

SGI InfiniteData Cluster

High Density, Performance, and Scale for Big Data Analytics, Technical HPC, and Cloud Computing

Key Features

Unparalleled server and storage density

Up to 1,920 processing cores and 1.9PBs per rack

Flexible, scalable, factory-integrated configurations

Superior serviceability



SGI InfiniteData Cluster is a highly flexible cluster computing platform combining breakthrough server and storage density with extreme, scale-out performance. Designed for High Performance Computing (HPC) spanning Big Data Analytics and moderate technical computing environments, as well as for Private and Public Clouds, InfiniteData Cluster accelerates time to value in data and compute intensive environments with greater efficiency, less complexity, and at lower cost.

Density, Performance, and Scale

InfiniteData Cluster offers up to 1,920 cores (approximately 10 teraflops) and an unparalleled 1.9PB of data capacity per rack—delivering over 2X the compute and storage density of any enterprise-class cluster solution. Providing up to forty 2U server/storage trays or eighty 1U server trays in a purpose-built, roll-in enclosure, InfiniteData Cluster utilizes SGI's unique 3rd generation tray design. Each tray contains dual Intel® Xeon® E5-2600 v2 processors with six, eight, ten, or twelve cores and up to twelve 3.5" hard drives, with high speed 10GbE or Infiniband internode connectivity. Centrally managed using SGI Management Center, InfiniteData Cluster solutions can start with a small number of nodes in a single rack, or encompass multiple racks with thousands of nodes and linear scalability.

Big Data Analytics with Hadoop

Providing faster and greater insight for lines of business and freeing limited IT resources, InfiniteData Cluster is available in factory integrated configurations designed for Big Data analytics with Apache Hadoop®. Cluster nodes have 1:1 core to storage spindle ratios that optimize Hadoop performance – SGI TeraSort benchmarks show a 48% boost in analytics performance in comparison to 3:1 core/spindle ratios. Saving hundreds to thousands of hours in deployment manpower, InfiniteData Cluster solutions for Hadoop come pre-racked, pre-configured and pre-tested with all compute/storage and network hardware, Red Hat® Enterprise Linux®, and Cloudera® software. See *SGI Solutions for Hadoop* for more information on how InfiniteData Cluster helps speed and simplify business analytics.

Flexible, Power Up and Go! Configurations

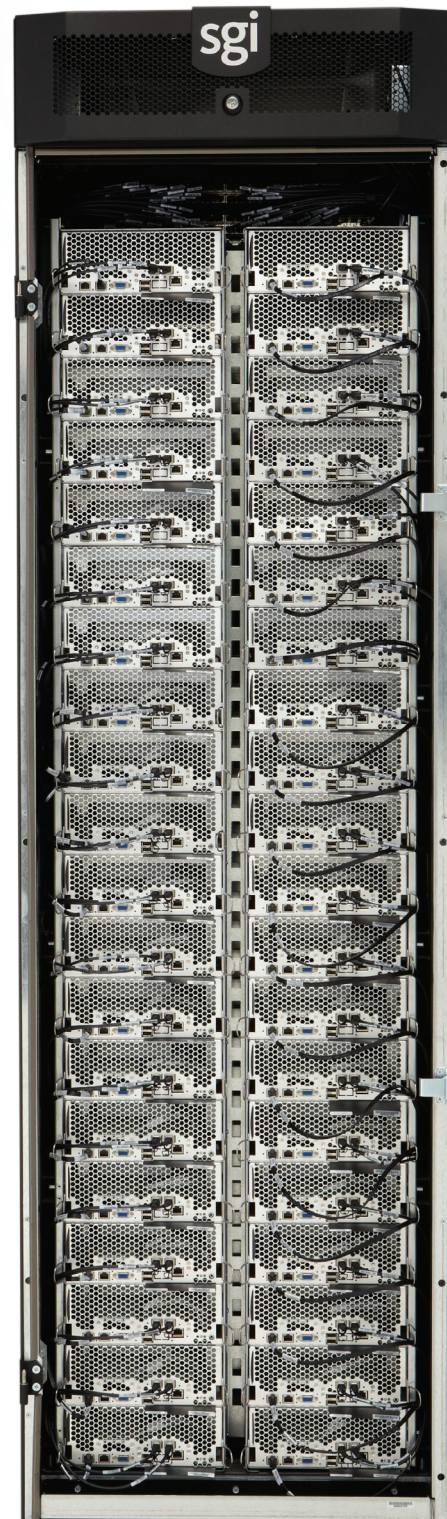
InfiniteData Cluster is designed with optimal flexibility and to expand as your data and compute needs grow. The unique form factor of the half-width 2U server/storage tray can accommodate 3.5" SAS or SATA drives with drive capacities ranging from 500GB to 4TBs. Network switching is available with 1Gb and 10Gb Ethernet connectivity, as well as QDR or FDR Infiniband. Both the 1U and 2U trays support Intel Remote Management Module 4. The 24" wide purpose-built racks also support standard 19" rack mount equipment. And all InfiniteData Cluster configurations are delivered from SGI pre-racked and ready to *power up and go!*

Superior Serviceability and SGI Energy Efficiency

All InfiniteData Cluster components—trays, interconnects, and I/O—are cold-aisle accessible to support high-efficiency, hot-aisle/cold-aisle floor plans. The 1U and 2U trays pull out easily if in need of service and disk drives can be added or replaced in minutes. In addition to valuable space savings delivered through industry-leading server and storage density, InfiniteData Cluster also lowers energy costs as trays utilize high efficiency 450W power supplies and require less than 10W per tray for cooling.

