



# SPEC® MPIM2007 Result

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## Intel Corporation

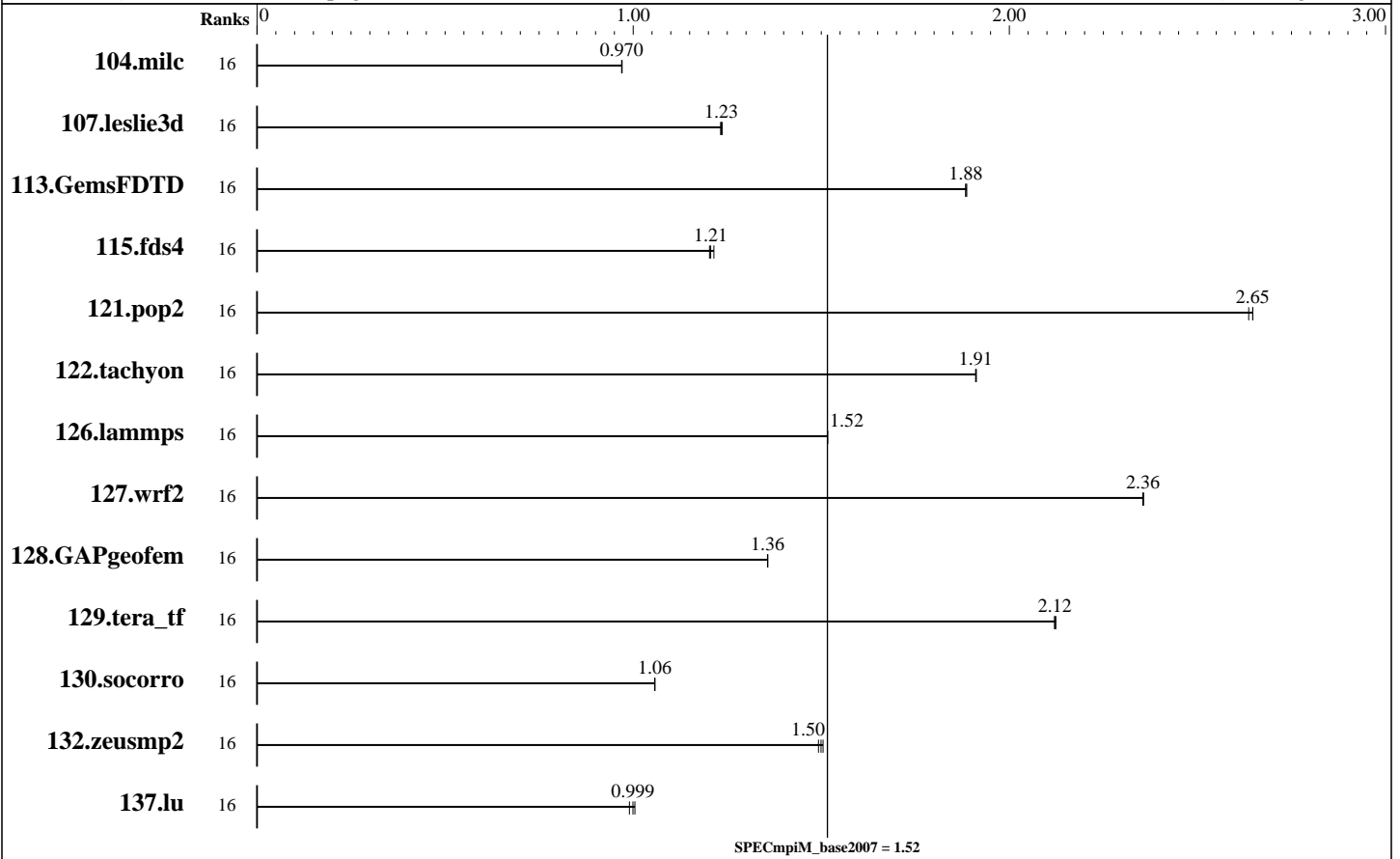
SPECmpiM\_peak2007 = Not Run

## Endeavor (Intel Xeon E5462, 2.80 GHz)

SPECmpiM\_base2007 = 1.52

MPI2007 license: 13  
Test sponsor: Intel Corporation  
Tested by: Pavel Shelepugin

Test date: Sep-2008  
Hardware Availability: Dec-2007  
Software Availability: Aug-2008



