CN Assignment 3

Github link : https://github.com/SumeetSawale/CN-assignment3

Question 1

Part a : Why ping fails

There are loops in the topology which cause the following

- Broadcast storms and MAC table instability
- Ethernet has no TTL; broadcast packets keep looping.
- Switches learn MAC addresses on ports.
- Loops confuse learning, making MAC tables unstable and packets not reach their destination.

Running ping inside the mininet and capturing packets

- This command starts capturing packets using tcpdump in mininet cli and stores in capture.pcap

```
mininet> s1 tcpdump -i any arp or icmp -n -e -w capture.pcap &
```

- pinging h1 from h3 and sending only one packet

```
mininet> h3 ping -c 1 h1
```

- The ARP packet moves around in loops and never reaches destination
- Similarly **h5 ping h7** and **h2 ping h8** also fail
- Screenshots from packet capture

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000	8e:de:62:8a:10:fa		ARP	48	Who has 10.0.0.2? Tell 10.0.0.4
2	1.042201	8e:de:62:8a:10:fa		ARP	48	Who has 10.0.0.2? Tell 10.0.0.4
3	2.066231	8e:de:62:8a:10:fa		ARP	48	Who has 10.0.0.2? Tell 10.0.0.4
6	10.868728	8e:de:62:8a:10:fa		ARP	48	Who has 10.0.0.2? Tell 10.0.0.4
7	10.870728	8e:de:62:8a:10:fa		ARP	48	Who has 10.0.0.2? Tell 10.0.0.4
8	10.870731	8e:de:62:8a:10:fa		ARP	48	Who has 10.0.0.2? Tell 10.0.0.4
9	10.870735	8e:de:62:8a:10:fa		ARP	48	Who has 10.0.0.2? Tell 10.0.0.4
10	10.870741	8e:de:62:8a:10:fa		ARP	48	Who has 10.0.0.2? Tell 10.0.0.4
12	11.884344	8e:de:62:8a:10:fa		ARP	48	Who has 10.0.0.2? Tell 10.0.0.4
13	11.886346	8e:de:62:8a:10:fa		ARP	48	Who has 10.0.0.2? Tell 10.0.0.4
14	11.886347	8e:de:62:8a:10:fa		ARP	48	Who has 10.0.0.2? Tell 10.0.0.4
15	11.886350	8e:de:62:8a:10:fa		ARP	48	Who has 10.0.0.2? Tell 10.0.0.4

Part b : Fixing the loop problem

To fix the problem we use STP (Spanning Tree Protocol)

- The network chooses a **loop-free path** and **blocks redundant links** (like s1-s3 or s4-s1).
- Only one path remains active between any two switches.
- **Connectivity is maintained**, but **loops are avoided**.

Results

1. h3 ping h1

```
--- Testing ping from h3 to h1 ---
PING 10.0.0.2 (10.0.0.2) 56(84) bytes of data.
64 bytes from 10.0.0.2: icmp_seq=1 ttl=64 time=112 ms
64 bytes from 10.0.0.2: icmp_seq=2 ttl=64 time=49.8 ms
64 bytes from 10.0.0.2: icmp_seq=3 ttl=64 time=49.1 ms

--- 10.0.0.2 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2002ms
rtt min/avg/max/mdev = 49.108/70.384/112.220/29.583 ms
```

2. h5 to h7

```
--- Testing ping from h5 to h7 ---
PING 10.0.0.8 (10.0.0.8) 56(84) bytes of data.
64 bytes from 10.0.0.8: icmp_seq=1 ttl=64 time=77.7 ms
64 bytes from 10.0.0.8: icmp_seq=2 ttl=64 time=36.6 ms
64 bytes from 10.0.0.8: icmp_seq=3 ttl=64 time=35.7 ms

--- 10.0.0.8 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2004ms
rtt min/avg/max/mdev = 35.650/50.004/77.737/19.614 ms
```

3. h8 to h2

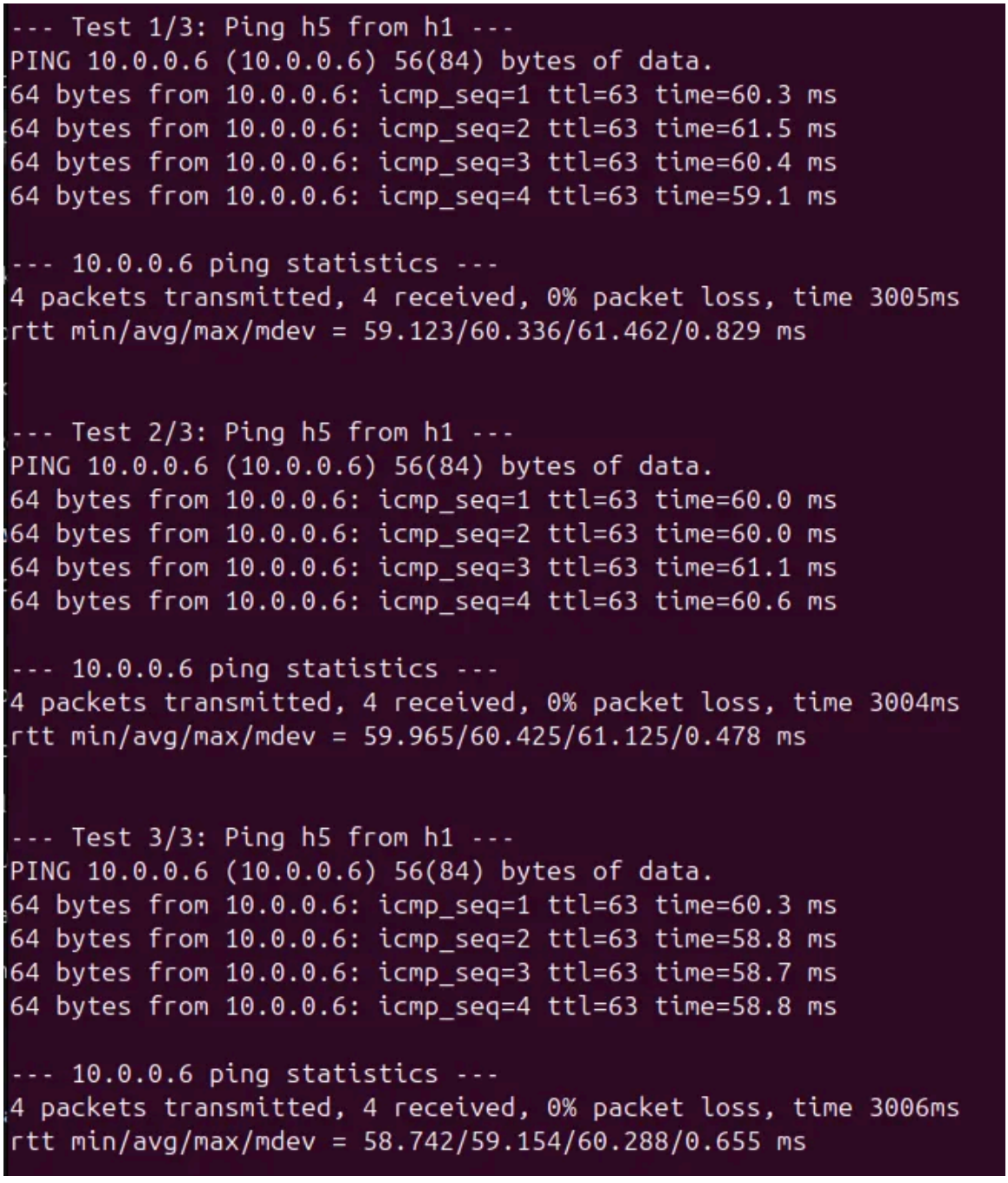
```
--- Testing ping from h8 to h2 ---
PING 10.0.0.3 (10.0.0.3) 56(84) bytes of data.
64 bytes from 10.0.0.3: icmp_seq=1 ttl=64 time=110 ms
64 bytes from 10.0.0.3: icmp_seq=2 ttl=64 time=51.6 ms
64 bytes from 10.0.0.3: icmp_seq=3 ttl=64 time=50.0 ms

--- 10.0.0.3 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2003ms
rtt min/avg/max/mdev = 49.953/70.533/110.037/27.941 ms
```

Question 2

Results

Part A : Communication to an external host from an internal host

1. h1 to h5



2. h2 to h3

```
--- Test 1/3: Ping h3 from h2 ---
PING 10.0.0.4 (10.0.0.4) 56(84) bytes of data.
64 bytes from 10.0.0.4: icmp_seq=1 ttl=63 time=44.4 ms
64 bytes from 10.0.0.4: icmp_seq=2 ttl=63 time=44.5 ms
64 bytes from 10.0.0.4: icmp_seq=3 ttl=63 time=45.0 ms
64 bytes from 10.0.0.4: icmp_seq=4 ttl=63 time=45.8 ms

--- 10.0.0.4 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3005ms
rtt min/avg/max/mdev = 44.368/44.924/45.845/0.589 ms


--- Test 2/3: Ping h3 from h2 ---
PING 10.0.0.4 (10.0.0.4) 56(84) bytes of data.
64 bytes from 10.0.0.4: icmp_seq=1 ttl=63 time=45.5 ms
64 bytes from 10.0.0.4: icmp_seq=2 ttl=63 time=46.2 ms
64 bytes from 10.0.0.4: icmp_seq=3 ttl=63 time=44.7 ms
64 bytes from 10.0.0.4: icmp_seq=4 ttl=63 time=44.9 ms

--- 10.0.0.4 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3005ms
rtt min/avg/max/mdev = 44.737/45.346/46.241/0.581 ms


--- Test 3/3: Ping h3 from h2 ---
PING 10.0.0.4 (10.0.0.4) 56(84) bytes of data.
64 bytes from 10.0.0.4: icmp_seq=1 ttl=63 time=44.4 ms
64 bytes from 10.0.0.4: icmp_seq=2 ttl=63 time=44.5 ms
64 bytes from 10.0.0.4: icmp_seq=3 ttl=63 time=44.4 ms
64 bytes from 10.0.0.4: icmp_seq=4 ttl=63 time=45.6 ms

--- 10.0.0.4 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3005ms
rtt min/avg/max/mdev = 44.358/44.719/45.645/0.535 ms
```

Part B : Communication to an internal host from an external host

1. h8 to h1

```
--- Test 1/3: Ping h1 from h8 ---
PING 10.1.1.2 (10.1.1.2) 56(84) bytes of data.
64 bytes from 10.1.1.2: icmp_seq=1 ttl=63 time=46.1 ms
64 bytes from 10.1.1.2: icmp_seq=2 ttl=63 time=45.1 ms
64 bytes from 10.1.1.2: icmp_seq=3 ttl=63 time=45.3 ms
64 bytes from 10.1.1.2: icmp_seq=4 ttl=63 time=45.0 ms

--- 10.1.1.2 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3005ms
rtt min/avg/max/mdev = 44.992/45.372/46.090/0.430 ms


--- Test 2/3: Ping h1 from h8 ---
PING 10.1.1.2 (10.1.1.2) 56(84) bytes of data.
64 bytes from 10.1.1.2: icmp_seq=1 ttl=63 time=44.6 ms
64 bytes from 10.1.1.2: icmp_seq=2 ttl=63 time=46.0 ms
64 bytes from 10.1.1.2: icmp_seq=3 ttl=63 time=45.8 ms
64 bytes from 10.1.1.2: icmp_seq=4 ttl=63 time=45.7 ms

--- 10.1.1.2 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3004ms
rtt min/avg/max/mdev = 44.613/45.523/45.979/0.535 ms


--- Test 3/3: Ping h1 from h8 ---
PING 10.1.1.2 (10.1.1.2) 56(84) bytes of data.
64 bytes from 10.1.1.2: icmp_seq=1 ttl=63 time=45.6 ms
64 bytes from 10.1.1.2: icmp_seq=2 ttl=63 time=45.8 ms
64 bytes from 10.1.1.2: icmp_seq=3 ttl=63 time=46.2 ms
64 bytes from 10.1.1.2: icmp_seq=4 ttl=63 time=46.0 ms

--- 10.1.1.2 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3006ms
rtt min/avg/max/mdev = 45.646/45.878/46.160/0.197 ms
```

