SPEC® CFP2006 Result

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Acer Incorporated

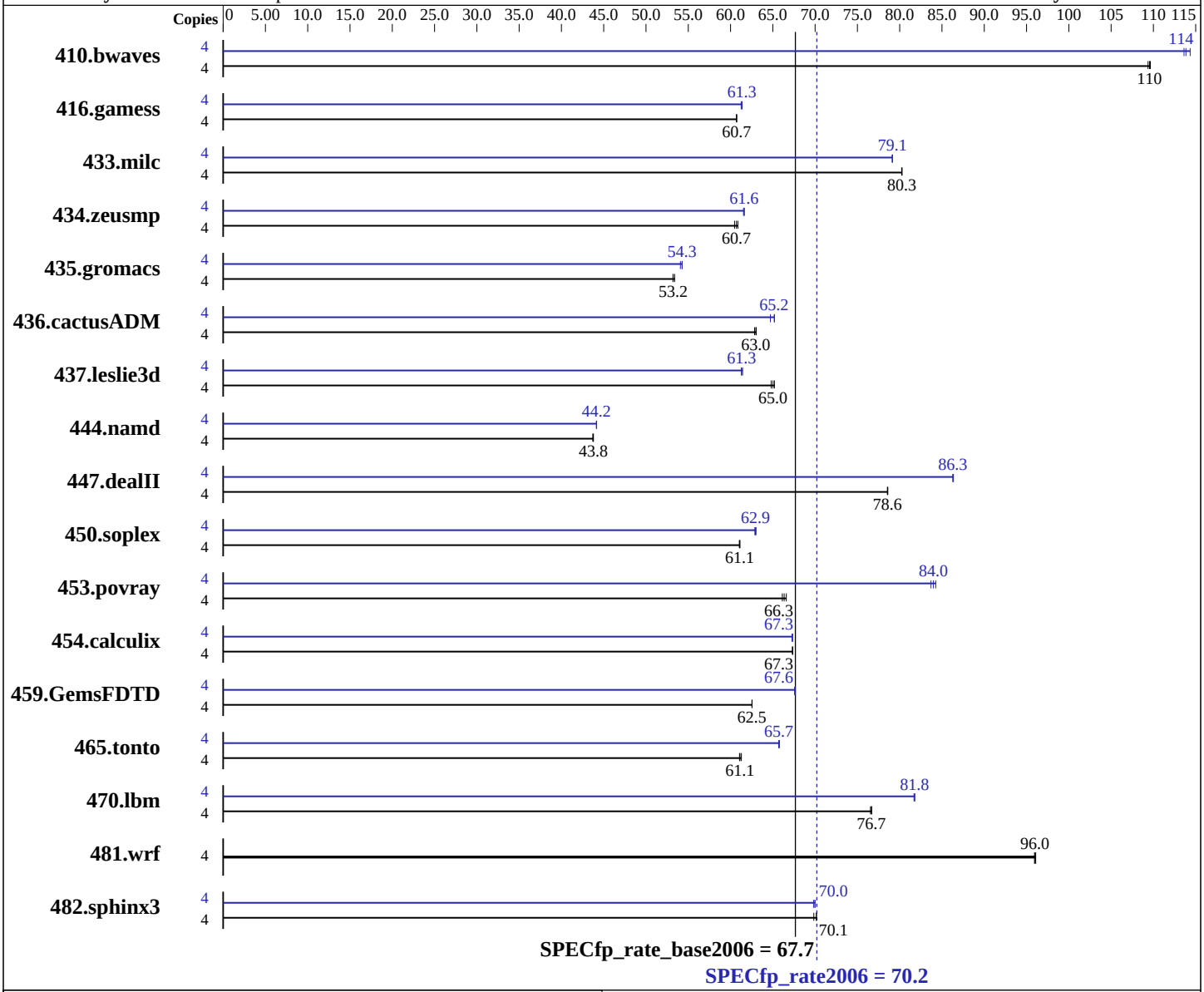
Gateway GW2000h-GW170h F1 (Intel Xeon E5502)

SPECfp®_rate2006 = 70.2

SPECfp_rate_base2006 = 67.7

CPU2006 license: 97
Test sponsor: Acer Incorporated
Tested by: Acer Incorporated

Test date: Jan-2010
Hardware Availability: Jan-2010
Software Availability: Feb-2009



Hardware

CPU Name:	Intel Xeon E5502
CPU Characteristics:	
CPU MHz:	1867
FPU:	Integrated
CPU(s) enabled:	4 cores, 2 chips, 2 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

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Software

Operating System:	SUSE Linux Enterprise Server 11 (x86_64) Kernel 2.6.27.19-5
Compiler:	Intel C++ and Fortran Compiler 11.0 for Linux Build 20090131 Package ID: l_cproc_p_11.0.080, l_cprof_p_11.0.080
Auto Parallel:	No
File System:	ReiserFS
System State:	Run level 3 (multi-user)
Base Pointers:	64-bit

