



# SPEC® MPIM2007 Result

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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 Driver:	e1000
Uses of the node:	compute	Adapter Firmware:	N/A
Vendor:	Intel	Operating System:	RedHat EL 4 Update 4
Model:	SR1560SF	Local File System:	Linux/ext3
CPU Name:	Intel Xeon CPU E5462	Shared File System:	DirectFlow
CPU(s) orderable:	1-2 chips	System State:	Multi-User
Chips enabled:	2	Other Software:	PBS Pro 8.0
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 / 12 MB shared / 2 cores		
L3 Cache:	None		
Other Cache:	None		
Memory:	16 GB (4x4GB DIMM @ 667 MHz)		
Disk Subsystem:	Seagate Barracuda ES.7 7.2 GB ST3250620NS		
Other Hardware:	None		
Adapter:	Intel (82566) 82566 Dual-Port Gigabit Ethernet Controller		
Number of Adapters:	1		
Slot Type:	PCIe x8		
Data Rate:	10 Gbps Ethernet		
Ports Used:	1		
Interconnect Type:	Ethernet		

## Node Description: Panasas Fileserver

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

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## Node Description: Panasos File Server

### Hardware (Continued)

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, 250GB/disk, 35TB total, 7 Shelves  
Other Hardware: None  
Number of Adapters: 1  
Slot Type: --  
Data Rate: 1Gbps Ethernet  
Ports Used: 4  
Interconnect Type: Ethernet

### Software (Continued)

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

### Software



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## Interconnect Description: Gigabit Ethernet

	Hardware	Software
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	

## Base Compiler Invocation

C benchmarks:  
mpiicc

C++ benchmarks:  
126.lammps mpiicp

Fortran benchmarks:  
mpiifort

with Fortran and C:  
mpiicc mpiifort

## 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



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## 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](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](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](mailto:webmaster@spec.org).

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