



SPEC® CFP2006 Result

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Hewlett-Packard Company

SPECfp®2006 = **Not Run**

ProLiant DL380e Gen8
(1.90 GHz, Intel Xeon E5-2420)

SPECfp_base2006 = **43.1**

CPU2006 license: 3

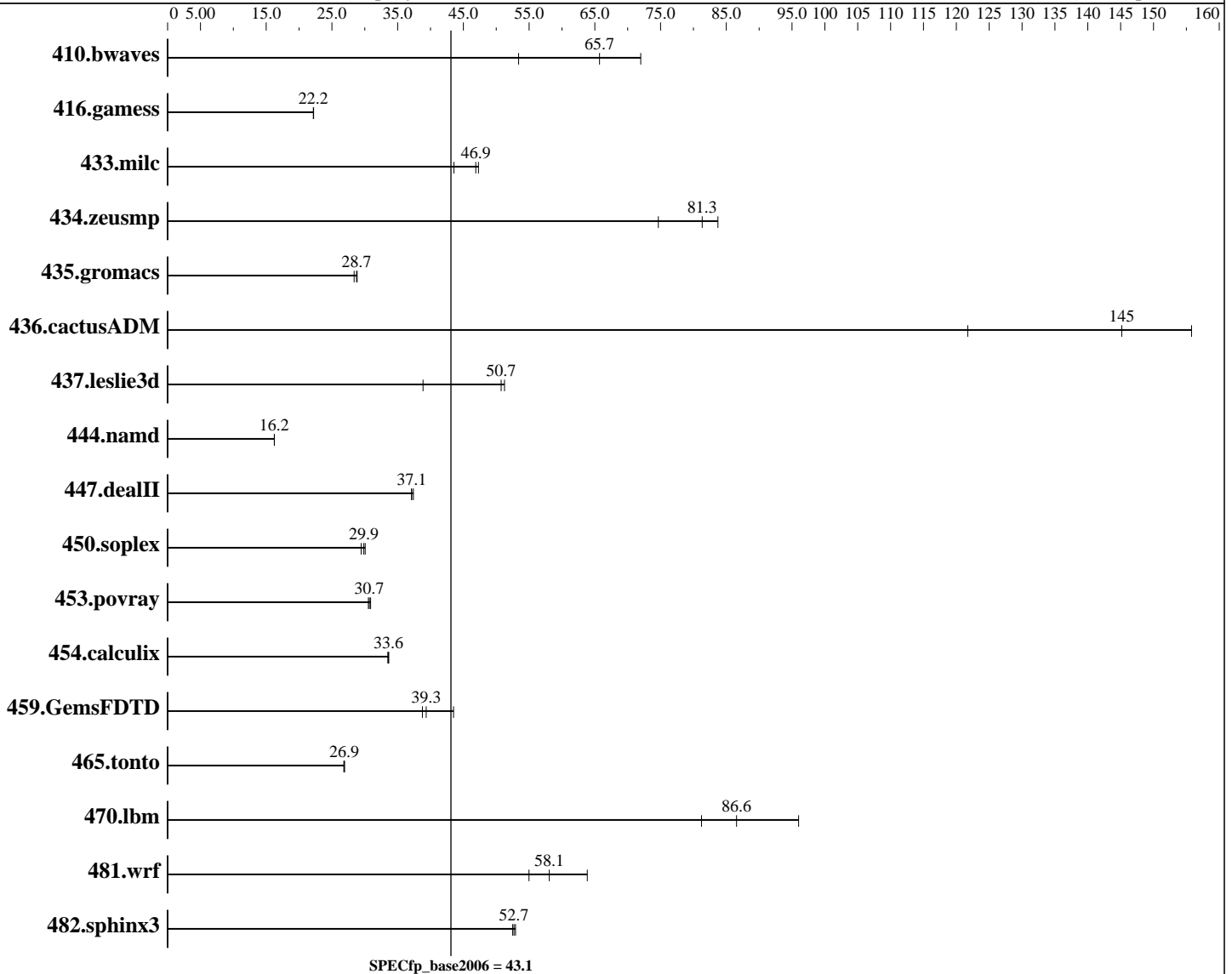
Test sponsor: Hewlett-Packard Company

Tested by: Hewlett-Packard Company

Test date: Sep-2013

Hardware Availability: Jun-2012

Software Availability: Sep-2013



Hardware

CPU Name: Intel Xeon E5-2420
 CPU Characteristics: Intel Turbo Boost Technology up to 2.40 GHz
 CPU MHz: 1900
 FPU: Integrated
 CPU(s) enabled: 6 cores, 1 chip, 6 cores/chip, 2 threads/core
 CPU(s) orderable: 1,2 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core

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Software

Operating System: Red Hat Enterprise Linux Server release 6.4, (Santiago)
 2.6.32-358.el6.x86_64
 Compiler: C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux;
 Fortran: Version 14.0.0.080 of Intel Fortran Studio XE for Linux
 Auto Parallel: Yes
 File System: ext4

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L3 Cache: 15 MB I+D on chip per chip
Other Cache: None
Memory: 16 GB (4 x 4 GB 1Rx4 PC3-12800R-11, ECC, running at 1333 MHz and CL9)
Disk Subsystem: 2 x 300 GB SAS, RAID 0
Other Hardware: None

System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: Not Applicable
Other Software: None

