QxStack

NFV Infrastructure with Red Hat OpenStack Platform

QCT SOLUTION

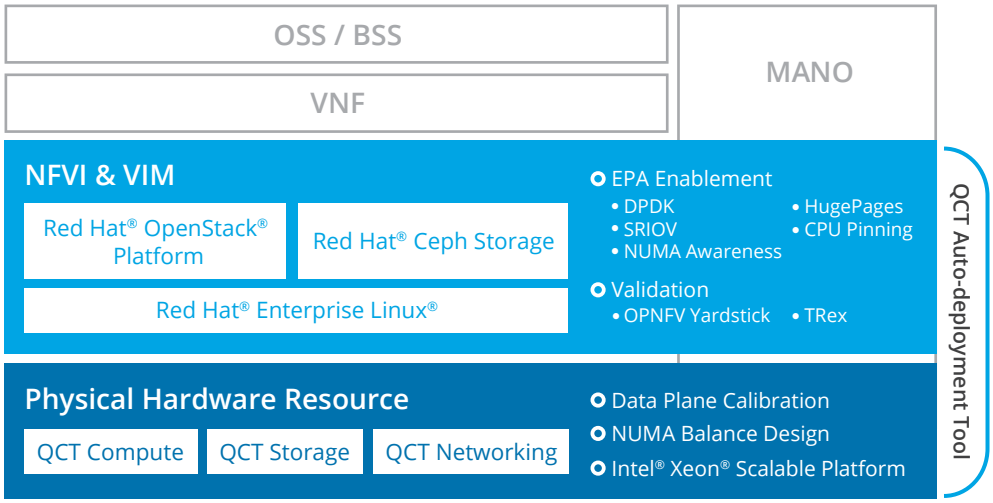
A Carrier-Grade Infrastructure Pre-integrated and Validated for Network Service Providers

Key Values

- Optimized solution with auto deployment tool to accelerate time-to-market
- Enabled EPA features with validated test suite to improve network performance.
- Integrated Red Hat OpenStack Platform with Red Hat Ceph Storage for scalability and flexibility.
- Adheres to ETSI standards for openness and full compatibility.

Automation for Efficiency

QCT QxStack Network Function Virtualization (NFV) Infrastructure with Red Hat® OpenStack® Platform is an optimized platform for network service providers and telecommunications service providers following the industry standard European Telecommunications Standards Institute (ETSI) NFV architecture. QxStack NFV Infrastructure with Red Hat OpenStack Platform adopts QCT's hardware platforms powered by the latest Intel technologies and is integrated with Red Hat OpenStack Platform and Red Hat Ceph Storage, featuring scalability and high availability. QCT implements Enhanced Platform Awareness (EPA) technologies to improve network performance and satisfy modern NFV requirements. Validated by the Open Platform for NFV (OPNFV) Yardstick and TRex test suites, QCT provides QxStack NFV Infrastructure with Red Hat OpenStack Platform as a carrier-grade solution.



Key Features and Capabilities

Open and Flexible

Under the scope of NFV architecture defined by ETSI, QxStack NFV Infrastructure with Red Hat OpenStack Platform is an open and standardized NFVI platform which supports various NFV use cases. From the physical layer to the virtualization layer, QCT builds an interoperable NFV foundation without lock-in, that avoids issues from proprietary appliances and provides the architecture flexibility.

Enhanced Platform Awareness (EPA) Design

The stack adopts EPA designs and fully takes advantage of QCT NUMA-balanced systems. With NUMA awareness and CPU pinning, QxStack NFV Infrastructure with Red Hat OpenStack Platform is able to allocate resources separately; while with PCI pass-through technology, the compute nodes with DPDK and SR-IOV enablement are proved to improve network performance.

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Found at: www.QCT.io/wheretobuy

Specifications

Guaranteed Scalability and High Availability

QxStack NFV Infrastructure with Red Hat OpenStack Platform is integrated with Red Hat OpenStack Platform and Red Hat Ceph storage, providing the industry-leading scalability and performance. The high availability (HA) on compute, storage and network is desperately considered to ensure business continuity and prevent risks of data-loss.

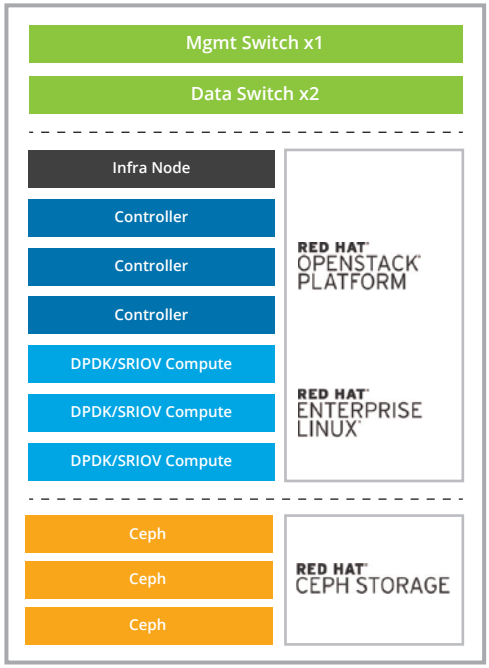
Validated by Yardstick and TRex Test Suites

To provide a reliable NFV infrastructure, the designed OPNFV Yardstick and TRex test suites verified the resource allocation and PCI pass-through performance. QCT has executed a series of tests and proved the NFV-ready high performance of network throughput, packet loss, and latency.

Automated Deployment for Large Scale

Real world NFV deployments generally come with massive scale. QCT QxStack auto-deployment tool is suitable for hastening the complicated OpenStack set-up process and improving the CAPEX/ OPEX when adopting NFVI.

Reference Architecture



Switch

Management Switch — Node Qty: 1
48 100/1000/10GBASE-T | 6 QSFP+ ports

Top-of-Rack (ToR) Switch — Node Qty: 2
48 10/25GbE SFP28 | 8 QSFP28 ports

Infra Node

Node Qty: 1

CPU: 2x 22 core
RAM: 192~384 GB
Storage: 2x 480G SSD SATA
NIC: 1x 25 GbE dual ports

Controller Node

Node Qty: 3

CPU: 2x 22 core
RAM: 192~384 GB
Storage: 2x 480G SSD SATA
NIC: 4x 25 GbE dual ports

DPDK/SRIOV Compute Node

Node Qty: N≥ 3

CPU: 2x 22 core
RAM: 384 GB
Storage: 2x 480G SSD SATA
NIC: 4x 25 GbE dual ports

Storage Node

Node Qty: 3

Storage: 96~120TB Raw Capacity
3x 240G SATA SSD (for Journal)
1x SATADOM 128GB (for boot OS)
NIC: 1x 25 GbE dual ports

About QCT

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

Product lines include hyper-converged and software-defined datacenter solutions as well as servers, storage, switches, integrated racks with a diverse ecosystem of hardware component 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.

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QCT authorized partner

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