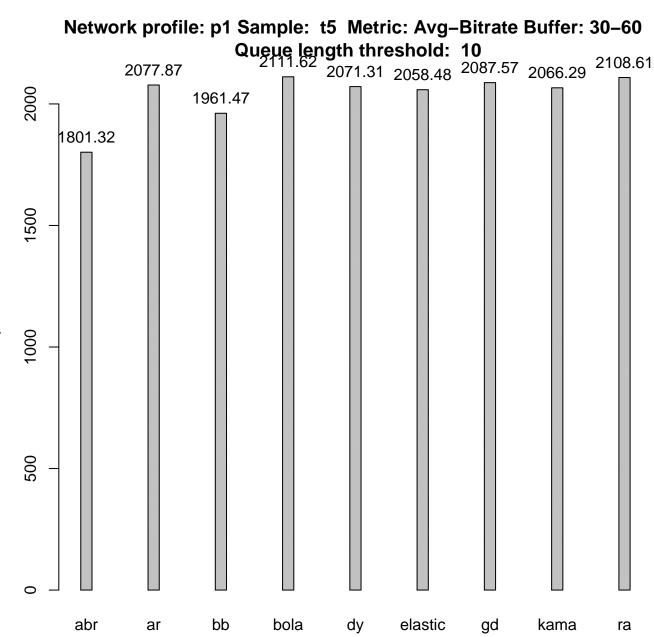
Network profile: p1 Sample: t3 Metric: # quality change Buffer: 30-60 Queue length threshold: 10 146 140 120 100 84 80 76 72 70 70 9 37 40 20 9 elastic abr bb bola dy kama ar gd ra



Network profile: p1 Sample: t4 Metric: Inefficiency Buffer: 30–60 Queue length threshold: 10

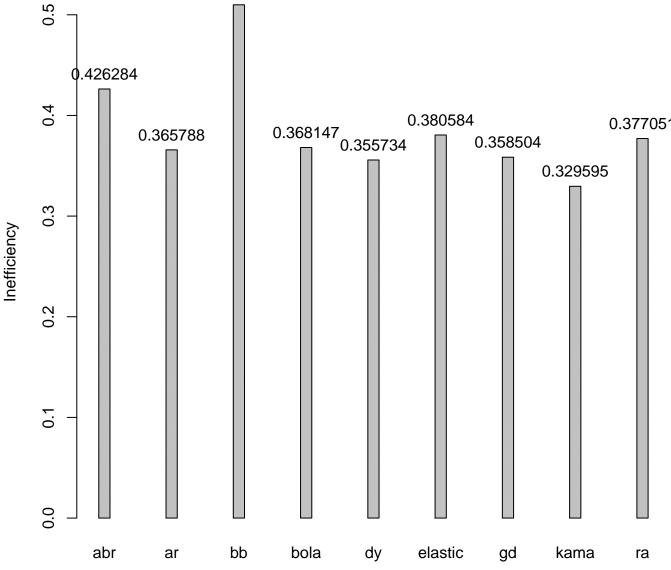


Network profile: p1 Sample: t4 Metric: # quality change Buffer: 30-60 Queue length threshold: 10 78 9 29 23 23 23 21 21 20 11 6 bola elastic abr bb dy kama ar gd ra



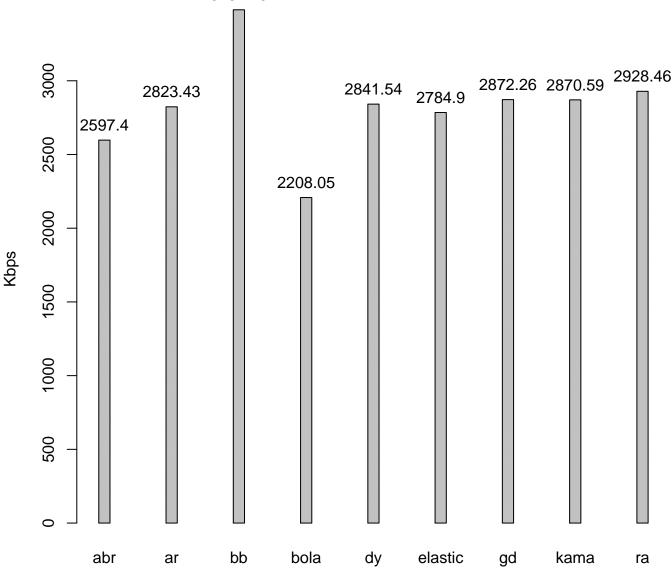
Network profile: p1 Sample: t5 Metric: Inefficiency Buffer: 30–60

Oueue length threshold: 10

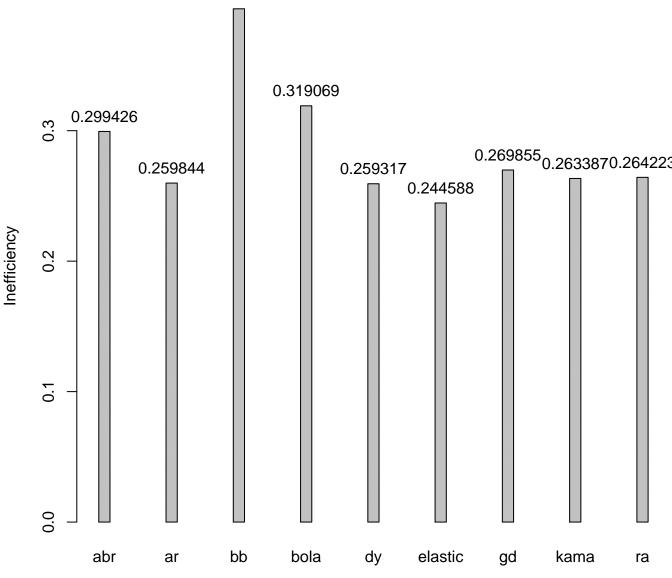


Network profile: p1 Sample: t5 Metric: # quality change Buffer: 30-60 Queue length threshold: 10 26 25 20 20 15 10 10 8 8 6 6 6 2 bola elastic abr bb dy kama ar gd ra

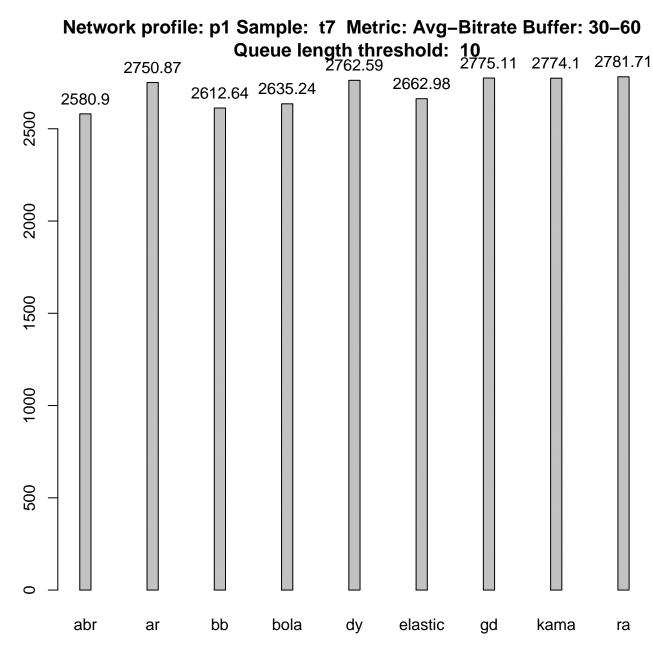
Network profile: p1 Sample: t6 Metric: Avg-Bitrate Buffer: 30-60 Queue length threshold: 10



