
QCT
雲達科技
超融合架構與軟體定義資料中心
QxStack Microsoft WS2016
Cloud Ready Appliance
Kevin Wang
王天碁
Software Defined
Datacenter Solution

Quanta Computer
Quanta Cloud Technology

Reputable provider of datacenter infrastructure holding major domains of public internet such as,

- Search Engine
- Major Cloud Service Provider
- Social Network
- E-commerce

QCT design appliances that best suits our clients

Racks

- OCP-Open Rack
- OCP-OCS
- Scorpio

Network Switch

- 1G Switch
- 10G Switch
- 25G Switch
- 40G Switch
- 100G Switch

Storage

- Storage server
- JBOD
- Cluster Server

Server

- Cloud server
- High density server

Scalability

Efficiency

Reliability

Serviceability

Agility

QxStack Microsoft WS2016 Cloud-Ready Appliances

Hyper-Converged Infrastructure Concept

QCT 雲達科技

傳統架構 | 融合 1.0 集成系統 | 融合 | 超融合

改變 | 變革 | 革新

伺服器

存儲交換機

存儲鏡像

重複數據刪除備份

廣域網路優化網路加速

雲端網路閘道

閃存陣列

存儲緩存存儲加速

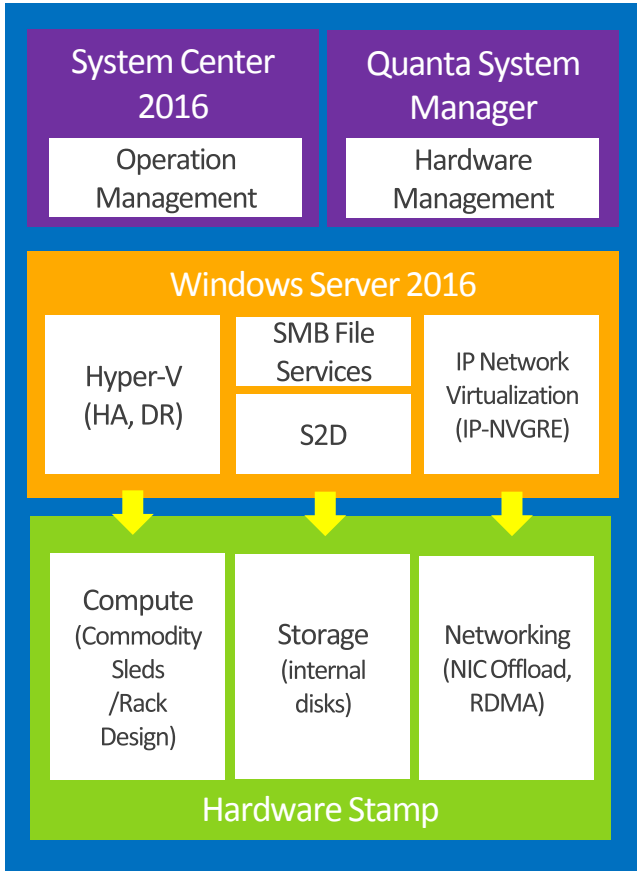
數據保護軟體(OS,備份&複製)

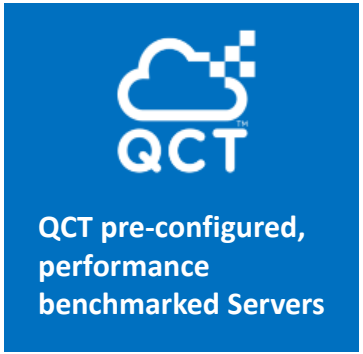
預先安裝集成存儲和伺服器

融合存儲和伺服器

QCT Windows Server 2016 Cloud Ready Appliance

A Solution that safeguards your business





Scenario-based Demo:

1. RDMA Technology
2. High Availability
3. VDI Workload – 4 node 400 VMs
4. Container – 4 node 500 containers
5. Hybrid cloud management - Operation Management Suite (OMS)
6. Backup and DR – Azure Site Recovery

QCT Windows Server 2016 Solution delivers dramatic performance boost

With more than 32,500 students from about 120 nations, **Johannes Gutenberg University Mainz (JGU)** is one of the largest universities in Germany. They are looking for a new and efficient way of working with its huge data amount on exchange and sharepoint server.

Challenge

- Complexity of IT management
- Performance bottlenecks with high loading

Solution

QCT WS2016 solution combined leading-edge cloud-Ready OS with high quality hardware system using NVMe SSDs

"All in all, we think QCT pre-validated solution has excellent compatibility and performance with the Windows Server 2016 OS."

