



# SPEC<sup>®</sup> MPIM2007 Result

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## IBM

SPECmpiM\_peak2007 = Not Run

### iDP (Intel Xeon L5420, 2.50 GHz)

SPECmpiM\_base2007 = 5.32

MPI2007 license: 3440

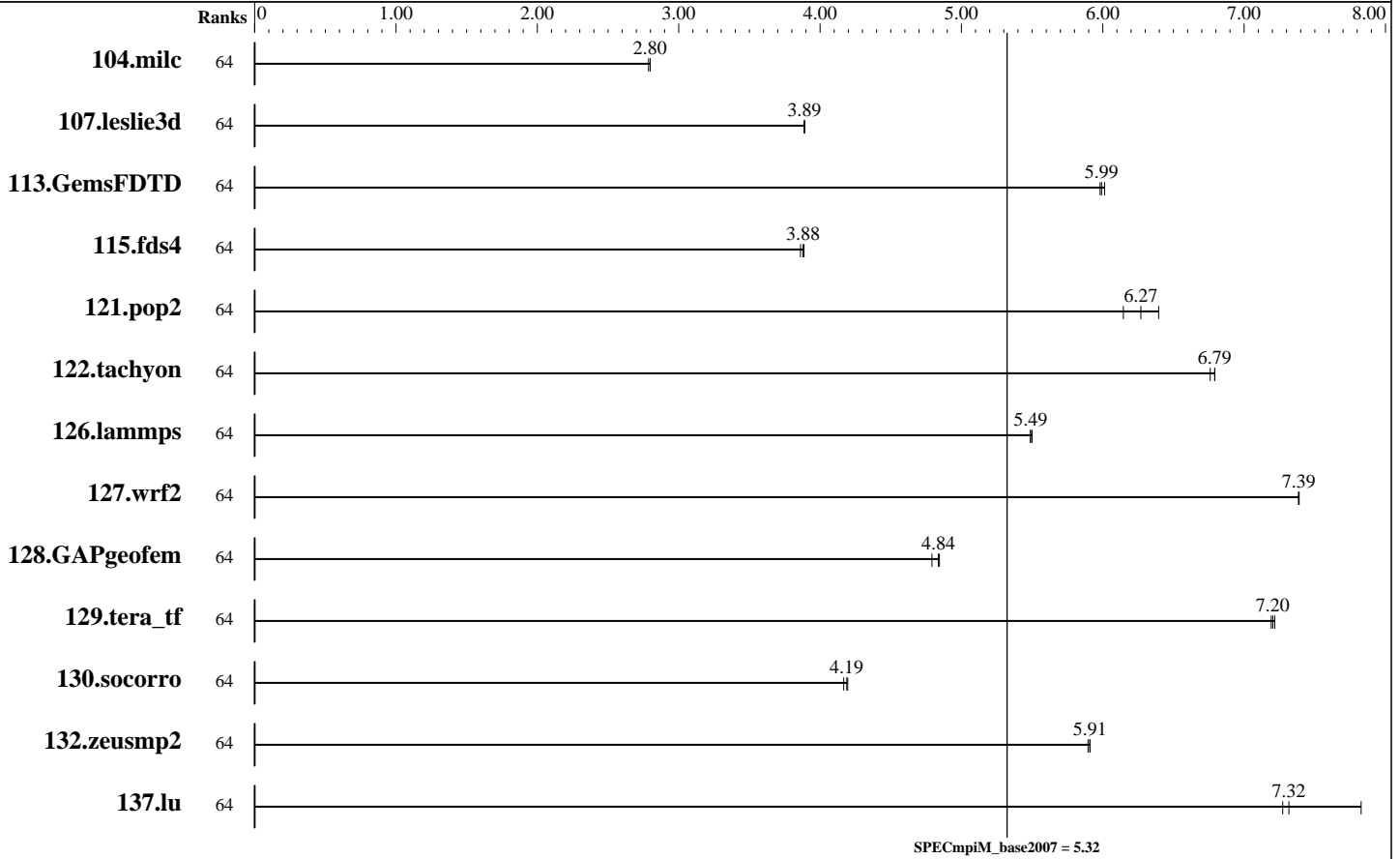
Test sponsor: Indiana University

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	64	562	2.79	559	2.80	<u>559</u>	<u>2.80</u>									
107.leslie3d	64	<u>1342</u>	<u>3.89</u>	1341	3.89	1343	3.89									
113.GemsFDTD	64	1049	6.01	<u>1053</u>	<u>5.99</u>	1055	5.98									
115.fds4	64	<u>503</u>	<u>3.88</u>	502	3.89	505	3.86									
121.pop2	64	<u>658</u>	<u>6.27</u>	672	6.15	645	6.40									
122.tachyon	64	414	6.76	412	6.79	<u>412</u>	<u>6.79</u>									
126.lammps	64	<u>531</u>	<u>5.49</u>	531	5.49	530	5.50									
127.wrf2	64	<u>1055</u>	<u>7.39</u>	1056	7.38	1055	7.39									
128.GAPgeofem	64	426	4.84	<u>427</u>	<u>4.84</u>	431	4.79									
129.tera_tf	64	385	7.19	384	7.22	<u>384</u>	<u>7.20</u>									

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	910	4.20	<u>911</u>	<u>4.19</u>	916	4.17									
132.zeusmp2	64	<u>525</u>	<u>5.91</u>	526	5.90	525	5.91									
137.lu	64	470	7.83	<u>502</u>	<u>7.32</u>	505	7.27									

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: 8  
 Total Chips: 16  
 Total Cores: 64  
 Total Threads: 64  
 Total Memory: 256 GB  
 Base Ranks Run: 64  
 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: 8  
 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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## 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](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](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](mailto:webmaster@spec.org).

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