

Simplifying Your Journey to a Software-Defined Data Center

WHITE PAPER





Table of Contents

Going Beyond the Norms: QCT's Evolution	3
QCT Delivers the Right Server Solutions	4
Master the IT Transformation	5
Deliver HCI to Right Customers by Integrating Expertise	6
Simplify HCI with QCT QxStack VMware vSAN™ Solutions Powered by Intel®	7
ReadyNode Certification as a Service	8
Workload Optimization for vSAN™-Based Solutions	9
Conclusion	10

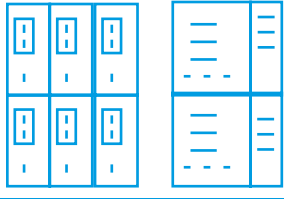


Going Beyond the Norms: QCT's Evolution

What is a data center solution, and why is it so important? The core business and daily operations of almost all modern enterprises need IT systems and computing power to support as well as store, manage and analyze the massive amounts of data they collect every day. Centralizing these systems and equipment simplifies management and improves infrastructure efficiency to achieve better reliability and security. That's extremely important — especially when it occurs in a hyperscale data center.

When you look inside a data center, what do you see? Walk into Facebook's data center, and you see rows and rows of servers, not from Dell or HPE but from Quanta Computer, Inc., a Fortune Global 500 corporation. Partners like Facebook were a turning point for Quanta to develop its data center solution and achieve significant success in hyper-scaler markets. Moreover, by learning the latest technology trends and adopting leading technologies, Quanta extended its understanding from hardware to software, collaborating with other independent software vendors (ISVs) such as VMware and Microsoft to deliver Software-Defined Data Center (SDDC) solutions tuned to specific workload types — including Infrastructure as a Service (IaaS), Virtual Desktop Infrastructure (VDI), Big Data and High Performance Computing (HPC) — and establishing its subsidiary Quanta Cloud Technology (QCT) in 2012.

QCT is a global data center solutions provider serving cloud service providers, telecoms and enterprises. QCT's SDDC solution fulfills business demands from enterprises, combining the efficiency of hyperscale hardware with infrastructure software from a diversity of industry leaders to address next-generation data center design and operational challenges.



QCT Delivers the Right Server Solutions

As a leading cloud data center solution provider, QCT delivers hyper-converged and software-defined data center solutions as well as servers, storage, networking and integrated racks to a diverse ecosystem of hardware component and software partners.

QCT designs, manufactures, integrates and services cutting-edge offerings via its own global network and delivers benefits that differentiate the organization from other vendors, including:

- **Innovative Technology.** Working with the world's best-in-class data center customers and world-leading technology vendors, QCT continues exploring the most advanced cloud technology.
- **Trusted Partner.** Global supply chain and engineering services enable QCT to rapidly serve customers worldwide.
- **Strong Relationships.** QCT believes in a healthy industry ecosystem established on strong, trustful and non-competitive relationships with partners.
- **Proven Success.** With a proven record of shipping high quality in volume to key hyperscale data centers, QCT is known for providing reliable, scalable, software-defined platforms.

The best way to ensure that your servers, storage, rack systems and networking systems provide optimal performance is to forge strong partnerships with the software developers whose products drive each of those functionalities. QCT engineers collaborate closely with these developers in validation and benchmarking, thereby ensuring the compatibility, functionality and performance of all products.

Innovative Technology

QCT offers generation-by-generation platform with cutting-edge technology; we aim to be an industry pioneer.

Open Ecosystem

QCT partners with global-leading technology vendors to provide a diverse range of data center infrastructure solutions for the 5G and AI era.



Optimized Performance

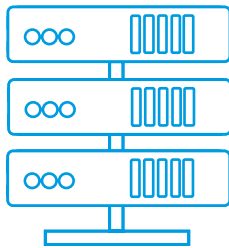
QCT is pre-validated and pre-configured to reach rapid deployment and easy management of customer workloads.

Operation Efficiency

Designed for simplicity, efficiency, serviceability and easy deployment, QCT systems offer ideal CAPEX and OPEX.



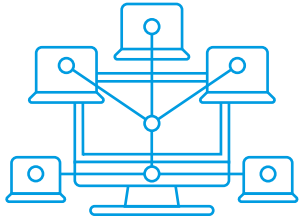
With end-to-end solution know-how from hardware to software, QCT's hardware is highly optimized with unified and flexible designs, providing excellent expandability and configurability for diverse industry requirements.



Master the IT Transformation

The path to IT transformation evolves rapidly, especially in the case of the emerging cloud trend. Cloud is the foundation in today's highly competitive business environment. Besides businesses adopting cloud-based infrastructure in private cloud, a Gartner report estimates that 75 percent of medium-sized and large-sized enterprises will adopt a multi-cloud or hybrid cloud strategy by 2021 — a big evolution. Extending to the public cloud speeds up deployment and reduces time spent on infrastructure management, or you can adopt a hybrid cloud scenario, which manages various virtual machines and container applications deployed in various cloud environments.

