SPEC® MPIM2007 Result

Intel Corporation
Endeavor

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = NC

MPI2007 license: 13
Test sponsor: Intel Corporation
Tested by: Grigory Zagorodnev

Test date: Jan-2008
Hardware Availability: Dec-2007
Software Availability: Dec-2007

SPEC has determined that this result was not in compliance with the SPEC MPI2007 run and reporting rules. Specifically, the result did not meet the requirement for baseline optimization flags to not use assertion flags (the flag -fno-alias is a violation of this rule). The result was found to be performance neutral compared to runs without -fno-alias. Replacement results can be found at http://www.spec.org/mpi2007/results/res2008q4/mpi2007-20080922-00066.html

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	NC	NC							
107.leslie3d	64	NC	NC	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
113.GemsFDTD	64	NC	NC	NC	NC	NC	NC							
115.fds4	64	NC	NC	NC	NC	NC	NC							
121.pop2	64	NC	NC	NC	NC	NC	NC							
122.tachyon	64	NC	NC	NC	NC	NC	NC							
126.lammps	64	NC	NC	NC	NC	NC	NC							
127.wrf2	64	NC	NC	NC	NC	NC	NC							
128.GAPgeofem	64	NC	NC	NC	NC	NC	NC							
129.tera_tf	64	NC	NC	NC	NC	NC	NC							
130.socorro	64	NC	NC	NC	NC	NC	NC							
132.zeusmp2	64	NC	NC	NC	NC	NC	NC							
137.lu	64	NC	NC	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:	Endeavor Node
Interconnects:	IB Switch Gigabit Ethernet
File Server Node:	Panasas Fileserver
Total Compute Nodes:	8
Total Chips:	16
Total Cores:	64
Total Threads:	64
Total Memory:	128 GB
Base Ranks Run:	64
Minimum Peak Ranks:	--
Maximum Peak Ranks:	--

Software Summary

C Compiler:	Intel C++ Compiler 10.1 for Linux (10.1.004)
C++ Compiler:	Intel C++ Compiler 10.1 for Linux (10.1.004)
Fortran Compiler:	Intel Fortran Compiler 10.1 for Linux (10.1.004)
Base Pointers:	64-bit
Peak Pointers:	64-bit
MPI Library:	Intel MPI Library 3.1 for Linux (3.1.020)
Other MPI Info:	None
Pre-processors:	No
Other Software:	None

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Node Description: Endeavor Node

Hardware

Number of nodes:	8
Uses of the node:	compute
Vendor:	Intel
Model:	SR1560SF
CPU Name:	Intel Xeon CPU E5462
CPU(s) orderable:	1-2 chips
Chips enabled:	2
Cores enabled:	8
Cores per chip:	4
Threads per core:	1
CPU Characteristics:	1600MHz FSB
CPU MHz:	2800
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 (FBDIMM 16x1-GB 667 MHz)
Disk Subsystem:	Seagate Barracuda ES 250 GB ST3250620NS
Other Hardware:	None
Adapter:	Intel (ESB2) 82563EB Dual-Port Gigabit Ethernet Controller
Number of Adapters:	1
Slot Type:	PCIe x8
Data Rate:	1Gbps Ethernet
Ports Used:	1
Interconnect Type:	Ethernet
Adapter:	Mellanox MHGH28-XTC IB DDR (PCIe x8 Gen1 2.5 GT/s)
Number of Adapters:	1
Slot Type:	PCIe x16 Gen2
Data Rate:	InfiniBand 4x DDR
Ports Used:	1
Interconnect Type:	InfiniBand

Software

Adapter:	Intel (ESB2) 82563EB Dual-Port Gigabit Ethernet Controller
Adapter Driver:	e1000
Adapter Firmware:	N/A
Adapter:	Mellanox MHGH28-XTC IB DDR (PCIe x8 Gen1 2.5 GT/s)
Adapter Driver:	OFED 1.2.5
Adapter Firmware:	2.2
Operating System:	RedHat EL 4 Update 4
Local File System:	Linux/ext3
Shared File System:	DirectFlow
System State:	Multi-User
Other Software:	PBS Pro 8.0

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Node Description: Panasas FileServer

Hardware

Number of nodes:	1
Uses of the node:	fileserver
Vendor:	Panasas
Model:	ActiveStor 3050
CPU Name:	--
CPU(s) orderable:	1-2 chips
Chips enabled:	1
Cores enabled:	1
Cores per chip:	1
Threads per core:	1
CPU Characteristics:	--
CPU MHz:	0
Primary Cache:	None
Secondary Cache:	None
L3 Cache:	None
Other Cache:	None
Memory:	1 MB
Disk Subsystem:	140 disks, [illegible]50GB/disk, [illegible]TB total, 7 Shelves
Other Hardware:	None
Adapter:	
Number of Adapters:	1
Slot Type:	--
Data Rate:	[illegible]Gbps Ethernet
Ports Used:	4
Interconnect Type:	Ethernet

Software

Adapter:	--
Adapter Driver:	--
Adapter Firmware:	N/A
Operating System:	2.3.7.a-195733.1
Local File System:	PanFS
Shared File System:	DirectFlow
System State:	Multi-User
Other Software:	None

Interconnect Description: IB Switch

Hardware

Vendor:	SilverStorm Technologies
Model:	Cisco SFS 7024D
Switch Model:	Cisco SFS 7024D
Number of Switches:	1
Number of Ports:	288

Software

Continued on next page

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Interconnect Description: IB Switch

Data Rate:	InfiniBand 4x DDR
Firmware:	4.1.1.1.2
Topology:	Star
Primary Use:	MPI traffic

Interconnect Description: Gigabit Ethernet

Hardware

Vendor:	Cisco
Model:	Cisco Catalyst 4510
Switch Model:	Cisco Catalyst 4510
Number of Switches:	1
Number of Ports:	332
Data Rate:	1Gbps Ethernet
Firmware:	N/A
Topology:	Star
Primary Use:	file system traffic

Software

Base Compiler Invocation

C benchmarks:
`mp[illegible]`

C++ benchmarks:

126.lammps: `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`
130.socorro: `-DSPEC_EIGHT_BYTE_LONG`

Base Optimization Flags

C benchmarks:
`-O3 -no-prec-div -fno-alias -xT`

C++ benchmarks:

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

Fortran benchmarks:
`-O3 -no-prec-div -fno-alias -xT`

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

The flags file that was used to format this result can be browsed at
http://www.spec.org/mpi2007/flags/EM64T_Intel101_flags.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/mpi2007/flags/EM64T_Intel101_flags.xml

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Non-Compliant

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

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