2. h6 to h2

```
--- Test 1/3: Ping h2 from h6 ---
PING 10.1.1.3 (10.1.1.3) 56(84) bytes of data.
64 bytes from 10.1.1.3: icmp_seq=1 ttl=63 time=61.8 ms
64 bytes from 10.1.1.3: icmp_seq=2 ttl=63 time=60.6 ms
64 bytes from 10.1.1.3: icmp_seq=3 ttl=63 time=59.4 ms
64 bytes from 10.1.1.3: icmp_seq=4 ttl=63 time=60.1 ms

--- 10.1.1.3 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3005ms
rtt min/avg/max/mdev = 59.379/60.467/61.759/0.866 ms


--- Test 2/3: Ping h2 from h6 ---
PING 10.1.1.3 (10.1.1.3) 56(84) bytes of data.
64 bytes from 10.1.1.3: icmp_seq=1 ttl=63 time=59.4 ms
64 bytes from 10.1.1.3: icmp_seq=2 ttl=63 time=60.6 ms
64 bytes from 10.1.1.3: icmp_seq=3 ttl=63 time=60.3 ms
64 bytes from 10.1.1.3: icmp_seq=4 ttl=63 time=59.4 ms

--- 10.1.1.3 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3005ms
rtt min/avg/max/mdev = 59.388/59.925/60.646/0.546 ms


--- Test 3/3: Ping h2 from h6 ---
PING 10.1.1.3 (10.1.1.3) 56(84) bytes of data.
64 bytes from 10.1.1.3: icmp_seq=1 ttl=63 time=58.7 ms
64 bytes from 10.1.1.3: icmp_seq=2 ttl=63 time=59.9 ms
64 bytes from 10.1.1.3: icmp_seq=3 ttl=63 time=60.4 ms
64 bytes from 10.1.1.3: icmp_seq=4 ttl=63 time=60.9 ms

--- 10.1.1.3 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3006ms
rtt min/avg/max/mdev = 58.663/59.952/60.911/0.830 ms
```

