

QCT Rack System Portfolio

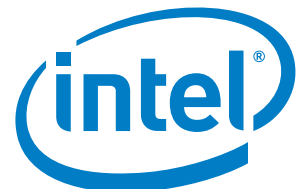
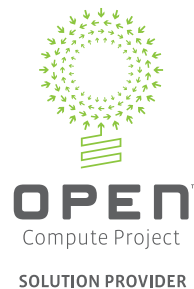
Rackgo M | Rackgo X



LEADING THE HYPERSCALE CLOUD REVOLUTION

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QCT Rack System

The exponential growth in compute and storage requirements in datacenters has gone hand in hand with a strong increase in power consumption over the past few years. In an attempt to keep operating budgets low, QCT has long been committed to providing ways of optimizing datacenter hardware architecture.

QCT offers two completely different OCP rack infrastructures in Rackgo X and Rackgo M. Each offers unique features and benefits for your specific datacenter needs.

Rackgo M



QCT Rackgo M, based on the OCP Open Cloud Server (OCS) specifications contributed by Microsoft®, is an innovative solution for running business applications. It is built to integrate server, storage and networking functionality with technology exchange and heterogeneous management. QCT Rackgo M offers the ease, density, availability, affordability and scalability that are central to the blade technology promise. QCT Rackgo M shares the same design concept of blade servers with integrated storage, all in an easy-to-use package that is designed specifically for the office and distributed enterprise environment.

Infrastructure Introduction

One Rackgo M chassis holds up to 24 compute and storage blades in any combination of your choice, using an integrated chassis management module in a mere 12U rack space. The chassis centralizes the high efficiency power supplies (5+1 redundancy) for up to a pool of 8K watt power source, and utilizes large fan walls to reach an operational efficiency exceeding that of conventional servers currently available in the market.

Similarity to Blade Server

Furthermore, with both 40Gbps-ready (network) and 12G-SAS-ready (storage) tray backplane design, Rackgo M increases data transfer speed and efficiency across blade servers and networks. The shared single compute/storage tray backplane design and pre-configured rear cables function the same as the blade midplane to help reduce service complexity and allow enterprise businesses to run mission critical applications.

MC510 Compute Blade

Open Cloud Server (OCS)
Inspired Platform



Processor	(2) Intel® Xeon® processor E5-2600 v3, v4 product family
Chipset	Intel® C610
Memory	(16) 2133/2400 MHz DDR4 RDIMM/ LRDIMM
Storage	(4) 2.5" hot-plug, (4) 2.5" fixed SSD
Network Controller	Option 1: Intel® 82599ES dual-port 10GbE SFP+ mezzanine card Option 2: Mellanox® CX3-PRO dual-port 40GbE mezzanine card
Expansion Slot	Option 1: (1) PCIe Gen3 x8 QCT SAS mezzanine slot (1) PCIe Gen3 x8 QCT Network OCS mezzanine slot Option 2: (1) PCIe Gen3 x8 LP MD-2 (1) PCIe Gen3 x8 QCT Network OCS mezzanine slot
Form Factor	Half-width blade

MS100 Storage Blade

High Density Half-Width
JBOD with up to 6TB
Storage Capacity



Controller Module	(1) SAS Interface Modules (SIM)
External I/O Ports	(2) 6Gb/s mini-SAS port
Storage	(10) 3.5" fixed SAS/SATA HDD/SSDs
Form Factor	Half-width blade

Rackgo X, An Innovative Rack Solution Inspired by OCP

The cloud is changing at the speed of light. Chief Technology Officers working on datacenter build-out say data growth, lack of space, and power and cooling issues are their biggest challenges. Conventional datacenter hardware cannot keep up with the growing density and large capacity requirements of datacenters. With pioneering ideas and engineering excellence, QCT meets datacenter demands for more efficient and simplified hardware design.

QCT Rackgo X is a rack solution inspired by the Open Compute Project (OCP, www.opencompute.org) standard. Designed for low CAPEX and OPEX with simplicity, energy and cooling efficiency, high density, serviceability, scalability, and manageability, Rackgo X is ideally suited for cloud service providers or large enterprise datacenters looking for the highest level of efficiency.



Serviceability and Easy Maintenance

The Rackgo X boasts serviceability. Designed for easy cold aisle operation, most service parts are tool-less and can be replaced in the front aisle.

Compared to conventional design where each node equips its own power supply unit (PSU), the Rackgo X's centralized PSUs in the rack greatly reduces total PSUs. Its vanity-free design eliminates excessive components and reduces the total component number, resulting in minimized maintenance effort and a better mean time between failures (MTBF).

