



SPEC[®] MPIM2007 Result

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IBM

SPECmpiM_peak2007 = Not Run

iDP (Intel Xeon L5420, 2.50 GHz)

SPECmpiM_base2007 = 10.7

MPI2007 license: 3440

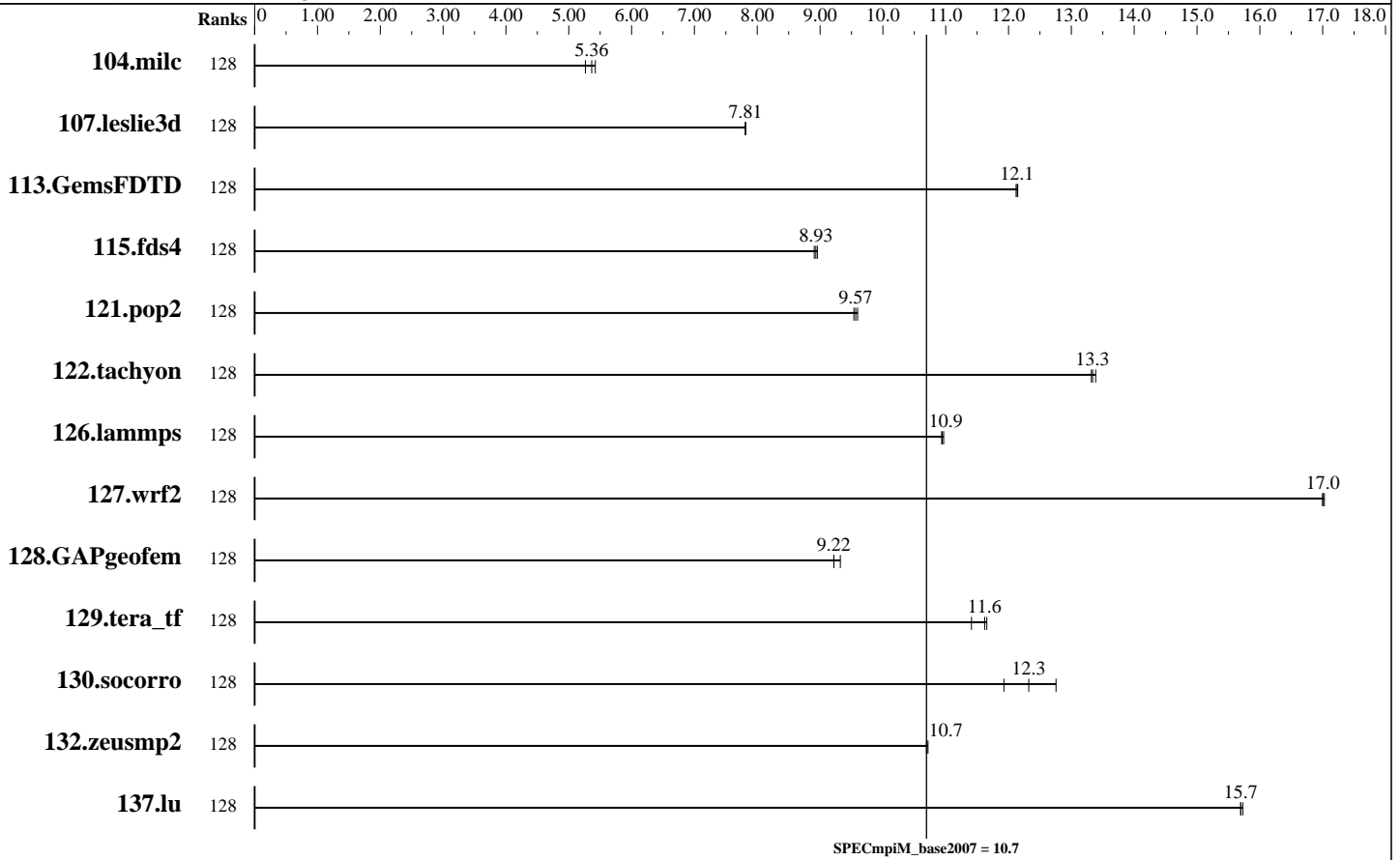
Test sponsor: Indiana university

Tested by: Scott Teige

Test date: Apr-2009

Hardware Availability: Sep-2008

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	297	5.27	<u>292</u>	<u>5.36</u>	289	5.42									
107.leslie3d	128	668	7.81	668	7.81	668	7.82									
113.GemsFDTD	128	519	12.1	520	12.1	520	12.1									
115.fds4	128	218	8.96	218	8.93	219	8.91									
121.pop2	128	430	9.60	433	9.54	431	9.57									
122.tachyon	128	209	13.4	210	13.3	210	13.3									
126.lammps	128	266	11.0	266	10.9	267	10.9									
127.wrf2	128	458	17.0	459	17.0	459	17.0									
128.GAPgeofem	128	224	9.22	224	9.22	222	9.32									
129.tera_tf	128	238	11.7	238	11.6	243	11.4									

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	299	12.8	320	11.9	310	12.3							
132.zeusmp2	128	290	10.7	290	10.7	290	10.7							
137.lu	128	234	15.7	234	15.7	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: 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 10.1 for Linux (10.1.013)
C++ Compiler: Intel C++ Compiler 10.1 for Linux (10.1.013)
Fortran Compiler: Intel Fortran Compiler 10.1 for Linux (10.1.013)
Base Pointers: 64-bit
Peak Pointers: 64-bit
MPI Library: Intel MPI 3.1
Other MPI Info: None
Pre-processors: No
Other Software: OFED 1.4 compat-dapl-1.2.13
Intel MPI Library 3.1 for Linux Multi-Purpose Daemon (MPD)

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: OS default (e1000, v7.3.20-k2-NAPI)
Adapter Firmware: 2.4-0
Adapter: Mellanox Technologies MT26418 [ConnectX IB DDR, PCIe 2.0 5GT/s] (rev a0)
Adapter Driver: OFED 1.3.1
Adapter Firmware: 2.5.0
Operating System: Red Hat EL v4.7
2.6.9-67.0.22.EL_lustre.1.6.7custom
Local File System: Linux/ext3
Shared File System: IBM N5500 NAS via NFSv3
System State: Multi-User
Other Software: lustre 1.6.7 kernel patches

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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:	I/O traffic	

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:
mpiicc

C++ benchmarks:

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.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.html

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

http://www.spec.org/mpi2007/flags/EM64T_Intel101_flags.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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