For organizations seeking to deploy cloud infrastructures, Hyper-Converged Infrastructure (HCI) can be a viable option. This novel technology integrates compute, storage and virtualization resources into a single hardware box. Compared with traditional IT infrastructure, this virtualized pool and unified management portal makes deployment, management and upgrade much simpler. Moreover, HCI solutions offer excellent cost efficiency as they require lower purchase and implementation costs, take up less space and incur fewer management costs over time, reducing the total cost of ownership (TCO).



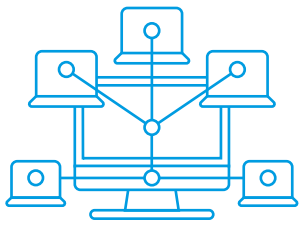
Deliver HCI to the Right Customers by Integrating Expertise

From developing a software-defined data center to entering the world of cloud and embracing the multi-cloud and hybrid cloud, the journey to IT transformation never ends. If integrators have learned anything from the cloud, it's that they don't have to be all things to all people if they can provide the best of everything through partnering with experts in each discipline. Managed service providers (MSPs) and cloud service providers (CSPs) deliver the greatest value to customers when they focus on the applications and workloads being delivered, not the component parts that provide superior technology.

With their understanding of the latest trends in cloud technology as well as in-depth experience and engineering expertise from hardware to software, QCT provides pre-validated and pre-configured HCI solutions to support different business demands across diverse use cases. QCT designs and manufactures all the way to solution validation, which has enabled the company to build up expertise in workload optimization. The QCT tuning approach to workload optimization leverages the underlying hardware, software and middleware layers to achieve much higher performance.

The major MSPs and CSPs have established hybrid cloud or multi-cloud offerings to extend and integrate cloud infrastructure with public cloud. With the above competencies, the HCI solutions QCT provides to MSPs, CSPs and enterprises have been proven to reliably meet various demands, enabling these organizations to focus on their core business — a far more valuable investment of their time.





Simplify HCI with QCT QxStack VMware vSAN™ Solutions Powered by Intel®

The right virtual storage solution resolves challenges including storage inefficiency, complex management and difficulty in scaling up and scaling out. QCT takes this approach to the next level by boosting the performance of workloads to fulfill customers' requirements, employing their second-generation server platform in tandem with powerful virtualization software developed by VMware to deliver the value of HCI.

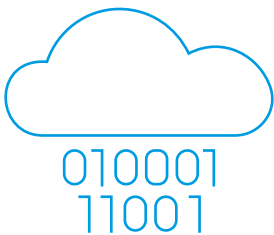
VMware's high-performance vSAN™ platform is enterprise-class, storage virtualization software that — when combined with vSphere (VMware's cloud computing virtualization platform) — allows users to manage compute and storage with a single platform. With vSAN™, you reduce the cost and complexity of traditional storage, and take the most direct path to hyperconverged infrastructure.

The QxStack VMware Edition integrates high-density, high-performance and energy-efficient QCT servers and VMware virtualization software to fit your demands for a diversity of use cases, including infrastructure as a service, virtual desktop infrastructure, remote and branch office (ROBO) and more. Built on QCT servers powered by Intel® Xeon® scalable processors, this solution delivers the high performance and scalability required for business-critical applications. Intel® Xeon® scalable processors deliver industry leading performance to help magnify data's transformative impact.

Adding new features such as Intel® Advanced Vector Extension 512 (Intel® AVX-512) and Intel® QAT to the software-defined environment built on QCT servers further facilitates workload optimization and increases the performance and efficiency of the standard

platform solutions. Moreover, with 48 PCIe 3.0 CPU lanes, the QCT servers carefully chosen to implement VMware vSAN™ offer sufficient bandwidth and throughput for I/O intensive workloads, supporting your fast-growing demands.

By integrating QCT ultra-design servers, reliable hardware components and industry-leading virtualization hyper-converged VMware software, QCT ensures outstanding performance while supporting multiple workloads, bringing the benefits of solving complex implementation and management problems in a simple way.

