QCT PRODUCT PORTFOLIO

Full Version

Server
Storage
Networking
Rack System
Solution

Intel Inside®. Powerful Data Center Outside.
Powered by Intel® Technology
Found at: www.QCT.io/wheretobuy
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.

**Pioneering the Shift to Software Defined Infrastructure**

With a devotion to the development of hyperscale hardware gears that spans several eras, QCT now arrives at the QCT 4.0 milestone. As a cloud enabler, QCT extends its leading position in public cloud to include private and hybrid cloud offerings. QCT has leapfrogged from a hardware player to a total solution provider by partnering with industry-leading software vendors in the hyperconverged space. To showcase its broad hyperconverged solution portfolio, QCT established two Cloud Solution Centers in 2015, one in Taiwan and another in San Jose, California.
QCT Service comprises a basic package and flexible premium options for customers to select according to their needs.

QCT Service
As a prominent cloud hardware solution provider, we proudly stand behind our products by offering our customers the highest level of professional support services.

* Service details may vary by country. Please contact your QCT local service center for more information.

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### Basic Service Warranty

<table>
<thead>
<tr>
<th>Service</th>
<th>Description</th>
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<tbody>
<tr>
<td>3 Years Warranty Coverage on All QCT HW</td>
<td>5 x 9 Help Desk Support</td>
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<td>Component Replacement</td>
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<td>QCT Online Service Portal for Support &amp; RMA Services</td>
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### Premium Service

<table>
<thead>
<tr>
<th>Service</th>
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<tr>
<td>Advance Replacement Service</td>
<td>Seedstock (Spare Depot) Service</td>
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<td>Drive Retention Service</td>
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<td>On-Site Support Service</td>
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### Server / Storage / Rack System

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<thead>
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<th>HPC (GPU)</th>
<th>Enterprise</th>
<th>Cloud</th>
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<td>Finance/Teleco/Private Cloud/ERP</td>
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<td>Big Data</td>
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<td>Storage</td>
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<td>Hadoop/Ceph/Spark/Big Data Analytics</td>
<td>Energy and Space Efficiency</td>
<td>Hybrid, Scale-out SAN/NAS, Software-Defined Storage</td>
<td>Extreme IOPS per Dollar</td>
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* All specifications and figures are subject to change without prior notice.
Networking

Spine Switch - Fiber

- T5032-LY6
- T7032-IX1

Leaf Switch - Fiber

- T4048-IX2
- T3048-LY8
- T3048-LY2
- T3048-LY2R
- T3024-P05

Leaf Switch - Copper

- T3048-LY9A
- T3048-LY9
- T1048-LB9
- T1048-LB9A

Management Switch

- T1048-P02
- T1048-LY4A

Speed, Bandwidth

Features
Solution

**Desktop Virtualization**
- QxVDI VMware Edition-HC  [P.37]
- QxVDI VMware Edition-OA  [P.37]

**Compute Virtualization**
- QCT QxStack powered by VMware Cloud Foundation  [P.38]
- QxStack VMware Edition-HC  [P.38]
- QxStack Ubuntu OpenStack Edition  [P.38]
- QxStack Microsoft Edition  [P.38]

**Storage Virtualization**
- QxStor Red Hat Ceph Storage Edition  [P.39]
- QxStor EMC Edition-ScaleIO  [P.39]
- QxStor Cloudian Edition  [P.39]

**Big Data**
- QxData Microsoft Edition  [P.40]
- QxData Cloudera Edition  [P.40]

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Server

Long-awaited Combo of 22-core & DDR4-2400 Intel® Xeon® Processor E5-2600 v4 Experience is Available Now!

The QuantaGrid D51B/D51P series and the QuantaPlex T21SR/ T41S/T21P series are ALL ready to enjoy the staggering performance leaps and remarkable efficiency improvements unlocked by Intel’s latest Xeon E5-2600 v4 processor and DDR4-2400 memory, without any hardware change.

• **Drop-In Compatible**, with just BIOS upgrade

The same R3 socket for E5-2600 v3 CPU of your current QuantaGrid/QuantaPlex models

Your latest Intel® Xeon® E5-2600 v4 CPU

• **Dramatic Performance Boost**

Higher Core Count + More Bandwidth = 27.2% Performance Growth

• **E5 v4 Refresh**

**Performance Improvement**

- **27.2%** Performance Gain
- **25.7%** Less Power Consumed
- **12.9%** Efficiency Improvement
- **22.5%** Bandwidth by DDR4 2400MHz Memory
- **9.1%**

<table>
<thead>
<tr>
<th>CPU</th>
<th>DIMM</th>
<th>SSD</th>
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<tr>
<td>E5-2699 v3 + 2133MHz</td>
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<td>Intel®, 800GB, 6Gb/s, SATA</td>
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<tr>
<td>E5-2699 v4 + 2400MHz</td>
<td>Samsung, 16GB 2Rx8 DDR4-19200, Register</td>
<td>Intel®, 800GB, 6Gb/s, SATA</td>
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</tbody>
</table>

* Drop-In Compatible, with just BIOS upgrade
* Performance Gain
* Less Power Consumed
* Efficiency Improvement
* Bandwidth by DDR4 2400MHz Memory

Found at: www.QCT.io/wheretobuyIntel
Lift Efficiency Up to the Next Level

Extreme performance and staggering power bills have long been closely associated, as if the only way you could get the work done was to expend enormous amount of energy. QCT refutes this: we are deeply committed to improving the power efficiency of our systems by fully optimizing our thermal and power solutions.

• **Smart Fan Control Mechanism:**
  * No More Over-cooling
  
  Our smart fan table is cleverly devised to adjust the fan duty based on ambient temperature, CPU utilization, drive, and add-on card quantities.

• **Various Power Supply Options:**
  * Get Just What You Need
  
  We offer a great variety of power supply modules of different power capacities for you to choose from according to your actual workload.

  ![Power Supply Diagram](image)

  **Target Efficiency**

<table>
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<tr>
<th>Target Efficiency</th>
<th>80 PLUS Rating Curves</th>
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</thead>
<tbody>
<tr>
<td>80%</td>
<td>Bronze</td>
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<tr>
<td>82%</td>
<td>Silver</td>
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<tr>
<td>84%</td>
<td>Gold</td>
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<td>86%</td>
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<td>94%</td>
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<td>96%</td>
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</table>

  ![Diagram](image)

  **Percent of Full Rated Load**

  **Best efficiency attained at 50% loading**

  **Loading**

  - 250W
  - 375W
  - 600W

  **Power Supply**

  - 500W Overkill
  - 750W
  - 1200W Right fit

  (50% actual loading)

• **High Efficiency Power Supply:**
  * Platinum Level Guaranteed

  All power supplies across the QuantaGrid D51B/D51P series, QuantaPlex T21S/ T41S/T21P series, and QuantaVault family are 80 PLUS Platinum Certified.
The Future in Flash Storage is NOW

To keep up with the cutting-edge NVMe SSD technology, QCT has a full product portfolio for your enterprise or datacenter to fully enjoy the blazing fast and extremely low-latency NVMe SSD experience!

**The NVMe Difference: IOPS Performance Leap**

<table>
<thead>
<tr>
<th>Relative performance</th>
<th>Random Read IOPS</th>
<th>Random Write IOPS</th>
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<tbody>
<tr>
<td>137.5</td>
<td>668</td>
<td>418</td>
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<table>
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<tr>
<th>Configuration</th>
<th>1U 1Node - QuantaGrid D51B-1U</th>
<th>2U 1Node - QuantaGrid D51B-2U</th>
<th>2U 4Node - QuantaPlex T41SP-2U</th>
<th>4U 4Node - QuantaGrid Q71L-4U</th>
</tr>
</thead>
</table>

5 Million IOPS Achieved
“World’s First NVMe All-flash Array 1U Server”

Check out Our Complete Product Portfolio for NVMe SSD Support

NVMe SSD Targeting Applications:

**High IOPS Workloads**
- VDI,
- VMware cluster,
- Transactional database

**Low-latency Workloads**
- Financial trading,
- Travel application,
- Search engine

**Bandwidth-intensive Application**
- Video streaming,
- Transcoding

**Balanced Read/Write Concentrated Programs**
- Database and analytics,
- Database dump/loads

Moving One Step Further with Intel®

12x Performance Boost

36x Faster Virtualization Processing

1, 2 source: http://www.intel.com/content/www/us/en/software/intel-cache-accelerator

Intel® Solid-State Drive Data Center Family for PCIe

Cache Acceleration Software (CAS)

Intel Inside®. Powerful Data Center Outside.

Found at: www.QCT.io/wheretobuy
25GbE/ 100GbE Connectivity

The new 25GbE/ 100GbE topology solved the virtualization and big data transition challenges of hyperscale datacenters without over-extending TCO.

• **2.5 Times Bandwidth at the Same Price Range and Power Consumption**

  25Gb Ethernet port is powered by single electrical lane like 10GbE (unlike 40Gbe which is powered by four)

  ![Graph showing cost, power consumption, and performance comparison between 10Gb/s and 25Gb/s.](image)

  - Higher is better

• **No Increase in Networking Equipment Footprint nor Cabling Complexity**

  Same Ethernet connection for SFP+ and SFP28/ QSFP+ and QSFP28

  ![Image showing network mezzanine card upgrade](image)

  Simply upgrade the network mezzanine card on your QCT servers (you don't need to swap the whole motherboard)
Network Function Virtualization (NFV)

NFV uses virtualization to migrate from proprietary fixed-function boxes to software applications on standard high-volume servers.

• **Proven Technology with QuantaGrid D51B Series and:**
  - Intel® Open Network Platform Server reference architecture
  - Data Plane Development Kit (DPDK) for NFV enablement
  - OpenStack (Kilo Release) Management and Orchestration
  - Open vSwitch to enable massive network automation through programmatic extension

Hardware-Based Root of Trust with Optional TPM on QCT Server

All QCT servers support optional Trusted Platform Module (TPM), which can...

- Provide a hardware-based solution for protecting the systems from software-based attacks
- Integrate with Intel® Trusted Execution Technology (TXT)
  We offer TXT pre-provisioning service at manufactory upon order
QuantaGrid Series

D51B-1U / D51BP-1U / D51PS-1U / D51PC-1U / S31A-1U / D51B-2U / D51BV-2U / Q71L-4U / D51PH-1ULH / S51G-1UL / SD1Q-1ULH / S100-L11D

QCT offers a comprehensive line of high-performance, rack-mount, single-node servers, ideal for granularity and capable of tackling a variety of modern datacenter workloads. From cloud to enterprise, the QuantaGrid series delivers optimized performance and astonishing user experience with the most advanced industrial technology and thoughtful engineering design.

