



# SPEC® CFP2006 Result

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## Hewlett-Packard Company

ProLiant DL360e Gen8  
(2.20 GHz, Intel Xeon E5-2407)

**SPECfp®2006 = Not Run**

**SPECfp\_base2006 = 37.5**

**CPU2006 license:** 3

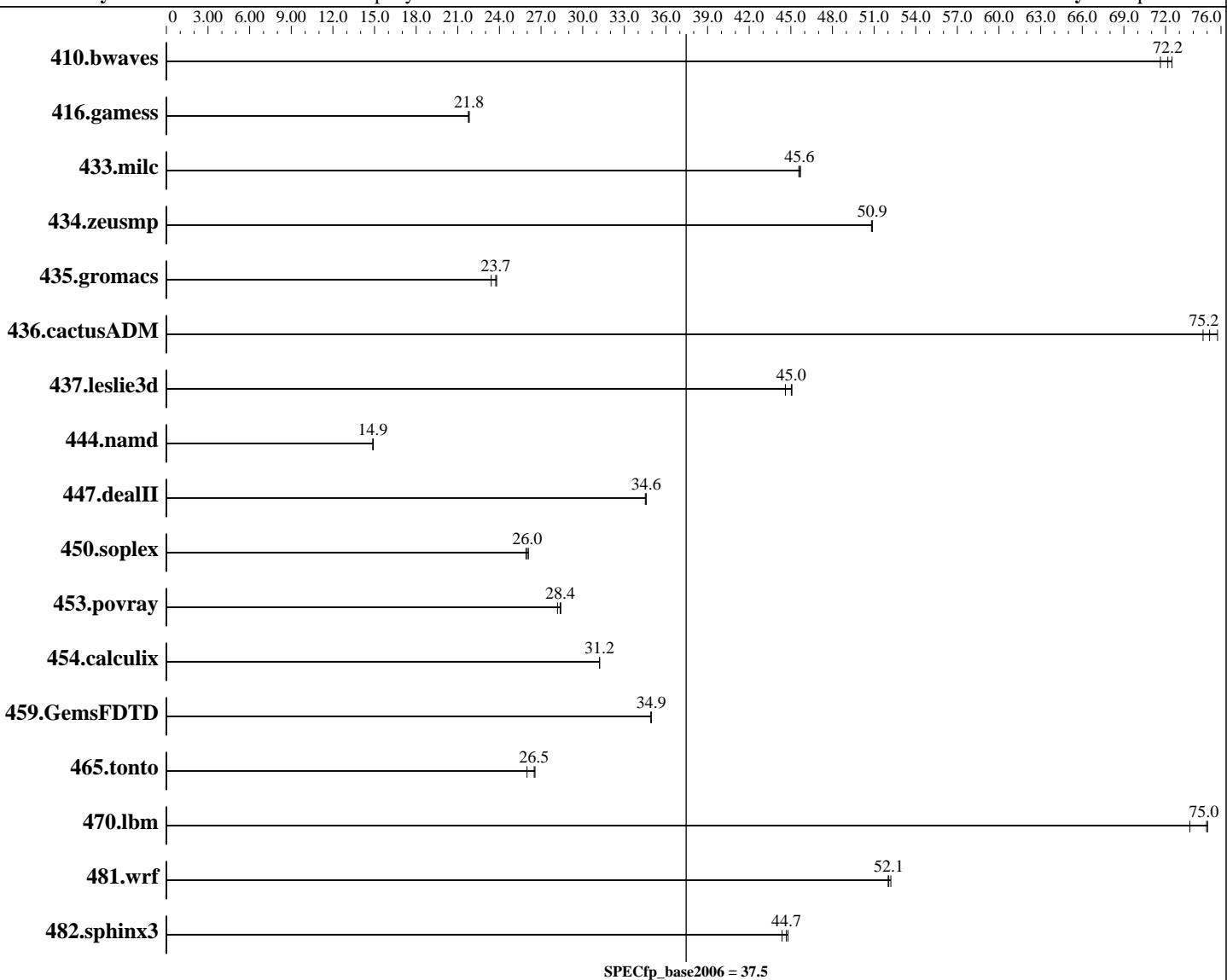
**Test sponsor:** Hewlett-Packard Company

