SPEC® CFP2006 Result

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Acer Incorporated

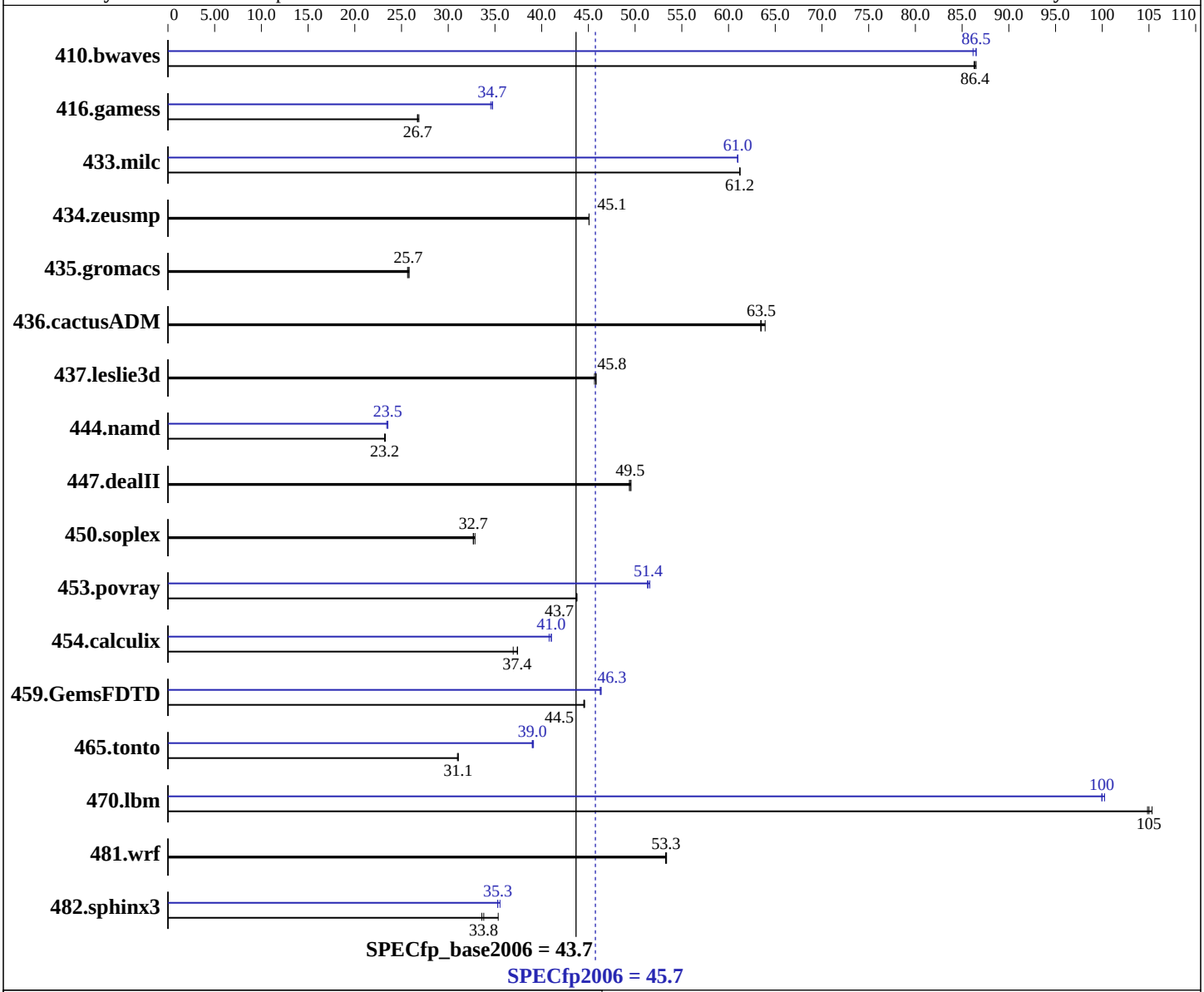
Acer AT110 F2 (Xeon E3-1220L)

