SPEC® CFP2006 Result
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Acer Incorporated

$SPECfp®_rate2006 = $ 108

Acer Altos R920 (Intel Xeon E7340)

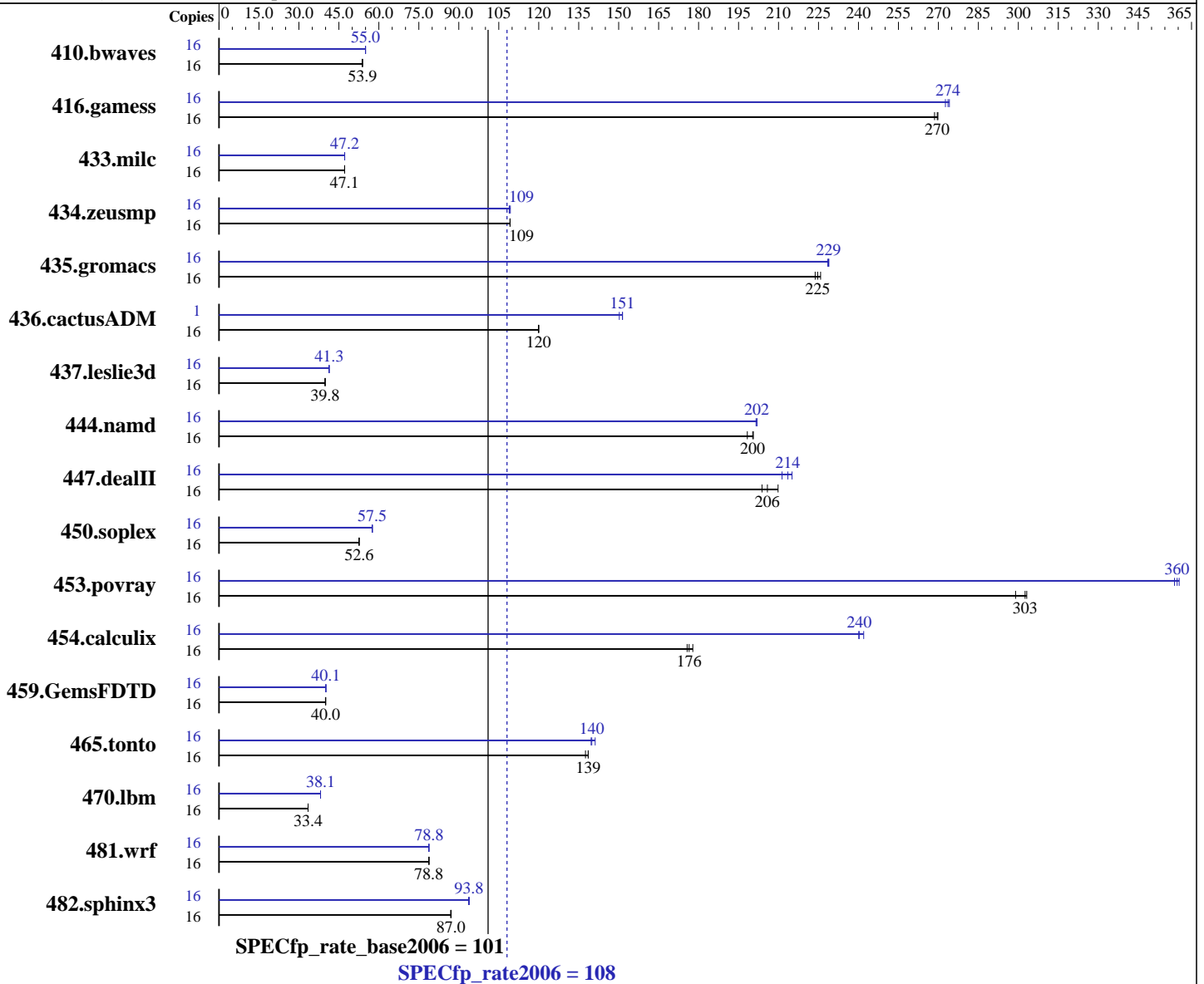$SPECfp_rate_base2006 = $ 101

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

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

Benchmark	Copies	Result
410.bwaves	16	55.0
410.bwaves	16	53.9
416.gamess	16	274
416.gamess	16	270
433.milc	16	47.2
433.milc	16	47.1
434.zeusmp	16	109
434.zeusmp	16	109
435.gromacs	16	229
435.gromacs	16	225
436.cactusADM	1	151
436.cactusADM	16	120
437.leslie3d	16	41.3
437.leslie3d	16	39.8
444.namd	16	202
444.namd	16	200
447.dealII	16	214
447.dealII	16	206
450.soplex	16	57.5
450.soplex	16	52.6
453.povray	16	360
453.povray	16	303
454.calculix	16	240
454.calculix	16	176
459.GemsFDTD	16	40.1
459.GemsFDTD	16	40.0
465.tonto	16	140
465.tonto	16	139
470.lbm	16	38.1
470.lbm	16	33.4
481.wrf	16	78.8
481.wrf	16	78.8
482.sphinx3	16	93.8
482.sphinx3	16	87.0

SPECfp_rate_base2006 = 101
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Hardware

CPU Name: Intel Xeon E7340
CPU Characteristics: 1066MHz system bus
CPU MHz: 2400
FPU: Integrated
CPU(s) enabled: 16 cores, 4 chips, 4 cores/chip
CPU(s) orderable: 1, 2, 4 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

Software

Operating System: SuSE Linux Enterprise Server 10 SP1 EM64T (kernel 2.6.16.46-0.12-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, level 3
Base Pointers: 64-bit

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L3 Cache: None
Other Cache: None
Memory: 16 GB (16 x 1048MB 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	16	4048	53.7	**4035**	**53.9**	4034	53.9	16	3956	55.0	**3956**	**55.0**	3952	55.0
416.gamess	16	**1162**	**270**	1161	270	1167	269	16	1143	274	1149	273	**1145**	**274**
433.milc	16	3116	47.1	**3115**	**47.1**	3114	47.2	16	3113	47.2	3114	47.2	**3114**	**47.2**
