



SPEC® MPIL2007 Result

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SGI

SGI Rackable C2112-4TY14
(Intel Xeon X5675, 3.06GHz)

SPECmpiL_peak2007 = Not Run

SPECmpiL_base2007 = 12.6

MPI2007 license: 4

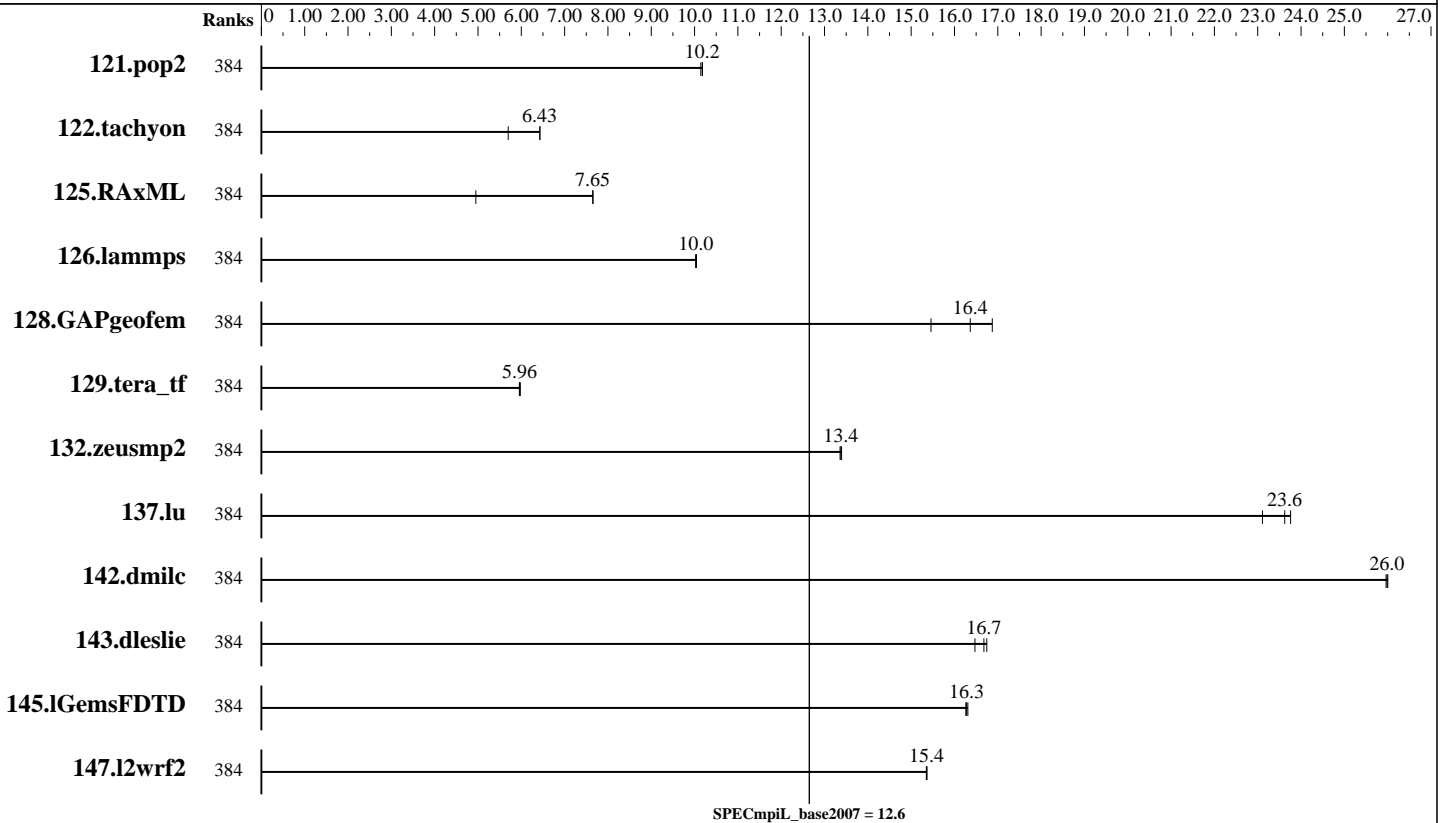
Test sponsor: SGI

Tested by: SGI

Test date: Mar-2011

Hardware Availability: Feb-2011

Software Availability: Feb-2011



Results Table

Benchmark	Base							Peak						
	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
121.pop2	384	382	10.2	384	10.1	<u>382</u>	<u>10.2</u>							
122.tachyon	384	341	5.70	<u>302</u>	<u>6.43</u>	302	6.43							
125.RAxML	384	590	4.95	<u>382</u>	<u>7.65</u>	381	7.66							
126.lammps	384	<u>245</u>	<u>10.0</u>	245	10.0	245	10.0							
128.GAPgeofem	384	<u>363</u>	<u>16.4</u>	384	15.5	352	16.9							
129.tera_tf	384	184	5.98	<u>184</u>	<u>5.96</u>	185	5.95							
132.zeusmp2	384	159	13.4	<u>158</u>	<u>13.4</u>	158	13.4							
137.lu	384	177	23.8	182	23.1	<u>178</u>	<u>23.6</u>							
142.dmilc	384	142	26.0	<u>142</u>	<u>26.0</u>	142	26.0							
143.dleslie	384	185	16.7	188	16.5	<u>186</u>	<u>16.7</u>							
145.lGemsFDTD	384	271	16.3	270	16.3	<u>271</u>	<u>16.3</u>							
147.l2wrf2	384	534	15.4	534	15.4	<u>534</u>	<u>15.4</u>							

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

Standard Performance Evaluation Corporation

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Hardware Summary

Type of System: Homogeneous
 Compute Node: SGI Rackable C2112-4TY14 Compute Node
