SPEC® CFP2006 Result

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Hewlett-Packard Company

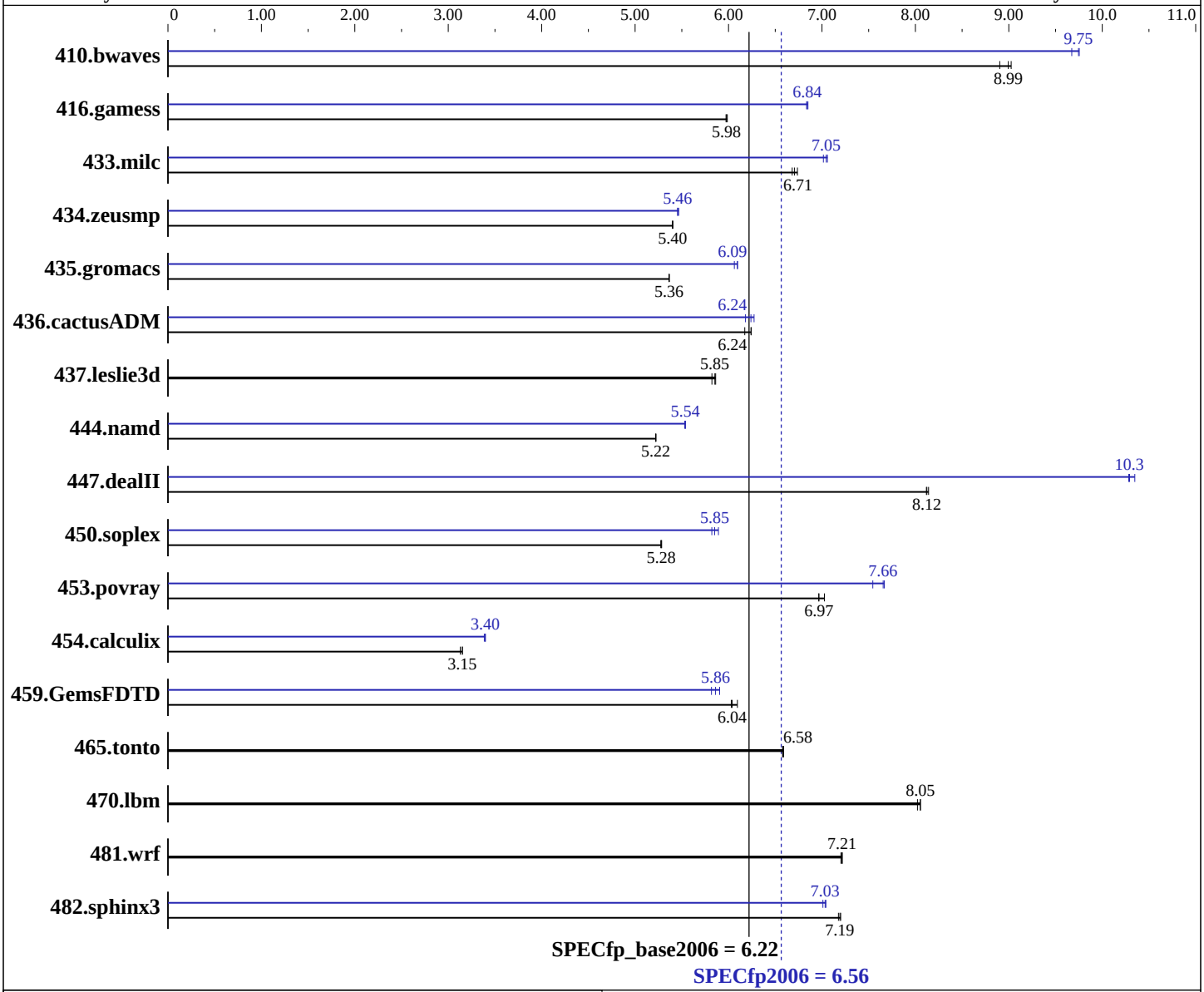
HP BladeSystem bc2000 Blade PC
(1.2GHz AMD Athlon 64 2100+)

SPECfp®2006 = 6.56

SPECfp_base2006 = 6.22

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

Test date: Dec-2007
Hardware Availability: Jun-2007
Software Availability: Mar-2008



