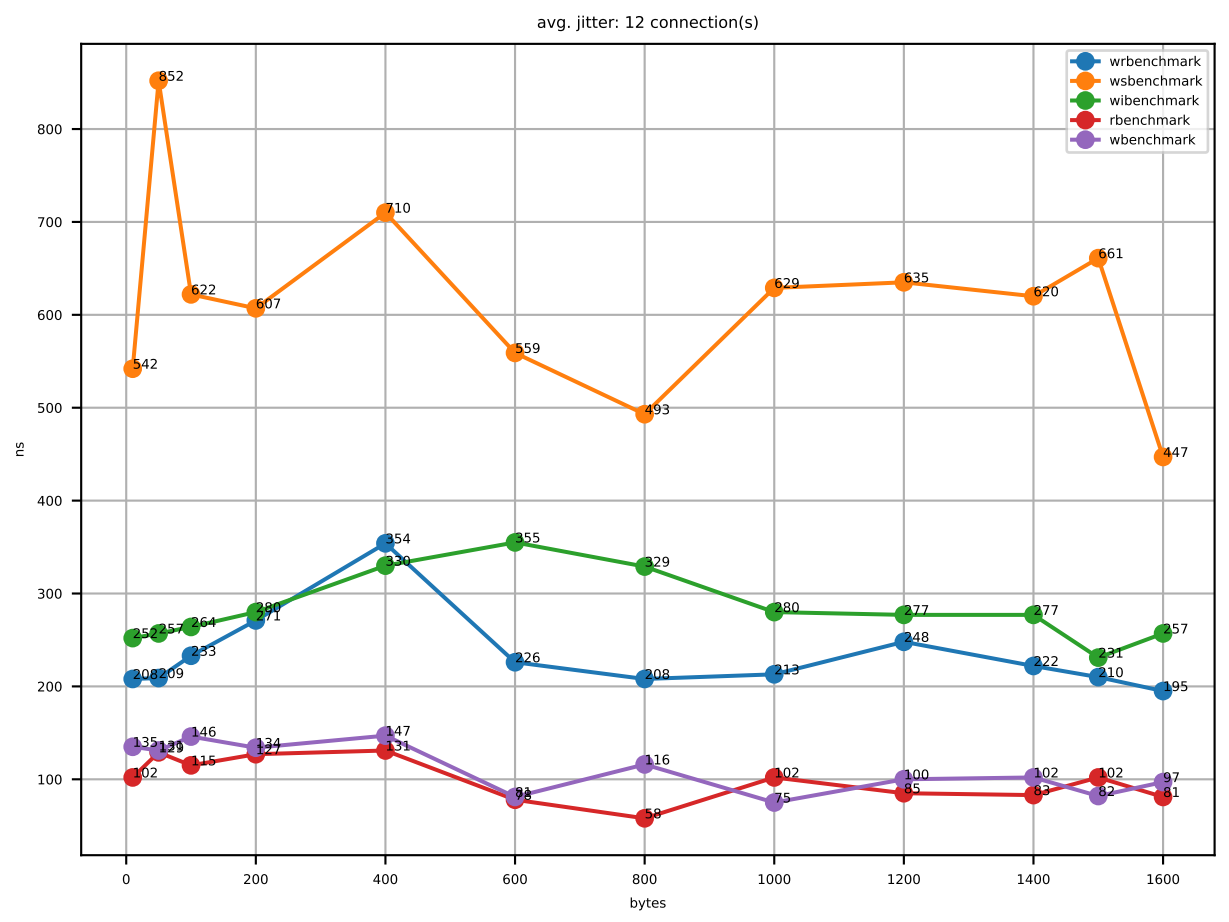
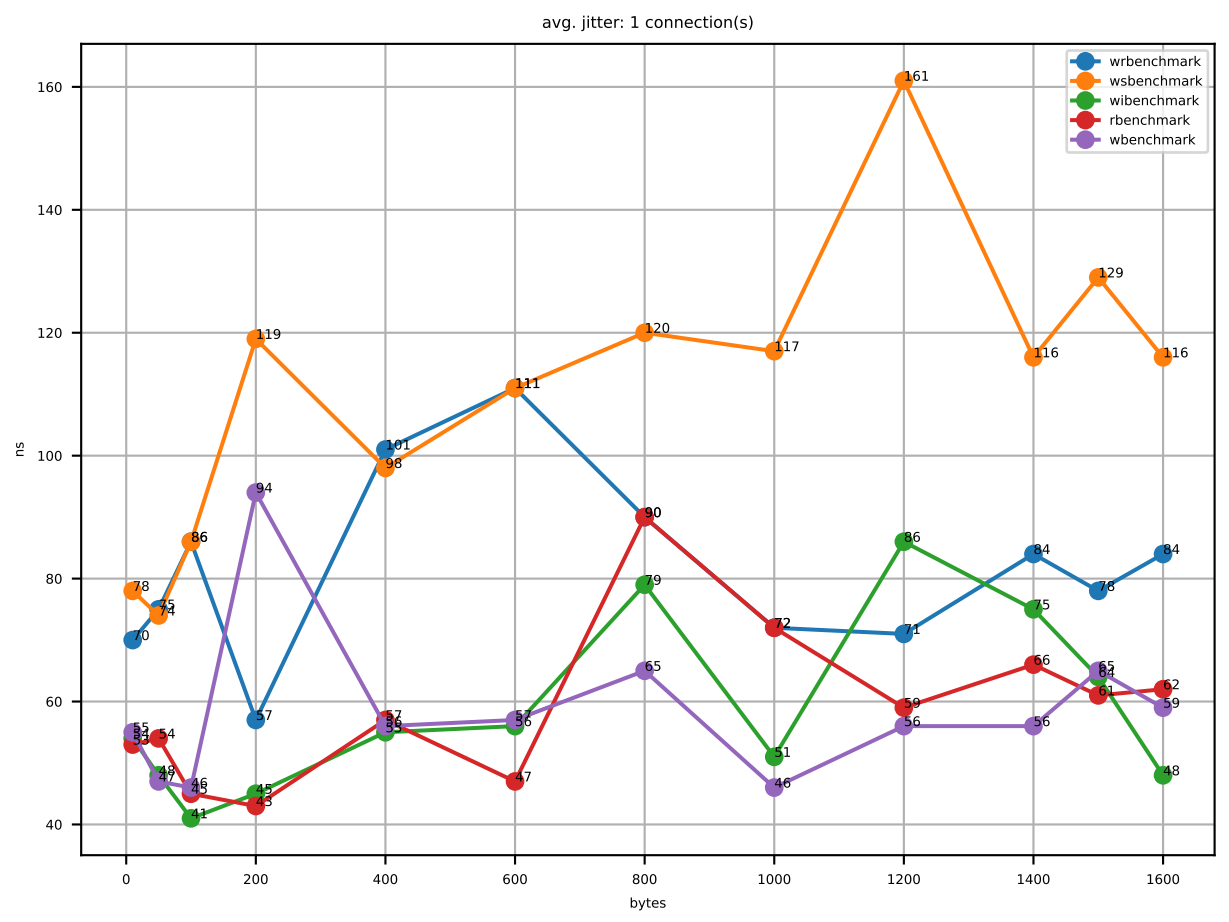
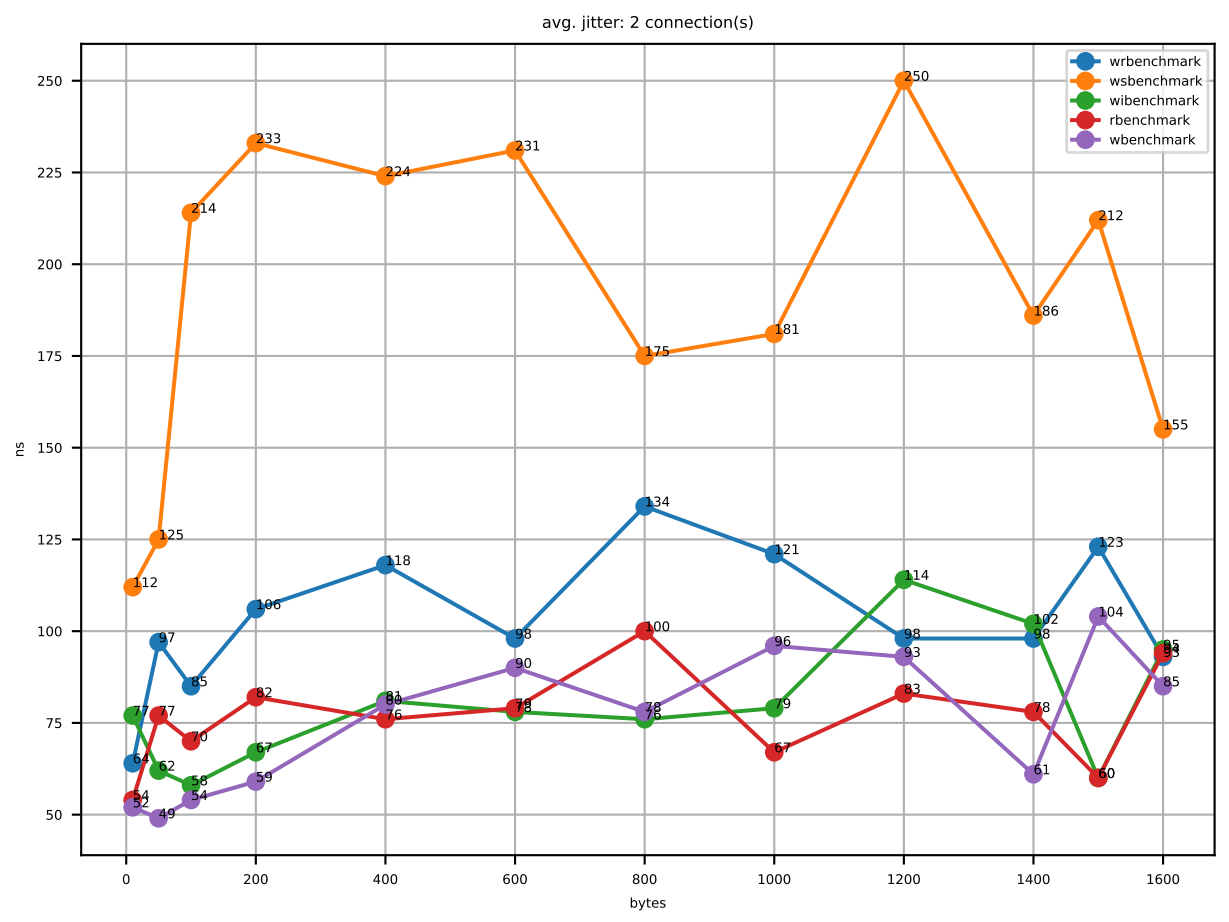
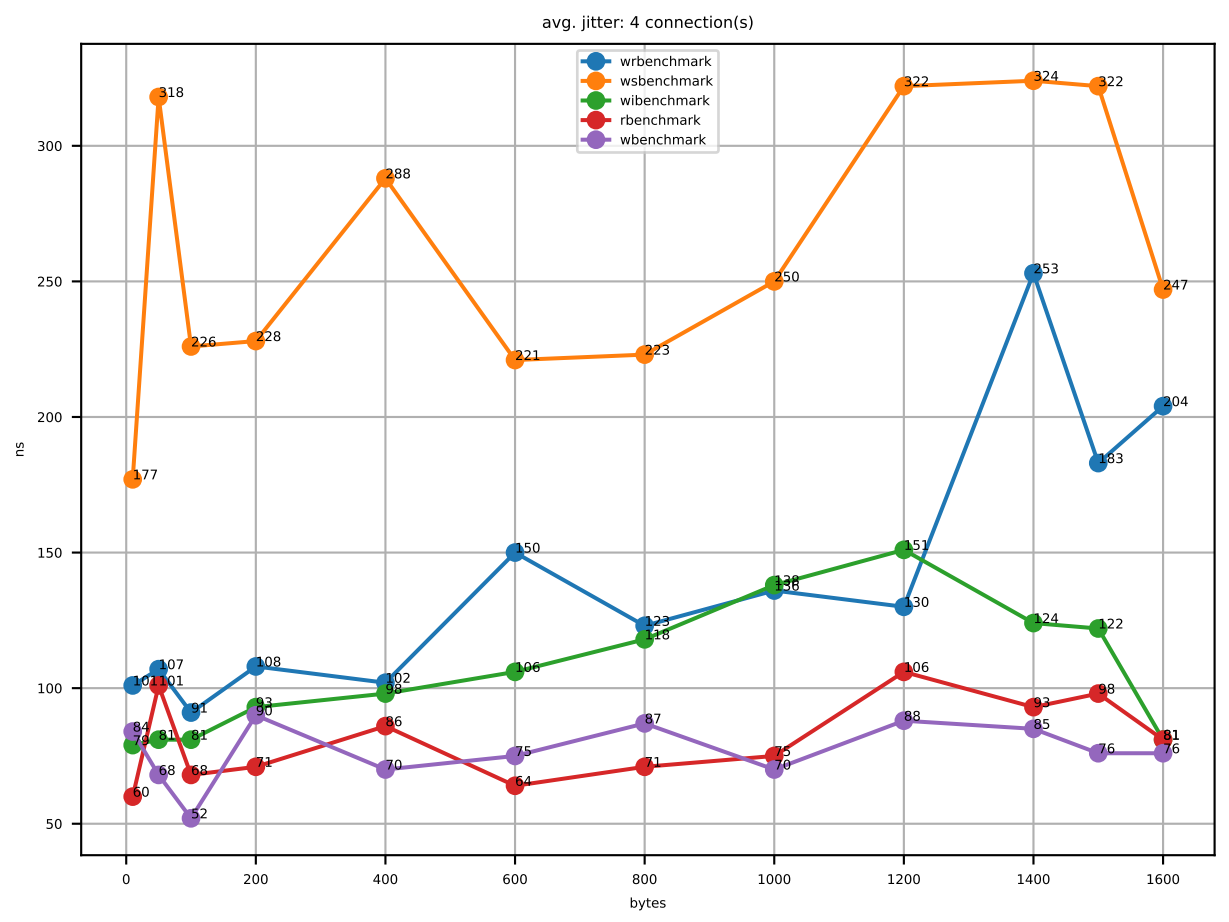
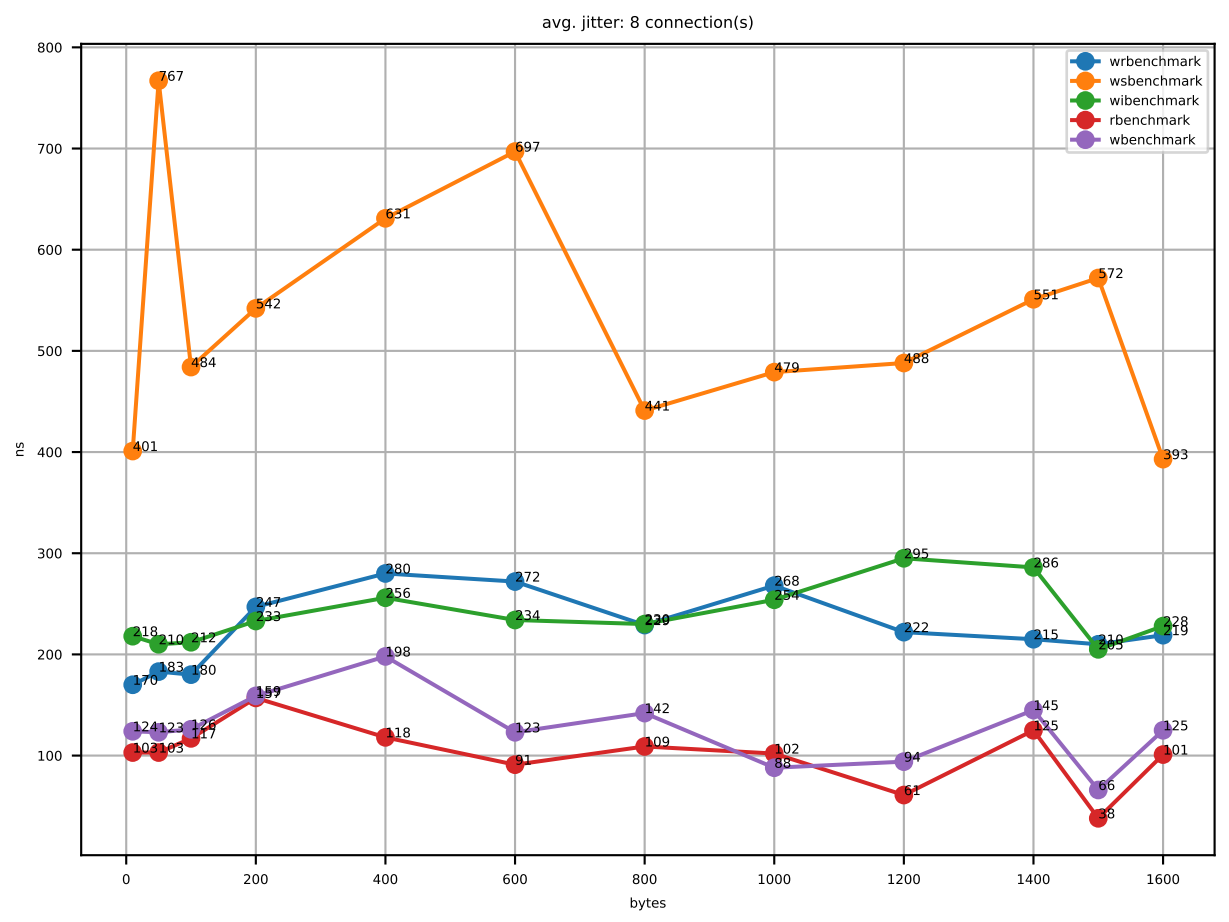
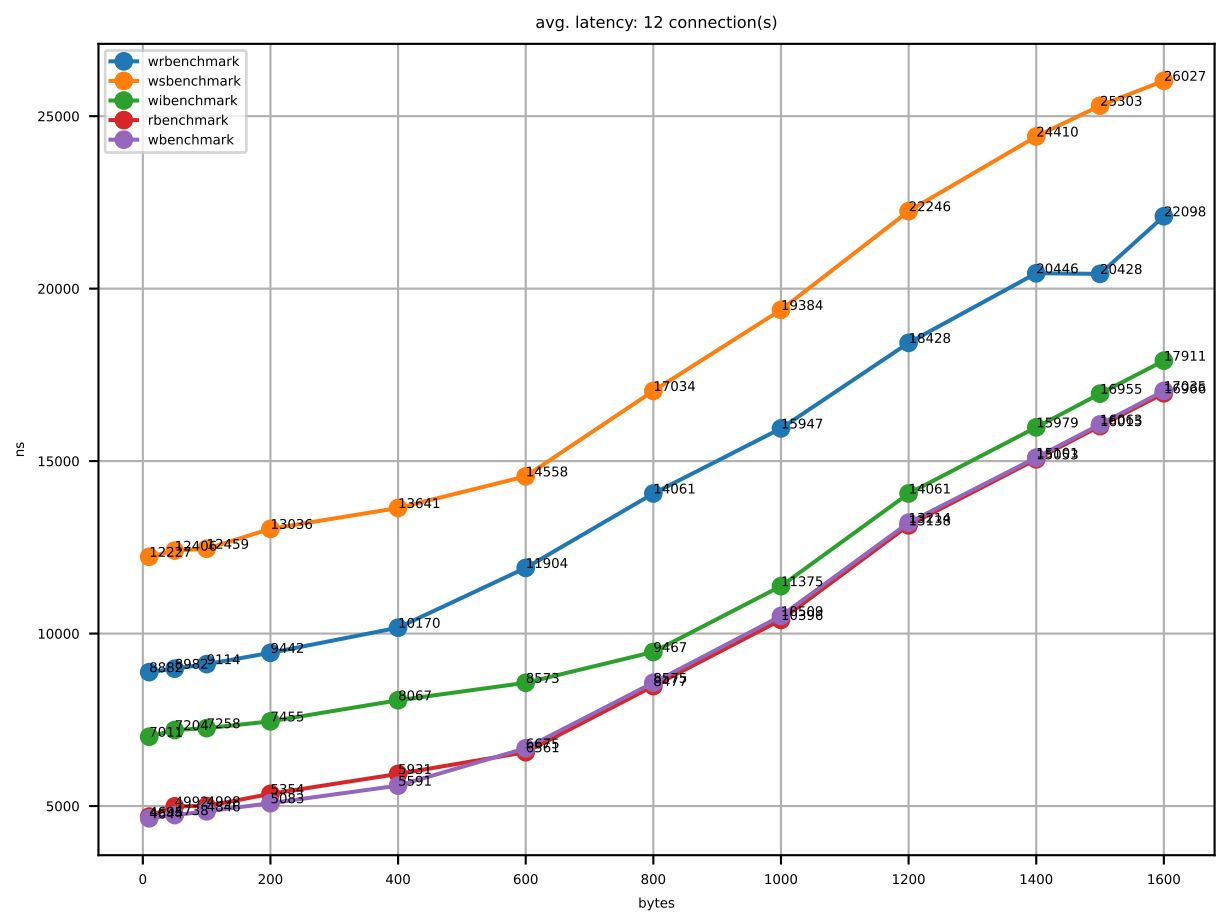

avg. jitter: 12 connection(s)
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
ns
bytes
852
710
661
622
607
629
635
620
559
542
493
447
354
355
330
329
280
277
277
257
264
271
252
257
233
248
226
208
213
222
231
210
195
208
209
146
147
135
134
127
131
116
102
115
102
100
102
102
97
85
83
82
81
75
58
0
200
400
600
800
1000
1200
1400
1600
100
200
300
400
500
600
700
800

