



SPEC® MPIM2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

Hewlett-Packard Company HP ProLiant DL160 G5

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = 20.7

MPI2007 license: 1

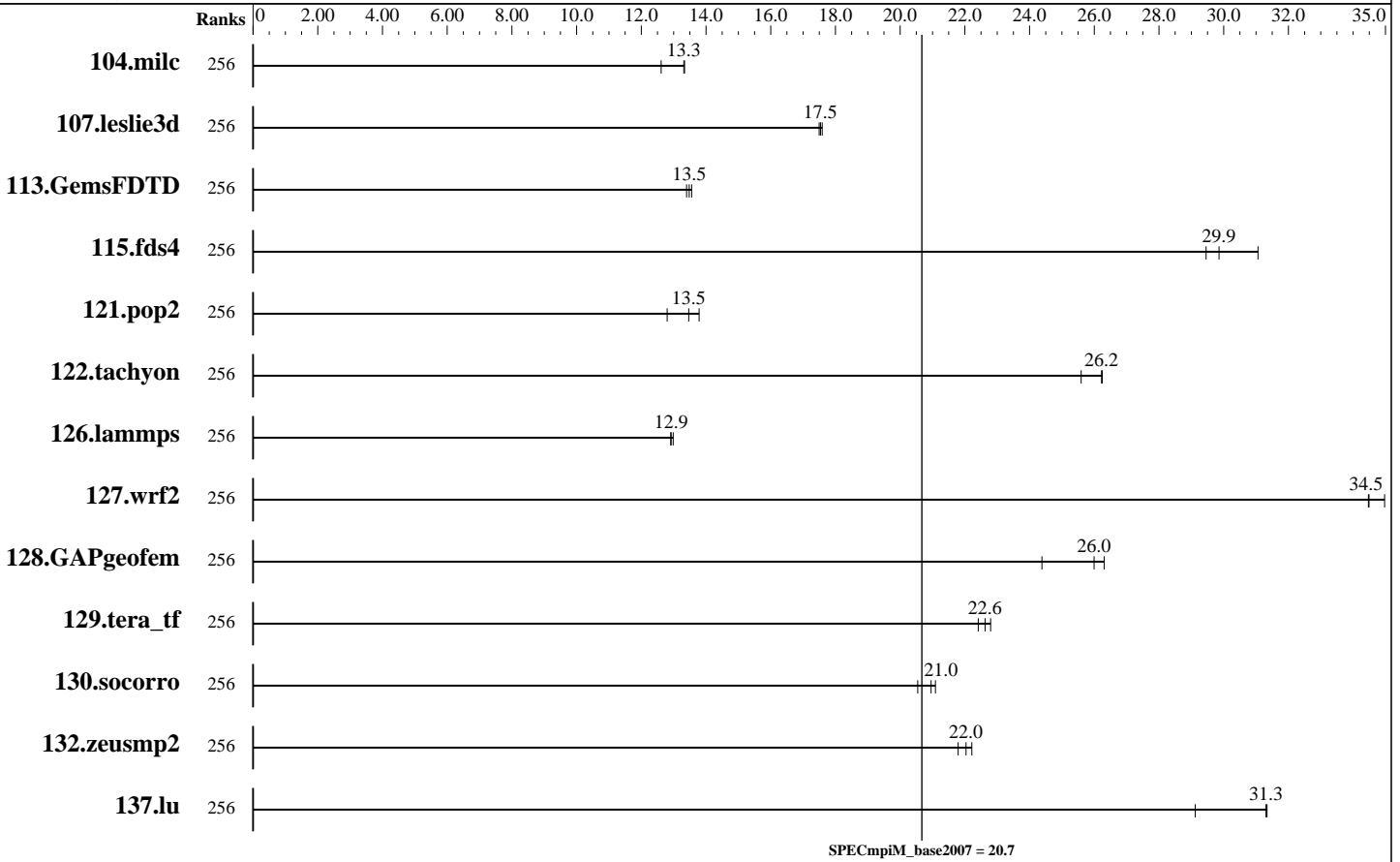
Test sponsor: Hewlett-Packard Company

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 | 182 | 21.0 | | | | | | | | | |
| 132.zeusmp2 | 256 | 141 | 22.0 | 142 | 21.8 | 140 | 22.2 | | | | | | | | | |
| 137.lu | 256 | 117 | 31.3 | 117 | 31.3 | 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

Continued on next page



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Hardware Availability: Jun-2008
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
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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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/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



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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 Apr 13 15:29:43 2010 by SPEC MPI2007 PS/PDF formatter v1422.