



SPEC® MPIM2007 Result

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Hewlett-Packard Company HP ProLiant DL160 G5

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = 20.7

MPI2007 license: 1

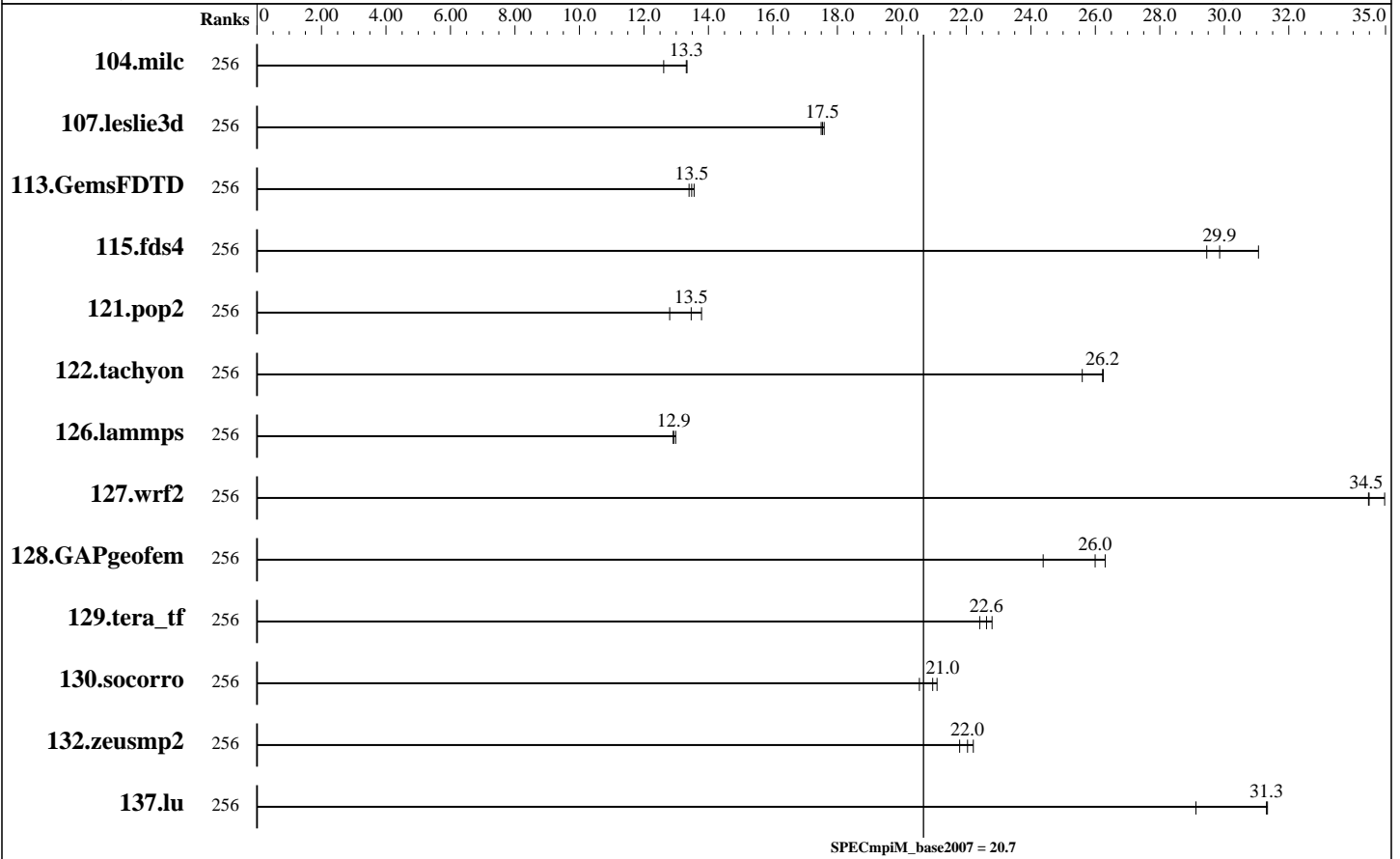
Test sponsor: Hewlett-Packard Company

Tested by: HP Richardson

Test date: Nov-2008

Hardware Availability: Jun-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	124	12.6	117	13.3	118	13.3									
107.leslie3d	256	298	17.5	298	17.5	297	17.6									
113.GemsFDTD	256	465	13.6	468	13.5	471	13.4									
115.fds4	256	66.2	29.5	65.3	29.9	62.8	31.1									
121.pop2	256	307	13.5	323	12.8	299	13.8									
122.tachyon	256	107	26.2	107	26.2	109	25.6									
126.lammps	256	226	12.9	224	13.0	226	12.9									
127.wrf2	256	223	35.0	226	34.5	226	34.5									
128.GAPgeofem	256	84.7	24.4	78.5	26.3	79.4	26.0									
129.tera_tf	256	121	22.8	123	22.4	122	22.6									

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	181	21.1	186	20.5	<u>182</u>	<u>21.0</u>									
132.zeusmp2	256	<u>141</u>	<u>22.0</u>	142	21.8	140	22.2									
137.lu	256	117	31.3	<u>117</u>	<u>31.3</u>	126	29.1									

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Hardware Summary

Type of System: Homogeneous
 Compute Nodes: DL160 G5 Compute Node
 DL160 G5 Head Node
 Interconnects: Gigabit Ethernet Switch
 InfiniBand Switch
 File Server Node: DL160 G5 Head Node
 Head Node: DL160 G5 Head Node
 Total Compute Nodes: 32
 Total Chips: 64
 Total Cores: 256
 Total Threads: 256
 Total Memory: 512 GB
 Base Ranks Run: 256
 Minimum Peak Ranks: --
 Maximum Peak Ranks: --

Software Summary