Designed for security and efficiency

With Rackgo X, the rack enclosure is designed to accommodate a variety of equipment mounting configurations. Rackgo X features an innovative RSA management backplane design, which in the Open Rack v2 configuration reduces three power bus bars into a single bus bar to provide extra space, optimize manageability and reduce CAPEX. QCT's Rackgo X v2 rack also adds the optional front and rear door for extra off-premises security. As long as the design follows Open Compute Project standards, the chassis—whether server chassis, storage chassis, or other—will fit in the rack slots and will be powered.

Rack Specification

QCT Rackgo X offers both Open Rack v1 and v2 spec for different usage models.

General Specification :

- Racks are based on OCP Open Rack v1 and v2 specs
- Open Rack v1: three bus bars design
- Open Rack v2: single bus bar design
- Each power shelf contains 5+1 redundant PSUs
- Each power shelf provides 12.5Kwatt total with 2500Watt PSUs
- Support 230V 3-phase 50A power

Options :

- 43 OU (Single Power Shelf/ Dual Power Shelf)
Rack Dimension: 24" W x 87"H x 42"D
- 20 OU (Single Power Shelf)
Rack Dimension: 24" W x 43.9"H x 42"D
(1 OU=1.89")



20 OU

43 OU

Like the LEGO concept, Rackgo X provides modular units to be built on each other, including servers, microservers, JBOD storage and QuantaMesh network switches. Customers can choose components to fit the specific needs of their datacenter applications.

Rackgo X Big Sur

First-Ever Open Compute Project GPU Server



Processor	(2) Intel® Xeon® processor E5-2600 v4 product family
Coprocessor	(8) GPGPU/ Intel® Xeon Phi™ cards
Chipset	Intel® C610
Memory	(16) 2133MHz DDR4 RDIMM/LRDIMM
Storage	(8) 2.5" hot-swappable drive bays
Network Controller	Support following QCT OCP mezzanine cards (PCIe x8) for network options in front IO: (1) QCT 1GbE RJ45 dual port OCP mezzanine card or (1) QCT 10GbE RJ45 dual port OCP mezzanine card or (1) QCT 10G/25Gb/40G SFP+ OCP dual port mezzanine card (1) QCT 56G QSFP+ OCP single port mezzanine card
Expansion Slot	(1) PCIe Gen3 x8 OCP mezzanine card (1) PCIe Gen3 x8 QCT SAS mezzanine card
Form Factor	4OU (Open Rack) Rackmount
Rack Compatible	Open Rack v2

Rackgo X Leopard Cave (3-Node)

Powerful 2U3N Open Rack v2 Compute System



Processor	(2) Intel® Xeon® processor E5-2600 v4 product family
Chipset	Intel® C610
Memory	(16) 2133MHz DDR4 DIMM/LRDIMM per node
Storage	(1) 3.5" fixed drive bay per node
Network Controller	Support following QCT OCP mezzanine cards (PCIe x8) for network options in front IO per node: (1) QCT 1GbE RJ45 dual port OCP mezzanine card or (1) QCT 10GbE RJ45 dual port OCP mezzanine card or (1) QCT 10G/25Gb/40G SFP+ OCP dual port mezzanine card (1) QCT 56G QSFP+ OCP single port mezzanine card
Expansion Slot	(1) PCIe Gen3 x8 OCP mezzanine card per node (1) PCIe Gen3 x16 FHHL PCIe card per node
Form Factor	(3) nodes in 2OU (Open Rack) Rackmount
Rack Compatible	Open Rack v2

Rackgo X Yosemite Valley (12-Node)

High-Density 2U12N Compact OCP 1S Server



Processor	(1) Intel® Xeon® processor D-1500 product family
Chipset	Intel® Xeon® processor D-1500 SoC per node
Memory	(4) 2133MHz DDR4 RDIMM per node
Boot Option	(1) 20110/2080 M.2 per node
Network Option	Aggregated Mellanox CX4-LX Multi-host network card every (4) nodes
Form Factor	(12) nodes in 2OU (Open Rack) Rackmount
Rack Compatible	Open Rack v2

Rackgo X F06D (4-Node)

Revolutionary Converged Multi-Node Infrastructure



Processor	(2) Intel® Xeon® processor E5-2600 v3, v4 product family
Chipset	Intel® C610
Memory	(16) 2133/2400 Mhz DDR4 RDIMM / LRDIMM per node
Storage	(8) 2.5" hot-plug per node
Network Controller	QCT OCP network mezzanine options *(Please refer to our Compatible Component List for more information) (1) Dedicated 1GbE management port per node
Expansion Slot	(1) PCIe Gen3 x8 OCP network mezzanine card (1) PCIe Gen3 x8 LP MD-2
Form Factor	(4) nodes in 2OU (Open Rack) Rackmount
Rack Compatible	Open Rack v1 & v2



Rackgo X F06A (4-Node)