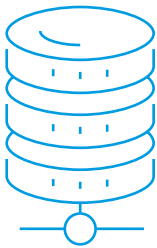
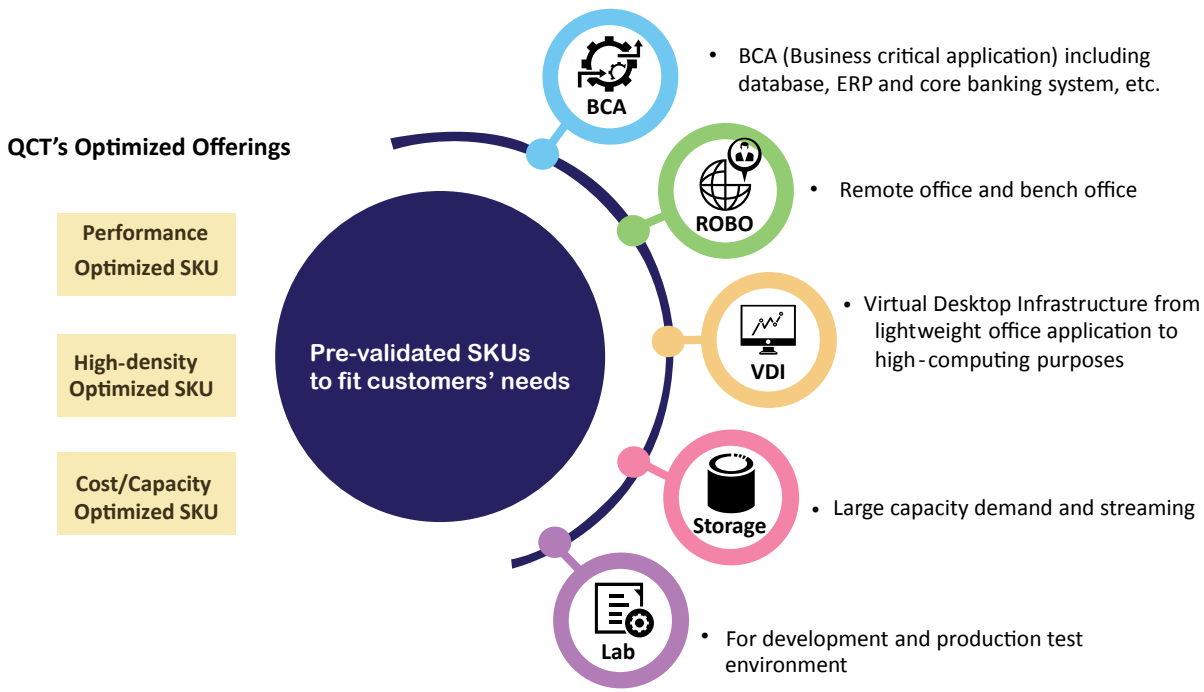


ReadyNode Certification as a Service

QCT provides the service of end-to-end certification for VMware vSAN ReadyNode™ certification from component level to appliance level. QxStack vSAN ReadyNode™ is a pre-validated, software-defined data center solution integrating various product lines, QCT hyper-converged infrastructure servers and leading virtualization software from VMware. These are integrated specifically to fit your requirements for different use cases.

QxStack VMware Edition-vSAN ReadyNode™ helps you fully utilize computing and storage resources by eliminating traditional storage silos in favor of promoting simplicity, agility, manageability and reduced TCO. Benefits of QxStack VMware Edition-vSAN ReadyNode™ include:

- **Management simplification.** In this structure, compute and storage resources are allocated and managed in x86-commoditized servers, which tremendously simplifies infrastructure management by controlling all of them from a single management interface. This creates a single integrated software stack with streamlined management from a “single pane of glass.”
- **Faster time to value.** QCT pre-validates and pre-optimizes the solution configuration and provides hardware and software integration to ease your pain points in compatibility issues. With QxStack VMware Edition-vSAN ReadyNode™, IaaS implementation is simplified to get faster time to value in your data center.
- **Diverse product portfolio.** QxStack VMware Edition-vSAN ReadyNode™ series provides multiple server options for the production environment, lab environment, file storage and a wide variety of other use cases.



Workload Optimization for vSAN™-Based Solutions

Matching a workload to the best-suited hardware platform is key. With decades of experience, QCT has deep expertise in workload optimization, exploiting the underlying hardware and infrastructure layers to achieve maximum performance. To ensure customers enjoy optimized and promised performance, QCT has integrated its pre-validated hardware with VMware vSAN™ to deliver a HCI solution with high performance and cost efficiency. For example, QCT has delivered a best practice for database management with vSAN™ which exceeds baseline system performance by more than seven times.

By adopting Intel® Optane™ SSD DC P4800X as the cache tier when running business-critical applications in a vSAN™ environment, the Optane™ technology delivers both storage capacity and speed. Storage bottlenecks are eliminated with this high-performance, highly reliable technology pre-integrated into the best-fitting hardware platform. The overall data solution powered by Intel® Optane™ technology can be provided at a more affordable price, as a single piece of the Optane™ SSD can be used as both memory and storage.

Besides tuning for the database systems, QCT has grasped the pulse of the market and turned to optimizing different kinds of workloads including virtual desktop infrastructure and mission-critical applications, which makes it possible to fulfill your diverse use cases with the same hardware and software combinations.

Conclusion

The future success of your organization's IT transformation depends on making smart, informed decisions today. This evolution starts with ensuring your data center is up to the task at hand — that it offers the computing power to efficiently and cost-effectively manage and process the data insights essential to maximizing the opportunities and navigating the obstacles ahead.

Savvy businesses know that selecting the right solutions and vendor partners is fundamental to growth. That's why so many are turning to QCT, which stands out from rival vendors based on a range of critical factors, including advanced cloud technology, global supply chain and engineering services, non-compete relationships and dependable, scalable, software-defined platforms. Don't wait to assert control over your company's digital future; contact QCT today.

For more information on QCT's SDDC solution, please visit: <https://go.qct.io/solutions>.

Intel, the Intel logo, Optane, and Xeon Inside are trademarks or registered trademarks of Intel Corporation in the U.S. and/or other countries. All trademarks and logos are the properties of their respective holders.