- Versatile, single-node computing servers
- Low power consumption while delivering high operating performance
- Modularized components that increase serviceability and configuration flexibility
- Designed with high availability and reliability to protect business critical applications

Product Quick Intro

QuantaGrid **D51B-1U**

Full-Featured Energy Efficient 2-Socket Server

The extremely versatile and fully featured D51B-1U adapts to an immense spectrum of applications, delivering great density and high productivity in only 1U of rack space.

<table>
<thead>
<tr>
<th>Form Factor</th>
<th>CPU Number</th>
<th>Memory Number</th>
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<tbody>
<tr>
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QuantaGrid **D51BP-1U**

Energy Efficient 2-Socket Server with Extreme Storage IOPS

As a revolutionary 1U all-flash array, the D51BP-1U targets the most intensive workloads that require high IOPS and low latency.

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<th>Memory Number</th>
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QuantaGrid **D51PS-1U**

**Powerful Compact 2-Socket Server**

Compacting the worldwide top-performing computing power into a 1U chassis, the D51PS-1U is most ideal for front-end web, data-caching, and search engine application.

**QuantaGrid S31A-1U**

**Energy Efficient, Compact 1U Architecture Envisioned for Performance and Large Storage Capacity in Space-Constrained Datacenters**

Unprecedented design equipped with flexible device for superfast boot-up and cache tailored for predictable workloads such as dedicated web hosting.

**QuantaGrid D51BV-2U**

**Energy Efficient 2-Socket GPU/Xeon Phi™ Server**

The option for up to two FHFL accelerators/GPUs makes the D51BV-2U the best candidate to handle the most demanding environments, such as Virtual Desktop Infrastructure (VDI) or High Performance Computing (HPC).

**QuantaGrid D51PC-1U**

**Versatile Compact 2-Socket Server**

With uncompromised performance delivered in an ultra-dense 1U chassis, the D51PC-1U successfully maximizes data center efficiency.

**QuantaGrid Q71L-4U**

**Powerful Enterprise Grade 4U 4-Socket Server with Unprecedented RAS and Scalability**

The epitome of enterprise class computing performance, this 4 socket 4U design supports up to 96 DIMM sockets. This is a superior computing server that delivers exceptional RSA with high I/O throughput, expandability, efficiency and scalability.
QuantaGrid **D51PH-1ULH** Storage Server

**Hybrid Scale-Out High Computing Storage Server**

With uncompromised performance delivered in an ultra-dense 1U chassis, the D51PH-1ULH successfully maximizes data center efficiency.

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QuantaGrid **SD1Q-1ULH** Storage Server

**Balanced Computing Performance with Low Power Consumption**

Effectively achieving outstanding performance on a small power budget, SD1Q-1ULH, equipped with Intel® Xeon® processor D product family is the perfect hybrid system for applications related to software-defined storage.

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QuantaGrid **S51G-1UL** Storage Server

**The Densest 1U Computing Scale-Out Storage Server**

With its cost-effective high computing performance and high storage density, the S51G-1UL is easy to deploy for multiple instance data integrity and is easy to scale out.

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STRATOS **S100-L11D** Storage Server

**The Densest 1U Scale Out Storage Server**

An ultra-dense storage server specially tailored to meet the scale-out storage needs of diverse datacenters, featuring large storage capacity of up to 14x SATA devices in a compact 1U size, cost effective onboard design and a high performance and power-efficient Intel® processor.

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Feature product introduction

QuantaGrid D51PH-1ULH

Hybrid, Scale-Out, High-Computing Storage Server

Tailored for hyper-scale datacenters and software-defined storage solutions, the innovative QuantaGrid D51PH-1ULH features hybrid, tiered storage architecture in an ultra-dense 1U platform. Sleek, compact, groundbreaking architecture that optimizes rack density without conceding computing performance, the QuantaGrid D51PH-1ULH is the ideal platform for sustaining virtualization and granular growth at all stages. It is envisioned to support enterprises in defining innovation, reducing costs and preparing for the future with scalability, flexibility and capability.

Ultra-Dense 1U High-Computing Storage Server

The QuantaGrid D51PH-1ULH features 12 hot-swappable 3.5” disk drives and four SSDs while also delivering excellent computing performance by supporting dual Intel® Xeon® E5-2600 v4 processor architecture. The QuantaGrid D51PH-1ULH provides in a 1U chassis both extreme storage density and computing power for hyperscale cloud datacenters, which not only require large storage capacity but also enterprise-class computing capability. This ultra-dense converged storage server aids IT managers in optimizing overall rack and datacenter space. Engineered with an innovative hot-swappable drive design, the QuantaGrid D51PH-1ULH allows technicians to service drives with minimum effort and minimized downtime.

Sophisticated Hybrid Architecture

Caching is a requirement to boost performance and IOPs not only for today’s software-defined storage solution but also for virtualization applications. Equipped with four SSDs in addition to twelve 3.5” high capacity drives, the hybrid architecture of the QuantaGrid D51PH-1ULH is ideal for a tiered storage solution, which utilizes the solid-state drives for accelerated IOPs and throughput, without sacrificing data storage capacity.

Hot-Swappable and Easy Service

The QuantaGrid D51PH-1ULH is designed with an elegant architecture to support hot-swappable hybrid drives within a 1U chassis, providing optimized rack density and also delivering non-disruptive on-site service. Designed with no external cable management arm required, this sophisticated storage server significantly accelerates system deployment and rack assembly time, while also simplifying rack cable routing.
QuantaMicro Series

X10E-9N

Why waste energy, space, and money on a high-end server when a microserver can handle the job?

Dedicated to attaining the best space, energy, and cost efficiency, the high-density and low-power QuantaMicro is QCT’s first complete microserver line best suited for the growing number of hyperscale workloads found inside modern datacenters.

- Enhanced manageability and reduced TCO: aggregated network and single management port across all nodes
- Optimal energy efficiency and minimal OPEX: shared power supplies and cooling modules
- Remarkable serviceability: cold-aisle accessibility, hot-pluggable power supplies and nodes

Product Quick Intro

QuantaMicro X10E-9N

Hybrid, High Density and High Efficiency

Built on the latest Greenlow platform, the X10E-9N achieves performance gain in a high-density 3U9N chassis. A microserver with two hot-pluggable switches reduces CAPEX and complexity in networking and cable management.

<table>
<thead>
<tr>
<th>Form Factor</th>
<th>3U</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Number</td>
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</tr>
<tr>
<td>Memory Number</td>
<td>4</td>
</tr>
</tbody>
</table>

* All specifications and figures are subject to change without prior notice.
QuantaPlex Series

S41T-2U / T21P-4U / T21SR-2U / T41SP-2U / T41S-2U

The QCT QuantaPlex series is a highly sophisticated, multi-node design that delivers extremely high density and computing performance. The shared infrastructure solution provides the flexibility to set up different workloads while maximizing space savings and augmenting cooling and energy efficiency to reduce TCO.

- Multi-independent nodes creates high performance and flexibility for multiple workload scenarios
- Improved performance, availability and more cost-effective than single nodes of comparable speeds
- QCT modularized design concepts optimize interoperability and serviceability with reduced complexity
- Provides optimal datacenter performance and storage per dollar

Product Quick Intro

QuantaPlex **S41T-2U**

**A Game Changing Xeon-Phi™ Server that Redefines HPC Infrastructure**

Cutting down the power consumption while delivering thrilling performance with Intel's latest Xeon-Phi™ processor, the S41T-2U tackles the most demanding workloads with the best performance per watt.

![S41T-2U Diagram](image)

- **Form Factor**: 2U
- **CPU Number**: 1
- **Memory Number**: 6

QuantaPlex **T21P-4U**

**Ultra-Dense Extreme Performance Storage Server**

Delivering extreme computing power and supporting up to 78 3.5" HDD in a 4U chassis, the T21P-4U is an ultra-dense storage server that suits a wide range of applications, including big data analytics or massive block or object storage.

![T21P-4U Diagram](image)

- **Form Factor**: 4U
- **CPU Number**: 2
- **Memory Number**: 16
QuantaPlex **T21SR-2U**

**2U 2-Node High Availability Cluster-in-a-Box Server**

This compact cluster-in-a-box design incorporates two redundant server boards configuring one shared storage for a high availability solution. Its data vaulting solution, enabled by a built-in backup battery unit, brings system integrity to the next level.

QuantaPlex **T41S-2U**

**2U 4-Node Server Featuring Highest Compute Density**

Built on a 2U 4-Node infrastructure, the T41S-2U comes with exceptionally high density that addresses customers looking for the most space and energy efficiency.

QuantaPlex **T41SP-2U**

**2U 4-Node Server Featuring NVMe SSD**

Leveraging the latest NVMe SSD technology on a 2U 4-Node system, T41SP-2U hugely accelerates performance while sharply cutting down TCO through its shared infrastructure and high density.

* All specifications and figures are subject to change without prior notice.
Feature product introduction

QuantaPlex T21P-4U

Ultra-Dense Extreme Performance Storage Server

Tailored to meet emerging real-time workload applications, big data and big compute, the QuantaPlex T21P-4U is available as a single server node that equips 78 hot-swappable drive bays or as a dual server node that controls 70 drive bays. Capable of delivering up to 620 terabytes of storage in an ultra-dense 4U chassis, the QuantaPlex T21P-4U efficiently achieves the requirements of the most demanding cloud storage environment.

Extreme Performance, Storage Density, and Power Efficiency

The QuantaPlex T21P-4U comes with the latest Intel® Xeon® E5-2600 v4 processors, 16 slots of memory and up to 78 3.5" SAS/SATA hard drives. Our highly sophisticated design delivers extreme computing performance and exceptionally high storage density while still maximizing performance-per-watt savings by leveraging a highly efficient power supply. This makes the QuantaPlex T21P-4U the perfect solution for real-time weather modeling, convolutional neural networks, streaming files, massive block or object level storage for cloud environments, archiving and data analytics.

Efficient System Assembly and Deployment

Pressured by the dramatic expansion of data and the need for persistent data storage, Cloud Service Providers must acquire systems with even higher density. Typically, longer service time is required for the growing number of disks in these high-density systems. However, with our innovative tool-less drive carrier design, the QuantaPlex T21P-4U vastly accelerates system assembly, improving deployment time by more than 10 times.

Fast Single Drive Installation in Seconds!

