

# World's First 8 Tesla GPU Computing System



## Colfax CXT8000

### Relentless Demand For HPC Performance

The importance of performance and productivity in the technical workplace cannot be overstated. As datasets grow increasingly complex, the path to great discovery gets more and more computationally challenging. Today's scientists, engineers, and other technical professionals need massive horsepower to crunch these complex datasets fast, efficiently, and accurately. Feeding this relentless demand for HPC performance are resource-prohibitive CPU-based clusters. What if supercomputing was easily accessible and affordable?

### Supercomputer For Everyone

Introduction of Colfax CXT8000 4U server democratizes HPC by providing today's professionals an affordable supercomputing resource that is much faster and more energy-efficient than a shared cluster in the data center.

### Supercomputing Performance Shrink Wrapped In-a-Box

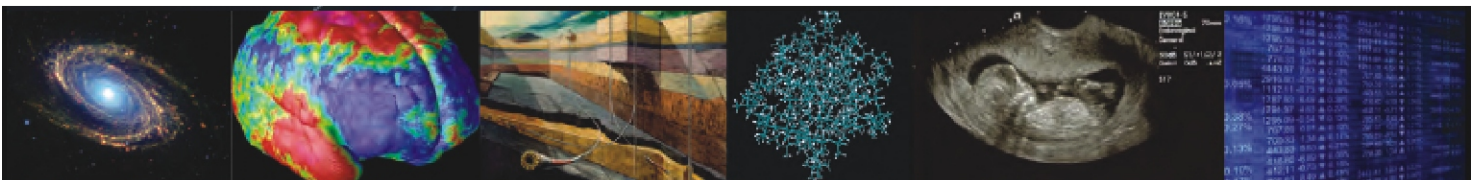
The Colfax CXT8000 4U server leverages NVIDIA® Tesla™ C2050/C1060 Computing Processors, offering massive parallel processing capabilities to speed calculations and solve problems impossible with current computing approaches. Powered by 3584/1920 cores and nearly 8 Tflops of peak performance, the CXT8000 delivers cluster level computing performance — accelerating research and business outcomes.

### Key Features

- 8 Tesla GPUs
- 2 Intel® Xeon® processors
- Up to 144GB DDR3 system memory
- 2 Internal 2.5 inches SATA drives
- Up to 3 1200W power supplies
- Power redundancy option
- 4 Intel® 82574L Gigabit Ethernet Controllers
- IPMI 2.0 w/ iKVM Support

*"We solve large-scale geophysical inverse problems, carrying out 3D imaging of the electrical properties of the Earth's subsurface. The task is computationally demanding, requiring both massive parallelism and high memory bandwidth and capacity. After a careful survey of possible suppliers, we selected Colfax International to carry out a custom build. The CXT8000 4U rackmount server is the ideal platform for us. The build quality was excellent. Our HPC support staff was very impressed with the quality of all components used, even including the quality of power cords and the impressive cooling system design. We plan to use this testbed with the Fermi architecture, which gives us the potential to configure 4U size 8 x Fermi systems and CXT8000 clusters, and look forward to continuing our relationship with Colfax as we expand our CUDA HPC enterprise."*

**- Prof. Adam Schultz, Ph.D., College of Oceanic and Atmospheric Sciences, Oregon State University**



## Total Tesla C2050/C1060 Computing Processors

- # of Tesla processors - 8
- # of CUDA cores - 3584 / 1920

## Each Tesla C2050/C1060 Computing Processor

- # of CUDA cores - 448 / 240
- Frequency of processor cores - 1.15 / 1.3 Ghz
- Single precision floating point performance - 1.03 / 933 GFlops
- Double precision floating point performance - 515 / 78 GFlops
- Total dedicated memory - 3GB GDDR5 / 4GB GDDR3
- Memory speed - 1.5 Ghz / 800 Mhz
- Memory interface - 384-bit / 512-bit
- Memory bandwidth - 144 / 102 GB/sec
- Max power consumption - 238W / 187.8W
- System interface - PCI Express x16 Generation 2
- Thermal solution - Active fan sink
- Display Support - Dual-Link DVI-I / NA

## CPU

- Supports 2 Intel® Xeon® Processors
- Intel® QuickPath Interconnect (up to 6.4 GT/s)

## Chipset

- Dual Intel® Tylersburg and Intel® ICH10R

## Memory

- Supports 18 240-pin DDR3 1333 RDIMM
- 6 channels (3 channels per CPU)
- Supports up to 144GB max

## LAN

- 4 Intel 82574L GbE NICs

## Expansion Slots

- 8 PCI Express X16 Generation 2 slots
- Double-Width, Full-Height / Full-Length

## Storage

- 2x Internal 2.5" SATA drives
- Supports RAID 0, 1

## Video

- Integrated AST2050 BMC integrated VGA controller
- Max 1600x1200@60Hz 16bpp

## BMC Management

- Integrated Aspeed AST2050 BMC
  - with iKVM feature
  - with IPMI feature

## Power Supply

- Up to 3 1200W high-efficiency power supplies
- Power redundancy option

## Front Panel Ports

- 2 side-by-side USB 2.0 ports

## Rear Ports

- 2 side-by-side USB 2.0 ports
- 4 side-by-side GbE RJ-45 ports
- 1 VGA connector

## Chassis

- 19" rack-mountable 4U chassis
- Dimensions (HxWxD) - 6.93" x 17.24" x 27.95" (176mm x 438mm x 710mm)

