SPEC® CFP2006 Result
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Acer Incorporated

Gateway GW2000h-GW170h F1 (Intel Xeon E5502, 1.86 GHz)

$SPECfp^{®}2006 =$ 24.4
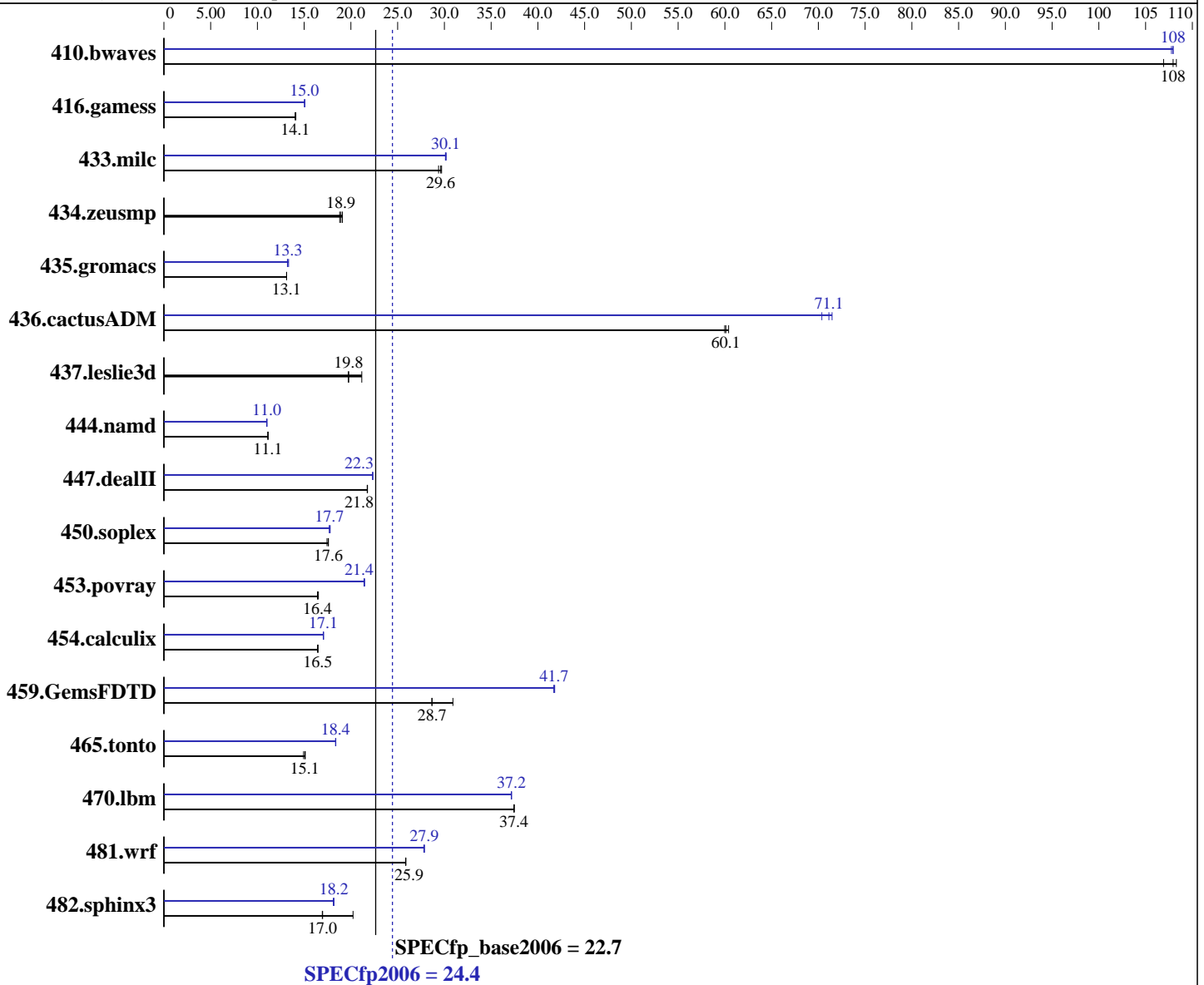
$SPECfp\_base2006 =$ 22.7

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

Test date: Jul-2010
Hardware Availability: Aug-2010
Software Availability: Jan-2010

Benchmark	Blue (peak)	Black (base)
410.bwaves	108	108
416.gamess	15.0	14.1
433.milc	30.1	29.6
434.zeusmp		18.9
435.gromacs	13.3	13.1
436.cactusADM	71.1	60.1
437.leslie3d		19.8
444.namd	11.0	11.1
447.dealII	22.3	21.8
450.soplex	17.7	17.6
453.povray	21.4	16.4
454.calculix	17.1	16.5
459.GemsFDTD	41.7	28.7
465.tonto	18.4	15.1
470.lbm	37.2	37.4
481.wrf	27.9	25.9
482.sphinx3	18.2	17.0