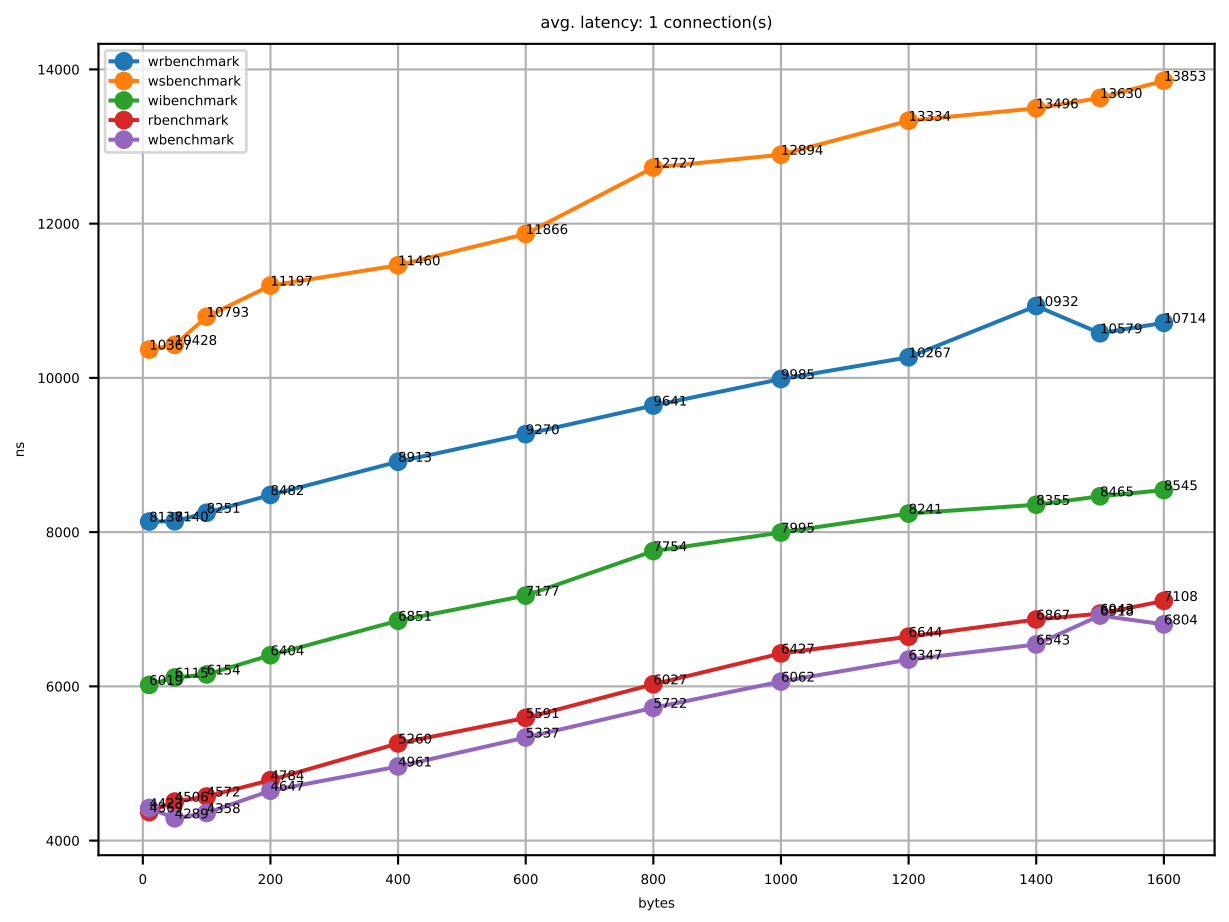

avg. jitter: 1 connection(s)
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
ns
bytes
0
200
400
600
800
1000
1200
1400
1600
40
60
80
100
120
140
160

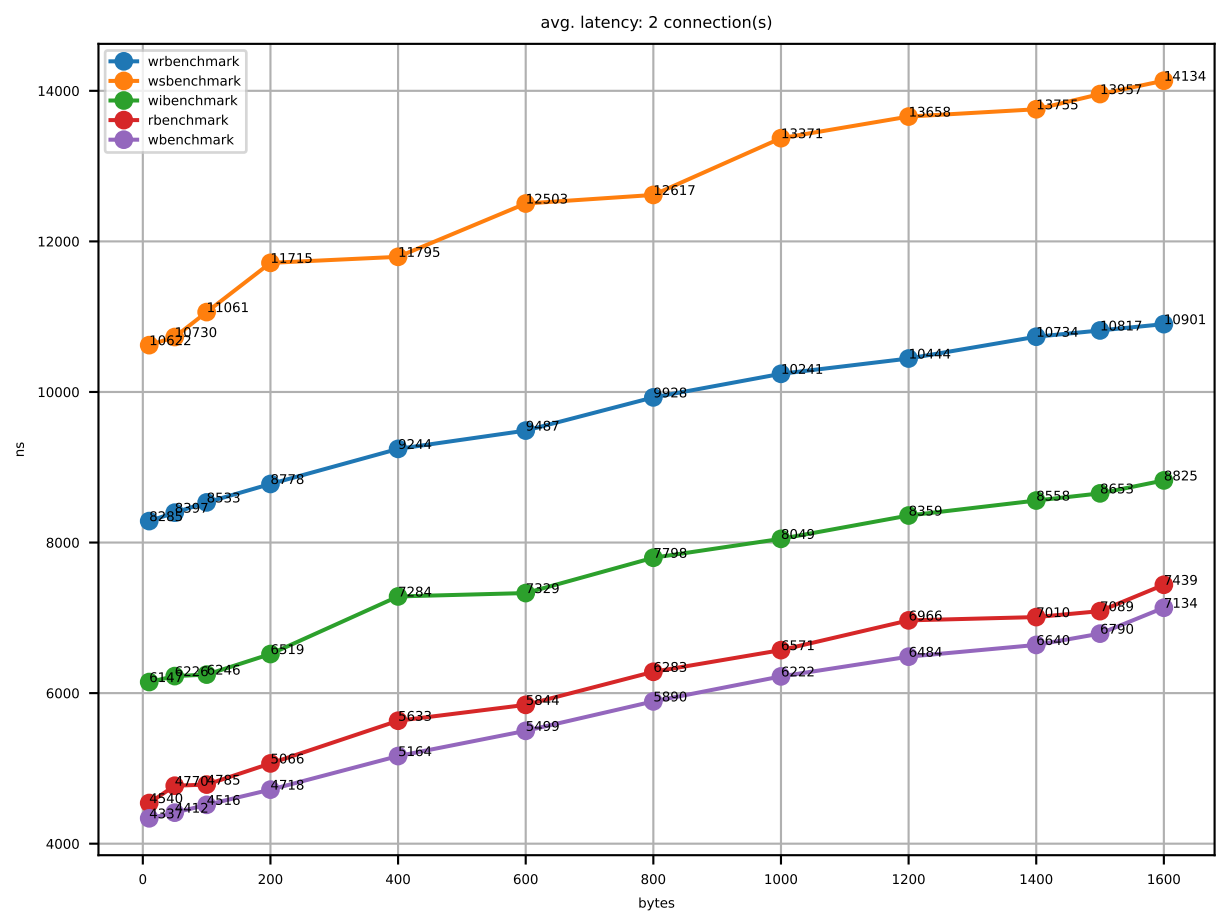

avg. jitter: 2 connection(s)
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
ns
bytes
0
200
400
600
800
1000
1200
1400
1600
50
75
100
125
150
175
200
225
250

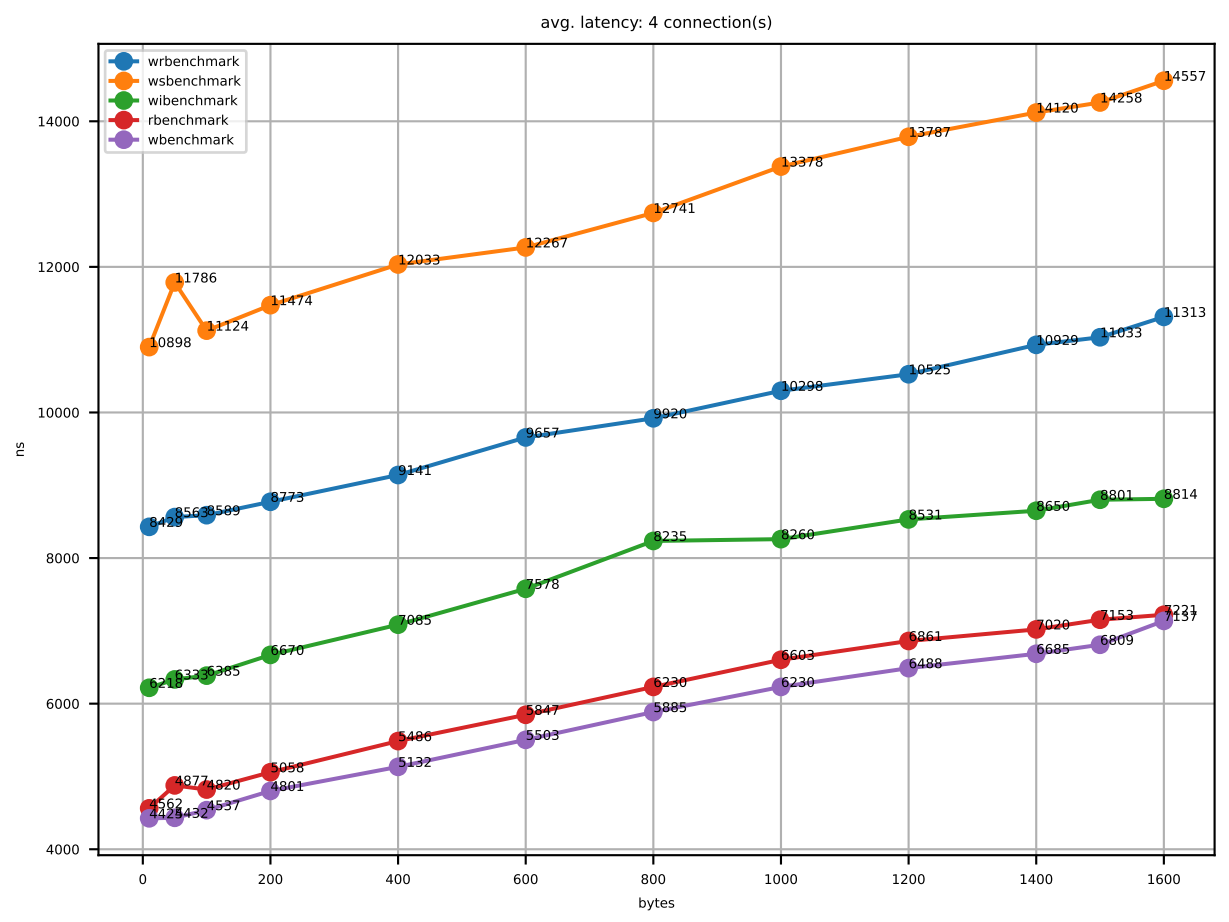

avg. jitter: 4 connection(s)
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
ns
bytes
0
200
400
600
800
1000
1200
1400
1600
50
100
150
200
250
300
177
318
226
228
288
221
223
250
322
324
322
247
253
183
204
150
123
118
138
136
130
151
124
122
81
107
101
101
91
108
102
98
106
106
93
98
84
79
81
81
93
90
86
75
87
75
70
88
85
76
76
60
68
68
71
70
64
71
70
52

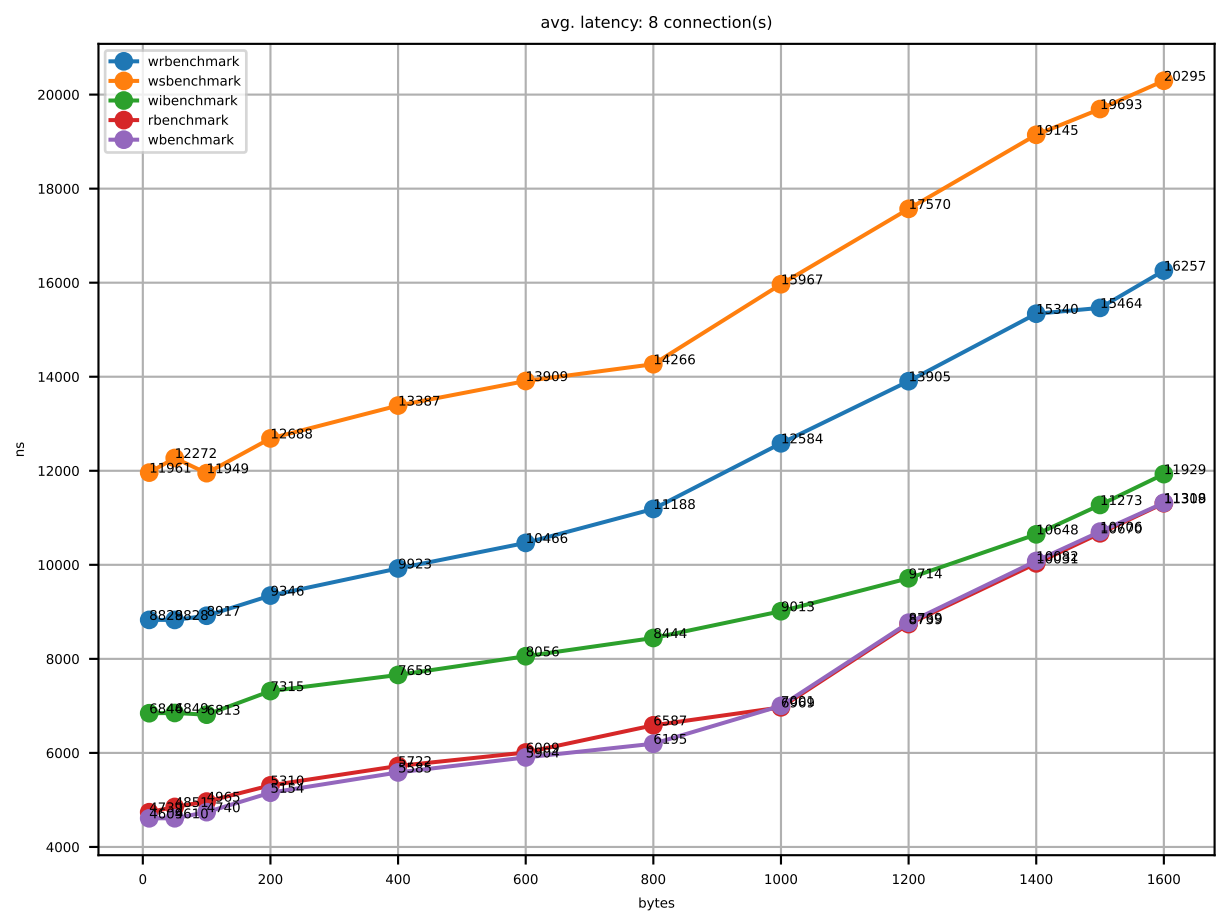

avg. jitter: 8 connection(s)
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
ns
bytes
800
700
600
500
400
300
200
100
0
200
400
600
800
1000
1200
1400
1600
767
697
631
542
484
401
441
479
488
551
572
393
280
272
268
254
295
286
247
233
256
234
222
215
210
205
228
219
218
210
212
183
180
170
198
159
157
142
123
118
109
102
88
94
61
145
125
66
38
125
101
124
123
126
117
103
103
91

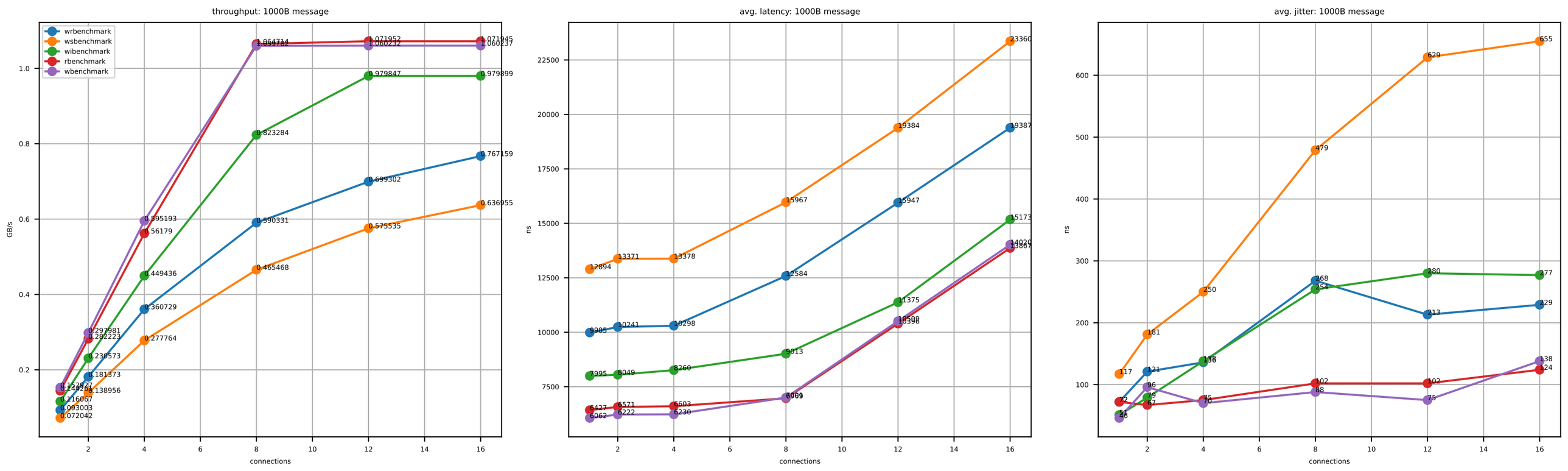

avg. latency: 12 connection(s)
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
ns
bytes
5000
10000
15000
20000
25000
0
200
400
600
800
1000
1200
1400
1600
26027
25303
24410
22246
22098
20446
20428
19384
18428
17911
17034
16955
15947
15979
14558
14061
14061
13641
13036
12459
12227
11904
11375
10170
9442
9467
9114
8573
8067
7455
7258
7011
5931
5591
5354
5083

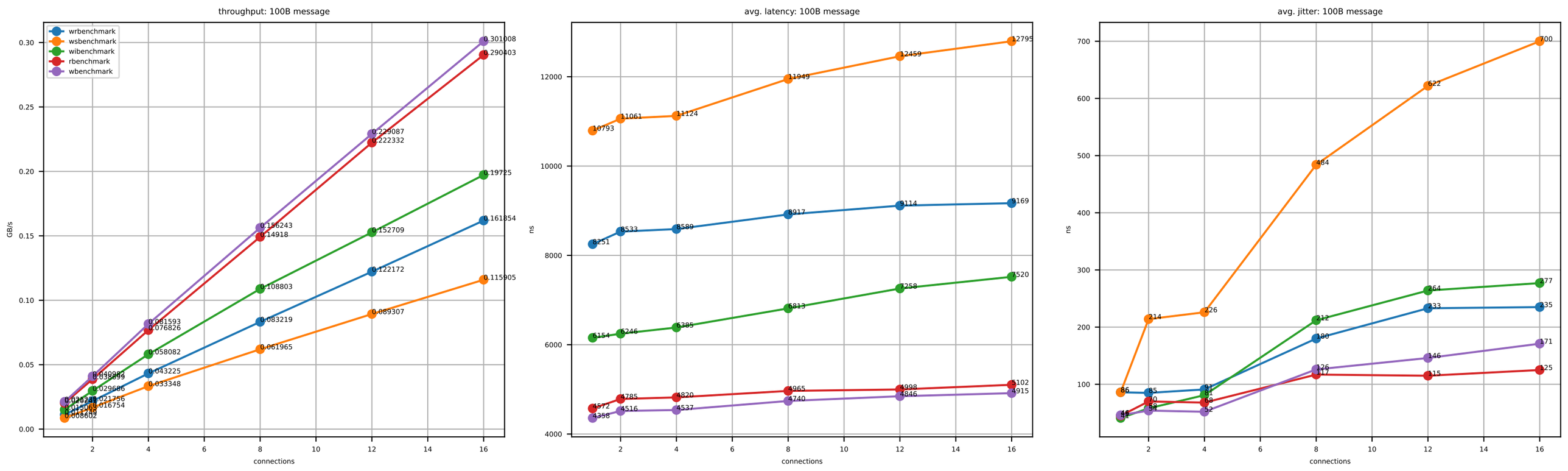

avg. latency: 1 connection(s)
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
ns
bytes
14000
12000
10000
8000
6000
4000
0
200
400
600
800
1000
1200
1400
1600
13853
13630
13496
13334
12894
12727
11866
11460
11197
10793
10428
10932
10579
10714
10267
9985
9641
9270
8913
8482
8251
8140
8545
8465
8355
8241
7995
7754
7177
6851
6404
6154
7108
6804
6867
6644
6427
6027
5591
5260
4784
4647
4572
4358
4289
6543
6347
6062
5722
5337
4961

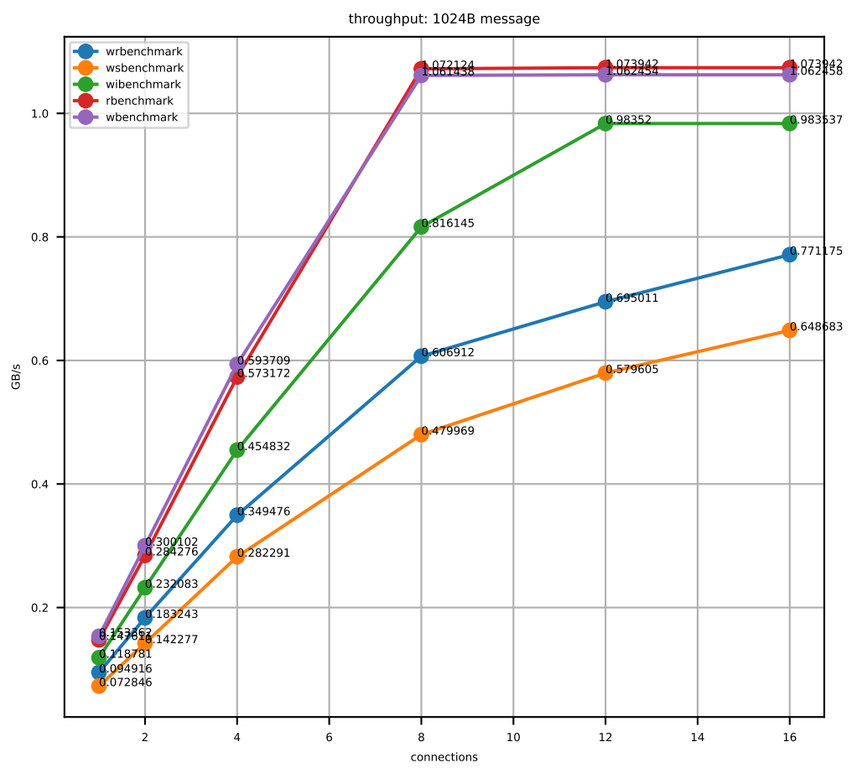

avg. latency: 2 connection(s)
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
ns
bytes
14000
12000
10000
8000
6000
4000
0
200
400
600
800
1000
1200
1400
1600
10622
10730
11061
11715
11795
12503
12617
13371
13658
13755
13957
14134
8265
8397
8533
8778
9244
9487
9928
10241
10444
10734
10817
10901
6147
6226
6246
6519
7284
7329
7798
8049
8359
8558
8653
8825
4540
4704
4765
5066
5633
5844
6283
6571
6966
7010
7089
7439
4337
4412
4516
4718
5164
5499
5890
6222
6484
6640
6790
7134

