NETRONOME

SOLUTION BRIEF

Accelerating NFV with Qualcomm Centriq Servers and Netronome Agilio CX SmartNICs

QUALCOMM®

Qualcomm's Centriq 2400 Processor is the world's first 10nm server processor built specifically for the cloud datacenter market, and was designed for optimal compute performance and efficiency on today's multi-threaded cloud workloads..

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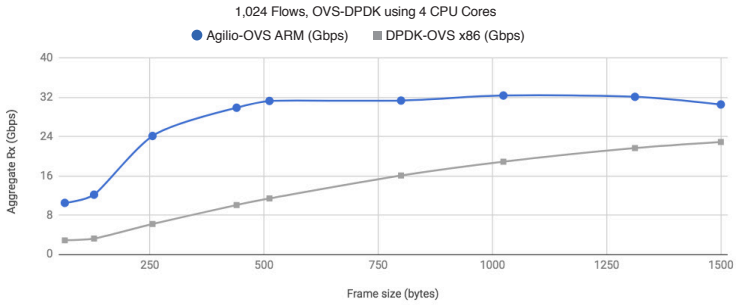
Netronome Agilio CX SmartNICs provide industry-leading solutions for server datapath acceleration and offload, and are designed specifically for today's cloud based server environments. By improving packet flow in and out of the servers, Agilio SmartNICs maximize the value of compute resources to run applications.

Together, Agilio CX SmartNICs with Centriq 2400 based servers provide a powerful solution to optimally address today's compute and I/O intensive workloads, such as those found in NFV and many cloud data center applications.

Centriq servers coupled with Agilio CX SmartNICs deliver industry-leading performance and lowest latency for NFV and Cloud Data Center applications

- Hardware-accelerated virtual switching improves performance for NFV
- Opens up virtual switch bottlenecks and delivers up to 4X throughput to VNFs
- Able to effectively double the number of VNFs per server
- Reduces packet latency under load through the VNF by over 50%

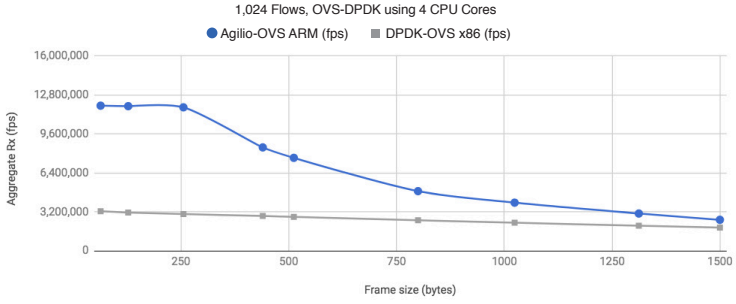
VXLAN Throughput, Agilio-OVS ARM vs. OVS-DPDK x86, PHY-guest.l2fwd.vf-PHY



A comparison was performed between a solution combining Qualcomm's Centriq 2400 Processor in a server with an Agilio CX SmartNIC and Agilio OVS 2.6 software, against a solution combining Intel's E5-2630 Processor in a server with an Intel XL-710 NIC and DPDK OVS 2.6 software. VNFs were configured to run on each server and perform packet forwarding based on MAC address. Maximum VXLAN tunneled traffic throughput into and out of the server was measured as a function of packet size.

Results of the testing clearly showed the Qualcomm Centriq + Agilio CX solution to significantly outperform the Intel E5-2630 + XL710 solution when it comes to packet throughput and maximum bandwidth running VNFs in a virtually switched and VXLAN tunneled environment.

VXLAN Frame Rate, Agilio-OVS ARM vs. OVS-DPDK x86, PHY-guest.l2fwd.vf-PHY



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