



SPEC® CFP2006 Result

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Acer Incorporated

SPECfp®_rate2006 = 187

Gateway GT350 F1 (Intel Xeon E5640)

SPECfp_rate_base2006 = 182

CPU2006 license: 97

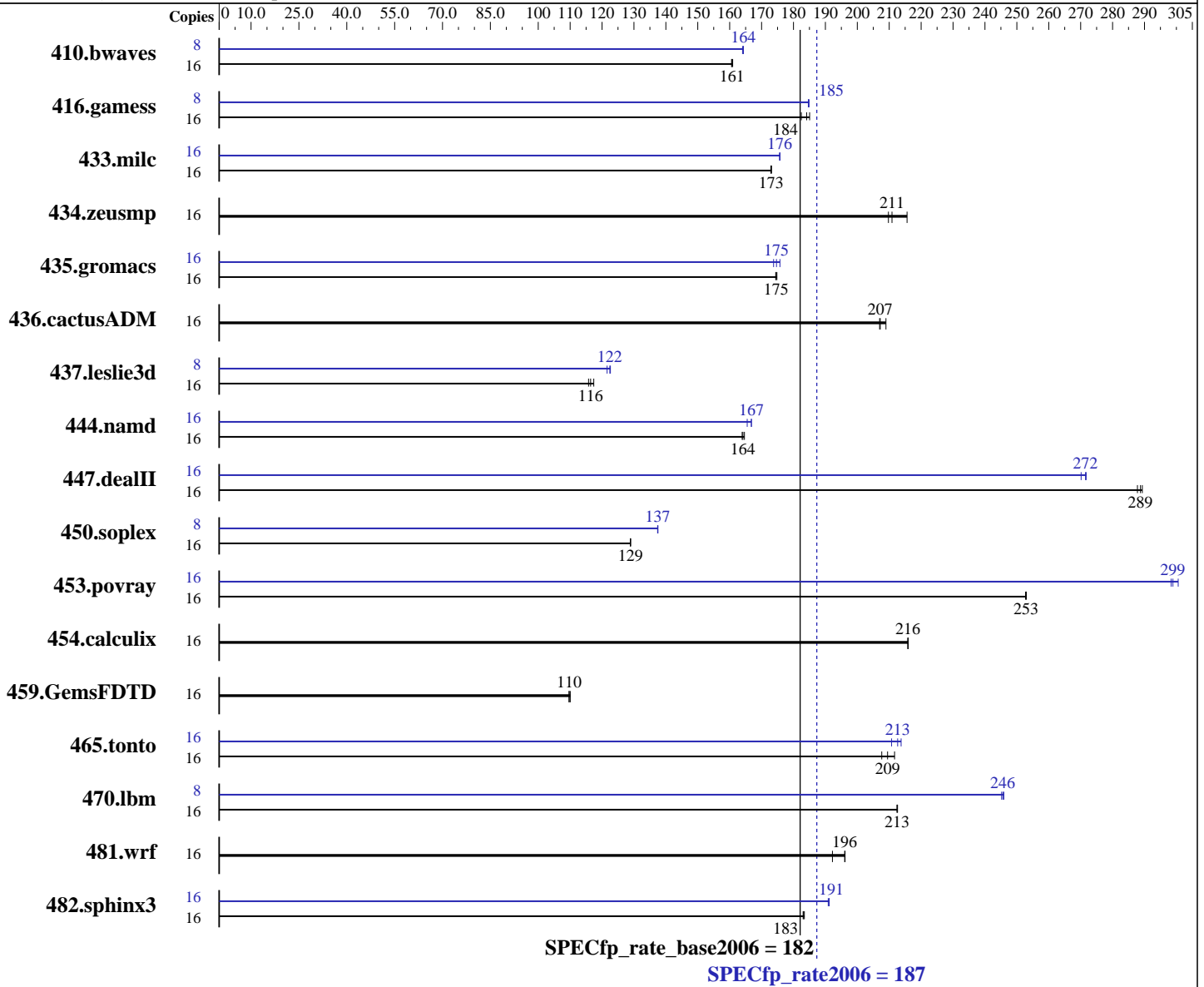
Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: May-2011