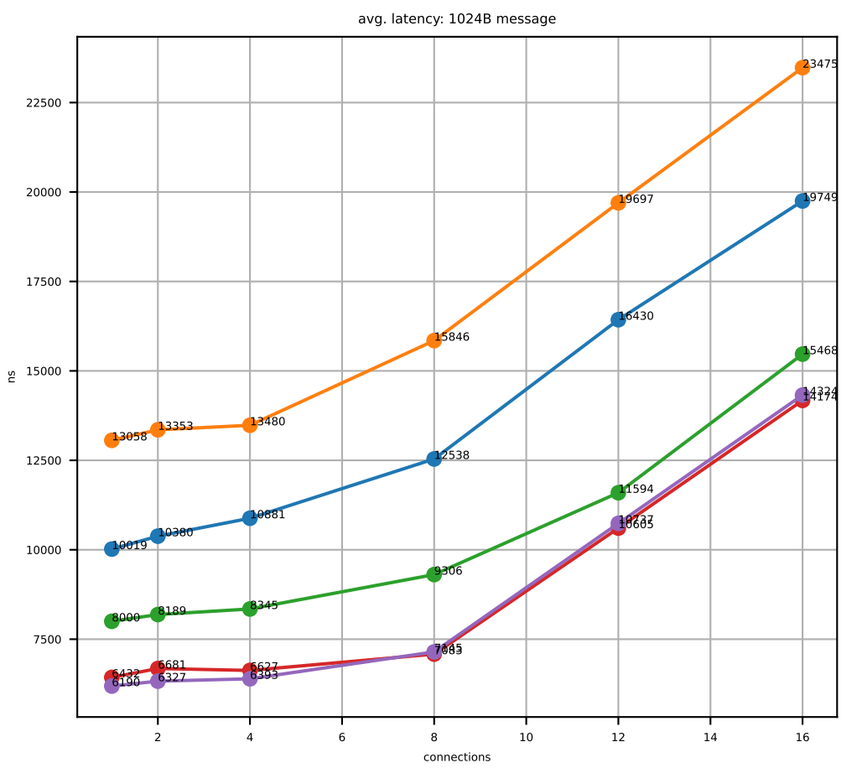

avg. latency: 4 connection(s)
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
ns
bytes
14000
12000
10000
8000
6000
4000
0
200
400
600
800
1000
1200
1400
1600
14557
14258
14120
13787
13378
12741
12267
12033
11786
11474
11124
10898
11313
11033
10929
10525
10298
9920
9657
9141
8773
8589
8563
8429
8814
8801
8650
8531
8260
8235
7578
7085
6670
6365
6333
6218
7221
7153
7020
6861
6603
6230
5847
5486
5058
4820
4877
4562
7137
6809
6685
6488
6230
5885
5503
5132
4801
4537
4432
4429

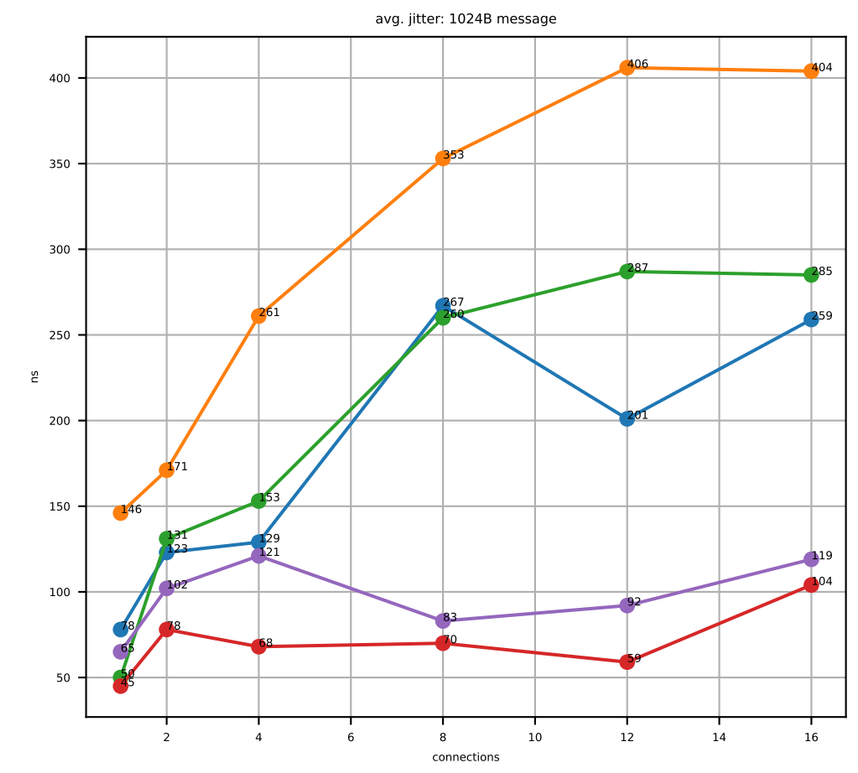

avg. latency: 8 connection(s)
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
ns
bytes
20000
18000
16000
14000
12000
10000
8000
6000
4000
0
200
400
600
800
1000
1200
1400
1600
20295
19693
19145
17570
15967
14266
13909
13387
12688
12272
11961
11949
16257
15464
15340
13905
12584
11188
10466
9923
9346
8917
11929
11273
10648
9714
9013
8444
8056
7658
7315
6813
6587
6195
5722
5310
5154
4965
4740

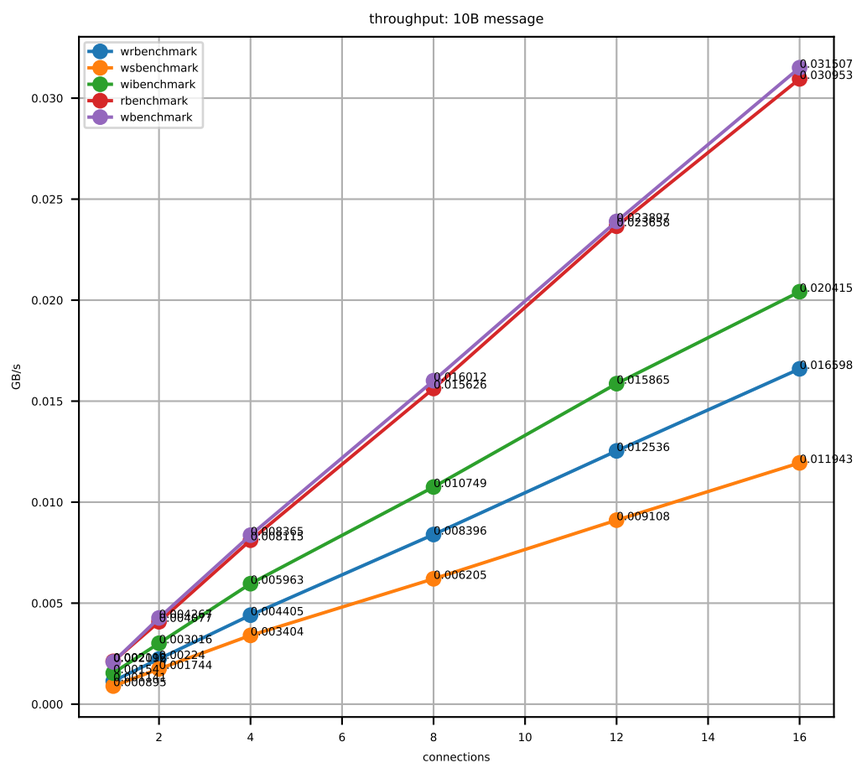

throughput: 1000B message
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
GB/s
connections
avg. latency: 1000B message
ns
connections
avg. jitter: 1000B message
ns
connections

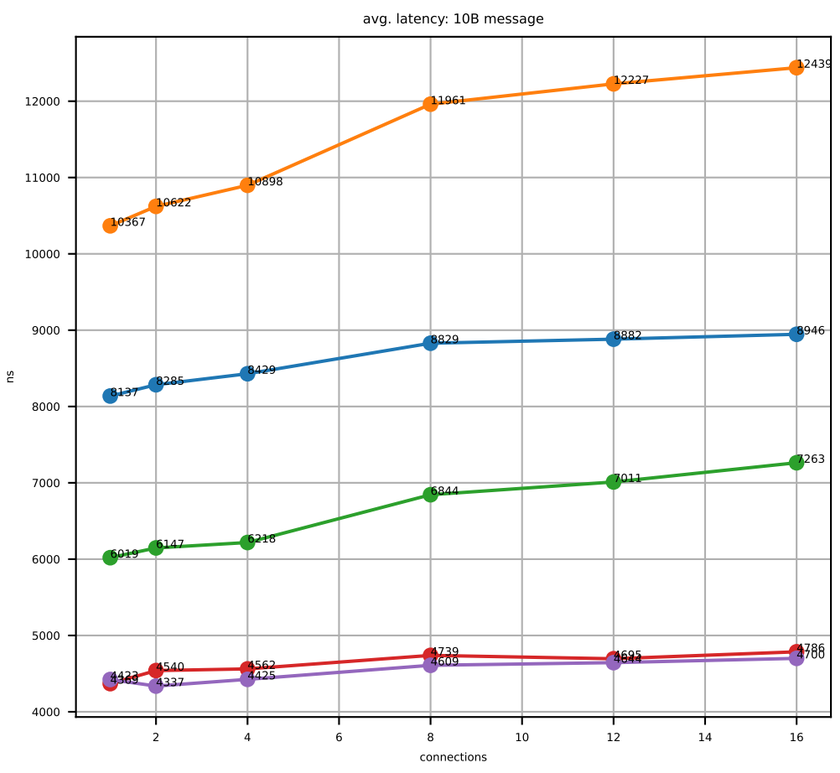

throughput: 100B message
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
GB/s
connections
avg. latency: 100B message
ns
connections
avg. jitter: 100B message
ns
connections

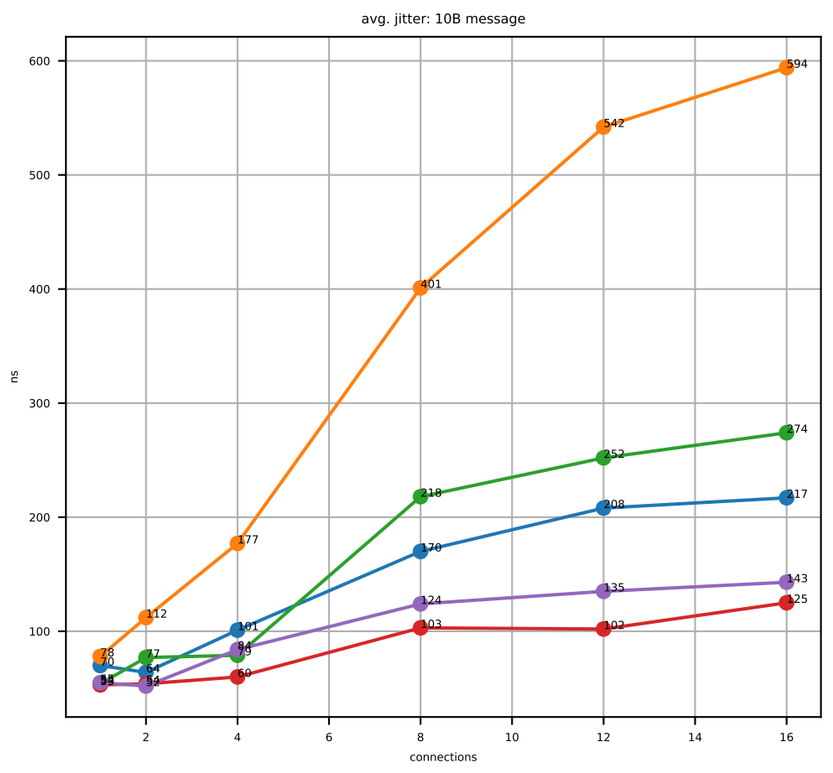

throughput: 1024B message
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
GB/s
connections
1.0
0.8
0.6
0.4
0.2
2
4
6
8
10
12
14
16
1.072124
1.073942
1.061438
1.062458
0.98352
0.983537
0.816145
0.771175
0.695011
0.606912
0.593709
0.573172
0.579605
0.479969
0.454832
0.349476
0.300102
0.284276
0.282291
0.232083
0.183243
0.142277
0.118781
0.094916
0.072846

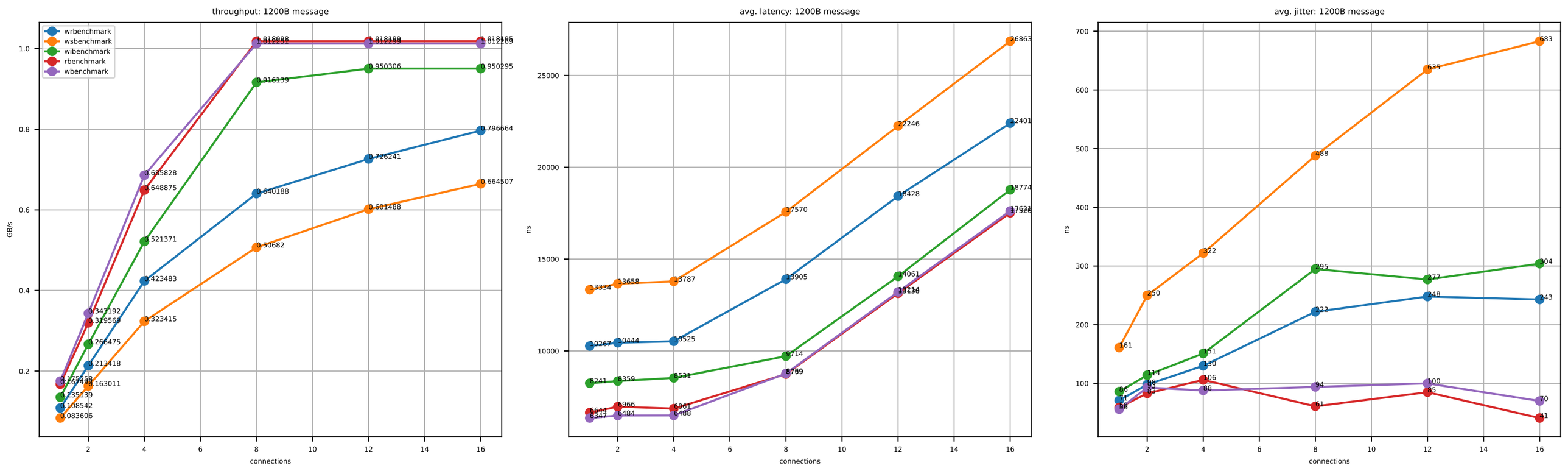

avg. latency: 1024B message
ns
connections
22500
20000
17500
15000
12500
10000
7500
2
4
6
8
10
12
14
16
23475
19697
19749
15846
16430
15468
13058
13353
13480
12538
11594
10019
10380
10881
9306
8000
8189
8345
6681
6627
6327
6393

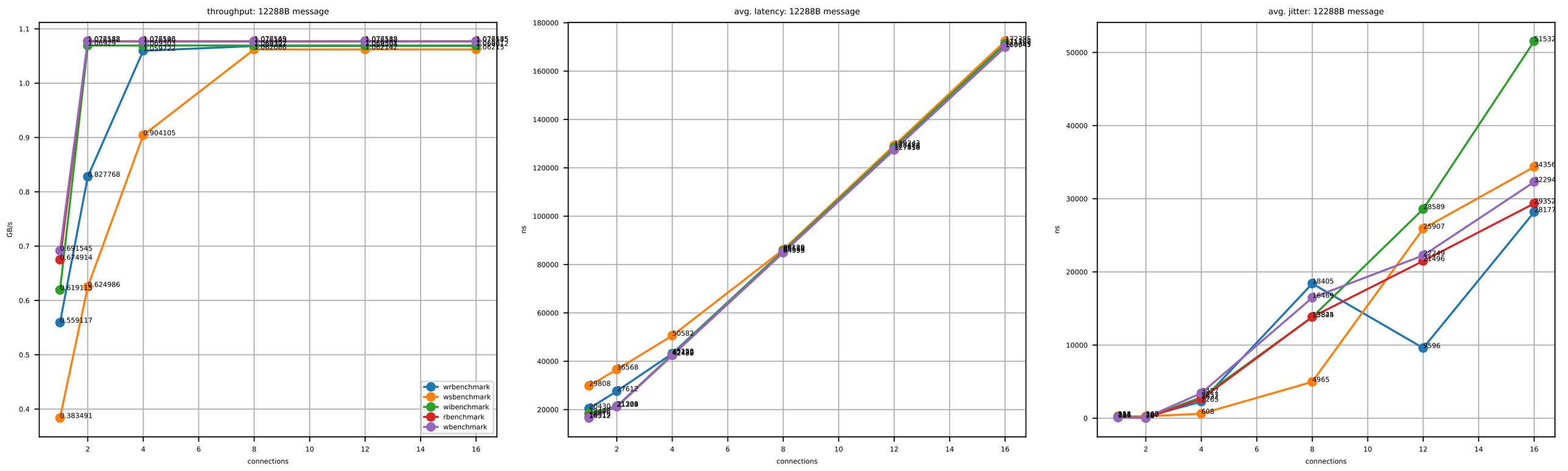

avg. jitter: 1024B message
ns
connections
400
350
300
250
200
150
100
50
2
4
6
8
10
12
14
16
406
404
353
261
287
285
267
260
259
201
171
146
153
131
129
123
121
119
102
104
92
83
78
70
68
59
65
50
45

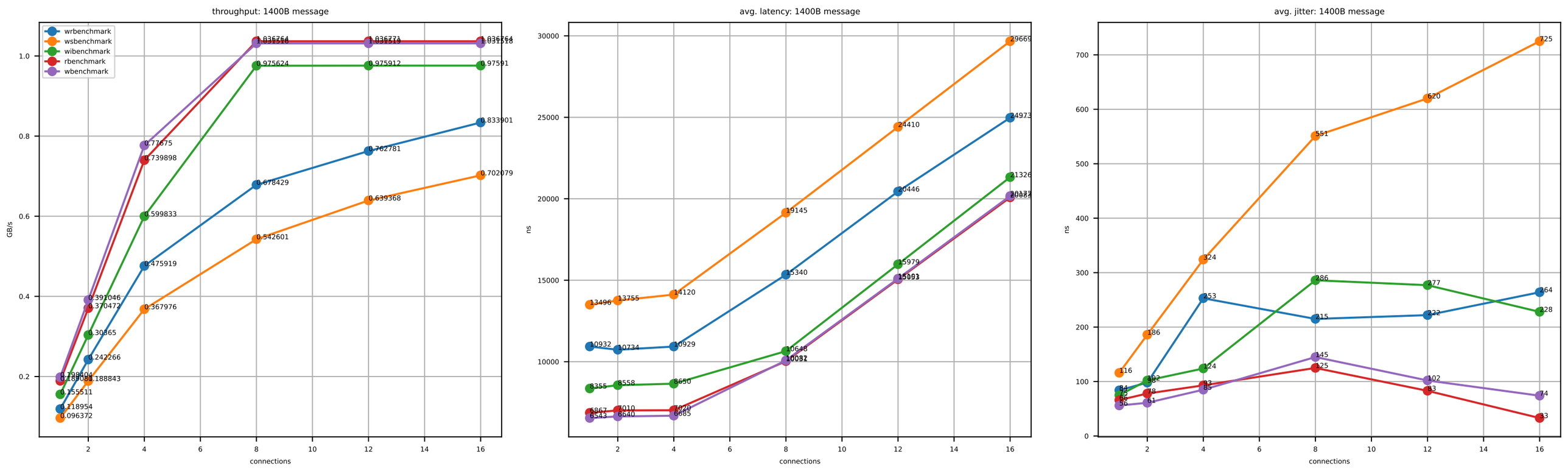

throughput: 10B message
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
GB/s
connections

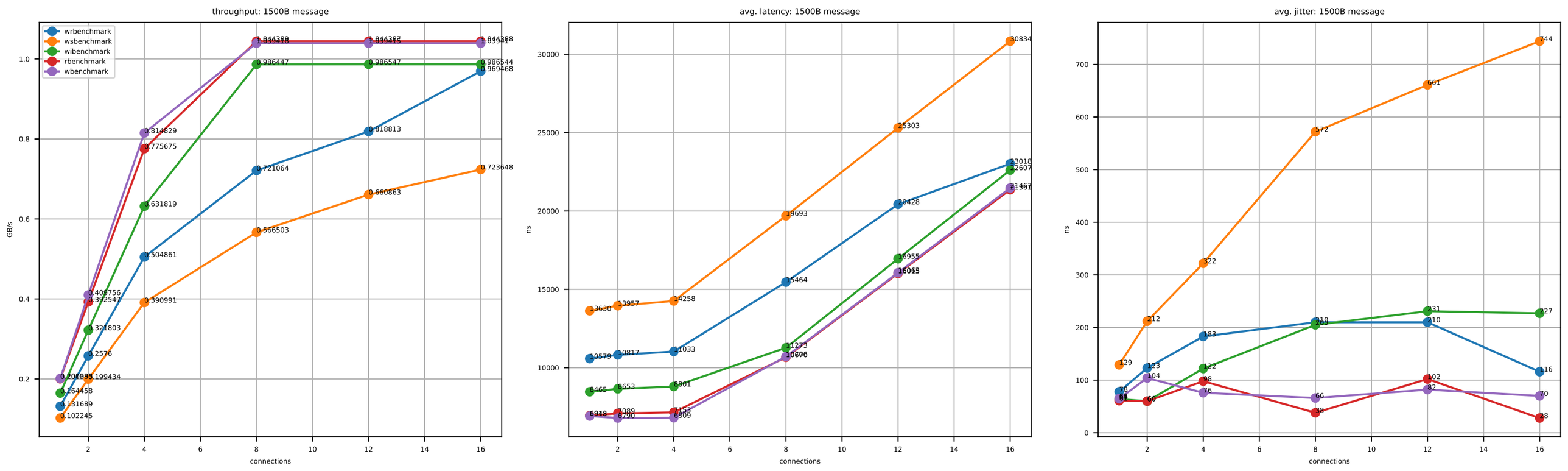

avg. latency: 10B message
ns
connections

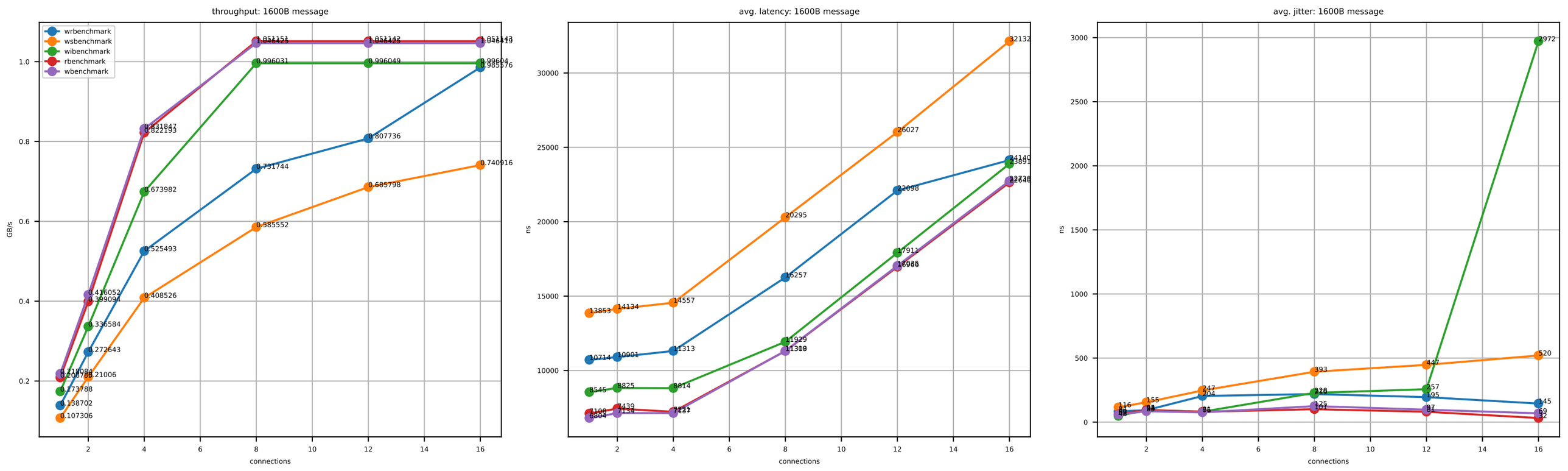

avg. jitter: 10B message
ns
connections

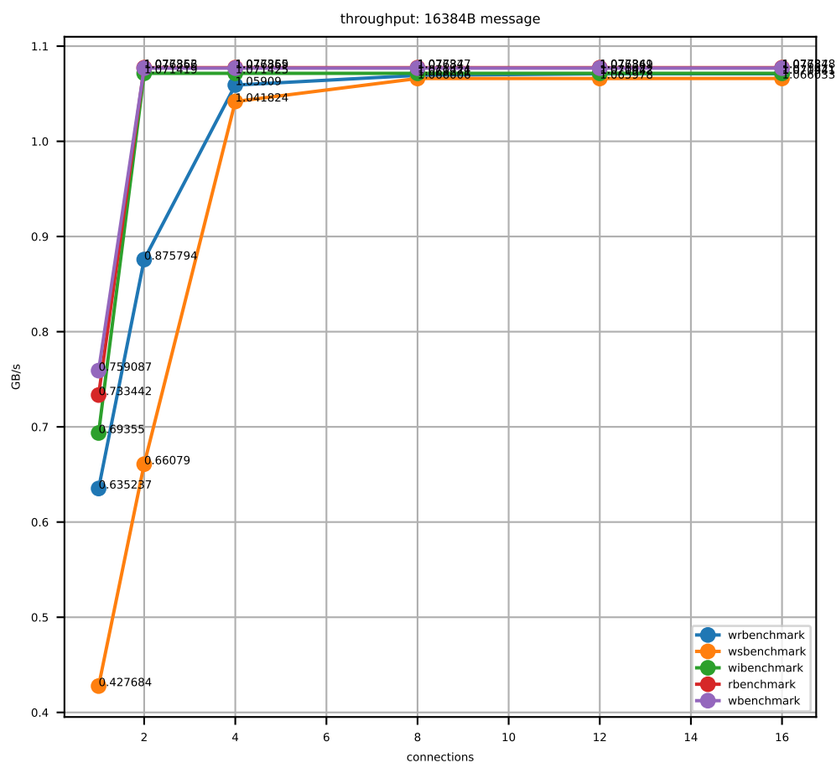

throughput: 1200B message
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
GB/s
connections
avg. latency: 1200B message
ns
connections
avg. jitter: 1200B message
ns
connections

