



SPEC® MPIM2007 Result

Copyright 2006-2010 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 = 14.0

MPI2007 license: 005

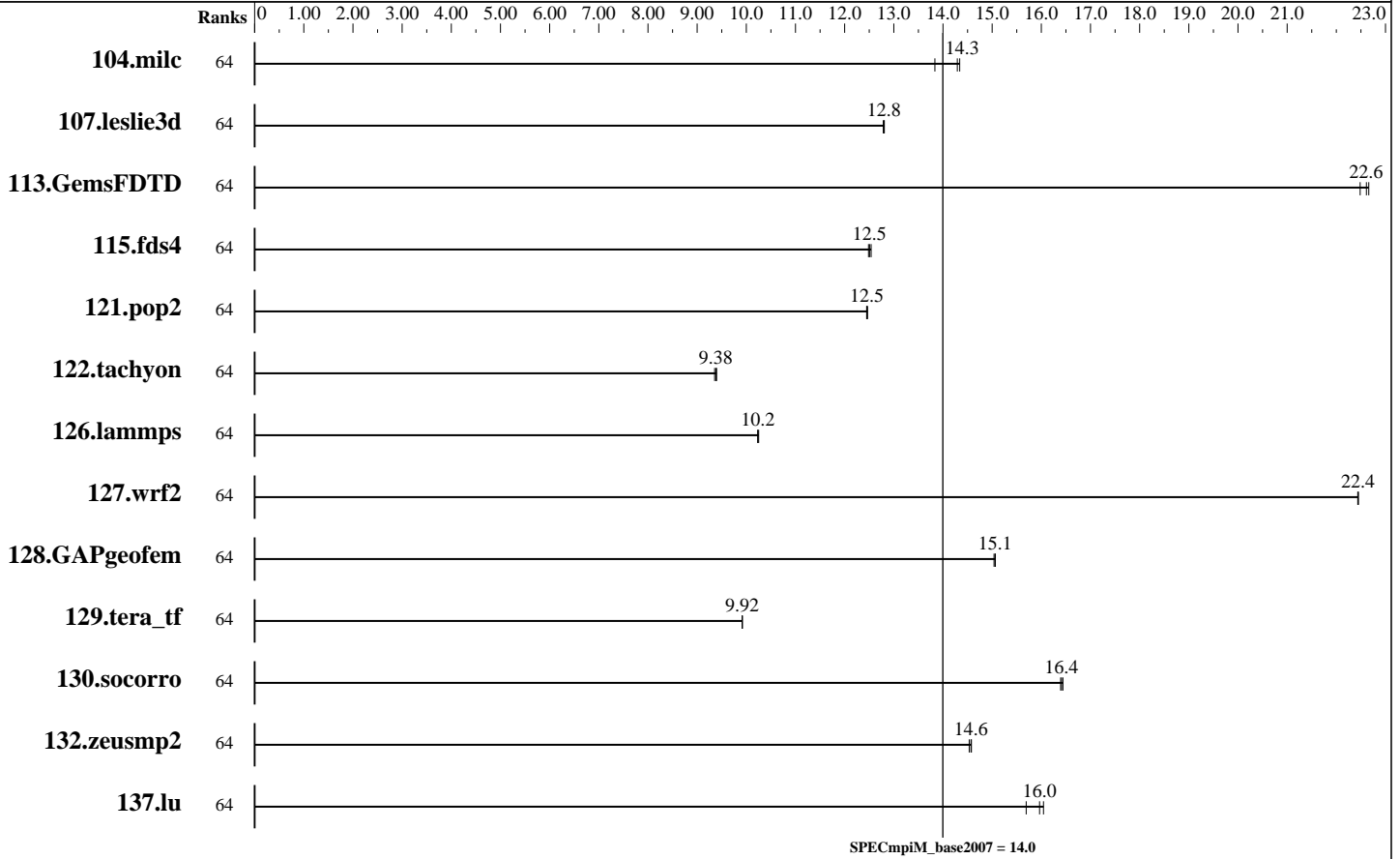
Test sponsor: IBM Corporation

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	64	113	13.8	110	14.3	109	14.3							
107.leslie3d	64	408	12.8	408	12.8	408	12.8							
113.GemsFDTD	64	278	22.7	279	22.6	281	22.5							
115.fds4	64	156	12.5	156	12.5	156	12.5							
121.pop2	64	331	12.5	332	12.4	332	12.5							
122.tachyon	64	298	9.40	299	9.36	298	9.38							
126.lammps	64	284	10.3	285	10.2	285	10.2							
127.wrf2	64	347	22.4	347	22.4	347	22.4							
128.GAPgeofem	64	137	15.1	137	15.0	137	15.1							
129.tera_tf	64	279	9.91	279	9.92	279	9.92							

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	64	233	16.4	232	16.4	<u>233</u>	<u>16.4</u>							
132.zeusmp2	64	213	14.6	214	14.5	<u>213</u>	<u>14.6</u>							
137.lu	64	<u>230</u>	<u>16.0</u>	229	16.0	234	15.7							

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: 8
 Total Chips: 16
 Total Cores: 64
 Total Threads: 128
 Total Memory: 192 GB
 Base Ranks Run: 64
 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: 8
 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: Integrated Broadcom Corporation NetXtreme II BCM5709 Gigabit Ethernet (rev 20)
 Adapter Driver: bnx2 1.7.9-1
 Adapter Firmware: 4.6.4 NCSI 1.0.6
 Adapter: Mellanox ConnectX
 Adapter Driver: OFED 1.4-20090301-0600
 Adapter Firmware: 2.6.000
 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

Number of Adapters:	1
Slot Type:	PCIe x16 Gen2
Data Rate:	10/100/1000
Ports Used:	1
Interconnect Type:	Ethernet
Adapter:	Mellanox ConnectX
Number of Adapters:	1
Slot Type:	PCIe x16 Gen2
Data Rate:	InfiniBand 4x DDR
Ports Used:	1
Interconnect Type:	InfiniBand

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

Software	
Adapter:	Integrated Broadcom Corporation NetXtreme BCM5721 Gigabit Ethernet PCI Express (rev 11)
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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Software Availability: Apr-2009

Node Description: IBM System x346 8840

Ports Used: 1
Interconnect Type: Ethernet

Interconnect Description: InfiniBand

Hardware

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

Software

Interconnect Description: Ethernet

Hardware

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

Software

Submit Notes

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

Base Compiler Invocation

C benchmarks:
mpiicc

C++ benchmarks:

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Base Compiler Invocation (Continued)

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.wf2: -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/results/flags/EM64T_Intel111_flags.20100413.00.html

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

http://www.spec.org/mpi2007/results/flags/EM64T_Intel111_flags.20100413.00.xml

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For other inquiries, please contact webmaster@spec.org.

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