SPECfp®2006 = 45.7

SPECfp_base2006 = 43.7

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

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



Hardware

CPU Name:	Intel Xeon E3-1220L
CPU Characteristics:	Intel Turbo Boost Technology up to 3.40 GHz
CPU MHz:	2200
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip, 2 threads/core
CPU(s) orderable:	1 chip
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)
Base Pointers:	64-bit

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L3 Cache: 3 MB I+D on chip per chip
Other Cache: None
Memory: 16 GB (4 x 4 GB 2Rx8 PC3-10600E-9,ECC)
Disk Subsystem: 1 x 640 GB SATA, 7200 RPM
Other Hardware: None

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

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	157	86.5	**157**	**86.4**	158	86.3	157	86.5	158	86.2	**157**	**86.5**
416.gamess	729	26.9	733	26.7	**732**	**26.7**	**564**	**34.7**	567	34.6	564	34.7
433.milc	150	61.2	**150**	**61.2**	150	61.2	151	61.0	**150**	**61.0**	150	61.0
434.zeusmp	202	45.1	202	45.1	**202**	**45.1**	202	45.1	202	45.1	**202**	**45.1**
435.gromacs	278	25.7	277	25.8	**278**	**25.7**	278	25.7	277	25.8	**278**	**25.7**
436.cactusADM	**188**	**63.5**	187	63.9	188	63.4	**188**	**63.5**	187	63.9	188	63.4
437.leslie3d	205	45.8	**205**	**45.8**	206	45.7	205	45.8	**205**	**45.8**	206	45.7
444.namd	345	23.3	**346**	**23.2**	346	23.2	342	23.4	341	23.5	**341**	**23.5**
447.dealII	232	49.4	**231**	**49.5**	231	49.6	232	49.4	**231**	**49.5**	231	49.6
450.soplex	254	32.9	255	32.7	**255**	**32.7**	254	32.9	255	32.7	**255**	**32.7**
453.povray	**122**	**43.7**	122	43.7	122	43.8	**103**	**51.4**	104	51.3	103	51.6
454.calculix	220	37.4	**221**	**37.4**	223	37.0	201	41.0	**201**	**41.0**	202	40.8
459.GemsFDTD	238	44.6	**238**	**44.5**	238	44.5	229	46.3	**229**	**46.3**	229	46.4
465.tonto	318	31.0	317	31.1	**317**	**31.1**	**252**	**39.0**	252	39.0	251	39.1
470.lbm	130	105	**131**	**105**	131	105	137	100	137	100	**137**	**100**
481.wrf	210	53.3	**210**	**53.3**	209	53.4	210	53.3	**210**	**53.3**	209	53.4
482.sphinx3	**577**	**33.8**	580	33.6	551	35.3	**552**	**35.3**	552	35.3	548	35.5

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 environment stack size
Large pages were disabled for this run
```

General Notes

```
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to granularity=fine,scatter
KMP_STACKSIZE set to 200M
Binaries compiled on RHEL5.5
This result was measured on the Gateway GT110 F2.
The Acer AT110 F2 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:
-xAVX -ipo -O3 -no-prec-div -static -parallel -opt-prefetch -ansi-alias

C++ benchmarks:
-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -ansi-alias

Fortran benchmarks:
-xAVX -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

Benchmarks using both Fortran and C:
-xAVX -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: -xAVX(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: -xAVX(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: -xAVX -ipo -O3 -no-prec-div -unroll2 -ansi-alias -parallel

C++ benchmarks:

444.namd: -xAVX(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

447.dealII: basepeak = yes

450.soplex: basepeak = yes

453.povray: -xAVX(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

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Peak Optimization Flags (Continued)

Fortran benchmarks:

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

416.gamess: -xAVX(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: -xAVX(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: -xAVX(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: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: -xAVX -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

481.wrf: basepeak = yes

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Acer-Intel-Linux-Settings-flags.20110608.html
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Acer-Intel-Linux-Settings-flags.20110608.xml
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.xml

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