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

Hewlett-Packard Company

ProLiant SL165s G7
(2.30 GHz AMD Opteron 6176)

$SPECfp^{®}\_rate2006 =$ Not Run

$SPECfp\_rate\_base2006 =$ 291

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

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

Benchmark	Copies	Result
410.bwaves	24	255
416.gamess	24	361
433.milc	24	186
434.zeusmp	24	293
435.gromacs	24	289
436.cactusADM	24	333
437.leslie3d	24	183
444.namd	24	288
447.dealII	24	454
450.soplex	24	182
453.povray	24	406
454.calculix	24	413
459.GemsFDTD	24	168
465.tonto	24	343
470.lbm	24	365
481.wrf	24	300
482.sphinx3	24	352

SPECfp_rate_base2006 = 291

Hardware
CPU Name: AMD Opteron 6176
CPU Characteristics:
CPU MHz: 2300
FPU: Integrated
CPU(s) enabled: 24 cores, 2 chips, 12 cores/chip
CPU(s) orderable: 1,2 chips
Primary Cache: 64 KB I + 64 KB D on chip per core
Secondary Cache: 512 KB I+D on chip per core

Continued on next page

Software
Operating System: SUSE Linux Enterprise Server 11 (x86_64) SP1 Kernel 2.6.32.12-0.7-default
Compiler: C/C++/Fortran: Version 4.2.5.2 of x86 Open64 Compiler Suite (from AMD)
Auto Parallel: No
File System: ext3
System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: Not Applicable

Continued on next page

SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

ProLiant SL165s G7
(2.30 GHz AMD Opteron 6176)

SPECfp_rate2006 =   Not Run

SPECfp_rate_base2006 =   291

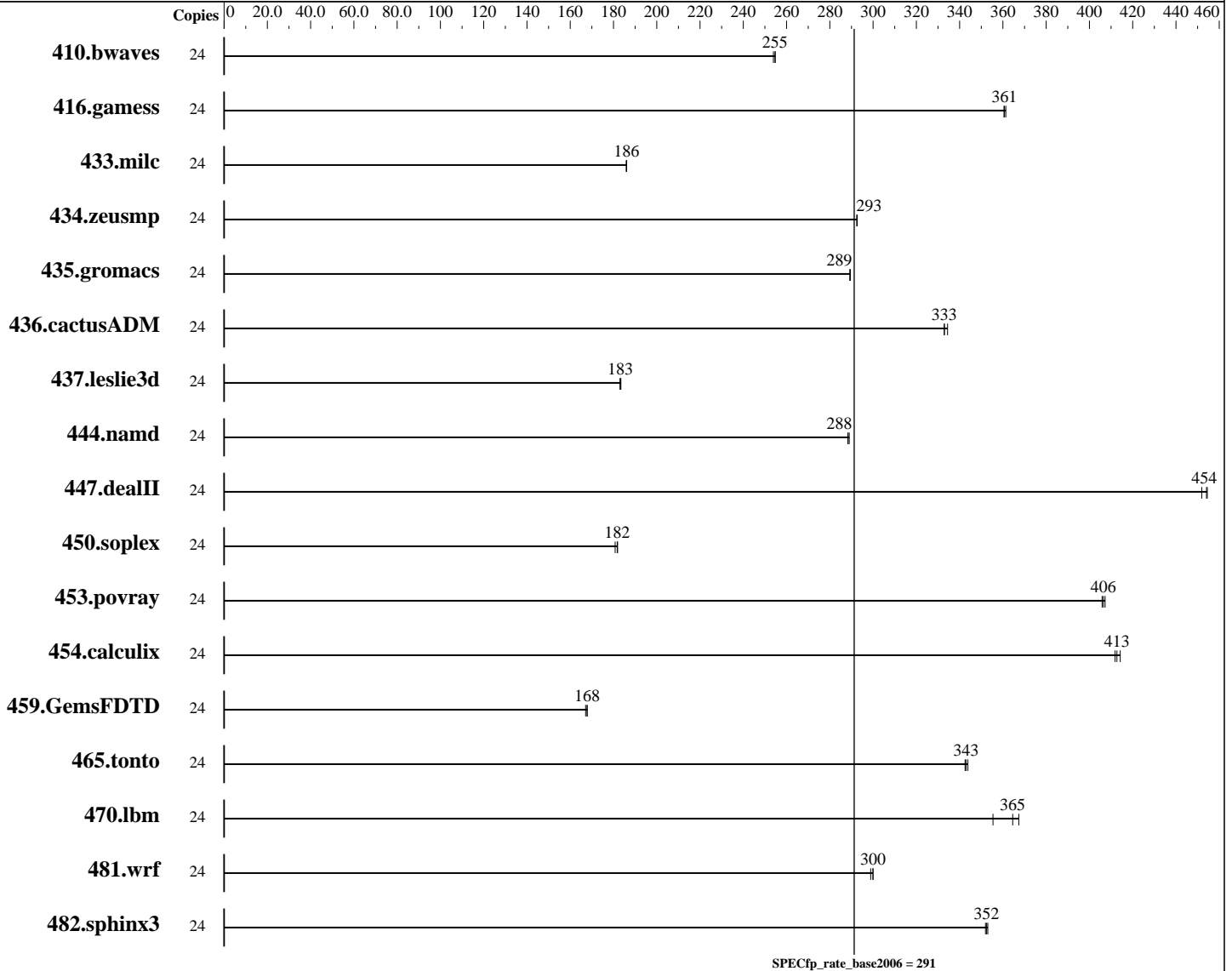|	
CPU2006 license: 3	**Test date:** Jan-2012
Test sponsor: Hewlett-Packard Company	**Hardware Availability:** Feb-2011
Tested by: Hewlett-Packard Company	**Software Availability:** Jul-2011

