



SPEC® MPIM2007 Result

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IBM

SPECmpiM_peak2007 = Not Run

iDP (Intel Xeon L5420, 2.50 GHz)

SPECmpiM_base2007 = 10.3

MPI2007 license: 3440

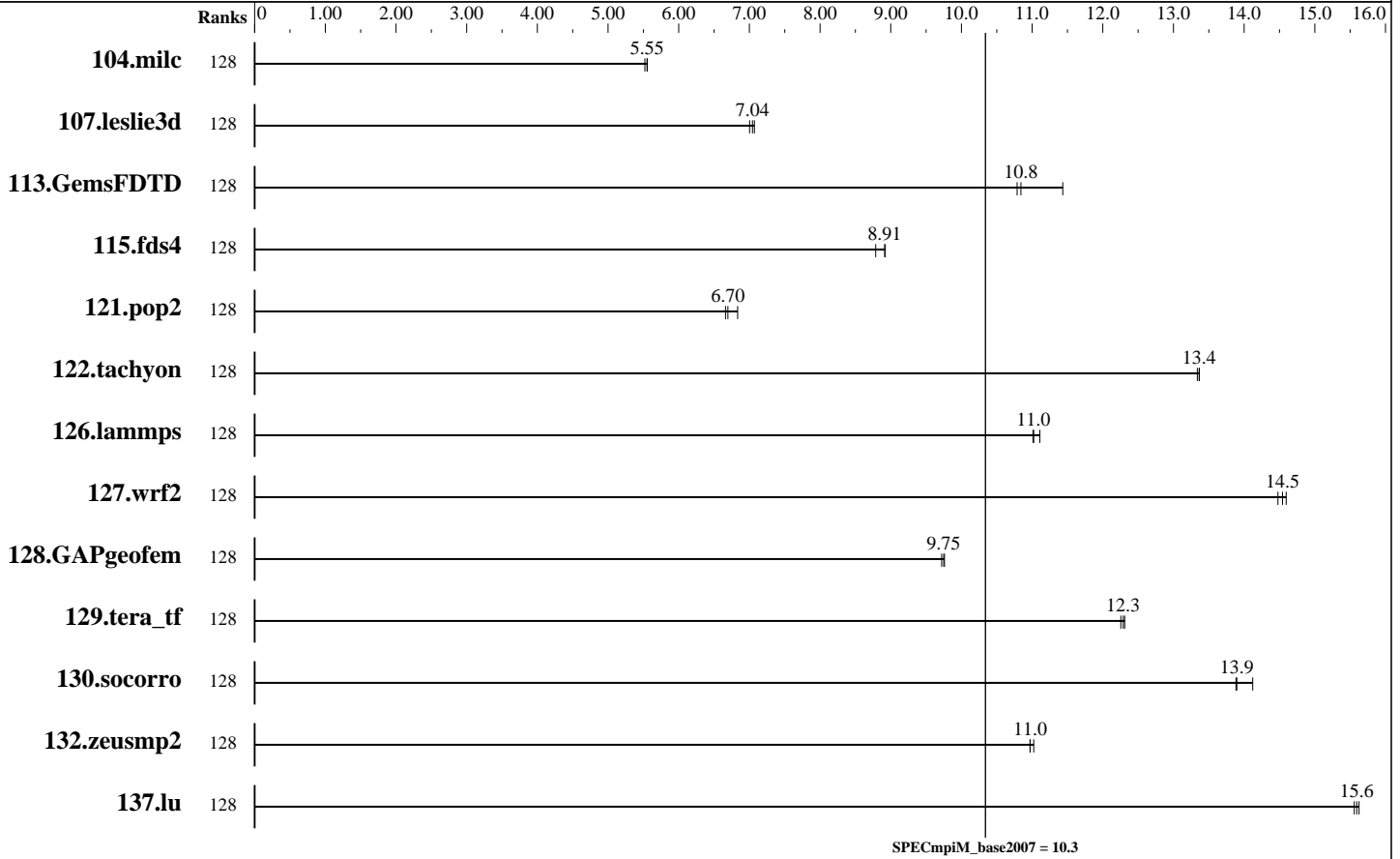
Test sponsor: Indiana University

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	128	282	5.55	283	5.52	282	5.56									
107.leslie3d	128	745	7.00	738	7.07	741	7.04									
113.GemsFDTD	128	582	10.8	552	11.4	585	10.8									
115.fds4	128	222	8.79	219	8.91	219	8.92									
121.pop2	128	604	6.83	620	6.66	617	6.70									
122.tachyon	128	209	13.4	209	13.4	210	13.3									
126.lammps	128	265	11.0	262	11.1	264	11.0									
127.wrf2	128	534	14.6	536	14.5	538	14.5									
128.GAPgeofem	128	212	9.76	212	9.72	212	9.75									
129.tera_tf	128	225	12.3	225	12.3	226	12.3									

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	128	270	14.1	<u>275</u>	<u>13.9</u>	275	13.9									
132.zeusmp2	128	281	11.0	283	11.0	<u>283</u>	<u>11.0</u>									
137.lu	128	<u>236</u>	<u>15.6</u>	236	15.6	235	15.6									

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: 16
Total Chips: 32
Total Cores: 128
Total Threads: 128
Total Memory: 512 GB
Base Ranks Run: 128
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: 16
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

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: --

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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	Software
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	

Interconnect Description: IB Switch

	Hardware	Software
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	

Submit Notes

The config file option 'submit' was used.



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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



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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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