SPEC® MPIM2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

SGI

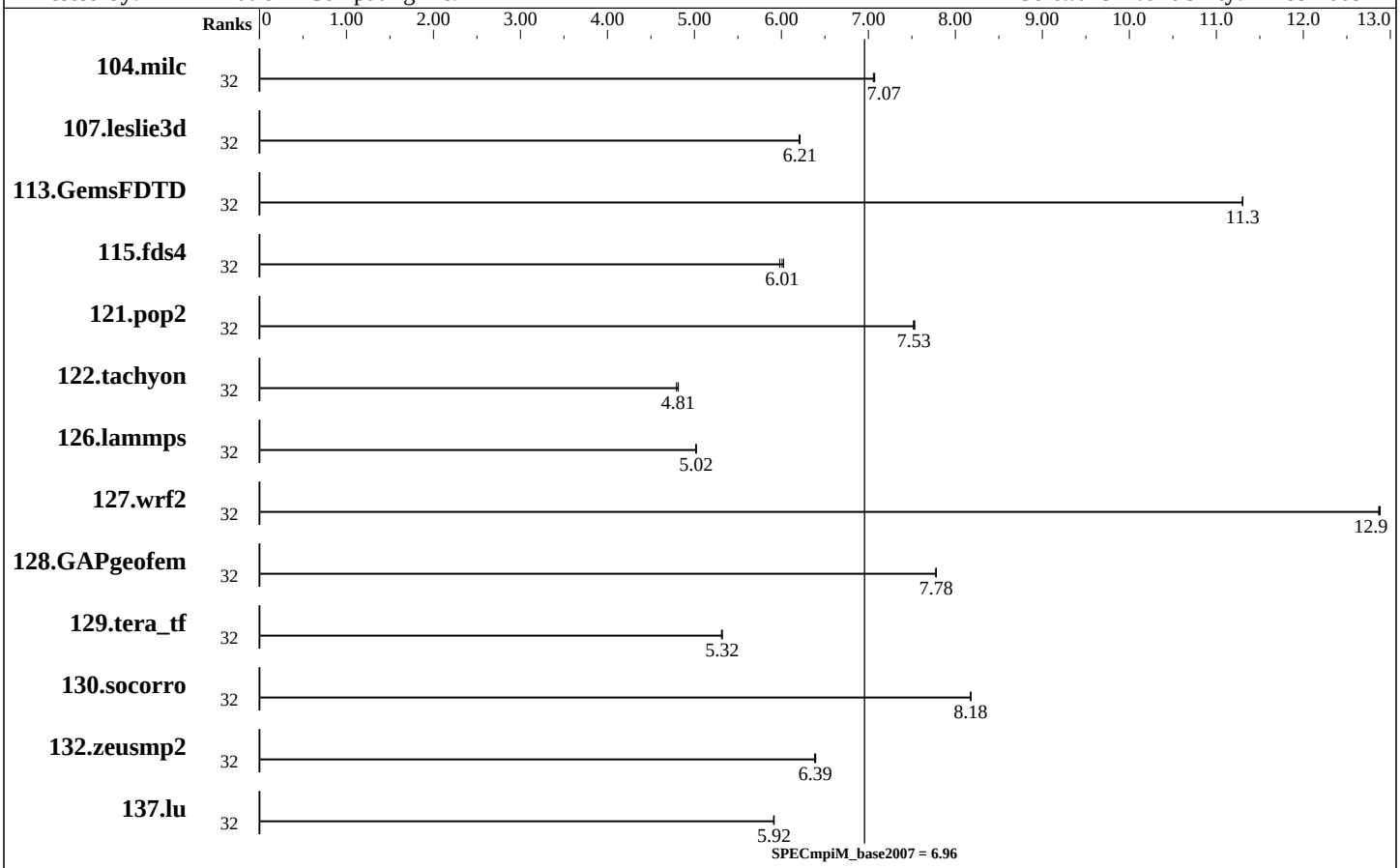
SGI Altix ICE 8200EX
(Intel Xeon X5570, 2.93 GHz, PMPI 5.6.6)

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = 6.96

MPI2007 license: 021
Test sponsor: Platform Computing Inc.
Tested by: Platform Computing Inc.