Part C : iperf tests

1. h6 client → h1 server

```
--- iPerf3 Test 1/3: h6 → h1 ---
Connecting to host 10.1.1.2, port 5201
[  5] local 10.0.0.7 port 43470 connected to 10.1.1.2 port 5201
[ ID] Interval           Transfer     Bitrate         Retr  Cwnd
[  5]   0.00-1.00   sec  82.5 MBytes   691 Mbits/sec    0   24.7 MBytes
[  5]   1.00-2.00   sec   134 MBytes  1.12 Gbits/sec    0   24.7 MBytes
[  5]   2.00-3.00   sec   131 MBytes  1.10 Gbits/sec    0   24.7 MBytes
[  5]   3.00-4.00   sec   120 MBytes  1.01 Gbits/sec    0   24.7 MBytes
[  5]   4.00-5.00   sec   129 MBytes  1.08 Gbits/sec    0   24.7 MBytes
[  5]   5.00-6.00   sec   123 MBytes  1.03 Gbits/sec    0   24.7 MBytes
[  5]   6.00-7.00   sec   123 MBytes  1.03 Gbits/sec    0   24.7 MBytes
[  5]   7.00-8.00   sec   129 MBytes  1.08 Gbits/sec    0   24.7 MBytes
[  5]   8.00-9.00   sec   199 MBytes  1.67 Gbits/sec   45   36.4 MBytes
[  5]   9.00-10.00  sec   204 MBytes  1.71 Gbits/sec    0   36.4 MBytes
[  5]  10.00-11.00  sec   197 MBytes  1.65 Gbits/sec    0   36.4 MBytes
[  5]  11.00-12.00  sec   199 MBytes  1.67 Gbits/sec    0   36.4 MBytes
[  5]  12.00-13.00  sec   205 MBytes  1.72 Gbits/sec    0   36.4 MBytes
[  5]  13.00-14.00  sec   207 MBytes  1.74 Gbits/sec    0   36.4 MBytes
[  5]  14.00-15.00  sec   207 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5]  15.00-16.00  sec   206 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5]  16.00-17.00  sec   207 MBytes  1.74 Gbits/sec    0   36.4 MBytes
[  5]  17.00-18.00  sec   207 MBytes  1.74 Gbits/sec    0   36.4 MBytes
[  5]  18.00-19.00  sec   207 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5]  19.00-20.00  sec   206 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5]  20.00-21.00  sec   206 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5]  21.00-22.00  sec   206 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5]  22.00-23.00  sec   204 MBytes  1.71 Gbits/sec    0   36.4 MBytes
[  5]  23.00-24.00  sec   203 MBytes  1.70 Gbits/sec    0   36.4 MBytes
[  5]  24.00-25.00  sec   204 MBytes  1.71 Gbits/sec    0   36.4 MBytes
[  5]  25.00-26.00  sec   206 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5]  26.00-27.00  sec   205 MBytes  1.72 Gbits/sec    0   36.4 MBytes
[  5]  27.00-28.00  sec   199 MBytes  1.67 Gbits/sec    0   36.4 MBytes
[  5]  28.00-29.00  sec   193 MBytes  1.62 Gbits/sec    0   36.4 MBytes
[  5]  29.00-30.00  sec   207 MBytes  1.74 Gbits/sec    0   36.4 MBytes
[  5]  30.00-31.00  sec   206 MBytes  1.73 Gbits/sec    0   36.4 MBytes
```

```
[  5]  31.00-32.00  sec   203 MBytes  1.71 Gbits/sec    0   36.4 MBytes
[  5]  32.00-33.00  sec   206 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5]  33.00-34.00  sec   197 MBytes  1.65 Gbits/sec    0   36.4 MBytes
[  5]  34.00-35.00  sec   210 MBytes  1.76 Gbits/sec    0   36.4 MBytes
[  5]  35.00-36.00  sec   205 MBytes  1.72 Gbits/sec    0   36.4 MBytes
[  5]  36.00-37.00  sec   201 MBytes  1.69 Gbits/sec    0   36.4 MBytes
[  5]  37.00-38.00  sec   195 MBytes  1.64 Gbits/sec    0   36.4 MBytes
[  5]  38.00-39.00  sec   198 MBytes  1.66 Gbits/sec    0   36.4 MBytes
[  5]  39.00-40.00  sec   206 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5]  40.00-41.00  sec   205 MBytes  1.72 Gbits/sec    0   36.4 MBytes
[  5]  41.00-42.00  sec   204 MBytes  1.71 Gbits/sec    0   36.4 MBytes
[  5]  42.00-43.00  sec   208 MBytes  1.74 Gbits/sec    0   36.4 MBytes
[  5]  43.00-44.00  sec   204 MBytes  1.71 Gbits/sec    0   36.4 MBytes
[  5]  44.00-45.00  sec   207 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5]  45.00-46.00  sec   206 MBytes  1.72 Gbits/sec    0   36.4 MBytes
[  5]  46.00-47.00  sec   206 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5]  47.00-48.00  sec   206 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5]  48.00-49.00  sec   204 MBytes  1.71 Gbits/sec    0   36.4 MBytes
[  5]  49.00-50.00  sec   206 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5]  50.00-51.00  sec   206 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5]  51.00-52.00  sec   207 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5]  52.00-53.00  sec   198 MBytes  1.66 Gbits/sec    0   36.4 MBytes
[  5]  53.00-54.00  sec   195 MBytes  1.63 Gbits/sec    0   36.4 MBytes
[  5]  54.00-55.00  sec   205 MBytes  1.72 Gbits/sec    0   36.4 MBytes
[  5]  55.00-56.00  sec   207 MBytes  1.74 Gbits/sec    0   36.4 MBytes
[  5]  56.00-57.00  sec   206 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5]  57.00-58.00  sec   205 MBytes  1.72 Gbits/sec    0   36.4 MBytes
[  5]  58.00-59.00  sec   206 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5]  59.00-60.00  sec   206 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5]  60.00-61.00  sec   206 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5]  61.00-62.00  sec   206 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5]  62.00-63.00  sec   206 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5]  63.00-64.00  sec   202 MBytes  1.70 Gbits/sec    0   36.4 MBytes
[  5]  64.00-65.00  sec   210 MBytes  1.76 Gbits/sec    0   36.4 MBytes
[  5]  65.00-66.00  sec   198 MBytes  1.66 Gbits/sec    0   36.4 MBytes
[  5]  66.00-67.00  sec   208 MBytes  1.75 Gbits/sec    0   36.4 MBytes
```

```
[  5]  67.00-68.00  sec   202 MBytes  1.69 Gbits/sec    0   36.4 MBytes
[  5]  68.00-69.00  sec   208 MBytes  1.74 Gbits/sec    0   36.4 MBytes
[  5]  69.00-70.00  sec   208 MBytes  1.75 Gbits/sec    0   36.4 MBytes
[  5]  70.00-71.00  sec   204 MBytes  1.71 Gbits/sec    0   36.4 MBytes
[  5]  71.00-72.00  sec   198 MBytes  1.66 Gbits/sec    0   36.4 MBytes
[  5]  72.00-73.00  sec   202 MBytes  1.70 Gbits/sec    0   36.4 MBytes
[  5]  73.00-74.00  sec   209 MBytes  1.76 Gbits/sec    0   36.4 MBytes
[  5]  74.00-75.00  sec   203 MBytes  1.71 Gbits/sec    0   36.4 MBytes
[  5]  75.00-76.00  sec   202 MBytes  1.70 Gbits/sec    0   36.4 MBytes
[  5]  76.00-77.00  sec   208 MBytes  1.75 Gbits/sec    0   36.4 MBytes
[  5]  77.00-78.00  sec   207 MBytes  1.74 Gbits/sec    0   36.4 MBytes
[  5]  78.00-79.00  sec   205 MBytes  1.72 Gbits/sec    0   36.4 MBytes
[  5]  79.00-80.00  sec   202 MBytes  1.70 Gbits/sec    0   36.4 MBytes
[  5]  80.00-81.00  sec   198 MBytes  1.66 Gbits/sec    0   36.4 MBytes
[  5]  81.00-82.00  sec   205 MBytes  1.72 Gbits/sec    0   36.4 MBytes
[  5]  82.00-83.00  sec   196 MBytes  1.65 Gbits/sec    0   36.4 MBytes
[  5]  83.00-84.00  sec   205 MBytes  1.72 Gbits/sec    0   36.4 MBytes
[  5]  84.00-85.00  sec   182 MBytes  1.53 Gbits/sec    0   36.4 MBytes
[  5]  85.00-86.00  sec   209 MBytes  1.75 Gbits/sec    0   36.4 MBytes
[  5]  86.00-87.00  sec   206 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5]  87.00-88.00  sec   206 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5]  88.00-89.00  sec   206 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5]  89.00-90.00  sec   207 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5]  90.00-91.00  sec   206 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5]  91.00-92.00  sec   204 MBytes  1.71 Gbits/sec    0   36.4 MBytes
[  5]  92.00-93.00  sec   206 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5]  93.00-94.00  sec   206 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5]  94.00-95.00  sec   205 MBytes  1.72 Gbits/sec    0   36.4 MBytes
[  5]  95.00-96.00  sec   206 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5]  96.00-97.00  sec   207 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5]  97.00-98.00  sec   206 MBytes  1.72 Gbits/sec    0   36.4 MBytes
[  5]  98.00-99.00  sec   207 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5]  99.00-100.00 sec   198 MBytes  1.66 Gbits/sec    0   36.4 MBytes
[  5] 100.00-101.00 sec   194 MBytes  1.63 Gbits/sec    0   36.4 MBytes
[  5] 101.00-102.00 sec   207 MBytes  1.74 Gbits/sec    0   36.4 MBytes
[  5] 102.00-103.00 sec   206 MBytes  1.73 Gbits/sec    0   36.4 MBytes
```

```
[  5] 103.00-104.00 sec   206 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5] 104.00-105.00 sec   207 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5] 105.00-106.00 sec   206 MBytes  1.72 Gbits/sec    0   36.4 MBytes
[  5] 106.00-107.00 sec   206 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5] 107.00-108.00 sec   206 MBytes  1.72 Gbits/sec    0   36.4 MBytes
[  5] 108.00-109.00 sec   206 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5] 109.00-110.00 sec   207 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5] 110.00-111.00 sec   206 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5] 111.00-112.00 sec   207 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5] 112.00-113.00 sec   205 MBytes  1.72 Gbits/sec    0   36.4 MBytes
[  5] 113.00-114.00 sec   204 MBytes  1.71 Gbits/sec    0   36.4 MBytes
[  5] 114.00-115.00 sec   204 MBytes  1.71 Gbits/sec    0   36.4 MBytes
[  5] 115.00-116.00 sec   201 MBytes  1.69 Gbits/sec    0   36.4 MBytes
[  5] 116.00-117.00 sec   199 MBytes  1.67 Gbits/sec    0   36.4 MBytes
[  5] 117.00-118.00 sec   207 MBytes  1.74 Gbits/sec    0   36.4 MBytes
[  5] 118.00-119.00 sec   207 MBytes  1.73 Gbits/sec    0   36.4 MBytes
[  5] 119.00-120.00 sec   206 MBytes  1.73 Gbits/sec    0   36.4 MBytes
- - - - - - - - - - - - - - - - - - - - - - - - -
[ ID] Interval           Transfer     Bitrate         Retr
