

# Leading Performance for Computation: High-Density Intel® Xeon® Clusters

## Microway makes HPC Faster & Greener

Microway's line of robust, Intel Xeon-based clusters includes Gigabit Ethernet, InfiniBand high-speed interconnects, MCMS Remote Cluster Management and Monitoring Tools and third party software including Intel Compilers and Cluster Tools.

Microway provides these fully integrated Linux clusters, servers and storage solutions at very competitive prices. Users worldwide pushing the limits of technology in life sciences, universities, commercial and government research count on our expertise and attention to detail.

## Microway NumberSmasher™ Twin² — Four 2P Hot-Swap Compute Nodes per 2U, Xeon 5600 Series CPUs

Microway twins offer high density solutions with built-in InfiniBand, IPMI, storage, and redundant hot-swappable power supplies. Up to 84 compute nodes can be properly cooled in a 42U cabinet.



*NumberSmasher Twin²  
Four Compute Nodes in 2U*

## GPU Compute Processor Options

Microway integrates NVIDIA Tesla™ GPUs including:

- Tesla C2075, M2050, M2075, M2090
- Tesla S2075, S2090 4-GPU Chassis

Multiple form factors and GPU-CPU ratios are available.

## Mellanox FDR InfiniBand Solutions

- Mellanox ConnectX®-3 FDR and QDR Switches and HCAs
- Microway FasTree™ QDR Modular, Scalable Switches

Sophisticated Software for Network Visualization and Performance Improvement, Cluster Management and InfiniBand Diagnostics

- InfiniScope™ Real-Time Fabric Monitoring Software
- MPI Link-Checker™ Fabric Validation and Testing



*4320-core HPC Cluster with 56 Gbit/sec FDR InfiniBand*

## Custom Software Integration, including:

- 64-bit Linux (SUSE, Red Hat, Debian, Gentoo, and more)
- Microsoft Windows HPC Server 2008 R2
- Intel, PathScale, PGI and GNU Compilers
- Microway Cluster Management Software (MCMS™)
- Legendary Service and Technical Support

## Intel Xeon "Westmere" 5600 Series Processors

Compute-intensive applications will benefit from Intel processor innovations:

- 12MB of L3 cache, 6.4GT/sec QPI and Triple Channel DDR3 1333 MHz memory provide the fastest data access.
- Intel QuickPath Interconnect: provides a point-to-point interconnect from CPUs to memory and I/O.
- Intel Turbo Boost: automatically overclocks processor cores when thermal conditions allow.
- Intelligent Power Technology: adjusts system power consumption real-time to workload.
- Integrated Power Gates: dynamically turn off CPU cores that are not in use to reduce idle power.



**Delivering Innovative HPC Solutions Since 1982**

**Call our technical sales team at 508-746-7341  
or visit microway.com**



Microway takes a team approach to everything we do to provide you with the best total customer experience. From initial quoting to integration and careful testing, our technical teams work tirelessly to produce an end-product that is shipped fully-integrated and designed for optimal ROI.

**Green Features include high-efficiency power supplies and low-power processors with automatic clock scaling, as well as motherboards with high-efficiency components.**

	NumberSmasher Platform Options
Processor	Intel Xeon "Westmere" 5600 Series 4 and 6-Core Processors - up to 3.6 GHz Intel Xeon E7 Series 8- and 10-Core Processors- up to 2.66Ghz (4P/8P)
Processor Sockets	2P, 4P, 8P
Compute Nodes	1U, 2U, 3U, 4U, 5U 2U Twin, or 2U Twin <sup>2</sup>
GPU Acceleration Options	NVIDIA Tesla™ Fermi C2075, M2090 GPUs, S2075/S2090 4-GPU servers
Visualization Node Option	NumberSmasher 1U, 2U, 4U GPU Compute Nodes
Memory per Node	2P: up to 192 GB 4P: up to 512GB 8P: up to 1TB
Disk/Media Bays	1U: 4x3.5" or 8x2.5" Hard Drives 2U Twin <sup>2</sup> : 3x3.5" Hard Drives or 6x2.5" Hard Drives Diskless compute node configurations available
Cluster Interconnect	Mellanox ConnectX-3 FDR and QDR, Microway FasTree™ QDR InfiniBand 10G or Gigabit Ethernet
Management Network	IPMI v 2.0
Storage Options	Gigabit Ethernet, InfiniBand and Fibre Channel Storage NAS or Clustered Storage
Operating System	64-bit Linux: SUSE, Red Hat, Debian, Ubuntu, Gentoo, and more Microsoft Windows HPC Server 2008 R2
Compilers	Intel, PathScale, PGI and GNU NVIDIA CUDA, NVIDIA OpenCL, MATLAB, AMD Stream SDK, AMD OpenCL
Additional Software	MVAPICH, MPICH2, OpenMPI, and OFED; Torque, Maui, and Moab
Cluster Monitoring and Management Software	Microway Cluster Management Software, MPI Link-Checker and InfiniScope Bright Cluster Manager Standard or Advanced Edition Windows HPC Server 2008 R2 System Management
Cabinets and Infrastructure	APC NetShelter™ Cabinets, APC PDUs and UPS Devices and PDUs
Services	On-site installation, Factory Pre-Installation Service (Pre-wiring, rails)
Hardware Warranty	2 years with advance replacement parts or return-to-factory



**Schedule Number:  
GS-35F-0431N**

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