SPEC® CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

ProLiant DL380 G7
(2.13 GHz, Intel Xeon E5606)

$SPECfp®\_rate2006 = \quad 136$

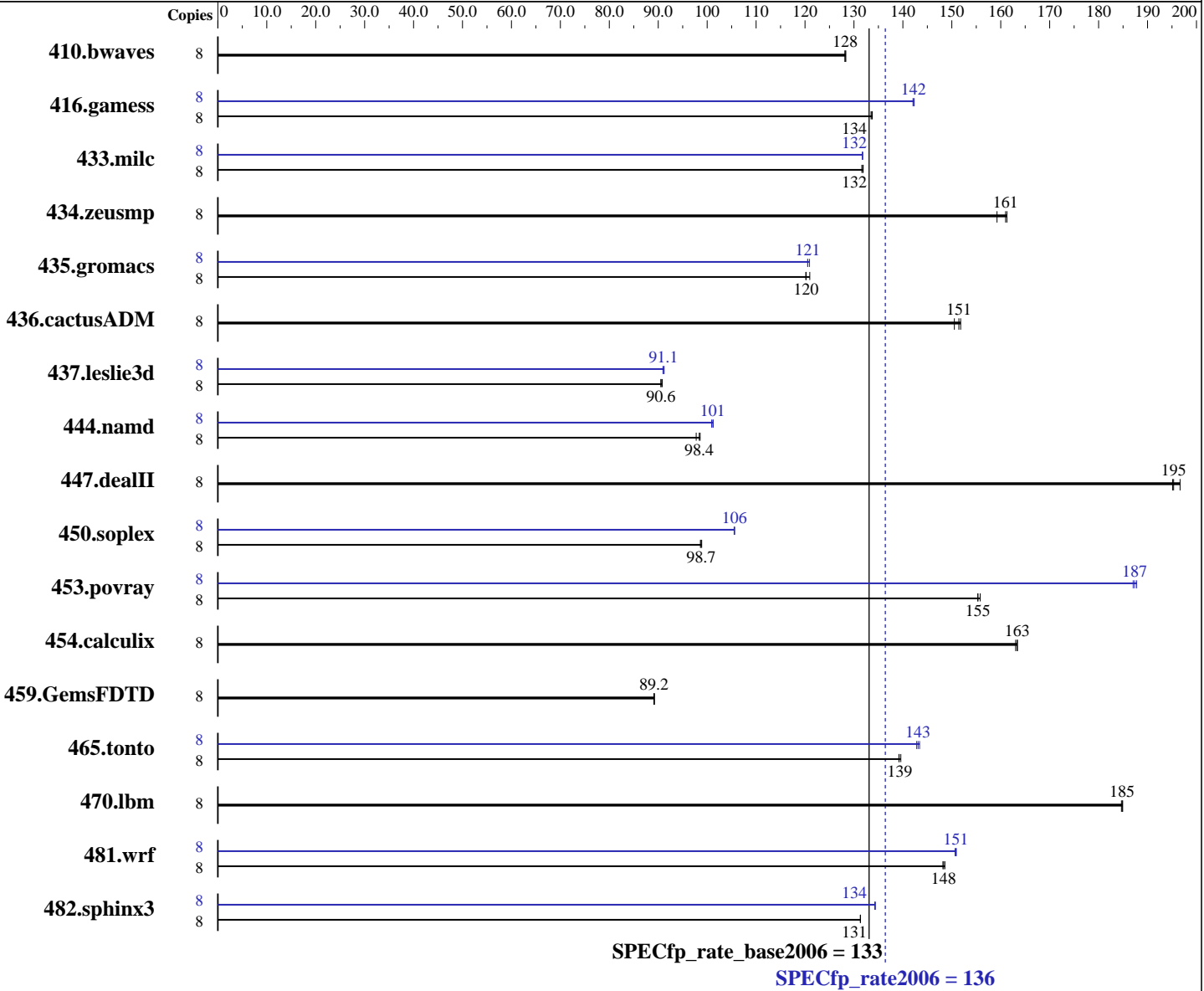$SPECfp\_rate\_base2006 = \quad 133$

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

Test date: Jan-2012
Hardware Availability: Feb-2011
Software Availability: Sep-2011

Copies		
410.bwaves	8	128
416.gamess	8	142
	8	134
433.milc	8	132
	8	132
434.zeusmp	8	161
435.gromacs	8	121
	8	120
436.cactusADM	8	151
437.leslie3d	8	91.1
	8	90.6
444.namd	8	101
	8	98.4
447.dealII	8	195
450.soplex	8	106
	8	98.7
453.povray	8	187
	8	155
454.calculix	8	163
459.GemsFDTD	8	89.2
465.tonto	8	143
	8	139
470.lbm	8	185
481.wrf	8	151
	8	148
482.sphinx3	8	134
	8	131

