



SPEC® MPIM2007 Result

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SGI

SGI Altix ICE 8200EX
(Intel Xeon E5472, 3.00 GHz)
1B 4x DDR
Platform MPI 5.6.4

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = 13.7

MPI2007 license: 021

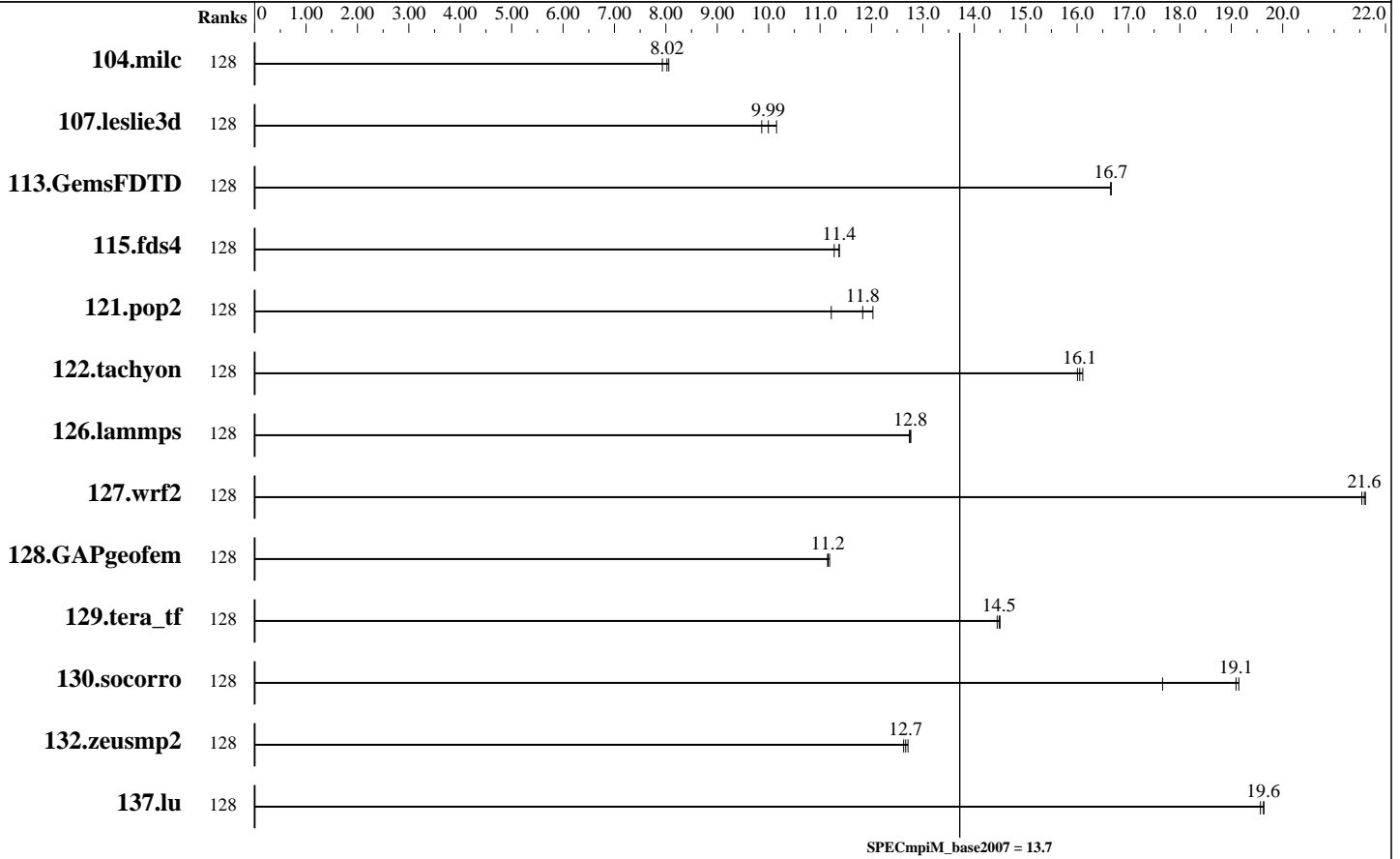
Test sponsor: Platform Computing Inc.

Tested by: Platform Computing Inc.

Test date: Dec-2008

Hardware Availability: Mar-2008

Software Availability: Jan-2009



Results Table

Benchmark	Base							Peak						
	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
104.milc	128	197	7.93	194	8.06	195	8.02							
107.leslie3d	128	529	9.86	522	9.99	514	10.2							
113.GemsFDTD	128	379	16.7	379	16.7	379	16.7							
115.fds4	128	173	11.3	172	11.4	172	11.4							
121.pop2	128	343	12.0	349	11.8	368	11.2							
122.tachyon	128	174	16.1	175	16.0	174	16.1							
126.lammps	128	228	12.8	228	12.8	229	12.7							
127.wrf2	128	362	21.5	361	21.6	361	21.6							
128.GAPgeofem	128	185	11.1	185	11.2	185	11.2							
129.tera_tf	128	192	14.4	191	14.5	191	14.5							

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



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Results Table (Continued)

