SGI CloudRack C2

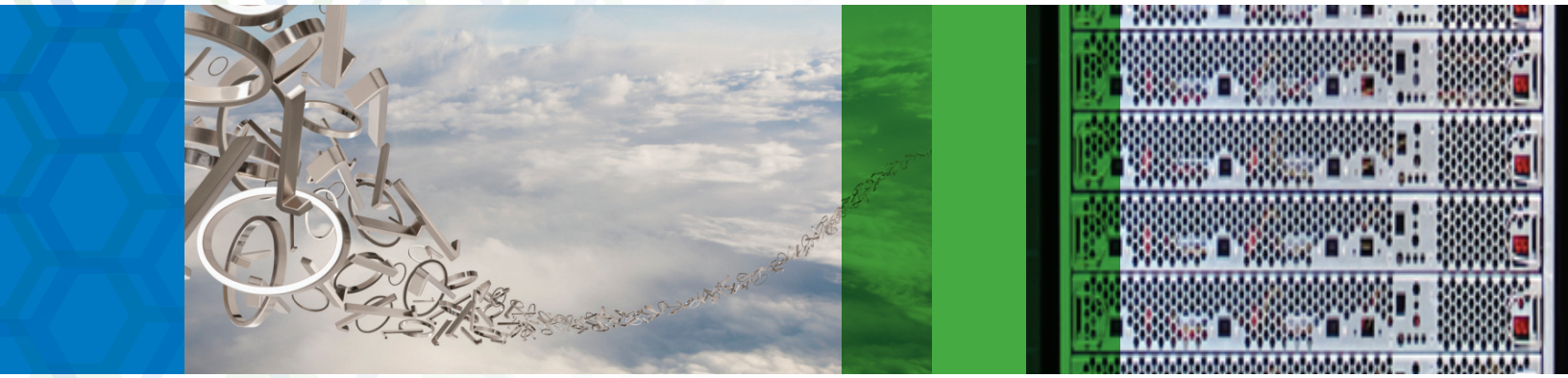
Breakthrough Density and Configurability for Cluster Computing

Key Features

Innovative Power XE™ power distribution technology

High reliability — extended server life with centralized and redundant components

Design to Order — the widest range of hardware combinations ever offered



Cool, Clean and Efficient

CloudRack C2 is a unified cabinet that combines extreme density with breakthrough energy efficiency for cluster computing. CloudRack C2 delivers dramatic bottom-line savings by eliminating stranded power (a data center's power capacity which is paid for, but ultimately unused). It assures maximum power usage, cooling efficiency, and staggering server density with up to 1,216 cores per cabinet. CloudRack C2 capitalizes on an ultra-efficient, rack-centric Eco-Logical™ design which uses fan-less and cover-less 1U server trays installed in 24 inch wide 24U and 42U intelligent cabinet configurations.

Innovative Power XE™

Power XE is a cabinet-level power distribution technology that virtually eliminates the inherent data center "stranded power" problem and provides nearly perfect (>95 percent) phase balancing. It obviates individual, server-level power supplies in favor of hot-swappable, redundant rack-level power supplies with no incremental cost or loss of efficiency. Hot-pluggable, N+1 redundant rectifiers significantly improve power distribution effectiveness by converting incoming AC power to 99 percent efficient 12VDC power at the server level. Further, Power XE maximizes the number of servers that can operate on the same circuit by minimizing power harmonics in the power mains.

Turn Up the Thermostat!

CloudRack C2 is thermally optimized to allow data centers to operate at much higher temperatures, up to 95°F (35°C). Higher system temperature tolerance means significantly reduced power consumption by Computer Room Air Conditioning (CRAC) units which in turn drives radically reduced data center operating cost. Hot-swappable, easily serviceable N+1 redundant autonomic fan arrays provide thermally managed cabinet-level airflow. These intelligent fans remarkably reduce fan power consumption by over 80 percent compared to conventional AC enclosures.

Design to Order Optimization

SGI DTO processes assure that CloudRack C2 systems are tailored to your computing environment and optimized to support your specific computing applications. Cabinets in 24U and 42U configurations are built ready to take advantage of next generation Intel designs for better performance, energy efficiency and virtualization capabilities. CloudRack C2 systems are rigorously tested then shipped to your data center floor, ready for immediate integration.

