Trio™ Departmental SuperComputer

"Supercomputing for the Masses"

Imagine having 921 Gflops of optimized compute power fine-tuned for NCBI BLAST, HMMER3, NAMD or your de novo align/assemble application. The Trio™ Department Supercomputer based on our patent-pending Distributed Symmetric Multi-Processing (DSMP™) technology turns this dream into a reality - today.

The Trio™ Departmental Supercomputer is a rack mountable system consisting of three 1U off-the-shelf server blades packed with 96 AMD Opteron™ processor cores and up to 1.54 TB of RAM. Three server blades become one interconnected SuperComputer with 40 Gbps Infiniband and our breakthrough DSMP™ technology. With DSMP™, all of a Trio's single large shared memory is at most 2 µseconds from all 96 cores!

A Trio™ Departmental SuperComputer is a true Symmetric Multi-Processing (SMP) supercomputer with a large shared memory and a single operating system image based on the OpenSuse 11.1 Linux. With Trio™, a SMP High Performance Computer (HPC) that used to cost over $1 million can now be executing your department's most complicated computations for an order of magnitude less.

Symmetric Computing's Trio™ Departmental Supercomputer delivers to computer scientists, researchers and university departments an affordable SMP supercomputer at a price point everyone can afford.

Features	Benefits
• Affordable SuperComputing	√ *Faster projects. No more delays waiting for scheduled HPC time.*
• Large Single Shared Memory	√ *Ideal for large memory applications*
• Single Software Image	√ *Simple and scalable SMP multi-threaded programming. No complicated cluster tailoring.*
• Power Efficient	√ *Saves money and runs cooler*
• Only 3U Rack Space	√ *Fits easily into your existing racks*

System Specifications

Processors: 96 Cores (Twelve 8-core 2.4GHz AMD Opteron™ 6100 Series Processors)

Memory: 96 DIMM sockets with 3 options:
- 384 GB 1333 MHz DDR3 (4 GB DIMMs)
- 768 GB 1333 MHz DDR3 (8 GB DIMMs)
- 1.54TB 1066 MHz DDR3 (16 GB DIMMs)

Storage: 9 2-TB SATA2 HDD 3 Gbps Drives (Hot Swap)

Node Interconnect: 3 Dual 4X QSFP 40 Gbps InfiniBand PCIe 2.0 5.0 GTbps Host Bus Adapters (No InfiniBand switch is needed)

I/O: 2 RJ45 Gbps Ethernet
2 USB 2.0 Ports
1 VGA Port
PS/2 Keyboard and Mouse Ports
1 Fast UART 16550 Serial Port
1 RJ45 Dedicated LAN supports IPMI

Environment: 3 1400-Watt High Efficiency Power Supplies (80 PLUS Gold Certified)
Efficient Front-to-Back Cooling

ROHS COMPLIANT

Power: 3 120-VAC @ 15 Amp

Dimensions: Standard 19 inch Rack Mountable
Height — 3U
Width — 17.2 inches (437 mm)
Depth — 27.75 inches (705 mm)

Gross Weight: 3 43-lbs (19.5 Kg) server blades

Software Specifications

- Linux Support (OpenSuSE 11.1)
- DSMP™ Distributed Symmetric Multi-Processing™
- OpenMP, Pthreads, POSIX
- Optimized Bioinformatics Software Application Suite

Distributed Symmetric Multi-Processing™ enables Symmetric MultiProcessing on a Trio™ Departmental Supercomputer — a single software image with 384 GB, 768 GB or 1.54 TB single shared memory across 3 server blades with 96 AMD Opteron™ cores.

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