



SPEC[®] MPIM2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

IBM Corporation
IBM Power 575

SPECmpiM_peak2007 = 6.57

SPECmpiM_base2007 = 6.57

MPI2007 license: 0005

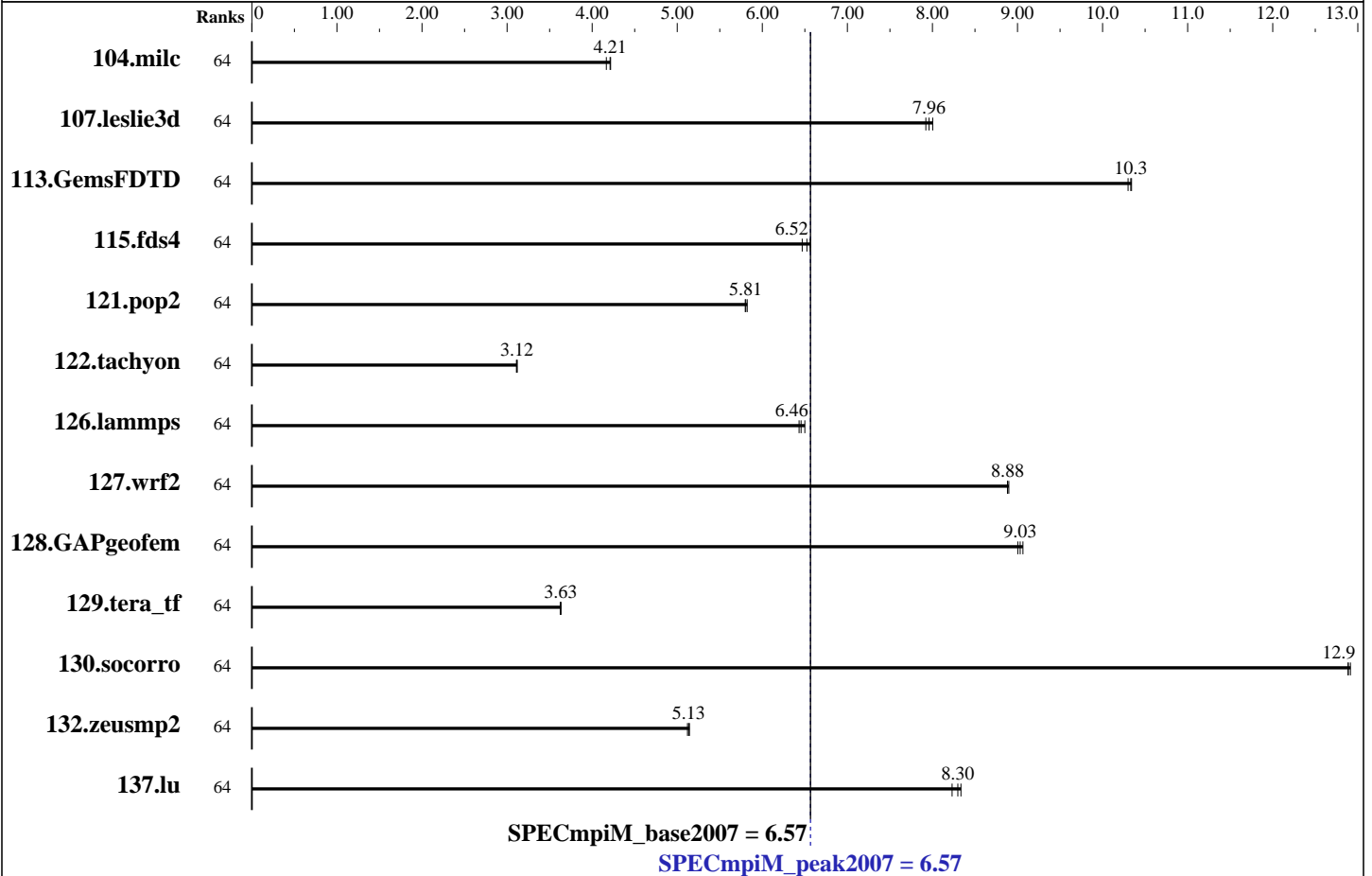
Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Jun-2008