## Results Table

Benchmark	Base							Peak						
	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
104.milc	16	<b><u>1614</u></b>	<b><u>0.970</u></b>	1614	0.969	1612	0.971							
107.leslie3d	16	<b><u>4230</u></b>	<b><u>1.23</u></b>	4236	1.23	4221	1.24							
113.GemsFDTD	16	<b><u>3347</u></b>	<b><u>1.88</u></b>	3349	1.88	3343	1.89							
115.fds4	16	1606	1.21	<b><u>1618</u></b>	<b><u>1.21</u></b>	1622	1.20							
121.pop2	16	1566	2.64	<b><u>1560</u></b>	<b><u>2.65</u></b>	1559	2.65							
122.tachyon	16	1464	1.91	<b><u>1464</u></b>	<b><u>1.91</u></b>	1463	1.91							
126.lammps	16	1923	1.52	1922	1.52	<b><u>1922</u></b>	<b><u>1.52</u></b>							
127.wrf2	16	3308	2.36	<b><u>3310</u></b>	<b><u>2.36</u></b>	3311	2.35							
128.GAPgeofem	16	1522	1.36	1521	1.36	<b><u>1521</u></b>	<b><u>1.36</u></b>							
129.tera_tf	16	1306	2.12	1303	2.12	<b><u>1305</u></b>	<b><u>2.12</u></b>							

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		
130.socorro	16	3609	1.06	3610	1.06	<b>3610</b>	<b>1.06</b>									
132.zeusmp2	16	2079	1.49	<b>2070</b>	<b>1.50</b>	2062	1.50									
137.lu	16	3713	0.990	3659	1.00	<b>3678</b>	<b>0.999</b>									

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: 2  
 Total Chips: 4  
 Total Cores: 16  
 Total Threads: 16  
 Total Memory: 32 GB  
 Base Ranks Run: 16  
 Minimum Peak Ranks: --  
 Maximum Peak Ranks: --

#### Software Summary

C Compiler: Intel C++ Compiler 10.1 for Linux (10.1.018)  
 C++ Compiler: Intel C++ Compiler 10.1 for Linux (10.1.018)  
 Fortran Compiler: Intel Fortran Compiler 10.1 for Linux (10.1.018)  
 Base Pointers: 64-bit  
 Peak Pointers: 64-bit  
 MPI Library: Intel MPI Library 3.1 for Linux (3.1.038)  
 Other MPI Info: None  
 Pre-processors: No  
 Other Software: Intel MPI Library 3.1 for Linux Multi-Purpose Daemon (MPD)

### Node Description: Endeavor Node

#### Hardware

Number of nodes: 2  
 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: 1600 MHz 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: PCI-Express x8

#### Software

Adapter: Intel (ESB2) 82563EB Dual-Port Gigabit Ethernet Controller  
 Adapter Driver: e1000  
 Adapter Firmware: None  
 Adapter: Mellanox MHGH28-XTC  
 Adapter Driver: OFED 1.3.1  
 Adapter Firmware: 2.5.0  
 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: Endeavor Node

Data Rate:	1Gbps Ethernet
Ports Used:	1
Interconnect Type:	Ethernet
Adapter:	Mellanox MHGH28-XTC
Number of Adapters:	1
Slot Type:	PCIe x16 Gen2
Data Rate:	InfiniBand 4x DDR
Ports Used:	1
Interconnect Type:	InfiniBand

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

## Interconnect Description: IB Switch

Hardware		Software	
Vendor:	Cisco		
Model:	Cisco SFS 7024D		
Switch Model:	Cisco SFS 7024D		

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Software Availability: Aug-2008

## Interconnect Description: IB Switch

Number of Switches:	1
Number of Ports:	288
Data Rate:	InfiniBand 4x DDR
Firmware:	4.1.1.1.11
Topology:	Single switch
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:	--
Topology:	Star
Primary Use:	Cluster File System

### Software

## General Notes

Required alternate sources:  
 129.tera\_tf: fixbuffer  
 Optional alternate sources:  
 104.milc: calloc  
 113.GemsFDTD: maxprocandstop

## Base Compiler Invocation

C benchmarks:  
mpiicc

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 -xT -ipo -no-prec-div
```

C++ benchmarks:

```
126.lammps: -O3 -xT -ipo -no-prec-div
```

Fortran benchmarks:

```
-O3 -xT -ipo -no-prec-div
```

Benchmarks using both Fortran and C:

```
-O3 -xT -ipo -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](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](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](mailto:webmaster@spec.org).

Tested with SPEC MPI2007 v1.0.

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