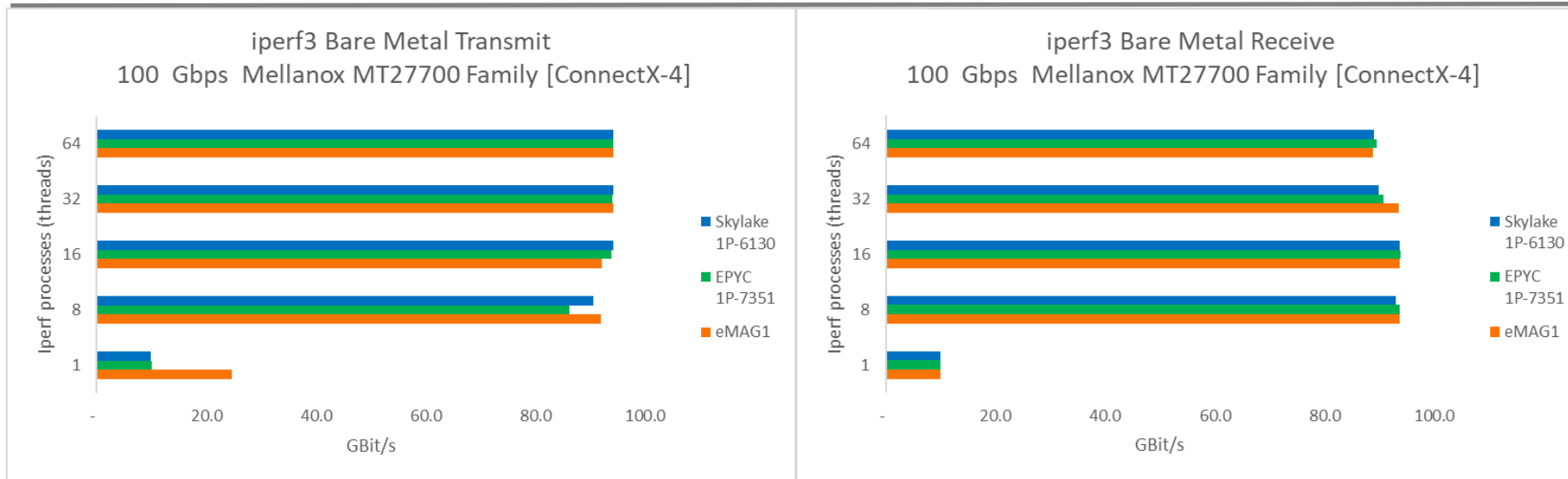


# iperf3 Bare Metal Network Performance\*



## Ampere eMAG

- 1 socket, 32 cores, 32 threads
- 3.0 GHz / 3.3GHz Turbo
- DDR = 32GBx8 channel, DDR4 2667MHz
- OS - CentOS 7.5.1804
- Kernel - 4.14.0-9.el7.centos.a.190204+amp.aarch64

## Intel Skylake Gold 6130

- 1 socket, 16 cores, 32 threads
- 2.1 GHz / 3.7 GHz turbo
- DDR = 32GBx6 channel, DDR4 2667MHz
- OS - CentOS 7.5.1804
- Kernel - 3.10.0-862.el7.x86\_64

## AMD EPYC 7351

- 1 socket, 16 cores, 32 threads
- 2.4 GHz / 2.9GHz Turbo
- DDR = 32GBx8 channel, DDR4 2667MHz
- OS - CentOS 7.5.1804
- Kernel - 3.10.0-862.el7.x86\_64

## Intel Broadwell E5-2697v4 (Client)

- 1 socket, 18 cores, 36 threads
- 2.1 GHz / 3.0 GHz turbo
- DDR = 32GBx4 channel, DDR4 2400MHz
- OS - CentOS 7.6.1810
- Kernel - 3.10.0-957.el7.x86\_64

## Mellanox ConnectX-4 100Gbps Configuration

- 1500 Maximum Transmission Unit (MTU)
- Large Receive Offload (LRO) enabled
- Transmit Interrupt Coalesce of 200 microseconds

## iperf3 Configuration

- iperf 3 -P 1
- 1-64 iperf3 client & server instances.

## Conclusions

- Transmit
  - All systems achieve the theoretical max transmit bandwidth of 94 Gbps
  - eMAG outperforms the Intel 6130 and AMD 7351 by ~2.5x in single thread transmit performance
- Receive
  - All systems achieve the theoretical max receive bandwidth of 94 Gbps
  - Bandwidth performance slowly tapers off beyond 12 threads with all 4 systems receiving data at ~89 Gbps at 64 threads
- Notes
  - Intel 6130 and Epyc 7351 have Turbo=On and Hyperthreading=On

\* Based on Ampere internal measurements