QxStack Ubuntu OpenStack Edition

A Proven Highly Available Architecture with Faster Time-to-Value

QCT (Quanta Cloud Technology) introduces QxStack Ubuntu OpenStack Edition, a converged cloud solution powered by The Canonical Distribution of Ubuntu OpenStack. It delivers the fastest and reliable way to build an OpenStack cloud with the verified and thoroughly tested architecture, which dramatically reduces the time and risk associated with your OpenStack cloud projects. With QxStack, building an OpenStack cloud is no longer complicated, but instead fast and easy.

Production-Quality Highly Available Configuration | High Reliability

QxStack Ubuntu OpenStack Edition is designed to provide high availability of not only all services in OpenStack but also physical structure in this reference architecture. It's tested through destruction verification and real-world production requirements. It ensures continuous access to business services and delivery of enterprise-grade SLAs. The solution is also based on Ubuntu, the most popular platform for OpenStack deployments, backed by commercial support and upstream OpenStack community.

Fast Deployment and Ease of Management with Ubuntu OpenStack | Faster Time-to-Value

With QxStack, building an OpenStack cloud is no longer difficult to achieve. QCT has created optimized reference architecture while keeping the flexibility to deploy the cloud that better suits your business. Moreover, by leveraging Ubuntu OpenStack MAAS and Juju, hardware can be dynamically provisioned, so physical servers can be added or recycled with no disruption to the rest of the network; and Juju, because of its automated deployment and self-service capabilities, reduces the time to provision business services. You can literally go from bare metal to a well-configured OpenStack cloud in minutes and manage racks of servers as a single resource, which allows you to increase data center efficiency and lower operating cost.

Modular Scalability | Flexible Expansion on Resources

QxStack Ubuntu OpenStack Edition can scale resources up or down as needed by adding hardware, creating a new availability zone or reallocating existing resources. It allows you to start small and linearly scale up compute and storage resources without infrastructure re-engineering. Its scalability comes from its modular design on services. Each compute or compute-storage node serves as the expansion unit to scale out your resources. QxStack significantly streamlines the cloud operations at scale in production.

OpenStack Innovation | Agility

Instead of using proprietary expensive SAN storage equipment to build cloud environment, QxStack utilizes distributed software-driven storage, and can be deployed in a hyper converged compute-storage architecture, which largely improves utilization efficiency of hardware resources. For the networking, it supports Open vSwitch and VLAN bridging solutions in cloud set-up. It also supports multiple hypervisors like KVM, Xen, and LXC. These all innovations provide flexibility to construct a production cloud that meets IT and business requirements.

One-Stop Shop | Lower CAPEX and OPEX

QCT provides the complete product line and services from server, storage, network to rack and cloud solutions. QxStack simplifies hardware and software procurement complexity with cost effective bundled solutions, and reduces operational cost to install and troubleshoot technical issues. QCT has considerable skills and expertise in each component of the architecture, fulfilling all your OpenStack cloud vision into a reality.

Features:

- Highly available configuration
- Fast deployment
- Ease of management
- Modular scalability
- SDS and SDN innovations
- One-stop shop

Benefits:

- High reliability
- Faster time-to-value
- Flexible expansion on resources
- Agility
- Lower CAPEX and OPEX

ubuntu
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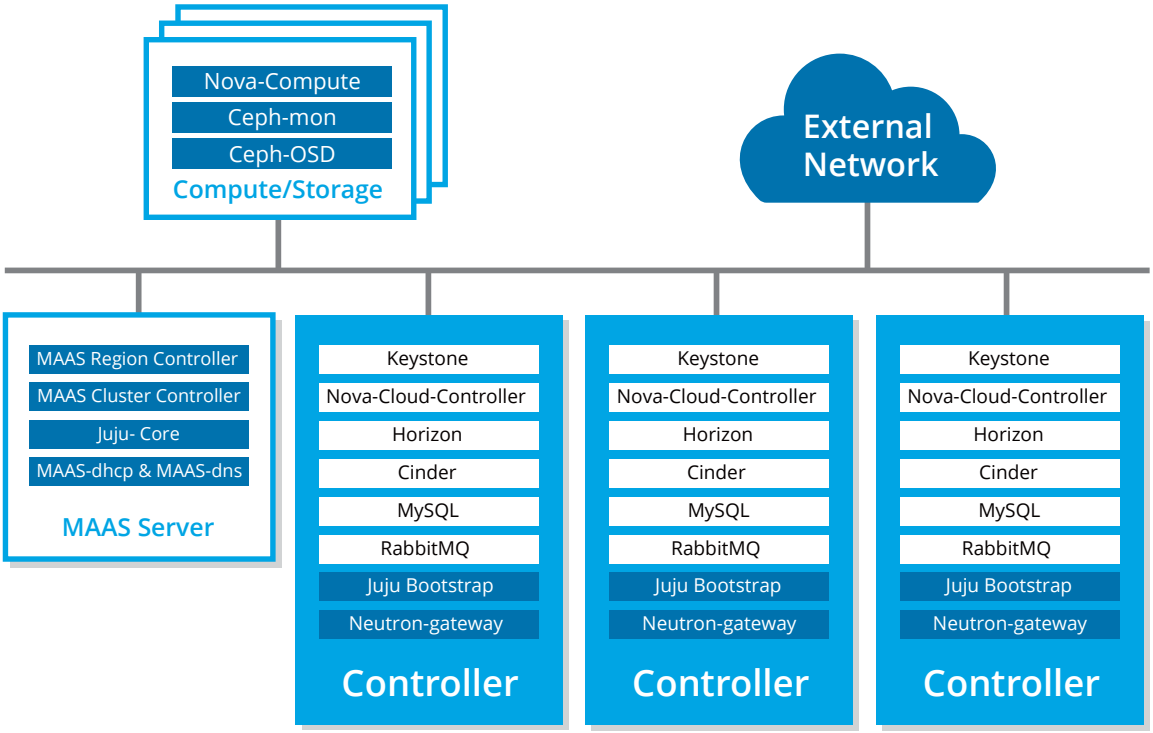
Deployment and System Requirements