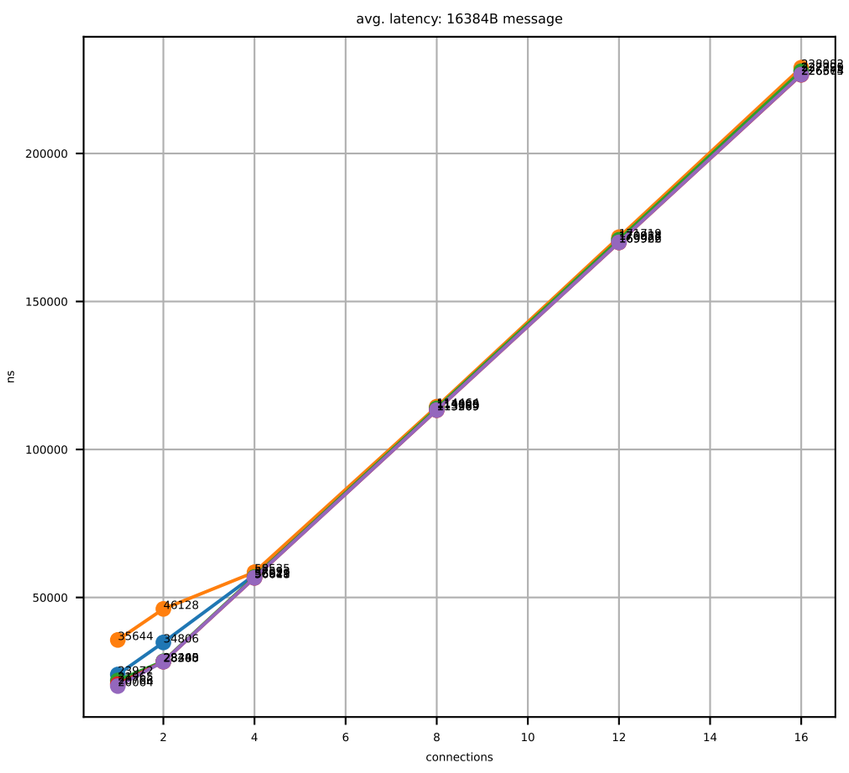

throughput: 12288B message
GB/s
connections
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
avg. latency: 12288B message
ns
connections
avg. jitter: 12288B message
ns
connections

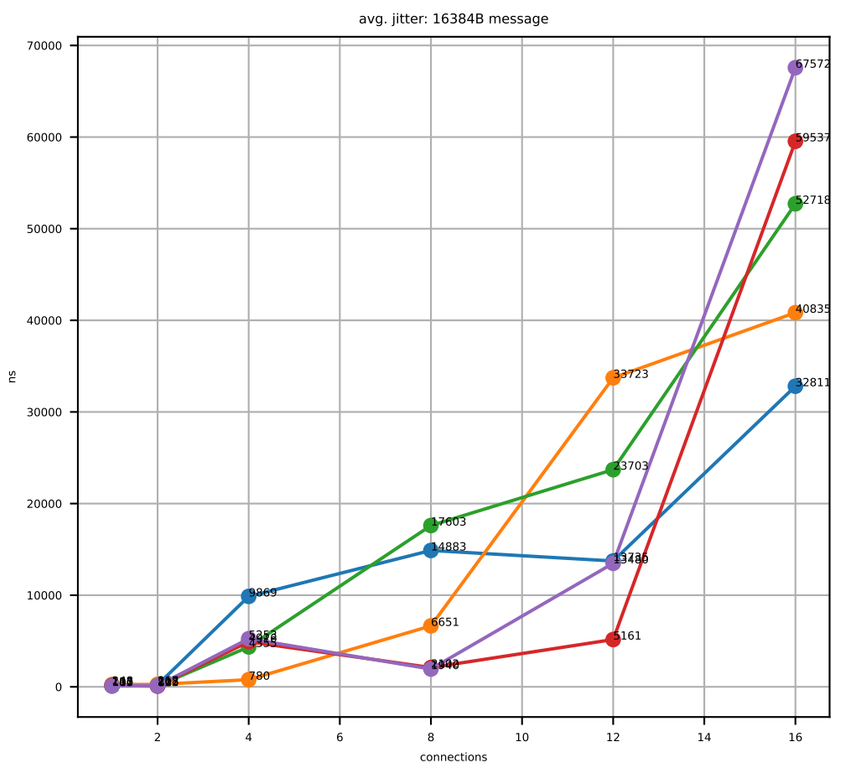

throughput: 1400B message
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
GB/s
connections
avg. latency: 1400B message
ns
connections
avg. jitter: 1400B message
ns
connections

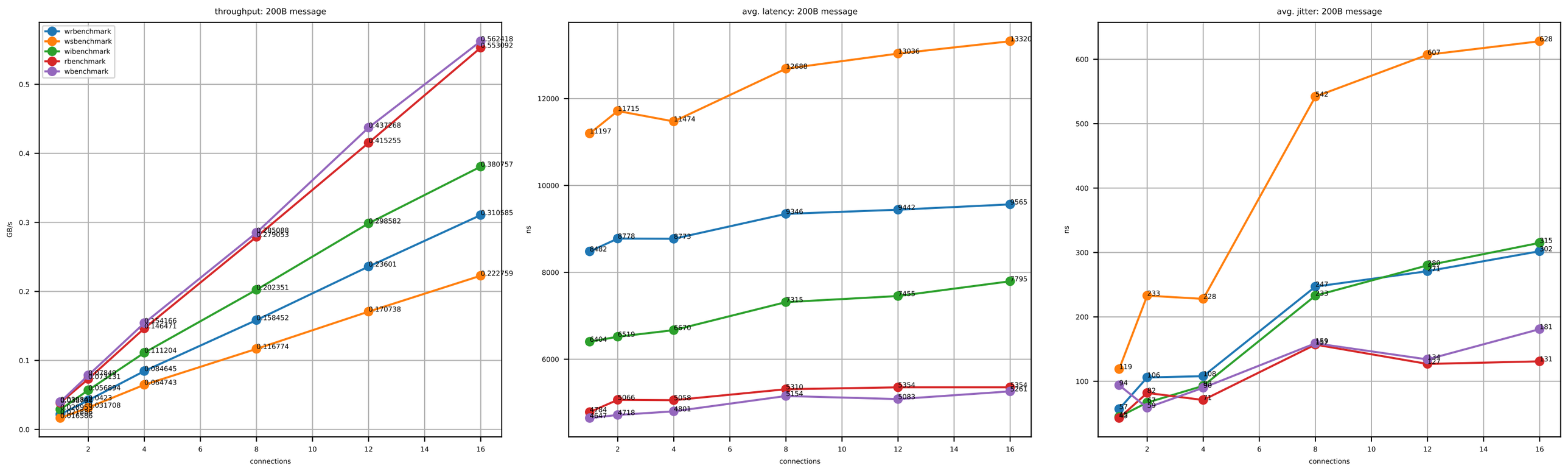

throughput: 1500B message
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
GB/s
connections
avg. latency: 1500B message
ns
connections
avg. jitter: 1500B message
ns
connections

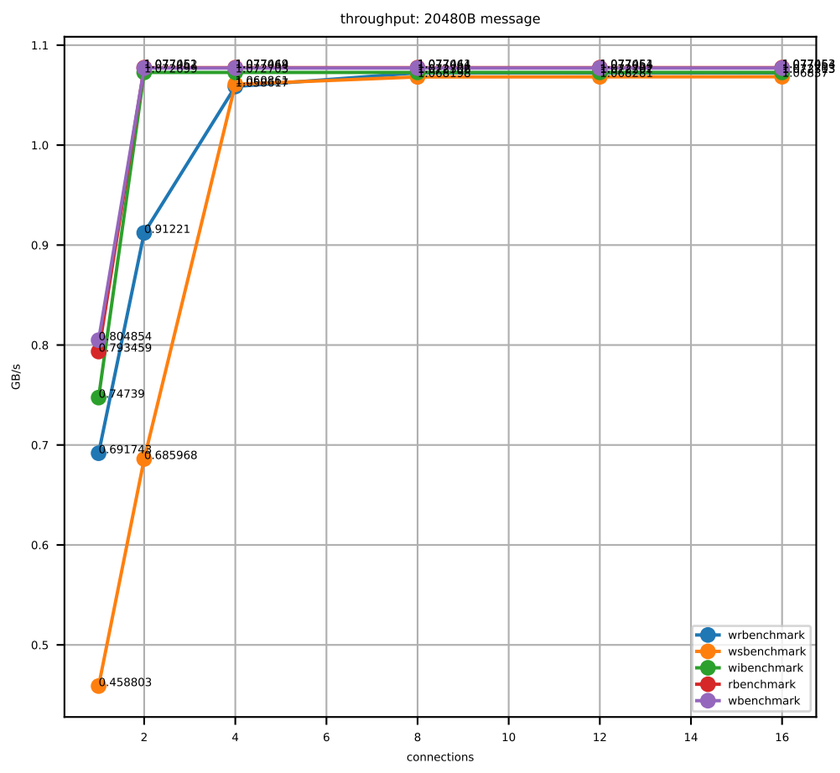

throughput: 1600B message
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
GB/s
connections
avg. latency: 1600B message
ns
connections
avg. jitter: 1600B message
ns
connections

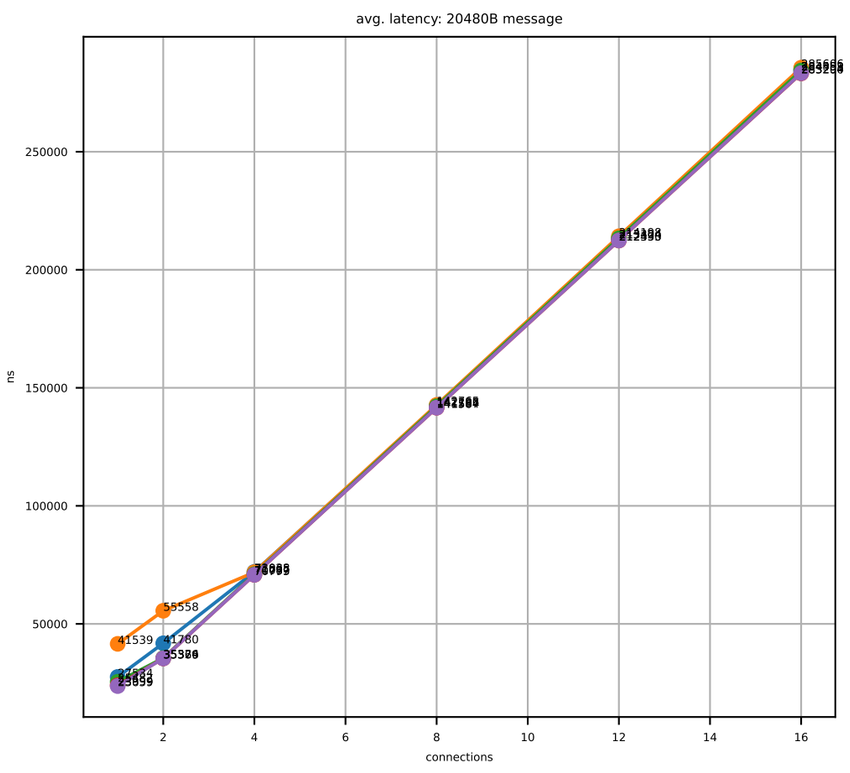

throughput: 16384B message
GB/s
connections
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark

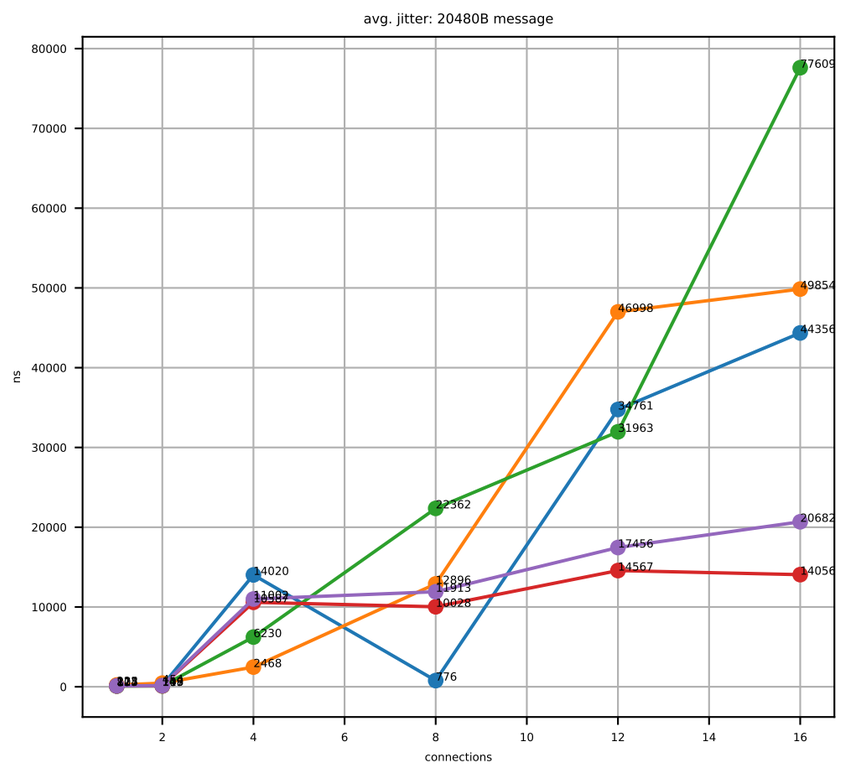

avg. latency: 16384B message
ns
connections

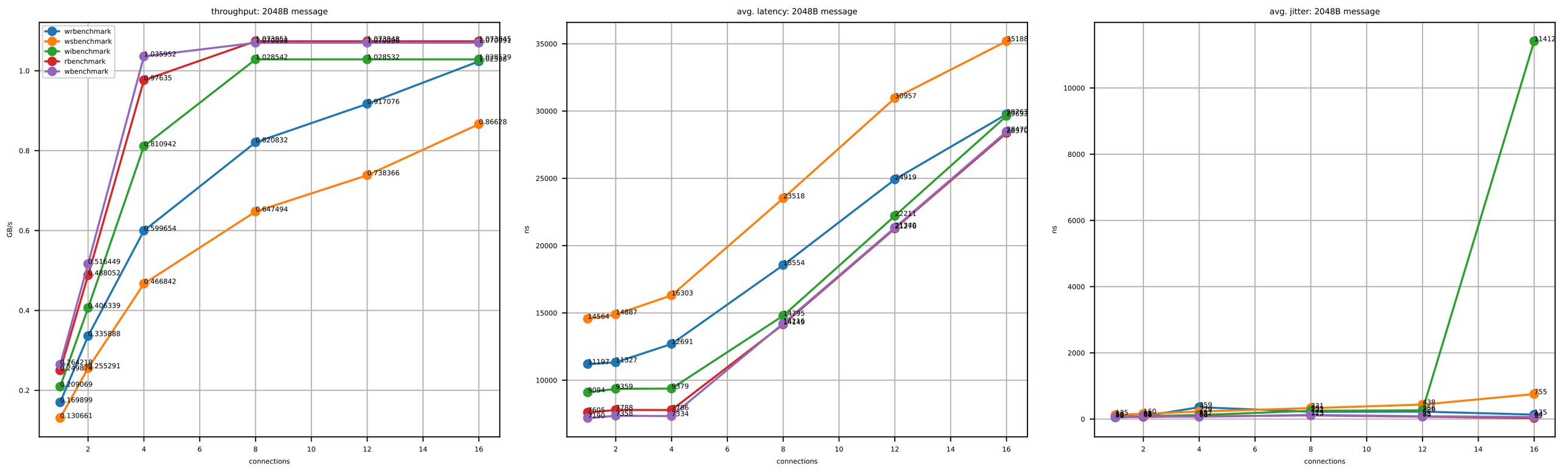

avg. jitter: 16384B message
ns
connections

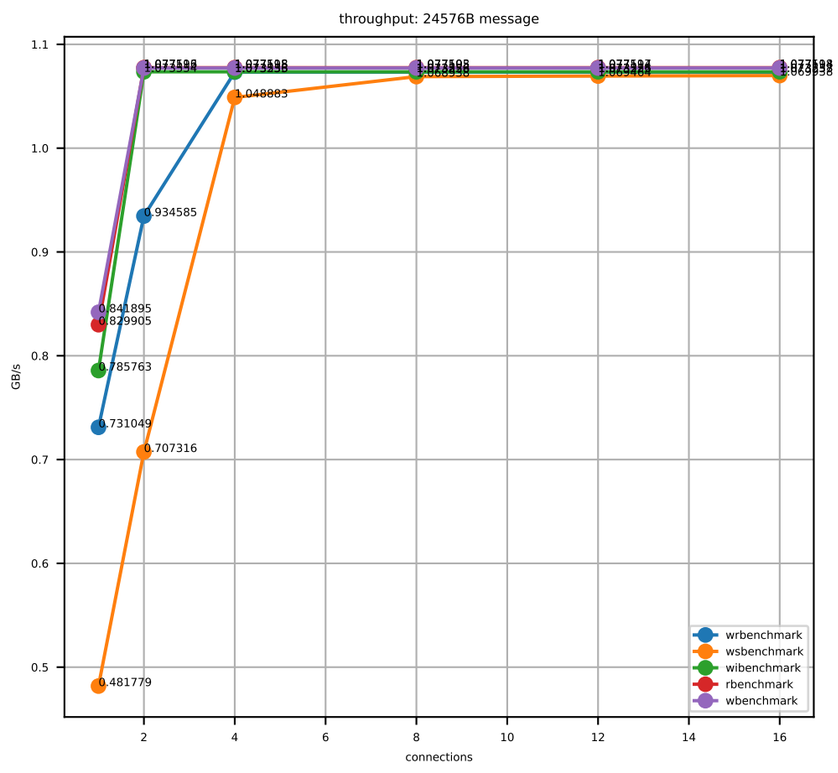

throughput: 200B message
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
GB/s
connections
avg. latency: 200B message
ns
connections
avg. jitter: 200B message
ns
connections

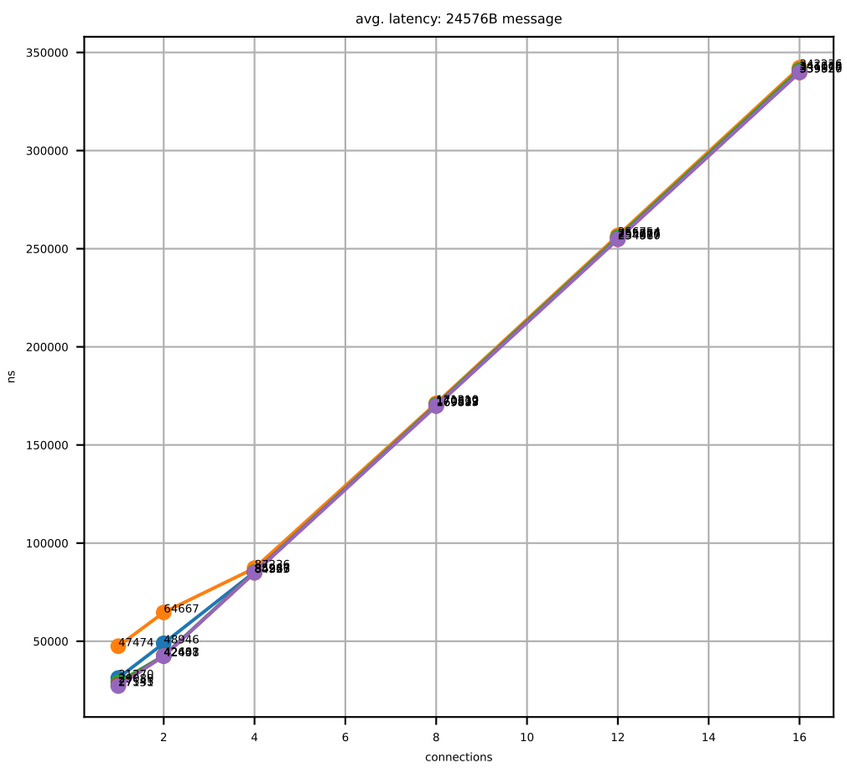

throughput: 20480B message
GB/s
connections
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
0.91221
0.804854
0.793459
0.74739
0.691748
0.685968
0.458803

