SPEC® MPIM2007 Result

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SGI

SGI Altix ICE 8200EX
(Intel Xeon X5472, 3.00 GHz)

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = NC

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

Test date: May-2008
Hardware Availability: Mar-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	

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Results Table

Benchmark	Base							Peak						
	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
104.milc	32	NC	NC	NC	NC									
107.leslie3d	32	NC	NC	NC	NC									
113.GemsFDTD	32	NC	NC	NC	NC									
115.fds4	32	NC	NC	NC	NC									
121.pop2	32	NC	NC	NC	NC									
122.tachyon	32	NC	NC	NC	NC									
126.lammps	32	NC	NC	NC	NC									
127.wrf2	32	NC	NC	NC	NC									
128.GAPgeofem	32	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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Test date: May-2008
Hardware Availability: Mar-2008
Software Availability: Apr-2008

Results Table (Continued)

Benchmark	Base							Peak						
	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
129.tera_tf	32	NC	NC	NC	NC									
130.socorro	32	NC	NC	NC	NC									
132.zeusmp2	32	NC	NC	NC	NC									
137.lu	32	NC	NC	NC	NC									

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 NAS/SAN
Total Compute Nodes:	4
Total Chips:	8
Total Cores:	32
Total Threads:	32
Total Memory:	64 GB
Base Ranks Run:	32
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 ICE 8200EX Compute Node

Hardware

Number of nodes:	4
Uses of the node:	compute
Vendor:	SGI
Model:	SGI Altix ICE 8200EX (Intel Xeon X5472, 3.00 GHz)
CPU Name:	Intel Xeon X5472
CPU(s) orderable:	1-2 chips
Chips enabled:	2
Cores enabled:	8
Cores per chip:	4
Threads per core:	1
CPU Characteristics:	Quad Core, 3.0GHz
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:	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
Adapter Firmware:	2.3.0
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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Test date: May-2008
Hardware Availability: Mar-2008
Software Availability: Apr-2008

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 NAS/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 [illegible]9030
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:	24 GB (6*4GB [illegible]R2-400 DIMMS)
Disk Subsystem:	16 TB RA[illegible]5 32 x 500 GB SATA (Seagate Barracuda 7200 rpm)
Other Hardware:	N[illegible]
Adapter:	Mellan[illegible] 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:	5.2.0
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:	Mellanox Technologies
Model:	MT26418 ConnectX
Switch Model:	Mellanox MT47396 InfiniScale III
Number of Switches:	32

Software

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Test date: May-2008
Hardware Availability: Mar-2008
Software Availability: Apr-2008

Interconnect Description: InfiniBand (MPI)

Number of Ports:	24
Data Rate:	InfiniBand 4x DDR
Firmware:	2020001
Topology:	Hypercube
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:	32
Number of Ports:	24
Data Rate:	InfiniBand 4x DDR
Firmware:	2020001
Topology:	Hypercube
Primary Use:	I/O traffic

Software

General Notes

```
Required alternate sources:
   129.tera_tf: fixbuffe
```

Base Compiler Invocation

C benchmarks:
mpiicc

C++ benchmarks:
mpiicpc

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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