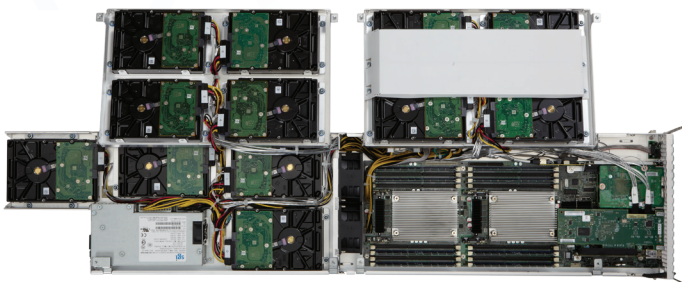
Helpful, Expert Services

SGI Services personnel bring expertise and experience to help turn powerful technology into business solutions. If you need assistance architecting your solution, designing for HVAC, power or network requirements, or customizing a solution to your specific compute and data environment, SGI Services and partner affiliations can fulfill your needs. SGI products are fully backed by warranty with technical support available around the globe up to 24 by 7.



SGI InfiniteData Cluster Specifications

| Model Number | IDC3104-RP4 | IDC3103-RP4 | IDC3212-RP4 | IDC3204-RP4 | IDC3208-RP4 |
|---------------------------------------|---|---|---|---|---|
| Chassis Profile | • 1U Tray | • 1U Tray | • 2U Tray | • 2U Tray | • 2U Tray |
| Servers/System | • One dual-socket | • One dual-socket | • One dual-socket | • One dual-socket | • One dual-socket |
| Chipset | • Intel® Patsburg C600-A PCH Chipset | • Intel® Patsburg C600-A PCH Chipset | • Intel® Patsburg C600-A PCH Chipset | • Intel® Patsburg C600-A PCH Chipset | • Intel® Patsburg C600-A PCH Chipset |
| Max. Processors | • Two Intel Xeon 6-, 8-, 10-, or 12-core E5-2600 v2 series | • Two Intel Xeon 6-, 8-, 10-, or 12-core E5-2600 v2 series | • Two Intel Xeon 6-, 8-, 10-, or 12-core E5-2600 v2 series | • Two Intel Xeon 6-, 8-, 10-, or 12-core E5-2600 v2 series | • Two Intel Xeon 6-, 8-, 10-, or 12-core E5-2600 v2 series |
| Max. Cores | • 24 | • 24 | • 24 | • 24 | • 24 |
| Max. Memory | • 512GB | • 512GB | • 512GB | • 512GB | • 512GB |
| Memory Slots | • 16 | • 16 | • 16 | • 16 | • 16 |
| Memory Type | • 1866/1600/1333/1066 MHz DDR3 ECC reg. or unbuffered 1.5V, 1.35V DIMMs | • 1866/1600/1333/1066 MHz DDR3 ECC reg. or unbuffered 1.5V, 1.35V DIMMs | • 1866/1600/1333/1066 MHz DDR3 ECC reg. or unbuffered 1.5V, 1.35V DIMMs | • 1866/1600/1333/1066 MHz DDR3 ECC reg. or unbuffered 1.5V, 1.35V DIMMs | • 1866/1600/1333/1066 MHz DDR3 ECC reg. or unbuffered 1.5V, 1.35V DIMMs |
| Max. Hard Disk Drives & Max. Capacity | • Four 3.5" (max. 16TB) SATA III quick-release drives | • Three 3.5" (max. 12TB) SAS quick-release drives | • Twelve 3.5" (max. 48TB) SATA III quick-release drives | • Four 3.5" (max. 16TB) SATA III quick-release drives | • Eight 3.5" (max. 32TB) SATA III quick-release drives |



| Enclosure Model | IDC3000-42U |
|----------------------------------|---|
| Enclosure Type | • 42U cabinet |
| Max. Trays | • 80 (1U tray) |
| Max. Servers | • 80 dual-socket |
| Max. Processors (Cores) | • 160 (1920 cores) |
| Max. 3.5" Drives (Max. Capacity) | • 480 (1920TB) |
| Networking Support | • 1Gb or 10Gb Ethernet. QDR or FDR Infiniband |
| Cooling Architecture | • Tray level fans |
| Airflow | • Front-to-back, ideal for hot-aisle/cold-aisle environments |
| Max. Ambient Temperature | • 104°F / 40°C; does not apply to all configurations |
| Input Power | • 180-250VAC (50-60Hz) with single phase or 3-phase PDU options |
| Power Architecture | • AC PSU at the tray level |
| Dimensions (HxWxD) | • 78.7" x 24" x 47.4" • 85.6" x 24" x 47.4" (4U top extension) |
| Weight (empty rack) | 500 lbs |

Global Sales and Support: sgi.com/global