L3 Cache:	12 MB I+D on chip per chip, 6 MB shared / 6 cores	Other Software: None
Other Cache:	None	
Memory:	128 GB (16 x 8 GB 2Rx4 PC3-10600R-9, ECC)	
Disk Subsystem:	1 x 500 GB 7.2 K SATA	
Other Hardware:	None	

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	24	1284	254	1280	255	**1281**	**255**							
416.gamess	24	1304	360	**1303**	**361**	1300	361							
433.milc	24	1185	186	1184	186	**1184**	**186**							
434.zeusmp	24	746	293	**747**	**293**	747	292							
435.gromacs	24	592	289	**592**	**289**	592	289							
436.cactusADM	24	858	334	862	333	**861**	**333**							
437.leslie3d	24	**1232**	**183**	1230	183	1233	183							
444.namd	24	668	288	**667**	**288**	666	289							
447.dealII	24	**605**	**454**	604	454	608	452							
450.soplex	24	**1102**	**182**	1100	182	1107	181							
453.povray	24	314	407	**314**	**406**	315	406							
454.calculix	24	478	414	**480**	**413**	481	412							
459.GemsFDTD	24	1517	168	**1518**	**168**	1524	167							
465.tonto	24	687	344	**689**	**343**	689	343							
470.lbm	24	898	367	**905**	**365**	928	355							
481.wrf	24	897	299	**894**	**300**	894	300							
482.sphinx3	24	**1327**	**352**	1325	353	1329	352							

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

Submit Notes

```
The config file option 'submit' was used.
'numactl' was used to bind copies to the cores.
See the configuration file for details.
```

Operating System Notes

```
'ulimit -s unlimited' was used to set environment stack size
'ulimit -l 2097152'  was used to set environment locked pages in memory limit

Set vm.nr_hugepages=10800 in /etc/sysctl.conf
mount -t hugetlbfs nodev /mnt/hugepages
```

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

ProLiant SL165s G7
(2.30 GHz AMD Opteron 6176)

