SPEC® MPIM2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

IBM

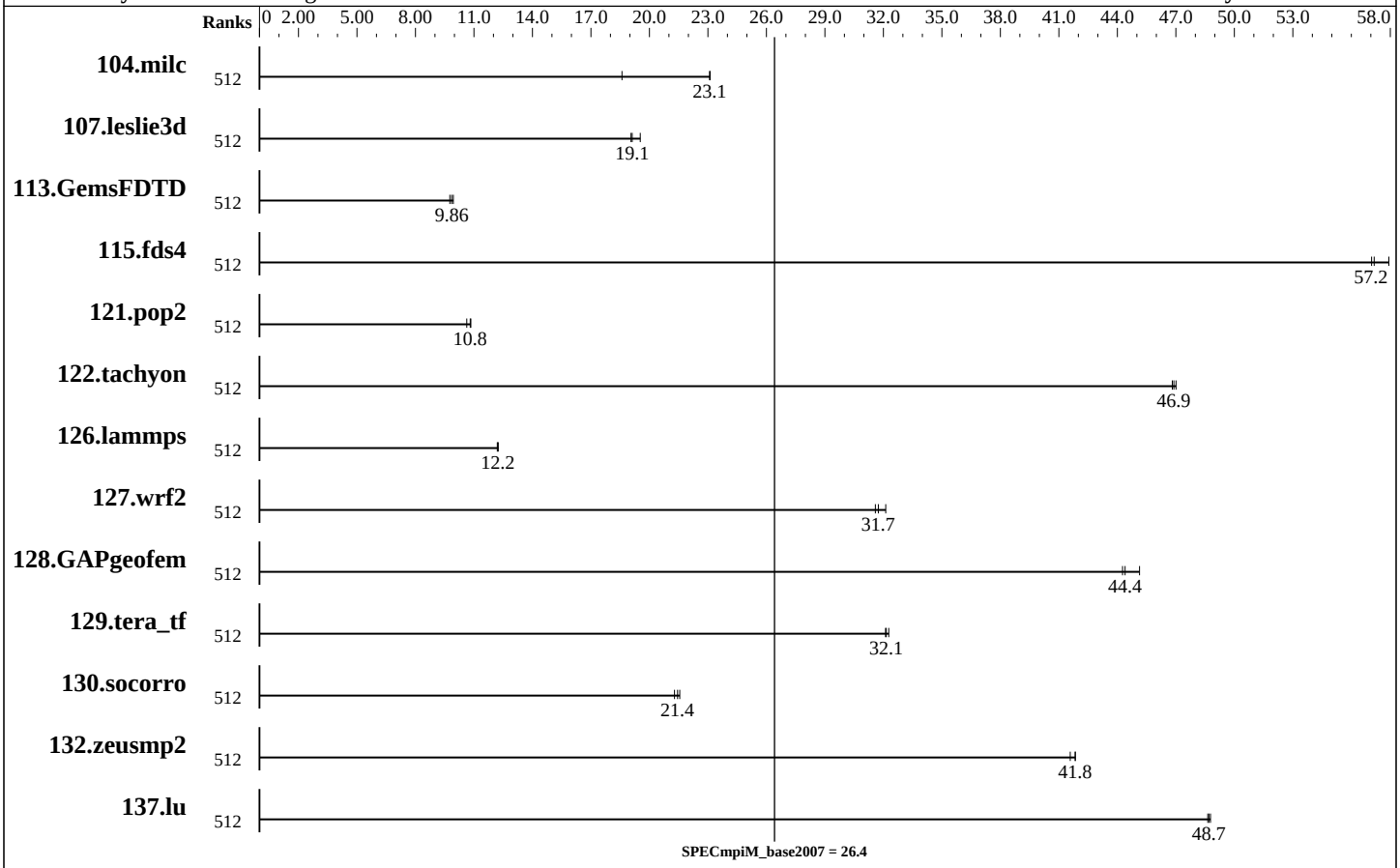
iDP (Intel Xeon L5420, 2.50 GHz)

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = 26.4

MPI2007 license: 3440
Test sponsor: Indiana University
Tested by: Scott Teige

Test date: Dec-2009
Hardware Availability: Dec-2007
Software Availability: Jan-2009



Results Table

Benchmark	Base							Peak						
	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
104.milc	512	84.2	18.6	67.7	23.1	**67.8**	**23.1**							
107.leslie3d	512	**273**	**19.1**	267	19.5	274	19.1							
113.GemsFDTD	512	634	9.94	**640**	**9.86**	646	9.76							
115.fds4	512	**34.1**	**57.2**	33.7	57.9	34.2	57.0							
121.pop2	512	388	10.6	381	10.8	**382**	**10.8**							
122.tachyon	512	**59.6**	**46.9**	59.7	46.8	59.5	47.0							
126.lammps	512	238	12.2	239	12.2	**238**	**12.2**							
127.wrf2	512	**246**	**31.7**	243	32.1	247	31.6							
128.GAPgeofem	512	**46.5**	**44.4**	45.7	45.1	46.6	44.3							
129.tera_tf	512	**86.1**	**32.1**	85.8	32.3	86.2	32.1							

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

iDP (Intel Xeon L5420, 2.50 GHz)

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = 26.4

MPI2007 license: 3440
Test sponsor: Indiana University
Tested by: Scott Teige

Test date: Dec-2009
Hardware Availability: Dec-2007
Software Availability: Jan-2009

Results Table (Continued)

