SPEC® MPIM2007 Result

SGI

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

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 =   NC

MPI2007 license: 4	**Test date:** May-2008
Test sponsor: SGI	**Hardware Availability:** Mar-2008
Tested by: SGI	**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	Ranks	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Peak Ranks	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio
104.milc	128	NC	NC	NC	NC									
107.leslie3d	128	NC	NC	NC	NC									
113.GemsFDTD	128	NC	NC	NC	NC									
115.fds4	128	NC	NC	NC	NC									
121.pop2	128	NC	NC	NC	NC									
122.tachyon	128	NC	NC	NC	NC									
126.lammps	128	NC	NC	NC	NC									
127.wrf2	128	NC	NC	NC	NC									
128.GAPgeofem	128	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	Ranks	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Peak Ranks	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio
129.tera_tf	128	NC	NC	NC	NC									
130.socorro	128	NC	NC	NC	NC									
132.zeusmp2	128	NC	NC	NC	NC									
137.lu	128	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:	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 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:	16
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)

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

SPEC MPIM2007 Result

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(Intel Xeon X5472, 3.00 GHz)

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MPI2007 license: 4		**Test date:**	May-2008
Test sponsor: SGI		**Hardware Availability:**	Mar-2008
Tested by: SGI		**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 2 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 DDR2-400 DIMMS)
Disk Subsystem:	16 TB RAID5 32 x 500 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:	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

Continued on next page

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Test sponsor: SGI		**Hardware Availability:**	Mar-2008
Tested by: SGI		**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: fixbuff
```

Base Compiler Invocation

```
C benchmarks:
     mpiicc
```

```
C++ benchmarks:
             mpiicpc
```

```
Fortran benchmarks:
     mpiifort
```

```
Benchmarks using both Fortran and C:
     mpiicc mpiifort
```

Non-Compliant (watermark)

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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

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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