

new!

# NumberSmasher® vSMP

## Servers for Large Memory Applications

### Ever Run Out of Memory?

Chances are that your applications require large amounts of memory. Not surprising, as today's models and simulations are more complex but need to run in less time. Sound familiar? You might want to consider large shared memory solutions.

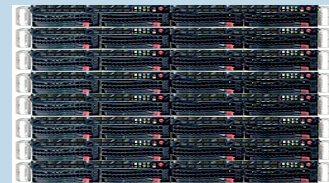
Imagine a server with 1024GB of shared DRAM...  
Thinking about reducing your simulation times with 128 cores?  
Dreaming about a server for preprocessing and parallel apps?

### Why Large Memory Systems?

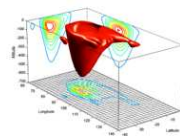
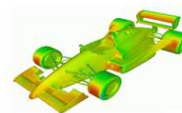
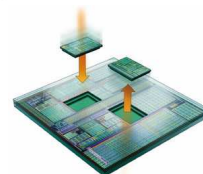
Engineers and scientists running simulations for life sciences, electronic design automation, mechanical engineering and research will appreciate the performance gain from **eliminating swap** by using a large enough memory configuration. In EDA, users require very large memory subsystems to manage their VLSI design. In computational fluid dynamics, structural analysis, NVH (Noise Vibration and Harshness) and FSI (Fluids-Structure Interaction), simulations reach millions of degrees-of-freedom.

### Introducing NumberSmasher® vSMP Servers:

Microway's NumberSmasher vSMP servers provide **new levels of performance and memory size** for your most demanding applications. Users can now tackle critical workflows in an easy to manage, affordable, modular, scalable system, while reaping the benefits of Intel's latest Xeon CPU and compiler technology. Leveraging Intel's latest Fortran and C++ Compiler technology, the NumberSmasher vSMP delivers optimal performance, memory headroom, higher efficiency and higher density lowering total cost of ownership (TCO). A single Linux operating system and remote server monitoring improve managability and reliability, while offering a **choice of threaded or MPI parallelism**.



NumberSmasher vSMP  
up to **1024 GB RAM!**



### NumberSmasher vSMP Show Special

#### Modular, Scalable Approach:

- 1 to 128 Cores  
(up to 32 Intel Xeon Quad Core 3 GHz CPUs - E5472 )
- up to 1024 GB DRAM - 800 MHz
- up to 32 x 1 TB hot swap hard disk drives
- Linux OS, Intel Compiler Suite 10.1 (C++/Fortran)

#### Example Configuration:

- 16 core, 2U system  
(3.0 GHz Xeon Quad Cores)
- 128 GB DRAM -800 MHz
- 2 TB Disk (4x500 GB)
- P/N: NSvSMP16X128G2Tf2

ScaleMP™



**Microway**  
Technology you can count on™

## Microway NumberSmasher® vSMP Servers

Microway's revolutionary NumberSmasher vSMP Servers deliver new levels of performance and efficiency with a **modular, scalable design**. Larger workloads can run from DRAM with SMP large shared memory, while threaded applications scale performance with high core counts. NumberSmasher vSMP servers maintain a balance between the number of CPUs, memory bandwidth, storage bandwidth and I/O. A single Linux operating system with single sign-in, plus remote monitoring and diagnostics improves manageability.

### High Performance Computing / Large Memory for Demanding Applications

NumberSmasher vSMP shared memory solutions complement Microway's Linux Cluster distributed memory HPC solutions. Based on Intel® Xeon® Quad Core 64-bit processors and other standard cluster components, NumberSmasher vSMP is the ideal platform for applications that require large memory addressability and optionally high processor count.

### Factory-Integrated Linux for Maximum Flexibility and Ease of Deployment

NumberSmasher vSMP systems provide out-of-the-box value with Linux operating system integrated and configured. Choose Novell® SUSE® Linux Enterprise Server or Red Hat® Enterprise Linux, enabling the best possible performance, ease of deployment, **exceptional TCO** and higher productivity. The systems are delivered with a highly-tuned Linux environment designed to provide maximum performance for demanding compute and data intensive applications.

### Proven High Quality Integration and Technical Expertise

For 26 years, Microway has earned an excellent reputation for delivering computing solutions to Fortune 1000 companies, Government, National Research Labs and Universities. In addition, Microway's professional staff bring years of industry and technical expertise to help customers design and deploy the optimal solution for their application, budget and timeline with fully integrated turnkey solutions.

System Size and Performance				
NumberSmasher vSMP	16X	32X	64X	128X
Max CPU Processor Cores	16	32	64	128
(Xeon Sockets)	4	8	16	32
GFLOPS <sup>1</sup>	160	320	640	1.3 TFLOP
Max DRAM <sup>2</sup>	128 GB	256 GB	512 GB	1024 GB
DRAM Bandwidth <sup>3</sup>	15 GB/s	30 GB/s	60 GB/s	120 GB/s
Max HDD	4TB	8TB	16TB	32TB
GigE Ports	4	8	16	32

1 - GFLOPS rating is given by Intel for E5472 3.0 GHz CPU

2 - Max DRAM is given for 4GB DIMMS, 8GB DIMMS will be supported in the future

3 - STREAM memory bandwidth benchmark with Intel compilers

**Note** - Many alternative configurations of core counts, DRAM Size and Disk sizes - shown are maximum. Minimum cores is ONE for all systems. Minimum disk drive space is 1TB for all systems.

**Need more performance?**  
**Ready to expand your memory?**

Contact:

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508-746-7341



Microway - Offering HPC Solutions since 1982

Schedule Number:  
GS-35F-0431N

