INDUSTRY-LEADING PERFORMANCE FOR HPC:
Intel® Xeon® Solutions

NumberSmasher®
2U Twin² Servers

320 Cores in 2U
This elegant platform includes four compute nodes with hot-swap motherboard modules, hard drives and redundant power supplies. Ideal for flexible cluster design, the Twin² helps you build out dense, cost-effective, scale out HPC clusters.

NumberSmasher
2P Xeon Servers

Superior Flexibility
Achieve ultimate performance in flexible configurations for any compute requirement. Configured with optional NVMe storage and high-bandwidth, low-latency fabric, these systems are reliable high-performance single servers/cluster nodes.

WhisperStation™

Quiet Performance
Ultra-quiet workstation for standalone scientific computing use or as part of a quiet cluster. It provides up to 80 x86 cores using Xeon Scalable Processors, visualization or computation with NVIDIA RTX GPUs.

NumberSmasher
QuadPuter with 4 CPUs

1 Node—6TB, 112 cores
Harness 4 Intel Xeon Scalable processors for your large memory workloads or highly parallel OpenMP jobs. Leverage new kinds of scale—or consolidate with capability formerly available only as a cluster in a single, easy to manage server.

3rd Gen Xeon Scalable Processors (Ice Lake-SP):
- New 10nm “Ice-Lake-SP” platform with large improvements in floating point and integer performance
- Up to 40 Cores per Processor
- 8 memory channels per Processor and DDR4-3200 memory
- Over 2X the IO perf. of previous gen: PCI-E Gen 4 with 64 lanes per socket

Intel Optane Persistent Memory for Xeon CPUs
Deploy as memory, non-volatile memory, storage, or a mix
- Memory Mode: incredibly cost-effective high-capacity DIMMs for systems
- Persistent app-direct mode: Non-volatile memory space that survives power loss (with SW implementation)
- Storage app-direct mode: Ultra high-bandwidth SSD-like block storage in the DIMM socket

Custom Software Integration Specialists
- 64-bit Linux (CentOS, Ubuntu, Red Hat, SUSE)
- Intel and GNU Compilers, OneAPI SDK
- OpenHPC Cluster Integration
- Microway Cluster Management Software (MCMS™)
- Legendary Service and Technical Support

www.microway.com/xeon
Call our technical sales team at 508.746.7341
## NumberSmasher Cluster Options

<table>
<thead>
<tr>
<th><strong>Processor</strong></th>
<th>Intel® Xeon® Scalable Processor Platinum (2, 4, 8 socket) Intel® Xeon® Scalable Processor Gold, Silver or Bronze (2P)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Sockets</strong></td>
<td>1P, 2P, 4P, 8P</td>
</tr>
<tr>
<td><strong>Compute Nodes</strong></td>
<td>1U, 2U, 3U, 4U, 5U, 2U Twin²</td>
</tr>
<tr>
<td><strong>GPU Options</strong></td>
<td>NVIDIA® Datacenter GPUs</td>
</tr>
<tr>
<td><strong>Visualization Node Option</strong></td>
<td>NumberSmasher 1U, 2U, 4U GPU Compute Nodes</td>
</tr>
<tr>
<td><strong>Memory per Node</strong></td>
<td>2P: up to 8 TB DDR4 ; 2U Twin²: 2P: 4 TB DDR4, 4P: Up to 12 TB Available Intel Optane Persistent Memory for: 12TB in 2P</td>
</tr>
<tr>
<td><strong>Disk/Media Bays</strong></td>
<td>1U: 4x3.5&quot; or 10x2.5&quot; Hard Drives, 2U Twin²: 3x3.5&quot; Hard Drives, or 6x2.5&quot; SATA or NVMe SSD</td>
</tr>
<tr>
<td><strong>Cluster Interconnect</strong></td>
<td>Mellanox® ConnectX®-6 HDR or EDR InfiniBand; Omni-Path 100G, 50/25G, 10G, or Gigabit Ethernet</td>
</tr>
<tr>
<td><strong>Management Interface</strong></td>
<td>IPMI v 2.0, OpenBMC, or Redfish</td>
</tr>
<tr>
<td><strong>Storage Options</strong></td>
<td>Ethernet or InfiniBand Attached NAS, Open-E, DDN, LUSTRE®, BeeGFS, or Panasas®</td>
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<tr>
<td><strong>Operating Systems</strong></td>
<td>Linux: CentOS, Ubuntu, Red Hat, SUSE; Windows Server</td>
</tr>
<tr>
<td><strong>Compilers</strong></td>
<td>Intel, OneAPI, NVIDIA HPC SDK, and GNU</td>
</tr>
<tr>
<td><strong>Cluster Software</strong></td>
<td>MVAPICH2, OFED, and OpenMPI; Intel MPI, IBM Spectrum MPI; SLURM, IBM Spectrum LSF, or PBS</td>
</tr>
<tr>
<td><strong>Monitoring &amp; Management Software</strong></td>
<td>Microway Cluster Management Software or OpenHPC MPI Link-Checker™ and InfiniScope™ Bright Cluster Manager Standard or Advanced Edition</td>
</tr>
<tr>
<td><strong>Cabinets and Infrastructure</strong></td>
<td>APC® NetShelter™ Cabinets, APC PDUs and UPS Protection</td>
</tr>
<tr>
<td><strong>Services</strong></td>
<td>Optional Onsite Installation, Factory Pre-Installation Service (Including Power/Network Wiring and Rails) Optional complete-rack air-ride shipment (roll-off, power-on)</td>
</tr>
<tr>
<td><strong>Hardware Warranty</strong></td>
<td>Advanced replacement parts or return-to-factory Optional extended warranty term up to 5 years</td>
</tr>
</tbody>
</table>

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**NumberSmasher Clusters**

Microway’s robust, Intel Xeon-based NumberSmasher clusters offer high-speed InfiniBand or Omni Path interconnects, NVIDIA GPUs, MCMS Remote Cluster Management and Monitoring Tools or the OpenHPC stack, and software including Intel Compilers and Cluster Tools.

Microway provides fully integrated Linux clusters 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.

**Delivering Innovative HPC Solutions Since 1982**

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