[  5]   0.00-120.00 sec  23.3 GBytes  1.67 Gbits/sec   45             sender
[  5]   0.00-120.06 sec  23.3 GBytes  1.67 Gbits/sec                  receiver

iperf Done.
```

```
--- iPerf3 Test 2/3: h6 → h1 ---
Connecting to host 10.1.1.2, port 5201
[  5] local 10.0.0.7 port 40978 connected to 10.1.1.2 port 5201
[ ID] Interval           Transfer     Bitrate         Retr  Cwnd
[  5]   0.00-1.00   sec  92.5 MBytes   775 Mbits/sec    0   24.4 MBytes
[  5]   1.00-2.00   sec   203 MBytes  1.70 Gbits/sec   45   36.3 MBytes
[  5]   2.00-3.00   sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]   3.00-4.00   sec   202 MBytes  1.70 Gbits/sec    0   36.3 MBytes
[  5]   4.00-5.00   sec   203 MBytes  1.70 Gbits/sec    0   36.3 MBytes
[  5]   5.00-6.00   sec   202 MBytes  1.69 Gbits/sec    0   36.3 MBytes
```

```
[  5]   6.00-7.00   sec   208 MBytes  1.75 Gbits/sec    0   36.3 MBytes
[  5]   7.00-8.00   sec   190 MBytes  1.59 Gbits/sec    0   36.3 MBytes
[  5]   8.00-9.00   sec   196 MBytes  1.65 Gbits/sec    0   36.3 MBytes
[  5]   9.00-10.00  sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  10.00-11.00  sec   205 MBytes  1.72 Gbits/sec    0   36.3 MBytes
[  5]  11.00-12.00  sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  12.00-13.00  sec   207 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  13.00-14.00  sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  14.00-15.00  sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  15.00-16.00  sec   207 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  16.00-17.00  sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  17.00-18.00  sec   198 MBytes  1.66 Gbits/sec    0   36.3 MBytes
[  5]  18.00-19.00  sec   201 MBytes  1.68 Gbits/sec    0   36.3 MBytes
[  5]  19.00-20.00  sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  20.00-21.00  sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  21.00-22.00  sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  22.00-23.00  sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  23.00-24.00  sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  24.00-25.00  sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  25.00-26.00  sec   207 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  26.00-27.00  sec   207 MBytes  1.74 Gbits/sec    0   36.3 MBytes
[  5]  27.00-28.00  sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  28.00-29.00  sec   198 MBytes  1.66 Gbits/sec    0   36.3 MBytes
[  5]  29.00-30.00  sec   204 MBytes  1.71 Gbits/sec    0   36.3 MBytes
[  5]  30.00-31.00  sec   203 MBytes  1.70 Gbits/sec    0   36.3 MBytes
[  5]  31.00-32.00  sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  32.00-33.00  sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  33.00-34.00  sec   198 MBytes  1.66 Gbits/sec    0   36.3 MBytes
[  5]  34.00-35.00  sec   203 MBytes  1.70 Gbits/sec    0   36.3 MBytes
[  5]  35.00-36.00  sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  36.00-37.00  sec   205 MBytes  1.72 Gbits/sec    0   36.3 MBytes
[  5]  37.00-38.00  sec   203 MBytes  1.70 Gbits/sec    0   36.3 MBytes
[  5]  38.00-39.00  sec   205 MBytes  1.72 Gbits/sec    0   36.3 MBytes
[  5]  39.00-40.00  sec   206 MBytes  1.72 Gbits/sec    0   36.3 MBytes
[  5]  40.00-41.00  sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  41.00-42.00  sec   207 MBytes  1.73 Gbits/sec    0   36.3 MBytes
```

```
[  5]  42.00-43.00  sec   204 MBytes  1.71 Gbits/sec    0   36.3 MBytes
[  5]  43.00-44.00  sec   207 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  44.00-45.00  sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  45.00-46.00  sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  46.00-47.00  sec   207 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  47.00-48.00  sec   207 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  48.00-49.00  sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  49.00-50.00  sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  50.00-51.00  sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  51.00-52.00  sec   201 MBytes  1.69 Gbits/sec    0   36.3 MBytes
[  5]  52.00-53.00  sec   202 MBytes  1.69 Gbits/sec    0   36.3 MBytes
[  5]  53.00-54.00  sec   205 MBytes  1.72 Gbits/sec    0   36.3 MBytes
[  5]  54.00-55.00  sec   203 MBytes  1.71 Gbits/sec    0   36.3 MBytes
[  5]  55.00-56.00  sec   202 MBytes  1.70 Gbits/sec    0   36.3 MBytes
[  5]  56.00-57.00  sec   206 MBytes  1.72 Gbits/sec    0   36.3 MBytes
[  5]  57.00-58.00  sec   213 MBytes  1.78 Gbits/sec    0   36.3 MBytes
[  5]  58.00-59.00  sec   203 MBytes  1.70 Gbits/sec    0   36.3 MBytes
[  5]  59.00-60.00  sec   208 MBytes  1.74 Gbits/sec    0   36.3 MBytes
[  5]  60.00-61.00  sec   204 MBytes  1.71 Gbits/sec    0   36.3 MBytes
[  5]  61.00-62.00  sec   200 MBytes  1.67 Gbits/sec    0   36.3 MBytes
[  5]  62.00-63.00  sec   197 MBytes  1.65 Gbits/sec    0   36.3 MBytes
[  5]  63.00-64.00  sec   204 MBytes  1.71 Gbits/sec    0   36.3 MBytes
[  5]  64.00-65.00  sec   208 MBytes  1.75 Gbits/sec    0   36.3 MBytes
[  5]  65.00-66.00  sec   204 MBytes  1.71 Gbits/sec    0   36.3 MBytes
[  5]  66.00-67.00  sec   204 MBytes  1.71 Gbits/sec    0   36.3 MBytes
[  5]  67.00-68.00  sec   204 MBytes  1.71 Gbits/sec    0   36.3 MBytes
[  5]  68.00-69.00  sec   202 MBytes  1.70 Gbits/sec    0   36.3 MBytes
[  5]  69.00-70.00  sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  70.00-71.00  sec   205 MBytes  1.72 Gbits/sec    0   36.3 MBytes
[  5]  71.00-72.00  sec   194 MBytes  1.63 Gbits/sec    0   36.3 MBytes
[  5]  72.00-73.00  sec   195 MBytes  1.64 Gbits/sec    0   36.3 MBytes
[  5]  73.00-74.00  sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  74.00-75.00  sec   207 MBytes  1.74 Gbits/sec    0   36.3 MBytes
[  5]  75.00-76.00  sec   207 MBytes  1.74 Gbits/sec    0   36.3 MBytes
[  5]  76.00-77.00  sec   195 MBytes  1.63 Gbits/sec    0   36.3 MBytes
[  5]  77.00-78.00  sec   189 MBytes  1.58 Gbits/sec    0   36.3 MBytes
```

```
[  5]  78.00-79.00  sec   193 MBytes  1.62 Gbits/sec    0   36.3 MBytes
[  5]  79.00-80.00  sec   194 MBytes  1.63 Gbits/sec    0   36.3 MBytes
[  5]  80.00-81.00  sec   205 MBytes  1.72 Gbits/sec    0   36.3 MBytes
[  5]  81.00-82.00  sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  82.00-83.00  sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  83.00-84.00  sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  84.00-85.00  sec   205 MBytes  1.72 Gbits/sec    0   36.3 MBytes
[  5]  85.00-86.00  sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  86.00-87.00  sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  87.00-88.00  sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  88.00-89.00  sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  89.00-90.00  sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  90.00-91.00  sec   207 MBytes  1.74 Gbits/sec    0   36.3 MBytes
[  5]  91.00-92.00  sec   207 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  92.00-93.00  sec   205 MBytes  1.72 Gbits/sec    0   36.3 MBytes
[  5]  93.00-94.00  sec   203 MBytes  1.70 Gbits/sec    0   36.3 MBytes
[  5]  94.00-95.00  sec   197 MBytes  1.66 Gbits/sec    0   36.3 MBytes
[  5]  95.00-96.00  sec   194 MBytes  1.63 Gbits/sec    0   36.3 MBytes
[  5]  96.00-97.00  sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  97.00-98.00  sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  98.00-99.00  sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5]  99.00-100.00 sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5] 100.00-101.00 sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5] 101.00-102.00 sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5] 102.00-103.00 sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5] 103.00-104.00 sec   207 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5] 104.00-105.00 sec   207 MBytes  1.74 Gbits/sec    0   36.3 MBytes
[  5] 105.00-106.00 sec   207 MBytes  1.74 Gbits/sec    0   36.3 MBytes
[  5] 106.00-107.00 sec   207 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5] 107.00-108.00 sec   202 MBytes  1.69 Gbits/sec    0   36.3 MBytes
[  5] 108.00-109.00 sec   205 MBytes  1.72 Gbits/sec    0   36.3 MBytes
[  5] 109.00-110.00 sec   194 MBytes  1.63 Gbits/sec    0   36.3 MBytes
[  5] 110.00-111.00 sec   204 MBytes  1.71 Gbits/sec    0   36.3 MBytes
[  5] 111.00-112.00 sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5] 112.00-113.00 sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5] 113.00-114.00 sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
```

```
[  5] 114.00-115.00 sec   206 MBytes  1.73 Gbits/sec    0   36.3 MBytes
[  5] 115.00-116.00 sec   204 MBytes  1.71 Gbits/sec    0   36.3 MBytes
[  5] 116.00-117.00 sec   201 MBytes  1.68 Gbits/sec    0   36.3 MBytes
[  5] 117.00-118.00 sec   202 MBytes  1.70 Gbits/sec    0   36.3 MBytes
[  5] 118.00-119.00 sec   204 MBytes  1.71 Gbits/sec    0   36.3 MBytes
[  5] 119.00-120.00 sec   204 MBytes  1.71 Gbits/sec    0   36.3 MBytes
- - - - - - - - - - - - - - - - - - - - - - - - -
[ ID] Interval           Transfer     Bitrate         Retr
[  5]   0.00-120.00 sec  23.9 GBytes  1.71 Gbits/sec   45             sender
[  5]   0.00-120.06 sec  23.9 GBytes  1.71 Gbits/sec                  receiver

iperf Done.
```

```
--- iPerf3 Test 3/3: h6 → h1 ---
Connecting to host 10.1.1.2, port 5201