Very Cool for Cold Storage, as Low as 150W per System

According to statistics derived from the Open Compute Summit, most data uploaded to content service providers or stored in hyperscale datacenters are seldom accessed after the first couple of months. While prior data becomes less and less accessed, the energy usage and costs of datacenters inflate as the expansion of data necessitates the need for increased storage. The QuantaPlex T21P-4U is designed with a cold storage scenario that allows upper-level software to individually power on/off each disk based on Information Life Management (ILM) policy by IPMI command. Shutting off disks with non-regularly accessed content significantly reduces datacenter energy usage.
Separate HDD Top Cover and Visual Indication

As density increases in storage systems, the weight and maintenance time also increase. Enter QCT’s separate top cover design. Each row of disks has an explicit visual indicator that helps promptly identify failing disks. Once identified, IT managers can service the failing disk in the appropriate sector without pulling out the entire system, increasing system availability and reducing manual effort. Since only the required section is exposed, the thermal conditions of the rest of the system won’t be exposed, conserving power and preserving cooling to the other sections.

Flexible Compute Node Configuration

The QuantaPlex T21P-4U provides flexible compute node configuration depending on varying applications and workloads of real user scenarios aimed at both enterprise and hyperscale datacenter environments. One compute node with 78 disks is ideal for big data mining or cold storage, while dual computing nodes that manage 35 disks per node is suitable for analytics, real time weather modeling or neural network simulation.

Note: Data is from the Open Compute Summit IV, January 2013, Santa Clara, California. Source: Facebook, 2013
Feature product introduction

QuantaPlex T21SR-2U

2U 2-Node High Availability Storage Server

The QuantaPlex T21SR-2U is a 2U two-node Cluster-in-a-Box server. Two server nodes are clustered both via a Non-Transparent Bridge (NTB) and via a 10Gb/s Ethernet interconnection, sharing 24 disk drives in a 2U chassis. The server boards are interconnected via the mid-plane, so if one server board fails, the other server board is immediately able to gain control and access to the HDDs and the front-end host I/O, keeping the system operational. Both server boards can also work in Active-Active mode while configuring the shared storage by a distributed file system.

Cluster-in-a-Box Hardware Platform

Simplify Cluster Infrastructure

Tailored For Varied HA Storage Scenario
System Integrity Protection: Data Vaulting

The assurance of data integrity is considered mission critical to most if not all datacenters. Improper shutdowns during power failure can lead to the corruption of storage systems. Designed with the determination to secure valuable data, the QuantaPlex T21SR-2U comes installed with a backup battery unit (BBU). This data vaulting solution provides up to 120 seconds of power to each node during power failures, ensuring a graceful shutdown can be implemented, thereby maintaining system data integrity.

On-the-Fly Cache Synchronization

The QuantaPlex T21SR-2U boasts two failover solutions in the 10Gb/s interconnection and the Non-Transparent Bridge (NTB) technology. Choosing one or both of these architectures allows the implementation of enterprise-level cluster functions with rapid cache synchronization that meets high-availability requirements.
QCT System Manager (QSM)

A “Real” and A “Virtual” Manager Make IT Simple

Due to the growing amount of data and density in datacenters, managing IT infrastructure has grown in complexity. QCT System Manager (QSM) is the perfect tool to simplify the IT management process. With QSM’s intuitive console, IT operators can manage up to 5,000 nodes at the same time. Through QSM’s hierarchy management, every single system’s health status can be easily spotlighted and then monitored.

Remote Management

Transform Workload Effectively

QSM’s remote management feature allows IT operators to manage systems and update devices’ firmware anytime, anywhere. All the actions can be done either by single device or by batch of devices at the same time.

Converged IT Assets Management

Optimize Infrastructure Management

QSM manages a diverse set of devices such as Server, Storage, Rack Management Controller (RMC), and Chassis Management (CM). Additionally, IT administrators can group any devices they want to supervise, making system management more effective and efficient.

Easy-to-use Interface

Intuitive Dashboard and Web UI

QSM’s customizable dashboard provides holistic information, including health status, real-time power consumption data, CPU load, etc. With this real-time information, IT operators can monitor devices and spotlight areas of concern.
Quanta Data Center Manager

Save the Planet While Saving Millions!

With the growing demands for energy and density in today’s datacenters, energy cost and power consumption have quickly become the top two concerns for IT administrators. Reducing energy consumption can help organizations save a significant amount of money and, more importantly, save the environment. This is where the benefits of Quanta Data Center Manager (QDCM) come into play. QDCM is the perfect tool for monitoring power consumption and spotlighting areas of concern. Through QDCM’s intuitive and customizable dashboard, IT administrators can easily monitor energy usage by device, increase data center energy efficiency, and assist with power capacity planning.

Measure Energy Use by Device

**Optimize Utilization** - QDCM provides real-time energy consumption data along with trending patterns by device. With this data, clients have the ability to identify areas of concern and further manage them.

**Reduce TCO**

**Increase Energy Efficiency** - QDCM spotlights underutilized servers and targets them for consolidation. Both energy consumption and electricity cost can be significantly reduced after consolidation, saving both money and the environment.

Assist with Power Planning

**Maximize Capacity** - With real-time power consumption data, datacenter operators know whether their facilities are running at peak capacity. Datacenter managers can therefore stretch the capacity of existing infrastructures, saving significantly on the costs of constructing additional space.

* All specifications and figures are subject to change without prior notice.
QCT Accessory

QCT offers the most reliable network and SAS mezzanine cards with unmatched performance, industry-leading bandwidth and ultra-low latency for the most demanding datacenter applications. The QCT network mezzanine cards are available from the conventional 1GbE/10GbE copper Ethernet for fail-over redundancy to the LoM, to the high performance 10GbE SFP+ /25GbE SFP28 /40GbE QSFP+ /100GbE QSFP28 and InfiniBand designed to increase the network throughput and bandwidth. With the explosive growth of data in the cloud and enterprise storage requirement, the QCT latest 6Gbps/12Gbps SAS 3.0 mezzanine cards will satisfy the need for both cost efficient cold storage application and mission critical high performance data application.

**LAN mezzanine card**
- Versatile LAN Controller Options
- Space-saving OCP Mezzanine Card Design
- Stunningly Affordable High Throughput Experience
- Fully Validated on QCT Products
- One-step Easy Installation

**SAS mezzanine card**
- Cost Saving
- More Flexibility
- Simple Service Process
- Fully Validated on QCT Products
QuantaVault Series

JB4602 / JB4242 / JB2720

The design philosophy behind the QuantaVault product line is to create HA (High Availability) storage systems that take into consideration the needs and requirements of enterprise and hyperscale datacenters. This ingenious series delivers high reliability, serviceability and availability with hybrid, ultra-dense and hyperconverged infrastructure. This perfect high-end architecture is complete with failover, no single-point-of-failure and data vaulting solutions.

Product Quick Intro

QuantaVault JB4602
High-Performance, High-Density 4U Disk Expansion Unit

As an ultra-dense, scalable, and cost-effective disk expansion unit envisioned for exceedingly high capacity, absolute reliability and great serviceability, the JB4602 equips sixty hot-swappable, tool-less installation drives for maximum storage capacity.

- Hybrid architecture enhances performance, reliability and availability
- Ultra-dense storage meets full array of application capacity requirements
- Converged design combines storage and computing resources into a simplified infrastructure
- Fully redundant solutions ensure system data integrity

QuantaVault JB4242
Versatile Hybrid Disk Expansion Unit

This elegant hybrid system enhances performance, serviceability and reliability. Its unique infrastructure—featuring out-of-band IPMI remote management and easily accessed cold-aisle design—is ideal for a wide array of applications.

QuantaVault JB2720
Extreme Performance-Density All Flash Array

This performance-boosting, all-flash-array system grants instant access and dramatically lower latency to storage drives. Combined with dual-path access, no single-point-of-failure and individual drive power-on/off features, the JB2720 ensures enterprise-class storage systems.

* All specifications and figures are subject to change without prior notice.
Feature product introduction

QuantaVault JB4242

Advanced Hybrid Architecture

VMware vSAN
Optimized Raw Capacity Ratio
SSD : HDD = 1 : 10 (Mainstream)

Ceph OSD Journals
Ideal Performance Ratio
SSD (450~500MB/s) : HDD (150MB/s) = 1 : 3 or 1 : 4

Microsoft Storage Space R2
Best Practice Q’ty Ratio
SSD : HDD = 1 : 3 (Optimized) ~ 1 : 8 (Minimal)

Source:
- VMware vSAN Design and Sizing Guide 2014
- Microsoft Software-Defined Storage Design Consideration Guide 2015
- Best Practices for increasing Ceph Performance with SSD, intel® Flash Memory Summit

Hybrid Delivers High Performance!

<table>
<thead>
<tr>
<th></th>
<th>Bandwidth (Sequential Read)</th>
<th>Bandwidth (Sequential Write)</th>
<th>IOPS (Sequential Read)</th>
<th>IOPS (Sequential Write)</th>
<th>IOPS (Random Read)</th>
<th>IOPS (Random Read)</th>
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<td>JB4242 Hybrid</td>
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<td>1.9M</td>
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<td>0.7M</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>230%</td>
<td>50%</td>
<td>700%</td>
<td>315 times</td>
<td>140 times</td>
</tr>
</tbody>
</table>
24+8 Creates More Capacity!

16+8
- Traditional 4U 24X 3.5" JBOD
- Occupied 8x3.5" HDD, To install 2.5" SSD
- Sacrificed 33% Storage Capacity

VS

24+8
- 24X3.5" HDD
- 8X2.5" SSD
- 100% 3.5" HDD for Storage Capacity & Dedicated SSD as Cache!!

Remote Out-of-Band Management

Management Side

Local

In Band Management

Breakdown

RJ45 Management Link by IPMI

Remote Out-of-Band Management

* All specifications and figures are subject to change without prior notice.
Rack System

Advocate for Open Standards

QCT is an advocate for openness and innovation in datacenter design. Through original design manufacturing partnerships with Open Rack (contributed by Facebook), Open Cloud Server (contributed by Microsoft) and China’s Scorpio Project, QCT has become a premier solution provider for several of the world’s most prominent hyperscale datacenters.

For the past decade, QCT has been deeply involved in the cloud industry and has contributed innovative designs at every scale level. Building on a wealth of collaborative experience and hyperscale knowledge, QCT has further dedicated extensive resources into research and development for the evolution of hyperscale architecture into enterprise and hybrid cloud applications. With designs that are already renowned for power and cooling efficiency that significantly reduces TCO (total cost of ownership), QCT is aggressively pursuing design innovations that better meet enterprise compute and storage requirements, support more (OS) Operating Systems, and qualify a wider scope of peripheral commodities. These hyperscale concepts will further elevate our enterprise and hybrid cloud customers’ competitiveness as they continue to drive innovation.