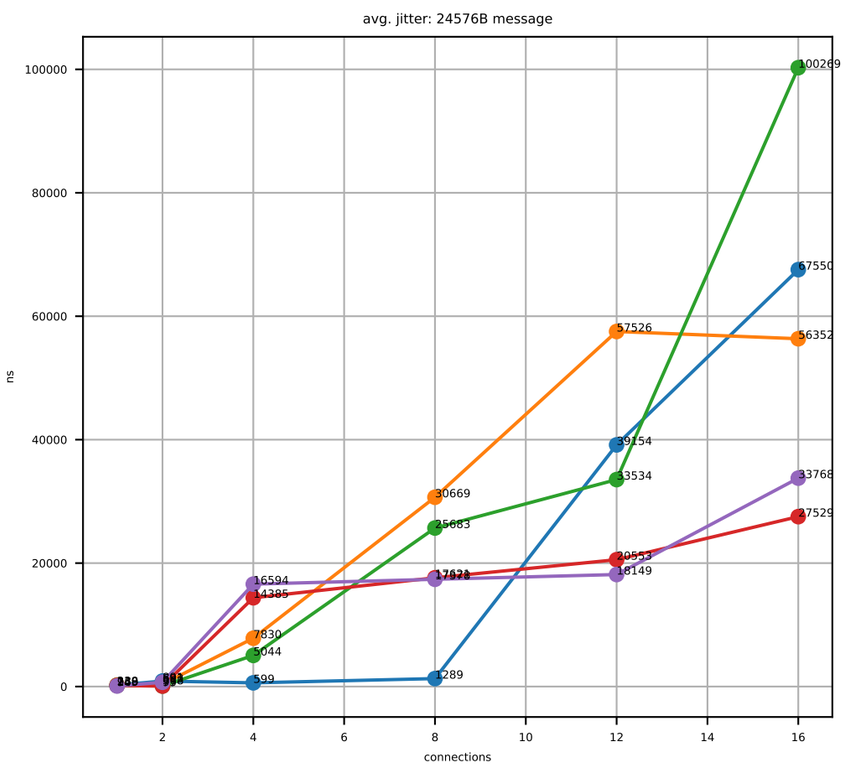

avg. latency: 20480B message
ns
connections
55558
41539
41780

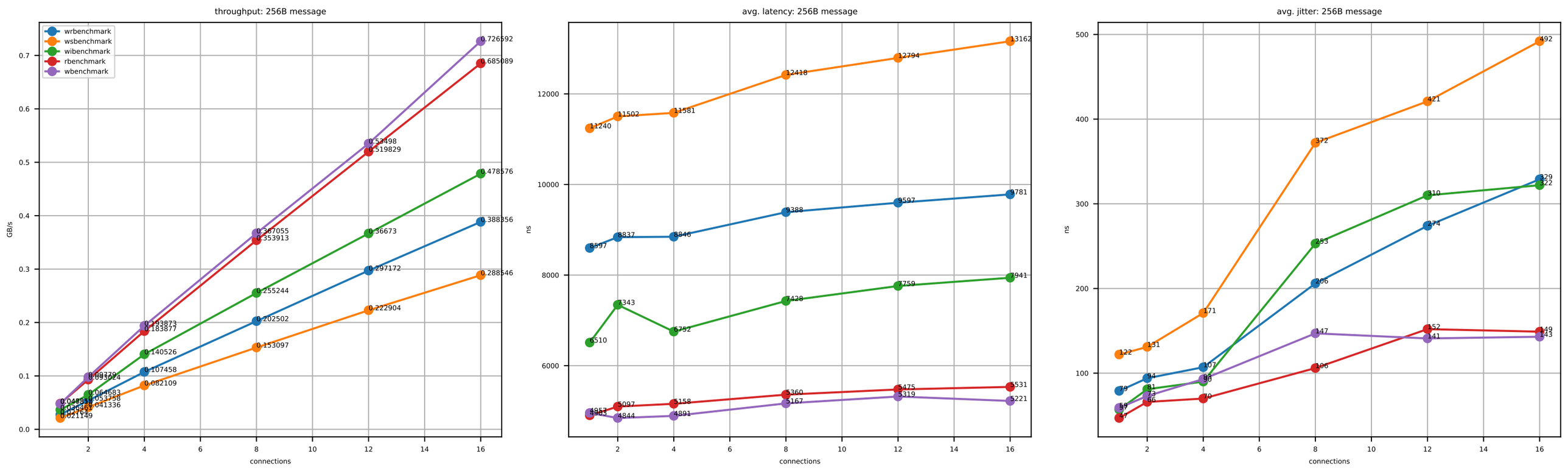

avg. jitter: 20480B message
ns
connections
77609
49854
46998
44356
34761
32363
31963
22362
20682
17456
14567
14056
14020
12896
11913
10028
6230
2468
776

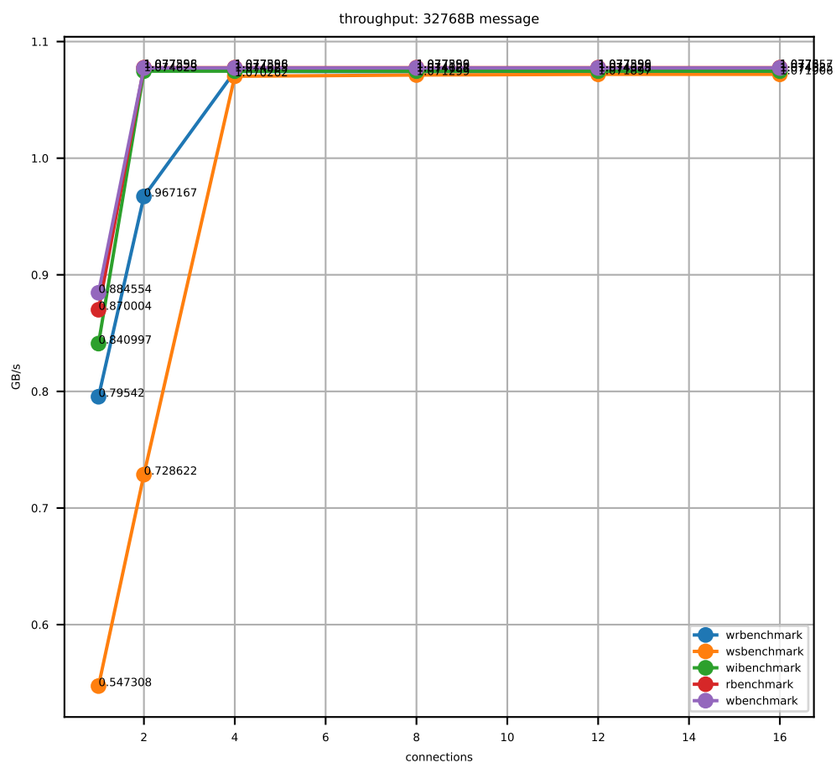

throughput: 2048B message
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
GB/s
connections
avg. latency: 2048B message
ns
connections
avg. jitter: 2048B message
ns
connections

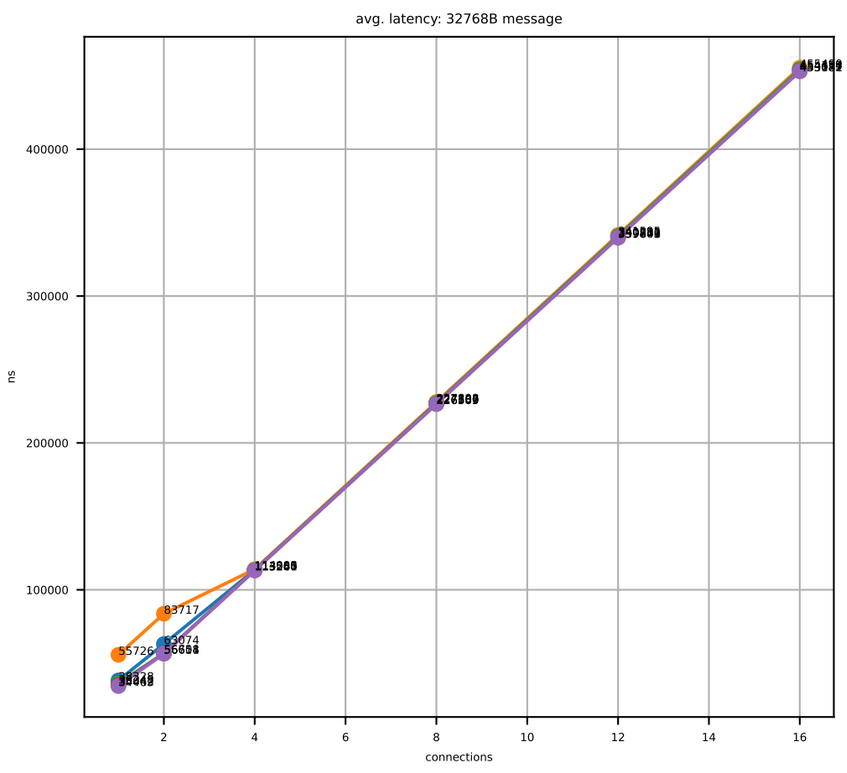

throughput: 24576B message
GB/s
connections
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
0.934585
0.841895
0.829905
0.785763
0.731049
0.707316
1.048883
0.481779

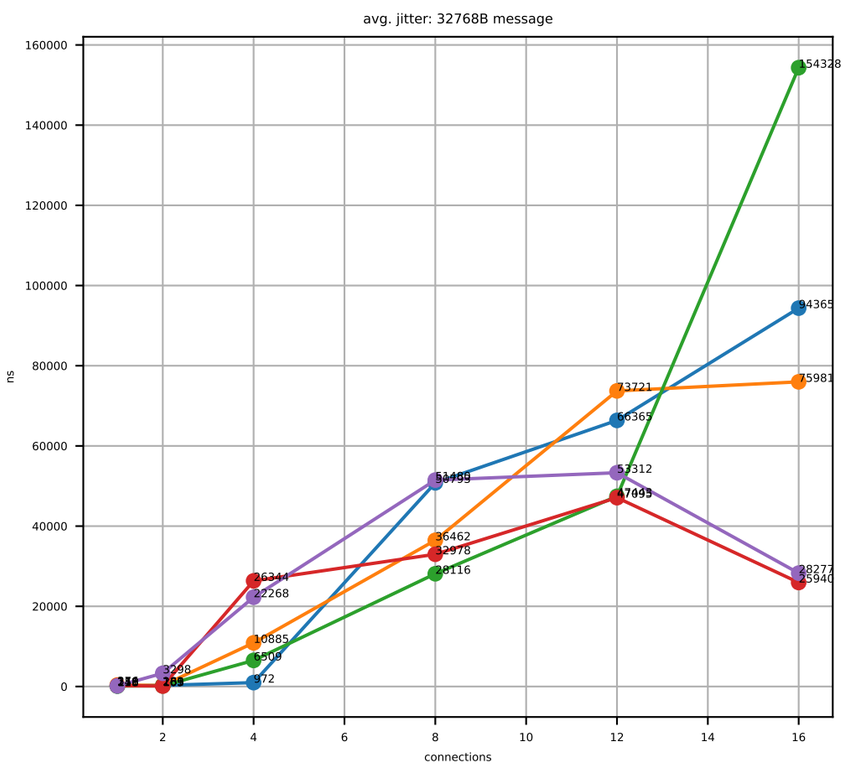

avg. latency: 24576B message
ns
connections
64667
47474
48946

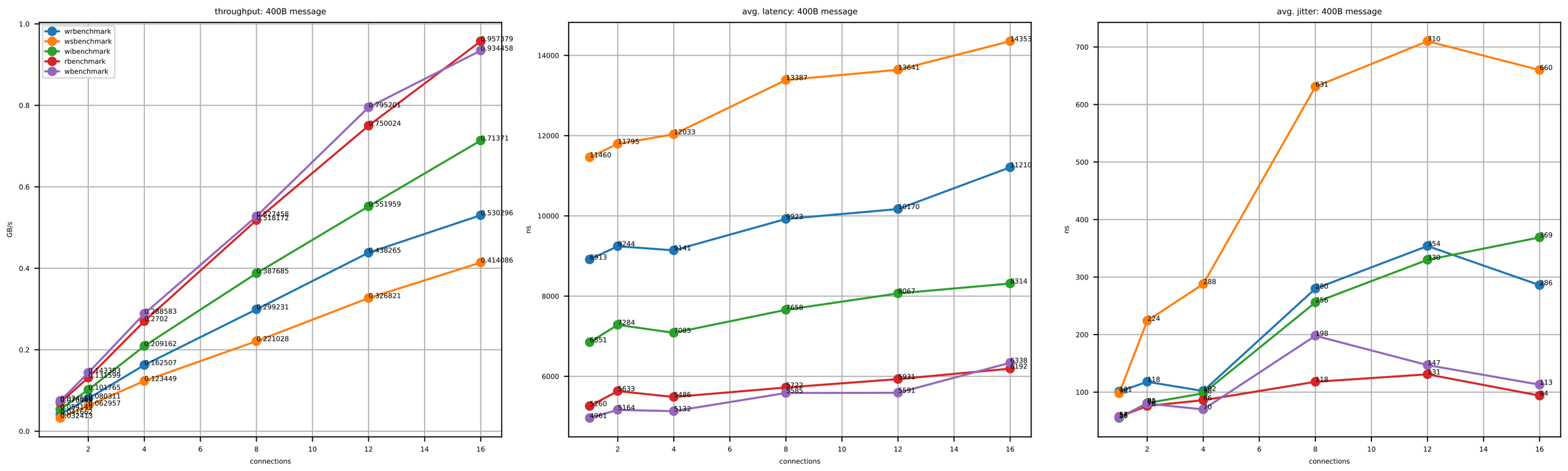

avg. jitter: 24576B message
ns
connections
100269
67550
57526
56352
39154
33534
33768
30669
25683
27529
20553
18149
16594
14385
7830
5044
1289
599

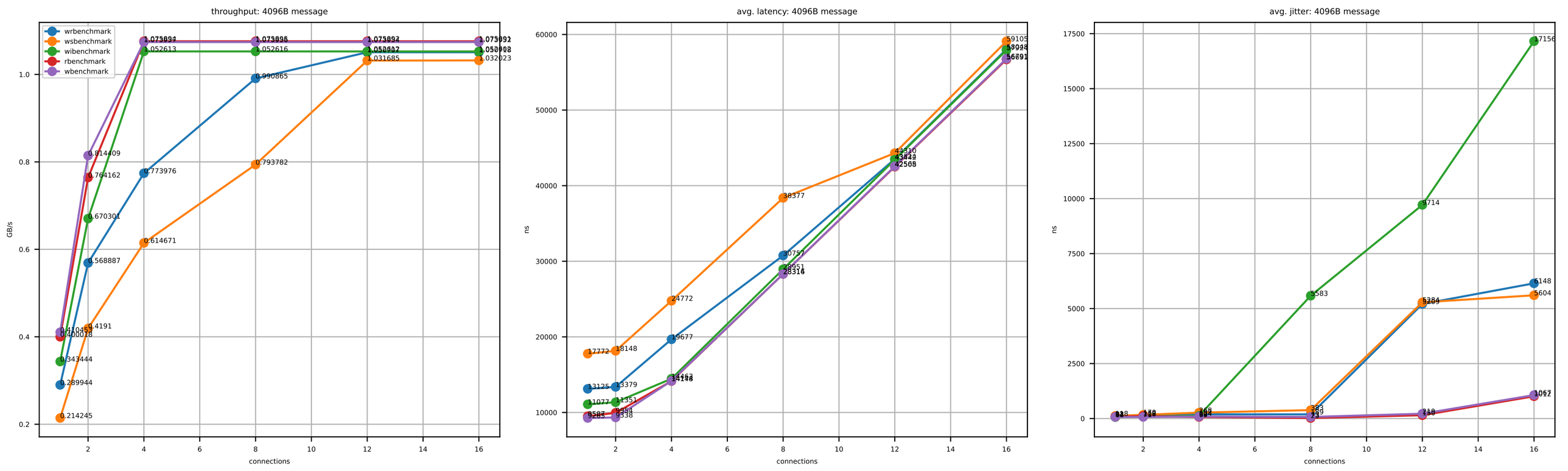

throughput: 256B message
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
GB/s
connections
avg. latency: 256B message
ns
connections
avg. jitter: 256B message
ns
connections

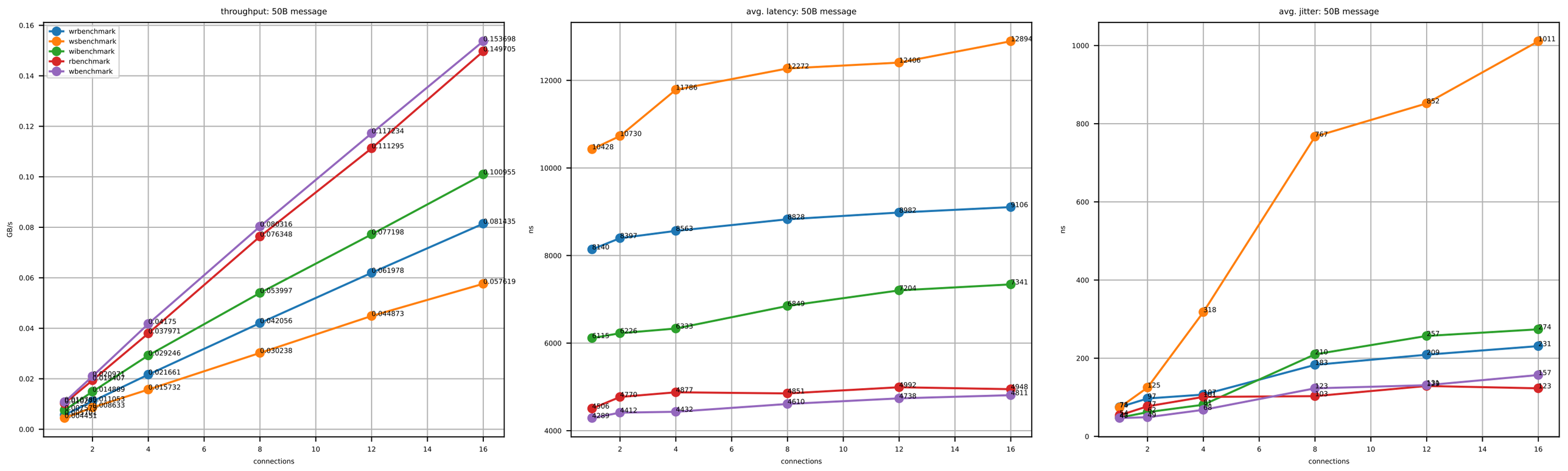

throughput: 32768B message
GB/s
connections
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
0.967167
0.884554
0.870004
0.840997
0.79542
0.728622
0.547308

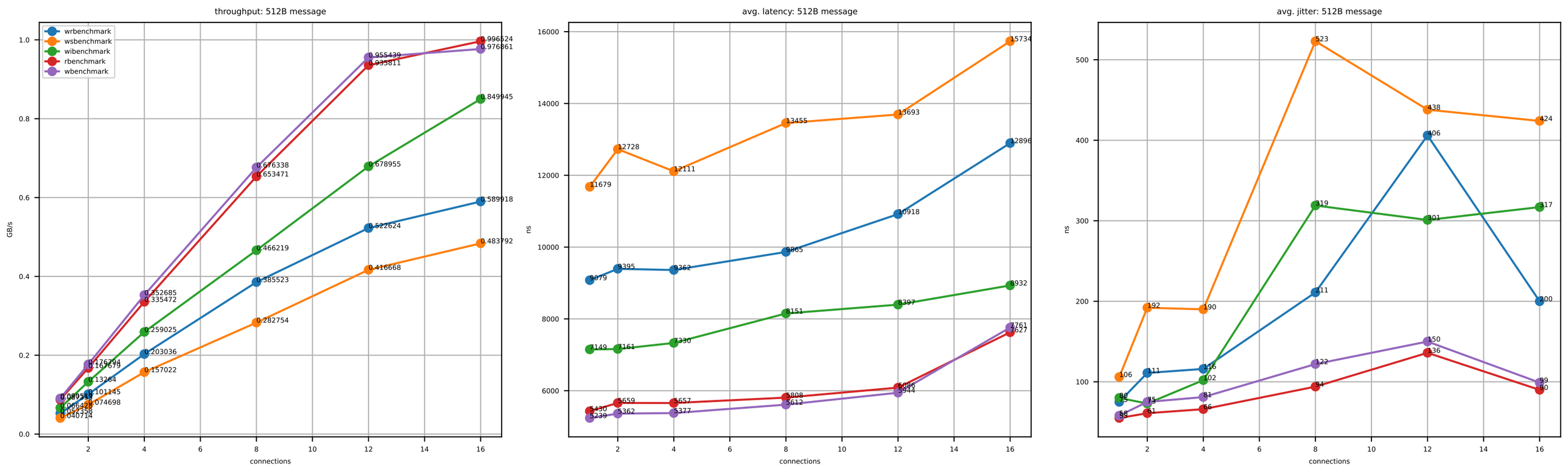

avg. latency: 32768B message
ns
connections
83717
55726
63074

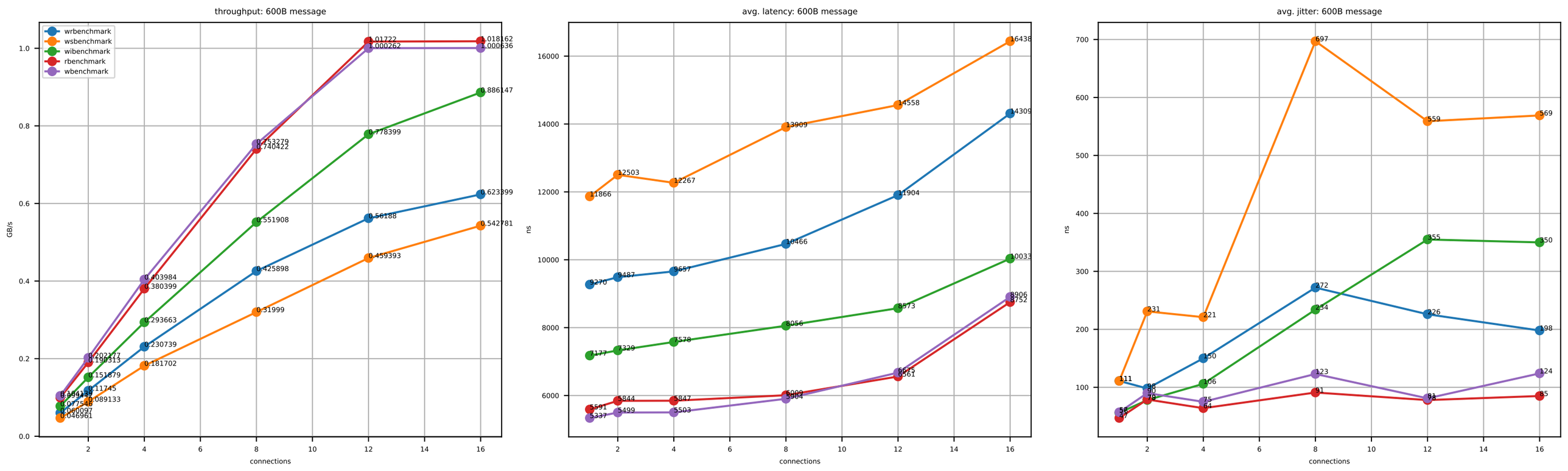

avg. jitter: 32768B message
ns
connections
154328
94365
75981
73721
66365
53312
36462
32978
28116
26344
22268
10885
6509
3298
972
28277
25940