[  5] local 10.0.0.7 port 58156 connected to 10.1.1.2 port 5201
[ ID] Interval           Transfer     Bitrate         Retr  Cwnd
[  5]   0.00-1.00   sec  74.0 MBytes   620 Mbits/sec    0   24.9 MBytes
[  5]   1.00-2.00   sec   181 MBytes  1.52 Gbits/sec    0   24.9 MBytes
[  5]   2.00-3.00   sec   198 MBytes  1.66 Gbits/sec    0   24.9 MBytes
[  5]   3.00-4.00   sec   195 MBytes  1.63 Gbits/sec    6   24.9 MBytes
[  5]   4.00-5.00   sec   207 MBytes  1.74 Gbits/sec    0   24.9 MBytes
[  5]   5.00-6.00   sec   207 MBytes  1.74 Gbits/sec    0   24.9 MBytes
[  5]   6.00-7.00   sec   207 MBytes  1.74 Gbits/sec    0   24.9 MBytes
[  5]   7.00-8.00   sec   207 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5]   8.00-9.00   sec   206 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5]   9.00-10.00  sec   207 MBytes  1.74 Gbits/sec    0   24.9 MBytes
[  5]  10.00-11.00  sec   207 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5]  11.00-12.00  sec   207 MBytes  1.74 Gbits/sec    0   24.9 MBytes
[  5]  12.00-13.00  sec   201 MBytes  1.68 Gbits/sec    0   24.9 MBytes
[  5]  13.00-14.00  sec   198 MBytes  1.66 Gbits/sec    0   24.9 MBytes
[  5]  14.00-15.00  sec   207 MBytes  1.74 Gbits/sec    0   24.9 MBytes
[  5]  15.00-16.00  sec   206 MBytes  1.72 Gbits/sec    0   24.9 MBytes
[  5]  16.00-17.00  sec   206 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5]  17.00-18.00  sec   206 MBytes  1.73 Gbits/sec    0   24.9 MBytes
```

```
[  5]  18.00-19.00  sec   207 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5]  19.00-20.00  sec   206 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5]  20.00-21.00  sec   206 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5]  21.00-22.00  sec   205 MBytes  1.72 Gbits/sec    0   24.9 MBytes
[  5]  22.00-23.00  sec   205 MBytes  1.72 Gbits/sec    0   24.9 MBytes
[  5]  23.00-24.00  sec   203 MBytes  1.71 Gbits/sec    0   24.9 MBytes
[  5]  24.00-25.00  sec   204 MBytes  1.71 Gbits/sec    0   24.9 MBytes
[  5]  25.00-26.00  sec   205 MBytes  1.72 Gbits/sec    0   24.9 MBytes
[  5]  26.00-27.00  sec   204 MBytes  1.71 Gbits/sec    0   24.9 MBytes
[  5]  27.00-28.00  sec   204 MBytes  1.71 Gbits/sec    0   24.9 MBytes
[  5]  28.00-29.00  sec   205 MBytes  1.72 Gbits/sec    0   24.9 MBytes
[  5]  29.00-30.00  sec   199 MBytes  1.67 Gbits/sec    0   24.9 MBytes
[  5]  30.00-31.00  sec   201 MBytes  1.69 Gbits/sec    0   24.9 MBytes
[  5]  31.00-32.00  sec   206 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5]  32.00-33.00  sec   206 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5]  33.00-34.00  sec   206 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5]  34.00-35.00  sec   203 MBytes  1.71 Gbits/sec    0   24.9 MBytes
[  5]  35.00-36.00  sec   205 MBytes  1.72 Gbits/sec    0   24.9 MBytes
[  5]  36.00-37.00  sec   203 MBytes  1.70 Gbits/sec    0   24.9 MBytes
[  5]  37.00-38.00  sec   205 MBytes  1.72 Gbits/sec    0   24.9 MBytes
[  5]  38.00-39.00  sec   206 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5]  39.00-40.00  sec   201 MBytes  1.68 Gbits/sec    0   24.9 MBytes
[  5]  40.00-41.00  sec   210 MBytes  1.76 Gbits/sec    0   24.9 MBytes
[  5]  41.00-42.00  sec   207 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5]  42.00-43.00  sec   206 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5]  43.00-44.00  sec   196 MBytes  1.64 Gbits/sec    0   24.9 MBytes
[  5]  44.00-45.00  sec   204 MBytes  1.71 Gbits/sec    0   24.9 MBytes
[  5]  45.00-46.00  sec   208 MBytes  1.75 Gbits/sec    0   24.9 MBytes
[  5]  46.00-47.00  sec   207 MBytes  1.74 Gbits/sec    0   24.9 MBytes
[  5]  47.00-48.00  sec   201 MBytes  1.69 Gbits/sec    0   24.9 MBytes
[  5]  48.00-49.00  sec   206 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5]  49.00-50.00  sec   204 MBytes  1.71 Gbits/sec    0   24.9 MBytes
[  5]  50.00-51.00  sec   205 MBytes  1.72 Gbits/sec    0   24.9 MBytes
[  5]  51.00-52.00  sec   204 MBytes  1.72 Gbits/sec    0   24.9 MBytes
[  5]  52.00-53.00  sec   206 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5]  53.00-54.00  sec   202 MBytes  1.69 Gbits/sec    0   24.9 MBytes
```

```
[  5]  54.00-55.00  sec   196 MBytes  1.64 Gbits/sec    0   24.9 MBytes
[  5]  55.00-56.00  sec   195 MBytes  1.63 Gbits/sec    0   24.9 MBytes
[  5]  56.00-57.00  sec   207 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5]  57.00-58.00  sec   207 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5]  58.00-59.00  sec   206 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5]  59.00-60.00  sec   206 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5]  60.00-61.00  sec   205 MBytes  1.72 Gbits/sec    0   24.9 MBytes
[  5]  61.00-62.00  sec   206 MBytes  1.72 Gbits/sec    0   24.9 MBytes
[  5]  62.00-63.00  sec   208 MBytes  1.75 Gbits/sec    0   24.9 MBytes
[  5]  63.00-64.00  sec   206 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5]  64.00-65.00  sec   206 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5]  65.00-66.00  sec   207 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5]  66.00-67.00  sec   206 MBytes  1.72 Gbits/sec    0   24.9 MBytes
[  5]  67.00-68.00  sec   201 MBytes  1.69 Gbits/sec    0   24.9 MBytes
[  5]  68.00-69.00  sec   195 MBytes  1.64 Gbits/sec    0   24.9 MBytes
[  5]  69.00-70.00  sec   195 MBytes  1.63 Gbits/sec    0   24.9 MBytes
[  5]  70.00-71.00  sec   207 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5]  71.00-72.00  sec   207 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5]  72.00-73.00  sec   207 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5]  73.00-74.00  sec   207 MBytes  1.74 Gbits/sec    0   24.9 MBytes
[  5]  74.00-75.00  sec   207 MBytes  1.74 Gbits/sec    0   24.9 MBytes
[  5]  75.00-76.00  sec   206 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5]  76.00-77.00  sec   206 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5]  77.00-78.00  sec   207 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5]  78.00-79.00  sec   204 MBytes  1.71 Gbits/sec    0   24.9 MBytes
[  5]  79.00-80.00  sec   206 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5]  80.00-81.00  sec   201 MBytes  1.68 Gbits/sec    0   24.9 MBytes
[  5]  81.00-82.00  sec   206 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5]  82.00-83.00  sec   206 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5]  83.00-84.00  sec   198 MBytes  1.66 Gbits/sec    0   24.9 MBytes
[  5]  84.00-85.00  sec   200 MBytes  1.68 Gbits/sec    0   24.9 MBytes
[  5]  85.00-86.00  sec   200 MBytes  1.68 Gbits/sec    0   24.9 MBytes
[  5]  86.00-87.00  sec   204 MBytes  1.71 Gbits/sec    0   24.9 MBytes
[  5]  87.00-88.00  sec   205 MBytes  1.72 Gbits/sec    0   24.9 MBytes
[  5]  88.00-89.00  sec   205 MBytes  1.72 Gbits/sec    0   24.9 MBytes
[  5]  89.00-90.00  sec   206 MBytes  1.73 Gbits/sec    0   24.9 MBytes
```

```
[  5]  90.00-91.00  sec   205 MBytes  1.72 Gbits/sec    0   24.9 MBytes
[  5]  91.00-92.00  sec   204 MBytes  1.72 Gbits/sec    0   24.9 MBytes
[  5]  92.00-93.00  sec   205 MBytes  1.72 Gbits/sec    0   24.9 MBytes
[  5]  93.00-94.00  sec   206 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5]  94.00-95.00  sec   205 MBytes  1.72 Gbits/sec    0   24.9 MBytes
[  5]  95.00-96.00  sec   207 MBytes  1.74 Gbits/sec    0   24.9 MBytes
[  5]  96.00-97.00  sec   206 MBytes  1.72 Gbits/sec    0   24.9 MBytes
[  5]  97.00-98.00  sec   205 MBytes  1.72 Gbits/sec    0   24.9 MBytes
[  5]  98.00-99.00  sec   205 MBytes  1.72 Gbits/sec    0   24.9 MBytes
[  5]  99.00-100.00 sec   206 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5] 100.00-101.00 sec   207 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5] 101.00-102.00 sec   204 MBytes  1.71 Gbits/sec    0   24.9 MBytes
[  5] 102.00-103.00 sec   205 MBytes  1.72 Gbits/sec    0   24.9 MBytes
[  5] 103.00-104.00 sec   205 MBytes  1.72 Gbits/sec    0   24.9 MBytes
[  5] 104.00-105.00 sec   205 MBytes  1.72 Gbits/sec    0   24.9 MBytes
[  5] 105.00-106.00 sec   204 MBytes  1.72 Gbits/sec    0   24.9 MBytes
[  5] 106.00-107.00 sec   204 MBytes  1.72 Gbits/sec    0   24.9 MBytes
[  5] 107.00-108.00 sec   206 MBytes  1.72 Gbits/sec    0   24.9 MBytes
[  5] 108.00-109.00 sec   193 MBytes  1.62 Gbits/sec    0   24.9 MBytes
[  5] 109.00-110.00 sec   206 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5] 110.00-111.00 sec   206 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5] 111.00-112.00 sec   206 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5] 112.00-113.00 sec   206 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5] 113.00-114.00 sec   207 MBytes  1.74 Gbits/sec    0   24.9 MBytes
[  5] 114.00-115.00 sec   206 MBytes  1.72 Gbits/sec    0   24.9 MBytes
[  5] 115.00-116.00 sec   205 MBytes  1.72 Gbits/sec    0   24.9 MBytes
[  5] 116.00-117.00 sec   206 MBytes  1.73 Gbits/sec    0   24.9 MBytes
[  5] 117.00-118.00 sec   206 MBytes  1.72 Gbits/sec    0   24.9 MBytes
[  5] 118.00-119.00 sec   205 MBytes  1.72 Gbits/sec    0   24.9 MBytes
[  5] 119.00-120.00 sec   200 MBytes  1.68 Gbits/sec    0   24.9 MBytes
- - - - - - - - - - - - - - - - - - - - - - - - -
[ ID] Interval           Transfer     Bitrate         Retr
[  5]   0.00-120.00 sec  23.8 GBytes  1.71 Gbits/sec    6             sender
[  5]   0.00-120.06 sec  23.8 GBytes  1.71 Gbits/sec                  receiver
```

```
iperf Done.
```