Hardware Availability: Feb-2011

Software Availability: Jan-2011



Hardware

CPU Name: Intel Xeon E5640
 CPU Characteristics: Intel Turbo Boost Technology up to 2.93 GHz
 CPU MHz: 2667
 FPU: Integrated
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip, 2 threads/core
 CPU(s) orderable: 1,2 chip
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core

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Software

Operating System: SUSE Linux Enterprise Server 11 (x86_64) SP1, Kernel 2.6.32.12-0.7-default
 Compiler: Intel C++ and Fortran Intel 64 Compiler XE for applications running on Intel 64 Version 12.0.1.116 Build 20101116
 Auto Parallel: No
 File System: ext3
 System State: Run level 3 (multi-user)
 Base Pointers: 64-bit

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L3 Cache: 12 MB I+D on chip per chip
Other Cache: None
Memory: 48 GB (12 x 4 GB 2Rx8 PC3-1066R-9 ECC)
Disk Subsystem: 1 x 500 GB SATA, 7200 RPM SATA HDD
Other Hardware: None

Peak Pointers: 32/64-bit
Other Software: None

Results Table

| Benchmark | Base | | | | | | | Peak | | | | | | |
|---------------|--------|-------------|------------|-------------|------------|-------------|------------|--------|-------------|------------|------------|------------|------------|------------|
| | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 410.bwaves | 16 | 1351 | 161 | <u>1353</u> | <u>161</u> | 1354 | 161 | 8 | 662 | 164 | <u>662</u> | <u>164</u> | 663 | 164 |
| 416.gamess | 16 | 1717 | 182 | 1693 | 185 | <u>1701</u> | <u>184</u> | 8 | <u>848</u> | <u>185</u> | 847 | 185 | 848 | 185 |
| 433.milc | 16 | 848 | 173 | <u>849</u> | <u>173</u> | 849 | 173 | 16 | <u>836</u> | <u>176</u> | 836 | 176 | 836 | 176 |
| 434.zeusmp | 16 | 694 | 210 | 675 | 216 | <u>690</u> | <u>211</u> | 16 | 694 | 210 | 675 | 216 | <u>690</u> | <u>211</u> |
| 435.gromacs | 16 | 655 | 174 | 654 | 175 | <u>654</u> | <u>175</u> | 16 | 650 | 176 | <u>654</u> | <u>175</u> | 657 | 174 |
| 436.cactusADM | 16 | <u>923</u> | <u>207</u> | 924 | 207 | 915 | 209 | 16 | <u>923</u> | <u>207</u> | 924 | 207 | 915 | 209 |
| 437.leslie3d | 16 | 1299 | 116 | <u>1292</u> | <u>116</u> | 1281 | 117 | 8 | <u>614</u> | <u>122</u> | 619 | 122 | 613 | 123 |
| 444.namd | 16 | 783 | 164 | <u>782</u> | <u>164</u> | 779 | 165 | 16 | <u>769</u> | <u>167</u> | 769 | 167 | 775 | 165 |
| 447.dealII | 16 | 633 | 289 | <u>634</u> | <u>289</u> | 636 | 288 | 16 | 678 | 270 | 674 | 272 | <u>674</u> | <u>272</u> |
| 450.soplex | 16 | 1035 | 129 | <u>1035</u> | <u>129</u> | 1036 | 129 | 8 | <u>485</u> | <u>137</u> | 486 | 137 | 485 | 138 |
| 453.povray | 16 | 337 | 253 | <u>337</u> | <u>253</u> | 336 | 253 | 16 | 285 | 298 | <u>285</u> | <u>299</u> | 283 | 301 |
| 454.calculix | 16 | <u>612</u> | <u>216</u> | 611 | 216 | 612 | 216 | 16 | <u>612</u> | <u>216</u> | 611 | 216 | 612 | 216 |
| 459.GemsFDTD | 16 | <u>1548</u> | <u>110</u> | 1543 | 110 | 1548 | 110 | 16 | <u>1548</u> | <u>110</u> | 1543 | 110 | 1548 | 110 |
| 465.tonto | 16 | <u>752</u> | <u>209</u> | 758 | 208 | 744 | 212 | 16 | 737 | 214 | <u>740</u> | <u>213</u> | 747 | 211 |
| 470.lbm | 16 | 1034 | 213 | 1035 | 212 | <u>1034</u> | <u>213</u> | 8 | 447 | 246 | 448 | 245 | <u>448</u> | <u>246</u> |
| 481.wrf | 16 | 930 | 192 | <u>912</u> | <u>196</u> | 911 | 196 | 16 | 930 | 192 | <u>912</u> | <u>196</u> | 911 | 196 |
| 482.sphinx3 | 16 | <u>1703</u> | <u>183</u> | 1704 | 183 | 1700 | 183 | 16 | <u>1631</u> | <u>191</u> | 1634 | 191 | 1631 | 191 |