SPECfp_rate_base2006 = 133

SPECfp_rate2006 = 136

Hardware

CPU Name: Intel Xeon E5606
CPU Characteristics:
CPU MHz: 2133
FPU: Integrated
CPU(s) enabled: 8 cores, 2 chips, 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

Continued on next page

Software

Operating System: Red Hat Enterprise Linux Server release 6.1, Kernel 2.6.32-131.0.15.el6.x86_64
Compiler: C/C++/Fortran: Version 12.1.0.225 of Intel Compiler XE Build 20110803
Auto Parallel: No
File System: ext3
System State: Run level 3 (multi-user)
Base Pointers: 32/64-bit

Continued on next page

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

ProLiant DL380 G7
(2.13 GHz, Intel Xeon E5606)

$SPECfp\_rate2006 =$ 136

$SPECfp\_rate\_base2006 =$ 133

CPU2006 license: 3	**Test date:** Jan-2012
Test sponsor: Hewlett-Packard Company	**Hardware Availability:** Feb-2011
Tested by: Hewlett-Packard Company	**Software Availability:** Sep-2011

L3 Cache: 8 MB I+D on chip per chip	Peak Pointers: 32/64-bit
Other Cache: None	Other Software: None
Memory: 48 GB (12 x 4 GB 2Rx4 PC3-10600R-9, ECC)	
Disk Subsystem: 1 x 146 GB 15 K SAS	
Other Hardware: None	

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	**848**	**128**	848	128	847	128	8	**848**	**128**	848	128	847	128
416.gamess	8	1171	134	1173	133	**1172**	**134**	8	**1102**	**142**	1103	142	1101	142
433.milc	8	557	132	**557**	**132**	558	132	8	558	132	**558**	**132**	557	132
434.zeusmp	8	**452**	**161**	451	161	457	159	8	**452**	**161**	451	161	457	159
435.gromacs	8	472	121	**475**	**120**	475	120	8	474	121	**474**	**121**	472	121
436.cactusADM	8	630	152	635	151	**631**	**151**	8	630	152	635	151	**631**	**151**
437.leslie3d	8	**830**	**90.6**	830	90.6	828	90.8	8	**825**	**91.1**	825	91.2	827	91.0
444.namd	8	**652**	**98.4**	651	98.6	656	97.8	8	**634**	**101**	634	101	636	101
447.dealII	8	465	197	**469**	**195**	469	195	8	465	197	**469**	**195**	469	195
450.soplex	8	677	98.6	**676**	**98.7**	675	98.9	8	632	106	632	106	**632**	**106**
453.povray	8	273	156	**274**	**155**	274	155	8	228	187	**227**	**187**	227	188
454.calculix	8	404	163	**404**	**163**	405	163	8	404	163	**404**	**163**	405	163
459.GemsFDTD	8	952	89.1	951	89.2	**952**	**89.2**	8	952	89.1	951	89.2	**952**	**89.2**
465.tonto	8	**565**	**139**	566	139	564	140	8	549	143	551	143	**550**	**143**
470.lbm	8	595	185	594	185	**595**	**185**	8	595	185	594	185	**595**	**185**
481.wrf	8	601	149	603	148	**602**	**148**	8	592	151	**592**	**151**	593	151
482.sphinx3	8	1187	131	**1187**	**131**	1187	131	8	1160	134	**1161**	**134**	1161	134

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

Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"
Transparent Huge Pages disabled with:
echo never > /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>

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

ProLiant DL380 G7
(2.13 GHz, Intel Xeon E5606)

$SPECfp\_rate2006 =$ 136

$SPECfp\_rate\_base2006 =$ 133

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

Test date: Jan-2012
Hardware Availability: Feb-2011
Software Availability: Sep-2011

Platform Notes

```
BIOS configuration:
 HP Power Profile set to Maximum Performance
 Thermal Configuration set to Increased Cooling
 Data Reuse set to Disabled
Sysinfo program /cpu2006/config/sysinfo.rev6800
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
running on dl380-2-allen.localdomain Thu Jan 19 22:58:46 2012

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 E5606 @ 2.13GHz
      2 "physical id"s (chips)
      8 "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 9 10
      physical 1: cores 0 1 9 10
   cache size : 8192 KB

From /proc/meminfo
   MemTotal:       49416676 kB
   HugePages_Total:        0
   Hugepagesize:        2048 kB

/usr/bin/lsb_release -d
   Red Hat Enterprise Linux Server release 6.1 (Santiago)

From /etc/*release* /etc/*version*
   redhat-release: Red Hat Enterprise Linux Server release 6.1 (Santiago)
   system-release: Red Hat Enterprise Linux Server release 6.1 (Santiago)
   system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

uname -a:
   Linux dl380-2-allen.localdomain 2.6.32-131.0.15.el6.x86_64 #1 SMP Tue May 10
   15:42:40 EDT 2011 x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Jan 19 11:18

SPEC is set to: /cpu2006
   Filesystem     Type    Size  Used Avail Use% Mounted on
   /dev/sda3      ext3    133G   39G   88G  31% /

Additional information from dmidecode:
  BIOS HP P67 01/30/2011
  Memory:
   12x Not Specified Not Specified 4 GB 1333 MHz 2 rank
```