Test date: Mar-2009
Hardware Availability: Mar-2009
Software Availability: Feb-2009



Results Table

Benchmark	Base							Peak						
	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
104.milc	32	222	7.06	**221**	**7.07**	221	7.07							
107.leslie3d	32	840	6.21	**840**	**6.21**	842	6.20							
113.GemsFDTD	32	558	11.3	**558**	**11.3**	558	11.3							
115.fds4	32	326	5.98	324	6.03	**325**	**6.01**							
121.pop2	32	549	7.52	548	7.53	**549**	**7.53**							
122.tachyon	32	581	4.82	583	4.79	**581**	**4.81**							
126.lammps	32	580	5.02	**581**	**5.02**	581	5.02							
127.wrf2	32	606	12.9	**606**	**12.9**	605	12.9							
128.GAPgeofem	32	266	7.77	**265**	**7.78**	265	7.78							
129.tera_tf	32	520	5.32	521	5.31	**520**	**5.32**							

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 Altix ICE 8200EX
(Intel Xeon X5570, 2.93 GHz, PMPI 5.6.6)

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = 6.96

MPI2007 license: 021
Test sponsor: Platform Computing Inc.
Tested by: Platform Computing Inc.

Test date: Mar-2009
Hardware Availability: Mar-2009
Software Availability: Feb-2009

Results Table (Continued)

Benchmark	Base							Peak						
	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
130.socorro	32	467	8.17	467	8.18	**467**	**8.18**							
132.zeusmp2	32	**486**	**6.39**	486	6.38	485	6.39							
137.lu	32	**621**	**5.92**	622	5.91	621	5.92							

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 Altix ICE 8200EX Compute Node
Interconnects:	InfiniBand (MPI) InfiniBand (I/O)
File Server Node:	SGI InfiniteStorage Nexis 2000 NAS
Total Compute Nodes:	4
Total Chips:	8
Total Cores:	32
Total Threads:	64
Total Memory:	192 GB
Base Ranks Run:	32
Minimum Peak Ranks:	--
Maximum Peak Ranks:	--

Software Summary

C Compiler:	Intel C Compiler for Linux Version 10.1, Build 20080801
C++ Compiler:	Intel C++ Compiler for Linux Version 10.1, Build 20080801
Fortran Compiler:	Intel Fortran Compiler for Linux Version 10.1, Build 20080801
Base Pointers:	64-bit
Peak Pointers:	64-bit
MPI Library:	Platform MPI 5.6.6-59413
Other MPI Info:	OFED 1.3.1 Platform Computing Inc has acquired Scali MPI Connect, hence Platform MPI and Scali MPI Connect are used synonymously.
Pre-processors:	None
Other Software:	None

Node Description: SGI Altix ICE 8200EX Compute Node

Hardware

Number of nodes:	4
Uses of the node:	compute
Vendor:	SGI
Model:	SGI Altix ICE 8200EX (Intel Xeon X5570, 2.93 GHz)
CPU Name:	Intel Xeon X5570
CPU(s) orderable:	1-2 chips
Chips enabled:	2
Cores enabled:	8
Cores per chip:	4
Threads per core:	2
CPU Characteristics:	Intel Turbo Boost Technology up to 3.33 GHz, 6.4 GT/s QPI, Hyper-Threading enabled
CPU MHz:	2934
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core
L3 Cache:	8 MB I+D on chip per chip
Other Cache:	None
Memory:	48 GB (12*4GB DDR3-1066 CL7 RDIMMs)
Disk Subsystem:	None
Other Hardware:	None
Adapter:	Mellanox MT26418 ConnectX IB DDR (PCIe x8 Gen2 5 GT/s)

Continued on next page

Software

Adapter:	Mellanox MT26418 ConnectX IB DDR (PCIe x8 Gen2 5 GT/s)
Adapter Driver:	OFED-1.3.1
Adapter Firmware:	2.5.0
Operating System:	SUSE Linux Enterprise Server 10 (x86_64) SP2 Kernel 2.6.16.60-0.30-smp
Local File System:	NFSv3
Shared File System:	NFSv3 IPoIB
System State:	Multi-user, run level 3
Other Software:	SGI ProPack 6 for Linux Service Pack 2

SPEC MPIM2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

SGI

SGI Altix ICE 8200EX
(Intel Xeon X5570, 2.93 GHz, PMPI 5.6.6)

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = 6.96

MPI2007 license: 021
Test sponsor: Platform Computing Inc.
Tested by: Platform Computing Inc.

