SPEC® CFP2006 Result

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Acer Incorporated

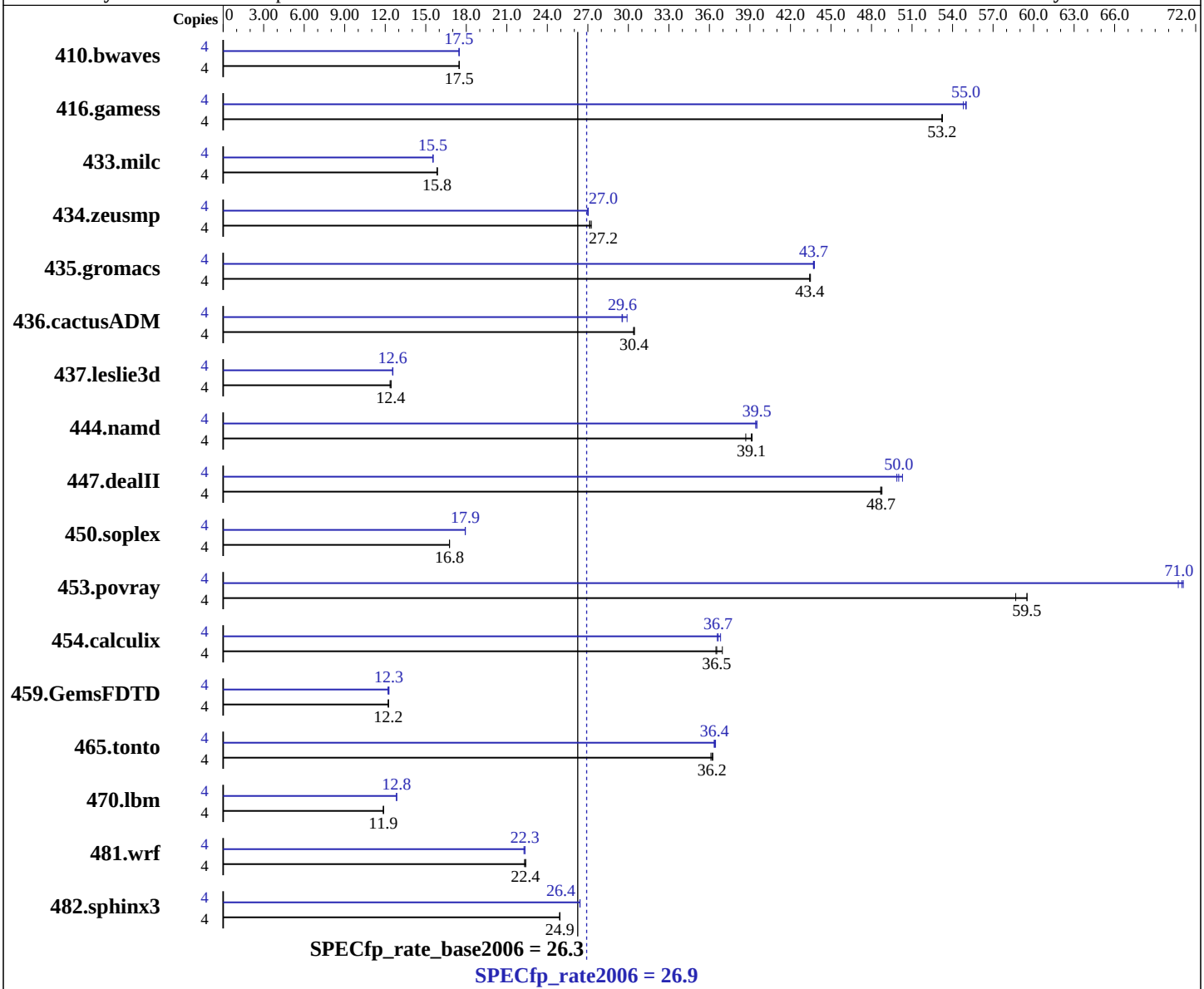
Acer Altos R520 (Intel Xeon E5320)

SPECfp®_rate2006 = 26.9

SPECfp_rate_base2006 = 26.3

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

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



Hardware

CPU Name:	Intel Xeon E5320
CPU Characteristics:	1066MHz system bus
CPU MHz:	1860
FPU:	Integrated
CPU(s) enabled:	4 cores, 1 chip, 4 cores/chip
CPU(s) orderable:	1, 2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	8 MB I+D on chip per chip, 4 MB shared / 2 cores

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Software

Operating System:	SuSE Linux Enterprise Server 10 EM64T (kernel 2.6.16.21-0.8-smp)
Compiler:	Intel C++ Compiler for Linux32 version 10.0 Build 20070426 Package ID: l_cc_p_10.0.023 Intel Fortran Compiler for Linux32 version 10.0 Build 20070426 Package ID: l_fc_p_10.0.023
Auto Parallel:	No
File System:	ReiserFS
System State:	Default