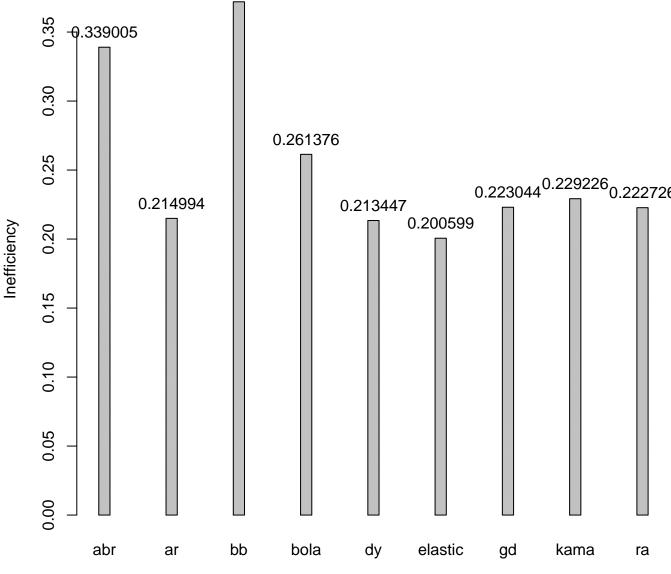
Network profile: p1 Sample: t6 Metric: Inefficiency Buffer: 30–60 Queue length threshold: 10



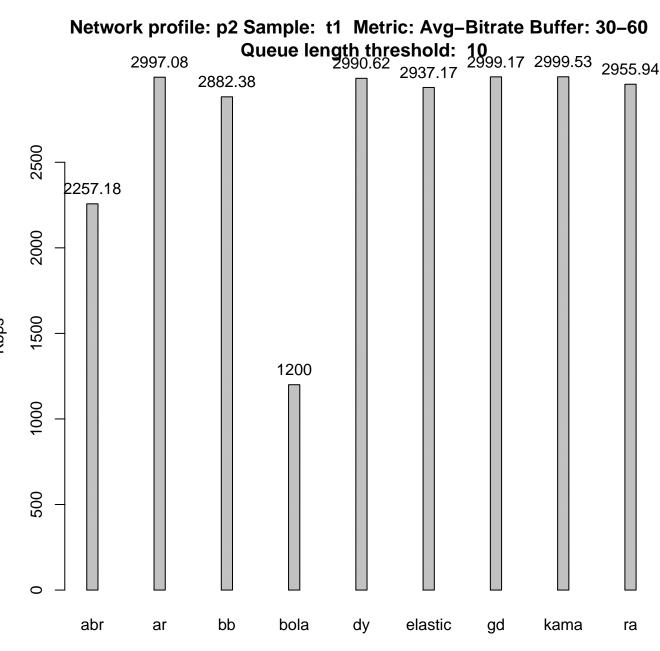
Network profile: p1 Sample: t6 Metric: # quality change Buffer: 30-60 Queue length threshold: 10 479 300 200 100 56 56 53 55 54 52 50 39 bola elastic abr bb dy kama ar gd ra



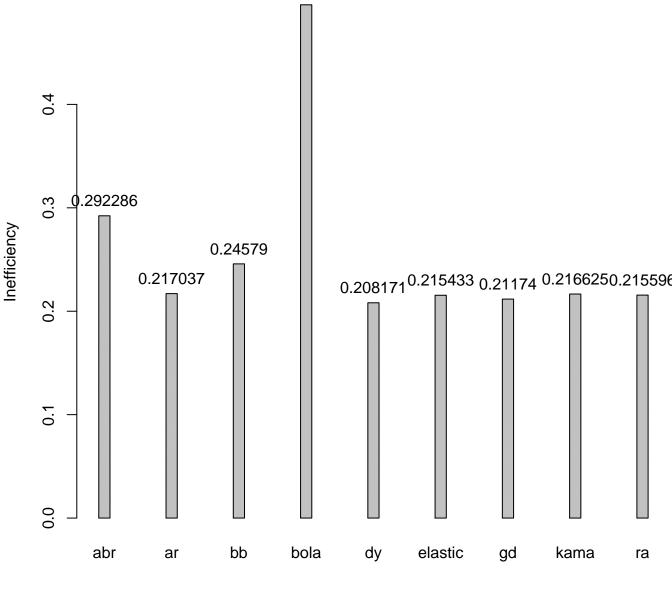
Network profile: p1 Sample: t7 Metric: Inefficiency Buffer: 30–60 Queue length threshold: 10



Network profile: p1 Sample: t7 Metric: # quality change Buffer: 30-60 Queue length threshold: 10 236 150 100 20 45 41 39 37 35 31 30 21 bola elastic abr bb dy kama ar gd ra



Network profile: p2 Sample: t1 Metric: Inefficiency Buffer: 30–60 Queue length threshold: 10



Network profile: p2 Sample: t1 Metric: # quality change Buffer: 30-60 Queue length threshold: 10 108 80 68 68 64 62 61 58 9 40 34 20 elastic abr bb bola dy kama ar gd ra

Network profile: p2 Sample: t2 Metric: Avg-Bitrate Buffer: 30-60 Queue length threshold: 10 3300.38 3245.47 3311.92 3294.31 3318.83 3305.6 3195.12 3000 2868.67 2500 2000 1622 1500 1000 500