C Compiler: Intel C++ Compiler 10.1 for Linux (10.1.018)
 C++ Compiler: Intel C++ Compiler 10.1 for Linux (10.1.018)
 Fortran Compiler: Intel Fortran Compiler 10.1 for Linux (10.1.018)
 Base Pointers: 64-bit
 Peak Pointers: 64-bit
 MPI Library: HP-MPI v2.3
 Other MPI Info: --
 Pre-processors: No
 Other Software: --

Node Description: DL160 G5 Compute Node

Hardware

Number of nodes: 31
 Uses of the node: compute
 Vendor: Hewlett-Packard Company
 Model: DL160 G5
 CPU Name: Intel Xeon CPU E5462
 CPU(s) orderable: 1-2 chips
 Chips enabled: 2
 Cores enabled: 8
 Cores per chip: 4
 Threads per core: 1
 CPU Characteristics: 1600 MHz FSB
 CPU MHz: 2800
 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: 16 GB (FBDIMM 8x2-GB 667 Mtf/s)
 Disk Subsystem: 2x146GB 15k RPM SAS (RAID 0 mode)
 Other Hardware: HP Smart Array E200 Raid Controller
 Adapter: NetXtreme BCM5722 Gigabit Ethernet
 Number of Adapters: 1

Software

Adapter: NetXtreme BCM5722 Gigabit Ethernet
 Adapter Driver: tg3 version 3.86b
 Adapter Firmware: 5722-v3.07, ASFIPMI v6.02
 Adapter: HP 448397-B21 (4x DDR)
 Adapter Driver: OFED 1.3
 Adapter Firmware: 2.5.0
 Operating System: SLES 10 update 1
 Local File System: Linux/ext3
 Shared File System: NFS
 System State: Multi-User
 Other Software: none

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Tested by: HP Richardson	Software Availability: Jan-2009

Node Description: DL160 G5 Compute Node

Slot Type:	Builtin PCI-Express
Data Rate:	1 Gb/s Ethernet
Ports Used:	1
Interconnect Type:	Ethernet
Adapter:	HP 448397-B21 (4x DDR)
Number of Adapters:	1
Slot Type:	PCIe x16 Gen2
Data Rate:	InfiniBand 4x DDR
Ports Used:	1
Interconnect Type:	InfiniBand

