Hewlett-Packard Company
ProLiant DL360e Gen8
(2.40 GHz, Intel Xeon E5-2470 v2)

CPU2006 license: 3
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company

SPECfp®2006 = 88.9
SPECfp_base2006 = 85.1

Hardware

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Software

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<th>SUSE Linux Enterprise Server 11 (x86_64) SP3 Kernel 3.0.76-0.11-default</th>
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### Results Table

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</table>

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/transparent_hugepage/enabled
```

Filesystem page cache cleared with:  
```
echo 1 > /proc/sys/vm/drop_caches
```

### Platform Notes

BIOS Configuration:  
- HP Power Regulator was set to "HP Static High Performance Mode"  
- HP Power Profile was set to "Maximum Performance"  
- Intel Hyperthreading was set to "Disabled"  
- Memory Refresh Rate was set to "1x Refresh"  

Sysinfo program /home/cpu2006/config/sysinfo.rev6874.hp

Continued on next page

Standard Performance Evaluation Corporation  
info@spec.org  
http://www.spec.org/
Platform Notes (Continued)

$Rev: 6874 $ $Date:: 2013-11-20 #$ e05b96ddac6c3d74bfe176502a0a2391
running on dl360egen8rwen Sat Jan 25 00:14:17 2014

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 E5-2470 v2 @ 2.40GHz
  2 "physical id"s (chips)
  20 "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 : 10
  siblings : 10
  physical 0: cores 0 1 2 3 4 8 9 10 11 12
  physical 1: cores 0 1 2 3 4 8 9 10 11 12
  cache size : 25600 KB

From /proc/meminfo
  MemTotal:       98903452 kB
  HugePages_Total:       0
  Hugepagesize:       2048 kB

/usr/bin/lsb_release -d
  SUSE Linux Enterprise Server 11 (x86_64)

From /etc/*release* /etc/*version*
  SuSE-release:
    SUSE Linux Enterprise Server 11 (x86_64)
    VERSION = 11
    PATCHLEVEL = 3

uname -a:
  Linux dl360egen8rwen 3.0.76-0.11-default #1 SMP Fri Jun 14 08:21:43 UTC 2013
    (ccab990) x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Jan 25 00:10 last=S

SPEC is set to: /home/cpu2006

Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda2       ext3  549G  8.7G  539G  2% /

Additional information from dmidecode:

Warning: Use caution when you interpret this section. The 'dmidecode' program
reads system data which is "intended to allow hardware to be accurately
determined", but the intent may not be met, as there are frequent changes to
hardware, firmware, and the "DMTF SMBIOS" standard.

BIOS HP P73 11/12/2013
Memory:  

Continued on next page
Hewlett-Packard Company
ProLiant DL360e Gen8
(2.40 GHz, Intel Xeon E5-2470 v2)

SPECfp2006 = 88.9
SPECfp_base2006 = 85.1

CPU2006 license: 3
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company

Test date: Jan-2014
Hardware Availability: Jan-2014
Software Availability: Nov-2013

Platform Notes (Continued)

12x HP 689911-071 8 GB 1600 MHz

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,compact"
LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64:/home/cpu2006/sh"
OMP_NUM_THREADS = "20"

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 -DSPEC_CPU_CASE_FLAG
444.namd: -DSPEC_CPU_LP64
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 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
465.tonto: -DSPEC_CPU_LP64
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX

Continued on next page
SPEC CFP2006 Result

Hewlett-Packard Company
ProLiant DL360e Gen8
(2.40 GHz, Intel Xeon E5-2470 v2)

SPECfp2006 = 88.9
SPECfp_base2006 = 85.1

CPU2006 license: 3
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company

Test date: Jan-2014
Hardware Availability: Jan-2014
Software Availability: Nov-2013

Base Portability Flags (Continued)

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

Peak Compiler Invocation

C benchmarks:
icc   -m64

C++ benchmarks:
icpc  -m64

Fortran benchmarks:
ifort -m64

Benchmarks using both Fortran and C:
icc   -m64 ifort -m64

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:
433.milc: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -auto-ilp32
-ansi-alias

Continued on next page
Peak Optimization Flags (Continued)

    470.lbm: basepeak = yes

    482.sphinx3: -xAVX -ipo -O3 -no-prec-div -unroll2 -ansi-alias
                -parallel

C++ benchmarks:

    444.namd: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
                -no-prec-div(pass 2) -prof-use(pass 2) -fno-alias
                -auto-ilp32

    447.dealII: basepeak = yes

    450.soplex: basepeak = yes

    453.povray: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
                -no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -ansi-alias

Fortran benchmarks:

    410.bwaves: basepeak = yes

    416.gamess: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
                -no-prec-div(pass 2) -prof-use(pass 2) -unroll12
                -inline-level=0 -scalar-rep-

    434.zeusmp: basepeak = yes

    437.leslie3d: basepeak = yes

    459.GemsFDTD: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
                -no-prec-div(pass 2) -prof-use(pass 2) -unroll12
                -inline-level=0 -opt-prefetch -parallel

    465.tonto: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
                -no-prec-div(pass 2) -prof-use(pass 2) -inline-calloc
                -opt-malloc-options=3 -auto -unroll4

Benchmarks using both Fortran and C:

    435.gromacs: basepeak = yes

    436.cactusADM: basepeak = yes

    454.calculix: -xAVX -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias

    481.wrf: basepeak = yes
## SPEC CFP2006 Result

### Hewlett-Packard Company

ProLiant DL360e Gen8  
(2.40 GHz, Intel Xeon E5-2470 v2)

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**Test date:** Jan-2014  
**Hardware Availability:** Jan-2014  
**Software Availability:** Nov-2013

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

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

Tested with SPEC CPU2006 v1.2.  
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