$SPECfp_rate2006 = $ Not Run

$SPECfp_rate_base2006 = $ 291

CPU2006 license: 3

Test sponsor: Hewlett-Packard Company

Tested by: Hewlett-Packard Company

Test date: Jan-2012

Hardware Availability: Feb-2011

Software Availability: Jul-2011

Platform Notes

```
BIOS Configuration:
  Power Efficiency Mode set to Performance
 Sysinfo program /cpu2006/Docs/sysinfo
 $Rev: 6775 $ $Date:: 2011-08-16 #$ 8787f7622badcf24e01c368b1db4377c
 running on SL165G7-Bao-node1 Wed Jan  4 22:47:55 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 : AMD Opteron(tm) Processor 6176
       2 "physical id"s (chips)
       24 "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 : 12
       siblings  : 12
       physical 0: cores 0 1 2 3 4 5
       physical 1: cores 0 1 2 3 4 5
    cache size : 512 KB

 From /proc/meminfo
    MemTotal:       132169300 kB
    HugePages_Total:   10800
    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 = 1

 uname -a:
    Linux SL165G7-Bao-node1 2.6.32.12-0.7-default #1 SMP 2010-05-20 11:14:20
    +0200 x86_64 x86_64 x86_64 GNU/Linux

 run-level 3 Jan 4 15:05 last=S

 SPEC is set to: /cpu2006
    Filesystem     Type     Size  Used Avail Use% Mounted on
    /dev/sda3      ext3      84G   19G   61G  24% /

 (End of data from sysinfo program)
```

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

ProLiant SL165s G7
(2.30 GHz AMD Opteron 6176)

$SPECfp_rate2006 = $ Not Run

$SPECfp_rate_base2006 = $ 291

CPU2006 license: 3

Test sponsor: Hewlett-Packard Company

Tested by: Hewlett-Packard Company

Test date: Jan-2012

Hardware Availability: Feb-2011

Software Availability: Jul-2011

General Notes

```
Environment variables set by runspec before the start of the run:
HUGETLB_LIMIT = "450"
OMP_NUM_THREADS = "6" was set, but it is believed that it did not have an effect.
LD_LIBRARY_PATH = "/opt/x86_open64-4.2.5.2/open64-gcc-4.2.0/lib:/opt/x86_open64-4.2.5.2/open64-gcc-4.2.0/lib64/lib"

The x86 Open64 Compiler Suite is only available from (and supported by) AMD at
http://developer.amd.com/cpu/open64
```

Base Compiler Invocation

C benchmarks:
> opencc

C++ benchmarks:
> openCC

Fortran benchmarks:
> openf95

Benchmarks using both Fortran and C:
> opencc openf95

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
    436.cactusADM: -DSPEC_CPU_LP64  -fno-second-underscore
      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
    459.GemsFDTD: -DSPEC_CPU_LP64
       465.tonto: -DSPEC_CPU_LP64
        470.lbm: -DSPEC_CPU_LP64
         481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX -DSPEC_CPU_CASE_FLAG
               -fno-second-underscore
      482.sphinx3: -DSPEC_CPU_LP64
```

SPEC CFP2006 Result

Hewlett-Packard Company

ProLiant SL165s G7
(2.30 GHz AMD Opteron 6176)

$SPECfp_rate2006 = $ Not Run

$SPECfp_rate_base2006 = $ 291

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

Base Optimization Flags

C benchmarks:
```
-march=barcelona -mso -Ofast -OPT:malloc_alg=1 -HP:bdt=2m
```

C++ benchmarks:
```
-march=barcelona -mso -Ofast -static -INLINE:aggressive=on
-OPT:malloc_alg=1 -HP:bdt=2m
```

Fortran benchmarks:
```
-march=barcelona -mso -Ofast -HP
```

Benchmarks using both Fortran and C:
```
-march=barcelona -mso -Ofast -OPT:malloc_alg=1 -HP:bdt=2m -HP
```

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/HP-Platform-Flags-AMD-V1.2-A.html
http://www.spec.org/cpu2006/flags/x86-open64-425-flags-rate-revB.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/HP-Platform-Flags-AMD-V1.2-A.xml
http://www.spec.org/cpu2006/flags/x86-open64-425-flags-rate-revB.xml

SPEC and SPECfp are registered trademarks of the Standard Performance
Evaluation Corporation. All other brand and product names appearing in
this result are trademarks or registered trademarks of their respective
holders.

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 03:38:15 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 1 February 2012.