Results

- **1.4M IOPS and 80TB capacity by only 4 nodes cluster**
- **Single console management** on SW and HW layer
- **Easy to scale-out solution**

JG|U
JOHANNES GUTENBERG
UNIVERSITÄT MAINZ

QCT
雲達科技

QCT powers Software-Defined Technology - RDMA

More CPU resources

Enable more CPU resource by offloading network I/O processing onto network adapter

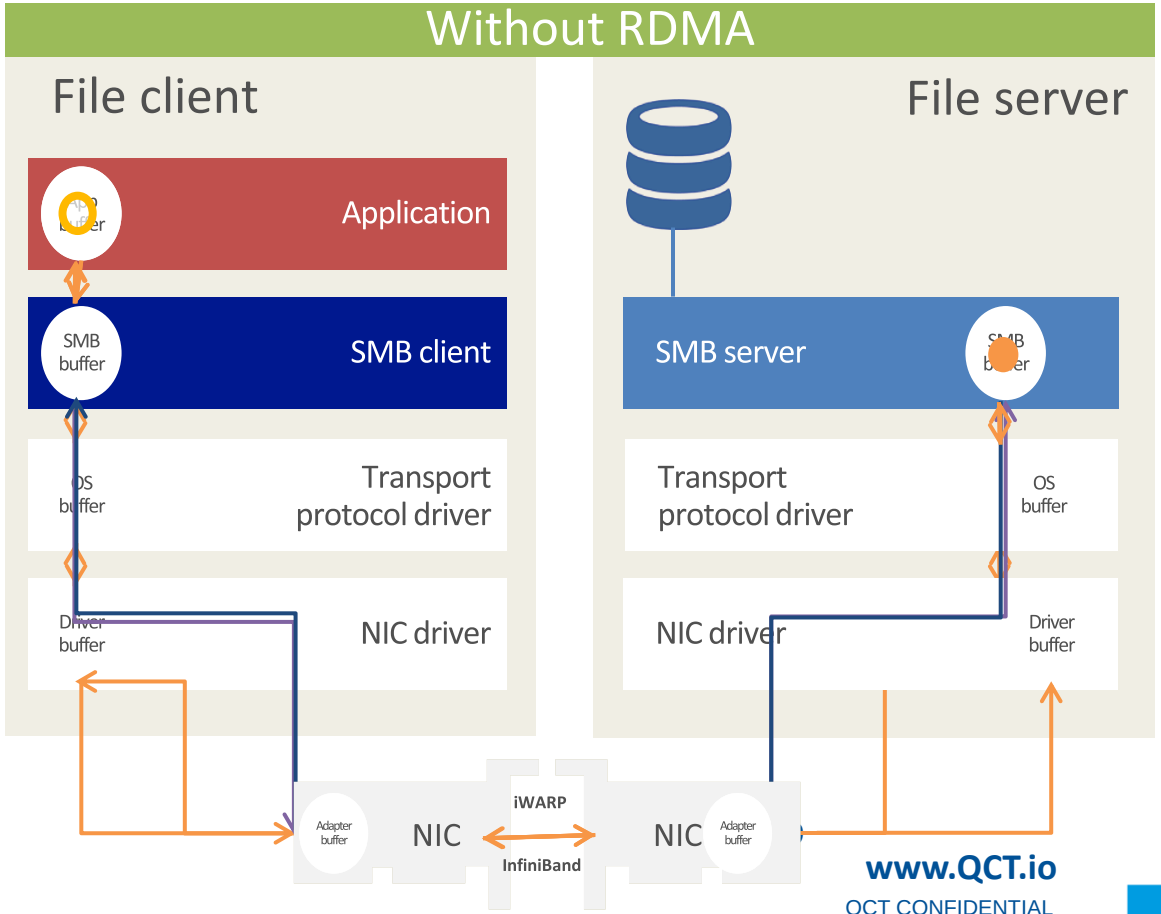
High throughput

High throughput

(3700MB/s to 7800MB/s) with low latency and ability to take advantage of high-speed network

