SPEC® MPIM2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

SGI

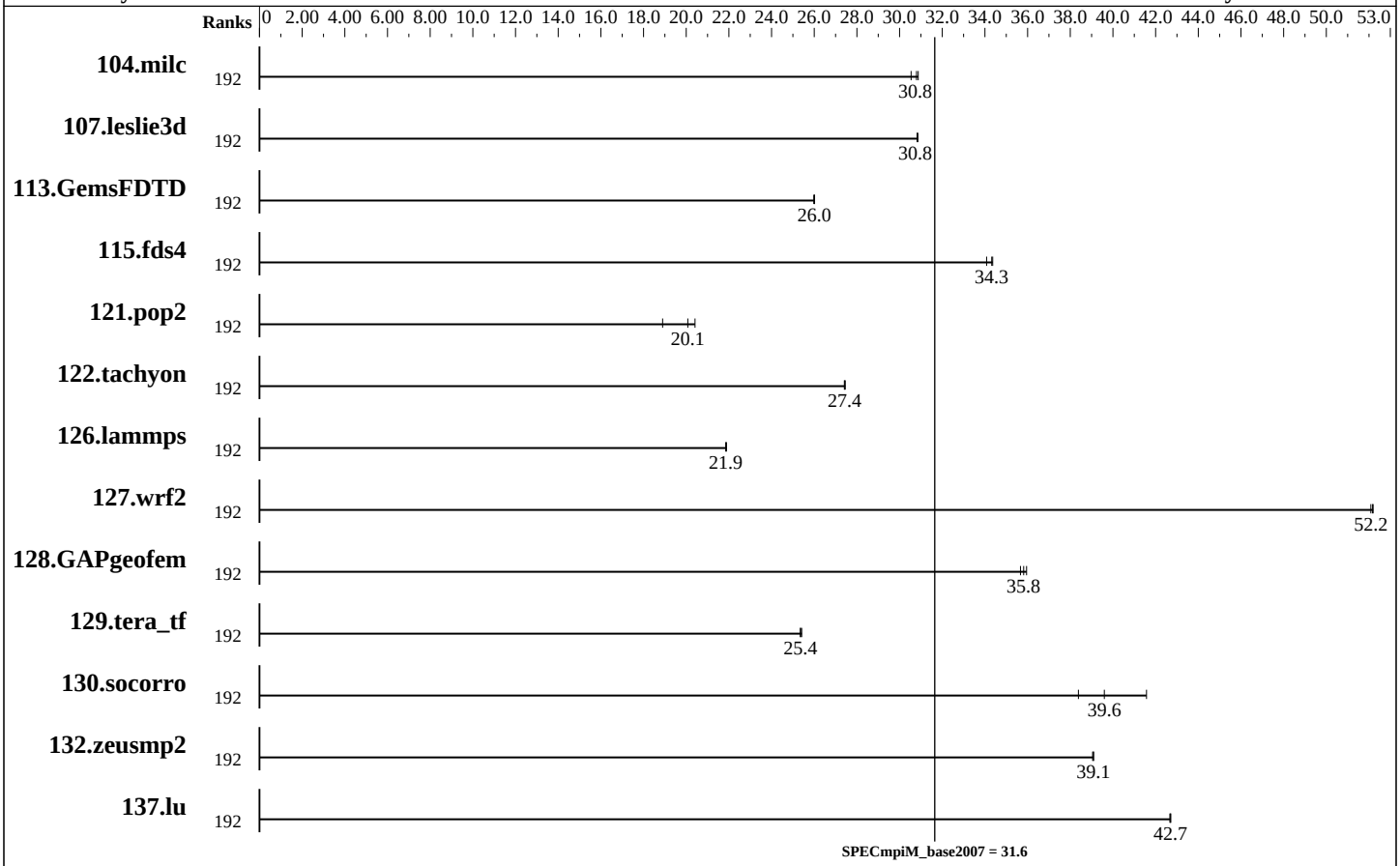
SGI Rackable C2112-4TY14
(Intel Xeon X5675, 3.06GHz)

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = 31.6

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
104.milc	192	51.2	30.5	50.7	30.9	**50.8**	**30.8**							
107.leslie3d	192	169	30.8	169	30.9	**169**	**30.8**							
113.GemsFDTD	192	**243**	**26.0**	243	26.0	242	26.0							
115.fds4	192	**56.9**	**34.3**	57.2	34.1	56.8	34.4							
121.pop2	192	**206**	**20.1**	202	20.4	218	18.9							
122.tachyon	192	**102**	**27.4**	102	27.5	102	27.4							
126.lammps	192	133	21.9	**133**	**21.9**	133	21.9							
127.wrf2	192	149	52.2	150	52.1	**149**	**52.2**							
128.GAPgeofem	192	57.9	35.7	**57.7**	**35.8**	57.4	36.0							
129.tera_tf	192	109	25.3	**109**	**25.4**	109	25.4							

Table continues on next page. Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

SPEC MPIM2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

SGI

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

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = 31.6

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

Test date: Mar-2011
Hardware Availability: Feb-2011
Software Availability: Feb-2011

Results Table (Continued)

Benchmark	Base							Peak						
	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
130.socorro	192	91.8	41.6	**96.4**	**39.6**	99.4	38.4							
132.zeusmp2	192	**79.4**	**39.1**	79.4	39.1	79.5	39.0							
137.lu	192	86.1	42.7	**86.1**	**42.7**	86.2	42.7							

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 C2112-4TY14 Compute Node
Interconnect:	InfiniBand (MPI and I/O)
File Server Node:	SGI Altix 450 with TP9700
Total Compute Nodes:	16
Total Chips:	32
Total Cores:	192
Total Threads:	384
Total Memory:	384 GB
Base Ranks Run:	192
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:	16
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

Continued on next page

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

SPEC MPIM2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

SGI

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

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = 31.6

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

Test date: Mar-2011
Hardware Availability: Feb-2011
Software Availability: Feb-2011

Node Description: SGI Rackable C2112-4TY14 Compute Node

Slot Type:	PCIe x8 Gen2
Data Rate:	InfiniBand 4x QDR
Ports Used:	1
Interconnect Type:	InfiniBand

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

Software

Continued on next page

Interconnect Description: InfiniBand (MPI and I/O)

Topology:	Fat tree
Primary Use:	MPI and I/O traffic

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`

Continued on next page

Base Portability Flags (Continued)

127.wrf2: `-DSPEC_MPI_CASE_FLAG -DSPEC_MPI_LINUX`

Base Optimization Flags

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

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`

Copyright 2006-2010 Standard Performance Evaluation Corporation

SGI

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

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = 31.6

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

Test date: Mar-2011
Hardware Availability: Feb-2011
Software Availability: Feb-2011

SPEC and SPEC MPI are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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

Tested with SPEC MPI2007 v2.0.
Report generated on Tue Jul 22 13:42:33 2014 by SPEC MPI2007 PS/PDF formatter v1463.
Originally published on 4 May 2011.