SPEC® CFP2006 Result

Hewlett-Packard Company

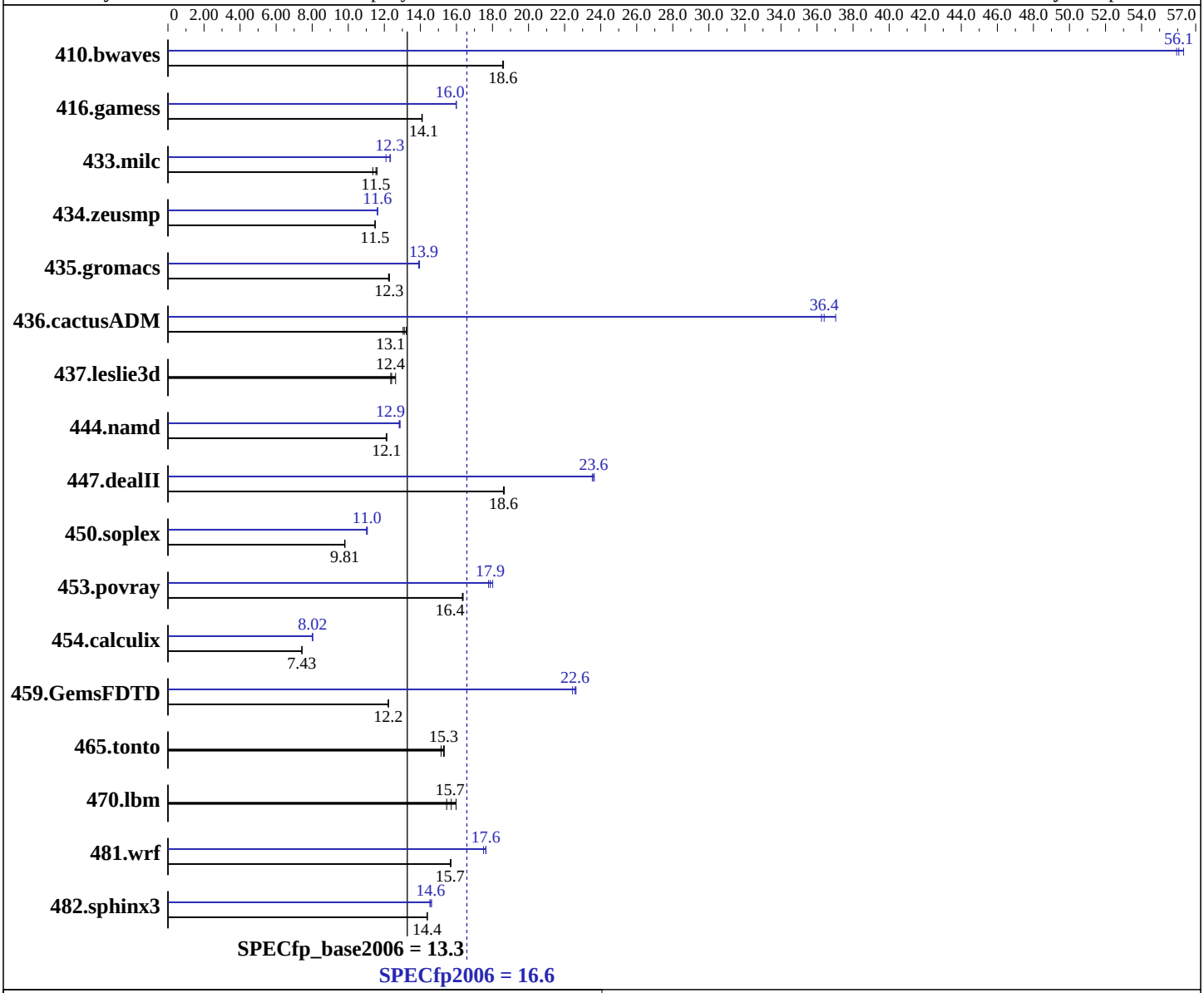
Proliant DL365 (AMD Opteron 2220)

SPECfp®2006 = 16.6

SPECfp_base2006 = 13.3

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

Test date: May-2007
Hardware Availability: Oct-2006
Software Availability: Apr-2007



Hardware

CPU Name:	AMD Opteron 2220
CPU Characteristics:	
CPU MHz:	2800
FPU:	Integrated
CPU(s) enabled:	4 cores, 2 chips, 2 cores/chip
CPU(s) orderable:	1,2 chips
Primary Cache:	64 KB I + 64 KB D on chip per core
Secondary Cache:	1 MB I+D on chip per core

Continued on next page

Software

Operating System:	SuSE Linux Enterprise Server 10 (x86_64) SuSE kernel 2.6.16.21-0.8-smp
Compiler:	QLogic PathScale Compiler Suite, Release 3.0
Auto Parallel:	Yes
File System:	ext2
System State:	Multi-user, run level 3
Base Pointers:	64-bit
Peak Pointers:	32/64-bit

Continued on next page

SPEC CFP2006 Result

Hewlett-Packard Company

Proliant DL365 (AMD Opteron 2220)

SPECfp2006 = 16.6

SPECfp_base2006 = 13.3

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

Test date: May-2007
Hardware Availability: Oct-2006
Software Availability: Apr-2007

L3 Cache: None
Other Cache: None
Memory: 16 GB (8x2 GB, PC2-5300P CL5)
Disk Subsystem: 1x72 GB 10 K SAS
Other Hardware: None