bola

dy

bb

elastic

gd

kama

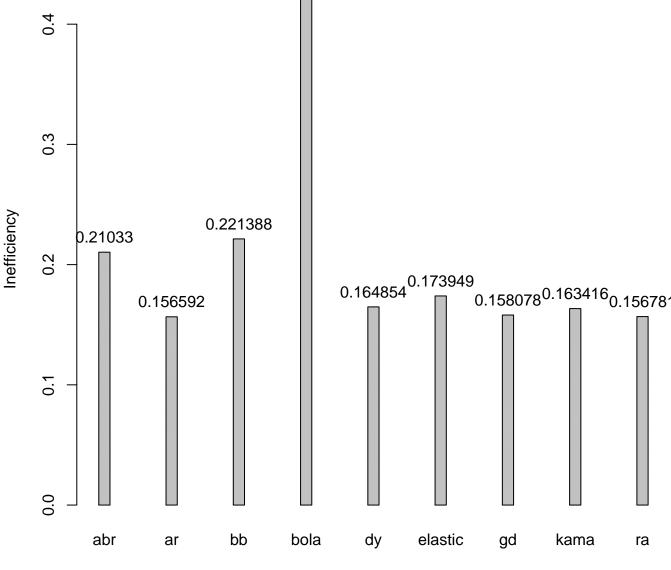
ra

abr

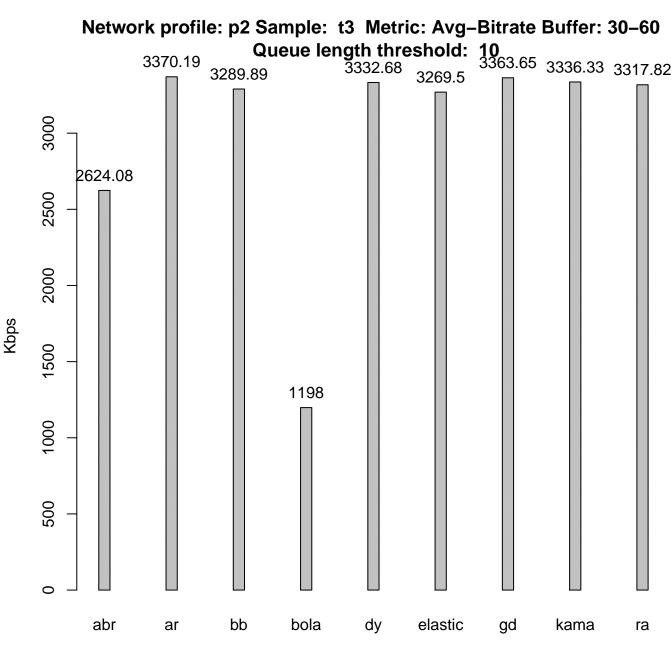
ar

Network profile: p2 Sample: t2 Metric: Inefficiency Buffer: 30-60

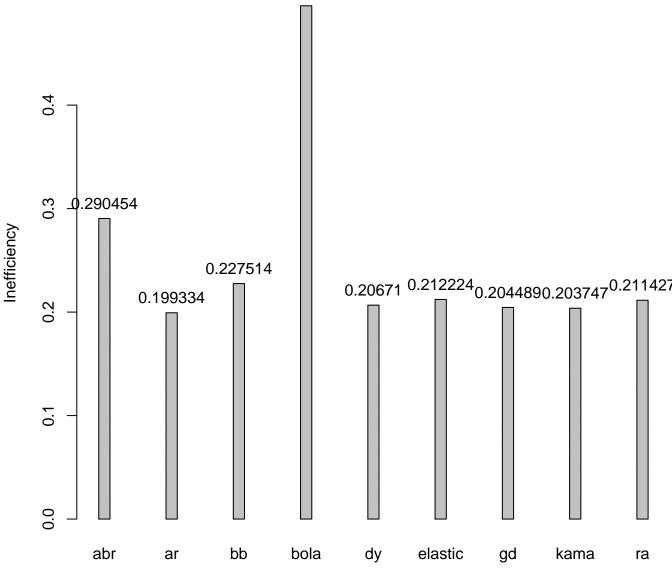
Queue length threshold: 10



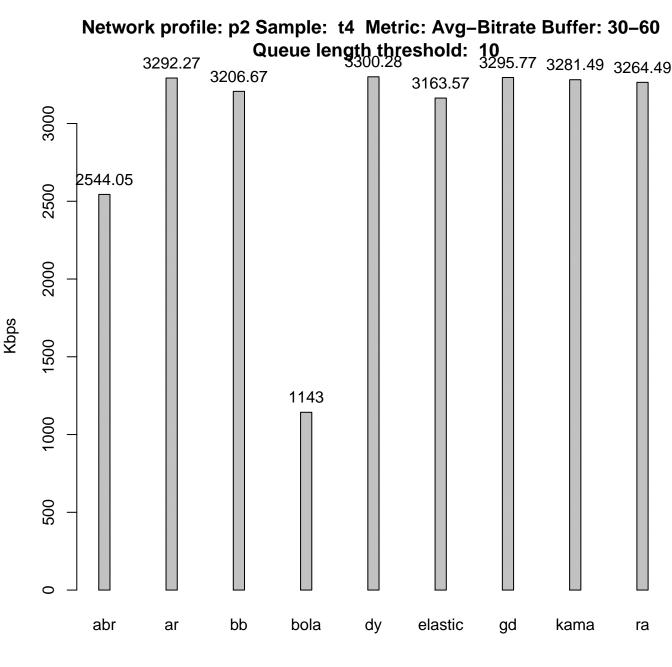
Network profile: p2 Sample: t2 Metric: # quality change Buffer: 30-60 Queue length threshold: 10 82 80 9 40 20 20 20 18 14 14 12 8 elastic abr bb bola dy kama ar gd ra



Network profile: p2 Sample: t3 Metric: Inefficiency Buffer: 30–60 Queue length threshold: 10



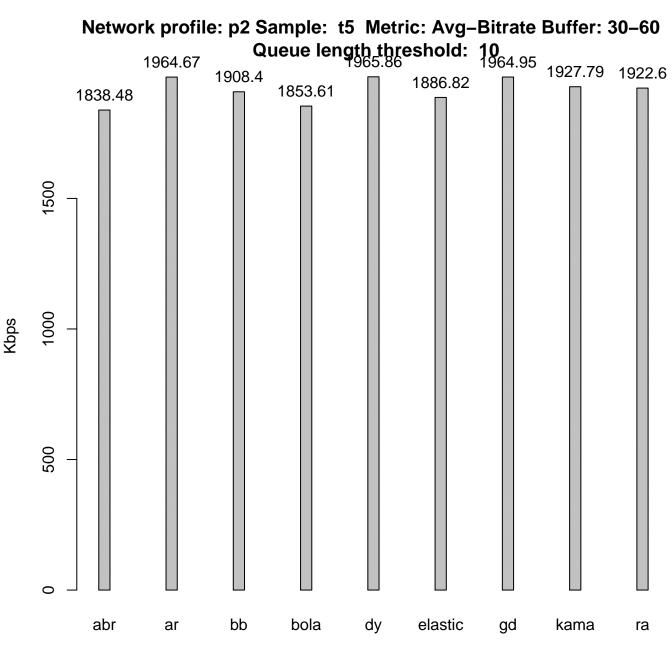
Network profile: p2 Sample: t3 Metric: # quality change Buffer: 30-60 Queue length threshold: 10 102 80 58 58 9 56 56 52 46 4 20 6 elastic abr bb bola dy kama ar gd ra



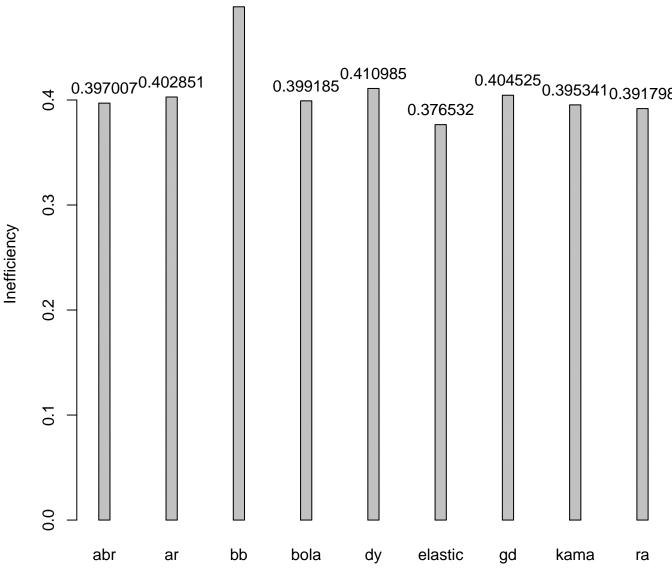
Network profile: p2 Sample: t4 Metric: Inefficiency Buffer: 30–60 Queue length threshold: 10 0.306716 $0.162321_{\hbox{\scriptsize 0.1571090.157172}}$ $0.153158_{0.149148}$ 0.149202 0.122678 abr bola elastic ar bb dy gd kama ra

