SPEC® MPIM2007 Result

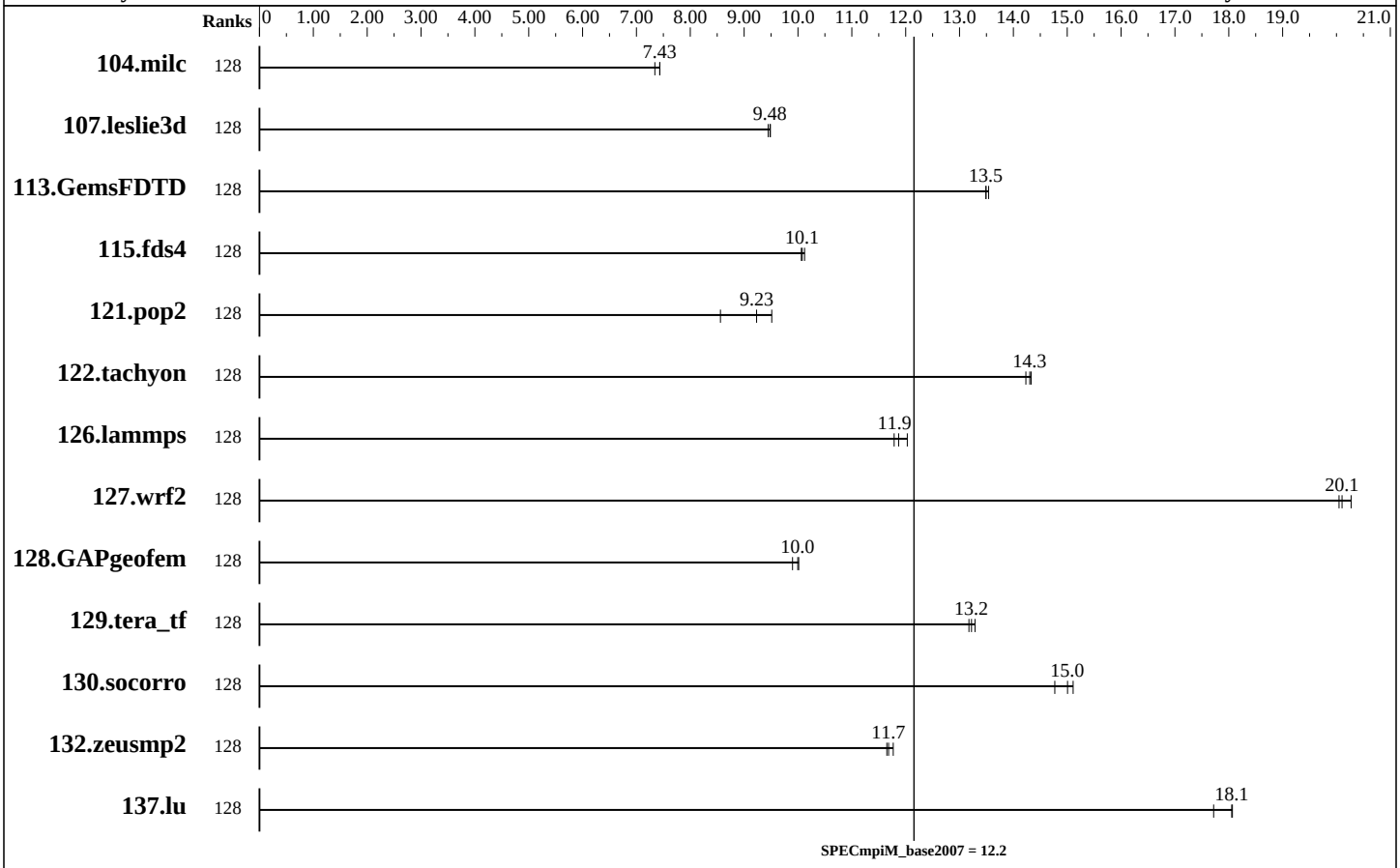
Hewlett-Packard Company
HP ProLiant DL160 G5

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = 12.2

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	128	213	7.34	**211**	**7.43**	210	7.44							
107.leslie3d	128	553	9.45	**551**	**9.48**	550	9.49							
113.GemsFDTD	128	468	13.5	**468**	**13.5**	466	13.5							
115.fds4	128	**194**	**10.1**	193	10.1	194	10.1							
121.pop2	128	434	9.51	**447**	**9.23**	482	8.56							
122.tachyon	128	197	14.2	195	14.3	**196**	**14.3**							
126.lammps	128	247	11.8	242	12.0	**246**	**11.9**							
127.wrf2	128	385	20.3	**388**	**20.1**	389	20.0							
128.GAPgeofem	128	**207**	**10.0**	209	9.90	206	10.0							
129.tera_tf	128	208	13.3	**209**	**13.2**	210	13.2							

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	128	258	14.8	**254**	**15.0**	253	15.1							
132.zeusmp2	128	**266**	**11.7**	266	11.6	264	11.8							
137.lu	128	207	17.7	203	18.1	**204**	**18.1**							

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:	16
Total Chips:	32
Total Cores:	128
Total Threads:	128
Total Memory:	256 GB
Base Ranks Run:	128
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:	15
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

Continued on next page

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

Hewlett-Packard Company
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Test date: Nov-2008
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

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.
```

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

Fortran benchmarks:
/lvol_nfs/brent/mpi2007_v1.0/hpmpi23_20081105/bin/mpif90

Benchmarks using both Fortran and C:
/lvol_nfs/brent/mpi2007_v1.0/hpmpi23_20081105/bin/mpicc
/lvol_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

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

Tested with SPEC MPI2007 v1.0.
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