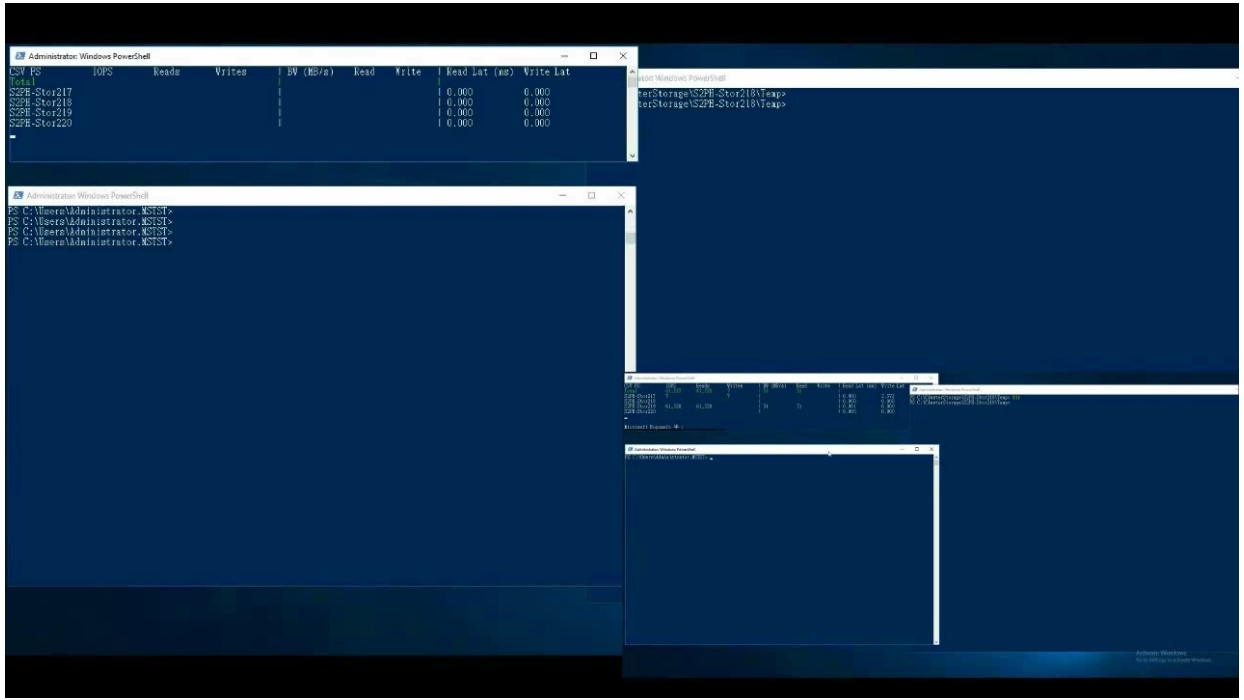
SMB Multichannel

Compatible with SMB multichannel for load balancing and failover



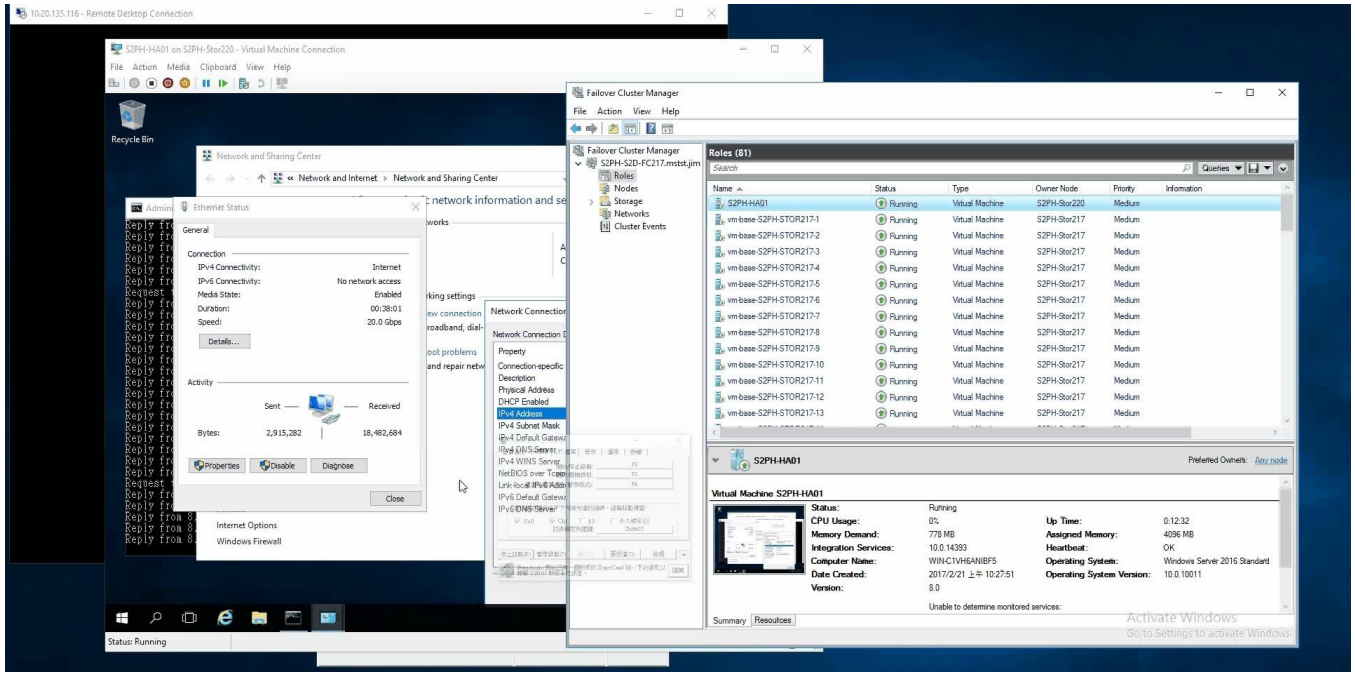
Q: What is **difference** with or without RDMA? If I were to transfer a **100Gb** file from one server to another, how much faster can **RDMA achieve**?

