



SPEC® MPIM2007 Result

Copyright 2006-2008 Standard Performance Evaluation Corporation

IBM Corporation

System x3550 M2 (Intel Xeon X5570, 2.93 GHz
SMT on, Turbo on)

SPECmpiM™_peak2007 = Not Run

SPECmpiM_base2007 = 3.73

MPI2007 license: 005

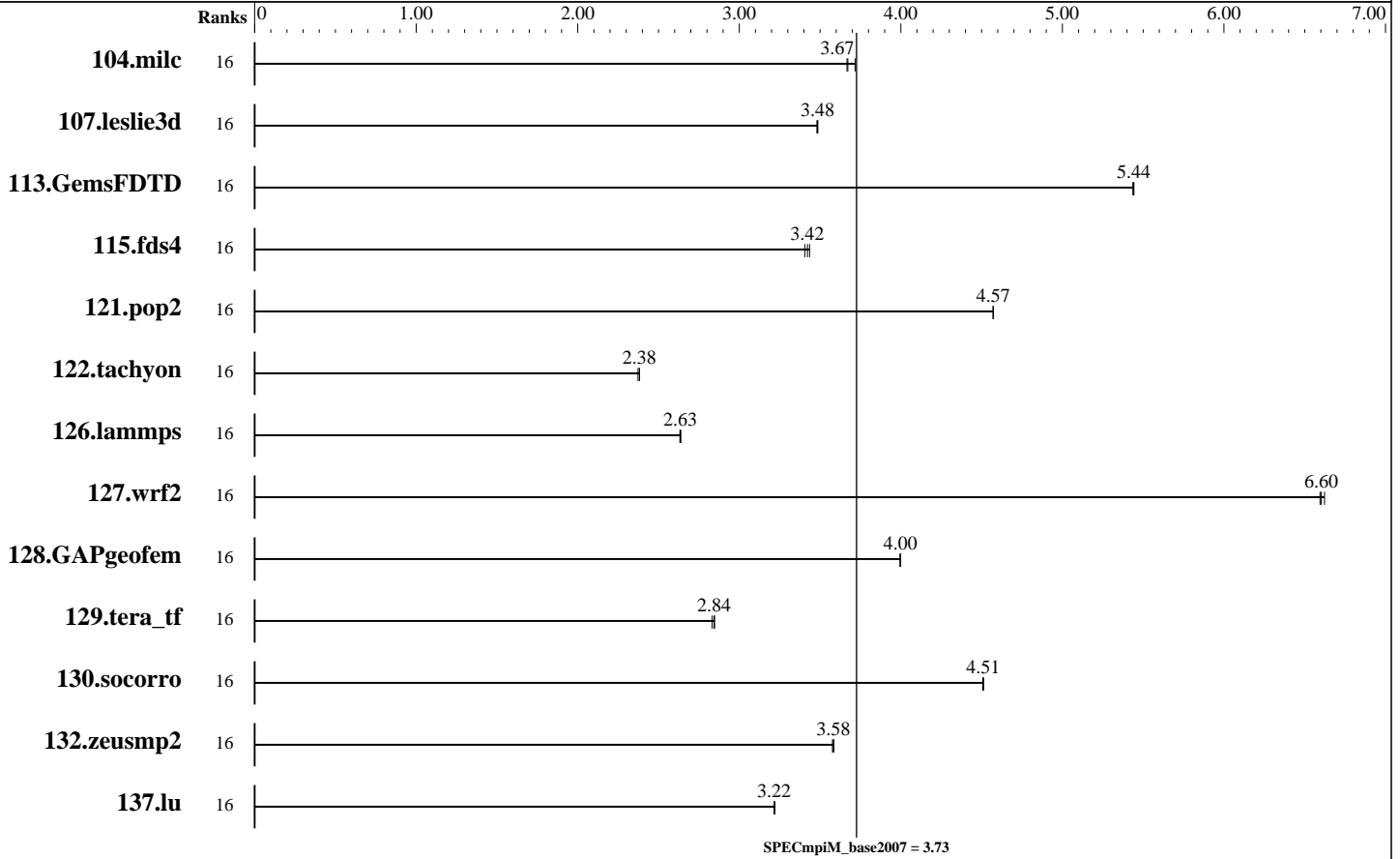
Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Jun-2009

Hardware Availability: Apr-2009

Software Availability: Apr-2009



Results Table

Benchmark	Base								Peak							
	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio		
104.milc	16	427	3.67	426	3.67	421	3.72									
107.leslie3d	16	1500	3.48	1498	3.48	1497	3.49									
113.GemsFDTD	16	1160	5.44	1159	5.44	1159	5.44									
115.fds4	16	568	3.44	570	3.42	573	3.41									
121.pop2	16	903	4.57	903	4.57	903	4.57									
122.tachyon	16	1179	2.37	1174	2.38	1174	2.38									
126.lammps	16	1107	2.63	1107	2.63	1105	2.64									
127.wrf2	16	1181	6.60	1182	6.59	1177	6.62									
128.GAPgeofem	16	517	3.99	516	4.00	517	4.00									
129.tera_tf	16	977	2.83	972	2.85	973	2.84									

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	846	4.51	847	4.51	846	4.51							
132.zeusmp2	16	866	3.58	865	3.59	868	3.58							
137.lu	16	1143	3.22	1141	3.22	1143	3.22							