Hardware Availability: May-2008

Software Availability: May-2008



Results Table

Benchmark	Base								Peak							
	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio		
104.milc	64	371	4.22	376	4.17	<u>372</u>	<u>4.21</u>	64	371	4.22	376	4.17	<u>372</u>	<u>4.21</u>		
107.leslie3d	64	652	8.00	659	7.92	<u>656</u>	<u>7.96</u>	64	652	8.00	659	7.92	<u>656</u>	<u>7.96</u>		
113.GemsFDTD	64	610	10.3	<u>611</u>	<u>10.3</u>	612	10.3	64	610	10.3	<u>611</u>	<u>10.3</u>	612	10.3		
115.fds4	64	297	6.56	302	6.47	<u>299</u>	<u>6.52</u>	64	297	6.56	302	6.47	<u>299</u>	<u>6.52</u>		
121.pop2	64	<u>711</u>	<u>5.81</u>	709	5.82	712	5.80	64	<u>711</u>	<u>5.81</u>	709	5.82	712	5.80		
122.tachyon	64	899	3.11	897	3.12	<u>897</u>	<u>3.12</u>	64	899	3.11	897	3.12	<u>897</u>	<u>3.12</u>		
126.lammps	64	448	6.50	<u>452</u>	<u>6.46</u>	453	6.43	64	448	6.50	<u>452</u>	<u>6.46</u>	453	6.43		
127.wrf2	64	878	8.88	876	8.90	<u>878</u>	<u>8.88</u>	64	878	8.88	876	8.90	<u>878</u>	<u>8.88</u>		
128.GAPgeofem	64	<u>229</u>	<u>9.03</u>	228	9.06	229	9.00	64	<u>229</u>	<u>9.03</u>	228	9.06	229	9.00		
129.tera_tf	64	763	3.63	762	3.63	<u>762</u>	<u>3.63</u>	64	763	3.63	762	3.63	<u>762</u>	<u>3.63</u>		

Table continues on next page. Results appear in the order in which they were run. Bold underlined text indicates a median measurement.



SPEC MPIM2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

IBM Corporation
IBM Power 575

SPECmpiM_peak2007 = 6.57

SPECmpiM_base2007 = 6.57

MPI2007 license: 0005

Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Jun-2008

Hardware Availability: May-2008

Software Availability: May-2008

Results Table (Continued)

Benchmark	Base							Peak						
	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
130.socorro	64	296	12.9	296	12.9	296	12.9	64	296	12.9	296	12.9	296	12.9
132.zeusmp2	64	603	5.14	604	5.13	606	5.12	64	603	5.14	604	5.13	606	5.12
137.lu	64	443	8.30	441	8.33	447	8.23	64	443	8.30	441	8.33	447	8.23

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Hardware Summary

Type of System: SMP
 Compute Node: IBM Power 575
 File Server Node: IBM Power 575
 Head Node: IBM Power 575
 Total Compute Nodes: 1
 Total Chips: 16
 Total Cores: 32
 Total Threads: 64
 Total Memory: 128 GB
 Base Ranks Run: 64
 Minimum Peak Ranks: 64
 Maximum Peak Ranks: 64

Software Summary

C Compiler: IBM XL C/C++ Enterprise Edition V9.0
 Updated with the Oct2007 PTF
 C++ Compiler: IBM XL C/C++ Enterprise Edition V9.0
 Updated with the Oct2007 PTF
 Fortran Compiler: IBM XL Fortran Enterprise Edition V11.1
 Updated with the Oct2007 PTF
 Base Pointers: 64-bit
 Peak Pointers: 64-bit
 MPI Library: IBM Parallel Environment for AIX
 V4.3.2.2
 Other MPI Info: --
 Pre-processors: --
 Other Software: None

Node Description: IBM Power 575

Hardware

Number of nodes: 1
 Uses of the node: compute, head, fileserver
 Vendor: IBM Corporation
 Model: IBM Power 575
 CPU Name: POWER6
 CPU(s) orderable: 32 cores
 Chips enabled: 16
 Cores enabled: 32
 Cores per chip: 2
 Threads per core: 2
 CPU Characteristics:
 CPU MHz: 4700
 Primary Cache: 64 KB I + 64 KB D on chip per core
 Secondary Cache: 4 MB I+D on chip per core
 L3 Cache: 32 MB I+D off chip per chip
 Other Cache: None
 Memory: 128 GB (64x2 GB) DDR2 533 MHz
 Disk Subsystem: 1x146 GB SFF SAS, 10K RPM
 Other Hardware: None
 Adapter: 0
 Number of Adapters: 0
 Slot Type: 0
 Data Rate: 0

Software

Adapter: 0
 Adapter Driver: 0
 Adapter Firmware: --
 Operating System: IBM AIX V5.3
 with the 5300-08-02 Technology Level
 Local File System: AIX/JFS2
 Shared File System: NFS over ethernet
 System State: Multi-user
 Other Software: APAR IZ26983
 software update for InfiniBand adapter drivers
 IBM LoadLeveler for AIX
 V3.4.3.2

