



SPEC[®] CFP2006 Result

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Acer Incorporated

SPECfp[®]_rate2006 = 42.9

Acer Altos R920 (Intel Xeon E7210)

SPECfp_rate_base2006 = 40.0

CPU2006 license: 97

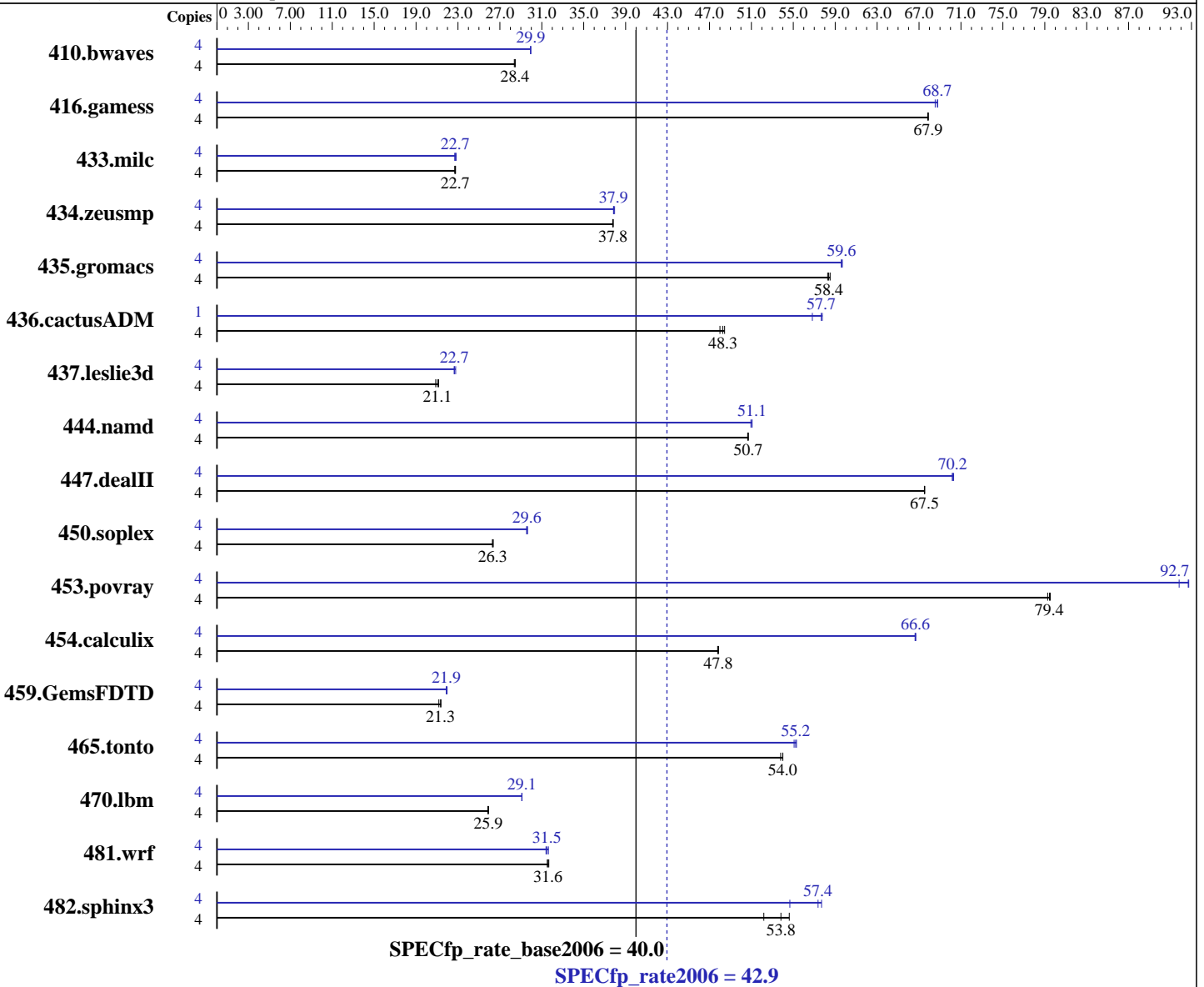
Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: Nov-2007

Hardware Availability: Nov-2007

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon E7210
 CPU Characteristics: 1066MHz system bus
 CPU MHz: 2400
 FPU: Integrated
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip
 CPU(s) orderable: 1, 2, 4 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 4 MB I+D on chip per core

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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: 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: Binutils 2.17.50.0.15

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	1916	28.4	<u>1911</u>	<u>28.4</u>	1910	28.5	4	<u>1816</u>	<u>29.9</u>	1815	29.9	1816	29.9
416.gamess	4	1154	67.9	1155	67.8	<u>1154</u>	<u>67.9</u>	4	1143	68.5	<u>1139</u>	<u>68.7</u>	1139	68.8
433.milc	4	1619	22.7	<u>1614</u>	<u>22.7</u>	1613	22.8	4	<u>1615</u>	<u>22.7</u>	1609	22.8	1618	22.7
434.zeusmp	4	964	37.8	962	37.8	<u>963</u>	<u>37.8</u>	4	959	37.9	<u>962</u>	<u>37.9</u>	962	37.8
435.gromacs	4	490	58.3	488	58.5	<u>489</u>	<u>58.4</u>	4	<u>479</u>	<u>59.6</u>	479	59.7	479	59.6
436.cactusADM	4	<u>990</u>	<u>48.3</u>	987	48.4	996	48.0	1	210	56.8	207	57.8	<u>207</u>	<u>57.7</u>
437.leslie3d	4	1801	20.9	1777	21.2	<u>1786</u>	<u>21.1</u>	4	1650	22.8	1661	22.6	<u>1659</u>	<u>22.7</u>
444.namd	4	633	50.6	<u>633</u>	<u>50.7</u>	633	50.7	4	630	51.0	<u>628</u>	<u>51.1</u>	628	51.1
447.dealII	4	678	67.5	<u>678</u>	<u>67.5</u>	678	67.5	4	<u>652</u>	<u>70.2</u>	652	70.2	651	70.3
450.soplex	4	1268	26.3	<u>1268</u>	<u>26.3</u>	1265	26.4	4	1125	29.6	1129	29.6	<u>1128</u>	<u>29.6</u>
453.povray	4	268	79.3	<u>268</u>	<u>79.4</u>	268	79.5	4	232	91.8	229	92.7	<u>230</u>	<u>92.7</u>
454.calculix	4	689	47.9	<u>690</u>	<u>47.8</u>	691	47.8	4	<u>495</u>	<u>66.6</u>	495	66.7	495	66.6
459.GemsFDTD	4	<u>1989</u>	<u>21.3</u>	1985	21.4	2004	21.2	4	1939	21.9	<u>1939</u>	<u>21.9</u>	1932	22.0
465.tonto	4	729	54.0	<u>729</u>	<u>54.0</u>	732	53.8	4	712	55.3	715	55.1	<u>713</u>	<u>55.2</u>
470.lbm	4	2126	25.9	<u>2123</u>	<u>25.9</u>	2121	25.9	4	1888	29.1	<u>1888</u>	<u>29.1</u>	1889	29.1
481.wrf	4	1411	31.7	1417	31.5	<u>1414</u>	<u>31.6</u>	4	1423	31.4	1412	31.6	<u>1419</u>	<u>31.5</u>
482.sphinx3	4	<u>1449</u>	<u>53.8</u>	1427	54.6	1494	52.2	4	1426	54.7	1351	57.7	<u>1359</u>	<u>57.4</u>

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 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 but peak 436.cactusADM 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.deall: -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.dealIII: -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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