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: IBM System x3550 M2
 Interconnects: InfiniBand
 Ethernet
 File Server Node: IBM System x346 8840
 Head Node: IBM System x3550 M2
 Total Compute Nodes: 2
 Total Chips: 4
 Total Cores: 16
 Total Threads: 32
 Total Memory: 48 GB
 Base Ranks Run: 16
 Minimum Peak Ranks: --
 Maximum Peak Ranks: --

Software Summary

C Compiler: Intel C++ Compiler 11.0.083 for Linux
 C++ Compiler: Intel C++ Compiler 11.0.083 for Linux
 Fortran Compiler: Intel Fortran Compiler 11.0.083 for Linux
 Base Pointers: 64-bit
 Peak Pointers: 64-bit
 MPI Library: Intel MPI Library 3.2.1.009 for Linux
 Other MPI Info: None
 Pre-processors: No
 Other Software: Intel MPI Library 3.2.1.009 for Linux
 Multi-Purpose Daemon (MPD)

Node Description: IBM System x3550 M2

Hardware

Number of nodes: 2
 Uses of the node: compute, head
 Vendor: IBM Corporation
 Model: 7946-92U
 CPU Name: Intel Xeon X5570
 CPU(s) orderable: 1-2 chips
 Chips enabled: 2
 Cores enabled: 8
 Cores per chip: 4
 Threads per core: 2
 CPU Characteristics: Intel Turbo Boost Technology up to 3.33 GHz, 6.4 GT/s
 QPI, Hyper-Threading enabled
 CPU MHz: 2933
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core
 L3 Cache: 8 MB I+D on chip per chip, 8 MB shared / 4 cores
 Other Cache: None
 Memory: 24 GB (RDIMM 6x4-GB DDR3-1333 MHz)
 Disk Subsystem: 73.4GB 10K-rpm SAS SFF Slim-HS 2.5" HDD
 Other Hardware: None
 Adapter: Integrated Broadcom Corporation NetXtreme II BCM5709 Gigabit Ethernet (rev 20)

Software

Adapter Driver: bnx2 1.7.9-1
 Adapter Firmware: 4.6.4 NCSI 1.0.6
 Operating System: Red Hat EL 5.3, kernel 2.6.18-128.el5
 Local File System: Linux/ext3
 Shared File System: NFS
 System State: Multi-User
 Other Software: None

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Node Description: IBM System x3550 M2

Hardware (Continued)

Number of Adapters: 1
Slot Type: PCIe x16 Gen2
Data Rate: 10/100/1000
Ports Used: 1
Interconnect Type: Ethernet

General Notes

BIOS settings notes:

Intel Hyper-Threading Technology (SMT): Enabled
Intel Turbo Boost Technology (Turbo) : Enabled

RAM configuration notes: Each compute node has
1x4-GB RDIMM on each memory channel.

Node Description: IBM System x346 8840

Hardware

Number of nodes: 1
Uses of the node: fileserver
Vendor: IBM Corporation
Model: 884045Y
CPU Name: Intel Xeon EM64T
CPU(s) orderable: 2 chips
Chips enabled: 2
Cores enabled: 2
Cores per chip: 1
Threads per core: 1
CPU Characteristics: 800 MHz FSB
CPU MHz: 3600
Primary Cache: 32 KB I + 32 KB D on chip per core
Secondary Cache: 1 MB I+D on chip per chip
L3 Cache: None
Other Cache: None
Memory: 4 GB
Disk Subsystem: SCSI
Other Hardware: None
Adapter: Integrated Broadcom Corporation NetXtreme BCM5721
Gigabit Ethernet PCI Express (rev 11)
Number of Adapters: 1
Slot Type: PCI-X
Data Rate: 10/100/1000
Ports Used: 1
Interconnect Type: Ethernet

Software

Adapter Driver: tg3 3.86
Adapter Firmware: 5721-v3.29a, ASFIPMI v6.08
Operating System: Red Hat EL 5.2, kernel 2.6.18-92.el5
Local File System: None
Shared File System: NFS
System State: Multi-User
Other Software: None



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Interconnect Description: InfiniBand

Hardware		Software
Vendor:	Voltaire	
Model:	24 4X DDR port Bundle	
Switch Model:	ISR 9024D-M	
Number of Switches:	1	
Number of Ports:	24	
Data Rate:	4X DDR	
Firmware:	1.0.0	
Topology:	Single Switch	
Primary Use:	MPI traffic	

Interconnect Description: Ethernet

Hardware		Software
Vendor:	Cisco	
Model:	3750G	
Switch Model:	WS-C3750G-24TS-E1U	
Number of Switches:	1	
Number of Ports:	28	
Data Rate:	Full duplex 1000	
Firmware:	12.2 (35SE5)	
Topology:	Single Switch	
Primary Use:	File system traffic	

Submit Notes

The config file option 'submit' was used.
submit = mpiexec -genv -np \$ranks \$command

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

Base Optimization Flags

C benchmarks:

-O3 -xSSE4.2 -no-prec-div

C++ benchmarks:

126.lammps: -O3 -xSSE4.2 -no-prec-div

Fortran benchmarks:

-O3 -xSSE4.2 -no-prec-div

Benchmarks using both Fortran and C:

-O3 -xSSE4.2 -no-prec-div

The flags file that was used to format this result can be browsed at

http://www.spec.org/mpi2007/flags/EM64T_Intel111_flags.20090729.html

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

http://www.spec.org/mpi2007/flags/EM64T_Intel111_flags.20090729.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 v1.1.
Report generated on Fri Dec 18 14:27:56 2009 by SPEC MPI2007 PS/PDF formatter v1144.