

QuadPuter[®]

4/8-Way Quad Core and Dual Core Opteron™ SMP



64-BIT QUAD CORE TECHNOLOGY FOR DEMANDING HIGH-PERFORMANCE APPLICATIONS

Microway provides competitively priced, fully integrated clusters, InfiniBand and storage solutions for demanding applications. Users worldwide pushing the limits of technology in Wall Street, HPC and government research agencies have trusted our technical expertise since 1982.

Microway's QuadPuter server is available with four or eight quad core AMD Opteron Socket F 64-bit processors and 128 GB of memory. The 4U RuggedRack™ features proprietary "Across-the-Board" enhanced cooling with achieved thermals consistently lower than industry guidelines. Front-positioned hot-swap hard drives and power supplies allow these system components to be serviced without turning off the server, or removing the unit from the cabinet. This server includes MCMS™ (Microway Cluster Management Software) and NodeWatch™ remote monitoring and control hardware.

QuadPuter includes four or eight 8000 Series AMD™ Opteron™ Socket F processors, redundant 1350 Watt, hot-swap power supplies and up to eighteen 2.5" SATA-II/SAS, or eight full size SATA-II, SAS or SCSI hard drives. Currently, the fastest processors are the Opteron 8224, with dual cores clocked at 3.2 Ghz, and Opteron 8356 quad cores at 2.3 GHz.

Memory latency achieved by the Opteron is the best in the industry, peaking at 76ns. The inter-processor latency is under 200ns. At this level, the inter-processor latency is roughly 1/100th of that achieved by low latency, high bandwidth solutions like InfiniBand or InfiniPath HTX. The low latency, cache coherent HyperTransport interconnects between the four processors make it possible to run SMP applications using the OpenMP paradigm, in addition to the standard MPI paradigm. The two x16 and two x4 PCI-E slots make it possible to mount dual graphics cards for an SLI configuration while still running up to 2 DDR InfiniBand cards in the x4 slots. This enables MPI applications with up to 40 Gb/sec of bandwidth and 4 microsecond latencies. Choosing to use a pair of dual port DDR InfiniBand cards in lieu of SLI graphics will provide up to 80 Gb/sec of bandwidth.

REMOTE MONITORING AND CLUSTER MANAGEMENT TOOLS

NodeWatch™ is the affordable network independent remote monitoring tool that gives you peace-of-mind. NodeWatch measures, reports and records up to eleven fan speeds, five temperatures, and three power supply voltages per node, in addition to providing physical control over front-panel power and reset inputs. The entire cluster or individual nodes can be switched on and off, rebooted, and reset remotely. NodeWatch software delivers critical information remotely via a secure, web-based GUI. The combination of NodeWatch™ and MCMS™ (Microway Cluster Management Software) allows for extended control of the cluster as a single unit. Node backups and restorations are provided through a simple web GUI. Have a hard drive fail? Simply backup another node and restore to the failed system with a replaced drive.

INFINIBAND CONNECTIVITY

FasTree is a 24/36/48-port Dual Data Rate (DDR) InfiniBand switch designed and manufactured by Microway. It contains a pair of Mellanox 24-port InfiniScale III 4X components. Specially engineered for the HPC community, FasTree switches can be used as standalone 24- or 36-port switches or stacked to provide a Three-Hop fabric of up to 1008 ports. The switch employs from 6 to 24 copper DDR links that run twice as fast as the SDR links currently available. The main benefits of FasTree technology are its low latency and modularity, which result in extensible fabrics. FasTree switches are delivered with Mellanox IB Gold or OpenFabrics Enterprise Distribution software.



QUADPUTER[®]-8

4U RuggedRack™ chassis with eight quad core AMD Opteron Processors, Hot-Swap Drives and N+1 Redundant Power Supplies.