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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 10000RPM SAS HDD
Other Hardware: None

Base Pointers: 32-bit
Peak Pointers: 32-bit
Other Software: None

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	**3111**	**17.5**	3111	17.5	3110	17.5	4	**3112**	**17.5**	3113	17.5	3111	17.5
416.gamess	4	1472	53.2	1471	53.3	**1471**	**53.2**	4	1429	54.8	1424	55.0	**1424**	**55.0**
433.milc	4	2314	15.9	2319	15.8	**2318**	**15.8**	4	**2363**	**15.5**	2364	15.5	2362	15.5
434.zeusmp	4	1335	27.3	1342	27.1	**1340**	**27.2**	4	**1347**	**27.0**	1349	27.0	1346	27.0
435.gromacs	4	657	43.5	**658**	**43.4**	658	43.4	4	654	43.7	**653**	**43.7**	652	43.8
436.cactusADM	4	**1571**	**30.4**	1573	30.4	1570	30.4	4	1598	29.9	1619	29.5	**1617**	**29.6**
437.leslie3d	4	**3029**	**12.4**	3025	12.4	3043	12.4	4	2991	12.6	2997	12.5	**2995**	**12.6**
444.namd	4	**820**	**39.1**	829	38.7	819	39.2	4	814	39.4	812	39.5	**812**	**39.5**
447.dealII	4	**940**	**48.7**	940	48.7	938	48.8	4	**915**	**50.0**	917	49.9	910	50.3
450.soplex	4	1990	16.8	1991	16.8	**1991**	**16.8**	4	1860	17.9	1862	17.9	**1861**	**17.9**
453.povray	4	363	58.7	**358**	**59.5**	358	59.5	4	299	71.1	301	70.7	**300**	**71.0**
454.calculix	4	893	37.0	904	36.5	**903**	**36.5**	4	896	36.8	**900**	**36.7**	902	36.6
459.GemsFDTD	4	3466	12.2	3471	12.2	**3471**	**12.2**	4	**3462**	**12.3**	3478	12.2	3457	12.3
465.tonto	4	1086	36.3	**1087**	**36.2**	1090	36.1	4	1080	36.5	**1082**	**36.4**	1083	36.4
470.lbm	4	4632	11.9	4631	11.9	**4632**	**11.9**	4	4281	12.8	4281	12.8	**4281**	**12.8**
481.wrf	4	2003	22.3	1995	22.4	**1996**	**22.4**	4	**2000**	**22.3**	2006	22.3	2000	22.3
482.sphinx3	4	3126	24.9	**3128**	**24.9**	3130	24.9	4	**2951**	**26.4**	2950	26.4	2952	26.4

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

General Notes

```
All programs compiled with the 64-bit compiler except
437.leslie3d, 450.soplex, 470.lbm and 482.sphinx3, at peak,
compiled with the 32-bit compiler
This result was measured on the Acer Altos R520
The Altos R720 and Altos R520 are electronically equivalent.

taskset was used to bind copies 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
436.cactusADM: -DSPEC_CPU_LP64
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
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 -auto-ilp32

C++ benchmarks:
-fast -auto-ilp32

Fortran benchmarks:
-fast

Benchmarks using both Fortran and C:

Continued on next page

Base Optimization Flags (Continued)

435.gromacs: `-fast -auto-ilp32 -nofor_main`(*)

436.cactusADM: `Same as 435.gromacs`

454.calculix: `Same as 435.gromacs`

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

(*) Indicates an optimization flag that was found in a portability variable.

Peak Compiler Invocation

C benchmarks (except as noted below):
`/opt/intel/cc/10.0.023/bin/icc -L/opt/intel/cc/10.0.023/lib -I/opt/intel/cc/10.0.023/include`

433.milc: `icc`

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

450.soplex: `/opt/intel/cc/10.0.023/bin/icpc -L/opt/intel/cc/10.0.023/lib -I/opt/intel/cc/10.0.023/include`

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

437.leslie3d: `/opt/intel/fc/10.0.023/bin/ifort -L/opt/intel/fc/10.0.023/lib -I/opt/intel/fc/10.0.023/include`

Benchmarks using both Fortran and C:
`icc ifort`

Peak Portability Flags

`Same as Base Portability Flags`

Peak Optimization Flags

C benchmarks:

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

Continued on next page

Peak Optimization Flags (Continued)

470.lbm: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -unroll2 -scalar-rep- -prefetch`

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) `-xT -ipo -O3 -no-prec-div`

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

Fortran benchmarks:

410.bwaves: `-fast`

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: `Same as 434.zeusmp`

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

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

Benchmarks using both Fortran and C:

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

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

454.calculix: `-fast -auto-ilp32 -nofor_main`(*)

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

(*) Indicates an optimization flag that was found in a portability variable.

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.16.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.16.xml

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