QCT’s Contribution to Open Compute Project

It has been an extremely successful journey for the QCT Rackgo X and Rackgo M product lines, pioneering numerous groundbreaking and sophisticated designs to lead the industry in extraordinary solutions. QCT will continue this tradition in 2016, with the launching of many revolutionary systems based on the new Open Rack v2 standard.
Rackgo M

MC510 Compute Blade / MS100 Storage Blade

Based on the Open Cloudserver version 2 standards, the QCT Rackgo M is an innovative solution that integrates server, storage and networking functionality. Designed with the concept of blade servers, the Rackgo M offers simplicity, density, availability, scalability and affordability in a compact 12U chassis.

- Blade-like servers provide unprecedented computing performance
- Astonishing integration with up to 24 compute or storage blades in a 12U chassis
- Tray backplane design simplifies networking and storage connectivity across blades
- Preconfigured cables reduce service complexity

Product Quick Intro

Rackgo M  **MC510 Compute Blade**

Open Cloud Server Inspired Platform

Building on the commitment of integrating server, storage and functionality, this OCP-inspired, blade-like server provides unprecedented computing performance and storage integration in half-width architecture.

Rackgo M  **MS100 Storage Blade**

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

This OCP-inspired, blade-like storage provides 10 large form factor drives of any half-width architecture.

* All specifications and figures are subject to change without prior notice.
Rackgo X

Inspired by the Open Compute Project, the Rackgo X is a 21" open rack architecture that is designed to deliver hyperscale data center performance, density, scalability, efficiency, serviceability and manageability. Ideally suited for cloud service providers or high performance applications, the Rackgo X meets the needs of the ever-changing industry, while conserving CAPEX and OPEX costs.

- Provides higher density, greater capacity and increased airflow compared to conventional solutions
- Enhanced serviceability with tool-less, cold-aisle operational design
- Deliberately designed to endure for multiple generations, the centralized power supplies on the rack boost energy efficiency and lower capital costs
- Three rack architectures easily configured to suit different types of workloads

Product Quick Intro

Rackgo X **Big Sur**

First-Ever Open Compute Project GPU Server

The Big Sur combines the next generation of high-powered Intel® processors with eight GPU cards to provide thousands of computing cores that excel in emulating human brain neural networks for deep learning algorithms.

<table>
<thead>
<tr>
<th>Form Factor</th>
<th>CPU Number</th>
<th>Memory Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>4OU</td>
<td>2</td>
<td>16</td>
</tr>
</tbody>
</table>

Rackgo X **Leopard Cave (3-Node)**

Powerful 2U3N Open Rack v2 Compute System

A next-generation platform with next-generation powerful Intel® processors and high-performance memory to provide high-density computing resources that can concurrently handle multiple events and maximize hyper-scale performance.

<table>
<thead>
<tr>
<th>Form Factor</th>
<th>CPU Number</th>
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</tr>
</thead>
<tbody>
<tr>
<td>2OU</td>
<td>2</td>
<td>16</td>
</tr>
</tbody>
</table>
Rackgo X  **Yosemite Valley (12-Node)**

**High-Density 2U12N OCP Single Socket Server**

Yosemite Valley comprises 12 dense computing nodes that features Intel next-gen power-efficient processors and multi-host network aggregation that optimizes computing density, economizes expenditure and reduces environmental impact.

---

Rackgo X  **F06D (4-Node)**

**Revolutionary Converged Multi-node Infrastructure**

This next-gen converged infrastructure consolidates high-density compute and storage (32 drives) capabilities into a single integrated system. With Open Compute modular designs, the F06D is the perfect datacenter building block for a scale-out environment.

---

Rackgo X  **F06A (4-Node)**

**High-Density 2U4N System with Optimal IO Expansion**

A manufacturing masterpiece featuring the latest Open Compute motherboard with the industry's highest reliability, this 2OU four-node design maximizes compute density while supporting hot-pluggable storage for RAID liability.

---

Rackgo X  **Knoxville**

**Storage Server**

The Knoxville is an eco-friendly, easy-to-service, maximized storage density system that infuses the latest Intel® power-efficient processor with 28 tool-less HDD drive bays and 4 NVMe SSDs that accelerate system performance. An ideal solution of storage and server aimed at light to mid-range workloads.

---

Rackgo X  **S1M (42-Node)**

**The World’s Densest 42-Node Microserver System**

With the QCT patented “hidden-shelf” chassis design, the S1M is capable of fitting 42 independent hot-swappable microserver nodes into a 2OU space. An embedded FM5224 switch reduces CAPEX and also enhances cable manageability.

---

Rackgo X  **JBR**

**High Density 2U JBOD with Tool-less Tray Design**

The high-density JBR mounts 28 x 3.5” hard disks using the QCT patented “hidden-shelf” chassis design. A new tool-less tray and lock-in Mini-SAS module design provides an immense improvement to service efficiency.

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* All specifications and figures are subject to change without prior notice.
Rackgo X JBFA

High Density 2U JBOD with Tool-less Tray Design

The QCT next-gen 12G SAS JBOD enclosure fits an unprecedented 30 x 3.5" disks in a 2OU space. Exquisitely designed with serviceability in mind, the JBFA comprises a tool-less tray and rear hot-swappable redundant fans.

- 2 Controller Module
- 1 External I/O Ports per SIM
- 30 3.5" or 2.5" HDDs

Powered by Intel® Xeon® processors
Datacenter network switches play a pivotal role in connecting all of the essential datacenter resources, including servers, storage equipments and network gears.

The use of high-speed Ethernet switches in datacenters is evolving from 10G/40G to 25/50/100G speed to accommodate high-efficiency demands and to support the high-scale scope of modern datacenters.

The QCT QuantaMesh product line of Ethernet switches features low latency, low power consumption, high density, and high port count characteristics as well as redundant power supply and hot-swappable fan design to provide the market the very best of datacenter network solutions.

Product Quick Intro

QuantaMesh **T7032-IX1**

New Generation 100G Spine or ToR Switch for Datacenter and Cloud Computing

**T7032-IX1**
- 100G Phyless
- 400ns latency
- L2/L3
- Redundant power & hot-swappable fan
- VxLAN/NVGRE
- BMS (x86)

QuantaMesh **T5032-LY6**

A Powerful 40G Spine or ToR Switch for Datacenter and Cloud Computing

**T5032-LY6**
- 40G Phyless
- 600ns latency
- L2/L3
- Redundant power & hot-swappable fan
- VxLAN/NVGRE
- BMS (x86 or P2020)

* All specifications and figures are subject to change without prior notice.
QuantaMesh **T4048-IX2**

New Generation 25G/100G ToR Switch for Datacenter and Cloud Computing

- 25G/100G Phyless 400ns latency L2/L3
- Redundant power & hot-swappable fan VxLAN/NVGRE
- BMC BMS (x86)

QuantaMesh **T3048-LY8**

A Powerful 10/40G ToR Switch for Datacenter and Cloud Computing

- 10G/40G Phyless 600ns latency L2/L3
- Redundant power & hot-swappable fan VxLAN/NVGRE
- BMS (x86)

QuantaMesh **T3048-LY2R**

A Powerful 10/40G ToR Switch for Datacenter and Cloud Computing

- 10G/40G Phyless 1us latency L2/L3
- Redundant power & hot-swappable fan VxLAN/NVGRE
- BMS (P2020)

QuantaMesh **T3048-LY2**

A Powerful 10/40G ToR Switch for Datacenter and Cloud Computing

- 10G/40G EDC PHY 1.2us latency L2/L3
- Redundant power BMS (P2020)

QuantaMesh **T3024-P05 Series**

A Powerful 10/40G ToR Switch for Datacenter and Cloud Computing

- 10G and/or 40G Phyless 1us latency L2/L3
- Redundant power & hot-swappable fan BMS (x86)
- Half width and 1U chassis L2/L3

QuantaMesh **T3048-LY9A**

New Generation 10GBASE-T ToR Switch for Datacenter and Cloud Computing

- 10G/40G 10GBT VxLAN/NVGRE L2/L3
- Redundant power BMS (x86)
QuantaMesh **T3048-LY9**

A Powerful 10GBASE-T ToR Switch for Datacenter and Cloud Computing

- 10G/40G
- 10GBT
- VxLAN/NVGRE
- L2/L3
- Redundant power & hot-swappable fan
- BMS (x86)

QuantaMesh **T3040-LY3**

A Powerful 10GBASE-T ToR Switch for Datacenter and Cloud Computing

- 10GBT
- Redundant power
- L2/L3

QuantaMesh **T1048-LB9**

1G/10G Datacenter & Enterprise-Class Ethernet switch

- 1G/10G
- Redundant Power
- L2/L3
- BMS (PPC8541)

QuantaMesh **T1048-LB9A**

1G/10G Enterprise-Class Ethernet switch

- 1G/10G
- L2/L3

QuantaMesh **T1048-LY4 Series**

1G/10G Enterprise-Class Ethernet switch

- 1G/10G
- L2+

QuantaMesh **T1048-P02 Series**

Data Center Cloud Management Switch & SMB/Enterprise L2 Management Switch

- 1G/10G
- Fanless
- EEE
- L2

* All specifications and figures are subject to change without prior notice.
Desktop Virtualization

QxVDI VMware Edition-HC / QxVDI VMware Edition-OA

How does a modern enterprise enable its employees to work from anywhere, at any time, on any of an ever-growing number of devices and still provide reliable performance, protect its intellectual assets, and meet compliance standards? The answer is desktop virtualization. Desktop virtualization solutions also greatly simplify IT support tasks, enabling the provision of apps and new desktops in real time.

QCT is proud to offer a selection of virtual desktop infrastructure (VDI) appliances for office application workloads. Powered by market-proven software, these desktop virtualization solutions are unique in their ease of implementation and management.

QCT desktop virtualization solutions extend the power of desktop and application virtualization, allowing IT to deliver and protect all of the Windows resources end users want, at the speed they expect, with the efficiency business demands.

- Streamline access performance via well-optimized design of hardware and software
- Improve security through enhanced protection from data center to endpoint
- Deploy quickly and scale efficiently with simplified planning, installation, management and operation
- Empower your workforce with greater flexibility

QxVDI VMware Edition-HC

High-Density Hardware with Flexible Virtualization Architecture

QxVDI VMware Edition-HC, a hyperconverged Infrastructure appliance powered by VMware virtualization software, is suitable for high-performance workloads. It uses a 2U 4-node server to create an easy-to-deploy building block for the Software-Defined Data Center (SDDC). It is an exceptional product that offers VDI or virtual machine options tailored to meet customer needs.