OFFERING HPC SOLUTIONS SINCE 1982

Discover the uncompromising value Microway customers expect. Call our sales team at 508-746-7341 or visit www.microway.com

Sign up for Microway's technical newsletter at www.microway.com/newsletter

Fully-integrated, Rugged Servers for High Performance Computing Applications



QUADPUTER®-8 4U SMP SERVER FEATURES:

- Eight Quad-Core Opteron™ Socket F processors
- Memory: Up to 128 GB DDR2 667 ECC Registered Memory DIMMs (32 slots)
- 1350W hot-swap power supplies (N+1 redundancy)
- PCI-E: Four x16 PCI-E slots (Two with x4 signal)
- PCI: One 32-bit/33MHz slot
- Hard Drives: 8 or 18 hot-swap SATA-II or SAS drives
- PCI-E SATA-II/SAS RAID controller
- Dual integrated Gigabit Ethernet
- Removable Storage: Internal slimline CD-ROM/DVD-ROM and Slim Floppy
- I/O features: Serial (RS-232), PS2 keyboard and mouse, and USB 1.1/2.0 connectors
- Dedicated fan for power supply and PCI area
- Front LED panel with activity and status
- Dimensions: 17.0" W x 27.0" D x 7.0" H (4U)

UPGRADABLE QUADPUTER®-4 4U FEATURES:

- Four Quad-Core Opteron™ Socket F processors
- Memory: Up to 64 GB DDR2 667 ECC Registered Memory DIMMs (16 slots)
- 950W hot-swap power supplies (N+1 redundancy)
- Expansion slots, I/O features, hard drives, chassis and dimensions identical to QuadPuter-8.
- Easily upgradable to eight socket QuadPuter-8!



QUADPUTER®-8
Interior view with eight processors, up to 18 hard drives and removable, redundant power supplies.

DUAL NAVION 1U SERVER FEATURES:

- Two Quad-Core Opteron™ Socket F processors
- Memory: up to 64GB DDR2 667 ECC Registered Memory DIMMs (8 or 16 slots)
- One x16 PCI-E or one HTX slot (front access)
- Hard Drives: 1-2 internal SATA-II or SAS drives
- Dual integrated Gigabit Ethernet
- Removable Storage Options: (1) 3.5" floppy drive on back; or (1) Slim-line CD/DVD-ROM on back; or (1) Slimline CD/DVD-ROM and (1) Slimline floppy on back
- I/O features: Front access SVGA video, USB 1.1/2.0, serial, keyboard/mouse connectors (optional rear access)
- Single 400W power-supply, rear accessible to line cord
- Front LED panel with activity and status
- Tool-less top chassis cover
- Dimensions: 17.0" W X 27.5" D X 1.70" H (1U)

All servers and clusters are thoroughly burned in with both standalone tests as well as MPI/NAS tests in the exact configuration specified by the customer at time of order.

HIGH SPEED INTERCONNECTS

- Microway FasTree™ InfiniBand Switches
- Microway TriCom™ InfiniBand HCAs with NodeWatch™ BMC and Switchless Serial Console
- Gigabit Ethernet

SOFTWARE OPTIONS

- 64-bit Linux (SUSE, Red Hat, Fedora Core, or Gentoo)
- MCMS™ (Microway Cluster Management Software)
- MPI Link-Checker™ with MPI Fast-Check™
- InfiniScope™ Real-time InfiniBand Analysis Utility
- PathScale, PGI and GNU compilers

WARRANTY

- Two year off-site standard, additional years available.

OFFERING HPC SOLUTIONS SINCE 1982

For more information on the Opteron platform, or any of Microway's products, contact:

Microway, Inc.
www.microway.com
sales@microway.com
Tel: 508-746-7341
Fax: 508-746-4678



Microway, QuadPuter, Navion, FasTree, Tricom, NodeWatch, MCMS, MPI Link-Checker and Fast-Check are trademarks or registered trademarks of Microway, Inc. AMD, AMD Opteron, and combinations thereof, are trademarks of Advanced Micro Devices, Inc. in the United States and in other countries. All other names and trademarks are owned by their respective companies.

© 2007 Microway, Inc.



Schedule Number:
GS-35F-0431N