Inefficiency

Network profile: p2 Sample: t4 Metric: # quality change Buffer: 30-60 Queue length threshold: 10 74 9 20 40 30 28 22 20 20 20 18 18 14 10 elastic abr bb bola dy kama ar gd ra

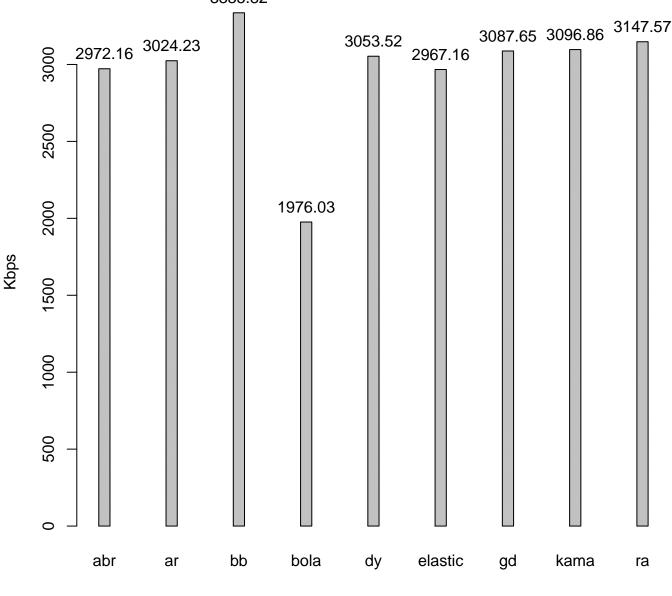


Network profile: p2 Sample: t5 Metric: Inefficiency Buffer: 30–60 Queue length threshold: 10

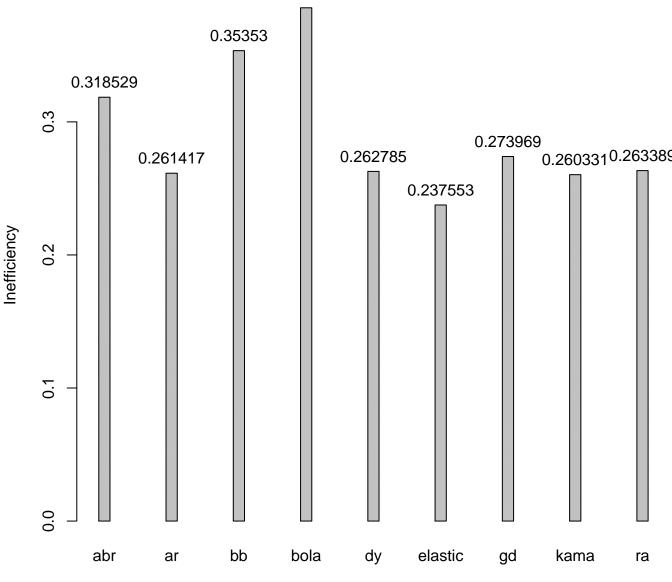


Network profile: p2 Sample: t5 Metric: # quality change Buffer: 30-60 Queue length threshold: 10 12 10 10 10 9 8 8 8 2 4 elastic abr bb bola dy kama ar gd ra

Network profile: p2 Sample: t6 Metric: Avg-Bitrate Buffer: 30-60 Queue length threshold: 10



Network profile: p2 Sample: t6 Metric: Inefficiency Buffer: 30–60 Queue length threshold: 10



Network profile: p2 Sample: t6 Metric: # quality change Buffer: 30-60 Queue length threshold: 10 359 350 300 250 200 150 100 63 59 55 53 51 50 47 20 41 bola elastic abr bb dy kama ar gd ra

Network profile: p2 Sample: t7 Metric: Avg-Bitrate Buffer: 30-60 Queue length threshold: 10 2647.8 2644.14 2645.13 2651.57 2638.95 2547.2 2533.42 2500 2422.3 2000 1500 1000 500

bola

bb

elastic

gd

kama

ra

dy

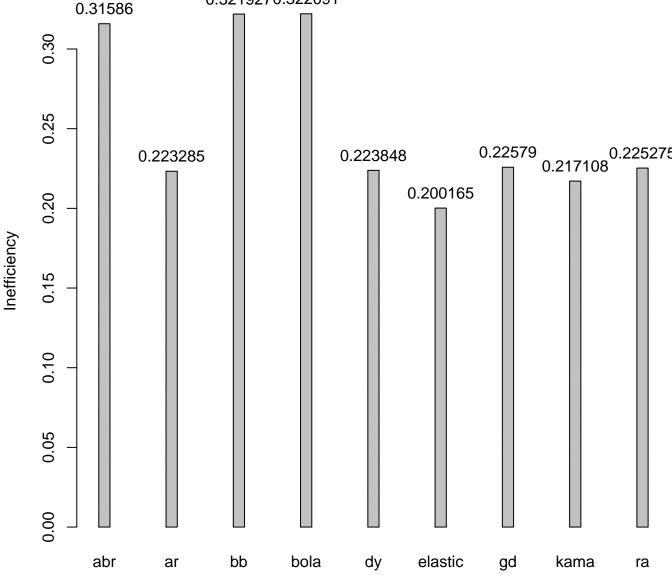
abr

ar

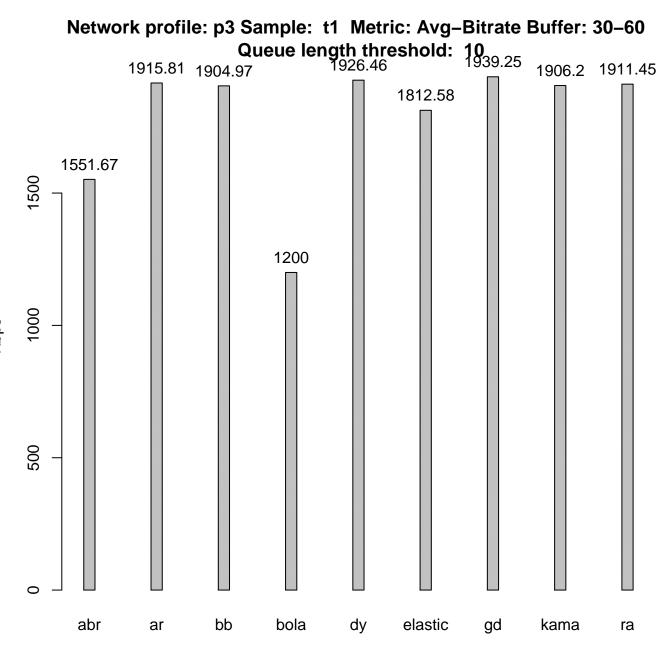
Network profile: p2 Sample: t7 Metric: Inefficiency Buffer: 30–60