A: QCT's RDMA feature significantly increases throughput and reduces read/write latency. In QCT's experiment, it takes a mere 3.6 minutes to transfer 100G file from one node to another **(27% Time Reduction!!!)**



Q: If one of the QCT servers within a **cluster shuts down**, what happens to the VMs on that server?

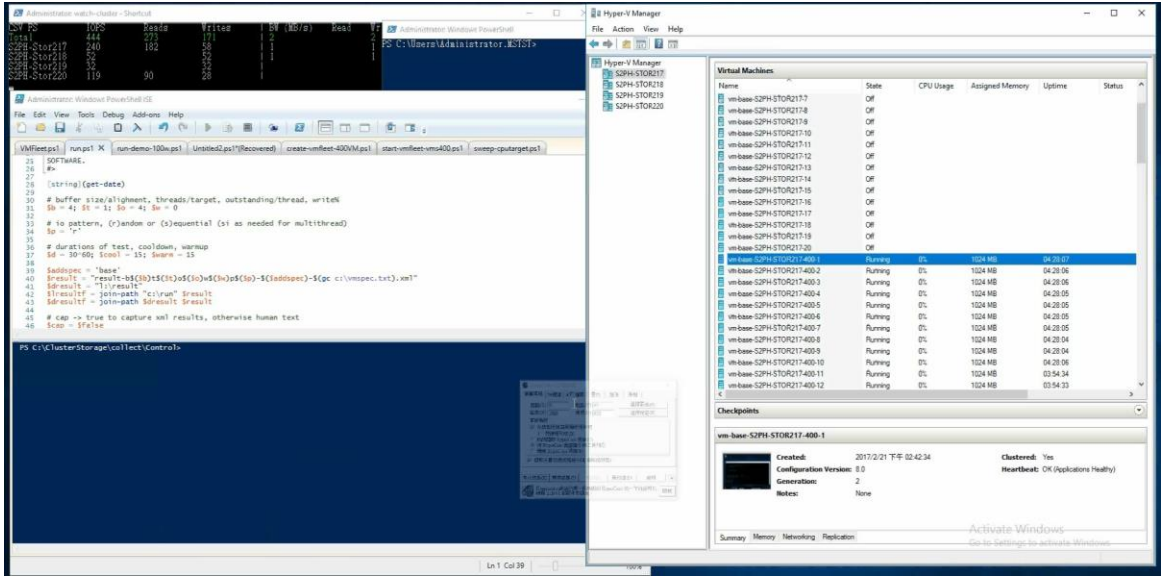
A: If one of QCT's server shuts down, the VM automatically modes to other QCT servers in the cluster….. **in merely 1-2 minutes!!!**



Q: I am a US enterprise, and I want to run **VDI workload** on my new infrastructure. For this specific purpose, what can QCT offer?