QxVDI VMware Edition-OA

A Cost-Efficient, High-Density and High-Performance Appliance

QxVDI VMware Edition-OA is a cost-effective, high-density and high-performance appliance powered by VMware virtualization software suitable for office workloads. The nature of the solution’s physically isolated multi-nodes limits the risk of system corruption and supports business continuity. It offers a superior user experience while reducing interruption risk and cost.
Compute Virtualization

QCT QxStack powered by VMware Cloud Foundation / QxStack VMware Edition-HC / QxStack Ubuntu OpenStack Edition / QxStack Microsoft Edition

The promise of a hyperconverged infrastructure—in which compute, storage, network and other resources are tightly integrated and software defined—is that it can power today's massive, mission-critical workloads while simultaneously offering optimal benefits to the enterprise.

QCT, the hyperscale leader, is pioneering hyperconverged infrastructure by offering a wide range of software-defined, highly scalable compute appliances powered by the world's leading virtualization software on top of market-proven hyperscale hardware.

These solutions are equipped with different virtualization technologies but offer the same user experiences across the board: agility, availability, flexibility, reliability, security, performance and low cost.

- Provide industry-leading commercial solutions to fit broad use cases, including Microsoft, OpenStack and VMware
- Ensure seamless hardware and software integration through manufacturer's pre-validated and/or pre-loaded engineering
- Optimize performance via an all-in-one appliance
- Scale virtual and physical resources on demand without risks

QCT QxStack powered by VMware Cloud Foundation

Easiest Way to Build and Operate a Software-Defined Datacenter Private Cloud

QCT QxStack powered by VMware Cloud Foundation is a fully interoperable solution that provides customers with the easiest way to build and run an SDDC private cloud. The solution is delivered with pre-qualified hardware provided by QCT and VMware's Cloud Foundation software. This SDDC-based integrated system is ideal for enterprises and service providers focused on greater simplicity, faster time-to-value, enhanced security and lower total cost of ownership (TCO).

QxStack VMware Edition-HC

High-Density Hardware with Flexible Virtualization Architecture

QxStack VMware Edition-HC, a hyperconverged Infrastructure appliance powered by VMware virtualization software, is suitable for high-performance workloads. It uses a 2U 4-node server to create an easy-to-deploy building block for the Software-Defined Data Center. QxStack VMware Edition-HC is an exceptional product that offers VDI or virtual machine options tailored to meet customer needs.

QxStack Ubuntu OpenStack Edition

A Proven HA Architecture with Faster Time-to-Value

QxStack Ubuntu OpenStack Edition is a turnkey cloud solution that lets customers easily adopt OpenStack. It provides a range of SDN, SDS and next-generation applications via Juju charms to build clouds that best fit each business need. By leveraging MAAS and Juju, customers can deploy OpenStack services in days with flexible architectures.

QxStack Microsoft Edition

Accelerate Cloud Adoption with Secured Return on Investment

QCT CLOUD-in-a-box (QCB) offers a converged private and hybrid cloud solution by integrating Microsoft Cloud OS technologies. QCB is validated by the Microsoft FastTrack program and is capable of reducing the complexity and risk of implementing a Hybrid and Private cloud in the first place. Starting from the customer’s point of view, QCB is pre-validated and performance benchmarked. It comes pre-installed with Microsoft software and encompasses storage, computing and networking resources.

* All specifications and figures are subject to change without prior notice.
Storage Virtualization

QxStor Red Hat Ceph Storage Edition / QxStor EMC Edition-ScaleIO / QxStor Cloudian Edition

To stay competitive and be successful in the marketplace amid an exponential growth of data, enterprises must not only securely store their mission-critical data for backup and archival purposes, but also access it, analyze it, and take action on it, often in “real time.”

QCT offers a wide range of high-performance and high-capacity virtualized storage environments to help enterprises effectively process an ever-increasing volume of data and manage the complex workloads of analytics. QCT offers scalable, software-defined-storage platforms equipped to address file, object and block storage requirements across the board and power the most demanding cloud computing solutions in the industry.

- Provide both converged and disaggregated storage solutions for broad-based IT architectures
- Adopt market-proven, hyper-scale industry standard hardware to ensure storage reliability and availability
- Optimize storage performance and configuration with a strong ecosystem, including all-flash array, SSD, and helium HDD, to enhance user experiences

QxStor Red Hat Ceph Storage Edition

Optimal Integrated Ceph Solution at Petabyte Scale

QxStor EMC Edition-ScaleIO

Build A Modern HyperScale Storage Infrastructure Using QCT Platforms

QxStor Cloudian Edition

AWS S3-Compatible, Enterprise-grade Storage

QxStor Red Hat Ceph Storage Edition offers a family of Ceph solutions for building different types of scale-out storage clusters based on Red Hat Ceph Storage. The seamless interoperability and leading performance for block and object storage make it well suited for archival, rich media, and cloud infrastructure workloads like OpenStack.

QxStor EMC Edition ScaleIO provides server-based SAN from local application server storage to deliver elastic and scalable performance and capacity on demand.

QxStor Cloudian Edition Hyperstore appliance provides the most scalable end-to-end, easy-to-implement object storage solutions the market has to offer.
Big Data

QxData Microsoft Edition / QxData Cloudera Edition

With abundant sources of connected data streaming in from personal/wearable devices, social media, open sources, and traditional databases, enterprises more opportunities than ever before to make smart, data-informed decisions that deliver competitive advantage. But gaining strategic insights from Big Data requires the right tools for storage, processing and analysis.

QCT offers Big Data solutions that enable organizations to meet the most demanding of business intelligence needs. Offering breakthrough performance and efficiency, these economical solutions provide enterprises with the unprecedented analytical power and storage capacity required to manage and analyze Big Data while maximizing operational economy.

- Offer a complete data warehousing solution to meet big data and business intelligence needs
- Integrate industry leading big data platforms with market-proven, enterprise-ready hardware
- Provide high-speed query processing, data transfer and highly scalable data storage with Hadoop for the most demanding data warehousing workloads

QxData Microsoft Edition
Breakthrough Performance for Big Data Analytics

Microsoft

APS appliance combines Microsoft SQL Server Parallel Data Warehouse and Hadoop file system with QCT-certified hardware into one solution. The QxData Microsoft Edition provides ready-to-use, modern data warehouse equipment and powerful ways to process all the data.

QxData Cloudera Edition
Simplify and Accelerate Deployment of Apache Hadoop

QxData Cloudera Edition is the collaboration between QCT and Cloudera to provide businesses with an ideal solution for managing and analyzing big data without spending excessive time on operations and maintenance.

* All specifications and figures are subject to change without prior notice.
### QuantaGrid Series

<table>
<thead>
<tr>
<th><strong>QuantaGrid D51B-1U</strong></th>
<th><strong>QuantaGrid D51BP-1U</strong></th>
<th><strong>QuantaGrid D51PS-1U</strong></th>
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</thead>
<tbody>
<tr>
<td><strong>Full-Featured Energy Efficient 2-Socket Server</strong></td>
<td><strong>Energy Efficient 2-Socket Server with Extreme Storage IOP/S</strong></td>
<td><strong>Powerful Compact 2-Socket Server</strong></td>
</tr>
<tr>
<td><strong>Processor</strong></td>
<td>(2) Intel® Xeon® processor E5-2600 v3/E5-2600 v4 product family</td>
<td>Intel® C610</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel® C602</td>
<td>Intel® C236</td>
</tr>
<tr>
<td><strong>Memory</strong></td>
<td>(24) 2400 MHz DDR4 RDIMM/ LRDIMM</td>
<td>(16) 2400 MHz DDR4 RDIMM/ LRDIMM</td>
</tr>
</tbody>
</table>
| **Storage** | Option 1: (10) 2.5" hot-plug (including (2) optional 2.5" NVMe PCIe SSDs)  
Option 2: (10) 2.5" hot-plug (require additional LSI SAS/ MegaRAID card to connect to the expander backplane) | Option 1: (10) 2.5" hot-plug  
Option 2: (4) 3.5" hot-plug (support PCIe-based interface) |
| **Network Controller** | Intel® I350 dual-port 1 GbE  
Dedicated 1 GbE management port | Intel® X540 dual-port 10GbE BASE-T  
Dedicated 1 GbE management port |
| **Expansion Slot** | Option 1 (default):  
(1) PCIe Gen3 x8 SAS mezzanine slot  
(1) PCIe Gen3 x16 FHHL  
(1) PCIe Gen3 x8 OCP LAN mezzanine slot  
Option 2:  
(1) PCIe Gen3 x16 LP MD-2  
(1) PCIe Gen3 x16 FHHL  
(1) PCIe Gen3 x8 OCP LAN mezzanine slot | Option 1 (default):  
(1) PCIe Gen3 x8 SAS mezzanine slot  
(1) PCIe Gen3 x8 OCP LAN mezzanine slot  
(2) PCIe Gen3 x8 LP MD-2  
Option 2 (this sku does not support any 2.5" PCIe SSD):  
(1) PCIe Gen3 x8 SAS mezzanine slot  
(1) PCIe Gen3 x8 OCP LAN mezzanine slot  
(2) PCIe Gen3 x16 LP MD-2 |
| **Form Factor** | 1U Rackmount | | 

### QuantaGrid D51PC-1U

<table>
<thead>
<tr>
<th><strong>Versatile Compact 2-Socket Server</strong></th>
<th><strong>The Densest 1U Scale Out Computing Storage Server</strong></th>
<th><strong>Energy efficient, compact 1U architecture envisioned for space constrained data centers</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor</strong></td>
<td>(2) Intel® Xeon® processor E5-2600 v3/E5-2600 v4 product family</td>
<td>(1) Intel® Xeon® processor E5-2600 v2 product family</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel® C610</td>
<td>Intel® C602</td>
</tr>
<tr>
<td><strong>Memory</strong></td>
<td>(8) 2400 MHz DDR4 RDIMM/ LRDIMM</td>
<td>(8) 1866/1600/1333 MHz DDR3 RDIMM, or (8) 1600 MHz DDR3 LRDIMM</td>
</tr>
</tbody>
</table>
| **Storage** | Option 1: (10) 2.5" hot-plug  
Option 2: (4) 3.5" or 2.5" fixed SAS/SATA | (12) 3.5" or 2.5" fixed SAS/SATA |
| **Network Controller** | Option 1: (2) GbE ports (Intel® I210)  
Dedicated 1 GbE management port  
Option 2: (2) GbE ports (Intel® I210) + (2) GbE (Intel® I350), Dedicated 1 GbE management port | (1) Intel® I350 dual-port 1 GbE  
Dedicated 1 GbE management port |
| **Expansion Slot** | Option 1 (default):  
(1) PCIe Gen3 x8 SAS mezzanine slot  
(1) PCIe Gen3 x8 LP MD-2  
(1) PCIe Gen3 x16 OCP LAN mezzanine slot | (1) PCIe Gen3 x16 FHHL |
| **Form Factor** | 1U Rackmount | | 