Queue length threshold: 10

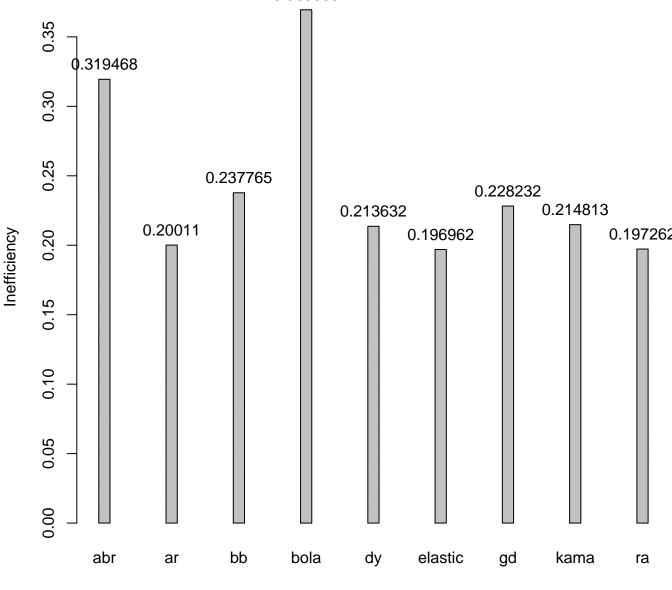
0.31586



Network profile: p2 Sample: t7 Metric: # quality change Buffer: 30-60 Queue length threshold: 10 124 120 100 80 9 46 40 40 38 38 40 36 28 20 16 bola elastic abr bb dy kama ar gd ra



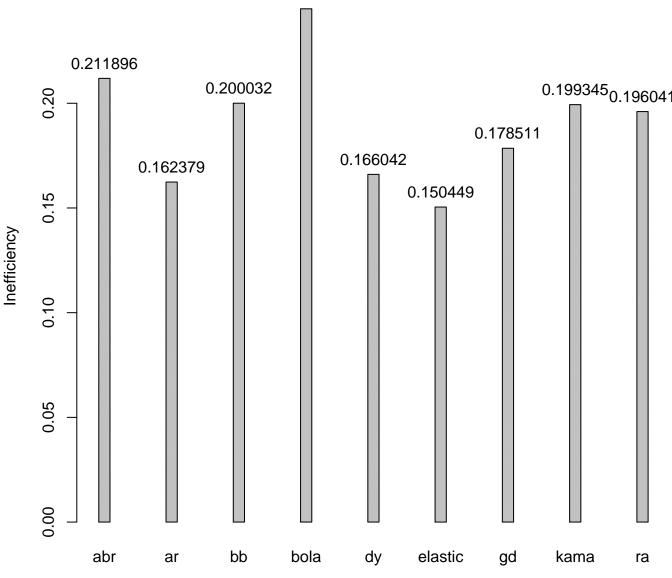
Network profile: p3 Sample: t1 Metric: Inefficiency Buffer: 30–60 Queue length threshold: 10



Network profile: p3 Sample: t1 Metric: # quality change Buffer: 30-60 Queue length threshold: 10 142 140 120 100 80 63 59 9 57 50 49 47 39 40 20 elastic abr bb bola dy kama ar gd ra

Network profile: p3 Sample: t2 Metric: Avg-Bitrate Buffer: 30-60 Queue length threshold: 10 2487.65 2507.37 2500 2434.65 2365.58 2400.85 2227.49 2224.54 2134.86 2000 1622 1500 1000 500 abr bola elastic ar bb dy gd kama ra

Network profile: p3 Sample: t2 Metric: Inefficiency Buffer: 30–60 Queue length threshold: 10



Network profile: p3 Sample: t2 Metric: # quality change Buffer: 30-60 Queue length threshold: 10 152 140 120 100 80 9 40 32 31 30 26 26 26 25 20 elastic abr bb bola dy kama ar gd ra

Network profile: p3 Sample: t3 Metric: Avg-Bitrate Buffer: 30-60 Queue length threshold: 10 2625.44 2606.18 2579.07 2574.1 2516.77 2500 2350.35 2263.28 2000 1912.59 1500 1198 1000 500

bola

dy

elastic

gd

kama

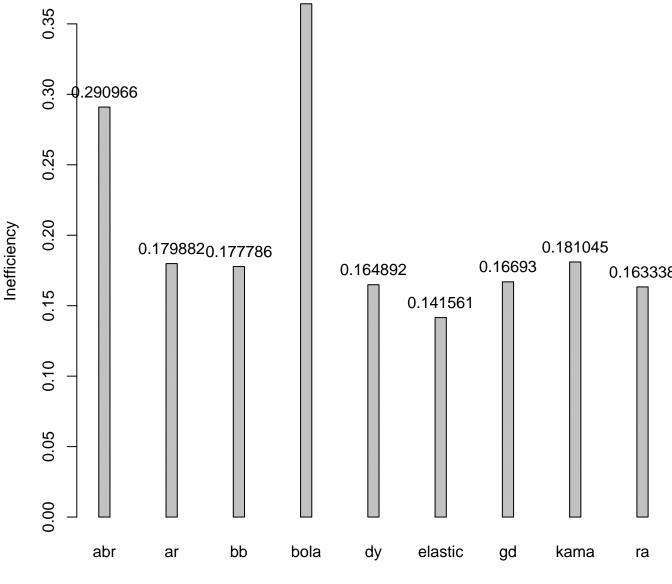
ra

abr

ar

bb

Network profile: p3 Sample: t3 Metric: Inefficiency Buffer: 30–60 Queue length threshold: 10 0.364252



Network profile: p3 Sample: t3 Metric: # quality change Buffer: 30-60 Queue length threshold: 10 162 150 100 94 88 86 84 80 65 50 21 elastic abr bb bola dy kama ar gd ra

Network profile: p3 Sample: t4 Metric: Avg-Bitrate Buffer: 30-60 Queue length threshold: 10 2418.5 2372.85 2358.04 2265.74 2298.63 2233.77 2000 1908.44 1515.65 1500 1143 500