 Interconnect: InfiniBand (MPI and I/O)
 File Server Node: SGI Altix 450 with TP9700
 Total Compute Nodes: 32
 Total Chips: 64
 Total Cores: 384
 Total Threads: 768
 Total Memory: 768 GB
 Base Ranks Run: 384
 Minimum Peak Ranks: --
 Maximum Peak Ranks: --

Software Summary

C Compiler: Intel C Compiler for Linux
 Version 11.1, Build 20100806
 C++ Compiler: Intel C++ Compiler for Linux
 Version 11.1, Build 20100806
 Fortran Compiler: Intel Fortran Compiler for Linux
 Version 11.1, Build 20100806
 Base Pointers: 64-bit
 Peak Pointers: 64-bit
 MPI Library: SGI MPT 2.03
 Other MPI Info: OFED 1.4.2
 Pre-processors: None
 Other Software: None

Node Description: SGI Rackable C2112-4TY14 Compute Node

Hardware

Number of nodes: 32
 Uses of the node: compute
 Vendor: SGI
 Model: SGI Rackable C2112-4TY14 (Intel Xeon X5675, 3.06GHz)
 CPU Name: Intel Xeon X5675
 CPU(s) orderable: 1-2 chips
 Chips enabled: 2
 Cores enabled: 12
 Cores per chip: 6
 Threads per core: 2
 CPU Characteristics: Six Core, 3.06 GHz, 6.4 GT/s QPI
 Intel Turbo Boost Technology up to 3.46 GHz
 Hyper-Threading Technology enabled
 CPU MHz: 3067
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core
 L3 Cache: 12 MB I+D on chip per chip
 Other Cache: None
 Memory: 24 GB (6 x 4 GB, 2Rx4 PC3-10600R-9, ECC)
 Disk Subsystem: None
 Other Hardware: None
 Adapter: Mellanox MT26428 ConnectX IB QDR
 (PCIe x8 Gen2 5 GT/s)
 Number of Adapters: 1
 Slot Type: PCIe x8 Gen2
 Data Rate: InfiniBand 4x QDR
 Ports Used: 1
 Interconnect Type: InfiniBand

