



# 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

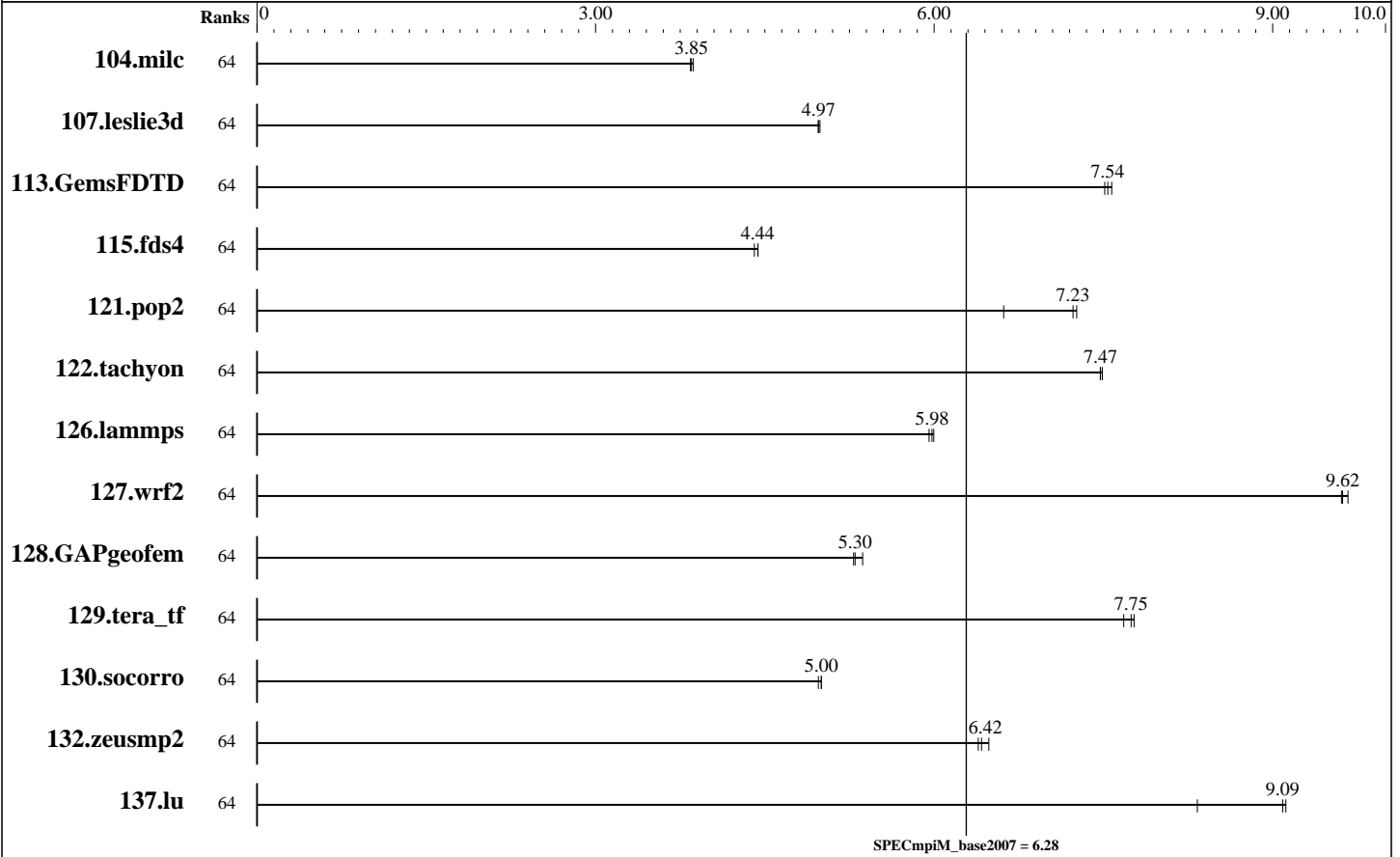
Test sponsor: Hewlett-Packard Company

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 Driver: tg3 version 3.86b  
 Adapter Firmware: 5722-v3.07, ASFIPMI v6.02  
 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

### Hardware (Continued)

Slot Type: Builtin PCI-Express  
Data Rate: 1 Gb/s Ethernet  
Ports Used: 1  
Interconnect Type: Ethernet

## Node Description: DL160 G5 Head Node

### Hardware

Number of nodes: 1  
Uses of the node: head,compute,fileservers  
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

### Software

Adapter Driver: tg3 version 3.86b  
Adapter Firmware: 5722-v3.07, ASFIPMI v6.02  
Operating System: SLES 10 update 1  
Local File System: Linux/ext3  
Shared File System: NFS  
System State: Multi-User  
Other Software: none

## Interconnect Description: Gigabit Ethernet Switch

### Hardware

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

### Software

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## Interconnect Description: Gigabit Ethernet Switch

### Hardware (Continued)

Topology: --  
Primary Use: Cluster File System

## Interconnect Description: InfiniBand Switch

### Hardware

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: --  
Primary Use: MPI traffic

### Software

## 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.

## Base Compiler Invocation

C benchmarks:  
/lvol\_nfs/brent/mpi2007\_v1.0/hpmpi23\_20081105/bin/mpicc

C++ benchmarks:  
126.lammps: /lvol\_nfs/brent/mpi2007\_v1.0/hpmpi23\_20081105/bin/mpicc

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## Base Compiler Invocation (Continued)

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](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](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](mailto:webmaster@spec.org).

Tested with SPEC MPI2007 v1.0.  
Report generated on Wed Jan 14 18:48:09 2009 by SPEC MPI2007 PS/PDF formatter v1144.