bola

elastic

gd

kama

ra

dy

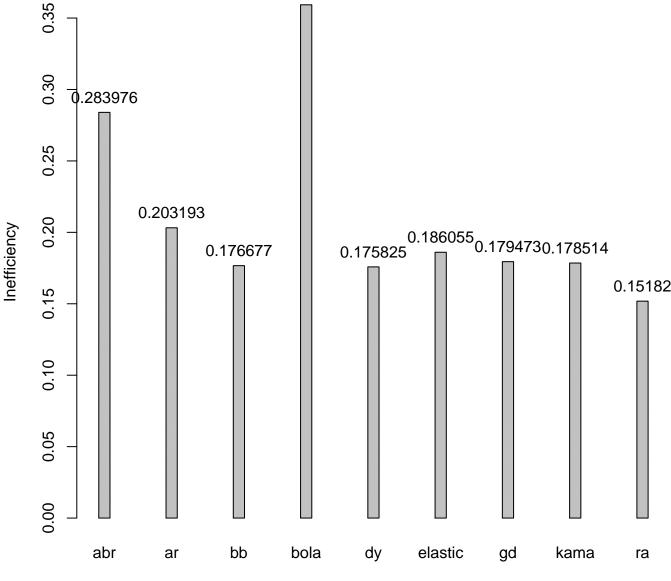
abr

ar

bb

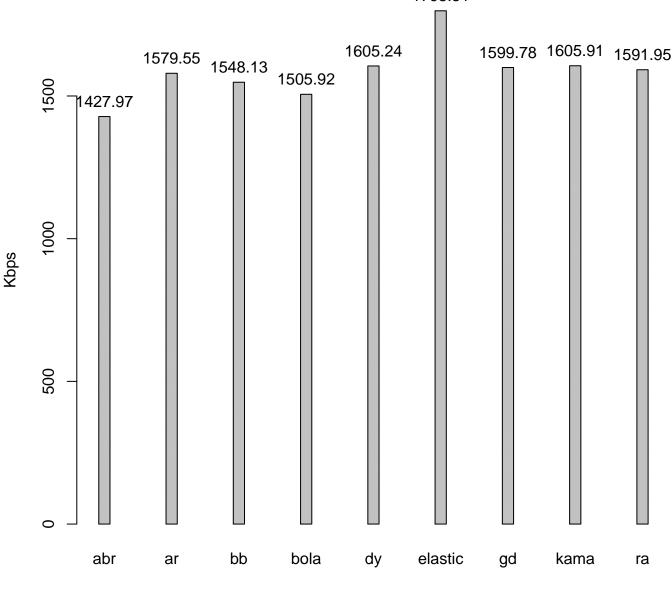
Network profile: p3 Sample: t4 Metric: Inefficiency Buffer: 30–60

Queue length threshold: 10

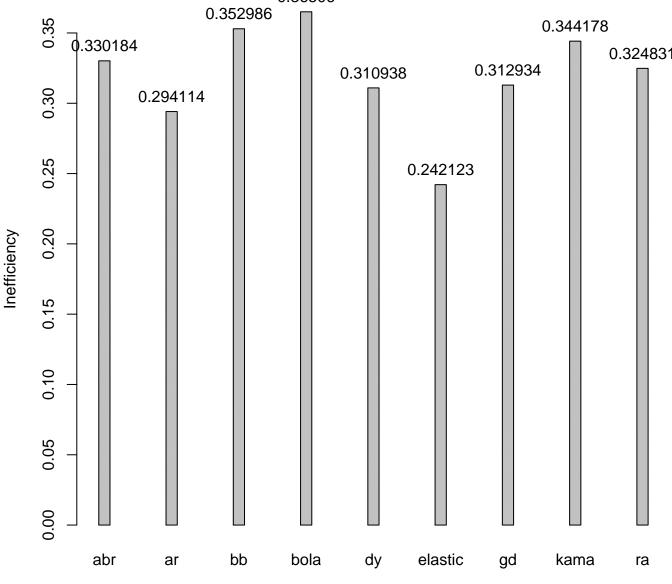


Network profile: p3 Sample: t4 Metric: # quality change Buffer: 30-60 Queue length threshold: 10 126 120 100 80 9 46 45 39 39 40 37 31 20 20 elastic abr bb bola dy kama ar gd ra

Network profile: p3 Sample: t5 Metric: Avg-Bitrate Buffer: 30-60 Queue length threshold: 10



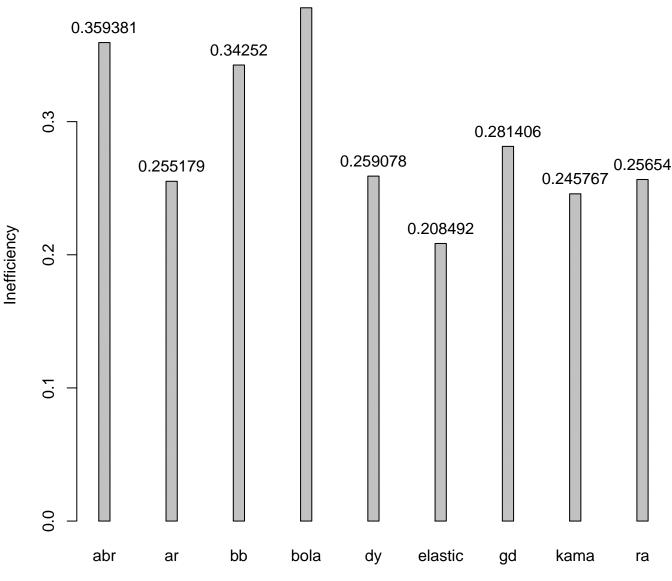
Network profile: p3 Sample: t5 Metric: Inefficiency Buffer: 30–60 Queue length threshold: 10



Network profile: p3 Sample: t5 Metric: # quality change Buffer: 30-60 Queue length threshold: 10 34 30 25 24 24 22 20 20 16 16 15 14 14 10 2 bola elastic abr bb dy kama ar gd ra

Network profile: p3 Sample: t6 Metric: Avg-Bitrate Buffer: 30-60 Queue length threshold: 10 2000 1899.9 1891.08 1866.86 1856.84 1758.68 1651.61 1621.05 1500 1268.86 1000 500 abr bola elastic ar bb dy gd kama ra

Network profile: p3 Sample: t6 Metric: Inefficiency Buffer: 30–60 Queue length threshold: 10



Network profile: p3 Sample: t6 Metric: # quality change Buffer: 30-60 Queue length threshold: 10 676 009 500 400 300 200 113 93 100 82 71 55 54 51 51 bola elastic abr bb dy kama ar gd ra

Network profile: p3 Sample: t7 Metric: Avg-Bitrate Buffer: 30-60 **Queue length threshold: 10** 1810.23 1845.82 1842.07 1809.68 1801.03 1745.04 1759.41 1553.58 1500 1190.14 500

