SPEC® CFP2006 Result

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Acer Incorporated

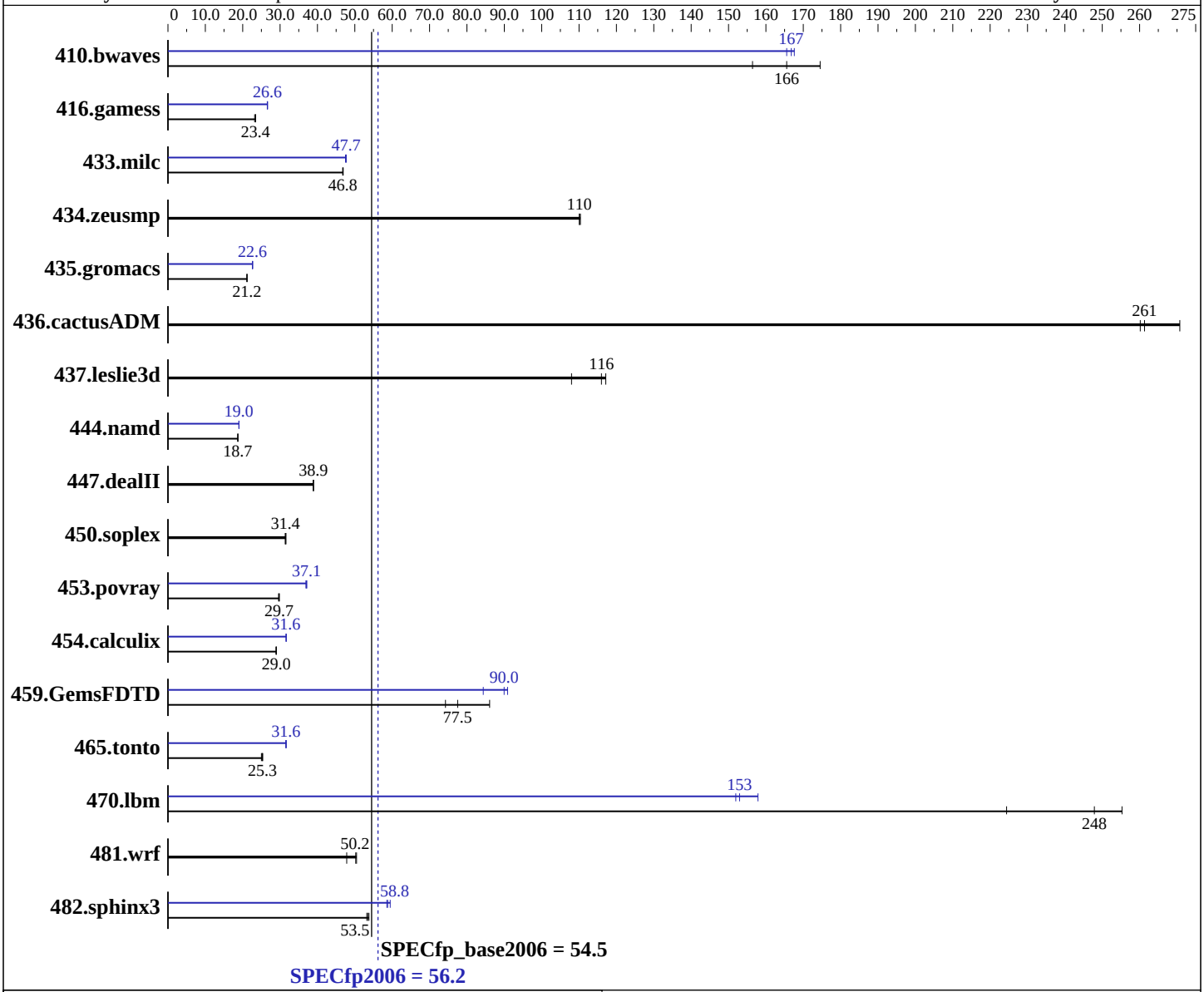
Acer AT350 F1 (Intel Xeon X5670)

SPECfp®2006 = 56.2

SPECfp_base2006 = 54.5

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

Test date: Apr-2011
Hardware Availability: Mar-2010
Software Availability: Jan-2011



Hardware

CPU Name:	Intel Xeon X5670
CPU Characteristics:	Intel Turbo Boost Technology up to 3.33 GHz
CPU MHz:	2933
FPU:	Integrated
CPU(s) enabled:	12 cores, 2 chips, 6 cores/chip, 2 threads/core
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) SP1, Kernel 2.6.32.12-0.7-default
Compiler:	Intel C++ and Fortran Intel 64 Compiler XE for applications running on Intel 64 Version 12.0.1.116 Build 20101116
Auto Parallel:	Yes
File System:	ext3
System State:	Run level 3 (multi-user)