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SGI CloudRack C2 System Specifications

sgi.com/cloudrackc2

Cabinet Specifications		
Enclosure Model	• CR2000-24U	• CR2000-42U
Enclosure Type	• 24U cabinet	• 42U cabinet
Max. Trays	• 22 plus 2U available for networking equipment*	• 38 plus 4U available for networking equipment*
Max. Servers	• 44 dual-socket	• 76 dual-socket
Max. Processors (Cores)	• 88 (704 cores)	• 152 (1216 cores)
Max. 3.5" Drives (Max. Capacity)	• 264 (792TB)	• 456 (1368TB)
Max. 2.5" Drives (Max. Capacity)	• 264 (264TB)	• 456 (456TB)
Cooling Architecture	• N+1 redundant, hot-swappable fan arrays in rear of cabinet. Server trays are fanless to maximize reliability and thermal efficiency.	• N+1 redundant, hot-swappable fan arrays in rear of cabinet. Server trays are fanless to maximize reliability and thermal efficiency.
Airflow	• Front-to-back, ideal for hot-aisle, cold-aisle environments	• Front-to-back, ideal for hot-aisle, cold-aisle environments
Max. Ambient Temperature	• Up to 95°F (35°C). Does not apply to all configurations.	• Up to 95°F (35°C). Does not apply to all configurations.
Input Power	• 180–250VAC (50–60Hz) with multiple 2-phase and 3-phase PDU • options	• 180–250VAC (50–60Hz) with multiple 2-phase and 3-phase PDU • options
Power Architecture	• Power XE™ 12VDC internal power distribution. AC-DC rectifiers can be configured with N+1 redundancy.	• Power XE™ 12VDC internal power distribution. AC-DC rectifiers can be configured with N+1 redundancy.
Max. Rectifier Modules	• 6	• 12
Dimensions (HxWxD)	• 47.2" (24U) x 24" x 46"	• 78.7" (42U) x 24" x 46"

* Optional 2U additional networking available with two fewer trays.

Compatible Server Tray Model Specifications	TR2106-TY9	TR2106-TY7	TR2102-2TY9	TR2106-RP6	TR2108-2RN2
Servers	• One dual-socket	• One dual-socket	• Two dual-socket	• One dual-socket	• Two dual-socket
Chipset	• Intel® 5500 or 5520	• Intel® 5520	• Intel® 5500 or 5520	• Intel® C600	• Intel® C600
Max. Processors	• Two Intel® Xeon® quad- or six-core 5500 or 5600 series	• Two Intel® Xeon® quad- or six-core 5500 or 5600 series	• Four Intel® Xeon® quad- or six-core 5500 or 5600 series (two/server)	• Two Intel® Xeon® E5-2600 family	• Four Intel® Xeon® E5-2400 family
Max. Cores	• 12	• 12	• 24(12/server)	• 16	• 32
Max. Memory	• 96GB	• 144GB	• 192GB (96GB/server)	• 256GB	• 384GB
Memory Slots & Type	• 12 x 1333/1066/800 MHz DDR3 ECC reg.	• 18 x 1333/1066/800 MHz DDR3 ECC reg.	• 24 x 1333/1066/800 MHz DDR3 ECC reg. (12/server)	• 16x 1600/1333/1066/800 MHz DDR3 ECC reg. or unbuffered	• 16x 1600/1333/1066/800 MHz DDR3 ECC reg. or unbuffered
Hard Disk Drives (Max. Capacity)	• Four 2.5" (max. 2TB) SATA II hot-swap drives plus two 3.5" (max. 4TB) SATA II quick-release drives	• Six 3.5" (max. 12TB) SATA II quick-release drives (four/server)	• Two 2.5" (max. 1TB) SATA II hot-swap drives (one/server)	• Six 3.5" (max. 18TB) SATA III or SAS quick-release drives	• Eight 3.5" (max. 24TB) SATA III or SAS quick-release drives
Networking	• Dual GigE (Intel® 82576) and optional QSFP QDR Mellanox InfiniBand port	• Four GigE (Intel® 82576EB + 82574L)	• Dual GigE (Intel® 82576) and optional QSFP QDR Mellanox InfiniBand port/server	• Three GigE (two Intel® I350 and one Intel® 82574L)	• Two GigE (Intel® I350) and optional QDR Mellanox InfiniBand port/server

A complete listing of all CloudRack trays compatible with CloudRack C2 along with full specifications can be found at sgi.com/CloudRackC2.

Global Sales and Support: sgi.com/global