SPEC® CFP2006 Result
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Acer Incorporated

Acer Altos G330 Mk2 (Intel Xeon X3320)

$SPECfp^®\_rate2006 =$ 44.3

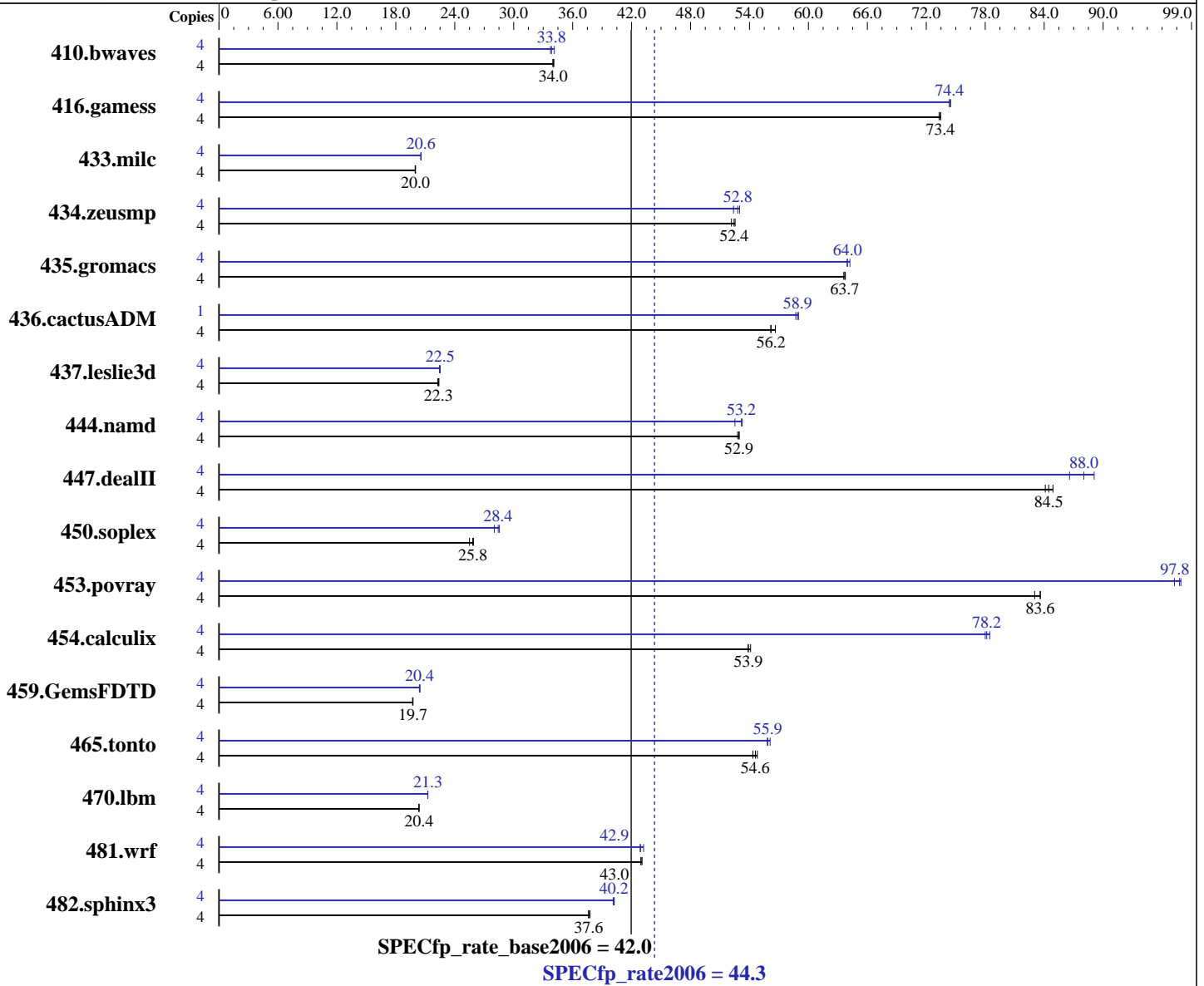$SPECfp\_rate\_base2006 =$ 42.0

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

Test date: Apr-2008
Hardware Availability: Mar-2008
Software Availability: Nov-2007