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	254	53.4	<u>207</u>	<u>65.7</u>	189	72.0						
416.gamess	883	22.2	881	22.2	<u>882</u>	<u>22.2</u>						
433.milc	211	43.6	<u>196</u>	<u>46.9</u>	194	47.3						
434.zeusmp	122	74.7	<u>112</u>	<u>81.3</u>	109	83.7						
435.gromacs	248	28.8	<u>248</u>	<u>28.7</u>	252	28.4						
436.cactusADM	98.2	122	<u>82.3</u>	<u>145</u>	76.7	156						
437.leslie3d	242	38.9	<u>185</u>	<u>50.7</u>	183	51.3						
444.namd	494	16.2	<u>494</u>	<u>16.2</u>	494	16.2						
447.dealII	<u>308</u>	<u>37.1</u>	308	37.1	306	37.4						
450.soplex	283	29.4	<u>279</u>	<u>29.9</u>	277	30.1						
453.povray	<u>173</u>	<u>30.7</u>	172	30.9	174	30.5						
454.calculix	<u>245</u>	<u>33.6</u>	245	33.6	246	33.5						
459.GemsFDTD	274	38.8	<u>270</u>	<u>39.3</u>	244	43.5						
465.tonto	366	26.9	367	26.8	<u>366</u>	<u>26.9</u>						
470.lbm	<u>159</u>	<u>86.6</u>	169	81.2	143	96.0						
481.wrf	203	55.0	<u>192</u>	<u>58.1</u>	175	63.9						
482.sphinx3	368	52.9	371	52.5	<u>370</u>	<u>52.7</u>						

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

Operating System Notes

```
Stack size set to unlimited using "ulimit -s unlimited"
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
Filesystem page cache cleared with:
echo 1 > /proc/sys/vm/drop_caches
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>
```



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Platform Notes

BIOS Configuration:

HP Power Profile set to Maximum Performance
 Memory Power Savings Mode set to Maximum Performance
 Collaborative Power Control set to Disabled
 Dynamic Power Capping Functionality set to Disabled
 Thermal Configuration set to Maximum Cooling
 Processor Power and Utilization Monitoring set to Disabled
 Minimum Processor Idle Power Core State set to C6 State
 Minimum Processor Idle Power Packages State set to Package C6 (non-retention) State

Sysinfo program /cpu2006.ic14.0/config/sysinfo.rev6818
 \$Rev: 6818 \$ \$Date:: 2012-07-17 #\$ e86d102572650a6e4d596a3cee98f191
 running on Dl380e-g8-sr Tue Sep 10 14:32:33 2013

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see:
<http://www.spec.org/cpu2006/Docs/config.html#sysinfo>

From /proc/cpuinfo

```
model name      : Intel(R) Xeon(R) CPU E5-2420 0 @ 1.90GHz
 1 "physical id"s (chips)
 12 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)
  cpu cores    : 6
  siblings     : 12
  physical 0: cores 0 1 2 3 4 5
  cache size  : 15360 KB
```

From /proc/meminfo

```
MemTotal:      16294148 kB
HugePages_Total: 0
Hugepagesize:   2048 kB
```

/usr/bin/lsb_release -d

Red Hat Enterprise Linux Server release 6.4 (Santiago)

From /etc/*release* /etc/*version*

```
redhat-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server
```

uname -a:

```
Linux Dl380e-g8-sr 2.6.32-358.el6.x86_64 #1 SMP Tue Jan 29 11:47:41 EST 2013
x86_64 x86_64 x86_64 GNU/Linux
```

run-level 3 Sep 10 10:20

SPEC is set to: /cpu2006

```
Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/sda3       ext4      548G  13G  508G   3% /
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```



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Platform Notes (Continued)

Additional information from dmidecode:

BIOS HP P73 07/01/2013

Memory:

2x HP 647648-071 4 GB 1333 MHz 1 rank

8x UNKNOWN NOT AVAILABLE

2x UNKNOWN NOT AVAILABLE 4 GB 1333 MHz 1 rank

(End of data from sysinfo program)

Regarding the sysinfo display about the memory installed, the correct amount of memory is 16 GB and the dmidecode description should read as the following:

2x HP 647648-071 4 GB 1333 MHz 1 rank

2x UNKNOWN NOT AVAILABLE 4 GB 1333 MHz 1 rank

General Notes

Environment variables set by runspec before the start of the run:

LD_LIBRARY_PATH = "/cpu2006/libs/32:/cpu2006/libs/64:/cpu2006/sh"

OMP_NUM_THREADS = "6"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RedHat EL 6.4

Base Compiler Invocation

C benchmarks:

icc -m64

C++ benchmarks:

icpc -m64

Fortran benchmarks:

ifort -m64

Benchmarks using both Fortran and C:

icc -m64 ifort -m64

Base Portability Flags

410.bwaves: -DSPEC_CPU_LP64

416.gamess: -DSPEC_CPU_LP64

433.milc: -DSPEC_CPU_LP64

434.zeusmp: -DSPEC_CPU_LP64

435.gromacs: -DSPEC_CPU_LP64 -nofor_main

436.cactusADM: -DSPEC_CPU_LP64 -nofor_main

437.leslie3d: -DSPEC_CPU_LP64

444.namd: -DSPEC_CPU_LP64

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Base Portability Flags (Continued)

```

447.dealII: -DSPEC_CPU_LP64
450.soplex: -DSPEC_CPU_LP64
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64 -nofor_main
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
482.sphinx3: -DSPEC_CPU_LP64

```

Base Optimization Flags

C benchmarks:

`-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -ansi-alias`

C++ benchmarks:

`-xAVX -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias`

Fortran benchmarks:

`-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch`

Benchmarks using both Fortran and C:

`-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -ansi-alias`

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.html>

<http://www.spec.org/cpu2006/flags/HP-Platform-Flags-Intel-V1.2-revB.20131009.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml>

<http://www.spec.org/cpu2006/flags/HP-Platform-Flags-Intel-V1.2-revB.20131009.xml>

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For other inquiries, please contact webmaster@spec.org.

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