High Density 2U4N System with Optimal IO Expansion

Processor	(2) Intel® Xeon® processor E5-2600 v3, v4 product family
Chipset	Intel® C610
Memory	(16) 2133/2400 MHz DDR4 RDIMM (16) 2133/2400 MHz DDR4 LRDIMM
Storage	(2) 2.5" hot-plug per node
Network Controller	QCT OCP network mezzanine options **(Please refer to our Compatible Component List for more information)
Expansion Slot	(1) Dedicated 1GbE management port per node
Form Factor	(1) PCIe Gen3 x8 OCP network mezzanine Slot (2) PCIe Gen3 x8 LP MD-2
Rack Compatible	(4) nodes in 2OU (Open Rack) Rackmount Open Rack v1

Rackgo X F03A (4-Node)



High Density 2U4N System for Maximum Performance

Processor	(2) Intel® Xeon® processor E5-2600, E5-2600 v2 product family
Chipset	Intel® C602
Memory	(16) 1866/1600/1333 MHz DDR3 RDIMM per node
Storage	Option 1: (4) 2.5" hot-plug per node Option 2: (2) 2.5" hot-plug per node
Network Controller	QCT Mellanox® ConnectX-3 dual-port 10G SFP+ mezzanine card per node (optional)
Expansion Slot	Option 1: (1) PCIe Gen3 x8 LP MD-2 per node Option 2: (2) PCIe Gen3 x8 LP MD-2 per node
Form Factor	(4) nodes in 2OU (Open Rack) Rackmount
Rack Compatible	Open Rack v1

Rackgo X F03C (3-Node)



2U3N Design is Ideally for the Balance Workload and Flexible IO Options

Processor	(2) Intel® Xeon® processor E5-2600, E5-2600 v2 product family
Chipset	Intel® C602
Memory	(16) 1866/1600/1333 MHz DDR3 RDIMM per node
Storage	(1) 3.5" fixed SATA per node
Network Controller	QCT Intel® 82599ES dual-port 10G SFP+ mezzanine card per node (optional)
Expansion Slot	(2) PCIe Gen3 x8 LP MD-2 per node
Form Factor	(3) nodes in 2OU (Open Rack) Rackmount
Rack Compatible	Open Rack v1

Rackgo X S1M (42-Node)



The World's Densest 42-Node Microserver System

Processor	(1) Intel® Atom™ processor C2000 product family
Chipset	Intel® Atom™ processor C2000 SoC
Memory	(4) 1333/1067 MHz DDR3 ECC SODIMM per node
Storage	(1) mSATA connector per node
Network Controller	Intel® Atom™ processor C2000 SoC 2.5 per node
Form Factor	(42) nodes in 2OU (Open Rack) Rackmount
Rack Compatible	Open Rack v1

Rackgo X JBR



High Density 2U JBOD with Tool-Less Tray Design

Controller Module	(2) SAS Interface Modules (SIM)
External I/O Ports	(2) 6Gb/s mini-SAS port per SIM
Storage	(28) 3.5" or 2.5" hot-plug SAS/SATA HDD/SSDs
Management Port	(1) OCP debug management port
Fan	(6) Hot-swappable dual rotor fan module per system
Form Factor	2OU (Open Rack) Rackmount
Rack Compatible	Open Rack v1

Rackgo X JBFA



High Density 2U JBOD with Tool-Less Tray Design

Controller Module	(2) SAS Interface Modules (SIM)
External I/O Ports	(2) 12Gb/s mini-SAS port per SIM
Storage	(30) 3.5" or 2.5" SAS/SATA hot-pluggable HDDs
Management Port	(1) OCP debug management port
Fan	(6) Hot-swappable dual rotor fan module per system
Form Factor	2OU (Open Rack) Rackmount
Rack Compatible	Open Rack v1 & v2

Optimized Rack Configurations

QCT provides a full line of services for datacenter customers, from testing systems, delivering fully configured racks, to deploying racks on the customer's site. To help customers get started with the Rackgo X rack solution, QCT offers three rack architectures in both Open Rack versions to suit different types of workloads. Each architecture has been fully tested and validated for optimized and balanced performance. Datacenter customers can choose from the three rack configurations or build their own racks. QCT Rackgo X helps datacenters achieve "best performance per watt, per dollar."



X300

Compute Intensive

- 64 compute nodes
- 2 power zones
- 1052 kg



X500

Storage Intensive

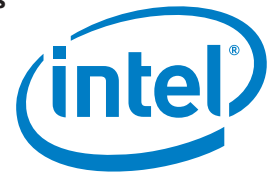
- 14 compute nodes
- 14 storage nodes
- 392 HDD/1.56PB
- 1 power zone
- 1108 kg



X700

Balanced workloads

- 24 compute nodes
- 12 storage nodes
- 336 HDD/1.34PB
- 1 power zone
- 1086 kg



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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>

Found at: www.QCT.io/wheretobuy

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