Benchmark	Copies	Result
410.bwaves	4 / 4	33.8 / 34.0
416.gamess	4 / 4	74.4 / 73.4
433.milc	4 / 4	20.6 / 20.0
434.zeusmp	4 / 4	52.8 / 52.4
435.gromacs	4 / 4	64.0 / 63.7
436.cactusADM	1 / 4	58.9 / 56.2
437.leslie3d	4 / 4	22.5 / 22.3
444.namd	4 / 4	53.2 / 52.9
447.dealII	4 / 4	88.0 / 84.5
450.soplex	4 / 4	28.4 / 25.8
453.povray	4 / 4	97.8 / 83.6
454.calculix	4 / 4	78.2 / 53.9
459.GemsFDTD	4 / 4	20.4 / 19.7
465.tonto	4 / 4	55.9 / 54.6
470.lbm	4 / 4	21.3 / 20.4
481.wrf	4 / 4	42.9 / 43.0
482.sphinx3	4 / 4	40.2 / 37.6

SPECfp_rate_base2006 = 42.0

SPECfp_rate2006 = 44.3

Hardware

CPU Name: Intel Xeon X3320
CPU Characteristics: 1333 MHz system bus
CPU MHz: 2500
FPU: Integrated
CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip
CPU(s) orderable: 1 chip
Primary Cache: 32 KB I + 32 KB D on chip per core
Secondary Cache: 6 MB I+D on chip per chip, 3 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

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L3 Cache: None
Other Cache: None
Memory: 8 GB (4 x 2048 MB ECC Unbuffered DDR2-800 CL5)
Disk Subsystem: 1 x 160 GB 7200RPM SATA HDD
Other Hardware: None

Peak Pointers: 32/64-bit
Other Software: Binutils 2.17.50.0.15

Results Table

Benchmark	Base Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	**1597**	**34.0**	1594	34.1	1600	34.0	4	1611	33.8	1593	34.1	**1606**	**33.8**
416.gamess	4	1066	73.5	**1066**	**73.4**	1068	73.3	4	1051	74.5	1053	74.3	**1053**	**74.4**
433.milc	4	**1836**	**20.0**	1839	20.0	1836	20.0	4	**1786**	**20.6**	1788	20.5	1785	20.6
434.zeusmp	4	**694**	**52.4**	693	52.5	698	52.2	4	687	53.0	695	52.4	**689**	**52.8**
435.gromacs	4	448	63.8	**448**	**63.7**	449	63.6	4	447	63.9	**446**	**64.0**	445	64.2
436.cactusADM	4	844	56.6	**851**	**56.2**	851	56.2	1	203	59.0	204	58.7	**203**	**58.9**
437.leslie3d	4	**1682**	**22.3**	1679	22.4	1688	22.3	4	**1671**	**22.5**	1671	22.5	1676	22.4
444.namd	4	608	52.8	**606**	**52.9**	606	53.0	4	611	52.5	**603**	**53.2**	602	53.3
447.dealII	4	539	84.9	**542**	**84.5**	544	84.1	4	**520**	**88.0**	529	86.6	514	89.1
450.soplex	4	1308	25.5	**1291**	**25.8**	1288	25.9	4	1190	28.0	**1174**	**28.4**	1169	28.5
453.povray	4	254	83.6	**255**	**83.6**	256	83.0	4	**218**	**97.8**	217	97.9	219	97.3
454.calculix	4	613	53.9	**612**	**53.9**	610	54.1	4	**422**	**78.2**	423	78.0	421	78.5
459.GemsFDTD	4	2154	19.7	2149	19.7	**2150**	**19.7**	4	**2077**	**20.4**	2074	20.5	2081	20.4
465.tonto	4	**721**	**54.6**	724	54.4	718	54.8	4	705	55.8	**704**	**55.9**	702	56.1
470.lbm	4	2701	20.3	**2699**	**20.4**	2699	20.4	4	2586	21.3	**2585**	**21.3**	2585	21.3
481.wrf	4	**1040**	**43.0**	1037	43.1	1040	43.0	4	1034	43.2	1042	42.9	**1041**	**42.9**
482.sphinx3	4	2072	37.6	2064	37.8	**2071**	**37.6**	4	1943	40.1	1937	40.2	**1939**	**40.2**

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

General Notes

    All benchmarks compiled in 64-bit mode except 450.soplex,
    470.lbm, 482.sphinx3 and 437.leslie3d, at peak,
    are compiled in 32-bit mode.
    All results but peak 436.cactusADM used taskset to bind
    processes to cores.
    "ulimit -s unlimited" was set for stacksize to unlimited
    OMP_NUM_THREADS set to number of cores

Base Compiler Invocation

C benchmarks:
    icc

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Base Compiler Invocation (Continued)

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-linux64-revC.20090713.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-linux64-revC.20090713.xml

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