### SPECmpI_M_peak2007 = Not Run

**SPECmpI_base2007 = 63.6**

**SGI Rackable C2112-4RP4**  
(Intel Xeon E5-2697 v2, 2.70 GHz)

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Ranks</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Ranks</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
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Table continues on next page. Results appear in the order in which they were run. Bold underlined text indicates a median measurement.
SGI Rackable C2112-4RP4
(Intel Xeon E5-2697 v2, 2.70 GHz)

MPI2007 license: 4
Test sponsor: SGI
Tested by: SGI

Results Table (Continued)

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Base Ranks</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Peak Ranks</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
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</tr>
</tbody>
</table>

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Hardware Summary
Type of System: Homogeneous
Compute Node: SGI Rackable C2112-4RP4 Compute Node
Interconnect: InfiniBand (MPI and I/O)
File Server Node: SGI MIS Server
Total Compute Nodes: 16
Total Chips: 32
Total Cores: 384
Total Threads: 768
Total Memory: 2 TB
Base Ranks Run: 384
Minimum Peak Ranks: --
Maximum Peak Ranks: --

Software Summary
C Compiler: Intel C++ Composer XE 2013 for Linux, Version 14.0.0.051 Build 20130529
C++ Compiler: Intel C++ Composer XE 2013 for Linux, Version 14.0.0.051 Build 20130529
Fortran Compiler: Intel Fortran Composer XE 2013 for Linux, Version 14.0.0.051 Build 20130529
Base Pointers: 64-bit
Peak Pointers: Not Applicable
MPI Library: SGI MPT 2.08 Patch 11012
Other MPI Info: OFED 1.5.2
Pre-processors: None
Other Software: None

Node Description: SGI Rackable C2112-4RP4 Compute Node

Hardware
Number of nodes: 16
Uses of the node: compute
Vendor: SGI
Model: SGI Rackable C2112-4RP4 (Intel Xeon E5-2697 v2, 2.70GHz)
CPU Name: Intel Xeon E5-2697 v2
CPU(s) orderable: 1-2 chips
Chips enabled: 2
Cores enabled: 24
Cores per chip: 12
Threads per core: 2
CPU Characteristics: Twelve Core, 2.7 GHz, 8.0 GT/s QPI Intel Turbo Boost Technology up to 3.5 GHz Hyper-Threading Technology enabled
CPU MHz: 2700
Primary Cache: 32 KB I + 32 KB D on chip per core
Secondary Cache: 256 KB I+D on chip per core
L3 Cache: 30 MB I+D on chip per core, 30 MB shared / 12 cores
Other Cache: None
Memory: 128 GB (8 x 16 GB 2Rx4 PC3-14900R-13, ECC)
Disk Subsystem: None
Other Hardware: None
Adapter: Mellanox MT27500 with ConnectX-3 ASIC (PCIe x8 Gen3 8.0 GT/s)

Software
Adapter: Mellanox MT27500 with ConnectX-3 ASIC (PCIe x8 Gen3 8.0 GT/s)
Adapter Driver: OFED-1.5.2
Adapter Firmware: 2.10.2370
Operating System: SUSE Linux Enterprise Server 11 SP2, Kernel 3.0.74-0.6.6-default
Local File System: xfs
Shared File System: NFSv3 IPoIB
System State: Multi-user, run level 3
Other Software: SGI Accelerate 1.6, Build 708r14.sles11sp2-1304102205

Continued on next page
### SPEC MPI2007 Result

**SGI**

**SGI Rackable C2112-4RP4 (Intel Xeon E5-2697 v2, 2.70 GHz)**

<table>
<thead>
<tr>
<th>SPECmpiM_peak2007</th>
<th>SPECmpiM_base2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>= Not Run</td>
<td>= 63.6</td>
</tr>
</tbody>
</table>

**MPI2007 license:** 4  
**Test sponsor:** SGI  
**Tested by:** SGI

**Node Description: SGI Rackable C2112-4RP4 Compute Node**

- **Number of Adapters:** 2  
- **Slot Type:** PCIe x8 Gen3  
- **Data Rate:** InfiniBand 4x FDR  
- **Ports Used:** 1  
- **Interconnect Type:** InfiniBand

**Node Description: SGI MIS Server**

**Hardware**

- **Number of nodes:** 1  
- **Uses of the node:** fileserver  
- **Vendor:** SGI  
- **Model:** SGI MIS Server (Intel Xeon X2670, 2.60 GHz)  
- **CPU Name:** Intel Xeon E5-2670  
- **CPU(s) orderable:** 1-2 chips  
- **Chips enabled:** 2  
- **Cores enabled:** 16  
- **Cores per chip:** 8  
- **Threads per core:** 2  
- **CPU Characteristics:** Intel Turbo Boost Technology up to 3.33 GHz  
- **Hyper-Threading Technology enabled**  
- **CPU MHz:** 2600  
- **Primary Cache:** 32 KB I + 32 KB D on chip per core  
- **Secondary Cache:** 256 KB I+D on chip per chip  
- **L3 Cache:** 20 MB I+D on chip per chip  
- **Other Cache:** None  
- **Memory:** 128 GB (8*16 GB 12800R-11, ECC)  
- **Disk Subsystem:** 57.6 TB RAID6  
- **Other Hardware:** None  
- **Adapter:** Mellanox MT27500 with ConnectX-3 ASIC (PCIe x8 Gen3 8 GT/s)  
- **Adapter Driver:** OFED-1.5.2  
- **Adapter Firmware:** 2.11.500  
- **Operating System:** SUSE Linux Enterprise Server 11 SP2 (x86_64)  
- **Kernel:** 3.0.74-0.6.6-default  
- **Local File System:** xfs  
- **Shared File System:** --  
- **System State:** Multi-user, run level 3  
- **Other Software:** SGI Foundation Software 2.8, Build 708r14.sles11sp2-1304102205

