



SPEC® MPIM2007 Result

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IBM

SPECmpiM_peak2007 = Not Run

iDP (Intel Xeon L5420, 2.50 GHz)

SPECmpiM_base2007 = 18.0

MPI2007 license: 37

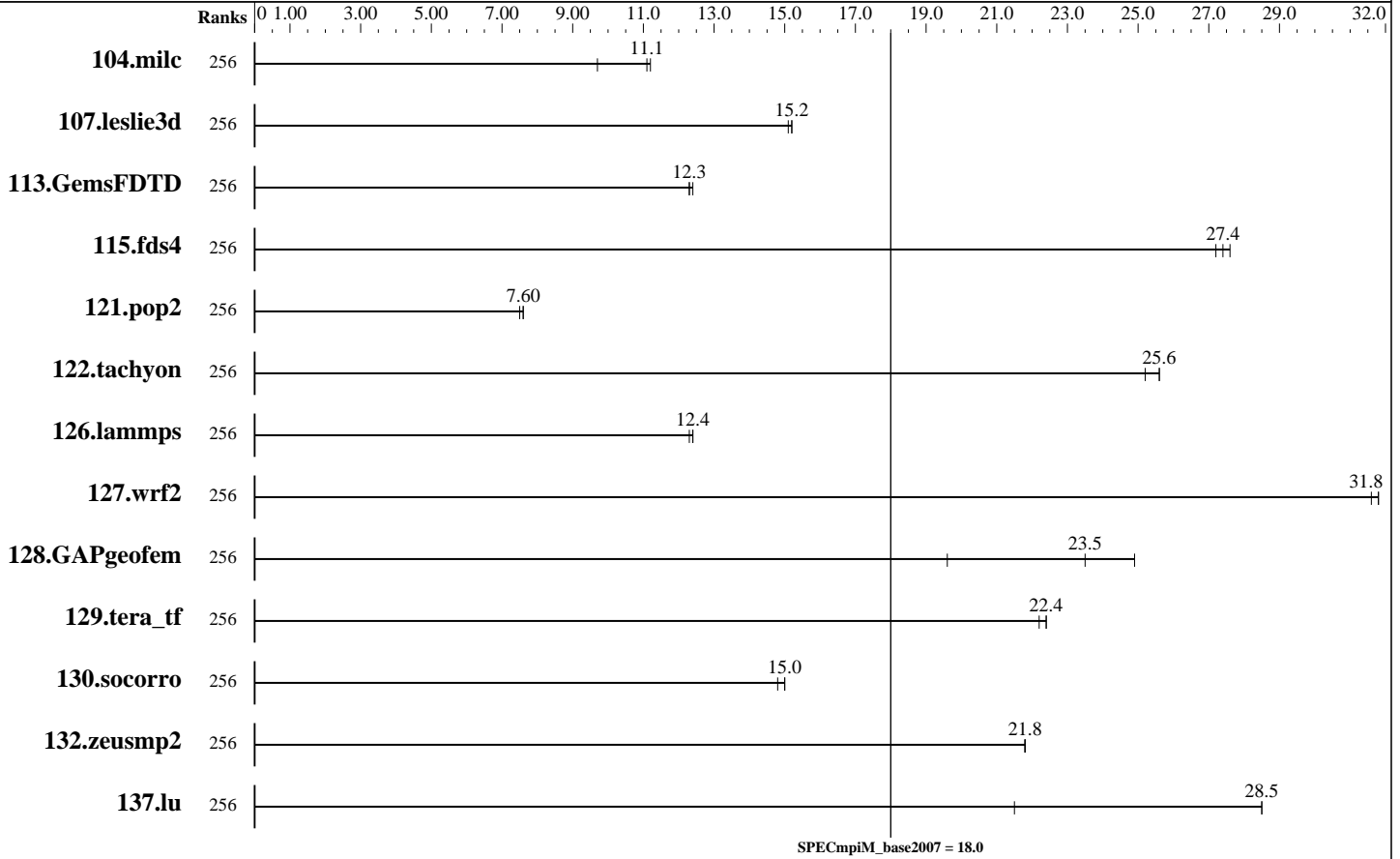
Test sponsor: Indiana University

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	256	141	11.1	161	9.70	140	11.2							
107.leslie3d	256	346	15.1	344	15.2	344	15.2							
113.GemsFDTD	256	511	12.3	510	12.4	513	12.3							
115.fds4	256	70.8	27.6	71.3	27.4	71.7	27.2							
121.pop2	256	547	7.60	544	7.60	549	7.50							
122.tachyon	256	109	25.6	109	25.6	111	25.2							
126.lammps	256	235	12.4	235	12.4	236	12.3							
127.wrf2	256	247	31.6	245	31.8	245	31.8							
128.GAPgeofem	256	83.0	24.9	106	19.6	88.0	23.5							
129.tera_tf	256	124	22.4	124	22.4	125	22.2							

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	256	<u>255</u>	<u>15.0</u>	255	15.0	258	14.8							
132.zeusmp2	256	142	21.8	142	21.8	<u>142</u>	<u>21.8</u>							
137.lu	256	171	21.5	<u>129</u>	<u>28.5</u>	129	28.5							

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: 32
Total Chips: 64
Total Cores: 256
Total Threads: 256
Total Memory: 1 TB
Base Ranks Run: 256
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: 32
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

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.



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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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