434.zeusmp	16	1333	109	**1333**	**109**	1332	109	16	**1335**	**109**	1337	109	1332	109
435.gromacs	16	**508**	**225**	511	224	506	226	16	499	229	500	228	**499**	**229**
436.cactusADM	16	1595	120	1593	120	**1594**	**120**	1	**78.9**	**151**	79.5	150	78.9	151
437.leslie3d	16	3781	39.8	**3774**	**39.8**	3773	39.9	16	3637	41.3	3640	41.3	**3638**	**41.3**
444.namd	16	**641**	**200**	640	201	647	198	16	637	202	**636**	**202**	636	202
447.dealII	16	**889**	**206**	872	210	898	204	16	**857**	**214**	851	215	866	211
450.soplex	16	2536	52.6	2540	52.5	**2537**	**52.6**	16	**2319**	**57.5**	2318	57.6	2320	57.5
453.povray	16	285	299	281	303	**281**	**303**	16	**237**	**360**	236	360	237	359
454.calculix	16	**748**	**176**	742	178	751	176	16	546	242	550	240	**549**	**240**
459.GemsFDTD	16	4237	40.1	4248	40.0	**4241**	**40.0**	16	4229	40.1	4234	40.1	**4232**	**40.1**
465.tonto	16	1136	139	1145	138	**1136**	**139**	16	1115	141	1127	140	**1125**	**140**
470.lbm	16	6575	33.4	6576	33.4	**6575**	**33.4**	16	5767	38.1	5768	38.1	**5768**	**38.1**
481.wrf	16	**2269**	**78.8**	2269	78.8	2267	78.8	16	2269	78.7	**2268**	**78.8**	2268	78.8
482.sphinx3	16	3578	87.1	**3584**	**87.0**	3584	87.0	16	3321	93.9	3329	93.7	**3324**	**93.8**

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

General Notes

```
BIOS Settings
  Hardware Prefetcher set to OFF

  Adjacent Cache Line Prefetch set to OFF

  Optimization for high-frequency FSB applications set to OFF

All results used taskset to bind processes to 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):
```
/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
     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`

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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`

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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`