Node Description: DL160 G5 Head Node

Hardware	Software
Number of nodes: 1	Adapter: NetXtreme BCM5722 Gigabit Ethernet
Uses of the node: head, fileserver, compute	Adapter Driver: tg3 version 3.86b
Vendor: Hewlett-Packard Company	Adapter Firmware: 5722-v3.07, ASFIPMI v6.02
Model: DL160 G5	Adapter: HP 448397-B21 (4x DDR)
CPU Name: Intel Xeon CPU E5462	Adapter Driver: OFED 1.3
CPU(s) orderable: 1-2 chips	Adapter Firmware: 2.5.0
Chips enabled: 2	Operating System: SLES 10 update 1
Cores enabled: 8	Local File System: Linux/ext3
Cores per chip: 4	Shared File System: NFS
Threads per core: 1	System State: Multi-User
CPU Characteristics: 1600 MHz FSB	Other Software: none
CPU MHz: 2800	
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: 16 GB (FBDIMM 8x2-GB 667 Mtf/s)	
Disk Subsystem: 2x146GB 15k RPM SAS (RAID 0 mode)	
Other Hardware: HP Smart Array E200 Raid Controller	
Adapter: NetXtreme BCM5722 Gigabit Ethernet	
Number of Adapters: 1	
Slot Type: Builtin PCI-Express	
Data Rate: 1 Gb/s Ethernet	
Ports Used: 1	
Interconnect Type: Ethernet	
Adapter: HP 448397-B21 (4x DDR)	
Number of Adapters: 1	
Slot Type: PCIe x16 Gen2	
Data Rate: InfiniBand 4x DDR	
Ports Used: 1	
Interconnect Type: InfiniBand	



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Software Availability: Jan-2009

Interconnect Description: Gigabit Ethernet Switch

Hardware		Software
Vendor:	Hewlett-Packard Company	
Model:	ProCurve J8693A Switch 3500yl-48G	
Switch Model:	ProCurve J8693A Switch 3500yl-48G	
Number of Switches:	1	
Number of Ports:	48	
Data Rate:	1Gbps Ethernet	
Firmware:	K.12.16	
Topology:	single switch	
Primary Use:	Cluster File System	

Interconnect Description: InfiniBand Switch

Hardware		Software
Vendor:	Hewlett-Packard Company	
Model:	HP 445825-B21 (4x DDR)	
Switch Model:	HP 445825-B21	
Number of Switches:	1	
Number of Ports:	144	
Data Rate:	InfiniBand 4x DDR	
Firmware:	4.1.1.1.11	
Topology:	single switch	
Primary Use:	MPI traffic	

General Notes

Required alternate sources:

129.tera_tf: fixbuffer

Optional alternate sources:

104.milc: calloc

113.GemsFDTD: maxprocandstop

```
% cat submit.sh
#!/bin/bash
ulimit -s 326780
exec $*
%
```

BASE PORTABILITY FLAG NOTICE:

130.socorro: Discontinue use of -DSPEC_EIGHT_BYTE_LONG because it doesn't appear in the source code.



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Base Compiler Invocation

C benchmarks:

/lv01_nfs/brent/mpi2007_v1.0/hpmpi23_20081105/bin/mpicc

C++ benchmarks:

126.lammps: /lv01_nfs/brent/mpi2007_v1.0/hpmpi23_20081105/bin/mpicc

Fortran benchmarks:

/lv01_nfs/brent/mpi2007_v1.0/hpmpi23_20081105/bin/mpif90

Benchmarks using both Fortran and C:

/lv01_nfs/brent/mpi2007_v1.0/hpmpi23_20081105/bin/mpicc

/lv01_nfs/brent/mpi2007_v1.0/hpmpi23_20081105/bin/mpif90

Base Portability Flags

121.pop2: -DSPEC_MPI_CASE_FLAG

127.wrf2: -DSPEC_MPI_LINUX -DSPEC_MPI_CASE_FLAG

130.socorro: -DSPEC_EIGHT_BYTE_LONG

Base Optimization Flags

C benchmarks:

-O3 -no-prec-div -xT

C++ benchmarks:

126.lammps: -O3 -no-prec-div -xT

Fortran benchmarks:

-O3 -no-prec-div -xT

Benchmarks using both Fortran and C:

-O3 -no-prec-div -xT

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

http://www.spec.org/mpi2007/flags/EM64T_Intel101_flags.20090108.html

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

http://www.spec.org/mpi2007/flags/EM64T_Intel101_flags.20090108.xml



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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC MPI2007 v1.0.
Report generated on Tue Jul 22 13:35:52 2014 by SPEC MPI2007 PS/PDF formatter v1463.
Originally published on 8 January 2009.