



SPEC® MPIM2007 Result

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SGI

SGI Altix XE 1300
(Intel Xeon X5272, 3.4 GHz)

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = NC

MPI2007 license: 4

Test sponsor: SGI

Tested by: SGI

Test date: Jun-2008

Hardware Availability: Feb-2008

Software Availability: Apr-2008

Ranks
104.milc
107.leslie3d
113.GemsFDTD
115.fds4
121.pop2
122.tachyon
126.lammps
127.wrf2
128.GAPgeofem
129.tera_tf
130.socorro
132.zeusmp2
137.lu

Results Table

Benchmark	Base						Peak							
	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
104.milc	64	NC	NC	NC	NC									
107.leslie3d	64	NC	NC	NC	NC									
113.GemsFDTD	64	NC	NC	NC	NC									
115.fds4	64	NC	NC	NC	NC									
121.pop2	64	NC	NC	NC	NC									
122.tachyon	64	NC	NC	NC	NC									
126.lammps	64	NC	NC	NC	NC									
127.wrf2	64	NC	NC	NC	NC									
128.GAPgeofem	64	NC	NC	NC	NC									

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
129.tera_tf	64	NC	NC	NC	NC									
130.socorro	64	NC	NC	NC	NC									
132.zeusmp2	64	NC	NC	NC	NC									
137.lu	64	NC	NC	NC	NC									

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

Hardware Summary

Type of System: Homogeneous
 Compute Node: SGI Altix XE 320 Compute Node
 Interconnects: InfiniBand (MPI)
 InfiniBand (I/O)
 File Server Node: SGI InfiniteStorage NAS/SAN
 Total Compute Nodes: 16
 Total Chips: 32
 Total Cores: 64
 Total Threads: 64
 Total Memory: 256 GB
 Base Ranks Run: 64
 Minimum Peak Ranks: --
 Maximum Peak Ranks: --

Software Summary

Compiler: Intel C Compiler for Linux
 Version 10.1, Build 20080312
 C++ Compiler: Intel C++ Compiler for Linux
 Version 10.1, Build 20080312
 Fortran Compiler: Intel Fortran Compiler for Linux
 Version 10.1, Build 20080312
 Base Pointers: 64-bit
 Peak Pointers: 64-bit
 MPI Library: Intel MPI 3.1.038
 Other MPI Info: OFED 1.3
 Pre-processors: None
 Other Software: None

Node Description: SGI Altix XE 320 Compute Node

Hardware

Number of nodes: 16
 Uses of the node: compute
 Vendor: SGI
 Model: SGI Altix XE 320 (Intel Xeon X5272, 3.4 GHz)
 CPU Name: Intel Xeon X5272
 CPU(s) orderable: 1-2 chips
 Chips enabled: 4
 Cores enabled: 4
 Cores per chip: 2
 Threads per core: 1
 CPU Characteristics: Dual Core, 3.4 GHz
 CPU MHz: 3392
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 6 MB I+D on chip per chip
 L3 Cache: None
 Other Cache: None
 Memory: 16 GB (8*2GB PC2-6400 CL5-5-5 FB-DIMMs)
 Disk Subsystem: None
 Other Hardware: None
 Adapter: Mellanox MT25204 InfiniHost III Lx IB DDR
 (PCIe x8 Gen1 2.5 GT/s)

Software

Adapter: Mellanox MT25204 InfiniHost III Lx IB DDR
 (PCIe x8 Gen1 2.5 GT/s)
 Adapter Driver: OFED-1.3
 Adapter Firmware: 1.2.0
 Operating System: SUSE Linux Enterprise Server 10 (x86_64) SP1
 Kernel 2.6.16.46-0.12-smp
 Local File System: NFSv3
 Shared File System: NFSv3 IPoIB
 System State: Multi-user, run level 3
 Other Software: SGI ProPack 5 for Linux Service Pack 5

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Hardware Availability: Feb-2008
Software Availability: Apr-2008

Node Description: SGI Altix XE 320 Compute Node

Number of Adapters: 1
Slot Type: PCIe x8 Gen1
Data Rate: InfiniBand 4x DDR
Ports Used: 1
Interconnect Type: InfiniBand

Node Description: SGI InfiniteStorage NFS/SAN

Hardware

Number of nodes: 1
Uses of the node: fileserver
Vendor: SGI
Model: SGI Altix 450 Density System (Itanium 2 Processor 9030 1.6GHz/8M)
CPU Name: Dual-Core Intel Itanium 2 930
CPU(s) orderable: 1-38 chips
Chips enabled: 2
Cores enabled: 4
Cores per chip: 2
Threads per core: 1
CPU Characteristics: 533 MHz FSB
CPU MHz: 1594
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*2GB DDR2-400 DIMMS)
Disk Subsystem: 9.3 TB (45*200GB SATA) 64 x 146 GB FibreChannel (Seagate Cheatah 15000 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 Driver: Mellanox MT25208 InfiniHost III Ex (PCIe x8 Gen1 2.5 GT/s)
Adapter Firmware: OFED-1.3
Adapter Firmware: 5.3.0
Operating System: SUSE Linux Enterprise Server 10 (ia64) SP1 Kernel 2.6.16.54-0.2.5-default
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: Voltaire
Model: MT25204 InfiniHost III Lx
Switch Model: Voltaire ISR 9024D-M

Software

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Software Availability: Apr-2008

Interconnect Description: InfiniBand (MPI)

Number of Switches: 1
Number of Ports: 24
Data Rate: InfiniBand 4x DDR
Firmware: 3.4.5
Topology: Single switch
Primary Use: MPI traffic

Interconnect Description: InfiniBand (I/O)

	Hardware	Software
Vendor:	Voltaire	
Model:	MT25204 InfiniHost III Lx	
Switch Model:	Voltaire ISR 9024D-M	
Number of Switches:	1	
Number of Ports:	24	
Data Rate:	InfiniBand 4x DDR	
Firmware:	3.4.5	
Topology:	Single switch	
Primary Use:	I/O traffic	

General Notes

Required alternate sources:
129.tera_tf: fi buffer

Base Compiler Invocation

C benchmarks:
mpicc

C++ benchmarks:
126.lammps: mpiicc

Fortran benchmarks:
mpiifort

Benchmarks using both Fortran and C:
mpiicc mpiifort



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Base Portability Flags

121.pop2: -DSPEC_MPI_CASE_FLAG
126.lammps: -DMPICH_IGNORE_CXX_SEEK
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 file that was used to format this result can be browsed at
http://www.spec.org/mpi2007/flags/EM64T_Intel101_flags.20080618.html

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