


High performance GPU supercomputer server S427Q3

Product Overview

S427Q3 is a high-performance supercomputing server newly launched by DCN. The space of 2U can accommodate two professional GPU computing cards, providing a single computing power of trillions of times per second, and using the latest generation of Intel ® Xeon cascade Lake series processors, improves the processor frequency and Turbo boost frequency compared with skylake series processors, and further improves the overall performance. It can be directly upgraded to be compatible with two 4-socket or 8-socket processors, and has up to 56 processing cores. It is designed to speed up scientific and technological computing with high performance price ratio, high density, low cost. It is GPU supercomputing server with equal emphasis on computing and energy consumption.

Application scenarios:

AI/AR/VR application, deep learning, face recognition, scientific research field, industrial manufacturing, oil and gas survey, defense and military industry, financial modeling, medical imaging, virtualization application.

Appearance	Description
 <p data-bbox="135 1859 662 1937">High performance GPU supercomputer server S427Q3</p>	<ul data-bbox="726 1691 1380 1892" style="list-style-type: none">● Based on the new Intel ® Xeon series architecture.● Single processor has 28 cores and 56 threads● Cooperation of Intel's latest Xeon processor core and NVIDIA Tesla accelerated computing technology● Powerful intelligent video analysis

Key Features and Highlights

Advanced architecture

Based on the new Intel® Xeon series architecture, single processor up to 28 cores, 56 threads, channel between the two processors using a new UPI interconnection link, frequency up to 10.4GT/s. The memory channels are upgraded to 6, the maximum frequency is 2933mhz, the 2U chassis supports two professional GPU computing cards, and the optimized system cooling scheme not only ensures the reliability of the whole machine operation, but also effectively reduces the noise of the machine operation, providing users with a high-performance and stable supercomputing platform.

Collaborative computing acceleration

With the cooperation of Intel's latest Xeon processor core and NVIDIA Tesla accelerated computing technology, CPU and GPU perform their respective duties. CPU is mainly responsible for serial computing such as logic selection and jump judgment. GPU can execute thousands of threads at the same time. It is full-time computing intensive and highly parallel, and can handle more information flows, It makes the reasonable allocation of computing resources, the computing power is fully released, and the computing performance is improved from several times to hundreds of times.

Large scale parallel computing

AI is changing the way we capture, inspect and analyze data. Powerful intelligent video analysis can transform massive pixels into public security and intelligent city solutions, creating a safer and more intelligent city. S427Q3 supports the latest NVIDIA® Tesla V100 ,which has up to 5120 computing cores, and the peak single precision floating-point speed is up to 10.6 TF floating-point computing per second. Through the collaborative scalable architecture, it can flexibly increase the number of GPUs according to the computing requirements, and achieve ultra-high computing performance.

Specifications

Model	S427Q3
CPU	Intel ® Xeon ® Scalable processors (Skylake and Cascade Lake CPUs) Maximum support 2, maximum support TDP 140W
Chipset	Intel® C621 Chipset
System Bus	UPI up to 10.4 GT/s
Memory properties	8 DIMM slots, support 2933 / 2666 / MHz ECC DDR4 memory, up to 2TB RECC memory
Hard disk	8*3.5 "or 2.5" SATA / SAS hot-swap hard disks, with 2 built-in 2.5-inch hard disks
Integrated chip	1.Integrated display chip;2.Integrated 1 1000BASE-T management network port;3.Integrated 2 gigabit network ports;4.Integrated RAID 0,1,10 functions (only for Windows), optional hard raid function
Expansion slot	2* PCI-E 3.0 x16 (FH)、2* PCI-E 3.0 x16 (LP)
GPU	Up to 2 full height dual width GPU cards
Peripheral Interface	Front: 2*USB3.0 Rear: 1*VGA, 2*USB3.0, 2*RJ45 network ports, 1*dedicated remote management interface, 1*OCP 3.0 interface
CD drive	SATA interface ultra thin DVD-RW is optional
Power Supply	Standard output power 1600W (1 + 1) platinum redundant power supply
Working environment	Operating temperature 10 °C ~ 35 °C, relative humidity 20% ~ 80% (non condensing) Non operating temperature - 40 °C ~ 60 °C, relative humidity 5% ~ 95% (non condensing)
Operating system	Microsoft Windows 8.1/10 & Server 2012R2/2016R2 x86-64 RedHat 7.0 /8.0 x86-64, CentOS 7.0/8.0x86-64, SUSE SLES 11 SP4/12 SP2 x86-64 Vmware ESXi 6.5, XenServer 7.1
Dimensions	2U rack,827D * 447 W * 87 H (mm)