Continued on next page



SPEC MPIM2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

IBM Corporation
IBM Power 575

SPECmpiM_peak2007 = 6.57

SPECmpiM_base2007 = 6.57

MPI2007 license: 0005

Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Jun-2008

Hardware Availability: May-2008

Software Availability: May-2008

Node Description: IBM Power 575

Ports Used: 0

Interconnect Type: 0

General Notes

```

113.GemsFDTD (base): Applied maxprocandstop src.alt
129.tera_tf (base): Applied fixbuffer src.alt
127.wrf2 (base): Applied fixcalling src.alt
all ulimits set to unlimited
"petaskbind.sh" script used to bind each task to a unique processor
POE Environment variables set before executing benchmarks:
CWD          =/specmpi/mpi2007-1.0
MP_ADAPTER_USE    =shared
MP_EUILIB        =us
MP_EUIDEVICE     =sn_all
MP_SHARED_MEMORY =yes
MP_SINGLE_THREAD =yes
MP_WAIT_MODE     =poll
MP_EAGER_LIMIT   =65536
MP_BUFFER_MEM    =67108864
MP_POLLING_INTERVAL =80000000
MP_USE_BULK_XFER =yes
MP_BULK_MIN_MSG_SIZE=65536
MP_STDINMODE     =none
MP_LABELIO       =no
MP_HOSTFILE      =$CWD/r35.32-1node
Other Environment variables
MEMORY_AFFINITY  =MCM
LDR_CNTRL        =DATAPSIZE=64K@TEXTPSIZE=64K@STACKPSIZE=64K
XLFRTEOTPS      =intrinths=1
submit command uses petaskbind.sh script to bind logical processors to ranks
poe $CWD/petaskbind.sh $command -procs $ranks
The Gigabit ethernet switch is shared among many nodes, not just the cluster used in this benchmark.

```

Base Compiler Invocation

C benchmarks:
/usr/bin/mpicc_r

C++ benchmarks:
126.lammps: /usr/bin/mpCC_r

Fortran benchmarks:
/usr/bin/mpxlf95_r

Continued on next page



SPEC MPIM2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

IBM Corporation
IBM Power 575

SPECmpiM_peak2007 = 6.57

SPECmpiM_base2007 = 6.57

MPI2007 license: 0005
Test sponsor: IBM Corporation
Tested by: IBM Corporation

Test date: Jun-2008
Hardware Availability: May-2008
Software Availability: May-2008

Base Compiler Invocation (Continued)

Benchmarks using both Fortran and C:
/usr/bin/mpicc_r /usr/bin/mpxlf95_r

Base Portability Flags

107.leslie3d: -qfixed
115.fds4: -DSPEC_MPI_LC_NO_TRAILING_UNDERSCORE -qfixed
121.pop2: -DSPEC_MPI_AIX
127.wrf2: -DNOUNDERSCORE -DSPEC_MPI_AIX
130.socorro: -DSPEC_NO_UNDERSCORE -qcpluscmt
132.zeusmp2: -qfixed -DSPEC_SINGLE_UNDERSCORE
137.lu: -qfixed

Base Optimization Flags

C benchmarks:
-O4 -qarch=pwr6 -qtune=pwr6 -q64
C++ benchmarks:
126.lammps: -O4 -qarch=pwr6 -qtune=pwr6 -qstrict -q64
Fortran benchmarks:
-O4 -qarch=pwr6 -qtune=pwr6 -qalias=nostd -q64
Benchmarks using both Fortran and C:
-O4 -qarch=pwr6 -qtune=pwr6 -qalias=nostd -q64

Base Other Flags

C benchmarks:
-w -qsuppress=1500-036 -qipa=noobject -qipa=threads
C++ benchmarks:
126.lammps: -w -qsuppress=1500-036 -qipa=noobject -qipa=threads
Fortran benchmarks:
-w -qsuppress=1500-036 -qsuppress=cmpmsg -qipa=noobject -qipa=threads
Benchmarks using both Fortran and C:
-w -qsuppress=1500-036 -qsuppress=cmpmsg -qipa=noobject -qipa=threads



SPEC MPIM2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

IBM Corporation
IBM Power 575

SPECmpiM_peak2007 = 6.57

SPECmpiM_base2007 = 6.57

MPI2007 license: 0005

Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Jun-2008

Hardware Availability: May-2008

Software Availability: May-2008

Peak Optimization Flags

C benchmarks:

104.milc: basepeak = yes

122.tachyon: basepeak = yes

C++ benchmarks:

126.lammps: basepeak = yes

Fortran benchmarks:

107.leslie3d: basepeak = yes

113.GemsFDTD: basepeak = yes

129.tera_tf: basepeak = yes

137.lu: basepeak = yes

Benchmarks using both Fortran and C:

115.fds4: basepeak = yes

121.pop2: basepeak = yes

127.wrf2: basepeak = yes

128.GAPgeofem: basepeak = yes

130.socorro: basepeak = yes

132.zeusmp2: basepeak = yes

The flags files that were used to format this result can be browsed at

http://www.spec.org/mpi2007/flags/MPI2007_flags.20080828.html

http://www.spec.org/mpi2007/flags/MPI2007_flags.0.20080828.html

http://www.spec.org/mpi2007/flags/MPI2007_flags.1.html

You can also download the XML flags sources by saving the following links:

http://www.spec.org/mpi2007/flags/MPI2007_flags.20080828.xml

http://www.spec.org/mpi2007/flags/MPI2007_flags.0.20080828.xml

http://www.spec.org/mpi2007/flags/MPI2007_flags.1.xml



SPEC MPIM2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

IBM Corporation
IBM Power 575

SPECmpiM_peak2007 = 6.57

SPECmpiM_base2007 = 6.57

MPI2007 license: 0005

Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Jun-2008

Hardware Availability: May-2008

Software Availability: May-2008

SPEC and SPEC MPI are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC MPI2007 v1.0.
Report generated on Tue Jul 22 13:34:45 2014 by SPEC MPI2007 PS/PDF formatter v1463.
Originally published on 27 August 2008.