



QCT Validated and Certified Intel® Select Solutions for NFVI Forwarding Platform

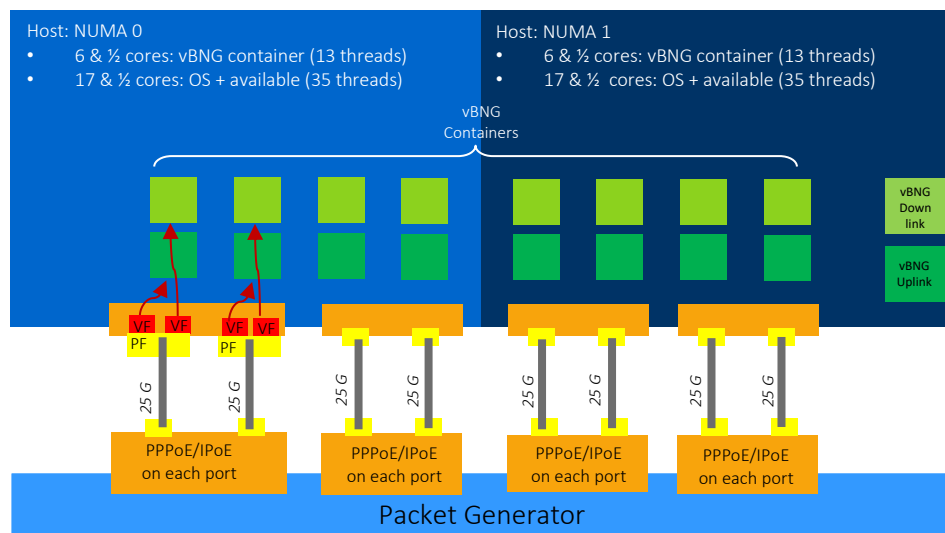
EXECUTIVE SUMMARY

Along with the transition of communication service providers (CSP) from proprietary single-function appliances to network functions virtualization (NFV) and software-defined network (SDN), platform integration and acceleration have become increasingly critical. QCT created a new server architecture and adopted the Intel® Select Solutions configuration to design this off-the-shelf solution, which can serve as a virtual broadband network gateway (vBNG), accelerating time to market while delivering excellent performance.

QCT has become familiar with several Intel workload-optimized technologies, such as SR-IOV and Data Plane Development Kit (DPDK), from its close partnership with Intel. Based on that knowledge, QCT designed QuantaGrid D52BQ-2U with an optimized configuration (see Table 1). Certified as an Intel Select Solutions for NFVI Forwarding Platform (NFVI FP), this solution features NUMA-balanced, NFV-ready, DPDK-enabled features and has been certified on Red Hat enterprise Linux and OpenStack Platforms.

Based on the testing scripts of Intel Selection Solutions for NFVI Forwarding Platform, QCT recorded approximately 172 Gbps of IPoE traffic throughput with no packet loss on QuantaGrid D52BQ-2U while the overall server power consumption was less than 438 W. Also, based on layer 3 forwarding, QuantaGrid D52BQ-2U reach 90% line rate with 256-byte packets. The above testing metrics confirmed the capability of QuantaGrid D52BQ-2U to handle vBNG workloads. Thus, QuantaGrid D52BQ-2U is a ready-to-go solution with the best-fit system and configuration for service providers planning to deploy NFV environments.

Figure 1: QuantaGrid D52BQ-2U testing topology on Intel Select Solutions for NFVI FP



The Solution

QuantaGrid D52BQ-2U is a validated and certified Intel Select Solutions for NFVI Forwarding Platform. The server and its pre-defined configuration can deliver high performance with the cost efficiency necessary for accelerating NFV deployment.

Solution Highlights:

- NFV-Ready, dual-socket, NUMA-balance 2U server
- DPDK-enabled for NFVI Forwarding Platform network acceleration
- Certified with Red Hat Enterprise Linux and Red Hat OpenStack Platform

Figure 2: Front and rear views of QuantaGrid D52BQ-2U



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Conclusion

The Intel Select Solutions for NFVI Forwarding Platform is designed to become the new benchmark of 2U rackmount servers, with solution components and a configuration selected to ensure maximum I/O throughput.

Table 1: Configuration of QuantaGrid D52BQ-2U for Intel Select Solutions for NFVI FP

Component	Requirements	Quality per node
CPU	Intel® Xeon® Gold 6252N Processor @ 2.3 GHz 24C/48T, 150 W or higher number Intel® Xeon® Gold/Platinum CPU SKU	2
Memory	DRAM only configuration: 384 GB (12 x 32 GB DDR4 2666 MHz)	12
NIC	4 x 25GbE dual port intel Ethernet Network Adapter XXV710 SFP28+	4 (2 per NUMA node)
Storage	2 x 480 GB Intel SATA Solid State Drive or Equivalent boot drive	2
LAN on Motherboard	10 Gbps port for pre-boot Execution Environment (PEX) and Operation, Administration and Management (OAM)	2

ABOUT QCT

Quanta Cloud Technology (QCT) is a global data center solution provider. We combine the efficiency of hyperscale hardware with infrastructure software from a diversity of industry leaders to solve next-generation data center design and operation challenges. QCT serves cloud service providers, telecoms, and enterprises running public, hybrid and private clouds.

Product lines include hyperconverged and software-defined data center solutions as well as servers, storage, switches and integrated racks with a diverse ecosystem of hardware components and software partners. QCT designs, manufactures, integrates and services cutting-edge offerings via its own global network. The parent of QCT is Quanta Computer, Inc., a Fortune Global 500 corporation. <http://www.QCT.io>



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