SPEC® CFP2006 Result

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Acer Incorporated

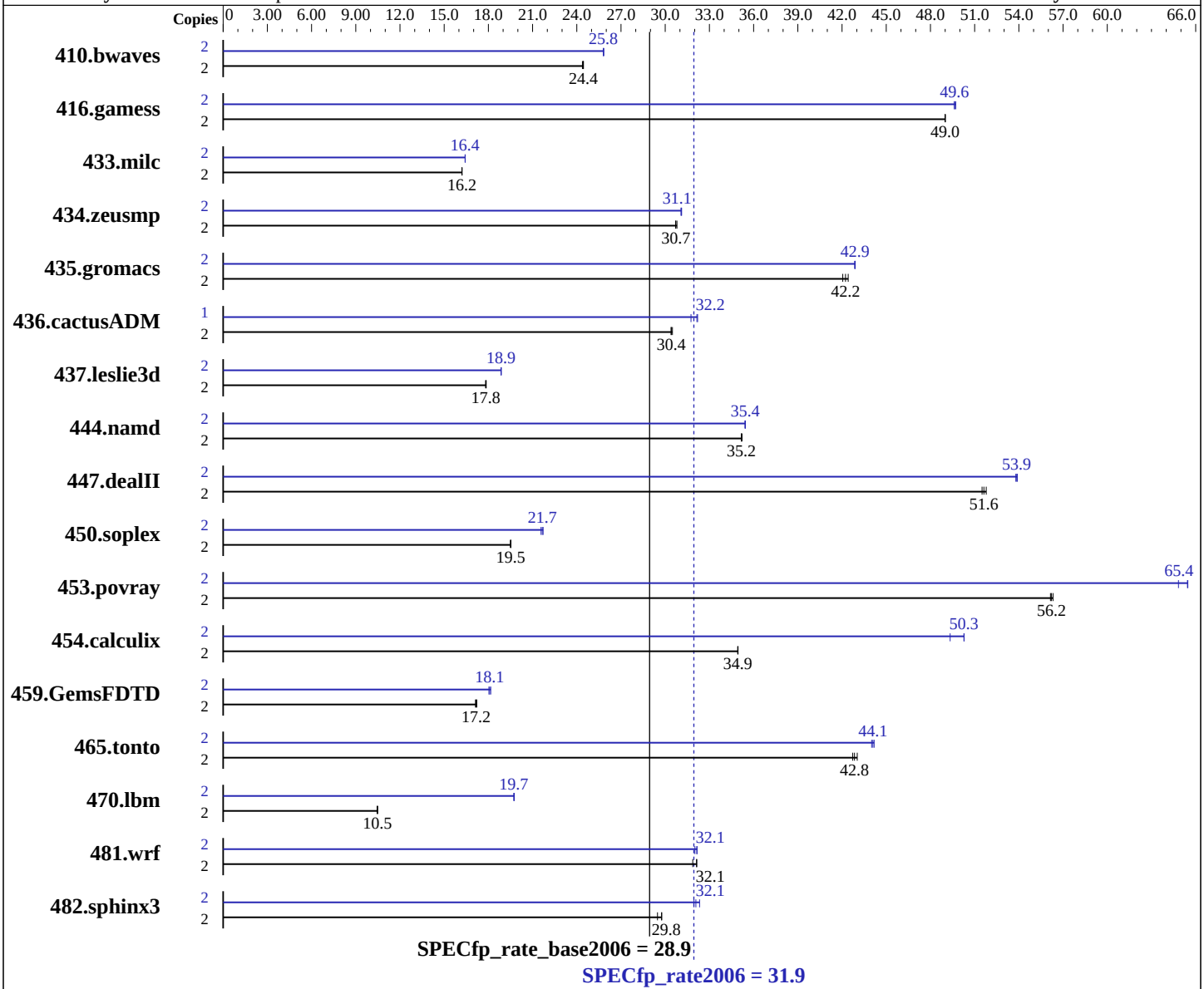
Acer Altos R520 (Intel Xeon X5260)

SPECfp®_rate2006 = 31.9

SPECfp_rate_base2006 = 28.9

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 X5260
CPU Characteristics:	1333MHz system bus
CPU MHz:	3333
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 10000PRM 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	**1112**	**24.4**	1112	24.4	1115	24.4	2	1054	25.8	**1053**	**25.8**	1052	25.8
416.gamess	2	**799**	**49.0**	799	49.0	799	49.0	2	789	49.6	788	49.7	**789**	**49.6**
433.milc	2	1133	16.2	1132	16.2	**1133**	**16.2**	2	1118	16.4	1118	16.4	**1118**	**16.4**
434.zeusmp	2	591	30.8	**592**	**30.7**	593	30.7	2	**585**	**31.1**	586	31.1	585	31.1
435.gromacs	2	337	42.4	**338**	**42.2**	340	42.0	2	333	42.9	333	42.9	**333**	**42.9**
436.cactusADM	2	784	30.5	786	30.4	**786**	**30.4**	1	**372**	**32.2**	376	31.8	371	32.2
437.leslie3d	2	1056	17.8	1053	17.9	**1054**	**17.8**	2	996	18.9	**997**	**18.9**	997	18.9
444.namd	2	456	35.2	456	35.2	**456**	**35.2**	2	453	35.4	**453**	**35.4**	453	35.4
447.dealII	2	**443**	**51.6**	444	51.5	442	51.8	2	**425**	**53.9**	425	53.8	425	53.9
450.soplex	2	856	19.5	854	19.5	**855**	**19.5**	2	**770**	**21.7**	773	21.6	768	21.7
453.povray	2	190	56.1	189	56.3	**189**	**56.2**	2	163	65.5	**163**	**65.4**	164	64.8
454.calculix	2	**472**	**34.9**	473	34.9	472	34.9	2	**328**	**50.3**	328	50.3	334	49.3
459.GemsFDTD	2	**1236**	**17.2**	1233	17.2	1239	17.1	2	1176	18.0	1169	18.2	**1173**	**18.1**
465.tonto	2	457	43.0	**459**	**42.8**	461	42.7	2	445	44.2	**446**	**44.1**	447	44.0
470.lbm	2	2621	10.5	**2622**	**10.5**	2631	10.4	2	1391	19.8	**1393**	**19.7**	1393	19.7
481.wrf	2	701	31.9	**695**	**32.1**	695	32.1	2	**695**	**32.1**	698	32.0	695	32.2
482.sphinx3	2	**1310**	**29.8**	1322	29.5	1310	29.8	2	1220	32.0	1206	32.3	**1215**	**32.1**

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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