QCT QxStack supports all OpenStack released components, ensuring service providers and enterprises have best-in-class capabilities to deploy an open source cloud. Components include:

- **Deployment node (MAAS)** provisions bare metal servers for Controller and Compute-Storage nodes.
- **Controller node** provides the self-service, image repository and management capabilities.
- **Compute-Storage node** hosts VMs for workloads running in the cloud, and hosts block or object storage using Ceph or Swift.

Logical Model of Reference Architecture



Recommended Specification

QCT QxStack Ubuntu OpenStack Edition delivers three models QS-100 All-In-One, QS-200 High-Density and QS-300 Rack for different demand and IT environments.

QS-100 All-In-One

STRATOS S910-X31E (9-Node)

Ideal for experiencing and testing OpenStack

- A complete OpenStack HA architecture in an energy efficient 3U Microserver
- Suitable for lighter workload and OA systems
- Support up to 40VMs*

Role		Processor	RAM	Storage**
MAAS	1 node	1 x Intel® Xeon® processor E3-1241 v3(4Core, 8HT)	32GB	2 x 600GB
Controller	3 nodes	1 x Intel® Xeon® processor E3-1241 v3(4Core, 8HT)	32GB	2 x 600GB
Compute-Storage	5 nodes	1 x Intel® Xeon® processor E3-1241 v3(4Core, 8HT)	32GB	4 x 600GB
Networking	- Each node with 1GbE dual ports - Built-in switch on the system with 10GbE SFP+ dual ports			

QS-200 High-Density

QuantaPlex T41S-2U (2 sets)

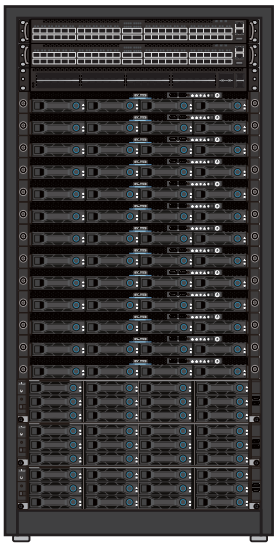
Highest density of a resource pool

- Ideal for regional office and branch office, and small enterprise
- 2U 4-node server featuring highest computing density
- Support up to 200VMs*

Role		Processor	RAM	Storage**
MAAS	1 node	2 x Intel® Xeon® processor E5-2630 v3 (8Core, 16HT)	64GB	2 x 600GB
Controller	3 nodes	2 x Intel® Xeon® processor E5-2670 v3 (12Core, 24HT)	128GB	2 x 600GB
Compute-Storage	4 nodes	2 x Intel® Xeon® processor E5-2670 v3 (12Core, 24HT)	256GB (max 512GB)	2 x 600GB 4 x 2TB
Networking	10GbE ports switch			

QS-300 Rack

QS-300 is designed for hyperscale with rack level OpenStack architecture. In addition to the following recommended spec based on standard rack configuration, QS-300 can be also deployed in Open Compute Project hardware, QCT Rackgo X F06A/F06D, highly dense server with 4 nodes in 2 OU (open unit) space.



QuantaGrid D51B-1U/2U

- Full-featured design for demanding storage and computing workload
- Up to 768GB memories
- 2U twelve 3.5” or twenty-four 2.5” drives for Compute-Storage nodes
- More than four 10GbE LAN ports for high redundancy
- Support up to 500VMs*

Role		Processor	RAM	Storage**
MAAS	1 node	2 x Intel® Xeon® processor E5-2630 v3 (8Core, 16HT)	64GB	2 x 600GB
Controller	3 nodes	2 x Intel® Xeon® processor E5-2670 v3 (12Core, 24HT)	128GB	2 x 600GB
Compute	9 nodes	2 x Intel® Xeon® processor E5-2670 v3 (12Core, 24HT)	256GB (max 768GB)	2 x 600GB
Storage	3 nodes	2 x Intel® Xeon® processor E5-2630 v3 (8Core, 16HT)	64GB	12 x 3TB
Networking	10GbE ports switch			

* VM with medium flavor: 2vCPU, 4GB RAM, 50GB disk space
** Optional to replace 2 SATA/SAS HDD of boot OS with SSD in MAAS, Controller, Compute-Storage and Compute nodes.

About QCT

QCT (Quanta Cloud Technology) is a global datacenter solution provider extending the power of hyperscale datacenter 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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