SPEC® CFP2006 Result

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Acer Incorporated

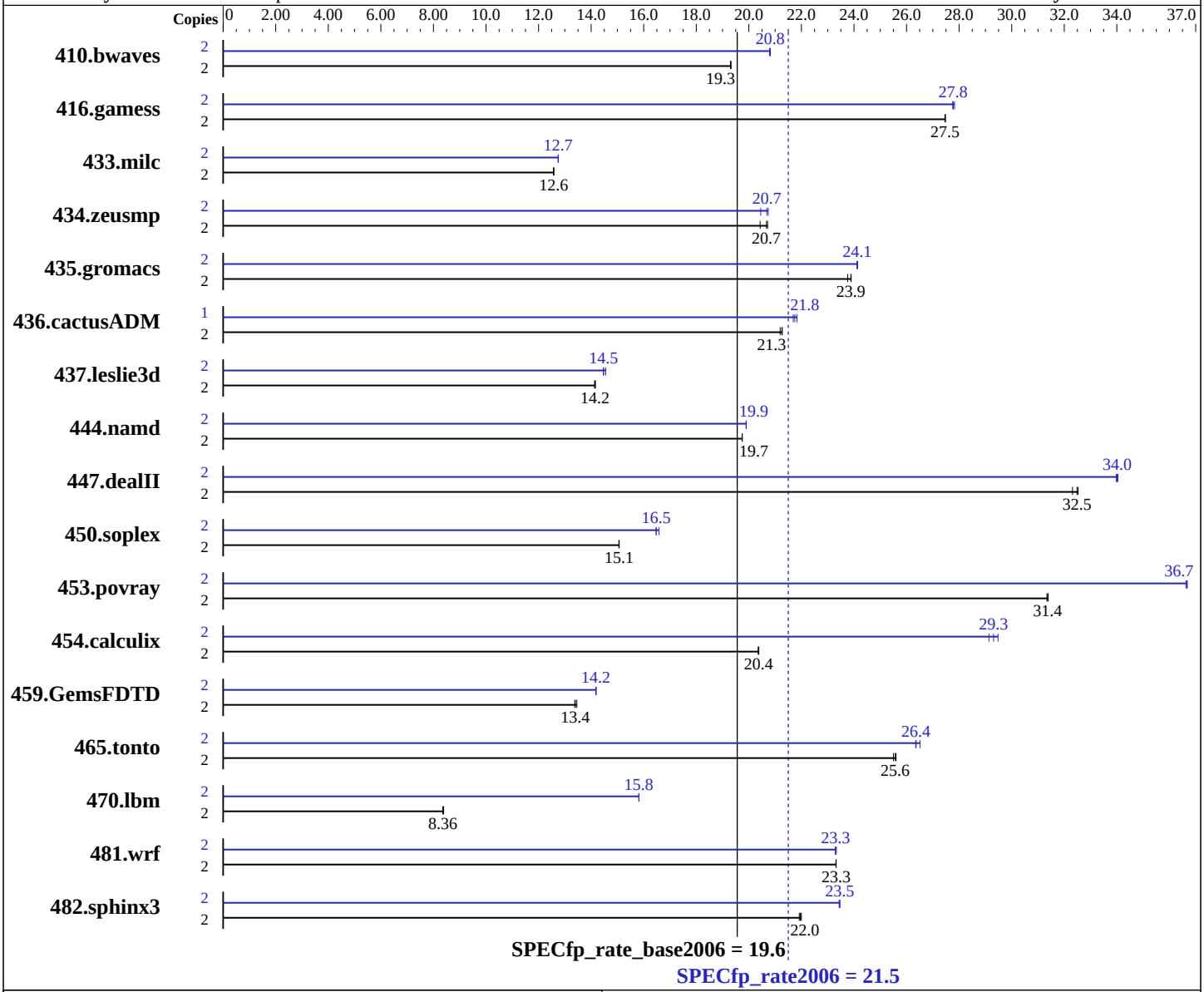
Acer Altos R520 (Intel Xeon E5205)

SPECfp®_rate2006 = 21.5

SPECfp_rate_base2006 = 19.6

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

Test date: Mar-2008
Hardware Availability: Nov-2007
Software Availability: Nov-2007



Hardware

CPU Name:	Intel Xeon E5205
CPU Characteristics:	1066MHz system bus
CPU MHz:	1860
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip
CPU(s) orderable:	1, 2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	6 MB I+D on chip per chip

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Software

Operating System:	SuSE Linux Enterprise Server 10 SP1 (x86_64) Kernel 2.6.16.46-0.12-smp
Compiler:	Intel C++ and Fortran Compiler 10.1 for Linux Build 20070913 Package ID: l_cc_p_10.1.008, l_fc_p_10.1.008
Auto Parallel:	Yes
File System:	ReiserFS
System State:	Multi-user, level 3
Base Pointers:	64-bit

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L3 Cache: None
Other Cache: None
Memory: 16 GB (8 x 2048MB ECC FB-DIMM DDR2-667 CL5-5-5)
Disk Subsystem: 1 x 73GB 10K RPM SAS HDD
Other Hardware: None