bola

elastic

gd

kama

ra

dy

abr

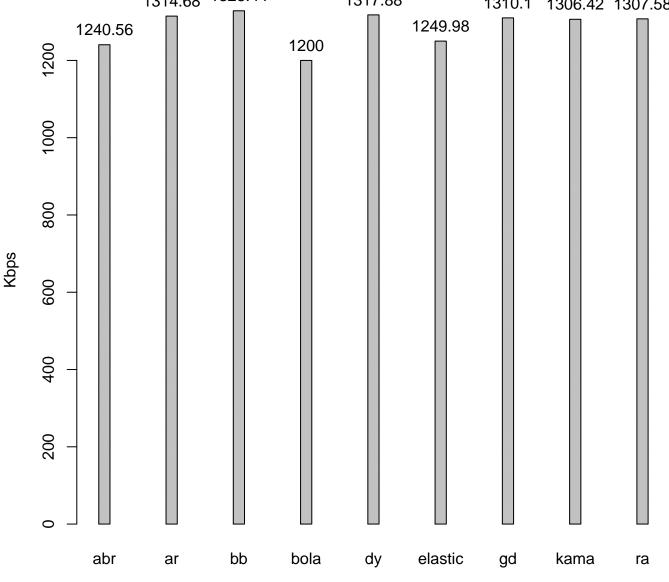
ar

bb

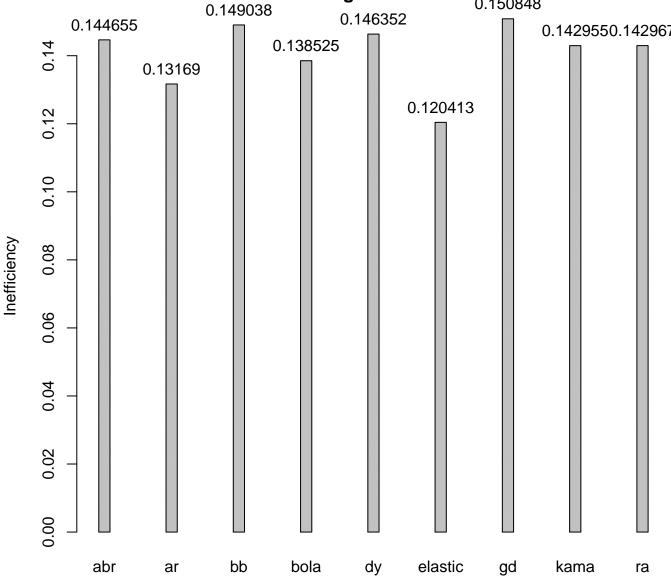
Network profile: p3 Sample: t7 Metric: Inefficiency Buffer: 30-60 Queue length threshold: 10 0.445035 0.410874 0.361322 0.296089 0.2768150.276796 $0.266377_{0.262959}$ Inefficiency abr bola elastic ar bb dy gd kama ra

Network profile: p3 Sample: t7 Metric: # quality change Buffer: 30-60 Queue length threshold: 10 340 300 250 200 150 102 100 77 76 71 63 63 50 29 23 bola elastic abr bb dy kama ar gd ra

Network profile: p4 Sample: t1 Metric: Avg-Bitrate Buffer: 30-60 Queue length threshold: 10 1314.68 1328.44 1317.88 1310.1 1306.42 1307.58

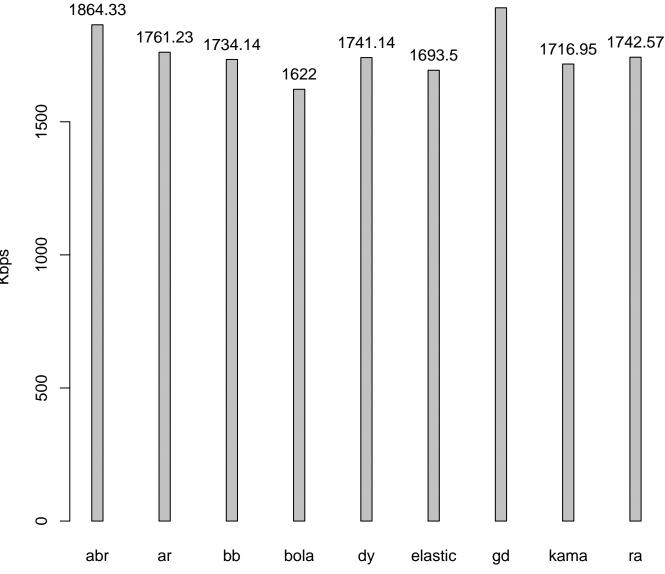


Network profile: p4 Sample: t1 Metric: Inefficiency Buffer: 30–60 Queue length threshold: 10 0.150848



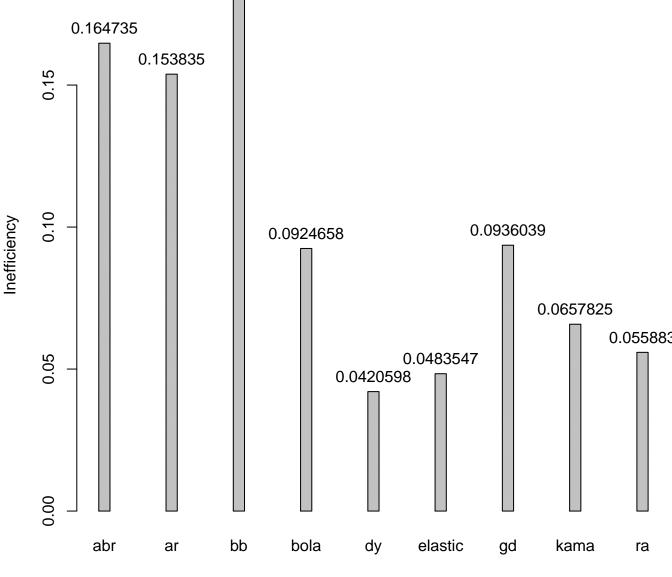
Network profile: p4 Sample: t1 Metric: # quality change Buffer: 30-60 Queue length threshold: 10 64 9 50 4 30 28 28 26 22 20 20 18 14 10 elastic abr bb bola dy kama ar gd ra

Network profile: p4 Sample: t2 Metric: Avg-Bitrate Buffer: 30-60 Queue length threshold: 10 1928.19



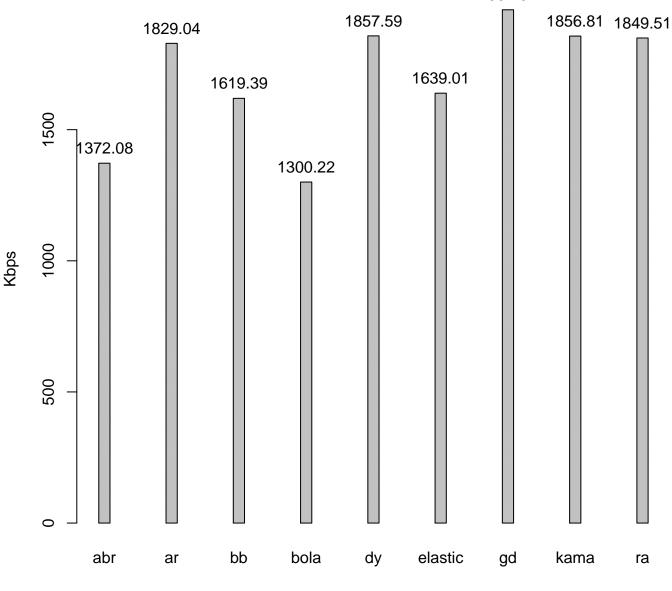
Network profile: p4 Sample: t2 Metric: Inefficiency Buffer: 30–60

Oueue length threshold: 10



Network profile: p4 Sample: t2 Metric: # quality change Buffer: 30-60 Queue length threshold: 10 74 9 20 40 30 20 18 8 8 6 6 6 bola elastic abr bb dy gd kama ar ra

Network profile: p4 Sample: t3 Metric: Avg-Bitrate Buffer: 30-60 Queue length threshold: 10/1957.01