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

ProLiant DL380 G7
(2.13 GHz, Intel Xeon E5606)

$SPECfp\_rate2006 =$ 136

$SPECfp\_rate\_base2006 =$ 133

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

Test date: Jan-2012
Hardware Availability: Feb-2011
Software Availability: Sep-2011

Platform Notes (Continued)

```
(End of data from sysinfo program)
```

General Notes

```
Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/cpu2006/smartheap:/cpu2006/ic12.1-libs/ia32/:/cpu2006/ic12.1-libs/intel64"
```

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
    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
```

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

ProLiant DL380 G7
(2.13 GHz, Intel Xeon E5606)

SPECfp_rate2006 = 136

SPECfp_rate_base2006 = 133

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

Test date: Jan-2012
Hardware Availability: Feb-2011
Software Availability: Sep-2011

Base Optimization Flags

C benchmarks:
```
-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3
```

C++ benchmarks:
```
-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3
```

Fortran benchmarks:
```
-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch
```

Benchmarks using both Fortran and C:
```
-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3
```

Peak Compiler Invocation

C benchmarks (except as noted below):
```
icc   -m64
```

```
482.sphinx3: icc -m32
```

C++ benchmarks (except as noted below):
```
icpc  -m64
```

```
450.soplex: icpc -m32
```

Fortran benchmarks:
```
ifort -m64
```

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

Peak 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
453.povray: -DSPEC_CPU_LP64
```

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

ProLiant DL380 G7
(2.13 GHz, Intel Xeon E5606)

$SPECfp\_rate2006 =$ 136

$SPECfp\_rate\_base2006 =$ 133

CPU2006 license: 3		**Test date:**	Jan-2012
Test sponsor:	Hewlett-Packard Company	**Hardware Availability:**	Feb-2011
Tested by:	Hewlett-Packard Company	**Software Availability:**	Sep-2011

Peak Portability Flags (Continued)

```
    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
```

Peak Optimization Flags

C benchmarks:

```
     433.milc: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
               -no-prec-div(pass 2) -opt-mem-layout-trans=3(pass 2)
               -prof-use(pass 2) -static -auto-ilp32

      470.lbm: basepeak = yes

   482.sphinx3: -xSSE4.2 -ipo -O3 -no-prec-div -opt-mem-layout-trans=3
               -unroll2
```

C++ benchmarks:

```
     444.namd: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
               -no-prec-div(pass 2) -opt-mem-layout-trans=3(pass 2)
               -prof-use(pass 2) -fno-alias -auto-ilp32

    447.dealII: basepeak = yes

    450.soplex: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
               -no-prec-div(pass 2) -opt-mem-layout-trans=3(pass 2)
               -prof-use(pass 2) -opt-malloc-options=3

    453.povray: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
               -no-prec-div(pass 2) -opt-mem-layout-trans=3(pass 2)
               -prof-use(pass 2) -unroll4 -ansi-alias
```

Fortran benchmarks:

```
    410.bwaves: basepeak = yes

    416.gamess: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
               -no-prec-div(pass 2) -prof-use(pass 2) -unroll2
               -inline-level=0 -scalar-rep- -static

    434.zeusmp: basepeak = yes

   437.leslie3d: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch
```

Hewlett-Packard Company

ProLiant DL380 G7
(2.13 GHz, Intel Xeon E5606)

$SPECfp_rate2006 = $ 136

$SPECfp_rate_base2006 = $ 133

CPU2006 license: 3		**Test date:**	Jan-2012
Test sponsor:	Hewlett-Packard Company	**Hardware Availability:**	Feb-2011
Tested by:	Hewlett-Packard Company	**Software Availability:**	Sep-2011

Peak Optimization Flags (Continued)

459.GemsFDTD: basepeak = yes

465.tonto: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -auto
-inline-calloc -opt-malloc-options=3

Benchmarks using both Fortran and C:

435.gromacs: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -opt-mem-layout-trans=3(pass 2)
-prof-use(pass 2) -opt-prefetch -static -auto-ilp32

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32

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-A.html
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.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-A.xml
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml

---

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

Tested with SPEC CPU2006 v1.2.
Report generated on Thu Jul 24 02:13:27 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 28 February 2012.