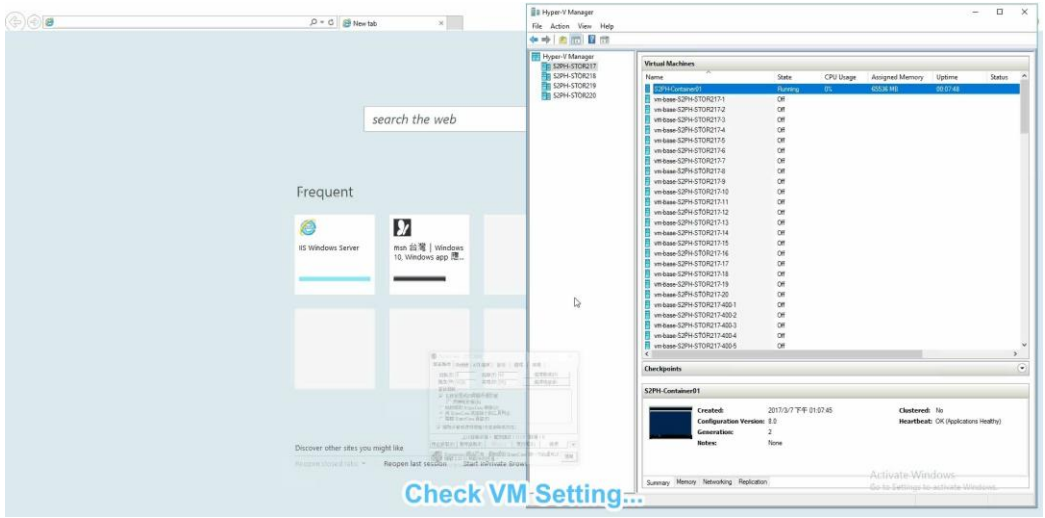
A: With QCT's MSW2000, it can run **400 VMs** per 4 node cluster.

VM Profile
- 2vcpu
- 4G RAM
- 120G Disk
- 50 IOPS



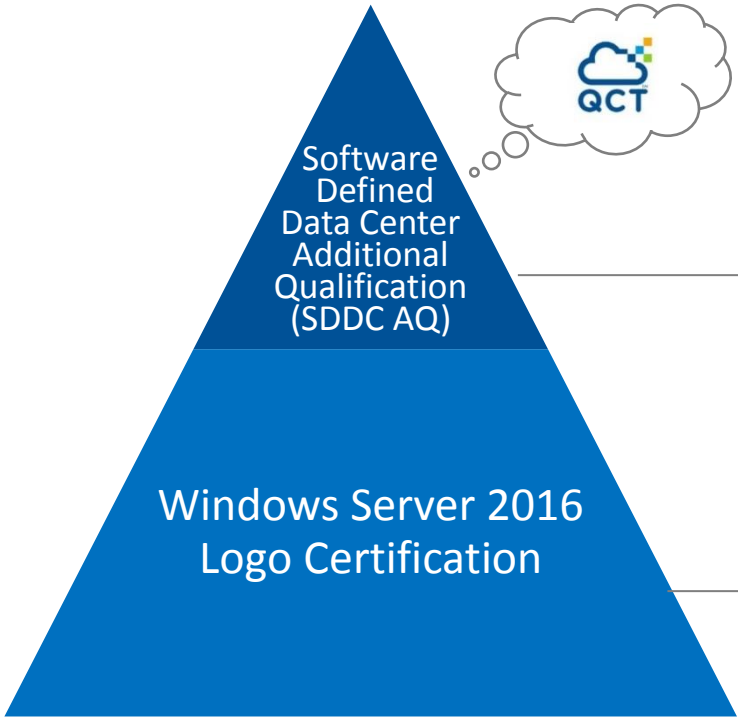
Q: These days **microservices** are very popular. What if I also want to run microservices on **containers** in the future?

A: For a VM in one node within 4 node cluster of MSW2000, it can run **500 Docker containers** with only **44Gb memory** and **160Gb of capacity.**



Windows Server Software-Defined

Top-standard program endorsed by MSFT



Private Cloud Simulator Test

- Solution Level certification on server cluster
- Simulate 1yr datacenter operation in 7 days stress test with strict standard