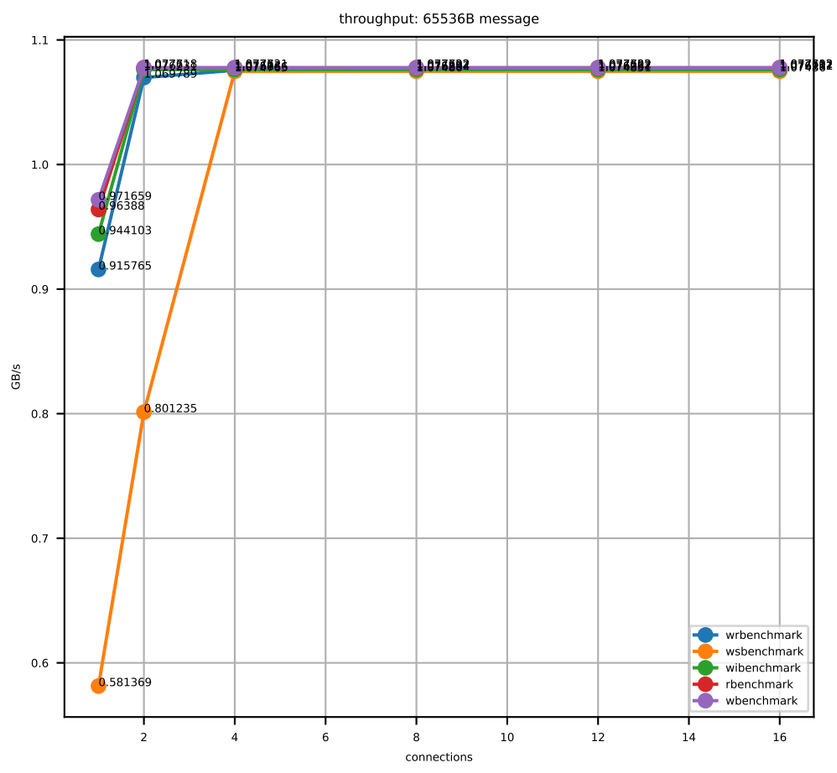

throughput: 400B message
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
GB/s
connections
avg. latency: 400B message
ns
connections
avg. jitter: 400B message
ns
connections

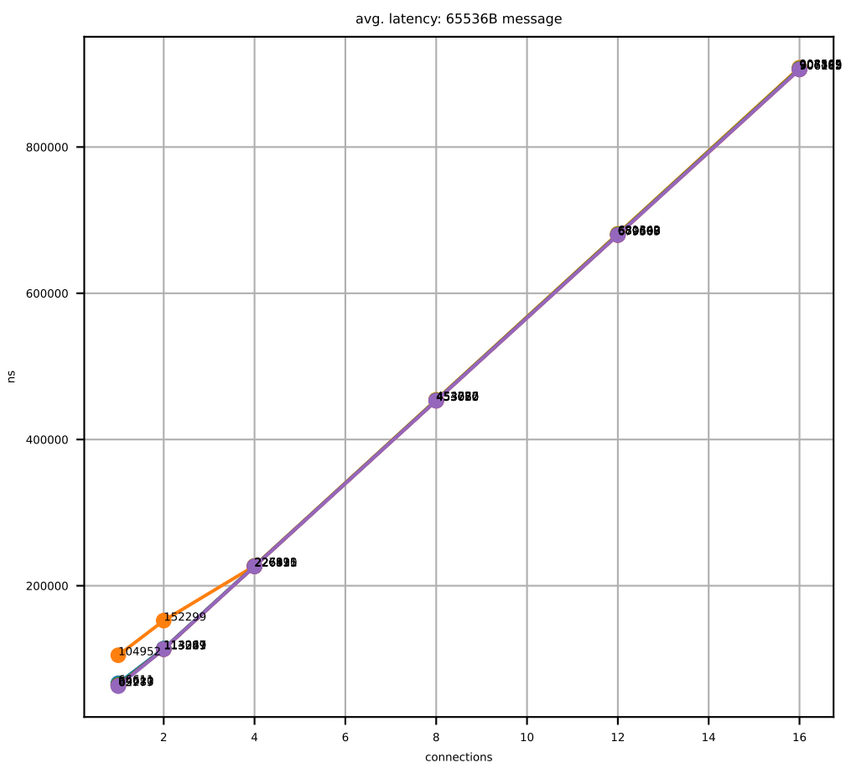

throughput: 4096B message
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
GB/s
connections
avg. latency: 4096B message
ns
connections
avg. jitter: 4096B message
ns
connections

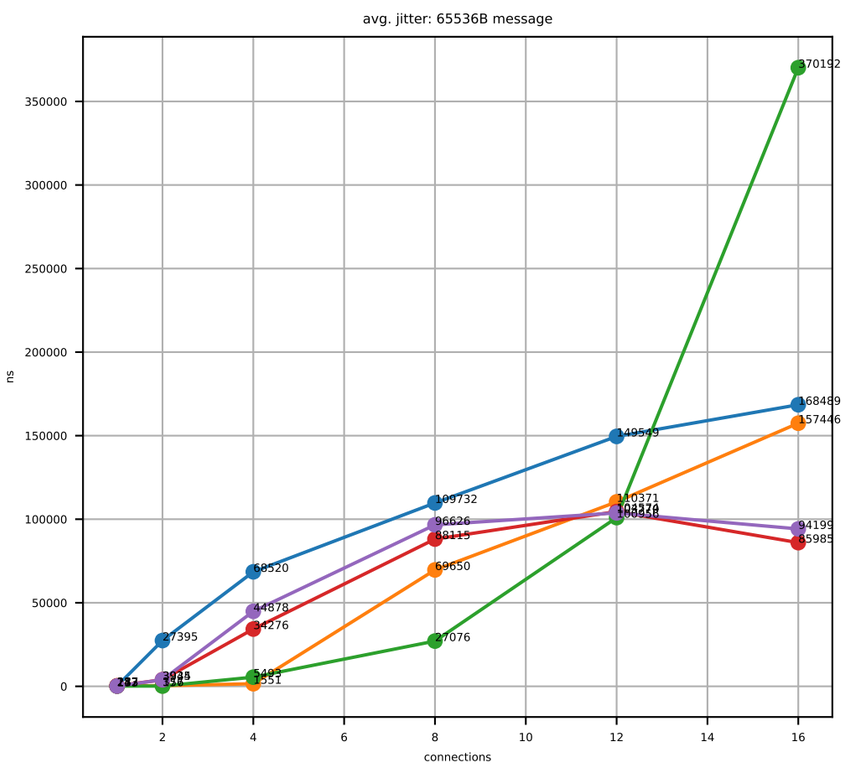

throughput: 50B message
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
GB/s
connections
avg. latency: 50B message
ns
connections
avg. jitter: 50B message
ns
connections

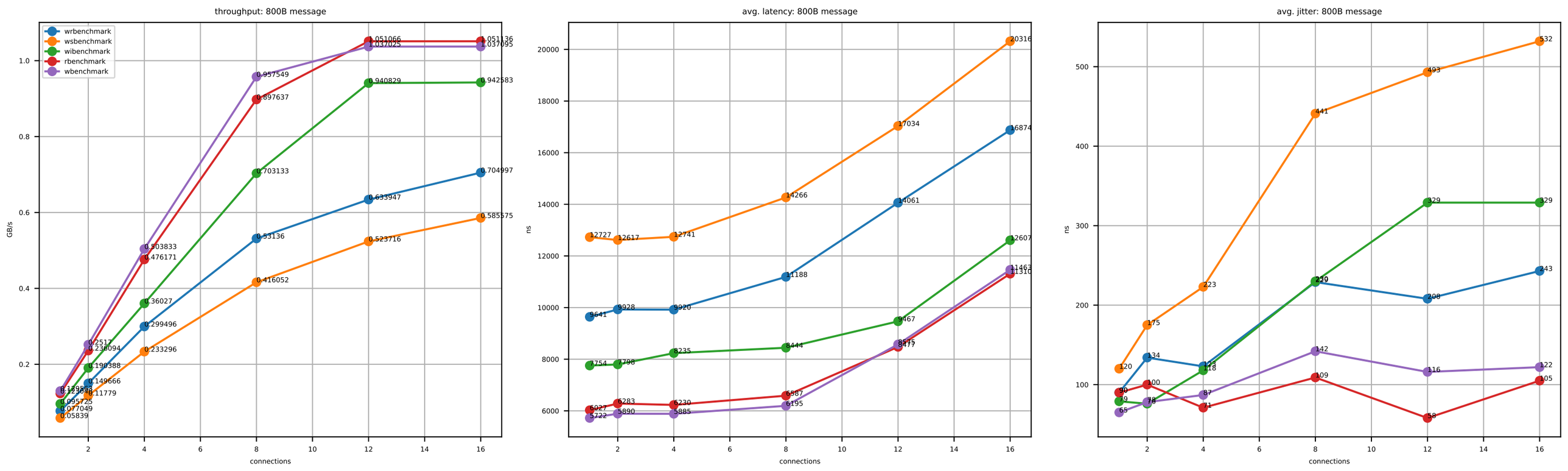

throughput: 512B message
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
GB/s
connections
avg. latency: 512B message
ns
connections
avg. jitter: 512B message
ns
connections

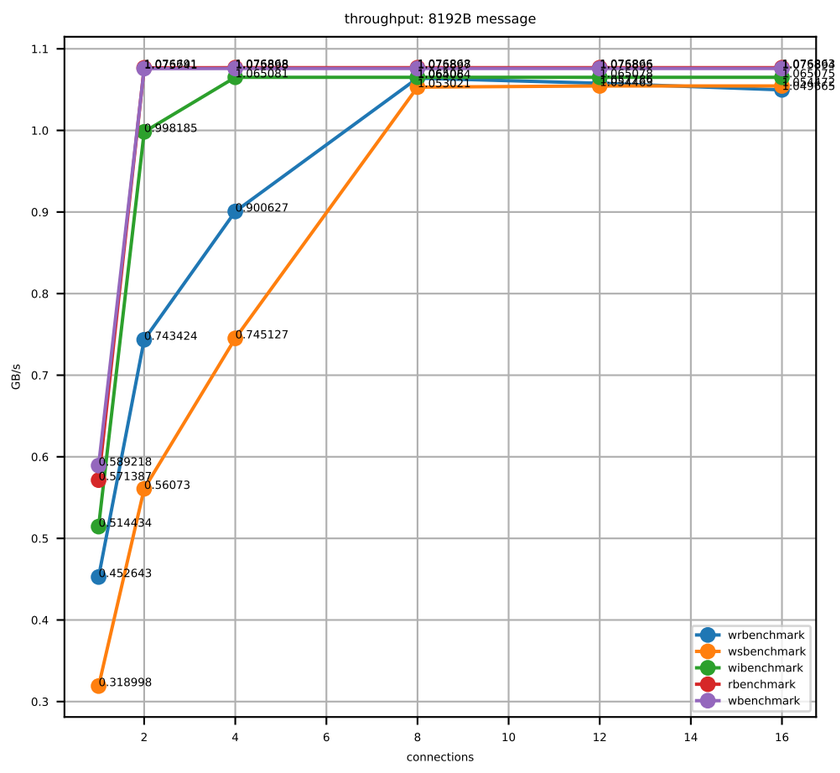

throughput: 600B message
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
GB/s
connections
avg. latency: 600B message
ns
connections
avg. jitter: 600B message
ns
connections

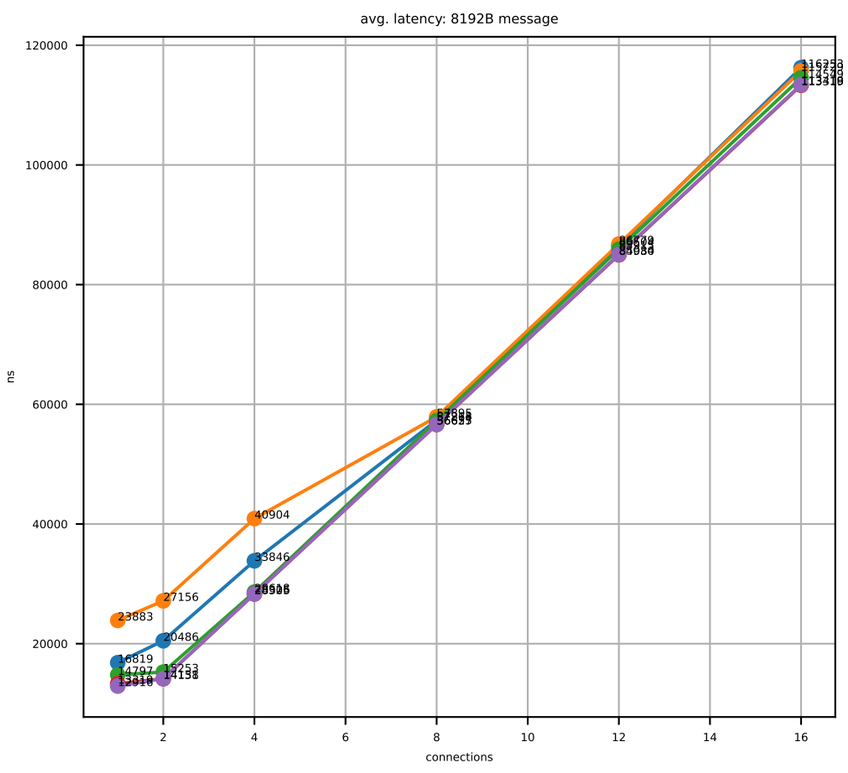

throughput: 65536B message
GB/s
connections
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
0.971659
0.96388
0.944103
0.915765
0.801235
0.581369

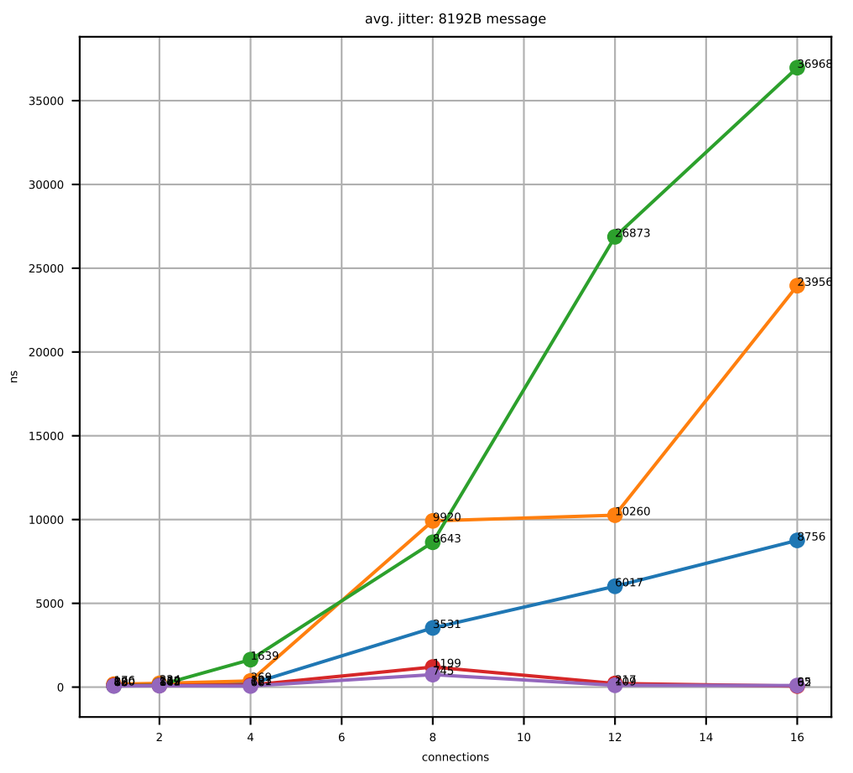

avg. latency: 65536B message
ns
connections
152299

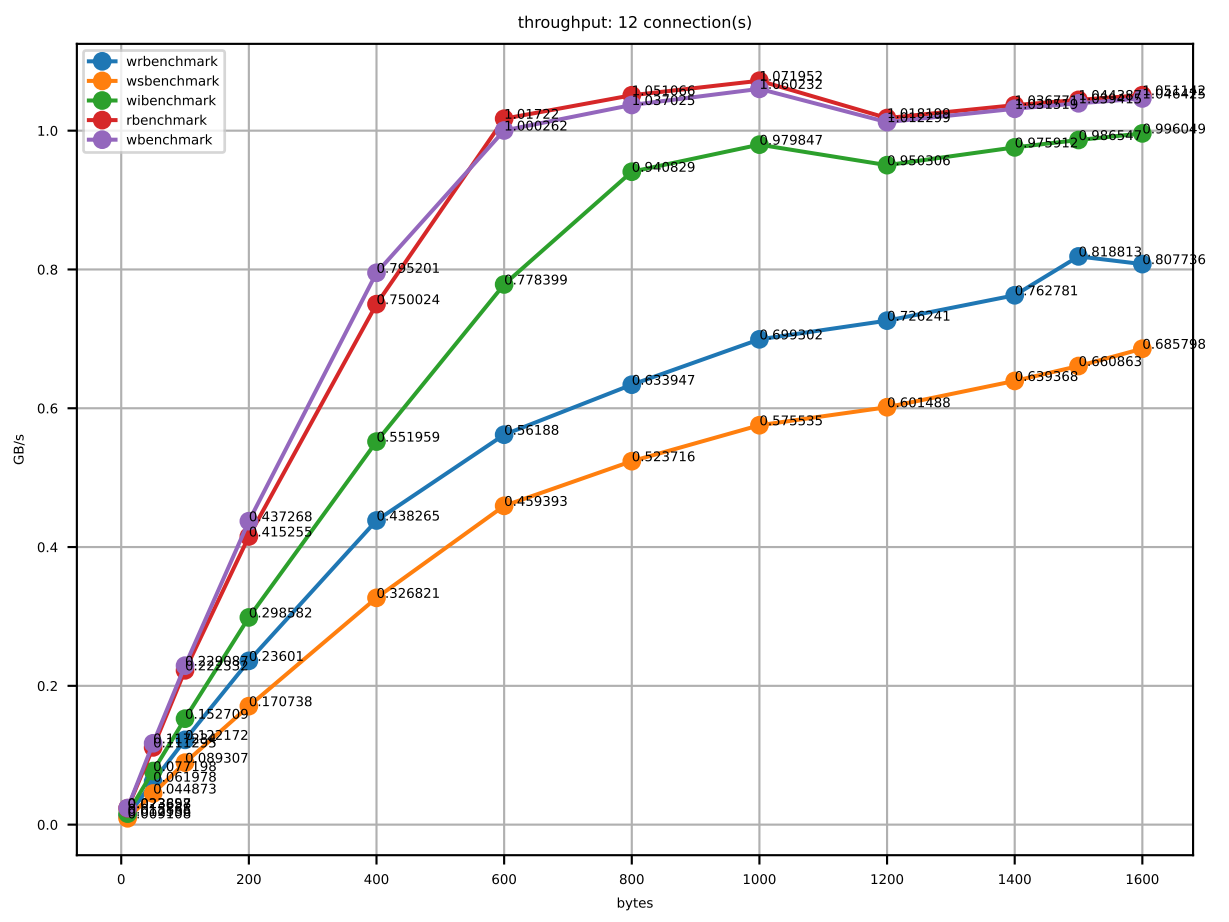

avg. jitter: 65536B message
ns
connections
370192
168489
157446
149549
110371
109732
96626
94199
88115
85985
69650
68520
44878
34276
27395
27076
1551

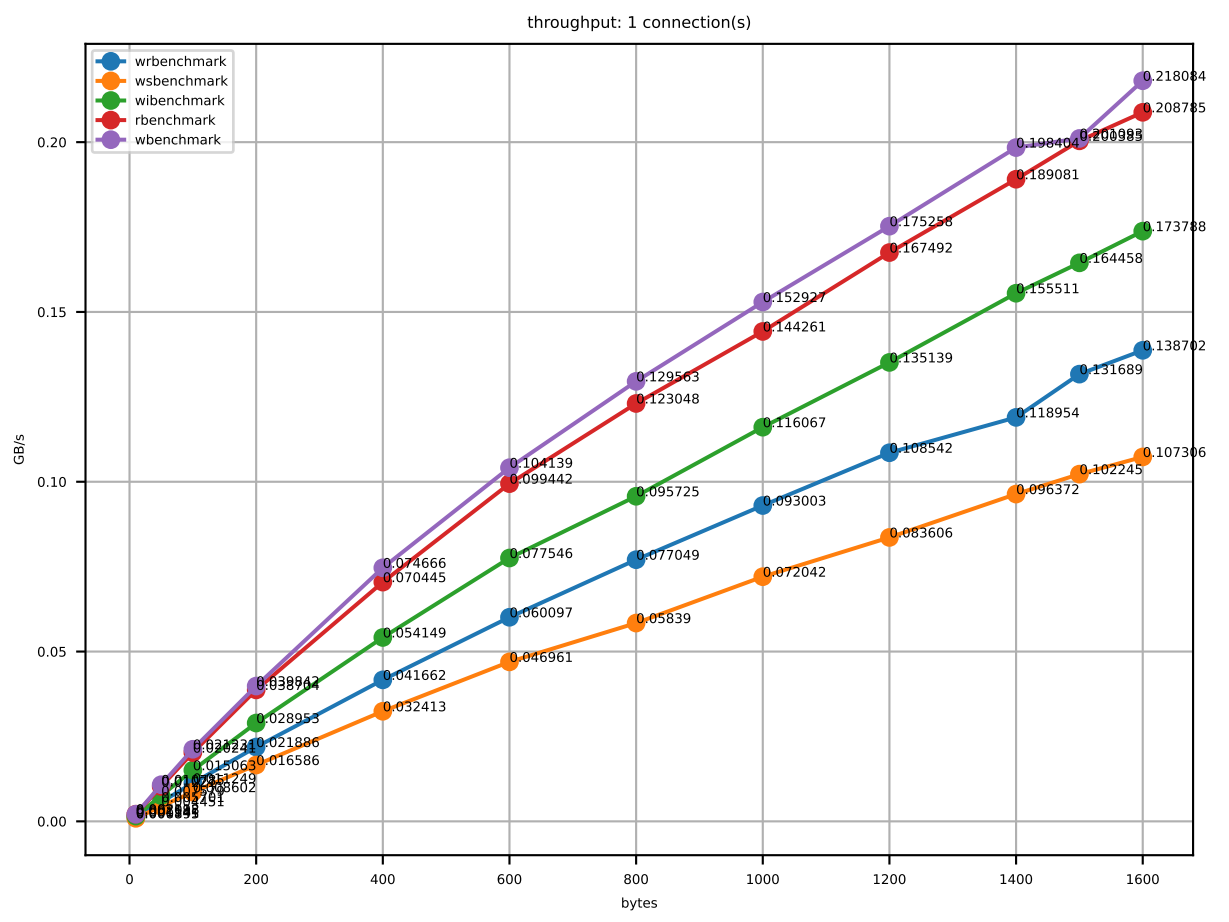

throughput: 800B message
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
GB/s
connections
avg. latency: 800B message
ns
connections
avg. jitter: 800B message
ns
connections