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L3 Cache: 12 MB I+D on chip per chip
Other Cache: None
Memory: 48 GB (12 x 4 GB 2Rx8 PC3-10600R-9,ECC)
Disk Subsystem: 1 x 300 GB SATA, 10000 RPM SATA HDD
Other Hardware: None

Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: Microquill SmartHeap V9.01

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	86.9	156	**82.1**	**166**	77.9	175	81.1	168	82.1	166	**81.5**	**167**
416.gamess	844	23.2	834	23.5	**836**	**23.4**	735	26.6	**735**	**26.6**	737	26.6
433.milc	**196**	**46.8**	196	46.8	196	46.9	**193**	**47.7**	193	47.7	193	47.5
434.zeusmp	82.5	110	**82.7**	**110**	82.7	110	82.5	110	**82.7**	**110**	82.7	110
435.gromacs	338	21.1	**338**	**21.2**	337	21.2	**316**	**22.6**	314	22.7	316	22.6
436.cactusADM	**45.7**	**261**	44.1	271	45.9	260	**45.7**	**261**	44.1	271	45.9	260
437.leslie3d	80.2	117	87.0	108	**81.0**	**116**	80.2	117	87.0	108	**81.0**	**116**
444.namd	**429**	**18.7**	429	18.7	428	18.7	**422**	**19.0**	422	19.0	422	19.0
447.dealII	**294**	**38.9**	294	38.9	294	38.9	**294**	**38.9**	294	38.9	294	38.9
450.soplex	266	31.4	**265**	**31.4**	264	31.6	266	31.4	**265**	**31.4**	264	31.6
453.povray	180	29.6	**179**	**29.7**	179	29.8	**144**	**37.1**	143	37.1	144	36.9
454.calculix	**285**	**29.0**	284	29.0	286	28.9	261	31.6	**261**	**31.6**	261	31.6
459.GemsFDTD	123	86.1	143	74.3	**137**	**77.5**	**118**	**90.0**	126	84.4	117	90.9
465.tonto	**390**	**25.3**	388	25.4	394	25.0	312	31.6	**312**	**31.6**	311	31.7
470.lbm	53.8	255	61.2	224	**55.4**	**248**	87.0	158	**89.8**	**153**	90.4	152
481.wrf	234	47.8	221	50.5	**222**	**50.2**	234	47.8	221	50.5	**222**	**50.2**
482.sphinx3	362	53.8	366	53.2	**365**	**53.5**	333	58.6	**332**	**58.8**	328	59.5

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

Operating System Notes

```
Large pages were disabled for this run
```

Platform Notes

```
BIOS settings:
Fan speed = full speed (Default = Balanced)
Data Reuse = Disabled (Default = Enabled)
```

General Notes

```
OMP_NUM_THREADS set to number of cores
Binaries compiled on RHEL5.5
This result was measured on the Gateway GT350 F1.
```

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General Notes (Continued)

The Acer AT350 F1 is electronically equivalent

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
-ansi-alias

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

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Base Optimization Flags (Continued)

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 -ansi-alias`

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) `-prof-use`(pass 2) `-static -auto-ilp32 -ansi-alias`

470.lbm: `-xSSE4.2`(pass 2) `-prof-gen`(pass 1) `-ipo`(pass 2) `-O3`(pass 2) `-no-prec-div`(pass 2) `-prof-use`(pass 2) `-parallel -ansi-alias -static -auto-ilp32`

482.sphinx3: `-xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -ansi-alias -parallel`

C++ benchmarks:

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

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Peak Optimization Flags (Continued)

447.dealII: basepeak = yes

450.soplex: basepeak = yes

453.povray: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -ansi-alias -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

Fortran benchmarks:

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

416.gamess: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll2 -inline-level=0 -scalar-rep- -static

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) -prof-use(pass 2) -unroll2 -inline-level=0 -opt-prefetch -parallel -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

465.tonto: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -inline-calloc -opt-malloc-options=3 -auto -unroll4 -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

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) -prof-use(pass 2) -static -auto-ilp32 -ansi-alias

436.cactusADM: basepeak = yes

454.calculix: -xSSE4.2 -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias

481.wrf: basepeak = yes

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.html
http://www.spec.org/cpu2006/flags/Acer-Intel-Linux-Settings-flags.html

You can also download the XML flags sources by saving the following links:

http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.xml
http://www.spec.org/cpu2006/flags/Acer-Intel-Linux-Settings-flags.xml

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