Benchmark	Base							Peak						
	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
130.socorro	128	199	19.1	200	19.1	216	17.7							
132.zeusmp2	128	244	12.7	246	12.6	245	12.7							
137.lu	128	187	19.6	187	19.6	188	19.6							

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 Storage Node
 Total Compute Nodes: 16
 Total Chips: 32
 Total Cores: 128
 Total Threads: 128
 Total Memory: 256 GB
 Base Ranks Run: 128
 Minimum Peak Ranks: --
 Maximum Peak Ranks: --

Software Summary

C Compiler: Intel C Compiler 10.1 for Linux (10.1.018)
 C++ Compiler: Intel C++ Compiler 10.1 for Linux (10.1.018)
 Fortran Compiler: Intel Fortran Compiler 10.1 for Linux (10.1.018)
 Base Pointers: 64-bit
 Peak Pointers: 64-bit
 MPI Library: Platform MPI 5.6.4-59151
 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: 16
 Uses of the node: compute
 Vendor: SGI
 Model: SGI Altix ICE 8200EX
 (Intel Xeon E5472, 3.00 GHz)
 CPU Name: Intel Xeon E5472
 CPU(s) orderable: 1-2 chips
 Chips enabled: 2
 Cores enabled: 8
 Cores per chip: 4
 Threads per core: 1
 CPU Characteristics: Quad-Core Xeon E5472 (Harpertown), 1600MHz FSB
 CPU MHz: 3000
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 12 MB I+D on chip per chip,
 6 MB shared / 2 cores
 L3 Cache: None
 Other Cache: None
 Memory: 16 GB (8*2GB PC2-6400 CL5-5-5 FB-DIMMs)
 Disk Subsystem: None
 Other Hardware: IB adapter port #1 was used for MPI traffic
 and port #2 was used for I/O

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 2.6.16.60-0.23.PTF.403865.1-smp
 Local File System: None (diskless)
 Shared File System: NFSv3 IPoIB
 System State: Multi-user, run level 3
 Other Software: SGI ProPack 6 for Linux Service Pack 1

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Node Description: SGI Altix ICE 8200EX Compute Node

Adapter:	Mellanox MT26418 ConnectX IB DDR (PCIe x8 Gen2 5 GT/s)
Number of Adapters:	1
Slot Type:	PCIe x8 Gen2
Data Rate:	InfiniBand 4x DDR
Ports Used:	2
Interconnect Type:	InfiniBand

Node Description: SGI Storage Node

Hardware	
Number of nodes:	1
Uses of the node:	fileserver
Vendor:	SGI
Model:	SGI Altix XE 250
CPU Name:	Intel Xeon E5420
CPU(s) orderable:	1-2 chips
Chips enabled:	2
Cores enabled:	8
Cores per chip:	4
Threads per core:	1
CPU Characteristics:	Quad-Core Xeon E5420 (Harpertown), 1333MHz FSB
CPU MHz:	2500
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	12 MB I+D on chip per chip, 6 MB shared / 2 cores
L3 Cache:	None
Other Cache:	None
Memory:	24 GB (12*2GB PC2-5300 FB-DIMMs)
Disk Subsystem:	6 TB RAID 5 8 x 750 GB SATA (Seagate Barracuda 7200 RPM)
Other Hardware:	None
Adapter:	Mellanox 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:	1
Interconnect Type:	InfiniBand

Software	
Adapter:	Mellanox MT25208 InfiniHost III Ex (PCIe x8 Gen1 2.5 GT/s)
Adapter Driver:	OFED-1.3.1
Adapter Firmware:	5.3.0
Operating System:	SUSE Linux Enterprise Server 10 (x86_64) SP2 Kernel 2.6.16.60-0.23.PTF.403865.1-smp
Local File System:	XFS
Shared File System:	NFSv3 IPoIB
System State:	Multi-user, run level 3
Other Software:	SGI ProPack 6 for Linux Service Pack 1

Interconnect Description: InfiniBand (MPI)

Hardware	
Vendor:	Mellanox Technologies
Model:	MT26418 ConnectX
Switch Model:	Mellanox MT47396 InfiniScale III

Software

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Interconnect Description: InfiniBand (MPI)

Number of Switches:	2
Number of Ports:	24
Data Rate:	InfiniBand 4x DDR
Firmware:	2020001
Topology:	HyperCube (dim=1) of two 24-port switches connected by eight IB links
Primary Use:	MPI traffic

Interconnect Description: InfiniBand (I/O)

	Hardware	Software
Vendor:	Mellanox Technologies	
Model:	MT26418 ConnectX	
Switch Model:	Mellanox MT47396 InfiniScale-III	
Number of Switches:	2	
Number of Ports:	24	
Data Rate:	InfiniBand 4x DDR	
Firmware:	2020001	
Topology:	HyperCube (dim=1) of two 24-port switches connected by eight IB links	
Primary Use:	I/O traffic	

Submit Notes

The config file option 'submit' was used.

Base Compiler Invocation

C benchmarks:
mpicc -ccl icc

C++ benchmarks:
126.lammps:mpicc -ccl icpc

Fortran benchmarks:
mpif77 -ccl ifort

Benchmarks using both Fortran and C:
mpicc -ccl icc mpif77 -ccl ifort



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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

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

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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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