Other Software: None

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	730	18.6	732	18.6	**731**	**18.6**	243	55.9	241	56.3	**242**	**56.1**
416.gamess	1391	14.1	**1390**	**14.1**	1388	14.1	**1225**	**16.0**	1225	16.0	1224	16.0
433.milc	808	11.4	**796**	**11.5**	791	11.6	759	12.1	**746**	**12.3**	744	12.3
434.zeusmp	792	11.5	**792**	**11.5**	792	11.5	**783**	**11.6**	783	11.6	782	11.6
435.gromacs	584	12.2	**582**	**12.3**	581	12.3	**512**	**13.9**	512	14.0	513	13.9
436.cactusADM	916	13.0	904	13.2	**912**	**13.1**	**328**	**36.4**	323	37.0	330	36.2
437.leslie3d	745	12.6	**758**	**12.4**	761	12.4	745	12.6	**758**	**12.4**	761	12.4
444.namd	663	12.1	**661**	**12.1**	661	12.1	**624**	**12.9**	623	12.9	625	12.8
447.dealII	613	18.7	615	18.6	**614**	**18.6**	486	23.5	484	23.6	**485**	**23.6**
450.soplex	851	9.80	**850**	**9.81**	850	9.82	754	11.1	**756**	**11.0**	757	11.0
453.povray	326	16.3	**325**	**16.4**	325	16.4	299	17.8	**298**	**17.9**	295	18.0
454.calculix	**1110**	**7.43**	1111	7.43	1110	7.43	1029	8.02	1028	8.02	**1029**	**8.02**
459.GemsFDTD	867	12.2	**868**	**12.2**	868	12.2	469	22.6	**470**	**22.6**	473	22.4
465.tonto	650	15.1	**644**	**15.3**	642	15.3	650	15.1	**644**	**15.3**	642	15.3
470.lbm	860	16.0	**875**	**15.7**	889	15.5	860	16.0	**875**	**15.7**	889	15.5
481.wrf	713	15.7	712	15.7	**713**	**15.7**	633	17.6	638	17.5	**634**	**17.6**
482.sphinx3	1356	14.4	**1355**	**14.4**	1355	14.4	1342	14.5	1333	14.6	**1338**	**14.6**

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

Platform Notes

```
Node interleaving is disabled
ulimit -s unlimited set
```

Base Compiler Invocation

C benchmarks:
`pathcc`

C++ benchmarks:
`pathCC`

Continued on next page

Base Compiler Invocation (Continued)

Fortran benchmarks:
pathf95

Benchmarks using both Fortran and C:
pathcc pathf95

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 -fno-second-underscore
482.sphinx3: -DSPEC_CPU_LP64

Base Optimization Flags

C benchmarks:
-Ofast

C++ benchmarks:
-Ofast

Fortran benchmarks:
-Ofast -OPT:malloc_alg=1

Benchmarks using both Fortran and C:
-Ofast -OPT:malloc_alg=1

Peak Compiler Invocation

C benchmarks:
pathcc

Continued on next page

Peak Compiler Invocation (Continued)

C++ benchmarks:
pathCC

Fortran benchmarks:
pathf95

Benchmarks using both Fortran and C:
pathcc pathf95

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
436.cactusADM: -DSPEC_CPU_LP64 -fno-second-underscore
437.leslie3d: -DSPEC_CPU_LP64
444.namd: -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 -fno-second-underscore
482.sphinx3: -DSPEC_CPU_LP64

Peak Optimization Flags

C benchmarks:

433.milc: -Ofast -CG:cflow=off -LNO:prefetch=1 -OPT:malloc_alg=1

470.lbm: basepeak = yes

482.sphinx3: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -O3
-OPT:Ofast -WOPT:aggstr=0 -m32

C++ benchmarks:

444.namd: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -Ofast
-fno-exceptions

447.dealII: -Ofast -static -INLINE:aggressive=on -OPT:malloc_alg=1
-m32 -fno-exceptions

Continued on next page

Peak Optimization Flags (Continued)

450.soplex: `-fb_create fbdata`(pass 1) `-fb_opt fbdata`(pass 2) `-m32 -O3 -OPT:IEEE_arith=3 -CG:load_exe=0 -CG:movnti=1 -LNO:minvariant=off -LNO:prefetch=1 -fno-exceptions`

453.povray: `-fb_create fbdata`(pass 1) `-fb_opt fbdata`(pass 2) `-Ofast -fno-fast-math`

Fortran benchmarks:

410.bwaves: `-Ofast -apo`

416.gamess: `-fb_create fbdata`(pass 1) `-fb_opt fbdata`(pass 2) `-O2 -OPT:Ofast -OPT:ro=3 -OPT:unroll_size=256`

434.zeusmp: `-Ofast -CG:local_fwd_sched=on -LNO:blocking=off -LNO:interchange=off -LNO:fu=10 -LNO:full_unroll_outer=on`

437.leslie3d: `basepeak = yes`

459.GemsFDTD: `Same as 410.bwaves`

465.tonto: `basepeak = yes`

Benchmarks using both Fortran and C:

435.gromacs: `-O3 -OPT:rsqrt=2 -OPT:ro=3`

436.cactusADM: `-Ofast -apo`

454.calculix: `-Ofast -LNO:simd=0 -WOPT:mem_opnds=on`

481.wrf: `Same as 436.cactusADM`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.16.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.16.xml`

Hewlett-Packard Company

Proliant DL365 (AMD Opteron 2220)

SPECfp2006 = 16.6

SPECfp_base2006 = 13.3

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

Test date: May-2007
Hardware Availability: Oct-2006
Software Availability: Apr-2007

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

Tested with SPEC CPU2006 v1.0.
Report generated on Tue Sep 13 11:21:54 2016 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 26 June 2007.