### QuantaGrid S51G-1UL

<table>
<thead>
<tr>
<th><strong>The Densest 1U Scale Out Computing Storage Server</strong></th>
<th><strong>Energy efficient, compact 1U architecture envisioned for space constrained data centers</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor</strong></td>
<td>(1) Intel® Xeon® processor E5-2600 v2 product family</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel® C602</td>
</tr>
<tr>
<td><strong>Memory</strong></td>
<td>(8) 2400 MHz DDR4 RDIMM/ LRDIMM</td>
</tr>
</tbody>
</table>
| **Storage** | Option 1: (10) 2.5" hot-plug  
Option 2: (4) 3.5" or 2.5" hot-plug  
(2) 2.5" fixed SSDs | (12) 3.5" or 2.5" fixed SAS/SATA |
| **Network Controller** | Option 1: (1) PCIe Gen3 x8 SAS mezzanine slot  
(1) PCIe Gen3 x16 OCP LAN mezzanine slot  
(1) PCIe Gen3 x16 FHHL | (1) Intel® I210 dual-port 1 GbE  
Dedicated 1 GbE management port |
| **Expansion Slot** | Option 1 (default):  
(1) PCIe Gen3 x8 QCT LAN mezzanine slot  
(1) PCIe Gen3 x8 LP MD-2  
(1) PCIe Gen3 x16 OCP LAN mezzanine slot | (1) PCIe Gen3 x8 LP MD-2  
(1) PCIe Gen3 x8 QCT LAN mezzanine slot |
<p>| <strong>Form Factor</strong> | 1U Rackmount | |</p>
<table>
<thead>
<tr>
<th>QuantaGrid D51B-2U</th>
<th>QuantaGrid D51BV-2U</th>
<th>QuantaGrid Q71L-4U</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor</strong></td>
<td>(2) Intel® Xeon® processor E5-2600 v3/E5-2600 v4 product family</td>
<td>(4) Intel® Xeon® processor E7-4800 v2/E7-4800 v3 /E7-8800 v3 product family</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel® C610</td>
<td>Intel® C602J</td>
</tr>
<tr>
<td><strong>Memory</strong></td>
<td>(24) 2400 MHz DDR4 RDIMM/ LRDIMM</td>
<td>E7-4800 v2 : (96) 1600 /1333 MHz DDR3 RDIMM E7-4800 v3 /8800 v3 : (96) 1866 MHz DDR4 RDIMM</td>
</tr>
<tr>
<td><strong>Storage</strong></td>
<td>Option 1: (2) 2.5&quot; hot-plug (2) optional rear 2.5&quot; hot-plug PCIe SSDs Option 2: (12) 3.5&quot; hot-plug (2) optional rear 2.5&quot; hot-plug PCIe SSDs</td>
<td>Option 1: (10) 3.5&quot; hot-plug SATA 6Gb/s Option 2: (12) 3.5&quot; hot-plug (require additional SAS/ RAID card)</td>
</tr>
<tr>
<td><strong>Network Controller</strong></td>
<td>Option 1: Intel® I350 dual-port 1 GbE Dedicated 1 GbE management port Option 2: Intel® X540 dual-port 10GbE BASE-T Dedicated 1 GbE management port</td>
<td>Option 1: Intel® I350 dual-port 1 GbE Dedicated 1 GbE management port Option 2: Intel® X540 dual-port 10GbE BASE-T Dedicated 1 GbE management port</td>
</tr>
<tr>
<td><strong>Expansion Slot</strong></td>
<td>Option 1 (default): (1) PCIe Gen3 x8 SAS mezzanine slot (2) PCIe Gen3 x8 LP MD-2 (1) PCIe Gen3 x16 FHHL (1) PCIe Gen3 x8 OCP LAN mezzanine slot Option 2: (1) PCIe Gen3 x16 LP MD-2 (2) PCIe Gen3 x8 FHHL (1) PCIe Gen3 x16 FHHL (1) PCIe Gen3 x8 OCP LAN mezzanine slot</td>
<td></td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>2U Rackmount</td>
<td>4U Rackmount</td>
</tr>
</tbody>
</table>

**QuantaGrid D51PH-1ULH**

- Hybrid Scale-Out High Computing Storage Server
- Processor: (2) Intel® Xeon® processor E5-2600 v3/E5-2600 v4 product family
- Chipset: Intel® C610
- Memory: (16) 2400 MHz DDR4 RDIMM
- Storage: (12) 3.5"/2.5" hot-plug 12Gb/s SAS or 6Gb/s SATA HDDs (4) 2.5" hot-plug 7mm 6Gb/s SATA SSDs (1) Internal SATA DOM
- Network Controller: Intel® I350 dual-port 1 GbE Dedicated 10/100/1000 management port
- Expansion Slot: (1) PCIe Gen3 x16 OCP LAN mezzanine slot
- Form Factor: 1U Rackmount

**QuantaGrid SD1Q-1ULH**

- Balanced Computing Performance with Low Power Consumption
- Processor: (1) Intel® Xeon® processor D-1531, SoC cores, 2.2GHz
- Chipset: Intel® C610
- Memory: (4) 1600/1333 MHz DDR3 ECC UDIMM
- Storage: (12) 3.5"/2.5" Hot-Swappable 12Gb/s SAS HDDs/SSDs or 6Gb/s SATA HDDs/SSDs (4) 2.5" Hot-Swappable 7mm 6Gb/s SATA SSDs (1) PCIe 2280 M.2 SSD (2) 2.5" 7mm 6Gb/s SATA SSDs for DS
- Network Controller: Intel® X552 dual-ports 10GbE BASE-T Dedicated 10/100/1000 management port
- Expansion Slot: (1) OCP Mezz 1Gb/10Gb SFP+/10GBaseT (1) PCIe Gen3 x8 SAS mezzanine slot
- Form Factor: 1U Rackmount

**STRATOS S100-L11D**

- The Densest 1U Scale Out Storage Server
- Processor: (1) Intel® Xeon® processor E3-1200 v3 product family
- Chipset: Intel® C226
- Memory: (12) 2.5" hot-plug SATA 6Gb/s HDDs/SSDs or 6Gb/s SATA HDDs/SSDs
- Storage: (4) 2.5" Hot-Swappable 7mm 6Gb/s SATA SSDs (1) PCIe 2280 M.2 SSD (2) 2.5" 7mm 6Gb/s SATA SSDs for DS
- Network Controller: Intel® I210 1 GbE Dedicated 10/100 management port
- Expansion Slot: (1) PCIe Gen3 x16 OCP LAN mezzanine slot
- Form Factor: 1U Rackmount

* All specifications and figures are subject to change without prior notice.
## QuantaPlex Series

<table>
<thead>
<tr>
<th>QuantaPlex S41T-2U</th>
<th>QuantaPlex T21P-4U</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor</strong></td>
<td>(1) Intel® Xeon™ Phi x200 processor per node</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel® C610</td>
</tr>
<tr>
<td><strong>Memory</strong></td>
<td>(6) 2400MHz DDR4 RDIMM/LRDIMM per node</td>
</tr>
</tbody>
</table>
| **Storage**       | (6) 2.5" hot plug SAS/SATA HDDs/SSDs per node | **SKU 1:** (2) MBs with (70) 3.5"/2.5" hot plug, each MB manages (35) HDDs  
|                   |                   | **SKU 2:** (1) MB with (78) 3.5"/2.5" hot plug |
| **Network Controller** | QuantaPlex T21SR-2U (2-Node) | QuantaPlex T21P-4U (2-Node) |
| **Expansion Slot** | QuantaPlex T41SP-2U (4-Node) | QuantaPlex T41S-2U (4-Node) |
| **Form Factor**   | (4) nodes in 2U Rackmount | 4U Rackmount |

## QuantaPlex S41T-2U

- **A Game Changing Xeon-Phi™ Server that Redefines HPC Infrastructure**
- Processor: (1) Intel® Xeon™ Phi x200 processor per node
- Chipset: Intel® C610
- Memory: (6) 2400MHz DDR4 RDIMM/LRDIMM per node
- Storage: (6) 2.5" hot plug SAS/SATA HDDs/SSDs per node
- Network Controller: QuantaPlex T21SR-2U (2-Node)
- Expansion Slot: Option 1: processor without fabric:
  - 1) PCIe Gen3 x16 LP MD-2
  - 2) PCIe Gen3 x16 LAN mezzanine slot
- Option 2: processor with fabric:
  - 1) PCIe Gen3 x8 SAS mezzanine slot
- Form Factor: (4) nodes in 2U Rackmount

## QuantaPlex T21P-4U

- **Ultra-Dense Extreme Performance Storage Server**
- Processor: (2) Intel® Xeon® processor E5-2600 v3/E5-2600 v4 product family per node
- Chipset: Intel® C610
- Memory: (16) 2400 MHz DDR4 RDIMM/ LRDIMM per node
- Storage: **SKU 1:** (2) MBs with (70) 3.5"/2.5" hot plug, each MB manages (35) HDDs  
  **SKU 2:** (1) MB with (78) 3.5"/2.5" hot plug
- Network Controller: QuantaPlex T21P-4U (2-Node)
- Expansion Slot: Option 1: processor without fabric:
  - 1) PCIe Gen3 x8 riser slot 1 HHHL
  - 2) PCIe Gen3 x16 OCP LAN mezzanine slot
- Option 2: processor with fabric:
  - 1) PCIe Gen3 x8 riser slot 2 HHHL or SAS mezzanine slot
  - 2) PCIe Gen3 x16 riser slot 3 FHHL
- Form Factor: 4U Rackmount

## QuantaPlex T21SR-2U (2-Node)

- **2U 2-Node High Availability Cluster-in-a-Box Server**
- Processor: (2) Intel® Xeon® processor E5-2600 v3/E5-2600 v4 product family per node
- Chipset: Intel® C610
- Memory: (16) 2400 MHz DDR4 RDIMM/ LRDIMM per node
- Storage: (6) 2.5" hot plug (2x NVMe SSDs) per node
- Network Controller: QuantaPlex T21SR-2U (2-Node)
- Expansion Slot: Option 1: processor without fabric:
  - 1) PCIe Gen3 x8 for Intel® Non-Transparent Bridge (NTB) per node
  - 2) PCIe Gen3 x8 for 10G Base-KR per node
  - 24) 2.5" hot-plug shared SAS HDDs
  - (2) 2.5" hot-plug HDDs/SSDs for OS installation per node
  - (1) USB Flash Module
- Option 2: processor with fabric:
  - (1) PCIe Gen3 x8 for SAS controller per node
- Form Factor: (4) nodes in 2U Rackmount

