



Making  
Supercomputing  
Personal™

**KEY FEATURES**

**Office Ready**

A pedestal, one foot by two foot form factor and whisper quiet operation

**High Performance**

Up to 80 high-performance cores and nearly 1TB of memory

**Broad HPC Application Support**

Accelerated time-to-results with support for over 50 HPC applications

**Ease of Use**

No data center infrastructure required; support for standard office power outlets

**Advanced Graphics**

Support for the fastest NVIDIA graphics and GP-GPU cards

**Easily Configurable**

A wide range of performance, processor, memory and networking options; broad OS support

## SGI® Octane™ III



### Supercomputing Gets Personal

Octane III takes high-performance computing out of the data center and puts it at the desk. It combines the immense power and performance capabilities of a high-performance cluster with the portability and usability of a workstation to enable a new era of personal innovation in strategic science, research, development and visualization.

In contrast with standard dual-processor workstations with only eight cores and moderate memory capacity, the superior design of Octane III permits up to 80 high-performance cores and nearly 1TB of memory. Octane III significantly accelerates time-to-results for over 50 HPC applications and supports the latest Intel® processors to capitalize on greater levels of performance, flexibility and scalability. Pre-configured with system software, cluster set up is a breeze.

### Plug It In and It Works

Octane III is office ready with a pedestal, one foot by two foot form factor, whisper quiet operation, ease of use features, low maintenance requirements and support for standard office power outlets. A single, conveniently placed button turns it on and off. Octane III enjoys the same cost saving power efficiencies inherent in all SGI Eco-Logical™ compute designs.

### Easily Configurable for Deskside HPC

Octane III is optimized for your specific, high performance computing requirements and ships as a factory-tested, pre-integrated platform with broad HPC application support and arrives ready for immediate integration for a smooth out-of-the-box experience.

Octane III allows a wide variety of single and dual-socket node choices and a wide selection of performance, storage, graphics, GP-GPU and integrated networking options. Configurations are available in a variety of build-to-order cluster configurations, including 18-node single-socket and nine-node dual-socket models.

Supported operating systems include: Microsoft® Windows® HPC Server 2008, SUSE Linux® Enterprise Server, or Red Hat® Enterprise Linux. All Linux-based configurations are available with pre-loaded SGI® ProPack™ system software, SGI® Isle™ Cluster Manager and Altair PBS Pro™ scheduler to get you up and running quickly.

### A High-Performance Graphics Lineage

Capitalize on advanced graphics capabilities, brought to you by the same company that invented advanced graphics capabilities. Conceived, designed and built by SGI on the shoulders of its ground-breaking workstations from the past, Octane III is available as a single-node dual-socket graphics workstation with support for the fastest NVIDIA® graphics and GP-GPU cards to take high-performance graphics into the 21st century. Octane III is optimized for use with multiple display solutions for expanded advanced visual computing scenarios.



# SGI Octane III

## Personal Supercomputer

[www.sgi.com/OctaneIII](http://www.sgi.com/OctaneIII)

### Octane III Hardware Specifications

Model Number	OC3-10TY12	OC3-19DV1	OC3-2TY11
Configuration Type	Deskside Cluster	Deskside Cluster	Graphics Workstation
Enclosure Type	Pedestal	Pedestal	Pedestal
Max. Nodes & Max. Trays	10 dual-socket (10 trays)	19 single-socket (10 trays)	Two dual-socket (2 trays)
Chipset	One Intel® 5500/node	One Intel® 945GC/node	Two Intel® 5520/node
Max. Processors	20 Intel® Xeon® quad-core 5500 series (two/node)	19 Intel® dual-core Atom™ (one/node)	Four Intel Xeon quad-core 5500 series (two/node)
Max. Cores	80 (eight/node)	38 (two/node)	16
Max. Memory	960GB (96GB/node)	38GB (2GB/node)	288GB (144GB/node)
Memory Slots & Type	120 x 1333/1066/MHz DDR3 ECC reg. (12/node)	19 x 800 MHz unbuffered non-ECC DDR2 (one/node)	36 x 1333/1066/MHz DDR3 ECC reg. (18/node)
Hard Disk Drives & Max. Capacity	Ten 1.8" SSD (max 1.2TB) for IO nodes, five 2.5" SATA II (max 2.5TB) for 20 nodes	Up to two 2.5" (max. 1TB) SATA II or SSD quick-release drives on head node. Compute nodes are diskless.	Up to eight 3.5" (max. 16TB) SAS or SATA II quick-release drives (four/node)
SAS RAID	N/A	N/A	JBOD, 0, 1, 5, 10*
Expansion Slots	N/A	N/A	Two PCI-E 2.0 x16, four PCI-E 2.0 x8 and one PCI-E 2.0 x4/node*
Graphics & GP-GPU Options	N/A	N/A	NVIDIA® Quadro® FX1800, FX3800, FX4800, FX5800. NVIDIA® Tesla™ C1060.
Networking (Onboard)	Dual GigE (Intel 82576)/node card optional QDR Mellanox InfiniBand port/node	One GigE (Realtek RTL8111C)/node	Dual GigE (Intel 82576)/node
Integrated Networking Switch	GigE or InfiniBand (QDR)	GigE	N/A
IPMI Remote Management	Integrated IPMI 2.0 + KVM	N/A	Integrated IPMI 2.0 + KVM
Cooling Architecture	N+1 redundant cooling fans in front and rear of enclosure. Front-to-back airflow.	N+1 redundant cooling fans in front and rear of enclosure. Front-to-back airflow.	N+1 redundant cooling fans in front and rear of enclosure. Front-to-back airflow.
Power Architecture	Up to two 1000W power supplies (Redundant power optional)** 99% efficient PowerXE™ 12VDC internal power distribution.	Up to two 1000W power supplies (Redundant power optional). 99% efficient PowerXE 12VDC internal power distribution.	Up to two 1000W power supplies (Redundant power optional). 99% efficient PowerXE 12VDC internal power distribution.
Input Power	90–264VAC (47–63Hz)	90–264VAC (47–63Hz)	90–264VAC (47–63Hz)
Dimensions	26.5" x 12.5" x 28.2"	26.5" x 12.5" x 28.2"	26.5" x 12.5" x 28.2"

\*SAS RAID option requires dedicating PCI-E 2.0 x4 slot to RAID card \*\*Redundant power not available with all configurations

### Octane III Software Specifications

Model Number	OC3-10TY12	OC3-19DV1	OC3-2TY11
Linux Platform Software	Red Hat Enterprise Linux 5; Novell SUSE Linux Enterprise Server 10, 11; SGI ProPack 6; SGI ISLE Cluster Manager; Altair PBS Professional	Red Hat Enterprise Linux 5; Novell SUSE Linux Enterprise Server 10, 11; SGI ProPack 6; SGI ISLE Cluster Manager; Altair PBS Professional	Red Hat Enterprise Linux 5 Desktop; Novell SUSE Linux Enterprise Desktop 11; SGI ProPack 6;
Microsoft® Windows® Platform Software	Microsoft® Windows® HPC Server 2008	N/A	Microsoft® Windows Vista, Microsoft® Windows 7
Virtualization Capabilities	VMWare ESX 4.0	N/A	N/A

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