SPEC® CFP2006 Result
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Acer Incorporated

Acer Altos R520 (Intel Xeon X5460)

$SPECfp®\_rate2006 =$ 77.7

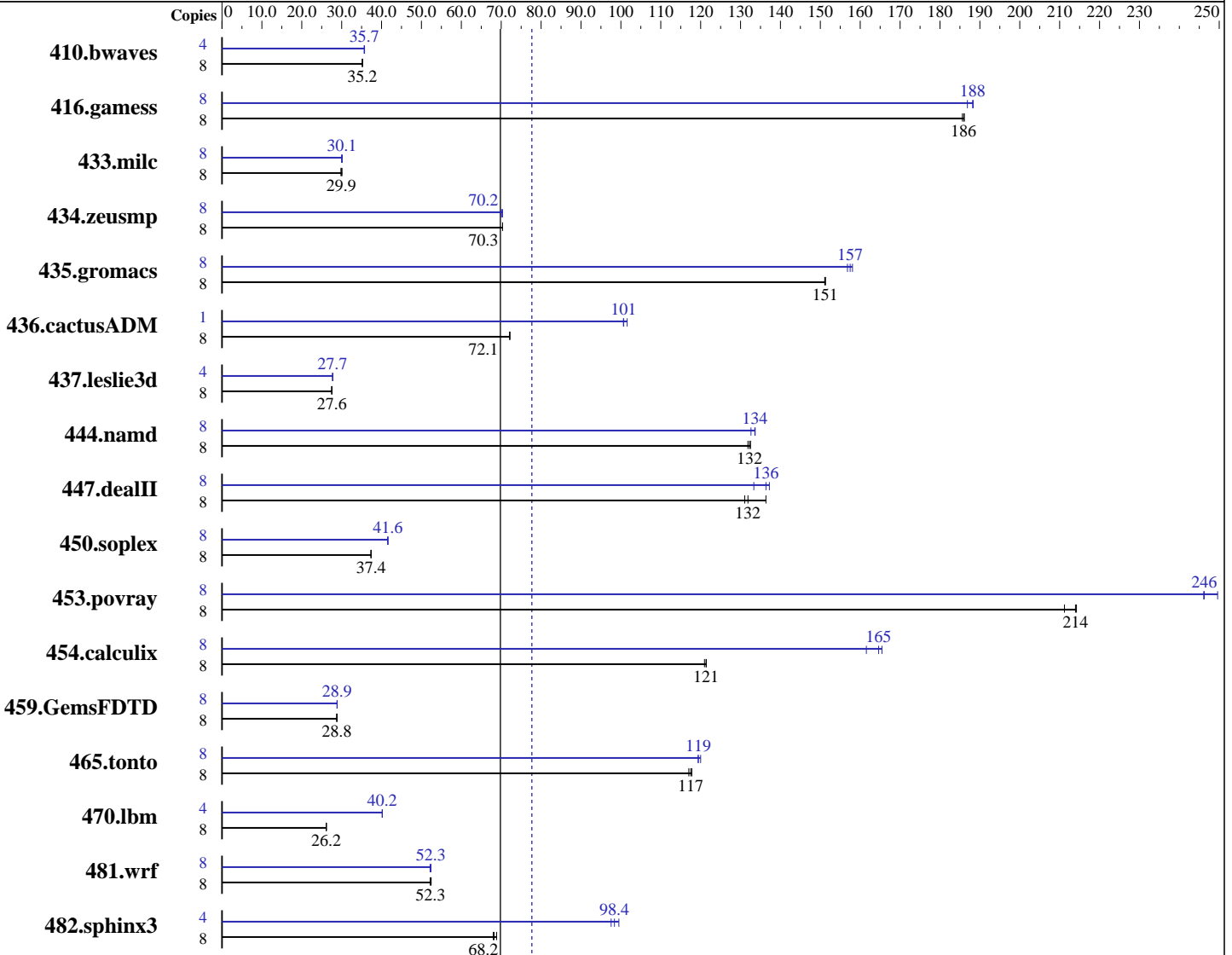$SPECfp\_rate\_base2006 =$ 69.8

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

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

	Copies	
410.bwaves	4	35.7
	8	35.2
416.gamess	8	188
	8	186
433.milc	8	30.1
	8	29.9
434.zeusmp	8	70.2
	8	70.3
435.gromacs	8	157
	8	151
436.cactusADM	1	101
	8	72.1
437.leslie3d	4	27.7
	8	27.6
444.namd	8	134
	8	132
447.dealII	8	136
	8	132
450.soplex	8	41.6
	8	37.4
453.povray	8	246
	8	214
454.calculix	8	165
	8	121
459.GemsFDTD	8	28.9
	8	28.8
465.tonto	8	119
	8	117
470.lbm	4	40.2
	8	26.2
481.wrf	8	52.3
	8	52.3
482.sphinx3	4	98.4
	8	68.2

SPECfp_rate_base2006 = 69.8

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Hardware

CPU Name:	Intel Xeon X5460
CPU Characteristics:	1333MHz system bus
CPU MHz:	3166
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:	12 MB I+D on chip per chip, 6 MB shared / 2 cores

Continued on next page

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

Continued on next page

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L3 Cache:	None	Peak Pointers:	32/64-bit
Other Cache:	None	Other Software:	Binutils 2.17.50.0.15
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		

Results Table

Benchmark	Base						Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	3092	35.2	**3087**	**35.2**	3086	35.2	4	**1524**	**35.7**	1521	35.7	1525	35.7
416.gamess	8	844	186	**842**	**186**	842	186	8	838	187	832	188	**832**	**188**
433.milc	8	**2456**	**29.9**	2461	29.8	2440	30.1	8	2449	30.0	**2441**	**30.1**	2437	30.1
434.zeusmp	8	1035	70.3	**1035**	**70.3**	1035	70.3	8	1040	70.0	**1037**	**70.2**	1035	70.3
435.gromacs	8	**378**	**151**	378	151	378	151	8	361	158	**363**	**157**	364	157
