SPEC® MPIM2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

SGI

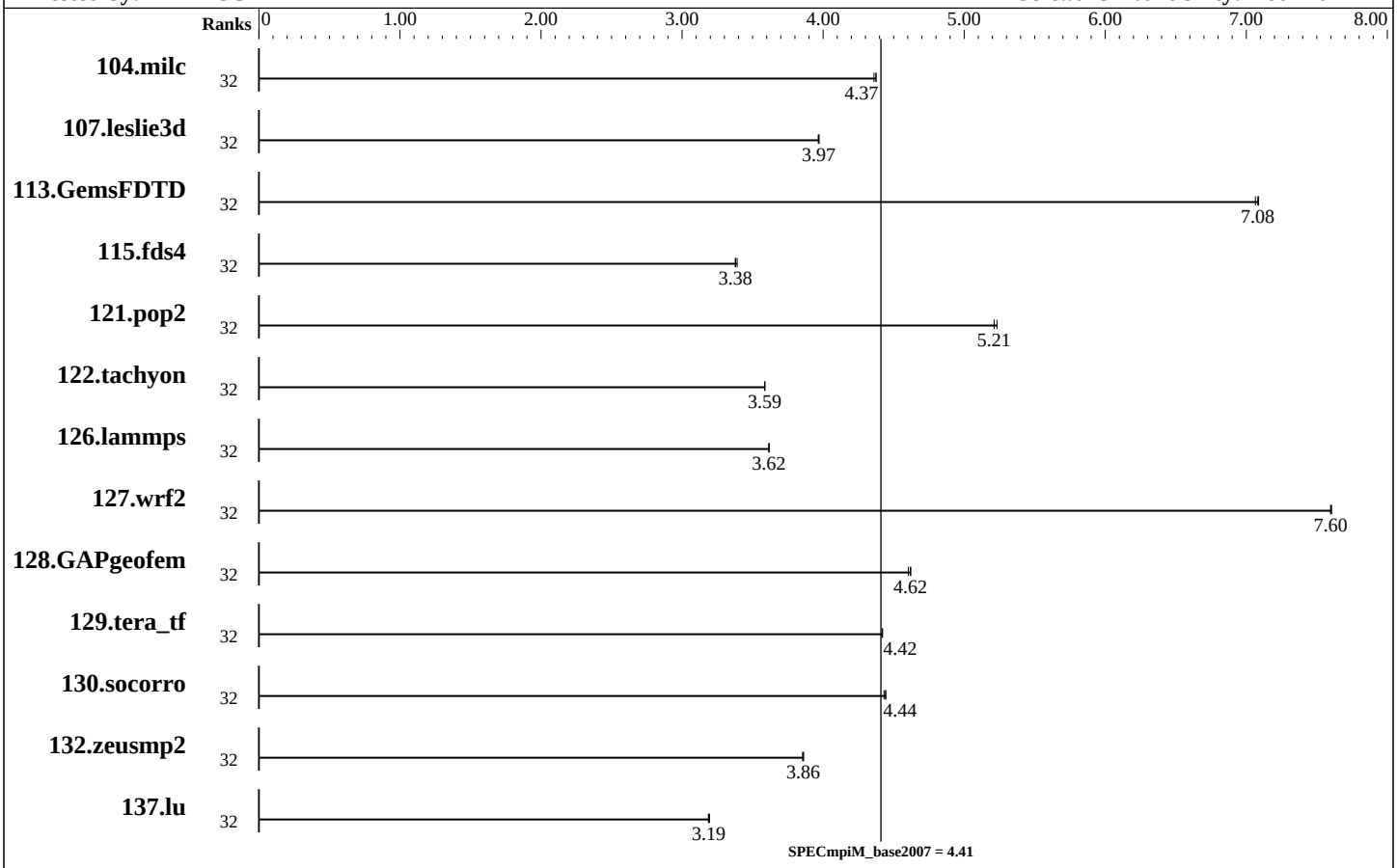
SGI Rackable C2005-TY3
(Intel Xeon X5687, 3.60 GHz)

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = 4.41

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

Test date: Aug-2011
Hardware Availability: Feb-2011
Software Availability: Jul-2011



Results Table

Benchmark	Base							Peak						
	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
104.milc	32	359	4.36	**358**	**4.37**	358	4.38							
107.leslie3d	32	**1315**	**3.97**	1316	3.97	1315	3.97							
113.GemsFDTD	32	**891**	**7.08**	890	7.09	893	7.06							
115.fds4	32	578	3.38	**577**	**3.38**	575	3.39							
121.pop2	32	789	5.23	**792**	**5.21**	792	5.21							
122.tachyon	32	**780**	**3.59**	780	3.59	780	3.59							
126.lammps	32	806	3.61	**806**	**3.62**	806	3.62							
127.wrf2	32	**1026**	**7.60**	1025	7.60	1026	7.60							
128.GAPgeofem	32	**447**	**4.62**	449	4.60	447	4.62							
129.tera_tf	32	626	4.42	626	4.42	**626**	**4.42**							

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 C2005-TY3
(Intel Xeon X5687, 3.60 GHz)