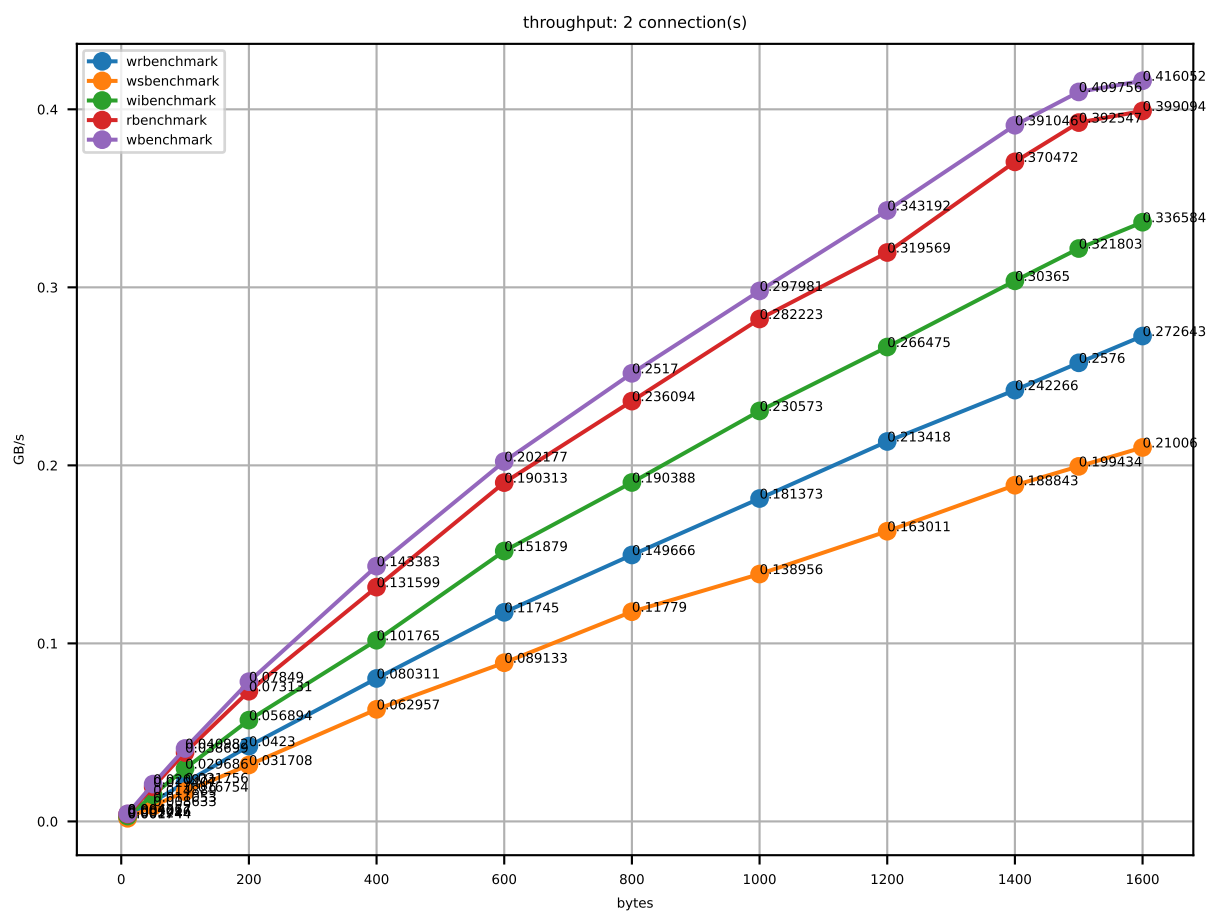

throughput: 8192B message
GB/s
connections
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark

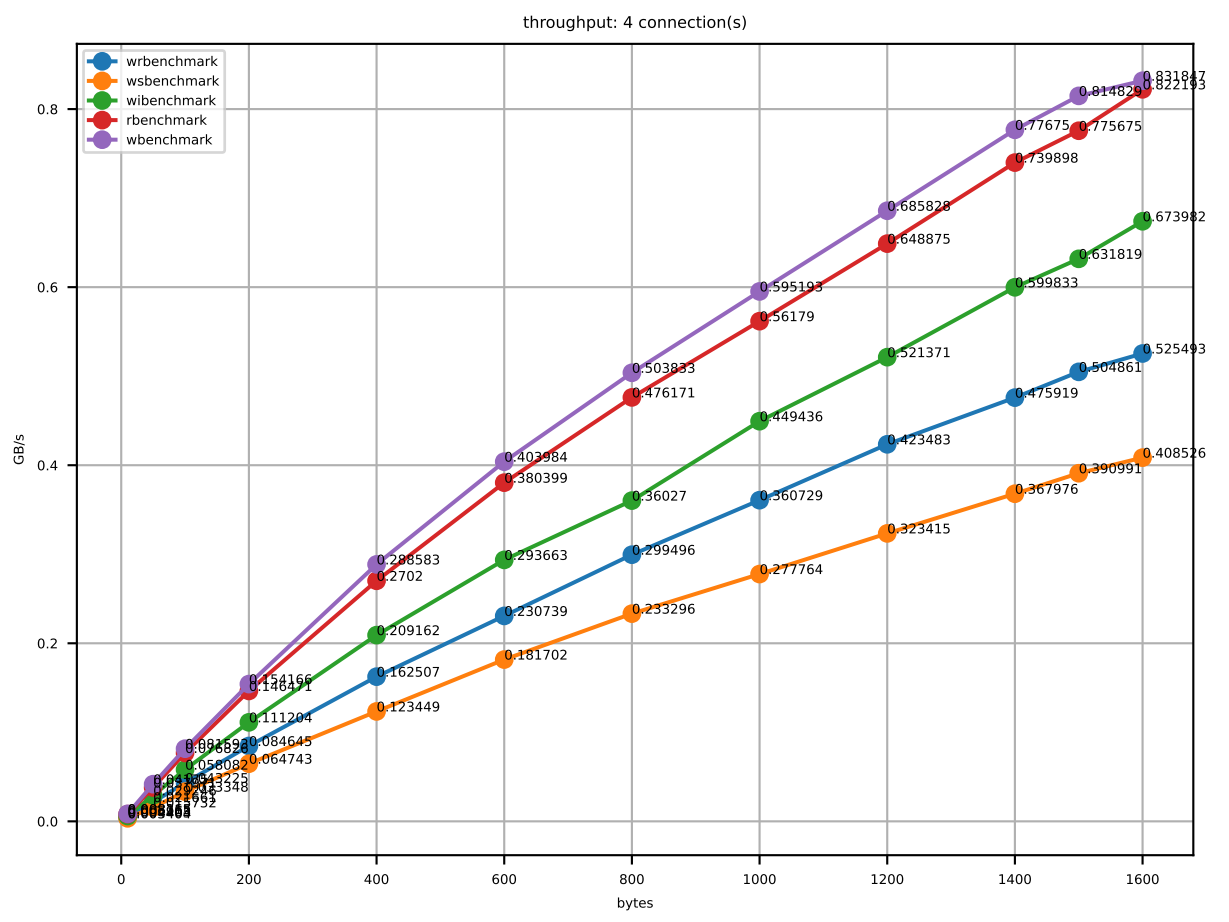

avg. latency: 8192B message
ns
connections

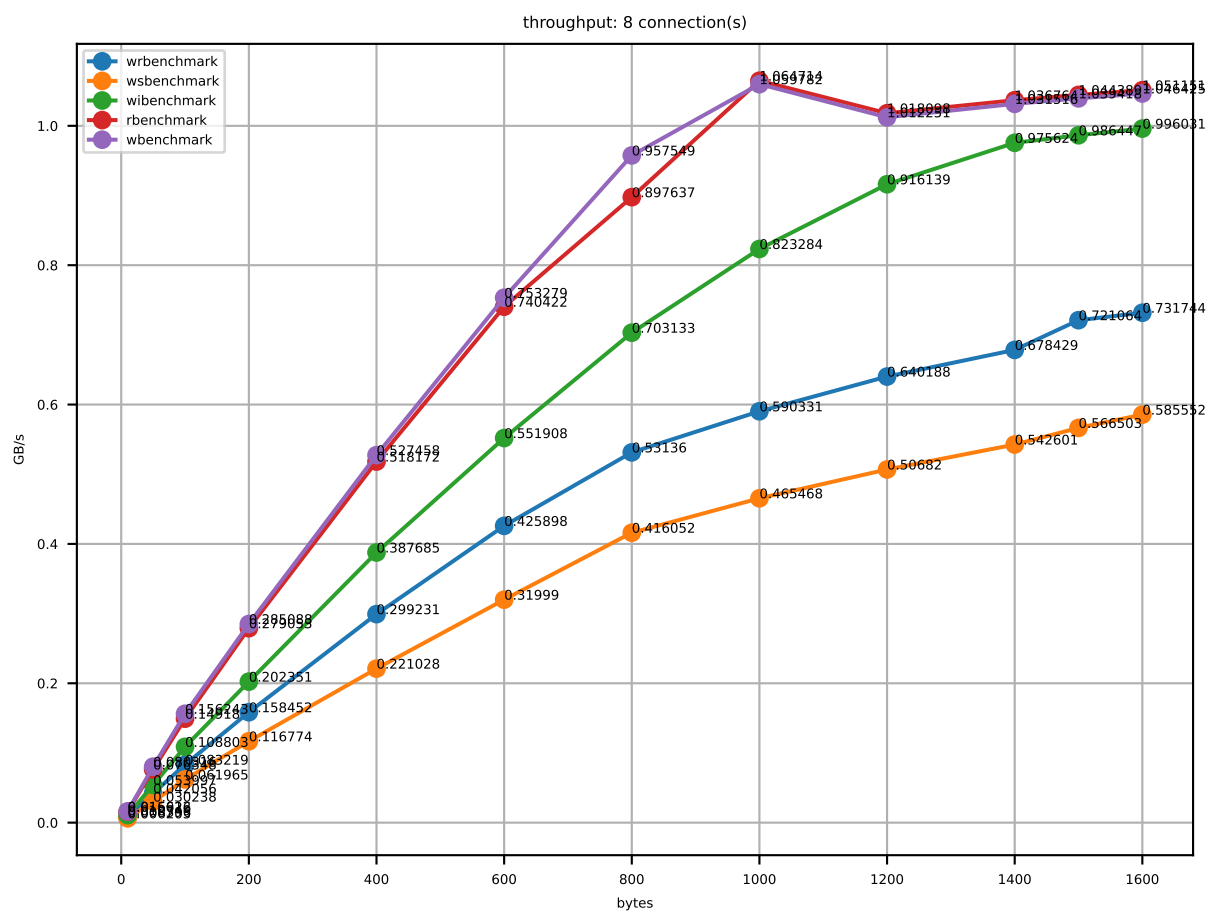

avg. jitter: 8192B message
ns
connections

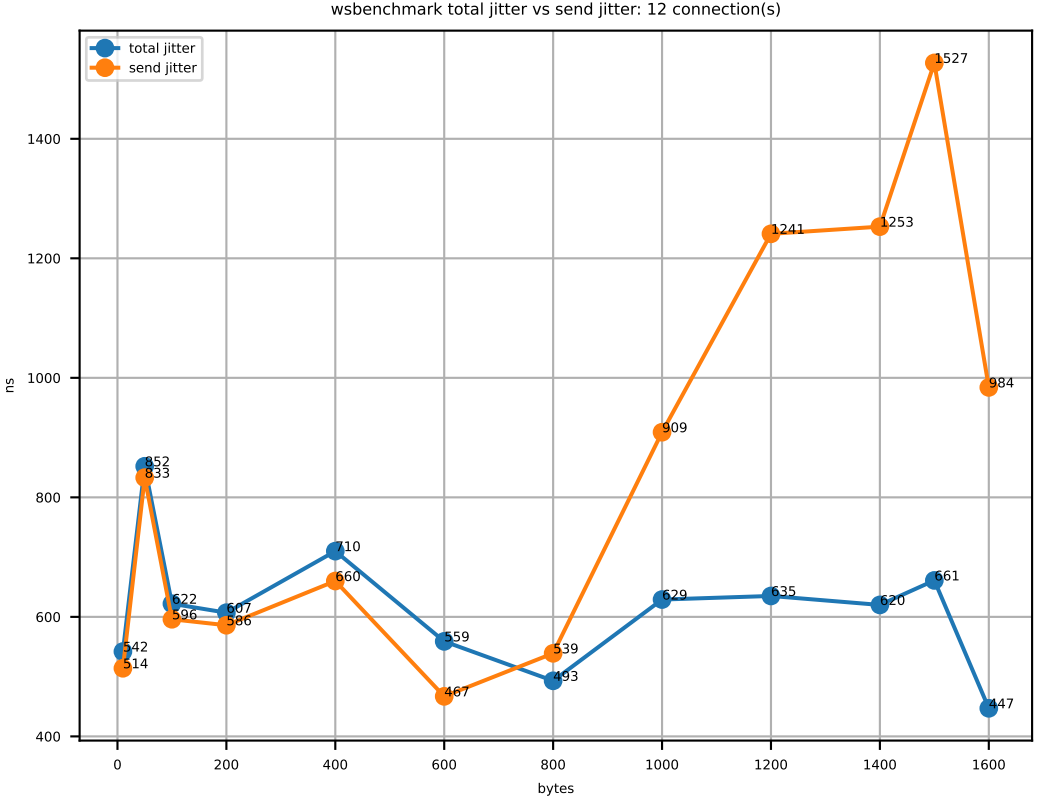

throughput: 12 connection(s)
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
GB/s
bytes
0.0
0.2
0.4
0.6
0.8
1.0
0
200
400
600
800
1000
1200
1400
1600
0.818813
0.807736
0.762781
0.726241
0.699302
0.633947
0.56188
0.438265
0.23601
0.152709
0.685798
0.660863
0.639368
0.601488
0.575535
0.523716
0.459393
0.326821
0.170738
0.996049
0.986547
0.979847
0.975912
0.950306
0.940829
0.778399
0.551959
0.298582
1.071952
1.060232
1.051066
1.037025
1.01722
1.000262
0.795201
0.750024
0.437268
0.415255

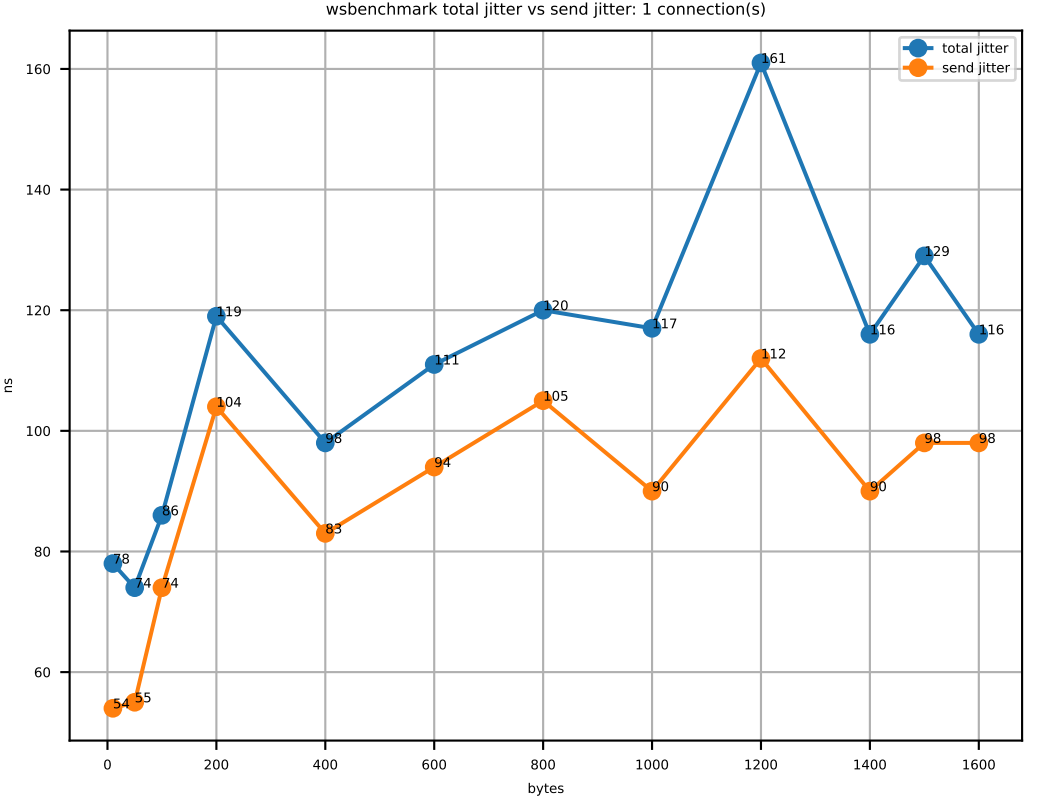

throughput: 1 connection(s)
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
GB/s
bytes
0.00
0.05
0.10
0.15
0.20
0
200
400
600
800
1000
1200
1400
1600
0.218084
0.208785
0.200985
0.198404
0.189081
0.175258
0.167492
0.152927
0.144261
0.129563
0.123048
0.104139
0.099442
0.074666
0.070445
0.039042
0.038704
0.028953
0.021886
0.016586
0.015063
0.173788
0.164458
0.155511
0.135139
0.116067
0.095725
0.077546
0.054149
0.028953
0.021886
0.016586
0.138702
0.131689
0.118954
0.108542
0.093003
0.077049
0.060097
0.041662
0.028953
0.021886
0.016586
0.107306
0.102245
0.096372
0.083606
0.072042
0.05839
0.046961
0.032413
0.028953
0.021886
0.016586

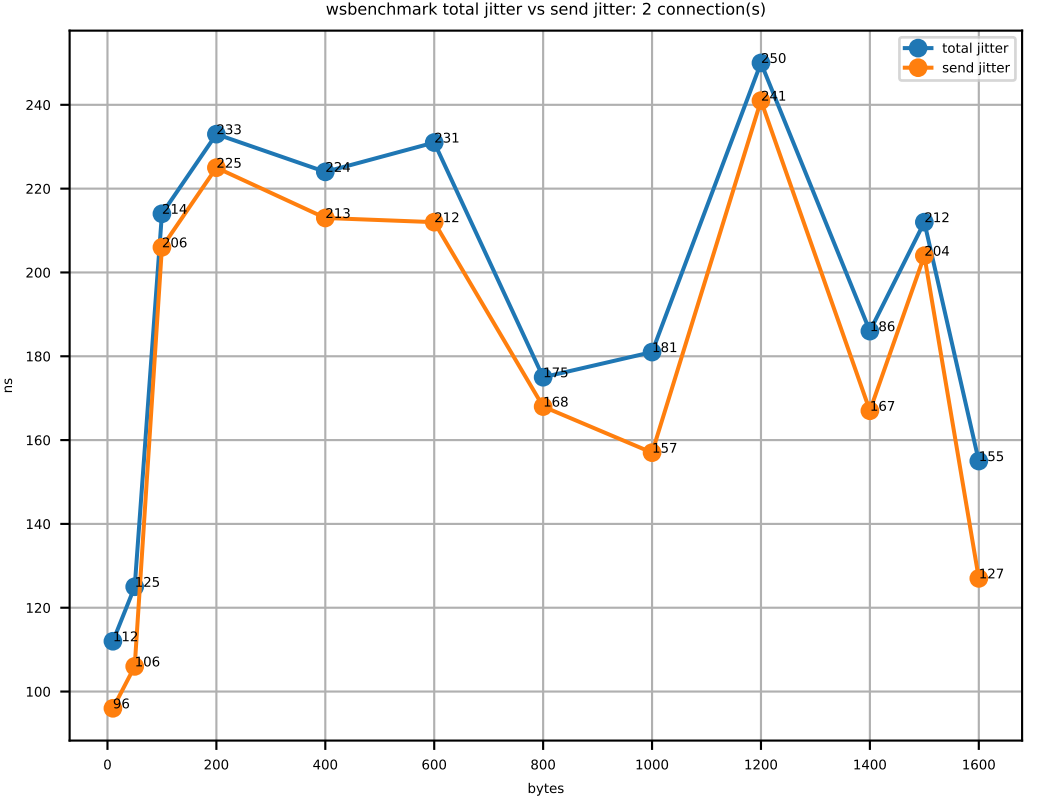

throughput: 2 connection(s)
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
GB/s
bytes
0.0
0.1
0.2
0.3
0.4
0
200
400
600
800
1000
1200
1400
1600
0.416052
0.409756
0.399094
0.392547
0.391046
0.370472
0.343192
0.336584
0.321803
0.319569
0.30365
0.297981
0.282223
0.272643
0.266475
0.2576
0.2517
0.242266
0.236094
0.230573
0.213418
0.202177
0.21006
0.199434
0.190388
0.190313
0.188843
0.181373
0.163011
0.151879
0.149666
0.143383
0.138956
0.131599
0.11779
0.11745
0.101765
0.089133
0.087849
0.080311
0.073131
0.062957
0.056894
0.0423
0.031708