Peak Pointers: 32/64-bit
Other Software: Binutils 2.17.50.0.15

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	2	1406	19.3	**1408**	**19.3**	1408	19.3	2	1306	20.8	**1306**	**20.8**	1307	20.8
416.gamess	2	1425	27.5	**1426**	**27.5**	1426	27.5	2	1411	27.8	**1410**	**27.8**	1407	27.8
433.milc	2	**1460**	**12.6**	1461	12.6	1460	12.6	2	1441	12.7	1440	12.8	**1440**	**12.7**
434.zeusmp	2	891	20.4	879	20.7	**880**	**20.7**	2	890	20.5	878	20.7	**880**	**20.7**
435.gromacs	2	601	23.8	**598**	**23.9**	598	23.9	2	592	24.1	591	24.1	**592**	**24.1**
436.cactusADM	2	1124	21.3	**1124**	**21.3**	1128	21.2	1	**549**	**21.8**	547	21.8	551	21.7
437.leslie3d	2	1330	14.1	1328	14.2	**1328**	**14.2**	2	**1298**	**14.5**	1300	14.5	1292	14.6
444.namd	2	812	19.7	**812**	**19.7**	812	19.7	2	806	19.9	806	19.9	**806**	**19.9**
447.dealII	2	708	32.3	**704**	**32.5**	703	32.5	2	672	34.0	673	34.0	**673**	**34.0**
450.soplex	2	1108	15.1	**1107**	**15.1**	1107	15.1	2	**1012**	**16.5**	1013	16.5	1006	16.6
453.povray	2	**339**	**31.4**	340	31.3	339	31.4	2	**290**	**36.7**	290	36.6	290	36.7
454.calculix	2	810	20.4	811	20.4	**810**	**20.4**	2	560	29.5	**563**	**29.3**	566	29.1
459.GemsFDTD	2	1577	13.5	1586	13.4	**1584**	**13.4**	2	1496	14.2	**1496**	**14.2**	1496	14.2
465.tonto	2	**770**	**25.6**	772	25.5	769	25.6	2	742	26.5	**746**	**26.4**	747	26.3
470.lbm	2	3275	8.39	**3287**	**8.36**	3289	8.36	2	1737	15.8	**1737**	**15.8**	1737	15.8
481.wrf	2	958	23.3	958	23.3	**958**	**23.3**	2	958	23.3	959	23.3	**959**	**23.3**
482.sphinx3	2	1772	22.0	**1775**	**22.0**	1778	21.9	2	1663	23.4	**1662**	**23.5**	1661	23.5

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

General Notes

```
This result was measured on the Acer Altos R520.
The Altos R720 and Altos R520 are electronically equivalent.

All benchmarks compiled in 64-bit mode except 437.leslie3d, 450.soplex
470.lbm and 482.sphinx3, at peak, are compiled in 32-bit mode
BIOS Settings
  Hardware Prefetcher set to ON

  Adjacent Cache Line Prefetch set to ON

All results but peak 436.cactusADM used taskset to bind
processes to cores.
"ulimit -s unlimited" was set for stacksize unlimited
```

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General Notes (Continued)

OMP_NUM_THREADS set to number of cores

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:
-fast

C++ benchmarks:
-fast

Fortran benchmarks:
-fast

Continued on next page

Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:
`-fast`

Peak Compiler Invocation

C benchmarks (except as noted below):
`/opt/intel/cc/10.1.008/bin/icc -L/opt/intel/cc/10.1.008/lib -I/opt/intel/cc/10.1.008/include`

433.milc: `icc`

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

450.soplex: `/opt/intel/cc/10.1.008/bin/icpc -L/opt/intel/cc/10.1.008/lib -I/opt/intel/cc/10.1.008/include`

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

437.leslie3d: `/opt/intel/fc/10.1.008/bin/ifort -L/opt/intel/fc/10.1.008/lib -I/opt/intel/fc/10.1.008/include`

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`
481.wrf: `-DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX`

Peak Optimization Flags

C benchmarks:

433.milc: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -fno-alias -auto-ilp32`

470.lbm: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -unroll2 -scalar-rep- -prefetch -opt-malloc-options=3`

482.sphinx3: `-fast -unroll2`

C++ benchmarks:

444.namd: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -fno-alias -auto-ilp32`

447.dealII: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -unroll2 -ansi-alias -scalar-rep-`

450.soplex: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -opt-malloc-options=3`

453.povray: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -unroll4 -ansi-alias`

Fortran benchmarks:

410.bwaves: `-fast -prefetch`

416.gamess: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -unroll2 -Ob0 -ansi-alias -scalar-rep-`

434.zeusmp: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast`

437.leslie3d: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -prefetch -opt-malloc-options=3`

459.GemsFDTD: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -unroll2 -Ob0 -prefetch`

465.tonto: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -unroll4 -auto`

Benchmarks using both Fortran and C:

435.gromacs: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -prefetch -auto-ilp32`

436.cactusADM: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -unroll2 -prefetch -parallel -auto-ilp32`

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Peak Optimization Flags (Continued)

454.calculix: `-fast -unroll-aggressive -auto-ilp32`

481.wrf: `-fast -auto-ilp32`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Intel-ic10.1-fp-linux64-revC.20090713.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic10.1-fp-linux64-revC.20090713.xml`

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