SPEC® CFP2006 Result

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Acer Incorporated

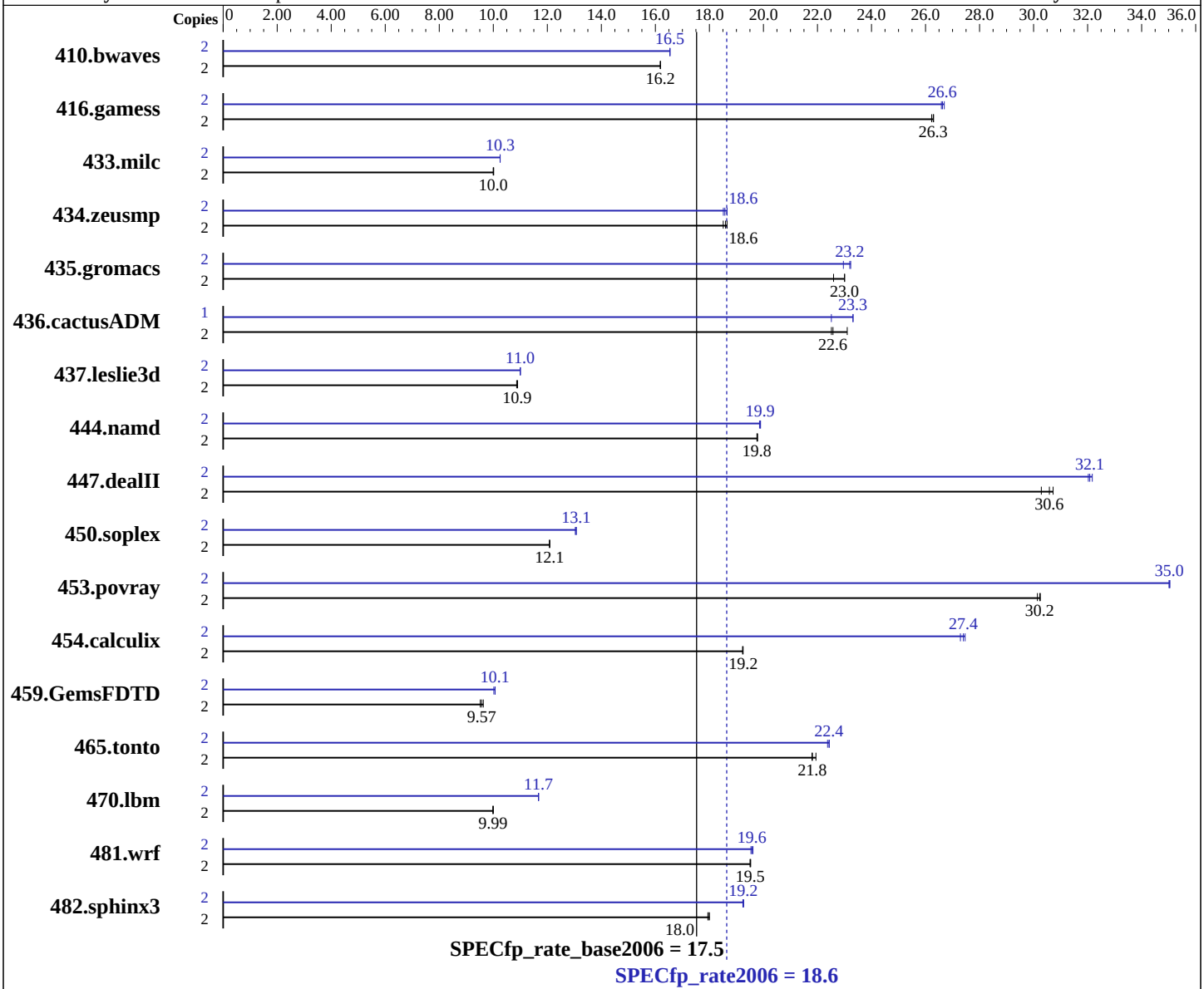
Acer Altos R520 (Intel Xeon 5120)

SPECfp®_rate2006 = 18.6

SPECfp_rate_base2006 = 17.5

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

Test date: Nov-2007
Hardware Availability: Nov-2006
Software Availability: Nov-2007



Hardware

CPU Name:	Intel Xeon 5120
CPU Characteristics:	1333MHz 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:	4 MB I+D on chip per chip

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Software

Operating System:	SuSE Linux Enterprise Server 10 SP1 EM64T (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	1679	16.2	1679	16.2	**1679**	**16.2**	2	1643	16.5	1643	16.5	**1643**	**16.5**
416.gamess	2	1489	26.3	**1490**	**26.3**	1493	26.2	2	1467	26.7	1473	26.6	**1471**	**26.6**
433.milc	2	1833	10.0	**1836**	**10.0**	1836	10.0	2	**1791**	**10.3**	1790	10.3	1791	10.3
434.zeusmp	2	983	18.5	976	18.7	**979**	**18.6**	2	983	18.5	976	18.7	**980**	**18.6**
435.gromacs	2	632	22.6	621	23.0	**621**	**23.0**	2	**616**	**23.2**	622	23.0	615	23.2
436.cactusADM	2	1035	23.1	**1059**	**22.6**	1061	22.5	1	531	22.5	512	23.3	**513**	**23.3**
437.leslie3d	2	1725	10.9	**1727**	**10.9**	1730	10.9	2	**1709**	**11.0**	1710	11.0	1709	11.0
444.namd	2	812	19.8	**812**	**19.8**	811	19.8	2	808	19.9	806	19.9	**807**	**19.9**
447.dealII	2	745	30.7	755	30.3	**748**	**30.6**	2	714	32.0	**713**	**32.1**	711	32.2
450.soplex	2	1381	12.1	**1381**	**12.1**	1380	12.1	2	**1277**	**13.1**	1280	13.0	1276	13.1
453.povray	2	352	30.3	353	30.1	**352**	**30.2**	2	304	35.0	**304**	**35.0**	304	35.0
454.calculix	2	**858**	**19.2**	857	19.2	858	19.2	2	601	27.5	**602**	**27.4**	605	27.3
459.GemsFDTD	2	2204	9.63	**2218**	**9.57**	2230	9.52	2	2118	10.0	2107	10.1	**2108**	**10.1**
465.tonto	2	897	21.9	**902**	**21.8**	903	21.8	2	877	22.4	**878**	**22.4**	880	22.4
470.lbm	2	**2751**	**9.99**	2748	10.0	2752	9.98	2	2353	11.7	**2354**	**11.7**	2354	11.7
481.wrf	2	1144	19.5	1145	19.5	**1145**	**19.5**	2	1143	19.5	**1141**	**19.6**	1139	19.6
482.sphinx3	2	2165	18.0	2172	17.9	**2170**	**18.0**	2	2026	19.2	2023	19.3	**2025**	**19.2**

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 Setting
  Hardware Prefetcher set to ON
  Adjacent Cache Line Prefetch set to ON
  Optimization for high-frequency FSB applications set to ON

All results used taskset to bind processes to 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

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`

Continued on next page

Peak Optimization Flags (Continued)

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

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-intel64-linux-flags.20090714.06.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic10.1-FP-intel64-linux-flags.20090714.06.xml

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For other inquiries, please contact webmaster@spec.org.

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