SPEC® CFP2006 Result

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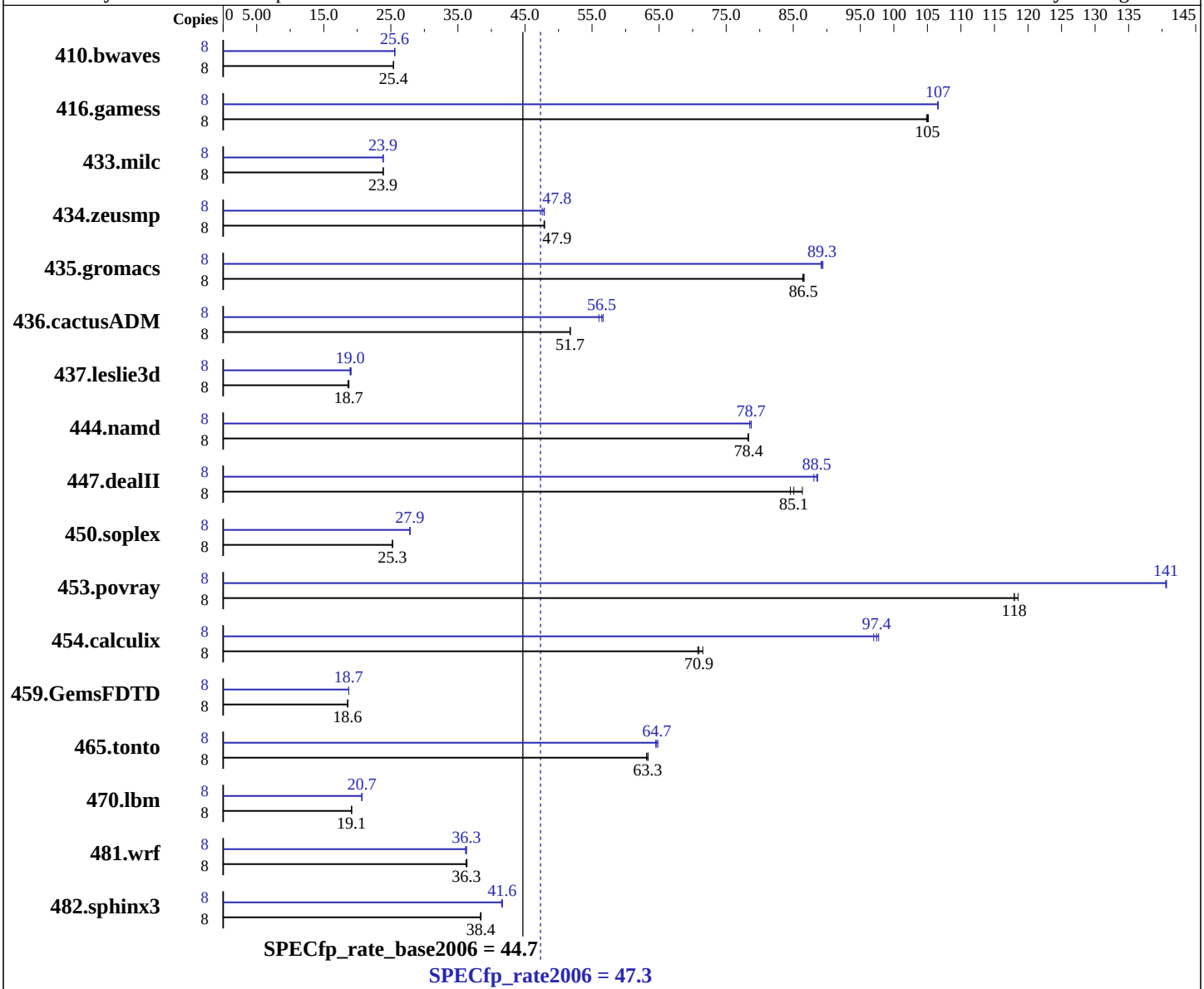
Acer Incorporated
Acer Altos R720 (Intel E5320)

SPECfp®_rate2006 = 47.3

SPECfp_rate_base2006 = 44.7

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

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



Hardware

CPU Name:	Intel Xeon E5320
CPU Characteristics:	1066MHz system bus
CPU MHz:	1860
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 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++ and Fortran Compiler for Linux32 and Linux64 version 10.1 Build 20070725
Auto Parallel:	No
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: 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	8	**4281**	**25.4**	4282	25.4	4280	25.4	8	**4249**	**25.6**	4249	25.6	4248	25.6
416.gamess	8	1490	105	**1492**	**105**	1494	105	8	**1470**	**107**	1469	107	1470	107
433.milc	8	**3078**	**23.9**	3077	23.9	3078	23.9	8	3077	23.9	3080	23.8	**3078**	**23.9**
434.zeusmp	8	1522	47.8	**1520**	**47.9**	1519	47.9	8	1530	47.6	1520	47.9	**1522**	**47.8**
435.gromacs	8	**660**	**86.5**	661	86.4	659	86.6	8	641	89.2	639	89.4	**640**	**89.3**
436.cactusADM	8	1847	51.8	1848	51.7	**1848**	**51.7**	8	1707	56.0	1688	56.6	**1693**	**56.5**
437.leslie3d	8	4009	18.8	4041	18.6	**4014**	**18.7**	8	**3965**	**19.0**	3972	18.9	3941	19.1
444.namd	8	819	78.4	**819**	**78.4**	820	78.2	8	**815**	**78.7**	815	78.7	817	78.5
447.dealII	8	1082	84.6	**1076**	**85.1**	1060	86.4	8	1039	88.1	**1034**	**88.5**	1032	88.6
450.soplex	8	2642	25.3	2643	25.2	**2642**	**25.3**	8	**2394**	**27.9**	2397	27.8	2394	27.9
453.povray	8	359	119	361	118	**361**	**118**	8	303	141	303	141	**303**	**141**
454.calculix	8	933	70.8	923	71.5	**930**	**70.9**	8	680	97.0	675	97.7	**677**	**97.4**
459.GemsFDTD	8	4562	18.6	**4573**	**18.6**	4573	18.6	8	4534	18.7	**4532**	**18.7**	4530	18.7
465.tonto	8	1247	63.1	**1243**	**63.3**	1243	63.3	8	1221	64.5	**1218**	**64.7**	1215	64.8
470.lbm	8	5742	19.1	**5742**	**19.1**	5741	19.1	8	5315	20.7	5315	20.7	**5315**	**20.7**
481.wrf	8	2457	36.4	2468	36.2	**2462**	**36.3**	8	2473	36.1	**2464**	**36.3**	2463	36.3
482.sphinx3	8	**4059**	**38.4**	4055	38.5	4064	38.4	8	3755	41.5	**3749**	**41.6**	3745	41.6

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.

BIOS Settings
  Snoop Filter set to OFF
   Snoop Filter preserves cache coherency while
   minimizing snoops to remote nodes.

  Adjacent Cache Line Prefetch set to OFF
   Prefetch data in order to shorten execution cycles
   and maximize data processing efficiency.

  Optimization for high-frequency FSB applications set to ON
```

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General Notes (Continued)

```
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 -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`

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Base Optimization Flags (Continued)

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`
`-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`

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Peak Portability Flags (Continued)

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:

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Peak Optimization Flags (Continued)

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 -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.20090714.12.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.20090714.12.xml`

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