



SPEC® MPIM2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

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
be found at <http://www.spec.org/mpi2007/results/res2008q4/mpi2007-20080922->

| Ranks | |
|---------------|--|
| 104.milc | |
| 107.leslie3d | |
| 113.GemsFDTD | |
| 115.fds4 | |
| 121.pop2 | |
| 122.tachyon | |
| 126.lammps | |
| 127.wrf2 | |
| 128.GAPgeofem | |
| 129.tera_tf | |
| 130.socorr | |
| 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 | 32 | NC | NC | NC | NC | NC | NC | | | | | | | | | |
| 107.leslie3d | 32 | 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 | 32 | NC | NC | NC | NC | NC | NC | | | | | | | | | |
| 115.fds4 | 32 | NC | NC | NC | NC | NC | NC | | | | | | | | | |
| 121.pop2 | 32 | NC | NC | NC | NC | NC | NC | | | | | | | | | |
| 122.tachyon | 32 | NC | NC | NC | NC | NC | NC | | | | | | | | | |
| 126.lammps | 32 | NC | NC | NC | NC | NC | NC | | | | | | | | | |
| 127.wrf2 | 32 | NC | NC | NC | NC | NC | NC | | | | | | | | | |
| 128.GAPgeofem | 32 | NC | NC | NC | NC | NC | NC | | | | | | | | | |
| 129.tera_tf | 32 | NC | NC | NC | NC | NC | NC | | | | | | | | | |
| 130.socorro | 32 | NC | NC | NC | NC | NC | NC | | | | | | | | | |
| 132.zeusmp2 | 32 | NC | NC | NC | NC | NC | NC | | | | | | | | | |
| 137.lu | 32 | 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: Home PCs
 Compute Node: Endeavor Node
 Interconnects: IB Switch
 File Server Node: Panasas Fileserver
 Total Compute Nodes: 4
 Total Smps: 8
 Total Cores: 32
 Total Threads: 32
 Total Memory: 64 GB
 Base Ranks Run: 32
 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 | | Software | |
|----------------------|--|---------------------|--|
| Number of nodes: | 4 | Adapter: | Intel (ESB2) 82563EB Dual-Port Gigabit Ethernet Controller |
| Uses of the node: | compute | Adapter Driver: | e1000 |
| Vendor: | Intel | Adapter Firmware: | N/A |
| Model: | SR1560SF | Adapter: | Mellanox MHGH28-XTC IB DDR (PCIe x8 Gen1 2.5 GT/s) |
| CPU Name: | Intel Xeon CPU E5462 | Adapter Driver: | OFED 1.2.5 |
| CPU(s) orderable: | 1-2 chips | Adapter Firmware: | 2.2 |
| Chips enabled: | 2 | Operating System: | RedHat EL 4 Update 4 |
| Cores enabled: | 8 | Local File System: | Linux/ext3 |
| Cores per chip: | 4 | Shared File System: | DirectFlow |
| Threads per core: | 1 | System State: | Multi-User |
| CPU Characteristics: | 1600MHz FSB | Other Software: | PBS Pro 8.0 |
| 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, 12 MB shared / 2 cores | | |
| L3 Cache: | None | | |
| Other Cache: | None | | |
| Memory: | 16 GB (8x2GB DIMM) 6x1-GB 667 MHz) | | |
| Disk Subsystem: | Seagate Barracuda ES.7 15 GB ST3250620NS | | |
| Other Hardware: | None | | |
| Adapter: | Intel (ESB2) 82563EB Dual-Port Gigabit Ethernet Controller | | |
| Number of Adapters: | 1 | | |
| Slot Type: | PCIe x8 | | |
| Data Rate: | 10 Gbps 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 | | |



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Node Description: Panasas File Server

| Hardware | | Software | |
|----------------------|--|---------------------|------------------|
| Number of nodes: | 1 | Adapter: | -- |
| Uses of the node: | fileserver | Adapter Driver: | -- |
| Vendor: | Panasas | Adapter Firmware: | N/A |
| Model: | ActiveStor 3050 | Operating System: | 2.3.7.a-195733.1 |
| CPU Name: | -- | Local File System: | PanFS |
| CPU(s) orderable: | 1-2 chips | Shared File System: | DirectFlow |
| Chips enabled: | 1 | System State: | Multi-User |
| Cores enabled: | 1 | Other Software: | None |
| 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, 50GB/disk, 3TB total, 7 Shelves | | |
| Other Hardware: | None | | |
| Adapter: | | | |
| Number of Adapters: | 1 | | |
| Slot Type: | -- | | |
| Data Rate: | 10Gbps Ethernet | | |
| Ports Used: | | | |
| Interconnect Type: | Ethernet | | |

Interconnect Description: IB Switch

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

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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:

C++ benchmarks:

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

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