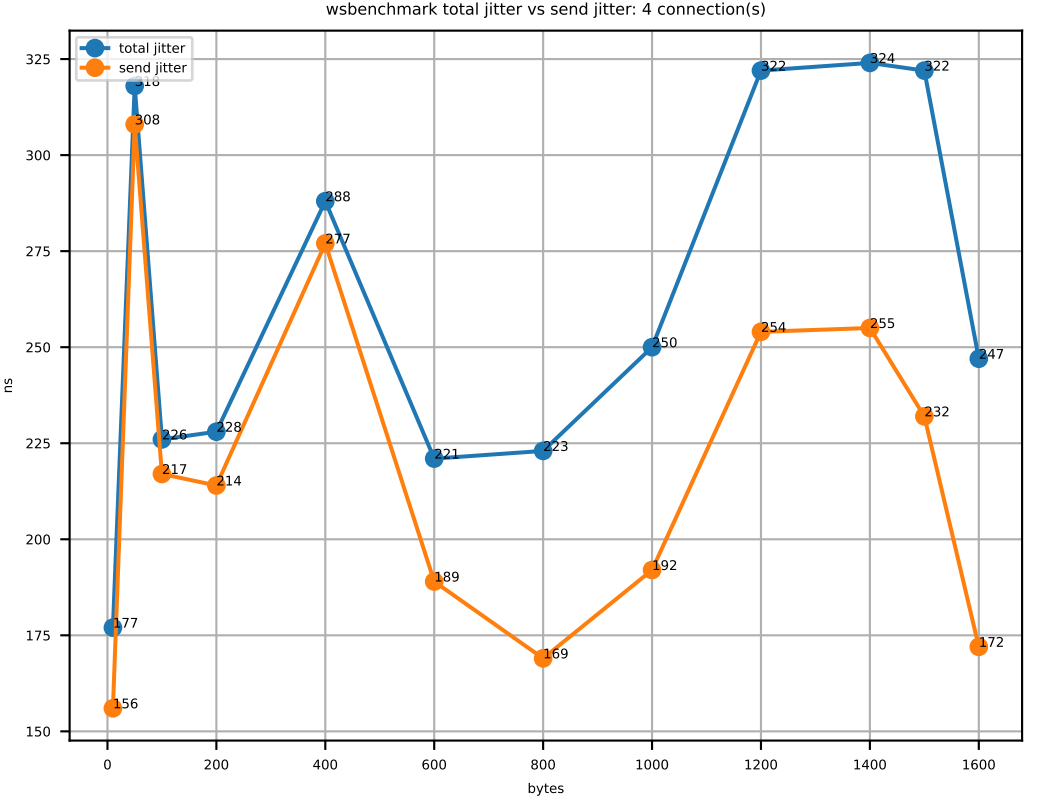

throughput: 4 connection(s)
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
GB/s
bytes
0.0
0.2
0.4
0.6
0.8
0
200
400
600
800
1000
1200
1400
1600
0.831847
0.822193
0.814829
0.77675
0.775675
0.739898
0.685828
0.673982
0.648875
0.631819
0.599833
0.595193
0.56179
0.525493
0.521371
0.504861
0.503833
0.476171
0.475919
0.449436
0.423483
0.408526
0.403984
0.390991
0.380399
0.367976
0.36027
0.360729
0.323415
0.299496
0.293663
0.288583
0.277764
0.2702
0.233296
0.230739
0.209162
0.181702
0.162507
0.154166
0.146411
0.123449
0.111204
0.084645
0.064743

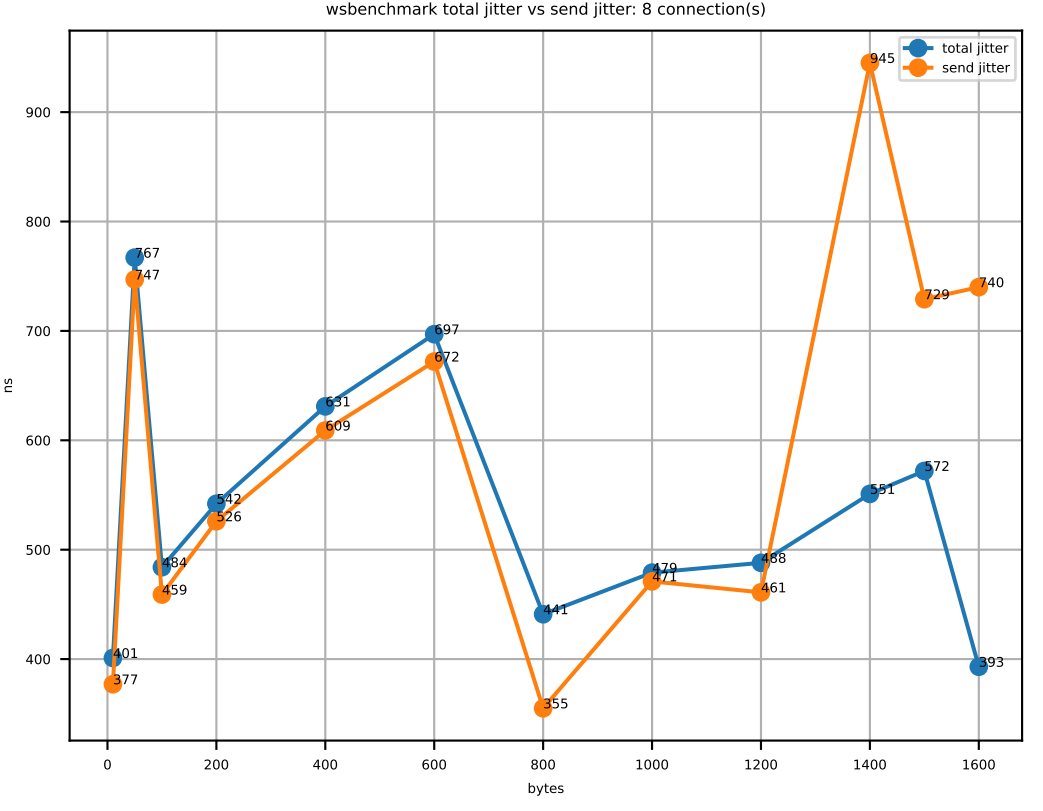

throughput: 8 connection(s)
wrbenchmark
wsbenchmark
wibenchmark
rbenchmark
wbenchmark
GB/s
bytes
0.0
0.2
0.4
0.6
0.8
1.0
0
200
400
600
800
1000
1200
1400
1600
0.731744
0.721064
0.678429
0.640188
0.590331
0.53136
0.425898
0.299231
0.158452
0.585552
0.566503
0.542601
0.50682
0.465468
0.416052
0.31999
0.221028
0.116774
0.996031
0.986447
0.975624
0.916139
0.823284
0.703133
0.551908
0.387685
0.202351
0.957549
0.897637
0.753279
0.740422
0.527459
0.518172
0.285088
0.279088

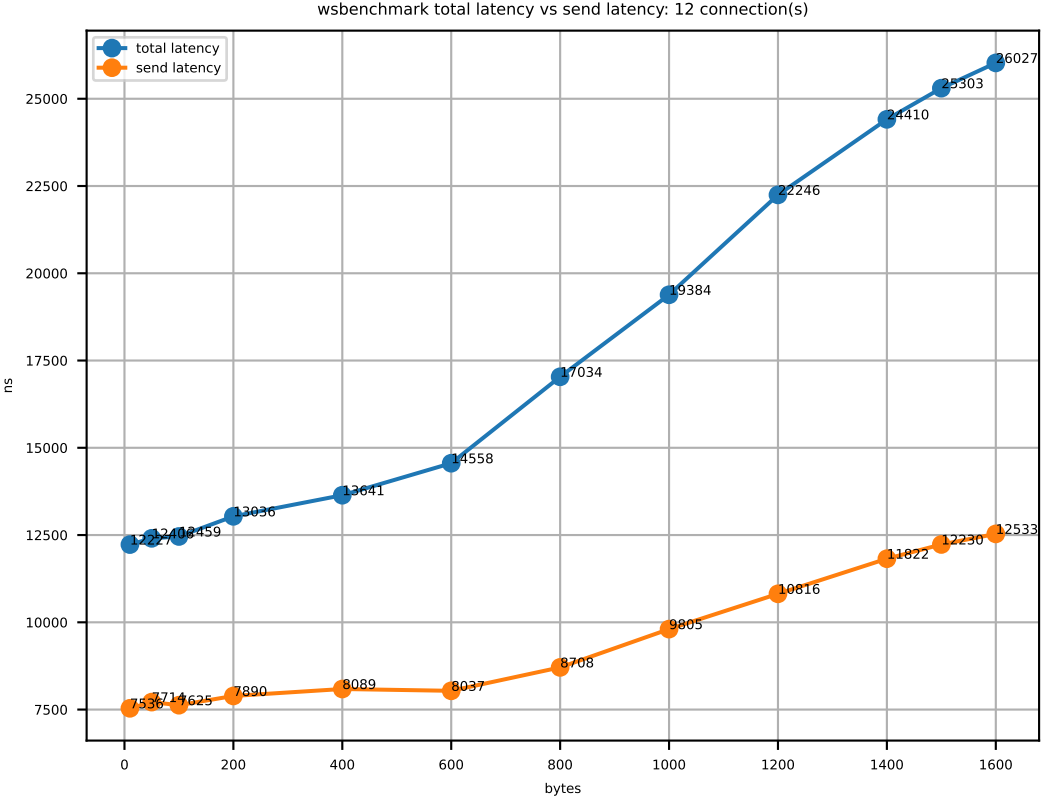

wsbenchmark total jitter vs send jitter: 12 connection(s)
total jitter
send jitter
ns
bytes
400
600
800
1000
1200
1400
0
200
400
600
800
1000
1200
1400
1600
542
514
852
833
622
596
607
586
710
660
559
467
493
539
629
909
635
1241
620
1253
661
1527
447
984

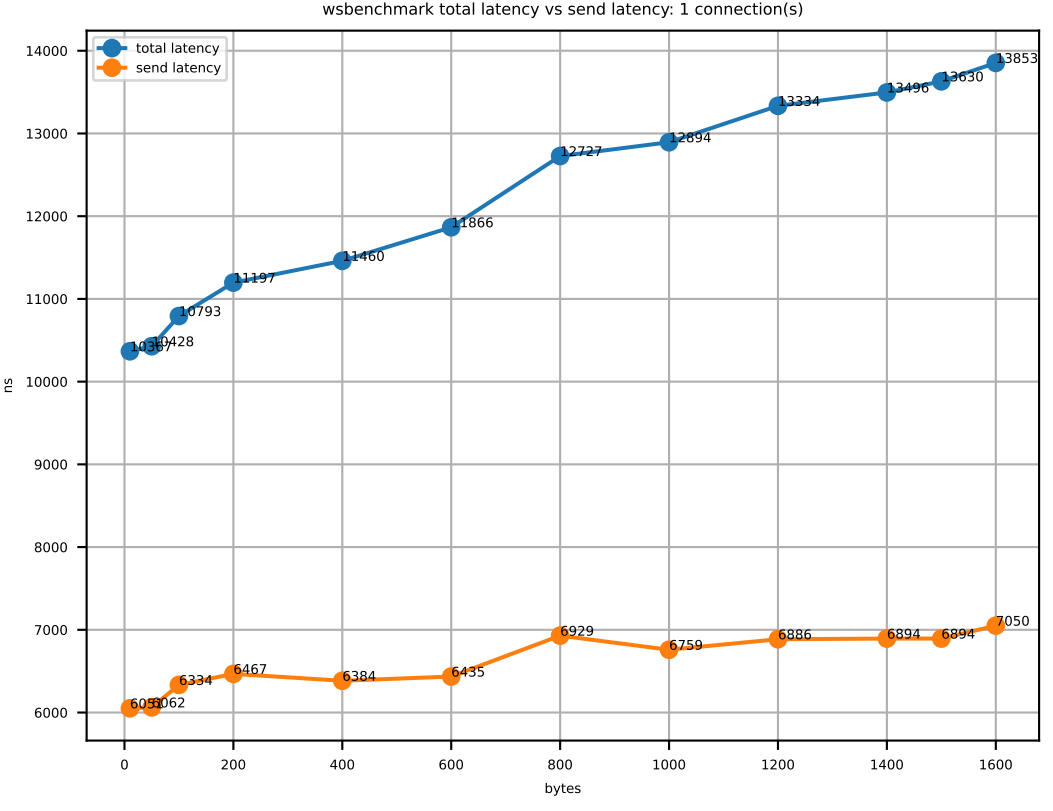

wsbenchmark total jitter vs send jitter: 1 connection(s)
total jitter
send jitter
ns
bytes
160
140
120
100
80
60
0
200
400
600
800
1000
1200
1400
1600
78
74
86
119
98
111
120
117
161
116
129
116
54
55
74
104
83
94
105
90
112
90
98
98

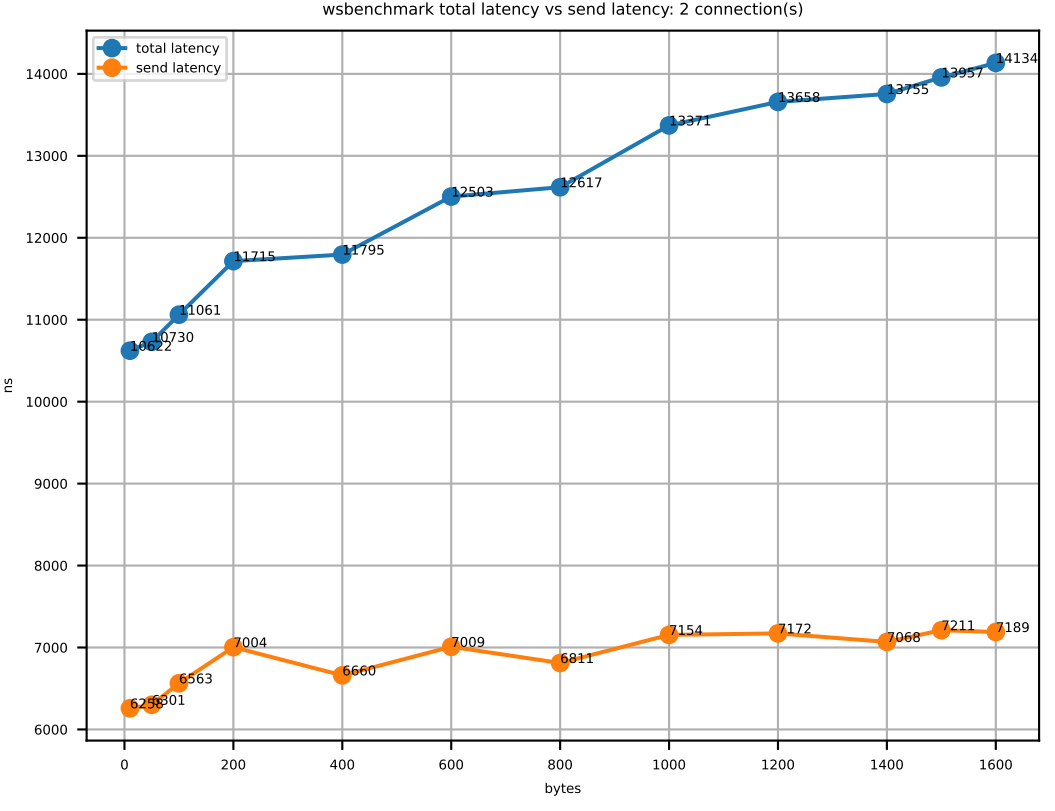

wsbenchmark total jitter vs send jitter: 2 connection(s)
total jitter
send jitter
ns
bytes
0
200
400
600
800
1000
1200
1400
1600
100
120
140
160
180
200
220
240
112
125
214
233
224
231
175
181
250
186
212
155
96
106
206
225
213
212
168
157
241
167
204
127

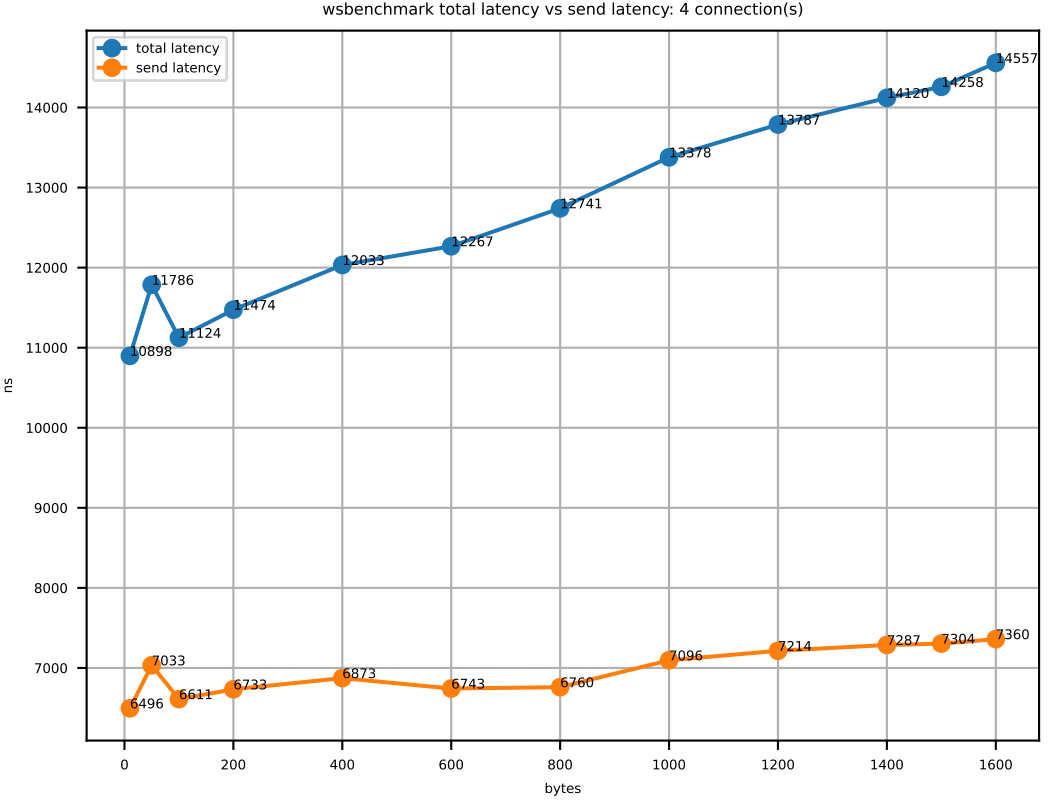

wsbenchmark total jitter vs send jitter: 4 connection(s)
total jitter
send jitter
ns
bytes
325
300
275
250
225
200
175
150
0
200
400
600
800
1000
1200
1400
1600
177
156
318
308
226
217
228
214
288
277
221
189
223
169
250
192
322
254
324
255
322
232
247
172

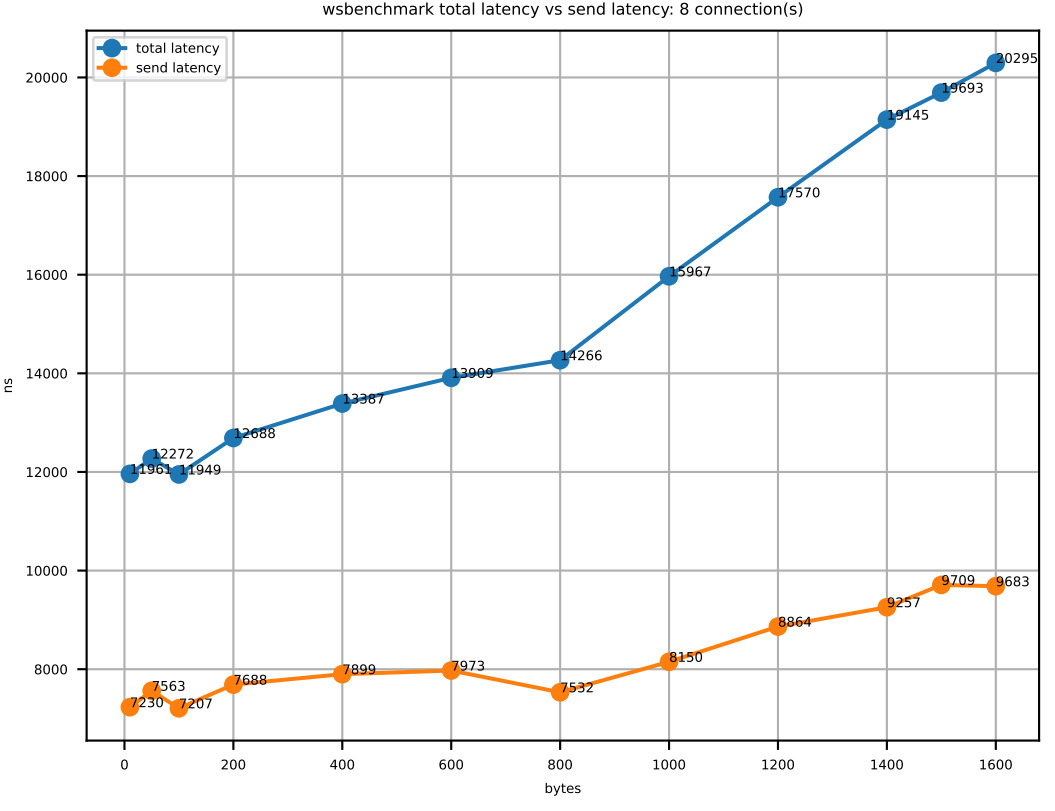

wsbenchmark total jitter vs send jitter: 8 connection(s)
total jitter
send jitter
ns
bytes
900
800
700
600
500
400
0
200
400
600
800
1000
1200
1400
1600
767
747
401
377
484
459
542
526
631
609
697
672
441
355
479
471
488
461
551
945
572
729
393
740


wsbenchmark total latency vs send latency: 12 connection(s)
total latency
send latency
ns
bytes
25000
22500
20000
17500
15000
12500
10000
7500
0
200
400
600
800
1000
1200
1400
1600
26027
25303
24410
22246
19384
17034
14558
13641
13036
12459
12408
12227
12533
12230
11822
10816
9805
8708
8037
8089
7890
7625
7714
7536


wsbenchmark total latency vs send latency: 1 connection(s)
total latency
send latency
ns
bytes
14000
13000
12000
11000
10000
9000
8000
7000
6000
0
200
400
600
800
1000
1200
1400
1600
10387
10428
10793
11197
11460
11866
12727
12894
13334
13496
13630
13853
6055
6062
6334
6467
6384
6435
6929
6759
6886
6894
6894
7050


wsbenchmark total latency vs send latency: 2 connection(s)
total latency
send latency
ns
bytes
14000
13000
12000
11000
10000
9000
8000
7000
6000
0
200
400
600
800
1000
1200
1400
1600
10622
10730
11061
11715
11795
12503
12617
13371
13658
13755
13957
14134
6258
6301
6563
7004
6660
7009
6811
7154
7172
7068
7211
7189


wsbenchmark total latency vs send latency: 4 connection(s)
total latency
send latency
ns
bytes
14000
13000
12000
11000
10000
9000
8000
7000
0
200
400
600
800
1000
1200
1400
1600
14557
14258
14120
13787
13378
12741
12267
12033
11786
11474
11124
10898
7360
7304
7287
7214
7096
6760
6743
6873
6733
6611
7033
6496


wsbenchmark total latency vs send latency: 8 connection(s)
total latency
send latency
ns
bytes
20000
18000
16000
14000
12000
10000
8000
0
200
400
600
800
1000
1200
1400
1600
11961
12272
11949
12688
13387
13909
14266
15967
17570
19145
19693
20295
7230
7563
7207
7688
7899
7973
7532
8150
8864
9257
9709
9683