SPECfp_base2006 = 22.7
SPECfp2006 = 24.4

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
Continued on next page

Software

Operating System: SUSE Linux Enterprise Server 11 (x86_64) Kernel 2.6.27.19-5-default
Compiler: Intel C++ and Fortran Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091130 Package ID: l_cproc_p_11.1.064, l_cprof_p_11.1.064
Auto Parallel: Yes
File System: ReiserFS
System State: Run level 3 (multi-user)
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L3 Cache:	4 MB I+D on chip per chip
Other Cache:	None
Memory:	24 GB (6 x 4 GB 2Rx8 PC3-10600R, ECC, running at 800 MHz and CL6)
Disk Subsystem:	1 x 1000 GB SATA II, 7200 RPM
Other Hardware:	None

Base Pointers:	64-bit
Peak Pointers:	32/64-bit
Other Software:	None

Results Table

Benchmark	Base Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	127	107	**126**	**108**	125	108	126	108	**126**	**108**	126	108
416.gamess	1387	14.1	**1393**	**14.1**	1394	14.0	1302	15.0	**1301**	**15.0**	1300	15.1
433.milc	312	29.4	309	29.7	**310**	**29.6**	**305**	**30.1**	305	30.1	304	30.2
434.zeusmp	477	19.1	484	18.8	**481**	**18.9**	477	19.1	484	18.8	**481**	**18.9**
435.gromacs	**544**	**13.1**	544	13.1	544	13.1	**539**	**13.3**	541	13.2	535	13.3
436.cactusADM	**199**	**60.1**	199	60.0	198	60.4	**168**	**71.1**	170	70.4	167	71.5
437.leslie3d	477	19.7	444	21.2	**476**	**19.8**	477	19.7	444	21.2	**476**	**19.8**
444.namd	**721**	**11.1**	721	11.1	721	11.1	727	11.0	730	11.0	**729**	**11.0**
447.dealII	**526**	**21.8**	526	21.7	525	21.8	512	22.3	**512**	**22.3**	512	22.3
450.soplex	**474**	**17.6**	478	17.4	474	17.6	**471**	**17.7**	471	17.7	469	17.8
453.povray	322	16.5	**324**	**16.4**	324	16.4	249	21.4	**248**	**21.4**	248	21.5
454.calculix	502	16.4	501	16.5	**501**	**16.5**	483	17.1	484	17.1	**484**	**17.1**
459.GemsFDTD	**370**	**28.7**	343	30.9	370	28.7	**254**	**41.7**	254	41.7	254	41.8
465.tonto	659	14.9	651	15.1	**653**	**15.1**	**536**	**18.4**	535	18.4	536	18.4
470.lbm	367	37.4	367	37.5	**367**	**37.4**	369	37.2	370	37.2	**370**	**37.2**
481.wrf	**432**	**25.9**	432	25.9	432	25.8	**401**	**27.9**	401	27.9	402	27.8
482.sphinx3	1151	16.9	963	20.2	**1148**	**17.0**	1072	18.2	**1072**	**18.2**	1076	18.1

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

Operating System Notes

```
'ulimit -s unlimited' was used to set the stack size to unlimited prior to run
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to granularity=fine,scatter
KMP_STACKSIZE set to 200M
```

General Notes

```
Binaries were compiled on SLES 10 with Binutils 2.18.50.0.7.20080502

The Acer AW2000h-AW170h F1, Gateway GW2000h-GW170h F1, Acer AW2000ht-AW170ht F1
and Gateway GW2000ht-GW170ht F1 are electronically equivalent.
This result was measured on GW2000ht-GW170ht F1.
```

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$SPECfp\_base2006 =$ 22.7

CPU2006 license: 97	**Test date:** Jul-2010
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Base Compiler Invocation

C benchmarks:
```
icc   -m64
```

C++ benchmarks:
```
icpc  -m64
```

Fortran benchmarks:
```
ifort -m64
```

Benchmarks using both Fortran and C:
```
icc   -m64 ifort -m64
```

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 -parallel -opt-prefetch
```

C++ benchmarks:
```
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
```

Fortran benchmarks:
```
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
```

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

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$SPECfp\_base2006 =$ 22.7

CPU2006 license: 97

Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: Jul-2010

Hardware Availability: Aug-2010

Software Availability: Jan-2010

Peak Compiler Invocation

C benchmarks:
```
icc    -m64
```

C++ benchmarks:
```
icpc   -m64
```

Fortran benchmarks:
```
ifort -m64
```

Benchmarks using both Fortran and C:
```
icc    -m64 ifort -m64
```

Peak Portability Flags

```
Same as Base Portability Flags
```

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)
-ansi-alias

470.lbm: -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)
-parallel -ansi-alias -auto-ilp32

482.sphinx3: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32
-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- -auto-ilp32

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 -auto-ilp32

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$SPECfp\_base2006 =$ 22.7

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Peak Optimization Flags (Continued)

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 -parallel`

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: `basepeak = yes`

437.leslie3d: `basepeak = yes`

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 -parallel`

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) `-inline-calloc -opt-malloc-options=3 -auto -unroll4`

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`

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 -parallel -auto-ilp32`

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

481.wrf: `Same as 454.calculix`

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revG.20101027.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revG.20101027.xml

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$SPECfp2006 =$ 24.4

$SPECfp\_base2006 =$ 22.7

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

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