Network profile: p4 Sample: t3 Metric: Inefficiency Buffer: 30–60 Queue length threshold: 10 0.193011 0.181517 0.141252 0.1394 0.137563 0.119431 0.115662 0.0935233 0.0682816 0.05

bola

dy

elastic

gd

kama

ra

Inefficiency

abr

ar

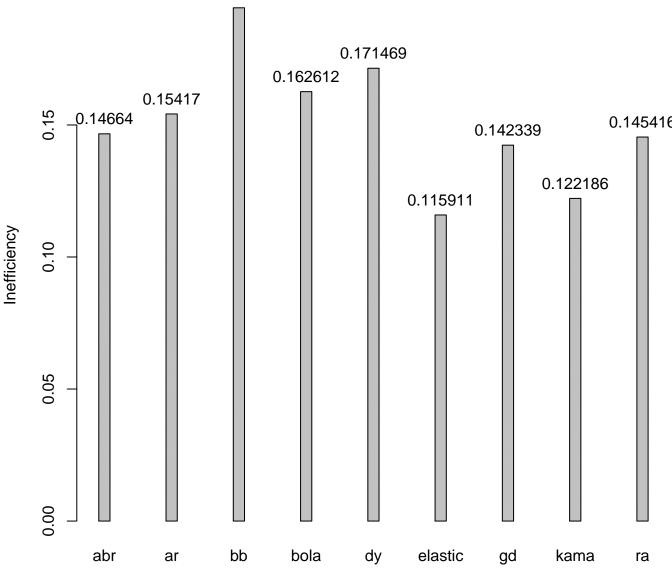
bb

Network profile: p4 Sample: t3 Metric: # quality change Buffer: 30-60 Queue length threshold: 10 148 120 100 96 84 82 80 73 66 64 9 51 4 20 3 bola elastic abr bb dy kama ar gd ra

Network profile: p4 Sample: t4 Metric: Avg-Bitrate Buffer: 30-60 Queue length threshold: 10 1707.95 1676.64 1635.3 1573.6 1565.68 1566.74 1500 1397.47 1209.95 1143 500 abr bb bola dy elastic ar gd kama ra

Network profile: p4 Sample: t4 Metric: Inefficiency Buffer: 30–60

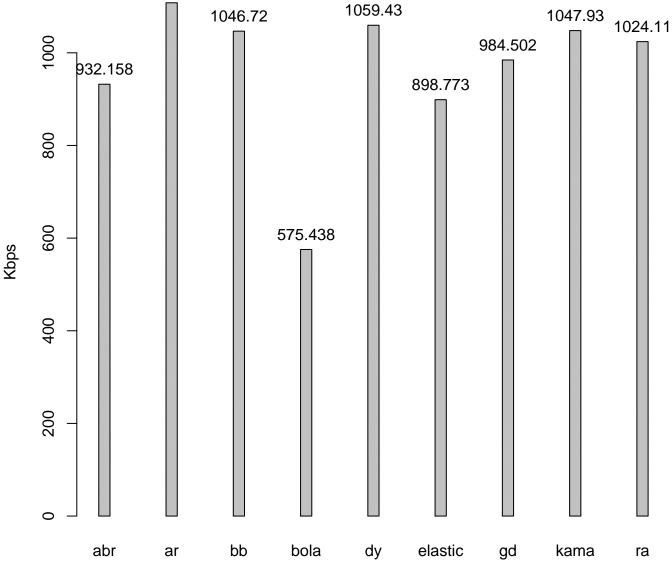
Queue length threshold: 10



Network profile: p4 Sample: t4 Metric: # quality change Buffer: 30-60 Queue length threshold: 10 120 120 100 80 9 47 40 37 34 34 34 33 29 20 elastic abr bb bola dy kama ar gd ra

Network profile: p4 Sample: t5 Metric: Avg-Bitrate Buffer: 30-60

Queue length threshold: 10

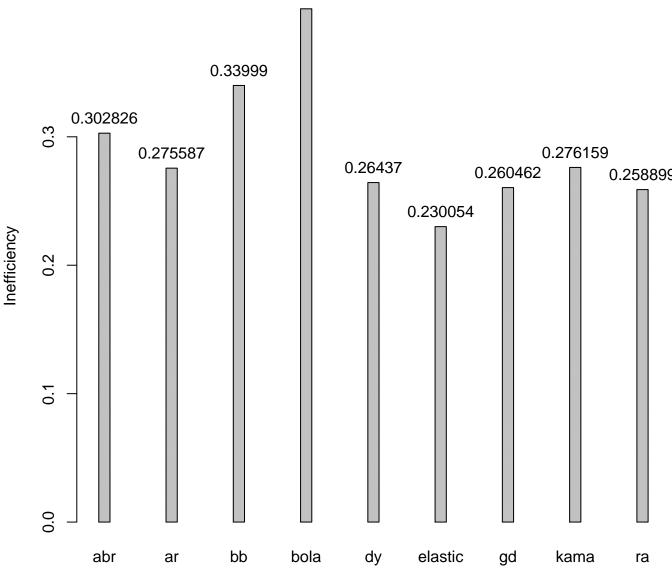


Network profile: p4 Sample: t5 Metric: Inefficiency Buffer: 30–60 Queue length threshold: 10 0.394937 0.381472 0.350815 0.329055 0.309675 0.304429 0.273871 0.262281 Inefficiency 0.1 abr bola elastic ar bb dy gd kama ra

Network profile: p4 Sample: t5 Metric: # quality change Buffer: 30-60 Queue length threshold: 10 80 80 9 40 24 21 21 20 20 18 15 13 bola elastic abr bb dy kama ar gd ra

Network profile: p4 Sample: t6 Metric: Avg-Bitrate Buffer: 30-60 Queue length threshold: 10 1499.85 1400 1323.74 1212.41 1200 1032.24 1064.31 1052.44 1002.61 1000 797.827 800 009 400 200 abr bola elastic ar bb dy gd kama ra

Network profile: p4 Sample: t6 Metric: Inefficiency Buffer: 30–60 Queue length threshold: 10



Network profile: p4 Sample: t6 Metric: # quality change Buffer: 30-60 Queue length threshold: 10 739 009 500 400 300 200 136 100 86 77 53 50 48 47 35 bola elastic abr bb dy kama ar gd ra

Network profile: p4 Sample: t7 Metric: Avg-Bitrate Buffer: 30-60 Queue length threshold: 10 1165.12 1150.52 1118.34 1125.13 1099.35 838.339 800 622.693 009 400 200

bola

elastic

gd

kama

ra

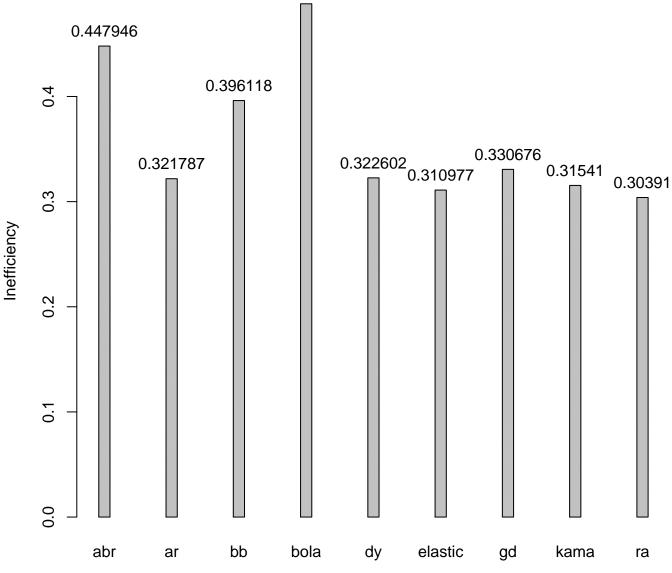
dy

abr

ar

bb

Network profile: p4 Sample: t7 Metric: Inefficiency Buffer: 30–60 Queue length threshold: 10



Network profile: p4 Sample: t7 Metric: # quality change Buffer: 30-60 Queue length threshold: 10 476 300 200 94 90 88 86 76 66 27 17 bola elastic abr bb dy kama ar gd ra