SPEC® MPIM2007 Result

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Intel Corporation

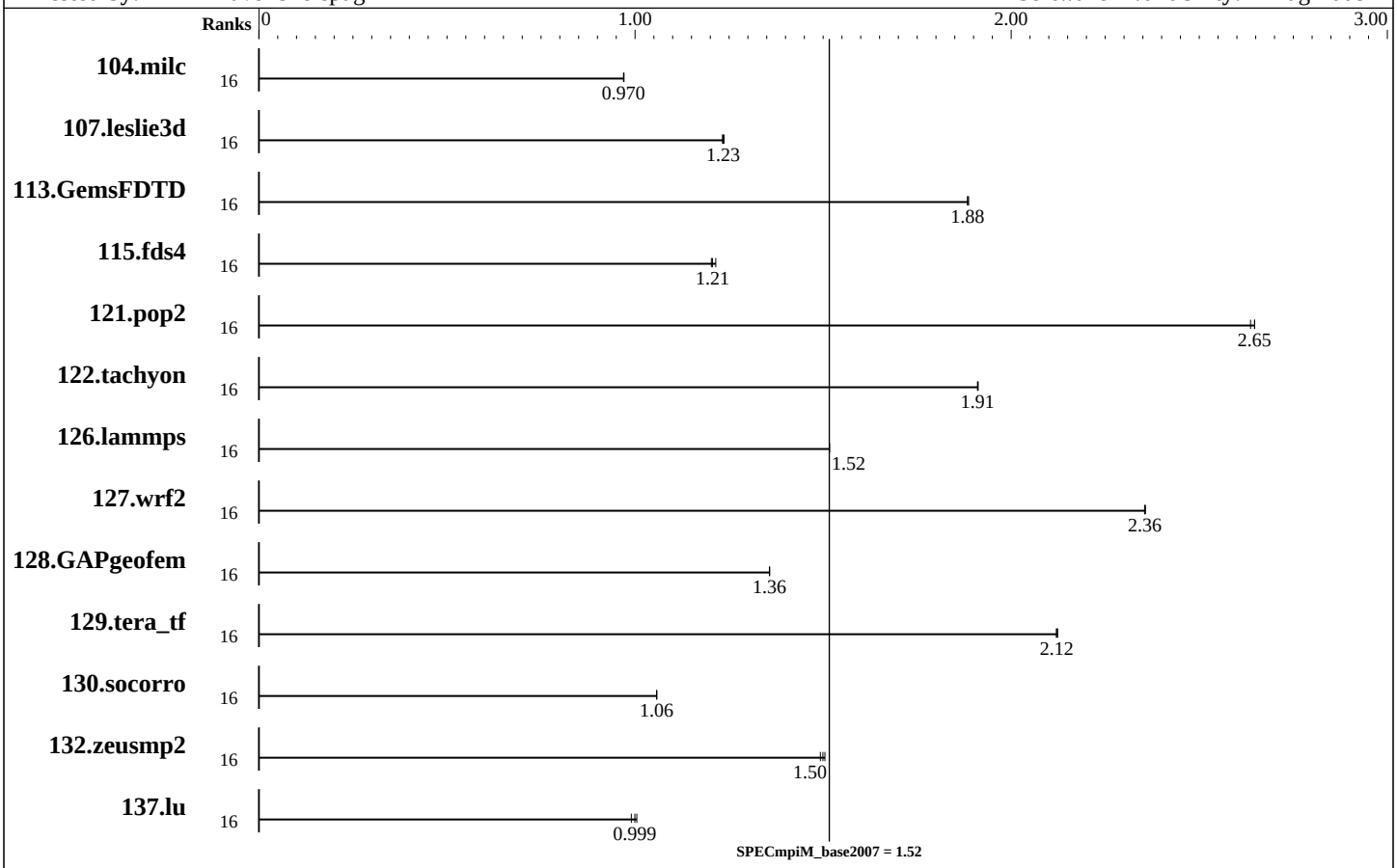
Endeavor (Intel Xeon E5462, 2.80 GHz)

SPECmpiM_peak2007 = Not Run

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

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	**3610**	**1.06**							
132.zeusmp2	16	2079	1.49	**2070**	**1.50**	2062	1.50							
137.lu	16	3713	0.990	3659	1.00	**3678**	**0.999**							

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

Continued on next page

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

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

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:	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	
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`

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.

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