**Tested by:** Hewlett-Packard Company

**Test date:** Sep-2013

**Hardware Availability:** Jun-2012

**Software Availability:** Sep-2013



### Hardware

CPU Name: Intel Xeon E5-2407  
CPU Characteristics:  
CPU MHz: 2200  
FPU: Integrated  
CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip  
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

### Software

Operating System: Red Hat Enterprise Linux Server release 6.4, (Santiago)  
Compiler: 2.6.32-358.el6.x86\_64  
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: 10 MB I+D on chip per chip  
Other Cache: None  
Memory: 8 GB (2 x 4 GB 1Rx4 PC3-12800R-11, ECC,  
running at 1066 MHz and CL7)  
Disk Subsystem: 2 x 200 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	188	72.5	190	71.6	<b><u>188</u></b>	<b><u>72.2</u></b>						
416.gamess	900	21.8	<b><u>898</u></b>	<b><u>21.8</u></b>	897	21.8						
433.milc	<b><u>201</u></b>	<b><u>45.6</u></b>	201	45.6	201	45.7						
434.zeusmp	179	50.8	179	50.9	<b><u>179</u></b>	<b><u>50.9</u></b>						
435.gromacs	<b><u>301</u></b>	<b><u>23.7</u></b>	305	23.4	300	23.8						
436.cactusADM	<b><u>159</u></b>	<b><u>75.2</u></b>	160	74.7	158	75.7						
437.leslie3d	211	44.6	<b><u>209</u></b>	<b><u>45.0</u></b>	209	45.1						
444.namd	539	14.9	539	14.9	<b><u>539</u></b>	<b><u>14.9</u></b>						
447.dealII	<b><u>331</u></b>	<b><u>34.6</u></b>	331	34.6	331	34.5						
450.soplex	322	25.9	320	26.1	<b><u>321</u></b>	<b><u>26.0</u></b>						
453.povray	187	28.4	<b><u>187</u></b>	<b><u>28.4</u></b>	189	28.2						
454.calculix	<b><u>264</u></b>	<b><u>31.2</u></b>	264	31.2	264	31.2						
459.GemsFDTD	<b><u>304</u></b>	<b><u>34.9</u></b>	304	34.9	304	34.9						
465.tonto	370	26.6	379	26.0	<b><u>371</u></b>	<b><u>26.5</u></b>						
470.lbm	183	75.0	186	73.7	<b><u>183</u></b>	<b><u>75.0</u></b>						
481.wrf	<b><u>215</u></b>	<b><u>52.1</u></b>	215	52.0	214	52.2						
482.sphinx3	435	44.8	<b><u>436</u></b>	<b><u>44.7</u></b>	439	44.4						

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/config/sysinfo.rev6818  
\$Rev: 6818 \$ \$Date:: 2012-07-17 #\\$ e86d102572650a6e4d596a3cee98f191  
running on DL360e-g8-sr Tue Sep 10 14:49:03 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 E5-2407 0 @ 2.20GHz
        1 "physical id"s (chips)
        4 "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 : 4
    siblings   : 4
    physical 0: cores 0 1 2 3
cache size : 10240 KB
```

From /proc/meminfo

```
MemTotal:      8151312 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 DL360e-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 10:12

SPEC is set to: /cpu2006

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sda3	ext4	365G	13G	334G	4%	/

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## Platform Notes (Continued)

Additional information from dmidecode:

BIOS HP P73 07/01/2013

Memory:

10x UNKNOWN NOT AVAILABLE

2x UNKNOWN NOT AVAILABLE 4 GB 1067 MHz 1 rank

(End of data from sysinfo program)

Regarding the sysinfo display about the memory installed, the correct amount of memory is 8 GB and the dmidecode description should read as the following:

2x UNKNOWN NOT AVAILABLE 4 GB 1067 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 = "2"

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  
447.dealII: -DSPEC\_CPU\_LP64  
450.soplex: -DSPEC\_CPU\_LP64

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## Base Portability Flags (Continued)

```
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 questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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