SPEC® CFP2006 Result

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Acer Incorporated

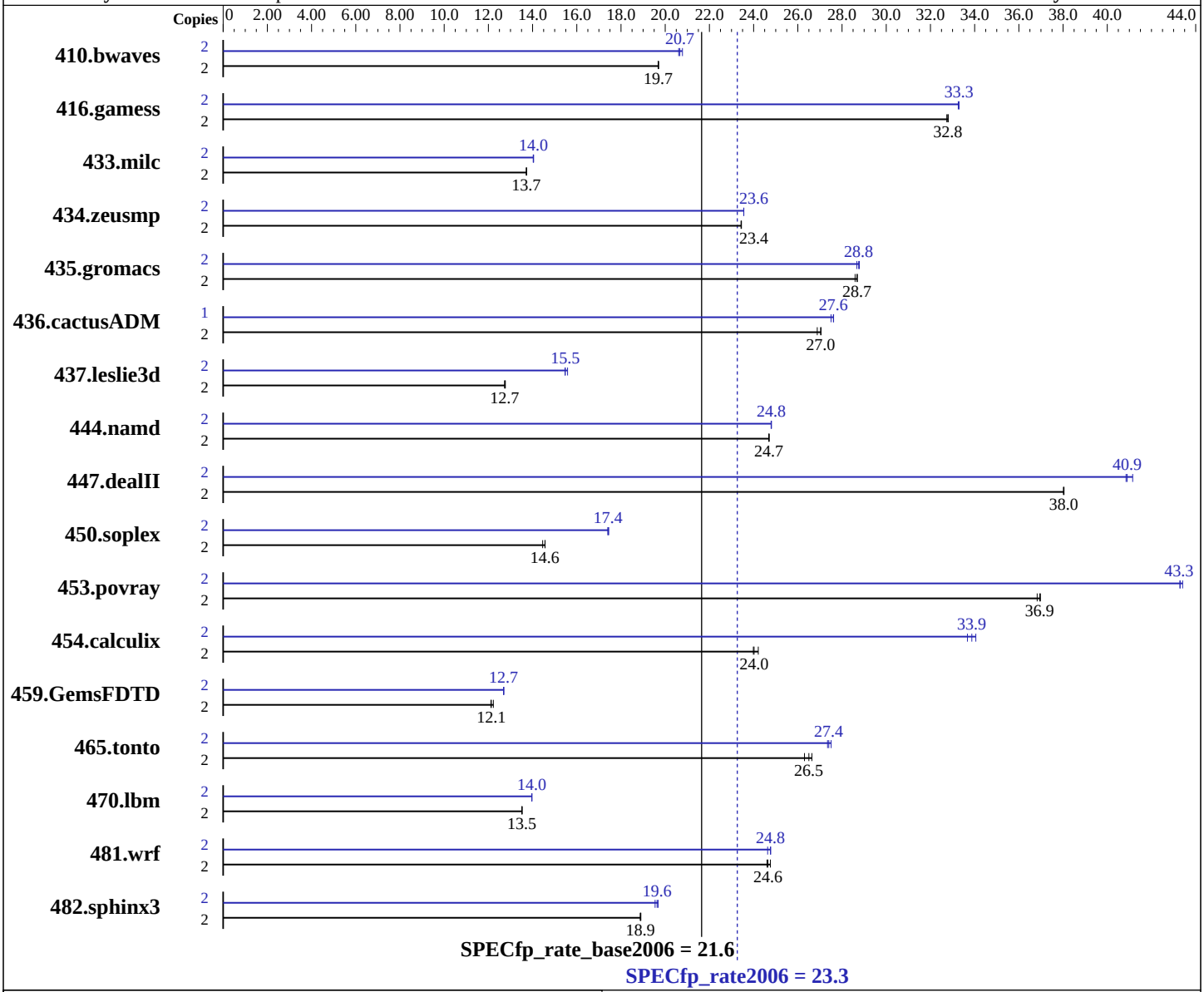
Acer Altos G540 (Intel Xeon 5140)