Software

Adapter: Mellanox MT26428 ConnectX IB QDR
 (PCIe x8 Gen2 5 GT/s)
 Adapter Driver: OFED-1.4.2
 Adapter Firmware: 2.7.0
 Operating System: SUSE Linux Enterprise Server 11 SP1
 Kernel 2.6.32.27-0.2-default
 Local File System: NFSv3
 Shared File System: NFSv3 IPoIB
 System State: Multi-user, run level 3
 Other Software: SGI Performance Suite 1.0, Build
 702r19.sles11-1010072114



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Hardware Availability: Feb-2011
Software Availability: Feb-2011

Node Description: SGI Altix 450 with TP9700

Hardware

Number of nodes: 1
Uses of the node: fileserver
Vendor: SGI
Model: SGI Altix 450 (Intel Itanium 2, 1.6GHz)
CPU Name: Intel Itanium 2 9030
CPU(s) orderable: 2-38 chips
Chips enabled: 4
Cores enabled: 8
Cores per chip: 2
Threads per core: 1
CPU Characteristics: 1.6GHz/8MB, 533MHz FSB
CPU MHz: 1600
Primary Cache: 16 KB I + 16 KB D on chip per core
Secondary Cache: 1 MB I + 256 KB D on chip per core
L3 Cache: 4 MB I+D on chip per core
Other Cache: None
Memory: 24 GB (12 x 2 GB, 2Rx4 PC2-3200-4, ECC)
Disk Subsystem: 8.2 TB RAID 5
60 x 146 GB FC (Seagate Cheetah 15K.5)
Other Hardware: None
Adapter: MT25208 InfiniHost III Ex
(PCIe x8 Gen1 2.5 GT/s)
Number of Adapters: 1
Slot Type: PCIe x8 Gen1
Data Rate: InfiniBand 4x DDR
Ports Used: 2
Interconnect Type: InfiniBand

Software

Adapter: MT25208 InfiniHost III Ex
(PCIe x8 Gen1 2.5 GT/s)
Adapter Driver: OFED-1.4.1
Adapter Firmware: 5.3.0
Operating System: SUSE Linux Enterprise Server 10 SP3 (ia64)
Kernel 2.6.16.60-0.68.1-default
Local File System: xfs
Shared File System: --
System State: Multi-user, run level 3
Other Software: SGI ProPack 6SP6 for Linux, Build
606rp75.sles10-1009032310

Interconnect Description: InfiniBand (MPI and I/O)

Hardware

Vendor: Mellanox Technologies
Model: None
Switch Model: Voltaire Grid Director 4036
Number of Switches: 1
Number of Ports: 36
Data Rate: InfiniBand 4x QDR
Firmware: 2.0.1 BUILD ID 22
Topology: Fat tree
Primary Use: MPI and I/O traffic

Software



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Submit Notes

The config file option 'submit' was used.

General Notes

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

BIOS settings:
AMI BIOS version 080016
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:

126.lammps: icpc

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icc ifort

Base Portability Flags

121.pop2: -DSPEC_MPI_CASE_FLAG

Base Optimization Flags

C benchmarks:
-O3 -xSSE4.2 -no-prec-div

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Base Optimization Flags (Continued)

C++ benchmarks:

126.lammps: -O3 -xSSE4.2 -no-prec-div -ansi-alias

Fortran benchmarks:

-O3 -xSSE4.2 -no-prec-div

Benchmarks using both Fortran and C:

-O3 -xSSE4.2 -no-prec-div

Base Other Flags

C benchmarks:

-lmpi

C++ benchmarks:

126.lammps: -lmpi

Fortran benchmarks:

-lmpi

Benchmarks using both Fortran and C:

-lmpi

The flags file that was used to format this result can be browsed at

http://www.spec.org/mpi2007/flags/SGI_x86_64_Intel111_flags.20100202.html

You can also download the XML flags source by saving the following link:

http://www.spec.org/mpi2007/flags/SGI_x86_64_Intel111_flags.20100202.xml

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

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