


High scalable GPU supercomputer server S747Q3-I

Product Overview

S747Q3-I is a high scalable supercomputing server newly launched by DCN. The space of 4U can expand 8 pieces of professional GPU computing cards and 24 2.5-inch disks, pay equal attention to computing and storage, and provide a single computer with the 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, high scalable, high density. 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="98 1839 692 1868">High scalable GPU supercomputer server S747Q3-I</p>	<ul data-bbox="722 1615 1377 1809" 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, maximum memory capacity increased by 50% over the last generation, the 4U chassis supports eight 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. S747Q3-I 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	S747Q3-I
CPU	Intel ® Xeon ® Scalable processors (skylake and Cascade Lake CPUs) Maximum support 2, maximum support TDP 205W
Chipset	Intel® C622 Chipset
System Bus	UPI up to 10.4 GT/s
Memory properties	24 DIMM slots, support 2933/2666 /2400/2133 MHz ECC DDR4 memory, up to 6TB RECC memory Support Intel ® Optane™ Dcpmm (supported by cascade Lake processor)
Hard disk	24* 2.5" SATA hot-swap hard disks, SAS hard disks are optional
Integrated chip	1.Integrated display chip;2.Integrated 1 1000BASE-T management network port;3.Integrated 2 Intel(X557) 10GE network ports;4.Integrated RAID 0,1,10 functions (only for Windows), optional hard raid function
Expansion slot	8* PCI-E 3.0 x16(support GPU/FPGA cards),2* PCI-E 3.0 x8(in x16),1* PCI-E 3.0 x4(in x16)
GPU	Support 8 GPU/FPGA cards Support Nvidia V100/P100/T4/M40/M60/M10/2080TI/2080、 Intel Stratix 10SX FPGA
Peripheral Interface	1*VGA,4*USB3.0,2*RJ45 network ports, 1*dedicated remote management interface
CD drive	USB interface external DVD-RW is optional
Power Supply	Standard output power 2000W (2+2) titanium gold (96%), AC power input 100-240V, 50-60Hz
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 6.9 /7.3 x86-64, CentOS 6.9 /7.3 x86-64, SUSE SLES 11 SP4/12 SP2 x86-64 Vmware ESXi 6.5, XenServer 7.1
Dimensions	4U rack,737D * 437 W * 178 H (mm)