2. h2 client → h8 server

```
--- iPerf3 Test 1/3: h2 → h8 ---
Connecting to host 10.0.0.9, port 5201
[  5] local 10.1.1.3 port 56690 connected to 10.0.0.9 port 5201
[ ID] Interval           Transfer     Bitrate         Retr  Cwnd
[  5]   0.00-1.00   sec   130 MBytes  1.09 Gbits/sec    0   24.5 MBytes
[  5]   1.00-2.00   sec   260 MBytes  2.19 Gbits/sec    0   24.5 MBytes
[  5]   2.00-3.00   sec   267 MBytes  2.24 Gbits/sec   45   36.6 MBytes
[  5]   3.00-4.00   sec   268 MBytes  2.24 Gbits/sec    0   36.6 MBytes
[  5]   4.00-5.00   sec   264 MBytes  2.21 Gbits/sec    0   36.6 MBytes
[  5]   5.00-6.00   sec   272 MBytes  2.29 Gbits/sec    0   36.6 MBytes
[  5]   6.00-7.00   sec   272 MBytes  2.28 Gbits/sec    0   36.6 MBytes
[  5]   7.00-8.00   sec   267 MBytes  2.24 Gbits/sec    0   36.6 MBytes
[  5]   8.00-9.00   sec   261 MBytes  2.19 Gbits/sec    0   36.6 MBytes
[  5]   9.00-10.00  sec   269 MBytes  2.26 Gbits/sec    0   36.6 MBytes
[  5]  10.00-11.00  sec   262 MBytes  2.20 Gbits/sec    0   36.6 MBytes
[  5]  11.00-12.00  sec   269 MBytes  2.26 Gbits/sec    0   36.6 MBytes
[  5]  12.00-13.00  sec   267 MBytes  2.24 Gbits/sec    0   36.6 MBytes
[  5]  13.00-14.00  sec   266 MBytes  2.23 Gbits/sec    0   36.6 MBytes
[  5]  14.00-15.00  sec   266 MBytes  2.23 Gbits/sec    0   36.6 MBytes
[  5]  15.00-16.00  sec   267 MBytes  2.24 Gbits/sec    0   36.6 MBytes
[  5]  16.00-17.00  sec   271 MBytes  2.28 Gbits/sec    0   36.6 MBytes
[  5]  17.00-18.00  sec   273 MBytes  2.29 Gbits/sec    0   36.6 MBytes
[  5]  18.00-19.00  sec   267 MBytes  2.24 Gbits/sec    0   36.6 MBytes
[  5]  19.00-20.00  sec   268 MBytes  2.25 Gbits/sec    0   36.6 MBytes
[  5]  20.00-21.00  sec   268 MBytes  2.25 Gbits/sec    0   36.6 MBytes
[  5]  21.00-22.00  sec   269 MBytes  2.25 Gbits/sec    0   36.6 MBytes
[  5]  22.00-23.00  sec   274 MBytes  2.29 Gbits/sec    0   36.6 MBytes
[  5]  23.00-24.00  sec   268 MBytes  2.24 Gbits/sec    0   36.6 MBytes
[  5]  24.00-25.00  sec   269 MBytes  2.25 Gbits/sec    0   36.6 MBytes
```

```
[  5]  25.00-26.00  sec   268 MBytes  2.25 Gbits/sec    0   36.6 MBytes
[  5]  26.00-27.00  sec   268 MBytes  2.24 Gbits/sec    0   36.6 MBytes
[  5]  27.00-28.00  sec   269 MBytes  2.25 Gbits/sec    0   36.6 MBytes
[  5]  28.00-29.00  sec   271 MBytes  2.27 Gbits/sec    0   36.6 MBytes
[  5]  29.00-30.00  sec   267 MBytes  2.24 Gbits/sec    0   36.6 MBytes
[  5]  30.00-31.00  sec   270 MBytes  2.26 Gbits/sec    0   36.6 MBytes
[  5]  31.00-32.00  sec   267 MBytes  2.24 Gbits/sec    0   36.6 MBytes
[  5]  32.00-33.00  sec   269 MBytes  2.26 Gbits/sec    0   36.6 MBytes
[  5]  33.00-34.00  sec   264 MBytes  2.21 Gbits/sec    0   36.6 MBytes
[  5]  34.00-35.00  sec   276 MBytes  2.31 Gbits/sec    0   36.6 MBytes
[  5]  35.00-36.00  sec   271 MBytes  2.28 Gbits/sec    0   36.6 MBytes
[  5]  36.00-37.00  sec   268 MBytes  2.25 Gbits/sec    0   36.6 MBytes
[  5]  37.00-38.00  sec   268 MBytes  2.25 Gbits/sec    0   36.6 MBytes
[  5]  38.00-39.00  sec   267 MBytes  2.24 Gbits/sec    0   36.6 MBytes
[  5]  39.00-40.00  sec   270 MBytes  2.26 Gbits/sec    0   36.6 MBytes
[  5]  40.00-41.00  sec   269 MBytes  2.26 Gbits/sec    0   36.6 MBytes
[  5]  41.00-42.00  sec   268 MBytes  2.25 Gbits/sec    0   36.6 MBytes
[  5]  42.00-43.00  sec   267 MBytes  2.24 Gbits/sec    0   36.6 MBytes
[  5]  43.00-44.00  sec   266 MBytes  2.23 Gbits/sec    0   36.6 MBytes
[  5]  44.00-45.00  sec   280 MBytes  2.35 Gbits/sec    0   36.6 MBytes
[  5]  45.00-46.00  sec   267 MBytes  2.24 Gbits/sec    0   36.6 MBytes
[  5]  46.00-47.00  sec   268 MBytes  2.24 Gbits/sec    0   36.6 MBytes
[  5]  47.00-48.00  sec   268 MBytes  2.25 Gbits/sec    0   36.6 MBytes
[  5]  48.00-49.00  sec   268 MBytes  2.25 Gbits/sec    0   36.6 MBytes
[  5]  49.00-50.00  sec   278 MBytes  2.33 Gbits/sec    0   36.6 MBytes
[  5]  50.00-51.00  sec   267 MBytes  2.24 Gbits/sec    0   36.6 MBytes
[  5]  51.00-52.00  sec   266 MBytes  2.24 Gbits/sec    0   36.6 MBytes
[  5]  52.00-53.00  sec   265 MBytes  2.22 Gbits/sec    0   36.6 MBytes
[  5]  53.00-54.00  sec   272 MBytes  2.28 Gbits/sec    0   36.6 MBytes
[  5]  54.00-55.00  sec   267 MBytes  2.24 Gbits/sec    0   36.6 MBytes
[  5]  55.00-56.00  sec   266 MBytes  2.23 Gbits/sec    0   36.6 MBytes
[  5]  56.00-57.00  sec   266 MBytes  2.23 Gbits/sec    0   36.6 MBytes
[  5]  57.00-58.00  sec   277 MBytes  2.32 Gbits/sec    0   36.6 MBytes
[  5]  58.00-59.00  sec   265 MBytes  2.23 Gbits/sec    0   36.6 MBytes
[  5]  59.00-60.00  sec   267 MBytes  2.24 Gbits/sec    0   36.6 MBytes
[  5]  60.00-61.00  sec   267 MBytes  2.24 Gbits/sec    0   36.6 MBytes
```

```
[  5]  61.00-62.00  sec   270 MBytes  2.27 Gbits/sec    0   36.6 MBytes
[  5]  62.00-63.00  sec   274 MBytes  2.30 Gbits/sec    0   36.6 MBytes
[  5]  63.00-64.00  sec   266 MBytes  2.23 Gbits/sec    0   36.6 MBytes
[  5]  64.00-65.00  sec   268 MBytes  2.25 Gbits/sec    0   36.6 MBytes
[  5]  65.00-66.00  sec   267 MBytes  2.24 Gbits/sec    0   36.6 MBytes
[  5]  66.00-67.00  sec   280 MBytes  2.35 Gbits/sec    0   36.6 MBytes
[  5]  67.00-68.00  sec   268 MBytes  2.25 Gbits/sec    0   36.6 MBytes
[  5]  68.00-69.00  sec   268 MBytes  2.24 Gbits/sec    0   36.6 MBytes
[  5]  69.00-70.00  sec   268 MBytes  2.25 Gbits/sec    0   36.6 MBytes
[  5]  70.00-71.00  sec   265 MBytes  2.22 Gbits/sec    0   36.6 MBytes
[  5]  71.00-72.00  sec   266 MBytes  2.23 Gbits/sec    0   36.6 MBytes
[  5]  72.00-73.00  sec   264 MBytes  2.22 Gbits/sec    0   36.6 MBytes
[  5]  73.00-74.00  sec   266 MBytes  2.23 Gbits/sec    0   36.6 MBytes
[  5]  74.00-75.00  sec   269 MBytes  2.26 Gbits/sec    0   36.6 MBytes
[  5]  75.00-76.00  sec   267 MBytes  2.24 Gbits/sec    0   36.6 MBytes
[  5]  76.00-77.00  sec   267 MBytes  2.24 Gbits/sec    0   36.6 MBytes
[  5]  77.00-78.00  sec   268 MBytes  2.25 Gbits/sec    0   36.6 MBytes
[  5]  78.00-79.00  sec   266 MBytes  2.23 Gbits/sec    0   36.6 MBytes
[  5]  79.00-80.00  sec   272 MBytes  2.28 Gbits/sec    0   36.6 MBytes
[  5]  80.00-81.00  sec   267 MBytes  2.24 Gbits/sec    0   36.6 MBytes
[  5]  81.00-82.00  sec   266 MBytes  2.23 Gbits/sec    0   36.6 MBytes
[  5]  82.00-83.00  sec   274 MBytes  2.30 Gbits/sec    0   36.6 MBytes
[  5]  83.00-84.00  sec   261 MBytes  2.19 Gbits/sec    0   36.6 MBytes
[  5]  84.00-85.00  sec   271 MBytes  2.28 Gbits/sec    0   36.6 MBytes
[  5]  85.00-86.00  sec   260 MBytes  2.19 Gbits/sec    0   36.6 MBytes
[  5]  86.00-87.00  sec   274 MBytes  2.30 Gbits/sec    0   36.6 MBytes
[  5]  87.00-88.00  sec   260 MBytes  2.19 Gbits/sec    0   36.6 MBytes
[  5]  88.00-89.00  sec   266 MBytes  2.23 Gbits/sec    0   36.6 MBytes
[  5]  89.00-90.00  sec   270 MBytes  2.27 Gbits/sec    0   36.6 MBytes
[  5]  90.00-91.00  sec   267 MBytes  2.24 Gbits/sec    0   36.6 MBytes
[  5]  91.00-92.00  sec   277 MBytes  2.32 Gbits/sec    0   36.6 MBytes
[  5]  92.00-93.00  sec   268 MBytes  2.25 Gbits/sec    0   36.6 MBytes
[  5]  93.00-94.00  sec   263 MBytes  2.20 Gbits/sec    0   36.6 MBytes
[  5]  94.00-95.00  sec   274 MBytes  2.30 Gbits/sec    0   36.6 MBytes
[  5]  95.00-96.00  sec   266 MBytes  2.23 Gbits/sec    0   36.6 MBytes
[  5]  96.00-97.00  sec   267 MBytes  2.24 Gbits/sec    0   36.6 MBytes
```

```
[  5]  97.00-98.00  sec   267 MBytes  2.24 Gbits/sec    0   36.6 MBytes
[  5]  98.00-99.00  sec   263 MBytes  2.21 Gbits/sec    0   36.6 MBytes
[  5]  99.00-100.00 sec   278 MBytes  2.34 Gbits/sec    0   36.6 MBytes
[  5] 100.00-101.00 sec   266 MBytes  2.23 Gbits/sec    0   36.6 MBytes
[  5] 101.00-102.00 sec   265 MBytes  2.23 Gbits/sec    0   36.6 MBytes
[  5] 102.00-103.00 sec   271 MBytes  2.27 Gbits/sec    0   36.6 MBytes
[  5] 103.00-104.00 sec   258 MBytes  2.16 Gbits/sec    0   36.6 MBytes
[  5] 104.00-105.00 sec   269 MBytes  2.26 Gbits/sec    0   36.6 MBytes
[  5] 105.00-106.00 sec   269 MBytes  2.26 Gbits/sec    0   36.6 MBytes
[  5] 106.00-107.00 sec   265 MBytes  2.23 Gbits/sec    0   36.6 MBytes
[  5] 107.00-108.00 sec   269 MBytes  2.25 Gbits/sec    0   36.6 MBytes
[  5] 108.00-109.00 sec   268 MBytes  2.24 Gbits/sec    0   36.6 MBytes
[  5] 109.00-110.00 sec   269 MBytes  2.25 Gbits/sec    0   36.6 MBytes
[  5] 110.00-111.00 sec   271 MBytes  2.28 Gbits/sec    0   36.6 MBytes
[  5] 111.00-112.00 sec   270 MBytes  2.27 Gbits/sec    0   36.6 MBytes
[  5] 112.00-113.00 sec   264 MBytes  2.21 Gbits/sec    0   36.6 MBytes
[  5] 113.00-114.00 sec   271 MBytes  2.27 Gbits/sec    0   36.6 MBytes
[  5] 114.00-115.00 sec   267 MBytes  2.24 Gbits/sec    0   36.6 MBytes
[  5] 115.00-116.00 sec   274 MBytes  2.30 Gbits/sec    0   36.6 MBytes
[  5] 116.00-117.00 sec   261 MBytes  2.19 Gbits/sec    0   36.6 MBytes
[  5] 117.00-118.00 sec   270 MBytes  2.27 Gbits/sec    0   36.6 MBytes
[  5] 118.00-119.00 sec   268 MBytes  2.25 Gbits/sec    0   36.6 MBytes
[  5] 119.00-120.00 sec   267 MBytes  2.24 Gbits/sec    0   36.6 MBytes
- - - - - - - - - - - - - - - - - - - - - - - - -
[ ID] Interval           Transfer     Bitrate         Retr
[  5]   0.00-120.00 sec  31.4 GBytes  2.25 Gbits/sec   45             sender
[  5]   0.00-120.05 sec  31.4 GBytes  2.25 Gbits/sec                  receiver

