

3U Compute Accelerator with Intel Xeon Phi Coprocessors

The CA16001 Compute Accelerator with sixteen Intel Xeon Phi Coprocessors is employed in a variety of HPC applications including oil and gas exploration and financial services. Completely integrated with the Coprocessors most suited for a specific application, it's easy installation and tested reliability makes it superior to alternative products. The CA16001 occupies only 3U of rack space and connects directly to one or four host server(s) through the latest technology PCIe x16 Gen3 connections. Four removable canisters house up to four full-height, full-length, PCIe x16 double-wide Coprocessors and one half-length, half-height IO card each. The system is powered by three 3000-watt redundant power supplies and includes an IPMI-based system monitor.

PN: OSS-PCIe3-3UZ-20-4-X

Features

- 3U High
- Four removable canisters with four Coprocessors each
- Optional 5th slot in each canister to support EDR IB or 10/40GbE
- Fully IPMI v2.0-compliant system monitoring capability
- Three 3000-watt power supplies
- Superior cooling with four temperature controlled fans
- Up to four PCIe x16 Gen3 cable connections to host server(s)



Specifications

Enclosure

- Dimensions: 17"W x 5.25" H x 38"D
- Supports 16 full-length, full-height, 2-slot PCIe x16 GPU/PHIs
- All 16 boards face the rear of the chassis (no IO bracket access)
- Supports four half-height, half-length, single-wide PCIe x16 cards with IO bracket access
- Removable front bezel with air filter
- Front panel LEDs
- Four rear panel PCIe x16 Gen3 cable interfaces
- 4 individually-removable rear fans and 4 canister mounted fans
- Weight: 92lbs when fully loaded with 16 accelerators

Main Backplane

- Four PCIe x16 cable inputs to rear of enclosure
- Four PCIe x16 high-density connectors to each canister
- 1x PLX PEX 8796 and 2 x PLX PEX 8749 PCIe 3.0 switches manage PCIe cross connects from cables to canisters
- 2x RJ45 connectors for IPMI v2.0 System Monitor
- 1x Micro DB-9 serial port for IPMI network configuration
- Optional RJ45 for basic SYSMON2 chassis monitor (not required when using IPMI System Monitor)
- Supports bus-bar power distribution to the canisters through 8 high-power bladed connectors (2 per canister)
- On board IPMI System Monitor & SYSMON2 connectors

Canister Backplane

- 4x PCIe 3.0 x16 double-spaced slots in 2 ranks of 2 GPUs each
- 4x 8-Pin 12V power connectors for GPU/PHI AUX power cables
- 1x PCIe 3.0 x16 single-wide slot for half-height, half-length IO cards
- PCIe 3.0 switch

Power

- 6000W redundant power subsystem
- Three 3U 3,000-watt front removable, hot-swap supplies
- Each supply measures 1U (1.65") x 2.7" x 28.5"
- 2+1 redundant with full current sharing operation
- 3,000W each at 208-277VAC, 15A max input
- 1,500W each at 90-124VAC, 15A max input
- 15A breaker and IEC C19 power input at rear for each supply
- +12V and +12V standby voltage outputs
- All +12V power rails shared on copper bus bar delivery system

Intel Xeon Phi Coprocessors			
Model	3120P	5110P	7120P
Peak Double Precision Performance	1.003 teraflops	1.011 teraflops	1.208 teraflops
Board TDP	300W	225W	300W
# of Cores	57	60	61
Core Freq.	1.1 GHz	1.05 GHz	1.24 GHz
Memory Capacity	6GB	8GB	16GB
Memory Bandwidth	240GB/s	320GB/s	352GB/s
Computing Applications	Monte Carlo, Black-Scholes, HPL, LifeSC	STREAM, ray-tracing, RTM	Seismic Imaging Processing, Molecular Dynamics, WRF
Architecture Features	Maximum Value	Power Efficient	Intel Turbo Boost 1.0 1.33GHz

For a list of qualified servers, go to <http://www.onestopsystems.com/hpc/3u-intel-phi>