Benchmark	Base							Peak						
	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
130.socorro	512	177	21.6	**178**	**21.4**	179	21.3							
132.zeusmp2	512	**74.2**	**41.8**	74.6	41.6	74.2	41.8							
137.lu	512	75.6	48.6	**75.5**	**48.7**	75.4	48.8							

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:	iDP node
Interconnects:	Gigabit Ethernet IB Switch
Total Compute Nodes:	64
Total Chips:	128
Total Cores:	512
Total Threads:	512
Total Memory:	2 TB
Base Ranks Run:	512
Minimum Peak Ranks:	--
Maximum Peak Ranks:	--

Software Summary

C Compiler:	Intel C++ Compiler 11.1 for Linux (11.1.038)
C++ Compiler:	Intel C++ Compiler 11.1 for Linux (11.1.038)
Fortran Compiler:	Intel Fortran Compiler 11.1 for Linux (11.1.038)
Base Pointers:	64-bit
Peak Pointers:	64-bit
MPI Library:	OpenMPI 1.3.1
Other MPI Info:	None
Pre-processors:	No
Other Software:	OpenMPI 1.3.1

Node Description: iDP node

Hardware

Number of nodes:	64
Uses of the node:	compute
Vendor:	IBM
Model:	System x iDataPlex dx340
CPU Name:	Intel Xeon L5420
CPU(s) orderable:	1-2 chips
Chips enabled:	2
Cores enabled:	8
Cores per chip:	4
Threads per core:	1
CPU Characteristics:	1333 MHz FSB
CPU MHz:	2500
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:	32 GB (FBDIMM 8x4-GB 667 MHz)
Disk Subsystem:	Western Digital 160 GB SATA WD160YS-23SHBO
Other Hardware:	None
Adapter:	Intel Corporation 80003ES2LAN Gigabit Ethernet Controller (Copper) (rev 01)
Number of Adapters:	2
Slot Type:	--
Data Rate:	Gigabit Ethernet

Continued on next page

Software

Adapter:	Intel Corporation 80003ES2LAN Gigabit Ethernet Controller (Copper) (rev 01)
Adapter Driver:	e1000e version 1.0.2-k2
Adapter Firmware:	2.4-0
Adapter:	Mellanox Technologies MT26418 [ConnectX IB DDR, PCIe 2.0 5GT/s] (rev a0)
Adapter Driver:	OFED 1.4.1
Adapter Firmware:	2.5.0
Operating System:	RedHat ELv5.4 (x86_64) 2.6.18-92.1.17.el5_lustre.1.6.7.1custom-perfctr-2
Local File System:	Linux/ext3
Shared File System:	IBM N5500 NAS via NFSv3
System State:	Multi-User
Other Software:	--

SPEC MPIM2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

IBM

iDP (Intel Xeon L5420, 2.50 GHz)

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = 26.4

MPI2007 license: 3440
Test sponsor: Indiana University
Tested by: Scott Teige

Test date: Dec-2009
Hardware Availability: Dec-2007
Software Availability: Jan-2009

Node Description: iDP node

Ports Used:	1
Interconnect Type:	Ethernet
Adapter:	Mellanox Technologies MT26418 [ConnectX IB DDR, PCIe 2.0 5GT/s] (rev a0)
Number of Adapters:	1
Slot Type:	PCIe x8 Gen2
Data Rate:	InfiniBand 4x DDR
Ports Used:	1
Interconnect Type:	InfiniBand

Interconnect Description: Gigabit Ethernet

Hardware	
Vendor:	ProCurve Networking
Model:	HP ProCurve Switch 5406zl Intelligent Edge J8697A
Switch Model:	HP ProCurve Switch 5406zl Intelligent Edge J8697A
Number of Switches:	1
Number of Ports:	144
Data Rate:	1Gbps Ethernet
Firmware:	--
Topology:	Single switch
Primary Use:	Cluster File System

Software

Interconnect Description: IB Switch

Hardware	
Vendor:	Cisco
Model:	Cisco SFS 7024D
Switch Model:	Cisco SFS 7024D
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

Software

Submit Notes

```
The config file option 'submit' was used.
```

Copyright 2006-2010 Standard Performance Evaluation Corporation

IBM

iDP (Intel Xeon L5420, 2.50 GHz)

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = 26.4

MPI2007 license: 3440
Test sponsor: Indiana University
Tested by: Scott Teige

Test date: Dec-2009
Hardware Availability: Dec-2007
Software Availability: Jan-2009

Base Compiler Invocation

C benchmarks:
`mpicc`

C++ benchmarks:

126.lammps: `mpicxx`

Fortran benchmarks:
`mpif90`

Benchmarks using both Fortran and C:
`mpicc mpif90`

Base Portability Flags

121.pop2: `-DSPEC_MPI_CASE_FLAG`
126.lammps: `-DMPICH_IGNORE_CXX_SEEK`
127.wrf2: `-DSPEC_MPI_LINUX -DSPEC_MPI_CASE_FLAG`

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.20100128.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/mpi2007/flags/EM64T_Intel101_flags.20100128.xml`

Copyright 2006-2010 Standard Performance Evaluation Corporation

IBM

iDP (Intel Xeon L5420, 2.50 GHz)

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = 26.4

MPI2007 license:	3440	**Test date:**	Dec-2009
Test sponsor:	Indiana University	**Hardware Availability:**	Dec-2007
Tested by:	Scott Teige	**Software Availability:**	Jan-2009

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 v1.1.
Report generated on Tue Jul 22 13:39:33 2014 by SPEC MPI2007 PS/PDF formatter v1463.
Originally published on 27 January 2010.