Test date: Mar-2009
Hardware Availability: Mar-2009
Software Availability: Feb-2009

Node Description: SGI Altix ICE 8200EX Compute Node

Number of Adapters:	1
Slot Type:	PCIe x8 Gen2
Data Rate:	InfiniBand 4x DDR
Ports Used:	2
Interconnect Type:	InfiniBand

Node Description: SGI InfiniteStorage Nexis 2000 NAS

Hardware

Number of nodes:	1
Uses of the node:	fileserver
Vendor:	SGI
Model:	SGI Altix XE 240 (Intel Xeon 5140, 2.33 GHz)
CPU Name:	Intel Xeon 5140
CPU(s) orderable:	1-2 chips
Chips enabled:	2
Cores enabled:	4
Cores per chip:	2
Threads per core:	1
CPU Characteristics:	1333 MHz FSB
CPU MHz:	2328
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	4 MB I+D on chip per chip
L3 Cache:	None
Other Cache:	None
Memory:	24 GB (6*4GB DDR2-400 DIMMS)
Disk Subsystem:	7 TB RAID 5 48 x 147 GB SAS (Seagate Cheetah 15000 rpm)
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-1.3
Adapter Firmware:	5.3.0
Operating System:	SUSE Linux Enterprise Server 10 (x86_64) SP1 Kernel 2.6.16.54-0.2.5-smp
Local File System:	xfs
Shared File System:	--
System State:	Multi-user, run level 3
Other Software:	SGI ProPack 5 for Linux Service Pack 5

Interconnect Description: InfiniBand (MPI)

Hardware

Vendor:	Mellanox Technologies
Model:	MT26418 ConnectX
Switch Model:	Mellanox MT47396 InfiniScale III
Number of Switches:	8
Number of Ports:	24
Data Rate:	InfiniBand 4x DDR

Software

Continued on next page

Copyright 2006-2010 Standard Performance Evaluation Corporation

SGI

SGI Altix ICE 8200EX
(Intel Xeon X5570, 2.93 GHz, PMPI 5.6.6)

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = 6.96

MPI2007 license: 021
Test sponsor: Platform Computing Inc.
Tested by: Platform Computing Inc.

Test date: Mar-2009
Hardware Availability: Mar-2009
Software Availability: Feb-2009

Interconnect Description: InfiniBand (MPI)

Firmware:	2020001
Topology:	Bristle hypercube with express links
Primary Use:	MPI traffic

Interconnect Description: InfiniBand (I/O)

Hardware

Vendor:	Mellanox Technologies
Model:	MT26418 ConnectX
Switch Model:	Mellanox MT47396 InfiniScale-III
Number of Switches:	8
Number of Ports:	24
Data Rate:	InfiniBand 4x DDR
Firmware:	2020001
Topology:	Bristle hypercube with express links
Primary Use:	I/O traffic

Software

Submit Notes

```
The config file option 'submit' was used.
```

General Notes

```
Software environment:
  limit stacksize unlimited
    Removes limits on the maximum size of the automatically-
    extended stack region of the current process and each
    process it creates.
PBS Pro batch scheduler (www.altair.com) is used with
  placement sets to ensure each MPI job is assigned to
  a topologically compact set of nodes
BIOS settings:
  AMI BIOS version 8.15
  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:

```
mpicc  -ccl icc
```

Continued on next page

Base Compiler Invocation (Continued)

C++ benchmarks:

126.lammps: `mpicc -ccl icpc`

Fortran benchmarks:
`mpif77 -ccl ifort`

Benchmarks using both Fortran and C:
`mpicc -ccl icc mpif77 -ccl 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 -ipo -xT -no-prec-div`

C++ benchmarks:

126.lammps: `-O3 -ipo -xT -no-prec-div -ansi-alias`

Fortran benchmarks:
`-O3 -ipo -xT -no-prec-div`

Benchmarks using both Fortran and C:
`-O3 -ipo -xT -no-prec-div`

The flags files that were used to format this result can be browsed at
http://www.spec.org/mpi2007/flags/MPI2007_flags.20081204.html
http://www.spec.org/mpi2007/flags/EM64T_Intel101_flags.20080618.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/mpi2007/flags/MPI2007_flags.20081204.xml
http://www.spec.org/mpi2007/flags/EM64T_Intel101_flags.20080618.xml

Copyright 2006-2010 Standard Performance Evaluation Corporation

SGI

SGI Altix ICE 8200EX
(Intel Xeon X5570, 2.93 GHz, PMPI 5.6.6)

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = 6.96

MPI2007 license: 021
Test sponsor: Platform Computing Inc.
Tested by: Platform Computing Inc.

Test date: Mar-2009
Hardware Availability: Mar-2009
Software Availability: Feb-2009

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 v1.1.
Report generated on Tue Jul 22 13:37:12 2014 by SPEC MPI2007 PS/PDF formatter v1463.
Originally published on 14 April 2009.