Hardware Lab Kit Test

- Hardware level and OS certification on single server
- Hardware stability

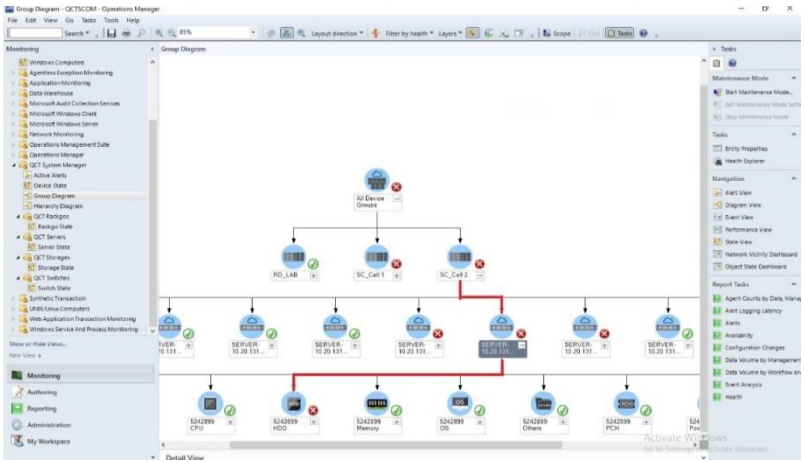
QCT MSFT WS 2016 Hyper Converged Cloud Ready Appliances

SKU	MSW2000				MSW6000				MSW8000			
Profile	Hybrid				All-Flash				All-NVMe			
IOPS (4 node)	**1M**				**1.37M**				**3M**			
Raw Capacity (4 node)	**409.6 TB**				**83.2 TB**				**70.4 TB**			
Scale	4 to 16 Nodes				4 to 16 Nodes				4 to 8 Nodes			
Form Factor	1U 1-Node Storage Server				2U 1-Node Rack Server				1U 1-Node Rack Server			
Per Node												
CPU	Intel Xeon E5-2620 v4				Intel Xeon E5-2680v4				Intel Xeon E5-2695 v4			
Memory	256 - 512 GB				512 GB or above				512 GB or above			
NVMe					1.6 TB				17.6 TB			
SSD	3.2 – 6.4 TB				9.6 – 19.2 TB							
HDD	72 – 96 TB											
NIC	1x Quanta OCP Mezzanine CX3, 10G				1x Quanta OCP Mezzanine CX4, 25G				1x Quanta OCP Mezzanine CX4, 25G			
RDMA	Yes				Yes				Yes			
TPM 2.0	Yes				Yes				Yes			
Drives (Per Node)	Type	Qty.		Size	Type	Qty.		Size	Type	Qty.		Size
Cache	SATA SSD	4	2.5”	0.8 - 1.6 TB	NVMe SSD	*2*	2.5”	800 GB	NVMe SSD	2	2.5”	800 GB
Capacity	SATA HDD	12	3.5”	6TB, 8TB	SATA SSD	12	2.5”	0.8 - 1.6 TB	NVMe SSD	8	2.5”	2 TB

Quanta System Management

Software and Hardware Monitoring in one console!

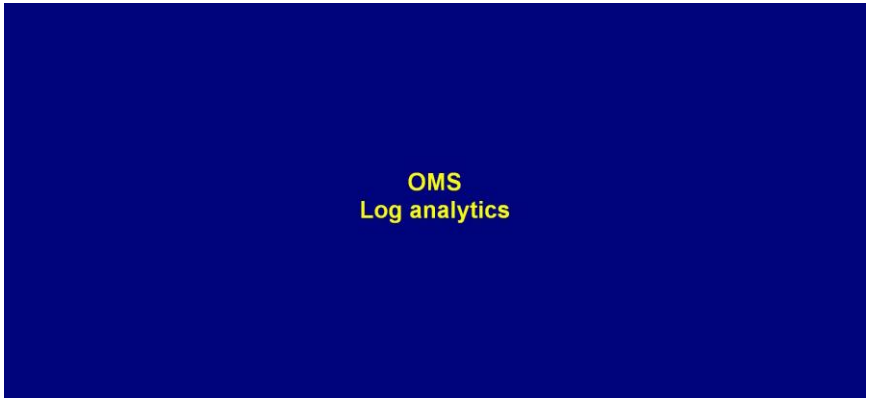
- IT assets management including server, storage, networking, chassis, and rack management
- **Remote** management console
- **Monitor** and **alert** administrators to potential problems and offer possible root causes or corrective action.
- Provide **RESTful API** which allows developers to further customize their monitor needs



Q: I really like QCT's Windows Server 2016 solution now, but I also currently have **Azure** account, with some of my workloads running on it. If I buy QCT's solution, how can I **comprehensively and easily manage my overall resources**?

A: When you purchase QCT solution, you also purchase our infrastructure planning know-how. We know how to best utilize your resource to achieve your business goal.

In this case, our architect suggest a joint management with Operation Management Suite (OMS) to **jointly manage your public/private resource and workloads.**



QCT™
雲達科技

Make quality business decisions in QCT solution center

Customer briefing and demonstration
Performance testing and benchmark
Proof of concept
Solution workshop

Align your challenges with a specialized industry solution