



SPEC® MPIM2007 Result

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IBM

SPECmpiM_peak2007 = Not Run

iDP (Intel Xeon L5420, 2.50 GHz)

SPECmpiM_base2007 = 10.4

MPI2007 license: 37

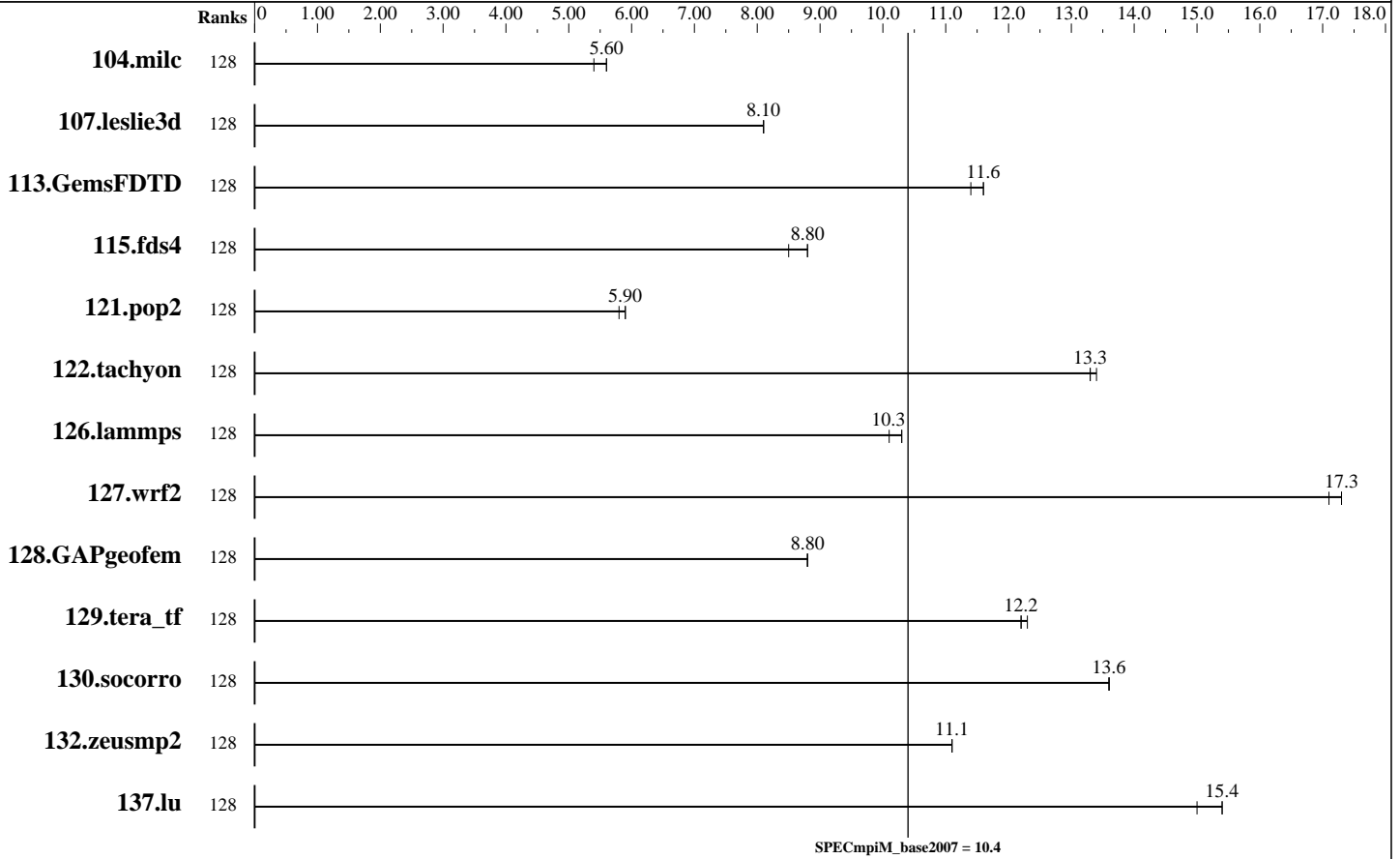
Test sponsor: Indiana University

Tested by: Jens Doleschal

Test date: Dec-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	278	5.60	<u>278</u>	<u>5.60</u>	288	5.40									
107.leslie3d	128	648	8.10	<u>646</u>	<u>8.10</u>	645	8.10									
113.GemsFDTD	128	544	11.6	552	11.4	<u>545</u>	<u>11.6</u>									
115.fds4	128	229	8.50	<u>221</u>	<u>8.80</u>	221	8.80									
121.pop2	128	714	5.80	696	5.90	<u>697</u>	<u>5.90</u>									
122.tachyon	128	210	13.4	210	13.3	<u>210</u>	<u>13.3</u>									
126.lammps	128	287	10.1	<u>284</u>	<u>10.3</u>	284	10.3									
127.wrf2	128	455	17.1	451	17.3	<u>452</u>	<u>17.3</u>									
128.GAPgeofem	128	234	8.80	236	8.80	<u>235</u>	<u>8.80</u>									
129.tera_tf	128	228	12.2	<u>227</u>	<u>12.2</u>	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	280	13.6	<u>280</u>	<u>13.6</u>	281	13.6							
132.zeusmp2	128	279	11.1	280	11.1	<u>279</u>	<u>11.1</u>							
137.lu	128	239	15.4	245	15.0	<u>239</u>	<u>15.4</u>							

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 Windows (11.1.038)
C++ Compiler: Intel C++ Compiler 11.1 for Windows (11.1.038)
Fortran Compiler: Intel Fortran Compiler 11.1 for Windows (11.1.038)
Base Pointers: 64-bit
Peak Pointers: 64-bit
MPI Library: MS MPI 1.0.6
Other MPI Info: None
Pre-processors: No
Other Software: None

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 (v.9.11.5.7)
Adapter Firmware: 2.4-0
Adapter: Mellanox Technologies MT26418 [ConnectX IB DDR, PCIe 2.0 5GT/s] (rev a0)
Adapter Driver: Mellanox WinOF (v. 2.0.0)
Adapter Firmware: 2.5.0
Operating System: Windows HPC Server 2008 Service Pack 2
Local File System: Windows/NTFS
Shared File System: Network shared NTFS directory
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

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

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.



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Base Compiler Invocation

