



# SPEC® MPIM2007 Result

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## Hewlett-Packard Company HP ProLiant DL160 G5

SPECmpiM\_peak2007 = Not Run

SPECmpiM\_base2007 = 6.28

MPI2007 license: 1

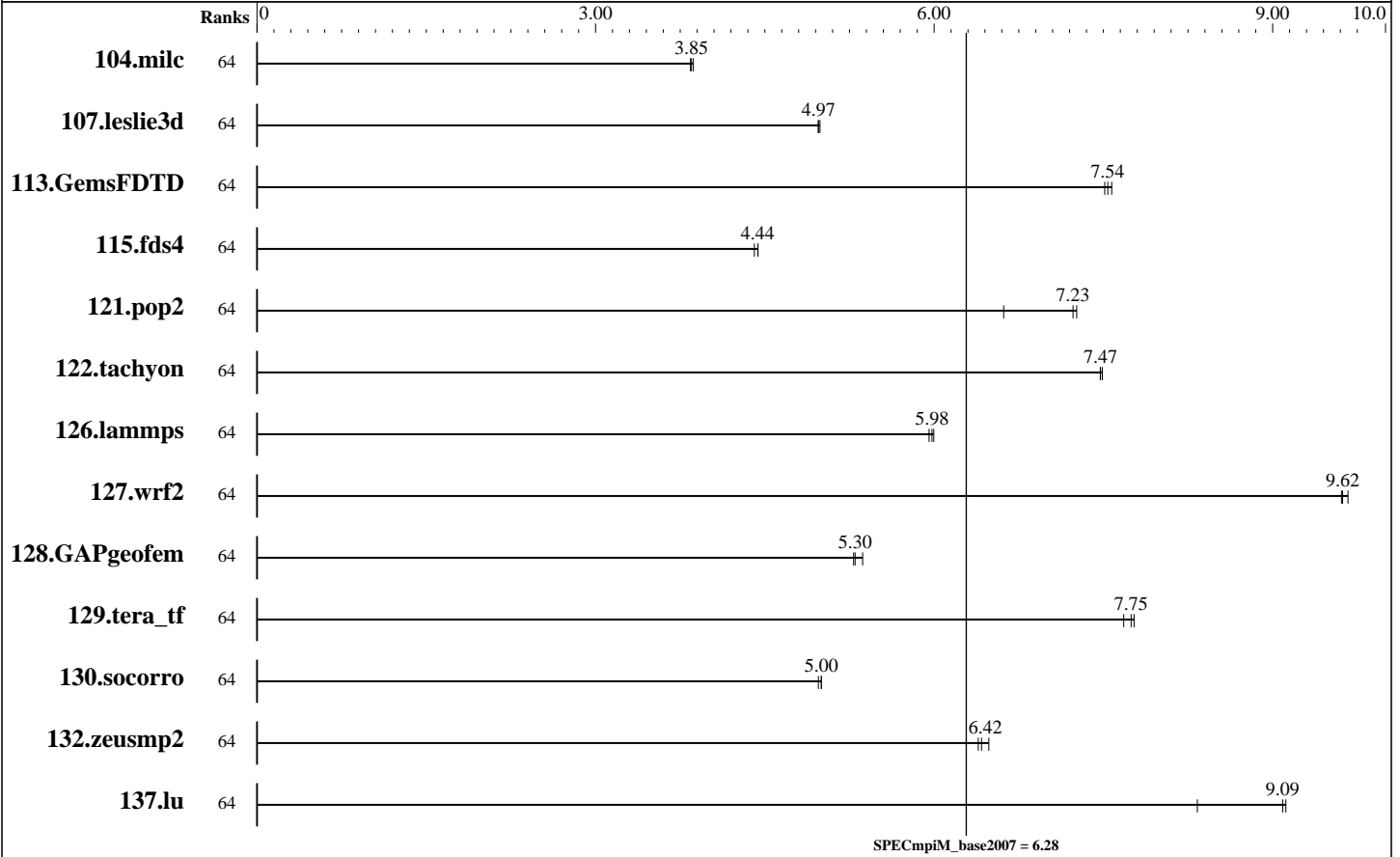
Test sponsor: Hewlett-Packard Company

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	64	405	3.87	407	3.84	<b>407</b>	<b>3.85</b>							
107.leslie3d	64	1049	4.97	1046	4.99	<b>1049</b>	<b>4.97</b>							
113.GemsFDTD	64	840	7.51	833	7.57	<b>837</b>	<b>7.54</b>							
115.fds4	64	<b>440</b>	<b>4.44</b>	439	4.44	443	4.41							
121.pop2	64	<b>571</b>	<b>7.23</b>	624	6.62	568	7.26							
122.tachyon	64	374	7.47	<b>374</b>	<b>7.47</b>	373	7.49							
126.lammps	64	486	6.00	489	5.96	<b>487</b>	<b>5.98</b>							
127.wrf2	64	806	9.67	<b>810</b>	<b>9.62</b>	811	9.61							
128.GAPgeofem	64	391	5.29	<b>390</b>	<b>5.30</b>	385	5.37							
129.tera_tf	64	360	7.68	356	7.77	<b>357</b>	<b>7.75</b>							

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	767	4.97	763	5.00	<b>763</b>	<b>5.00</b>							
132.zeusmp2	64	486	6.39	479	6.48	<b>483</b>	<b>6.42</b>							
137.lu	64	<b>404</b>	<b>9.09</b>	441	8.33	403	9.12							

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: 8  
 Total Chips: 16  
 Total Cores: 64  
 Total Threads: 64  
 Total Memory: 128 GB  
 Base Ranks Run: 64  
 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: 7  
 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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## 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
Number of nodes:	1
Uses of the node:	head, fileserver, 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
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

	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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## 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/results/flags/EM64T\\_Intel101\\_flags.20100413.03.html](http://www.spec.org/mpi2007/results/flags/EM64T_Intel101_flags.20100413.03.html)

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

[http://www.spec.org/mpi2007/results/flags/EM64T\\_Intel101\\_flags.20100413.03.xml](http://www.spec.org/mpi2007/results/flags/EM64T_Intel101_flags.20100413.03.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).

Tested with SPEC MPI2007 v1.0.  
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