**Software**

**Interconnect Description: InfiniBand (MPI and I/O)**

**Hardware**

- **Vendor:** Mellanox Technologies  
- **Model:** None  
- **Switch Model:** Mellanox SX6025 InfiniBand Switch  
- **Number of Switches:** 4  
- **Number of Ports:** 36

**Software**

- **Adapter:** Mellanox MT27500 with ConnectX-3 ASIC (PCIe x8 Gen3 8 GT/s)  
- **Adapter Driver:** OFED-1.5.2  
- **Adapter Firmware:** 2.11.500  
- **Operating System:** SUSE Linux Enterprise Server 11 SP2 (x86_64)  
- **Kernel:** 3.0.74-0.6.6-default  
- **Local File System:** xfs  
- **Shared File System:** --  
- **System State:** Multi-user, run level 3  
- **Other Software:** SGI Foundation Software 2.8, Build 708r14.sles11sp2-1304102205
SGI

SGI Rackable C2112-4RP4
(Intel Xeon E5-2697 v2, 2.70 GHz)

SPECmpiM_peak2007 = Not Run
SPECmpiM_base2007 = 63.6

**MPI2007 license:** 4
**Test sponsor:** SGI
**Tested by:** SGI

Interconnect Description: InfiniBand (MPI and I/O)

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<thead>
<tr>
<th>Data Rate:</th>
<th>InfiniBand 4x FDR</th>
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</thead>
<tbody>
<tr>
<td>Firmware:</td>
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<tr>
<td>Switch Model:</td>
<td>Mellanox SX6036 InfiniBand Switch</td>
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<tr>
<td>Number of Switches:</td>
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<td>Number of Ports:</td>
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<tr>
<td>Data Rate:</td>
<td>InfiniBand 4x FDR</td>
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<td>Firmware:</td>
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<td>Topology:</td>
<td>Fat Tree</td>
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<tr>
<td>Primary Use:</td>
<td>MPI and I/O traffic</td>
</tr>
</tbody>
</table>

Submit Notes

The config file option 'submit' was used.

General Notes

130.socorro (base): "nullify_ptrs" src.alt was used.

Software environment:

- export MPI_REQUEST_MAX=65536
- export MPI_TYPE_MAX=32768
- export MPI_BUFS_THRESHOLD=1
- ulimit -s unlimited

Transparent Hugepage: disabled
- echo never > /sys/kernel/mm/transparent_hugepage/enabled

BIOS settings:
- Intel BIOS version SESC600.86B.99.99.x067.060720130951
- Hyper-Threading Technology enabled (default)
- Intel Turbo Boost Technology enabled (default)
- Intel Turbo Boost Technology activated in the OS via
  /etc/init.d/acpid start
  /etc/init.d/powersaved start
  powersave -f

Base Compiler Invocation

C benchmarks:
- icc

C++ benchmarks:

Continued on next page
SGI

SGI Rackable C2112-4RP4
(Intel Xeon E5-2697 v2, 2.70 GHz)

SPECmpimM_peak2007 = Not Run
SPECmpimM_base2007 = 63.6

<table>
<thead>
<tr>
<th>MPI2007 license: 4</th>
<th>Test date: Aug-2013</th>
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<tr>
<td>Test sponsor: SGI</td>
<td>Hardware Availability: Sep-2013</td>
</tr>
<tr>
<td>Tested by: SGI</td>
<td>Software Availability: Jun-2013</td>
</tr>
</tbody>
</table>

Base Compiler Invocation (Continued)

126.lammps: icpc
Fortran benchmarks:
ifort
Benchmarks using both Fortran and C:
icc ifort

Base Portability Flags

121.pop2: -DSPEC_MPI_CASE_FLAG
127.wrf2: -DSPEC_MPI_CASE_FLAG -DSPEC_MPI_LINUX
130.socorro: -assume nostd_intent_in

Base Optimization Flags

C benchmarks:
-O3 -xAVX -no-prec-div
C++ benchmarks:
126.lammps: -O3 -xAVX -no-prec-div -ansi-alias
Fortran benchmarks:
-O3 -xAVX -no-prec-div
Benchmarks using both Fortran and C:
-O3 -xAVX -no-prec-div

Base Other Flags

C benchmarks:
-lmpi
C++ benchmarks:
126.lammps: -lmpi
Fortran benchmarks:
-lmpi
Benchmarks using both Fortran and C:
-lmpi
### SPEC MPIM2007 Result

**SGI**

SGI Rackable C2112-4RP4  
(Intel Xeon E5-2697 v2, 2.70 GHz)

<table>
<thead>
<tr>
<th>Metric</th>
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**MPI2007 license:** 4  
**Test date:** Aug-2013

**Test sponsor:** SGI  
**Hardware Availability:** Sep-2013

**Tested by:** SGI  
**Software Availability:** Jun-2013

The flags file that was used to format this result can be browsed at [spec.org/mpi2007/flags/SGI_x86_64_Intel14_flags.html](http://www.spec.org/mpi2007/flags/SGI_x86_64_Intel14_flags.html)

You can also download the XML flags source by saving the following link: [spec.org/mpi2007/flags/SGI_x86_64_Intel14_flags.xml](http://www.spec.org/mpi2007/flags/SGI_x86_64_Intel14_flags.xml)

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For questions about this result, please contact the tester.  
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC MPI2007 v2.0.1.  
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