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

Submit Notes

The config file option 'submit' was used.
numactl was used to bind copies to the cores

Operating System Notes

'ulimit -s unlimited' was used to set environment stack size
Large pages were disabled for this run

Platform Notes

BIOS settings:
Fan speed = full speed (Default = Balanced)
Data Reuse = Disabled (Default = Enabled)



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General Notes

Binaries compiled on RHEL5.5
This result was measured on Gateway GT350 F1
Acer AT350 F1 is electronically equivalent

Base Compiler Invocation

C benchmarks:

icc -m64

C++ benchmarks:

icpc -m64

Fortran benchmarks:

ifort -m64

Benchmarks using both Fortran and C:

icc -m64 ifort -m64

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:

-xSSE4.2 -ipo -O3 -no-prec-div -static -ansi-alias

C++ benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static -ansi-alias

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Base Optimization Flags (Continued)

Fortran benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static

Benchmarks using both Fortran and C:

-xSSE4.2 -ipo -O3 -no-prec-div -static -ansi-alias

Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m64

482.sphinx3: icc -m32

C++ benchmarks (except as noted below):

icpc -m64

450.soplex: icpc -m32

Fortran benchmarks:

ifort -m64

Benchmarks using both Fortran and C:

icc -m64 ifort -m64

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
 437.leslie3d: -DSPEC_CPU_LP64
 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
 470.lbm: -DSPEC_CPU_LP64
 481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX



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Peak Optimization Flags

C benchmarks:

433.milc: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -static -auto-ilp32

470.lbm: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -opt-malloc-options=3
-ansi-alias -opt-prefetch -static -auto-ilp32

482.sphinx3: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2

C++ benchmarks:

444.namd: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -fno-alias
-auto-ilp32

447.dealII: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -static -auto-ilp32

450.soplex: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -opt-malloc-options=3
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

453.povray: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -ansi-alias
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

Fortran benchmarks:

410.bwaves: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -static

416.gamess: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -unroll2
-inline-level=0 -scalar-rep- -static

434.zeusmp: basepeak = yes

437.leslie3d: -xSSE4.2 -ipo -O3 -no-prec-div
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

459.GemsFDTD: basepeak = yes

465.tonto: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -auto
-inline-calloc -opt-malloc-options=3
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

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Peak Optimization Flags (Continued)

Benchmarks using both Fortran and C:

435.gromacs: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -opt-prefetch
-static -auto-ilp32

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: basepeak = yes

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.html>

<http://www.spec.org/cpu2006/flags/Acer-Intel-Linux-Settings-flags.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.xml>

<http://www.spec.org/cpu2006/flags/Acer-Intel-Linux-Settings-flags.xml>

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

Tested with SPEC CPU2006 v1.1.

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