C benchmarks:
icl

C++ benchmarks:
126.lammps: icl

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl ifort

Base Portability Flags

115.fds4: /DSPEC_MPI_UC_NO_TRAILING_UNDERSCORE /fpscomp:general
121.pop2: /DSPEC_MPI_WINDOWS_ICL
127.wrf2: /DSPEC_MPI_CASE_FLAG /DSPEC_MPI_WINDOWS_ICL
/DSPEC_MPI_COMM_F2C /us /Qlowercase
129.tera_tf: /fpscomp:general
130.socorro: /DSPEC_NO_UNDERSCORE /DSPEC_MPI_COMM_F2C /Qlowercase
132.zeusmp2: /DSPEC_MPI_WINDOWS_ICL /fpscomp:general

Base Optimization Flags

C benchmarks:
/O3 /QxSSE3 /Qipo /Qprec-div- /F3950000000

C++ benchmarks:
126.lammps: /O3 /QxSSE3 /Qipo /Qprec-div- /F3950000000

Fortran benchmarks:
/O3 /QxSSE3 /Qipo /Qprec-div- /F3950000000

Benchmarks using both Fortran and C:
/O3 /QxSSE3 /Qipo /Qprec-div- /F3950000000

Base Other Flags

C benchmarks:
/c /Fooptions /I:C:\Program Files\Microsoft HPC Pack 2008 SDK\Include
/link
/libpath:C:\Program Files\Microsoft HPC Pack 2008 SDK\Lib\amd64 msmtpifec.lib msmtpifmc.lib msmpl.lib
/Fooptions

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Base Other Flags (Continued)

C++ benchmarks:

```
126.lammps: /c /Fooptions
           /I:C:\Program Files\Microsoft HPC Pack 2008 SDK\Include /link
           /libpath:C:\Program Files\Microsoft HPC Pack 2008 SDK\Lib\amd64 msmtpifec.lib msmtpifmc.lib msm
           /Fooptions
```

Fortran benchmarks:

```
/c /Fooptions /I:C:\Program Files\Microsoft HPC Pack 2008 SDK\Include
/link
/libpath:C:\Program Files\Microsoft HPC Pack 2008 SDK\Lib\amd64 msmtpifec.lib msmtpifmc.lib msm
/Fooptions
```

Benchmarks using both Fortran and C:

```
/c /Fooptions /I:C:\Program Files\Microsoft HPC Pack 2008 SDK\Include
/link
/libpath:C:\Program Files\Microsoft HPC Pack 2008 SDK\Lib\amd64 msmtpifec.lib msmtpifmc.lib msm
/Fooptions
```

The flags file that was used to format this result can be browsed at

<http://www.spec.org/mpi2007/flags/dell.ic10.windows.flags.20100128.html>

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

<http://www.spec.org/mpi2007/flags/dell.ic10.windows.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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