

QxStack

NFV Infrastructure with Red Hat OpenStack Platform



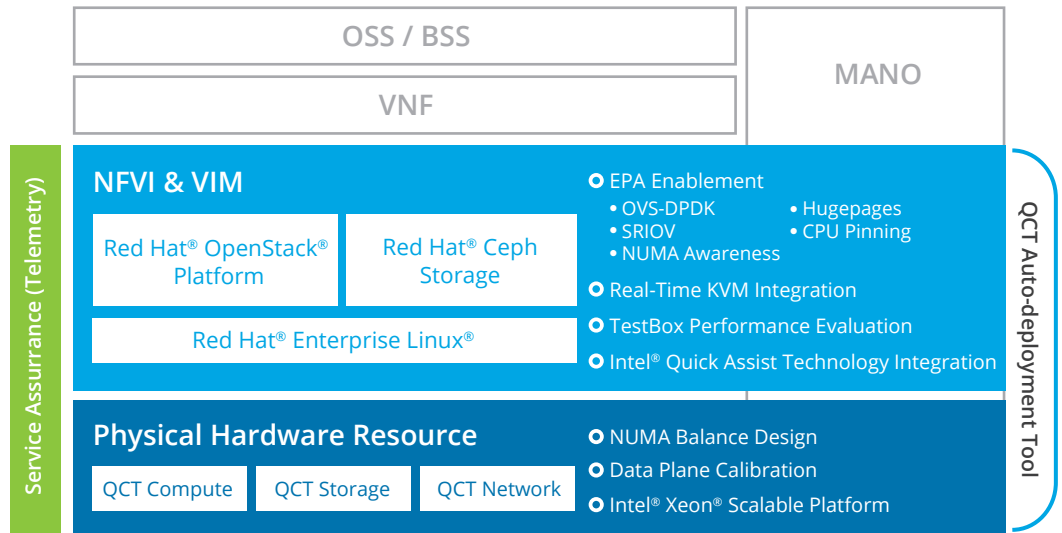
A Carrier-Grade Infrastructure Pre-integrated and Validated for Network Service Providers

Key Values:

- Optimized solution with QCT Auto Deployment Tool for accelerating time-to-market.
- Enabled EPA features with validated test suite for improving 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.
- Intel® Quick Assist Technology (QAT) and Real-Time KVM optional features to accelerate system performance.
- Add-on solutions for system validation and operational monitoring.

At a Glance

QCT QxStack Network Function Virtualization (NFV) Infrastructure with Red Hat® OpenStack® Platform is an optimized platform for network service providers and carriers 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 the Red Hat OpenStack Platform and Red Hat's 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 QCT's TestBox, 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 vendor lock-in, that avoids issues from proprietary appliances and provides an architecture with high 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 OVS-DPDK and SR-IOV enablement are proven to improve network performance.



Validated by QCT TestBox

To provide a reliable NFV infrastructure, QCT introduces a Test-in-a-Box (named TestBox) for an easy-to-use toolkit to validate the NFVI solution. QCT has executed a series of tests to verify the resource allocation and PCI pass-through performance and consolidate the test results of network throughput, packet loss, and latency.



Powered by Intel® Xeon® Scalable Processors

Found at: www.QCT.io/wheretobuy

Specifications



Found at:
www.QCT.io/wheretobuy

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Optional Features: Intel® Quick Assist Technology (QAT) & Real-Time KVM

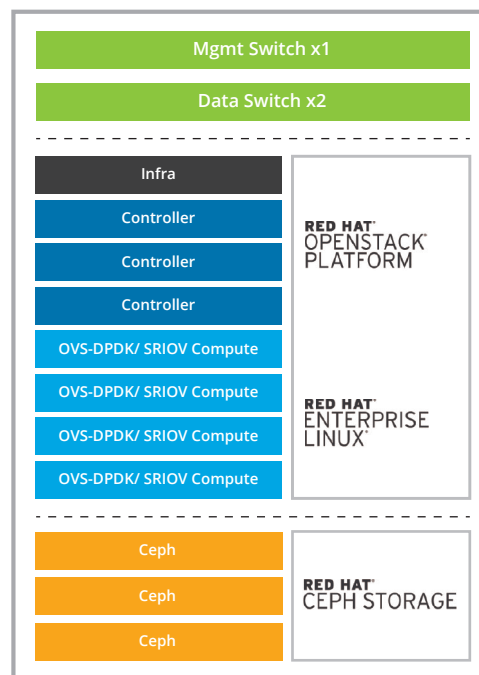
QCT enables two optional features to enhance system performance. By adopting the Intel® QAT card, the architecture can provide the security, authentication, and compression, along with acceleration, performance, and efficiency. With Real-Time KVM, the architecture can deliver low average latency and minimal jitter to avoid spikes that might cause a service degradation or even disruption.



Additional Tools: Automated Deployment and Service Assurance Framework

Real world NFV deployments generally come with a massive scale. QCT Auto Deployment Tool is suitable for hastening the complicated OpenStack set-up process. For service assurance, QCT also developed telemetry solution to deal with large scale performance data (metrics) and to implement service assurance for administrator to monitor resources.

Recommended Minimum Specifications



Switch	
Management Switch	Node Qty: 1
48 10/100/1000BAE-T	4 1/10GbE SFP+ 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	Storage: 2x 240GB SATA SSD
RAM: 192GB	NIC: 2x 25GbE dual ports
Controller Node Node Qty: 3	
CPU: 2x 22 core	Storage: 2x 240GB SATA SSD
RAM: 384GB	NIC: 4x 25GbE dual ports
OVS-DPDK/SRIOV Compute Node Node Qty: 4	
CPU: 2x 22 core	Storage: 2x 240GB SATA SSD
RAM: 384 GB	NIC: 4x 25GbE dual ports
Storage Node (Optional) Node Qty: 3	
Storage: 96~120TB Raw Capacity	
4x 480G SATA SSD (for Journal)	
2x 256GB M.2 (for boot OS)	
NIC: 2x 25GbE dual ports	

About QCT

QCT is a global data center solution provider extending the power of hyperscale data center design in standard and open SKUs to all datacenter customers. Product lines include servers, storage, network switches, integrated rack systems and cloud solutions, all delivering hyperscale efficiency, scalability, reliability, manageability, serviceability and optimized performance for each workload. QCT offers a full spectrum of datacenter products and services from engineering, integration and optimization to global supply chain support, all under one roof. The parent of QCT is Quanta Computer Inc., a Fortune Global 500 technology engineering and manufacturing company.

<http://www.QCT.io>

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