

Making
Supercomputing
Personal™

KEY FEATURES

Office Ready

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

High Performance

Up to 120 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 compute 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 120 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, integrated networking, and graphics and compute GPU options. The system is available as an up to ten node deskside cluster configuration or dual-node graphics workstation configurations.

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 Professional™ 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 compute GPU cards. 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

Octane III Hardware Specifications

Model Number	OC3-10TY9	OC3-2TY12
Configuration Type	Deskside Cluster	Graphics Workstation
Enclosure Type	Pedestal	Pedestal
Max. Nodes & Max. Trays	10 dual-socket (10 trays)*	Two dual-socket (two trays)
Chipset	One Intel® 5500/node	One Intel® 5500/node
Max. Processors	20 Intel® Xeon® quad- or six-core core 5500 or 5600 series (two/node)	Four Intel® Xeon® quad- or six-core 5500 or 5600 series (two/node)
Max. Cores	120 (12/node)	24 (12/node)
Max. Memory	960GB (96GB/node)	192GB (96GB/node)
Memory Slots & Type	120 x 1333/1066/800 MHz DDR3 ECC reg. (12/node)	24 x 1333/1066/800 MHz DDR3 ECC reg. (12/node)
Hard Disk Drives & Max. Capacity	Ten 2.5" SATA II (max 5.0TB) (one/node)	Up to eight 3.5" (max. 16TB) SAS or SATA II quick-release drives (four/node)
SAS RAID	N/A	JBOD, 0, 1, 10**
Expansion Slots	N/A	Two PCI-E 2.0 x16, or one PCIE 2.0 x16 and two PCI-E 2.0 x8. Additional PCI-E 2.0 x4 low-profile slot.**
Supported Graphics GPU Cards	Head node option: One NVIDIA® Quadro® FX1800, FX3800 or FX4800	NVIDIA® Quadro® FX1800, FX3800, FX4800, FX5800***
Supported Compute GPU Cards	N/A	NVIDIA® Tesla™ C1060***
Networking (Onboard)	Dual GigE (Intel 82576)/node, optional QDR Mellanox InfiniBand port/node	Dual GigE (Intel 82576)/node
Integrated Networking	GigE or InfiniBand (QDR)	GigE or InfiniBand (QDR)
IPMI Remote Management	Integrated IPMI 2.0 + Keyboard Video Mouse (KVM)	Integrated IPMI 2.0 + Keyboard Video Mouse (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.
Power Architecture	Two 1000W modules	Two 1000W modules
Input Power	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"

*With 60W CPUs. Nine dual-socket nodes supported with graphics enabled head node. Five dual-socket nodes supported with 80W or 95W CPUs with or without head node graphics support. **SAS RAID option requires dedicating PCI-E 2.0 x4 slot to RAID card. *** Two GPU cards supported per node.

Octane III System Software Support

Model Number	OC3-10TY9	OC3-2TY12
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 Desktop; Novell SUSE Linux Enterprise Desktop 11; SGI ProPack 6, Altair PBS Professional™
Microsoft® Windows® Platform Software	Microsoft® Windows® HPC Server 2008	Microsoft® Windows 7, Microsoft® Windows® Server 2008 x64, Microsoft® Windows® HPC Server 2008
Virtualization Software	VMWare ESX 4.0	N/A

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