## QuantaPlex T41SP-2U (4-Node)

- **2U 4-Node Server Featuring NVMe SSD**
- Processor: (2) Intel® Xeon® processor E5-2600 v3/E5-2600 v4 product family per node
- Chipset: Intel® C610
- Memory: (16) 2400 MHz DDR4 RDIMM/ LRDIMM per node
- Storage: (6) 2.5" hot plug (2x NVMe SSDs) per node
- Network Controller: QuantaPlex T41SP-2U (4-Node)
- Expansion Slot: Option 1: processor without fabric:
  - 1) PCIe Gen3 x8 for Intel® Non-Transparent Bridge (NTB) per node
  - 2) PCIe Gen3 x8 for 10G Base-KR per node
  - 24) 2.5" hot-plug shared SAS HDDs
  - (2) 2.5" hot-plug HDDs/SSDs for OS installation per node
  - (1) USB Flash Module
- Option 2: processor with fabric:
  - (1) PCIe Gen3 x8 for SAS controller per node
- Form Factor: 4U Rackmount

## QuantaPlex T41S-2U (4-Node)

- **2U 4-Node Server Featuring Highest Compute Density**
- Processor: (2) Intel® Xeon® processor E5-2600 v3/E5-2600 v4 product family per node
- Chipset: Intel® C610
- Memory: (16) 2400 MHz DDR4 RDIMM/ LRDIMM per node
- Storage: **Option 1:** (6) 2.5" hot plug per node  
  **Option 2:** (3) 3.5" hot plug per node
- Network Controller: QuantaPlex T41S-2U (4-Node)
- Expansion Slot: Option 1: processor without fabric:
  - 1) PCIe Gen3 x16 LP MD-2
  - 1) PCIe Gen3 x8 mezzanine slot
  - (1) PCIe Gen3 x8 OCP LAN mezzanine slot
- Option 2: processor with fabric:
  - (1) PCIe Gen3 x8 riser slot 1 HHHL
  - (2) PCIe Gen3 x16 OCP LAN mezzanine slot
- Form Factor: 4U Rackmount
**QuantaMicro Series**

**QuantaMicro X10E-9N (3U 9-Node)**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processors</td>
<td>Intel® Xeon® E3-1200 v5 product family per node</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® C236 PCH-H</td>
</tr>
<tr>
<td>Memory</td>
<td>(4) DDR4 2133/2400 MHz ECC UDIMM per sled</td>
</tr>
</tbody>
</table>
| Storage | **Option 1:** (2) 3.5” fixed SAS/SATA  
**Option 2:** (4) 2.5” fixed SAS/SATA |
| Network Controller | **Option 1:** (4) GbE ports QCT Intel® i350 mezzanine card  
**Option 2:** (2) GbE ports QCT Intel® i350 mezzanine card |
| Expansion Slot | (1) PCIe Gen3 x12 mezzanine slot  
(1) PCIe Gen3 x12 mezzanine slot |
| Form Factor | (9) nodes in 3U Rackmount |

**QuantaVault Series**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
</table>
| **QuantaVault JB4602** | The Most Sophisticated 4U  
60 HDDs JBOD |
| **QuantaVault JB4242** | Versatile Hybrid Disk Expansion Unit |
| **QuantaVault JB2720** | Jump Start All Flash Array |
| Controller Module | (2) External SAS Interface Modules (SIM)  
(4) Internal SAS Interface Modules (ISIM)  
(2) External SAS Interface Modules(SIM)  
(8) Internal SAS Interface Modules(SIM) |
| External I/O Ports | (4) 12Gb/s mini-SAS ports per SIM  
(4) 12Gb/s mini-SAS ports per SIM  
(4) 12Gb/s mini-SAS ports per SIM |
| Storage | (60) 3.5” or 2.5” hot-plug SASIII/SATAIII HDDs/SSDs  
(24) 3.5” or 2.5” hot-plug SASIII/SATAIII HDDs/SSDs  
(8) 2.5” hot-plug SASIII/SATAIII SSDs (optional)  
(72) 2.5” hot-plug 7mm/15mm SASIII/ SATAIII SSDs |
| Management Port | (1) Mini USB management port per SIM  
(1) RJ45 management port per SIM  
(1) Mini USB management port per SIM |
| Fan | (4) Dual rotor fans per module  
(3) Dual rotor fans per module  
(2) Dual rotor fans per module for optional SSD |
| Power Supply | (2) 1400W 220VAC or (2) 1200W 100-220VAC PSUs, Platinum  
(2) 500W 100-240VAC PSUs, Platinum  
(2) 1400W 100-240VAC PSUs, Platinum |
| Form Factor | 4U Rackmount  
2U Rackmount |

* All specifications and figures are subject to change without prior notice.

Powered by Intel® Xeon® processors
## Rackgo M Series

### MC510 Compute Blade
- **Open Cloud Server (OCS) Inspired Platform**
- **Processor**: (2) Intel® Xeon® processor E5-2600 v3/E5-2600 v4 product family
- **Chipset**: Intel® C610
- **Memory**: (16) 2400 MHz DDR4 RDIMM/ LRDIMM
- **Storage**: (4) 2.5” hot-plug, (4) 2.5” fixed SSDs
- **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 HDDs/SSDs
- **Form Factor**: Half-width blade
## Rackgo X Series

<table>
<thead>
<tr>
<th>Big Sur</th>
<th>Leopard Cave (3-Node)</th>
<th>Yosemite Valley (12-Node)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor</strong></td>
<td>(2) Intel® Xeon® processor E5-2600 v4 product family</td>
<td>Powerful 2U3N Open Rack v2 Compute System</td>
</tr>
<tr>
<td><strong>Coprocessor</strong></td>
<td>(8) GPGPU/Intel® Xeon Phi™ cards</td>
<td>-</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel® C610</td>
<td>Intel® C610</td>
</tr>
<tr>
<td><strong>Memory</strong></td>
<td>(16) 2133MHz DDR4 RDIMM/LRDIMM</td>
<td>(16) 2133MHz DDR4 DIMM/LRDIMM per node</td>
</tr>
<tr>
<td><strong>Drive Bay</strong></td>
<td>(8) 2.5&quot; hot-pluggable drive bays</td>
<td>(1) 3.5&quot; fixed drive bay per node</td>
</tr>
<tr>
<td><strong>Network Controller</strong></td>
<td>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</td>
<td>(1) QCT 56G QSFP+ OCP single port mezzanine card</td>
</tr>
<tr>
<td><strong>Expansion Slot</strong></td>
<td>(1) PCIe Gen3 x8 OCP mezzanine card (1) PCIe Gen3 x8 OCP mezzanine card (1) PCIe Gen3 x8 QCT SAS mezzanine card</td>
<td>(1) PCIe Gen3 x8 OCP mezzanine card (1) PCIe Gen3 x8 OCP mezzanine card (1) PCIe Gen3 x16 FHHL PCIe card per node</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>4OU (Open Rack) Rackmount</td>
<td>(3) nodes in 2OU (Open Rack) Rackmount</td>
</tr>
<tr>
<td><strong>Rack Compatible</strong></td>
<td>Open Rack v2</td>
<td>Open Rack v2</td>
</tr>
</tbody>
</table>

---

## F06D (4-Node) | F06A (4-Node)

<table>
<thead>
<tr>
<th>Revolutionary Converged Multi-node Infrastructure</th>
<th>High Density 2U 4-Node System with Optimal IO Expansion</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor</strong></td>
<td>(2) Intel® Xeon® processor E5-2600 v3/E5-2600 v4 product family</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel® C610</td>
</tr>
<tr>
<td><strong>Memory</strong></td>
<td>(16) 2400 MHz DDR4 RDIMM / LRDIMM per node</td>
</tr>
<tr>
<td><strong>Drive Bay</strong></td>
<td>(8) 2.5&quot; hot-plug per node</td>
</tr>
<tr>
<td><strong>Network Controller</strong></td>
<td>QCT OCP network mezzanine options per node</td>
</tr>
<tr>
<td><strong>Expansion Slot</strong></td>
<td>(1) PCIe Gen3 x8 LP MD-2 per node (1) PCIe Gen3 x8 internal SAS mezzanine option per node</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>(4) nodes in 2OU (Open Rack) Rackmount</td>
</tr>
<tr>
<td><strong>Rack Compatible</strong></td>
<td>Open Rack v1 &amp; v2</td>
</tr>
</tbody>
</table>

* All specifications and figures are subject to change without prior notice.
Rackgo X Series

### S1M (42-Node)
- World’s Densest 42-Node Microserver System
- Processor: (1) Intel® Atom™ processor C2000 product family per node
- 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 Gb per node
- Expansion slot: -
- Form Factor: (42) nodes in 2OU (Open Rack) Rackmount
- Rack Compatible: Open Rack v1

### Knoxville
- OCP Storage Server with Balanced Hybrid Storage Array
- Processor: (1) Intel® Xeon® processor D-1500 product family
- Chipset: Intel® Xeon® processor D-1500 SoC
- Memory: (4) 2400/2133 MHz DDR4 SODIMM
- Storage: (28) 3.5” hot-plug SAS HDDs, (4) 2.5” hot-plug NVMe SSDs
- Network Controller: Intel® Xeon® processor D-1500 SoC
- Expansion slot: Option 1: (2) 10G SFP+ ports
  Option 2: (1) 40G QSFP+ port
- Form Factor: (42) nodes in 2OU (Open Rack) Rackmount
- Rack Compatible: Open Rack v2

### 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” and 2.5” SAS/SATA hot-pluggable HDDs
- Management Port: (1) OCP debug management port
- Fan: (6) Hot-swappable dual rotor fan modules per system
- Form Factor: 2OU (Open Rack) Rackmount
- Rack Compatible: Open Rack v1 & v2

### 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 HDDs/SSDs
- Fan: (6) Hot-swappable dual rotor fan modules per system
- Form Factor: 2OU (Open Rack) Rackmount
- Rack Compatible: Open Rack v1

### Rackgo X Architecture
To help customers get started with the Rackgo X rack solution quickly, QCT offers three rack architectures to suit different types of workloads. Datacenter customers can choose from the three rack configurations or build their own racks.
### QuantaMesh Series