Hardware

CPU Name:	AMD Athlon 64 2100+
CPU Characteristics:	
CPU MHz:	1200
FPU:	Integrated
CPU(s) enabled:	1 core, 1 chip, 1 core/chip
CPU(s) orderable:	1 chip
Primary Cache:	64 KB I + 64 KB D on chip per chip
Secondary Cache:	512 KB I+D on chip per chip

Continued on next page

Software

Operating System:	SUSE Linux Enterprise Server 10 (x86_64) SP1, Kernel 2.6.16.46-0.12-default
Compiler:	QLogic PathScale Compiler Suite, Release 3.0
Auto Parallel:	No
File System:	ext3
System State:	Multi-user, run level 3
Base Pointers:	64-bit
Peak Pointers:	32/64-bit

Continued on next page

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L3 Cache: None
Other Cache: None
Memory: 2 GB (1x2GB, DDR2-667 CL5 ECC Reg Dual Rank)
Disk Subsystem: 1x80 GB SATA, 5400 RPM
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	1526	8.90	**1511**	**8.99**	1506	9.03	1393	9.75	**1394**	**9.75**	1405	9.67
416.gamess	3278	5.97	**3275**	**5.98**	3270	5.99	2858	6.85	2865	6.84	**2862**	**6.84**
433.milc	1374	6.68	**1369**	**6.71**	1363	6.74	**1303**	**7.05**	1309	7.02	1301	7.06
434.zeusmp	**1685**	**5.40**	1685	5.40	1684	5.40	1668	5.46	1665	5.47	**1668**	**5.46**
435.gromacs	1331	5.36	1331	5.37	**1331**	**5.36**	**1172**	**6.09**	1178	6.06	1171	6.10
436.cactusADM	**1915**	**6.24**	1936	6.17	1914	6.24	1933	6.18	**1915**	**6.24**	1905	6.27
437.leslie3d	1615	5.82	**1606**	**5.85**	1603	5.86	1615	5.82	**1606**	**5.85**	1603	5.86
444.namd	1536	5.22	**1536**	**5.22**	1536	5.22	1448	5.54	1450	5.53	**1448**	**5.54**
447.dealII	**1408**	**8.12**	1409	8.12	1405	8.14	1105	10.3	**1112**	**10.3**	1112	10.3
450.soplex	1578	5.28	1581	5.28	**1580**	**5.28**	1415	5.89	**1425**	**5.85**	1433	5.82
453.povray	**764**	**6.97**	764	6.97	757	7.03	**695**	**7.66**	694	7.67	705	7.54
454.calculix	**2618**	**3.15**	2618	3.15	2637	3.13	2428	3.40	**2429**	**3.40**	2437	3.39
459.GemsFDTD	1741	6.09	1760	6.03	**1757**	**6.04**	**1810**	**5.86**	1797	5.90	1824	5.82
465.tonto	1493	6.59	**1495**	**6.58**	1496	6.58	1493	6.59	**1495**	**6.58**	1496	6.58
470.lbm	1713	8.02	**1706**	**8.05**	1706	8.05	1713	8.02	**1706**	**8.05**	1706	8.05
481.wrf	1551	7.20	**1548**	**7.21**	1548	7.22	1551	7.20	**1548**	**7.21**	1548	7.22
482.sphinx3	2707	7.20	2716	7.18	**2710**	**7.19**	2768	7.04	2780	7.01	**2771**	**7.03**

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

Base Compiler Invocation

C benchmarks:
`pathcc`

C++ benchmarks:
`pathCC`

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

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 -INLINE:aggressive=on -OPT:malloc_alg=1 -m32
-fno-exceptions

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: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -O3
-OPT:Ofast -OPT:IEEE_arith=3 -LNO:blocking=off
-LNO:ignore_feedback=off

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Peak Optimization Flags (Continued)

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: `-Ofast -LNO:fission=2 -LNO:prefetch=0`

465.tonto: `basepeak = yes`

Benchmarks using both Fortran and C:

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

436.cactusADM: `-fb_create fbdata`(pass 1) `-fb_opt fbdata`(pass 2) `-O3 -LNO:prefetch=3 -LNO:prefetch_ahead=5 -LNO:ou_prod_max=10 -LNO:full_unroll=5 -ipa`

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

481.wrf: `basepeak = yes`

Peak Other Flags

C++ benchmarks:

447.dealII: `-static`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.xml`

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