



SPEC® MPIM2007 Result

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Intel Corporation

SPECmpiM_peak2007 = Not Run

Endeavor (Intel Xeon E5462, 2.80 GHz)

SPECmpiM_base2007 = 12.1

MPI2007 license: 13

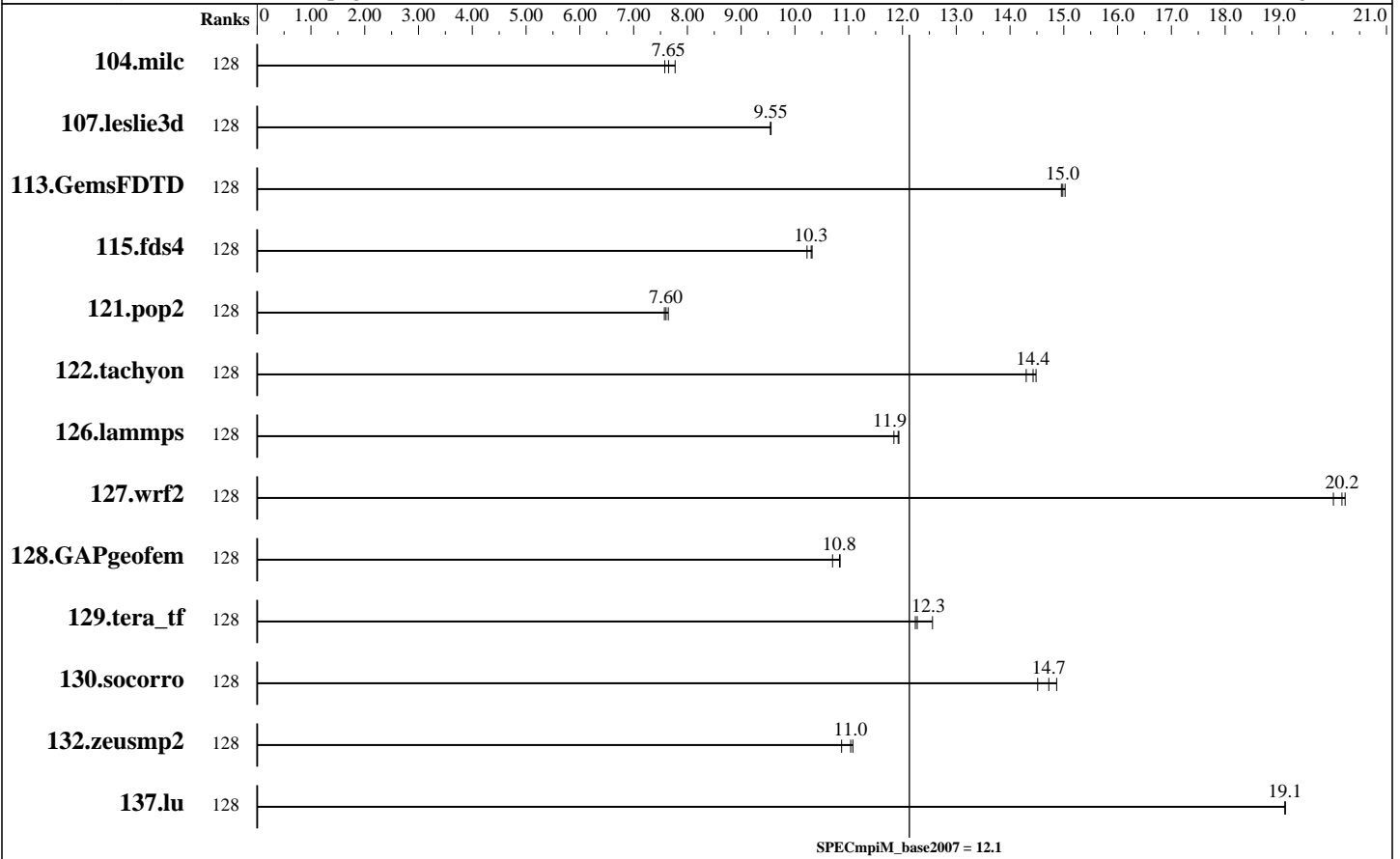
Test date: Sep-2008

Test sponsor: Intel Corporation

Hardware Availability: Dec-2007

Tested by: Pavel Shelepugin

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	128	206	7.58	201	7.77	205	7.65							
107.leslie3d	128	546	9.56	547	9.55	547	9.54							
113.GemsFDTD	128	420	15.0	421	15.0	422	15.0							
115.fds4	128	189	10.3	189	10.3	191	10.2							
121.pop2	128	540	7.64	543	7.60	545	7.57							
122.tachyon	128	196	14.3	194	14.4	193	14.5							
126.lammps	128	246	11.8	245	11.9	244	11.9							
127.wrf2	128	386	20.2	385	20.2	390	20.0							
128.GAPgeofem	128	193	10.7	191	10.8	191	10.8							
129.tera_tf	128	226	12.3	226	12.2	220	12.6							

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	128	257	14.9	263	14.5	<u>259</u>	<u>14.7</u>							
132.zeusmp2	128	280	11.1	286	10.9	<u>281</u>	<u>11.0</u>							
137.lu	128	<u>192</u>	<u>19.1</u>	192	19.1	192	19.1							

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: 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 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: 16
 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
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, 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
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	Software
Vendor:	Cisco
Model:	Cisco SFS 7024D
Switch Model:	Cisco SFS 7024D

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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	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:	--	
Topology:	Star	
Primary Use:	Cluster File System	

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

You can also download the XML flags source by saving the following link:

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.

Tested with SPEC MPI2007 v1.0.

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