**QuantaMesh T7032-IX1**  
New Generation 100G Spine/RoR Switch for Data Center Networking

**QuantaMesh T5032-LY6**  
A Powerful 40G Spine or ToR Switch for Datacenter and Cloud Computing

**QuantaMesh T4048-IX2**  
New Generation 25/100G Spine/RoR Switch for Data Center Networking

<table>
<thead>
<tr>
<th>Physical Ports</th>
<th>QuantaMesh T7032-IX1</th>
<th>QuantaMesh T5032-LY6</th>
<th>QuantaMesh T4048-IX2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port Configuration</td>
<td>32 100Gbe QSFP28 ports</td>
<td>32 QSFP+ ports</td>
<td>48 25GbE and 8 100GbE QSFP28 ports</td>
</tr>
<tr>
<td>Management Port</td>
<td>OOB port (10/100/1000BASE-T)</td>
<td>(RJ-45)</td>
<td>(RJ-45)</td>
</tr>
<tr>
<td>Console Port</td>
<td>1 (RJ-45)</td>
<td>1 (RJ-45)</td>
<td>1 (RJ-45)</td>
</tr>
<tr>
<td>USB</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Performance**

<table>
<thead>
<tr>
<th>Switching Capacity</th>
<th>6.4Tbps</th>
<th>2.56Tbps</th>
<th>4.0Tbps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Forwarding Rate</td>
<td>Line rate performance*</td>
<td>1904Mpps</td>
<td>Line rate performance</td>
</tr>
<tr>
<td>Latency</td>
<td>Ultra-low latency</td>
<td>&lt;600ns</td>
<td>Ultra-low latency</td>
</tr>
<tr>
<td>MAC</td>
<td>Unified Forwarding Table (UFT)**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPU</td>
<td>Intel® Rangeley</td>
<td>P2020</td>
<td>Intel® Rangeley</td>
</tr>
<tr>
<td>Memory</td>
<td>8GB DDR4/ECC</td>
<td>2GB DDR3/ECC</td>
<td>8GB DDR4/ECC</td>
</tr>
<tr>
<td>Flash</td>
<td>128MB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage</td>
<td>32GB SSD</td>
<td>8GB Micro SD</td>
<td>32GB SSD</td>
</tr>
<tr>
<td>High Availability</td>
<td>Redundant Power Supply: 1+1</td>
<td>Hot-Swappable Fan Tray: N+1</td>
<td></td>
</tr>
</tbody>
</table>

* Packet size greater than 256B
** UFT: Unified Forwarding Table that is flexible to dynamically allocate the L2 and L3 table size.

### QuantaMesh T3048-LY8

**QuantaMesh T3048-LY8**  
A Powerful 10/40G ToR Switch for Datacenter and Cloud Computing

**QuantaMesh T3048-LY2R**  
A Powerful 10/40G ToR Switch for Datacenter and Cloud Computing

**QuantaMesh T3048-LY2**  
A Powerful 10/40G ToR Switch for Datacenter and Cloud Computing

<table>
<thead>
<tr>
<th>Physical Ports</th>
<th>QuantaMesh T3048-LY8</th>
<th>QuantaMesh T3048-LY2R</th>
<th>QuantaMesh T3048-LY2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port Configuration</td>
<td>48 1/10GbE SFP+</td>
<td>48 1/10GbE SFP+</td>
<td>48 1/10GbE SFP+</td>
</tr>
<tr>
<td>6 40GbE QSFP+ ports</td>
<td>4 40GbE QSFP+ ports</td>
<td>4 40GbE QSFP+ ports</td>
<td></td>
</tr>
<tr>
<td>Management Port</td>
<td>OOB port (10/100/1000BASE-T)</td>
<td>(RJ-45)</td>
<td>(RJ-45)</td>
</tr>
<tr>
<td>Console Port</td>
<td>1 (RJ-45)</td>
<td>1 (RJ-45)</td>
<td>1 (RJ-45)</td>
</tr>
<tr>
<td>USB</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Performance**

| Switching Capacity      | 1.44Tbps | 1.28Tbps | |
|-------------------------|---------|---------||
| Maximum Forwarding Rate | 1071Mpps | 952Mpps | |
| Latency                 | <600ns | <1us | <1.2us |
| MAC                     | Unified Forwarding Table (UFT)** | P2020 | 128K |
| CPU                     | Intel® Rangeley | P2020 | |
| Memory                  | 2GB DDR3/ECC | 2GB DDR3 | 64MB |
| Flash                   | 128MB | 64MB | |
| Storage                 | 8GB Micro SD | 2GB Micro SD | |
| High Availability       | Redundant Power Supply: 1+1 | Hot-Swappable Fan Tray: N+1 | Redundant Power Supply: 1+1 |

** UFT: Unified Forwarding Table that is flexible to dynamically allocate the L2 and L3 table size.

* All specifications and figures are subject to change without prior notice.
## QuantaMesh Series

### QuantaMesh T3024-P05
A Powerful Top-of-Rack Switch for Datacenter

<table>
<thead>
<tr>
<th>Physical Ports</th>
<th>QuantaMesh T3024-P05</th>
<th>QuantaMesh T3024-P05A</th>
<th>QuantaMesh T3048-LY9A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port Configuration</td>
<td>24 1/10GbE SFP+ ports</td>
<td>24 1/10GbE SFP+ ports</td>
<td>48 100/1000/10G BASE-T 6 40GbE QSFP+ ports</td>
</tr>
<tr>
<td>Management Port</td>
<td>OOB port (10/100/1000BASE-T)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Console Port</td>
<td>1(Mini USB)</td>
<td>1 (Rj-45)</td>
<td></td>
</tr>
<tr>
<td>USB</td>
<td>1 (Type A)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Switching Capacity</td>
<td>640Gbps</td>
<td>1440Gbps</td>
<td></td>
</tr>
<tr>
<td>Maximum Forwarding Rate</td>
<td>476Mpps</td>
<td>357Mpps</td>
<td>1071Mpps</td>
</tr>
<tr>
<td>Latency</td>
<td>&lt;1us</td>
<td>&lt;3us</td>
<td></td>
</tr>
<tr>
<td>MAC</td>
<td>128K</td>
<td>Unified Forwarding Table (UFT)** x86</td>
<td></td>
</tr>
<tr>
<td>CPU</td>
<td>P2020</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Memory</td>
<td>4GB DDR3/ECC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flash</td>
<td>128MB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage</td>
<td>8GB Micro SD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Availability</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** UFT: Unified Forwarding Table that is flexible to dynamically allocate the L2 and L3 table size.

### QuantaMesh T3048-LY9
A Powerful 10GBASE-T ToR Switch for Datacenter and Cloud Computing

### QuantaMesh T3048-LY9A
A Powerful Top-of-Rack Switch for Datacenter

### QuantaMesh T3040-LY3
A Powerful 10GBASE-T ToR Switch for Datacenter and Cloud Computing

### QuantaMesh T1048-LB9
1G/10G Datacenter & Enterprise-Class Ethernet switch

<table>
<thead>
<tr>
<th>Physical Ports</th>
<th>QuantaMesh T3048-LY9</th>
<th>QuantaMesh T3040-LY3</th>
<th>QuantaMesh T1048-LB9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port Configuration</td>
<td>48 100/1000/10G BASE-T 6 40GbE QSFP+ ports</td>
<td>40 100/1000/10G BASE-T 8 1/10GbE SFP+ ports</td>
<td>48 10/100/1000 BASE-T 4 1/10GbE SFP+ ports</td>
</tr>
<tr>
<td>Management Port</td>
<td>OOB port (10/100/1000BASE-T)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Console Port</td>
<td>1 (Mini USB)</td>
<td>1 (Rj-45)</td>
<td></td>
</tr>
<tr>
<td>USB</td>
<td>1 (Type A)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Switching Capacity</td>
<td>1440Gbps</td>
<td>960Gbps</td>
<td>176Gbps</td>
</tr>
<tr>
<td>Maximum Forwarding Rate</td>
<td>1071Mpps</td>
<td>714Mpps</td>
<td>131Mpps</td>
</tr>
<tr>
<td>Latency</td>
<td>&lt;3us</td>
<td>&lt;3us</td>
<td>&lt;3us</td>
</tr>
<tr>
<td>MAC</td>
<td>Unified Forwarding Table (UFT)**</td>
<td>128K</td>
<td>32K</td>
</tr>
<tr>
<td>CPU</td>
<td>P2020</td>
<td>MPC8541</td>
<td></td>
</tr>
<tr>
<td>Memory</td>
<td>2GB DDR3/ECC</td>
<td>2GB DDR3</td>
<td>1GB DDR3</td>
</tr>
<tr>
<td>Flash</td>
<td>128MB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage</td>
<td>8GB Micro SD</td>
<td>2GB Micro SD</td>
<td>2GB CF</td>
</tr>
<tr>
<td>High Availability</td>
<td>Redundant Power Supply: 1+1</td>
<td></td>
<td>Redundant Power Supply: 1+1</td>
</tr>
</tbody>
</table>

** UFT: Unified Forwarding Table that is flexible to dynamically allocate the L2 and L3 table size.
## QuantaMesh Series

<table>
<thead>
<tr>
<th>QuantaMesh T1048-LB9A</th>
<th>QuantaMesh T1048-LY4A</th>
<th>QuantaMesh T1048-LY4B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1G/10G Enterprise-Class Ethernet switch</td>
<td>1G/10G Enterprise-Class Ethernet Switch</td>
<td>1G/10G Enterprise-Class Ethernet switch</td>
</tr>
</tbody>
</table>

### Physical Ports

<table>
<thead>
<tr>
<th>Port Configuration</th>
<th>Management Port</th>
<th>Console Port</th>
<th>USB</th>
</tr>
</thead>
<tbody>
<tr>
<td>48 10/100/1000 BASE-T, 4 1/10Gbe SFP+ ports</td>
<td>OOB port (10/100/1000BASE-T)</td>
<td>1 (RJ-45)</td>
<td>1(Type A)</td>
</tr>
</tbody>
</table>

### Performance

<table>
<thead>
<tr>
<th>Switching Capacity</th>
<th>Maximum Forwarding Rate</th>
<th>MAC</th>
<th>CPU</th>
<th>Memory</th>
<th>Flash</th>
<th>Storage</th>
</tr>
</thead>
<tbody>
<tr>
<td>176Gbps</td>
<td>131Mpps</td>
<td>32K</td>
<td>MPC8541</td>
<td>1GB DDR3</td>
<td>64MB</td>
<td>2GB CF</td>
</tr>
<tr>
<td>136Gbps</td>
<td>101Mpps</td>
<td>16K</td>
<td>P1010</td>
<td>512MB DDR3</td>
<td>32MB</td>
<td>-</td>
</tr>
<tr>
<td>104Gbps</td>
<td>77Mpps</td>
<td>16K</td>
<td>Cortex-A9</td>
<td>1GB NAND</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

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