



SPEC[®] CFP2006 Result

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Hewlett-Packard Company

SPECfp[®]_rate2006 = 6.55

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

SPECfp_rate_base2006 = 6.19

CPU2006 license: 3

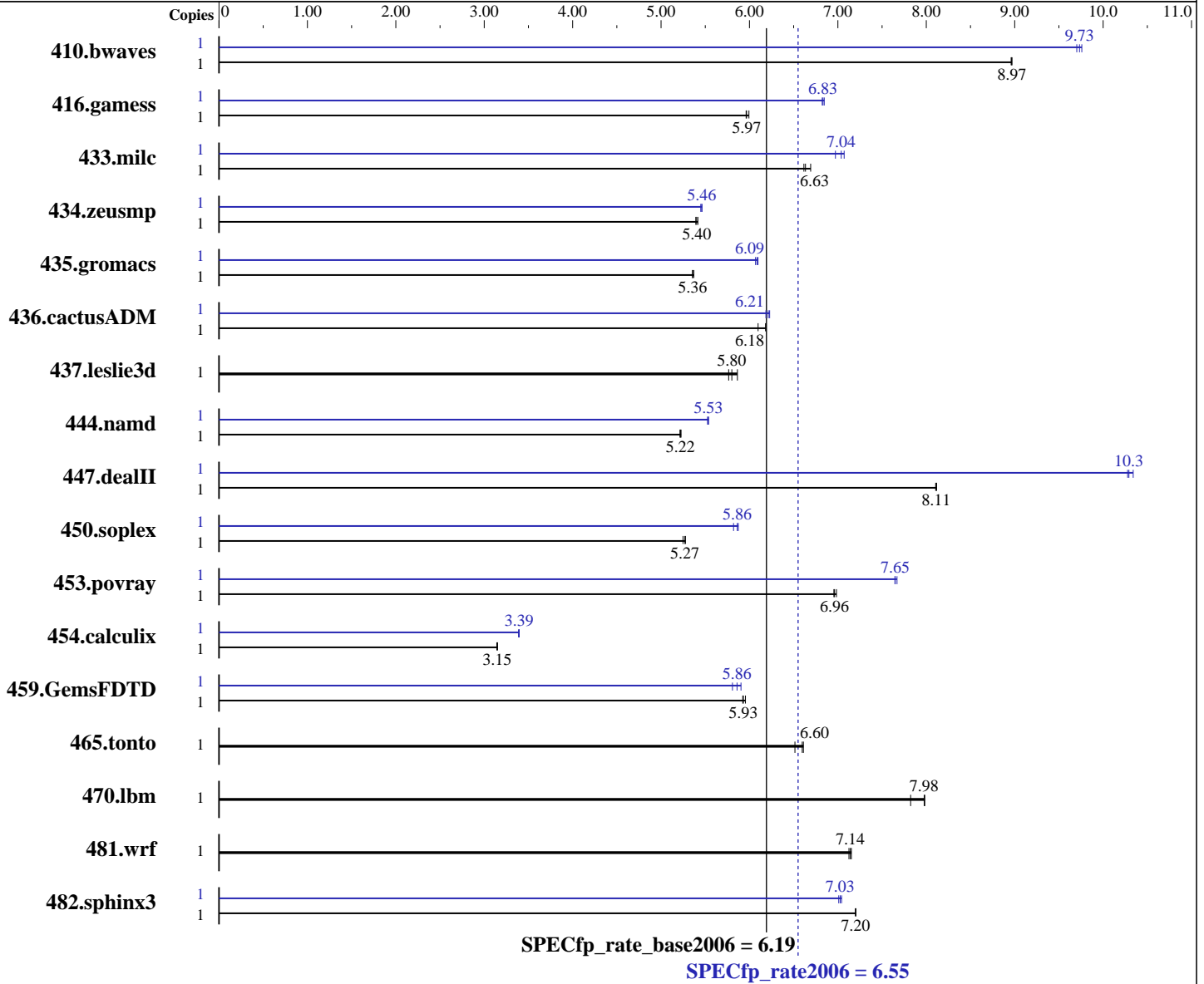
Test sponsor: Hewlett-Packard Company

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

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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

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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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	1	1517	8.96	1515	8.97	1515	8.97	1	1393	9.76	1396	9.73	1401	9.70
416.gamess	1	3284	5.96	3281	5.97	3267	5.99	1	2870	6.82	2866	6.83	2860	6.85
433.milc	1	1388	6.62	1384	6.63	1372	6.69	1	1317	6.97	1304	7.04	1298	7.07
434.zeusmp	1	1687	5.39	1684	5.40	1680	5.42	1	1670	5.45	1666	5.46	1667	5.46
435.gromacs	1	1333	5.36	1329	5.37	1333	5.36	1	1177	6.07	1173	6.09	1171	6.10
436.cactusADM	1	1932	6.18	1960	6.10	1933	6.18	1	1932	6.19	1923	6.21	1919	6.23
437.leslie3d	1	1631	5.76	1621	5.80	1603	5.86	1	1631	5.76	1621	5.80	1603	5.86
444.namd	1	1538	5.21	1536	5.22	1535	5.23	1	1448	5.54	1451	5.53	1449	5.53
447.dealII	1	1409	8.12	1411	8.11	1410	8.11	1	1106	10.3	1112	10.3	1113	10.3
450.soplex	1	1589	5.25	1583	5.27	1581	5.28	1	1423	5.86	1420	5.87	1433	5.82
453.povray	1	765	6.95	762	6.98	764	6.96	1	696	7.65	696	7.65	694	7.67
454.calculix	1	2625	3.14	2619	3.15	2621	3.15	1	2429	3.40	2430	3.39	2435	3.39
459.GemsFDTD	1	1782	5.95	1791	5.92	1789	5.93	1	1811	5.86	1797	5.90	1827	5.81
465.tonto	1	1510	6.51	1492	6.60	1489	6.61	1	1510	6.51	1492	6.60	1489	6.61
470.lbm	1	1756	7.82	1723	7.98	1721	7.98	1	1756	7.82	1723	7.98	1721	7.98
481.wrf	1	1568	7.13	1564	7.14	1562	7.15	1	1568	7.13	1564	7.14	1562	7.15
482.sphinx3	1	2706	7.20	2708	7.20	2707	7.20	1	2774	7.03	2768	7.04	2780	7.01

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

General Notes

taskset utility used to bind cores to processes

Base Compiler Invocation

C benchmarks:
pathcc

C++ benchmarks:
pathCC

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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

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

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

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.dealll: -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



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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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