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L3 Cache: 4 MB I+D on chip per chip
Other Cache: None
Memory: 24 GB (12 x 2 GB DDR3-1066 RDIMM, running at 800 MHz)
Disk Subsystem: 1 x 500 GB SATA II, 7200 RPM
Other Hardware: None

Peak Pointers: 32/64-bit
Other Software: Binutils 2.18.50.0.7.20080502

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	497	109	**496**	**110**	496	110	4	475	114	**477**	**114**	478	114
416.gamess	4	**1290**	**60.7**	1290	60.7	1290	60.7	4	**1277**	**61.3**	1276	61.4	1279	61.3
433.milc	4	457	80.3	458	80.2	**458**	**80.3**	4	**464**	**79.1**	464	79.1	464	79.1
434.zeusmp	4	**600**	**60.7**	602	60.5	598	60.9	4	**591**	**61.6**	592	61.5	591	61.6
435.gromacs	4	535	53.4	537	53.2	**537**	**53.2**	4	526	54.3	528	54.1	**526**	**54.3**
436.cactusADM	4	761	62.8	**759**	**63.0**	758	63.0	4	733	65.2	**734**	**65.2**	739	64.7
437.leslie3d	4	577	65.2	**578**	**65.0**	580	64.8	4	612	61.4	614	61.3	**613**	**61.3**
444.namd	4	**733**	**43.8**	733	43.8	734	43.7	4	726	44.2	727	44.1	**726**	**44.2**
447.dealII	4	582	78.6	583	78.5	**582**	**78.6**	4	530	86.4	**530**	**86.3**	530	86.3
450.soplex	4	**546**	**61.1**	546	61.1	547	61.0	4	531	62.9	529	63.0	**530**	**62.9**
453.povray	4	**321**	**66.3**	320	66.6	322	66.1	4	253	84.3	**253**	**84.0**	254	83.7
454.calculix	4	490	67.4	**490**	**67.3**	490	67.3	4	490	67.3	**490**	**67.3**	491	67.3
459.GemsFDTD	4	679	62.5	679	62.5	**679**	**62.5**	4	**628**	**67.6**	628	67.6	628	67.6
465.tonto	4	642	61.3	645	61.1	**644**	**61.1**	4	598	65.8	599	65.7	**599**	**65.7**
470.lbm	4	717	76.7	718	76.5	**717**	**76.7**	4	673	81.7	672	81.8	**672**	**81.8**
481.wrf	4	466	95.9	**465**	**96.0**	465	96.1	4	466	95.9	**465**	**96.0**	465	96.1
482.sphinx3	4	1116	69.8	1111	70.2	**1111**	**70.1**	4	1117	69.8	**1114**	**70.0**	1114	70.0

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
```

Operating System Notes

```
'ulimit -s unlimited' was set for stacksize unlimited
```

General Notes

```
This result was measured on the Gateway GW2000h-GW170h F1.
The Acer AW2000h-AW170h F1 and Gateway GW2000h-GW170h F1 are electronically equivalent.
```

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icc ifort

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

Base Optimization Flags

C benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -static

C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -static

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

Benchmarks using both Fortran and C:
-xSSE4.2 -ipo -O3 -no-prec-div -static

Peak Compiler Invocation

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

482.sphinx3: `icc -m32`

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

450.soplex: `icpc -m32`

Fortran benchmarks (except as noted below):
`ifort`

437.leslie3d: `ifort -m32`

Benchmarks using both Fortran and C:
`icc ifort`

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`
444.namd: `-DSPEC_CPU_LP64`
447.dealII: `-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`

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) `-static`(pass 2) `-prof-use`(pass 2) `-fno-alias`

470.lbm: `-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch -auto-ilp32`

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Peak Optimization Flags (Continued)

482.sphinx3: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2

C++ benchmarks:

444.namd: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -fno-alias -auto-ilp32

447.dealII: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -unroll2 -ansi-alias -scalar-rep-

450.soplex: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(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) -static(pass 2) -prof-use(pass 2) -unroll4 -ansi-alias

Fortran benchmarks:

410.bwaves: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

416.gamess: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -unroll2 -Ob0 -ansi-alias -scalar-rep-

434.zeusmp: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)

437.leslie3d: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -opt-malloc-options=3 -opt-prefetch

459.GemsFDTD: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -unroll2 -Ob0 -opt-prefetch

465.tonto: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -unroll4 -auto

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) -static(pass 2) -prof-use(pass 2) -opt-prefetch -auto-ilp32

Continued on next page

Peak Optimization Flags (Continued)

436.cactusADM: `-xSSE4.2`(pass 2) `-prof-gen`(pass 1) `-ipo`(pass 2) `-O3`(pass 2) `-no-prec-div`(pass 2) `-static`(pass 2) `-prof-use`(pass 2) `-unroll2 -opt-prefetch -auto-ilp32`

454.calculix: `-xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32`

481.wrf: `basepeak = yes`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revF.20100209.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revF.20100209.xml`

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