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = 4.41

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

Test date: Aug-2011
Hardware Availability: Feb-2011
Software Availability: Jul-2011

Results Table (Continued)

Benchmark	Base							Peak						
	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
130.socorro	32	**859**	**4.44**	861	4.43	859	4.44							
132.zeusmp2	32	804	3.86	**804**	**3.86**	805	3.85							
137.lu	32	1154	3.19	1151	3.19	**1152**	**3.19**							

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 C2005-TY3 Compute Node
Interconnect:	InfiniBand (MPI and I/O)
File Server Node:	SGI InfiniteStorage 4500
Total Compute Nodes:	2
Total Chips:	4
Total Cores:	16
Total Threads:	32
Total Memory:	96 GB
Base Ranks Run:	32
Minimum Peak Ranks:	--
Maximum Peak Ranks:	--

Software Summary

C Compiler:	Intel C++ Composer XE 2011 for Linux, Version 12.0.5.220 Build 20110719
C++ Compiler:	Intel C++ Composer XE 2011 for Linux, Version 12.0.5.220 Build 20110719
Fortran Compiler:	Intel Fortran Composer XE 2011 for Linux, Version 12.0.5.220 Build 20110719
Base Pointers:	64-bit
Peak Pointers:	Not Applicable
MPI Library:	SGI MPT 2.04 Patch 10773
Other MPI Info:	OFED 1.4.2
Pre-processors:	None
Other Software:	None

Node Description: SGI Rackable C2005-TY3 Compute Node

Hardware

Number of nodes:	2
Uses of the node:	compute
Vendor:	SGI
Model:	SGI Rackable C2005-TY3 (Intel Xeon X5687, 3.60GHz)
CPU Name:	Intel Xeon X5687
CPU(s) orderable:	1-2 chips
Chips enabled:	2
Cores enabled:	8
Cores per chip:	4
Threads per core:	2
CPU Characteristics:	Quad Core, 3.60 GHz, 6.4 GT/s QPI Intel Turbo Boost Technology up to 3.86 GHz Hyper-Threading Technology enabled
CPU MHz:	3600
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:	48 GB (6 x 8 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 (x86_64) Kernel 2.6.32.36-0.5-default
Local File System:	NFSv3
Shared File System:	NFSv3 IPoIB
System State:	Multi-user, run level 3
Other Software:	SGI Performance Suite 1.2, Build 704r5.sles11-1103212004

SPEC MPIM2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

SGI

SGI Rackable C2005-TY3
(Intel Xeon X5687, 3.60 GHz)

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = 4.41

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

Test date: Aug-2011
Hardware Availability: Feb-2011
Software Availability: Jul-2011

Node Description: SGI Rackable C2005-TY3 Compute Node

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

Node Description: SGI InfiniteStorage 4500

Hardware

Number of nodes:	1
Uses of the node:	fileserver
Vendor:	SGI
Model:	SGI Altix 450 (Intel Itanium 2, 1.6 GHz)
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:	48 GB (24 x 2 GB, 2Rx4 PC2-3200-4, ECC)
Disk Subsystem:	5.8 TB RAID 5 20 x 146 GB FC (Seagate Cheetah 15K.4) 40 x 73 GB FC (Seagate Cheetah 15K.4)
Other Hardware:	None
Adapter:	Mellanox MT25208 InfiniHost III Ex (PCIe x8 Gen1 2.5 GT/s)
Number of Adapters:	2
Slot Type:	PCIe x8 Gen1
Data Rate:	InfiniBand 4x DDR
Ports Used:	2
Interconnect Type:	InfiniBand

Software

Adapter:	Mellanox MT25208 InfiniHost III Ex (PCIe x8 Gen1 2.5 GT/s)
Adapter Driver:	OFED-1.4.2
Adapter Firmware:	4.8.200
Operating System:	SUSE Linux Enterprise Server 11 SP1 (ia64) Kernel 2.6.32.23-0.3-default
Local File System:	xfs
Shared File System:	--
System State:	Multi-user, run level 3
Other Software:	SGI InfiniteStorage Software Platform, version 2.2, Build 702r16.sles11-1010082110

Interconnect Description: InfiniBand (MPI and I/O)

Hardware

Vendor:	Mellanox Technologies
Model:	n/a
Switch Model:	Voltaire Grid Director 4200
Number of Switches:	1
Number of Ports:	36
Data Rate:	InfiniBand 4x QDR

Software

Continued on next page

Copyright 2006-2010 Standard Performance Evaluation Corporation

SGI

SGI Rackable C2005-TY3
(Intel Xeon X5687, 3.60 GHz)

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = 4.41

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

Test date: Aug-2011
Hardware Availability: Feb-2011
Software Availability: Jul-2011

Interconnect Description: InfiniBand (MPI and I/O)

Firmware:	3.0.0 BUILD ID 629
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  2.10
   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`
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_Intel12_flags.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/mpi2007/flags/SGI_x86_64_Intel12_flags.xml`

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 v2.0.1.
Report generated on Tue Jul 22 13:43:49 2014 by SPEC MPI2007 PS/PDF formatter v1463.
Originally published on 21 September 2011.