SPECfp®_rate2006 = 23.3

SPECfp_rate_base2006 = 21.6

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

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



Hardware

CPU Name:	Intel Xeon 5140
CPU Characteristics:	1333MHz system bus
CPU MHz:	2330
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip
CPU(s) orderable:	1, 2 chip
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	4 MB I+D on chip per chip

Continued on next page

Software

Operating System:	SUSE Linux Enterprise Server 10 EM64T (kernel 2.6.16.21-0.8-smp)
Compiler:	Intel C++ and Fortran Compiler for Linux32 and Linux64 version 10.1 Build 20070725
Auto Parallel:	Yes
File System:	ReiserFS
System State:	Multi-user, run 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 73 GB 10000RPM SAS HDD
Other Hardware: None

Peak Pointers: 32/64-bit
Other Software: MicroQuill SmartHeap Library 8.1

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	2	1381	19.7	**1381**	**19.7**	1379	19.7	2	1319	20.6	**1316**	**20.7**	1308	20.8
416.gamess	2	1196	32.7	1194	32.8	**1194**	**32.8**	2	1177	33.3	1176	33.3	**1176**	**33.3**
433.milc	2	1338	13.7	**1338**	**13.7**	1338	13.7	2	1309	14.0	**1308**	**14.0**	1307	14.0
434.zeusmp	2	777	23.4	776	23.4	**776**	**23.4**	2	773	23.6	773	23.6	**773**	**23.6**
435.gromacs	2	498	28.7	**498**	**28.7**	499	28.6	2	496	28.8	**497**	**28.8**	498	28.7
436.cactusADM	2	884	27.1	889	26.9	**884**	**27.0**	1	433	27.6	435	27.5	**433**	**27.6**
437.leslie3d	2	1472	12.8	**1475**	**12.7**	1476	12.7	2	1215	15.5	**1215**	**15.5**	1206	15.6
444.namd	2	649	24.7	650	24.7	**650**	**24.7**	2	**647**	**24.8**	647	24.8	647	24.8
447.dealII	2	602	38.0	601	38.0	**602**	**38.0**	2	556	41.1	560	40.8	**559**	**40.9**
450.soplex	2	**1146**	**14.6**	1154	14.5	1145	14.6	2	**958**	**17.4**	959	17.4	956	17.4
453.povray	2	288	37.0	289	36.8	**288**	**36.9**	2	246	43.3	245	43.4	**246**	**43.3**
454.calculix	2	**687**	**24.0**	688	24.0	682	24.2	2	485	34.1	**487**	**33.9**	490	33.7
459.GemsFDTD	2	1752	12.1	**1749**	**12.1**	1736	12.2	2	1673	12.7	**1673**	**12.7**	1670	12.7
465.tonto	2	739	26.6	748	26.3	**743**	**26.5**	2	720	27.3	**718**	**27.4**	715	27.5
470.lbm	2	**2032**	**13.5**	2032	13.5	2034	13.5	2	1967	14.0	1968	14.0	**1967**	**14.0**
481.wrf	2	**906**	**24.6**	902	24.8	908	24.6	2	907	24.6	**902**	**24.8**	902	24.8
482.sphinx3	2	**2064**	**18.9**	2063	18.9	2066	18.9	2	1995	19.5	**1986**	**19.6**	1981	19.7

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

General Notes

```
taskset used to bind copies to cores, except for 436.cactusADM peak
OMP_NUM_THREADS was set to number of logical processors as seen by the OS
KMP_AFFINITY was set to physical,0
```

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Continued on next page

Base Compiler Invocation (Continued)

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):
/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/icc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib

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Peak Compiler Invocation (Continued)

C benchmarks (except as noted below) (continued):
`-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include`

433.milc: `icc`

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

450.soplex: `/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/icpc`
`-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib`
`-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include`

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

437.leslie3d: `/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/ifort`
`-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib`
`-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/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`

Continued on next page

Peak Optimization Flags (Continued)

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`

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.20090714.17.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.20090714.17.xml

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