436.cactusADM	8	1326	72.1	1325	72.2	**1325**	**72.1**	1	118	102	**119**	**101**	119	101
437.leslie3d	8	**2728**	**27.6**	2738	27.5	2728	27.6	4	**1355**	**27.7**	1356	27.7	1355	27.8
444.namd	8	**485**	**132**	487	132	484	132	8	**480**	**134**	480	134	484	133
447.dealII	8	671	136	698	131	**694**	**132**	8	686	133	667	137	**671**	**136**
450.soplex	8	1784	37.4	**1786**	**37.4**	1787	37.3	8	1603	41.6	**1605**	**41.6**	1605	41.6
453.povray	8	**199**	**214**	199	214	202	211	8	171	250	173	246	**173**	**246**
454.calculix	8	**544**	**121**	544	121	546	121	8	399	165	**401**	**165**	409	162
459.GemsFDTD	8	2951	28.8	2944	28.8	**2948**	**28.8**	8	**2941**	**28.9**	2943	28.8	2940	28.9
465.tonto	8	668	118	**670**	**117**	673	117	8	659	119	**659**	**119**	656	120
470.lbm	8	4204	26.1	**4203**	**26.2**	4203	26.2	4	1367	40.2	**1367**	**40.2**	1369	40.2
481.wrf	8	1704	52.4	1712	52.2	**1708**	**52.3**	8	**1707**	**52.3**	1705	52.4	1713	52.2
482.sphinx3	8	2293	68.0	**2286**	**68.2**	2264	68.9	4	784	99.5	799	97.6	**792**	**98.4**

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 OFF

      Adjacent Cache Line Prefetch set to OFF

    All results used taskset to bind processes to cores.
    "ulimit -s unlimited" was set for stacksize unlimited
    OMP_NUM_THREADS set to number of cores
```

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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

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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`

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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.20090714.08.html

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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.20090714.08.xml

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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