iperf Done.
```

```
--- iPerf3 Test 2/3: h2 → h8 ---
Connecting to host 10.0.0.9, port 5201
[  5] local 10.1.1.3 port 45464 connected to 10.0.0.9 port 5201
[ ID] Interval           Transfer     Bitrate         Retr  Cwnd
[  5]   0.00-1.00   sec   167 MBytes  1.40 Gbits/sec   45   36.3 MBytes
```

```
[  5]   1.00-2.00   sec   260 MBytes  2.18 Gbits/sec    0   36.3 MBytes
[  5]   2.00-3.00   sec   270 MBytes  2.26 Gbits/sec    0   36.3 MBytes
[  5]   3.00-4.00   sec   270 MBytes  2.26 Gbits/sec    0   36.3 MBytes
[  5]   4.00-5.00   sec   268 MBytes  2.25 Gbits/sec    0   36.3 MBytes
[  5]   5.00-6.00   sec   269 MBytes  2.25 Gbits/sec    0   36.3 MBytes
[  5]   6.00-7.00   sec   268 MBytes  2.25 Gbits/sec    0   36.3 MBytes
[  5]   7.00-8.00   sec   268 MBytes  2.25 Gbits/sec    0   36.3 MBytes
[  5]   8.00-9.00   sec   269 MBytes  2.26 Gbits/sec    0   36.3 MBytes
[  5]   9.00-10.00  sec   277 MBytes  2.33 Gbits/sec    0   36.3 MBytes
[  5]  10.00-11.00  sec   270 MBytes  2.27 Gbits/sec    0   36.3 MBytes
[  5]  11.00-12.00  sec   268 MBytes  2.25 Gbits/sec    0   36.3 MBytes
[  5]  12.00-13.00  sec   268 MBytes  2.25 Gbits/sec    0   36.3 MBytes
[  5]  13.00-14.00  sec   265 MBytes  2.23 Gbits/sec    0   36.3 MBytes
[  5]  14.00-15.00  sec   267 MBytes  2.24 Gbits/sec    0   36.3 MBytes
[  5]  15.00-16.00  sec   280 MBytes  2.35 Gbits/sec    0   36.3 MBytes
[  5]  16.00-17.00  sec   265 MBytes  2.23 Gbits/sec    0   36.3 MBytes
[  5]  17.00-18.00  sec   262 MBytes  2.20 Gbits/sec    0   36.3 MBytes
[  5]  18.00-19.00  sec   274 MBytes  2.30 Gbits/sec    0   36.3 MBytes
[  5]  19.00-20.00  sec   264 MBytes  2.22 Gbits/sec    0   36.3 MBytes
[  5]  20.00-21.00  sec   267 MBytes  2.24 Gbits/sec    0   36.3 MBytes
[  5]  21.00-22.00  sec   267 MBytes  2.24 Gbits/sec    0   36.3 MBytes
[  5]  22.00-23.00  sec   277 MBytes  2.32 Gbits/sec    0   36.3 MBytes
[  5]  23.00-24.00  sec   267 MBytes  2.24 Gbits/sec    0   36.3 MBytes
[  5]  24.00-25.00  sec   267 MBytes  2.24 Gbits/sec    0   36.3 MBytes
[  5]  25.00-26.00  sec   267 MBytes  2.24 Gbits/sec    0   36.3 MBytes
[  5]  26.00-27.00  sec   267 MBytes  2.25 Gbits/sec    0   36.3 MBytes
[  5]  27.00-28.00  sec   280 MBytes  2.35 Gbits/sec    0   36.3 MBytes
[  5]  28.00-29.00  sec   268 MBytes  2.25 Gbits/sec    0   36.3 MBytes
[  5]  29.00-30.00  sec   268 MBytes  2.25 Gbits/sec    0   36.3 MBytes
[  5]  30.00-31.00  sec   275 MBytes  2.30 Gbits/sec    0   36.3 MBytes
[  5]  31.00-32.00  sec   268 MBytes  2.25 Gbits/sec    0   36.3 MBytes
[  5]  32.00-33.00  sec   267 MBytes  2.24 Gbits/sec    0   36.3 MBytes
[  5]  33.00-34.00  sec   267 MBytes  2.24 Gbits/sec    0   36.3 MBytes
[  5]  34.00-35.00  sec   270 MBytes  2.27 Gbits/sec    0   36.3 MBytes
[  5]  35.00-36.00  sec   275 MBytes  2.30 Gbits/sec    0   36.3 MBytes
[  5]  36.00-37.00  sec   264 MBytes  2.21 Gbits/sec    0   36.3 MBytes
```

```
[  5]  37.00-38.00  sec   274 MBytes  2.29 Gbits/sec    0   36.3 MBytes
[  5]  38.00-39.00  sec   264 MBytes  2.22 Gbits/sec    0   36.3 MBytes
[  5]  39.00-40.00  sec   265 MBytes  2.22 Gbits/sec    0   36.3 MBytes
[  5]  40.00-41.00  sec   267 MBytes  2.24 Gbits/sec    0   36.3 MBytes
[  5]  41.00-42.00  sec   267 MBytes  2.24 Gbits/sec    0   36.3 MBytes
[  5]  42.00-43.00  sec   278 MBytes  2.34 Gbits/sec    0   36.3 MBytes
[  5]  43.00-44.00  sec   266 MBytes  2.23 Gbits/sec    0   36.3 MBytes
[  5]  44.00-45.00  sec   266 MBytes  2.23 Gbits/sec    0   36.3 MBytes
[  5]  45.00-46.00  sec   267 MBytes  2.24 Gbits/sec    0   36.3 MBytes
[  5]  46.00-47.00  sec   268 MBytes  2.25 Gbits/sec    0   36.3 MBytes
[  5]  47.00-48.00  sec   271 MBytes  2.28 Gbits/sec    0   36.3 MBytes
[  5]  48.00-49.00  sec   267 MBytes  2.24 Gbits/sec    0   36.3 MBytes
[  5]  49.00-50.00  sec   268 MBytes  2.25 Gbits/sec    0   36.3 MBytes
[  5]  50.00-51.00  sec   266 MBytes  2.23 Gbits/sec    0   36.3 MBytes
[  5]  51.00-52.00  sec   265 MBytes  2.22 Gbits/sec    0   36.3 MBytes
[  5]  52.00-53.00  sec   268 MBytes  2.25 Gbits/sec    0   36.3 MBytes
[  5]  53.00-54.00  sec   267 MBytes  2.24 Gbits/sec    0   36.3 MBytes
[  5]  54.00-55.00  sec   276 MBytes  2.32 Gbits/sec    0   36.3 MBytes
[  5]  55.00-56.00  sec   264 MBytes  2.22 Gbits/sec    0   36.3 MBytes
[  5]  56.00-57.00  sec   268 MBytes  2.25 Gbits/sec    0   36.3 MBytes
[  5]  57.00-58.00  sec   266 MBytes  2.23 Gbits/sec    0   36.3 MBytes
[  5]  58.00-59.00  sec   270 MBytes  2.26 Gbits/sec    0   36.3 MBytes
[  5]  59.00-60.00  sec   267 MBytes  2.24 Gbits/sec    0   36.3 MBytes
[  5]  60.00-61.00  sec   276 MBytes  2.32 Gbits/sec    0   36.3 MBytes
[  5]  61.00-62.00  sec   269 MBytes  2.26 Gbits/sec    0   36.3 MBytes
[  5]  62.00-63.00  sec   265 MBytes  2.23 Gbits/sec    0   36.3 MBytes
[  5]  63.00-64.00  sec   268 MBytes  2.24 Gbits/sec    0   36.3 MBytes
[  5]  64.00-65.00  sec   273 MBytes  2.29 Gbits/sec    0   36.3 MBytes
[  5]  65.00-66.00  sec   275 MBytes  2.31 Gbits/sec    0   36.3 MBytes
[  5]  66.00-67.00  sec   266 MBytes  2.23 Gbits/sec    0   36.3 MBytes
[  5]  67.00-68.00  sec   269 MBytes  2.26 Gbits/sec    0   36.3 MBytes
[  5]  68.00-69.00  sec   267 MBytes  2.24 Gbits/sec    0   36.3 MBytes
[  5]  69.00-70.00  sec   276 MBytes  2.32 Gbits/sec    0   36.3 MBytes
[  5]  70.00-71.00  sec   268 MBytes  2.24 Gbits/sec    0   36.3 MBytes
[  5]  71.00-72.00  sec   265 MBytes  2.22 Gbits/sec    0   36.3 MBytes
[  5]  72.00-73.00  sec   268 MBytes  2.25 Gbits/sec    0   36.3 MBytes
```

```
[  5]  73.00-74.00  sec   266 MBytes  2.23 Gbits/sec    0   36.3 MBytes
[  5]  74.00-75.00  sec   268 MBytes  2.24 Gbits/sec    0   36.3 MBytes
[  5]  75.00-76.00  sec   268 MBytes  2.25 Gbits/sec    0   36.3 MBytes
[  5]  76.00-77.00  sec   268 MBytes  2.24 Gbits/sec    0   36.3 MBytes
[  5]  77.00-78.00  sec   268 MBytes  2.24 Gbits/sec    0   36.3 MBytes
[  5]  78.00-79.00  sec   264 MBytes  2.21 Gbits/sec    0   36.3 MBytes
[  5]  79.00-80.00  sec   280 MBytes  2.35 Gbits/sec    0   36.3 MBytes
[  5]  80.00-81.00  sec   266 MBytes  2.23 Gbits/sec    0   36.3 MBytes
[  5]  81.00-82.00  sec   266 MBytes  2.23 Gbits/sec    0   36.3 MBytes
[  5]  82.00-83.00  sec   266 MBytes  2.23 Gbits/sec    0   36.3 MBytes
[  5]  83.00-84.00  sec   261 MBytes  2.19 Gbits/sec    0   36.3 MBytes
[  5]  84.00-85.00  sec   272 MBytes  2.29 Gbits/sec    0   36.3 MBytes
[  5]  85.00-86.00  sec   266 MBytes  2.23 Gbits/sec    0   36.3 MBytes
[  5]  86.00-87.00  sec   268 MBytes  2.25 Gbits/sec    0   36.3 MBytes
[  5]  87.00-88.00  sec   266 MBytes  2.23 Gbits/sec    0   36.3 MBytes
[  5]  88.00-89.00  sec   267 MBytes  2.24 Gbits/sec    0   36.3 MBytes
[  5]  89.00-90.00  sec   272 MBytes  2.28 Gbits/sec    0   36.3 MBytes
[  5]  90.00-91.00  sec   270 MBytes  2.26 Gbits/sec    0   36.3 MBytes
[  5]  91.00-92.00  sec   273 MBytes  2.29 Gbits/sec    0   36.3 MBytes
[  5]  92.00-93.00  sec   264 MBytes  2.21 Gbits/sec    0   36.3 MBytes
[  5]  93.00-94.00  sec   272 MBytes  2.28 Gbits/sec    0   36.3 MBytes
[  5]  94.00-95.00  sec   266 MBytes  2.23 Gbits/sec    0   36.3 MBytes
[  5]  95.00-96.00  sec   259 MBytes  2.17 Gbits/sec    0   36.3 MBytes
[  5]  96.00-97.00  sec   271 MBytes  2.28 Gbits/sec    0   36.3 MBytes
[  5]  97.00-98.00  sec   264 MBytes  2.22 Gbits/sec    0   36.3 MBytes
[  5]  98.00-99.00  sec   265 MBytes  2.22 Gbits/sec    0   36.3 MBytes
[  5]  99.00-100.00 sec   273 MBytes  2.29 Gbits/sec    0   36.3 MBytes
[  5] 100.00-101.00 sec   263 MBytes  2.21 Gbits/sec    0   36.3 MBytes
[  5] 101.00-102.00 sec   268 MBytes  2.25 Gbits/sec    0   36.3 MBytes
[  5] 102.00-103.00 sec   273 MBytes  2.29 Gbits/sec    0   36.3 MBytes
[  5] 103.00-104.00 sec   264 MBytes  2.22 Gbits/sec    0   36.3 MBytes
[  5] 104.00-105.00 sec   266 MBytes  2.23 Gbits/sec    0   36.3 MBytes
[  5] 105.00-106.00 sec   267 MBytes  2.24 Gbits/sec    0   36.3 MBytes
[  5] 106.00-107.00 sec   266 MBytes  2.23 Gbits/sec    0   36.3 MBytes
[  5] 107.00-108.00 sec   266 MBytes  2.23 Gbits/sec    0   36.3 MBytes
[  5] 108.00-109.00 sec   271 MBytes  2.27 Gbits/sec    0   36.3 MBytes
```

```
[  5] 109.00-110.00 sec   268 MBytes  2.25 Gbits/sec    0   36.3 MBytes
[  5] 110.00-111.00 sec   262 MBytes  2.20 Gbits/sec    0   36.3 MBytes
[  5] 111.00-112.00 sec   263 MBytes  2.21 Gbits/sec    0   36.3 MBytes
[  5] 112.00-113.00 sec   262 MBytes  2.20 Gbits/sec    0   36.3 MBytes
[  5] 113.00-114.00 sec   266 MBytes  2.23 Gbits/sec    0   36.3 MBytes
[  5] 114.00-115.00 sec   276 MBytes  2.32 Gbits/sec    0   36.3 MBytes
[  5] 115.00-116.00 sec   266 MBytes  2.23 Gbits/sec    0   36.3 MBytes
[  5] 116.00-117.00 sec   268 MBytes  2.25 Gbits/sec    0   36.3 MBytes
[  5] 117.00-118.00 sec   267 MBytes  2.24 Gbits/sec    0   36.3 MBytes
[  5] 118.00-119.00 sec   267 MBytes  2.24 Gbits/sec    0   36.3 MBytes
[  5] 119.00-120.00 sec   271 MBytes  2.27 Gbits/sec    0   36.3 MBytes
- - - - - - - - - - - - - - - - - - - - - - - - -
[ ID] Interval           Transfer     Bitrate         Retr
[  5]   0.00-120.00 sec  31.4 GBytes  2.25 Gbits/sec   45             sender
[  5]   0.00-120.05 sec  31.4 GBytes  2.25 Gbits/sec                  receiver

iperf Done.
```

```
--- iPerf3 Test 3/3: h2 → h8 ---
Connecting to host 10.0.0.9, port 5201
[  5] local 10.1.1.3 port 37314 connected to 10.0.0.9 port 5201
[ ID] Interval           Transfer     Bitrate         Retr  Cwnd
[  5]   0.00-1.00   sec   168 MBytes  1.41 Gbits/sec    0   24.4 MBytes
[  5]   1.00-2.00   sec   267 MBytes  2.24 Gbits/sec    0   24.4 MBytes
[  5]   2.00-3.00   sec   263 MBytes  2.21 Gbits/sec    0   24.4 MBytes
[  5]   3.00-4.00   sec   268 MBytes  2.25 Gbits/sec    0   24.4 MBytes
[  5]   4.00-5.00   sec   266 MBytes  2.23 Gbits/sec    0   24.4 MBytes
[  5]   5.00-6.00   sec   266 MBytes  2.24 Gbits/sec    0   24.4 MBytes
[  5]   6.00-7.00   sec   274 MBytes  2.30 Gbits/sec    0   24.4 MBytes
[  5]   7.00-8.00   sec   267 MBytes  2.24 Gbits/sec    0   24.4 MBytes
[  5]   8.00-9.00   sec   269 MBytes  2.26 Gbits/sec    0   24.4 MBytes
[  5]   9.00-10.00  sec   270 MBytes  2.26 Gbits/sec    0   24.4 MBytes
[  5]  10.00-11.00  sec   264 MBytes  2.22 Gbits/sec    0   24.4 MBytes
[  5]  11.00-12.00  sec   271 MBytes  2.27 Gbits/sec    0   24.4 MBytes
[  5]  12.00-13.00  sec   258 MBytes  2.17 Gbits/sec    0   24.4 MBytes
```

```
[  5]  13.00-14.00  sec   267 MBytes  2.24 Gbits/sec    0   24.4 MBytes
[  5]  14.00-15.00  sec   267 MBytes  2.24 Gbits/sec    0   24.4 MBytes
[  5]  15.00-16.00  sec   267 MBytes  2.24 Gbits/sec    0   24.4 MBytes
[  5]  16.00-17.00  sec   278 MBytes  2.33 Gbits/sec    0   24.4 MBytes
[  5]  17.00-18.00  sec   264 MBytes  2.22 Gbits/sec    0   24.4 MBytes
[  5]  18.00-19.00  sec   266 MBytes  2.23 Gbits/sec    0   24.4 MBytes
[  5]  19.00-20.00  sec   265 MBytes  2.22 Gbits/sec    0   24.4 MBytes
[  5]  20.00-21.00  sec   270 MBytes  2.27 Gbits/sec    0   24.4 MBytes
[  5]  21.00-22.00  sec   268 MBytes  2.24 Gbits/sec    0   24.4 MBytes
[  5]  22.00-23.00  sec   267 MBytes  2.24 Gbits/sec    0   24.4 MBytes
[  5]  23.00-24.00  sec   266 MBytes  2.23 Gbits/sec    0   24.4 MBytes
[  5]  24.00-25.00  sec   266 MBytes  2.23 Gbits/sec    0   24.4 MBytes
[  5]  25.00-26.00  sec   280 MBytes  2.35 Gbits/sec    0   24.4 MBytes
[  5]  26.00-27.00  sec   268 MBytes  2.24 Gbits/sec    0   24.4 MBytes
[  5]  27.00-28.00  sec   268 MBytes  2.25 Gbits/sec    0   24.4 MBytes
[  5]  28.00-29.00  sec   269 MBytes  2.26 Gbits/sec    0   24.4 MBytes
[  5]  29.00-30.00  sec   267 MBytes  2.24 Gbits/sec    0   24.4 MBytes
[  5]  30.00-31.00  sec   278 MBytes  2.33 Gbits/sec    0   24.4 MBytes
[  5]  31.00-32.00  sec   265 MBytes  2.22 Gbits/sec    0   24.4 MBytes
[  5]  32.00-33.00  sec   272 MBytes  2.28 Gbits/sec    0   24.4 MBytes
[  5]  33.00-34.00  sec   267 MBytes  2.24 Gbits/sec    0   24.4 MBytes
[  5]  34.00-35.00  sec   273 MBytes  2.29 Gbits/sec    0   24.4 MBytes
[  5]  35.00-36.00  sec   268 MBytes  2.24 Gbits/sec    0   24.4 MBytes
[  5]  36.00-37.00  sec   272 MBytes  2.28 Gbits/sec    0   24.4 MBytes
[  5]  37.00-38.00  sec   260 MBytes  2.18 Gbits/sec    0   24.4 MBytes
[  5]  38.00-39.00  sec   270 MBytes  2.27 Gbits/sec    0   24.4 MBytes
[  5]  39.00-40.00  sec   260 MBytes  2.18 Gbits/sec    0   24.4 MBytes
[  5]  40.00-41.00  sec   267 MBytes  2.24 Gbits/sec    0   24.4 MBytes
[  5]  41.00-42.00  sec   268 MBytes  2.25 Gbits/sec    0   24.4 MBytes
[  5]  42.00-43.00  sec   267 MBytes  2.24 Gbits/sec    0   24.4 MBytes
[  5]  43.00-44.00  sec   267 MBytes  2.24 Gbits/sec    0   24.4 MBytes
[  5]  44.00-45.00  sec   268 MBytes  2.24 Gbits/sec    0   24.4 MBytes
[  5]  45.00-46.00  sec   279 MBytes  2.34 Gbits/sec    0   24.4 MBytes
[  5]  46.00-47.00  sec   264 MBytes  2.22 Gbits/sec    0   24.4 MBytes
[  5]  47.00-48.00  sec   270 MBytes  2.27 Gbits/sec    0   24.4 MBytes
[  5]  48.00-49.00  sec   258 MBytes  2.17 Gbits/sec    0   24.4 MBytes
```

```
[  5]  49.00-50.00  sec   268 MBytes  2.25 Gbits/sec    0   24.4 MBytes
[  5]  50.00-51.00  sec   267 MBytes  2.24 Gbits/sec    0   24.4 MBytes
[  5]  51.00-52.00  sec   262 MBytes  2.20 Gbits/sec    0   24.4 MBytes
[  5]  52.00-53.00  sec   269 MBytes  2.25 Gbits/sec    0   24.4 MBytes
[  5]  53.00-54.00  sec   267 MBytes  2.24 Gbits/sec    0   24.4 MBytes
[  5]  54.00-55.00  sec   267 MBytes  2.24 Gbits/sec    0   24.4 MBytes
[  5]  55.00-56.00  sec   267 MBytes  2.24 Gbits/sec    0   24.4 MBytes
[  5]  56.00-57.00  sec   274 MBytes  2.30 Gbits/sec    0   24.4 MBytes
[  5]  57.00-58.00  sec   269 MBytes  2.25 Gbits/sec    0   24.4 MBytes
[  5]  58.00-59.00  sec   262 MBytes  2.20 Gbits/sec    0   24.4 MBytes
[  5]  59.00-60.00  sec   266 MBytes  2.23 Gbits/sec    0   24.4 MBytes
[  5]  60.00-61.00  sec   277 MBytes  2.32 Gbits/sec    0   24.4 MBytes
[  5]  61.00-62.00  sec   268 MBytes  2.25 Gbits/sec    0   24.4 MBytes
[  5]  62.00-63.00  sec   267 MBytes  2.24 Gbits/sec    0   24.4 MBytes
[  5]  63.00-64.00  sec   268 MBytes  2.25 Gbits/sec    0   24.4 MBytes
[  5]  64.00-65.00  sec   267 MBytes  2.24 Gbits/sec    0   24.4 MBytes
[  5]  65.00-66.00  sec   278 MBytes  2.33 Gbits/sec    0   24.4 MBytes
[  5]  66.00-67.00  sec   267 MBytes  2.24 Gbits/sec    0   24.4 MBytes
[  5]  67.00-68.00  sec   268 MBytes  2.25 Gbits/sec    0   24.4 MBytes
[  5]  68.00-69.00  sec   268 MBytes  2.25 Gbits/sec    0   24.4 MBytes
[  5]  69.00-70.00  sec   280 MBytes  2.34 Gbits/sec    0   24.4 MBytes
[  5]  70.00-71.00  sec   267 MBytes  2.24 Gbits/sec    0   24.4 MBytes
[  5]  71.00-72.00  sec   268 MBytes  2.25 Gbits/sec    0   24.4 MBytes
[  5]  72.00-73.00  sec   267 MBytes  2.24 Gbits/sec    0   24.4 MBytes
[  5]  73.00-74.00  sec   268 MBytes  2.25 Gbits/sec    0   24.4 MBytes
[  5]  74.00-75.00  sec   267 MBytes  2.24 Gbits/sec    0   24.4 MBytes
[  5]  75.00-76.00  sec   271 MBytes  2.27 Gbits/sec    0   24.4 MBytes
[  5]  76.00-77.00  sec   267 MBytes  2.24 Gbits/sec    0   24.4 MBytes
[  5]  77.00-78.00  sec   268 MBytes  2.25 Gbits/sec    0   24.4 MBytes
[  5]  78.00-79.00  sec   268 MBytes  2.25 Gbits/sec    0   24.4 MBytes
[  5]  79.00-80.00  sec   267 MBytes  2.24 Gbits/sec    0   24.4 MBytes
[  5]  80.00-81.00  sec   268 MBytes  2.25 Gbits/sec    0   24.4 MBytes
[  5]  81.00-82.00  sec   272 MBytes  2.28 Gbits/sec    0   24.4 MBytes
[  5]  82.00-83.00  sec   268 MBytes  2.25 Gbits/sec    0   24.4 MBytes
[  5]  83.00-84.00  sec   267 MBytes  2.24 Gbits/sec    0   24.4 MBytes
[  5]  84.00-85.00  sec   268 MBytes  2.25 Gbits/sec    0   24.4 MBytes
```

```
[  5]  85.00-86.00  sec   268 MBytes  2.25 Gbits/sec    0   24.4 MBytes
[  5]  86.00-87.00  sec   280 MBytes  2.34 Gbits/sec    0   24.4 MBytes
[  5]  87.00-88.00  sec   267 MBytes  2.24 Gbits/sec    0   24.4 MBytes
[  5]  88.00-89.00  sec   268 MBytes  2.25 Gbits/sec    0   24.4 MBytes
[  5]  89.00-90.00  sec   267 MBytes  2.24 Gbits/sec    0   24.4 MBytes
[  5]  90.00-91.00  sec   268 MBytes  2.25 Gbits/sec    0   24.4 MBytes
[  5]  91.00-92.00  sec   271 MBytes  2.27 Gbits/sec    0   24.4 MBytes
[  5]  92.00-93.00  sec   269 MBytes  2.26 Gbits/sec    0   24.4 MBytes
[  5]  93.00-94.00  sec   264 MBytes  2.21 Gbits/sec    0   24.4 MBytes
[  5]  94.00-95.00  sec   265 MBytes  2.23 Gbits/sec    0   24.4 MBytes
[  5]  95.00-96.00  sec   268 MBytes  2.25 Gbits/sec    0   24.4 MBytes
[  5]  96.00-97.00  sec   271 MBytes  2.27 Gbits/sec    0   24.4 MBytes
[  5]  97.00-98.00  sec   267 MBytes  2.24 Gbits/sec    0   24.4 MBytes
[  5]  98.00-99.00  sec   267 MBytes  2.24 Gbits/sec    0   24.4 MBytes
[  5]  99.00-100.00 sec   268 MBytes  2.24 Gbits/sec    0   24.4 MBytes
[  5] 100.00-101.00 sec   267 MBytes  2.24 Gbits/sec    0   24.4 MBytes
[  5] 101.00-102.00 sec   272 MBytes  2.28 Gbits/sec    0   24.4 MBytes
[  5] 102.00-103.00 sec   269 MBytes  2.25 Gbits/sec    0   24.4 MBytes
[  5] 103.00-104.00 sec   268 MBytes  2.25 Gbits/sec    0   24.4 MBytes
[  5] 104.00-105.00 sec   265 MBytes  2.23 Gbits/sec    0   24.4 MBytes
[  5] 105.00-106.00 sec   273 MBytes  2.29 Gbits/sec    0   24.4 MBytes
[  5] 106.00-107.00 sec   262 MBytes  2.19 Gbits/sec    0   24.4 MBytes
[  5] 107.00-108.00 sec   275 MBytes  2.30 Gbits/sec    0   24.4 MBytes
[  5] 108.00-109.00 sec   263 MBytes  2.21 Gbits/sec    0   24.4 MBytes
[  5] 109.00-110.00 sec   272 MBytes  2.28 Gbits/sec    0   24.4 MBytes
[  5] 110.00-111.00 sec   263 MBytes  2.21 Gbits/sec    0   24.4 MBytes
[  5] 111.00-112.00 sec   262 MBytes  2.20 Gbits/sec    0   24.4 MBytes
[  5] 112.00-113.00 sec   273 MBytes  2.29 Gbits/sec    0   24.4 MBytes
[  5] 113.00-114.00 sec   268 MBytes  2.25 Gbits/sec    0   24.4 MBytes
[  5] 114.00-115.00 sec   268 MBytes  2.25 Gbits/sec    0   24.4 MBytes
[  5] 115.00-116.00 sec   267 MBytes  2.24 Gbits/sec    0   24.4 MBytes
[  5] 116.00-117.00 sec   266 MBytes  2.23 Gbits/sec    0   24.4 MBytes
[  5] 117.00-118.00 sec   270 MBytes  2.26 Gbits/sec    0   24.4 MBytes
[  5] 118.00-119.00 sec   278 MBytes  2.33 Gbits/sec    0   24.4 MBytes
[  5] 119.00-120.00 sec   268 MBytes  2.25 Gbits/sec    0   24.4 MBytes
- - - - - - - - - - - - - - - - - - - - - - - - -
```

```
[ ID] Interval           Transfer     Bitrate         Retr
[  5]   0.00-120.00 sec  31.4 GBytes  2.25 Gbits/sec    0             sender
[  5]   0.00-120.05 sec  31.4 GBytes  2.25 Gbits/sec                  receiver

iperf Done.
```