



SPEC[®] CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Acer Incorporated

SPECfp[®]_rate2006 = 274

Gateway GW2000h-GW175h F1 (AMD Opteron 6166 HE)

SPECfp_rate_base2006 = 257

CPU2006 license: 97

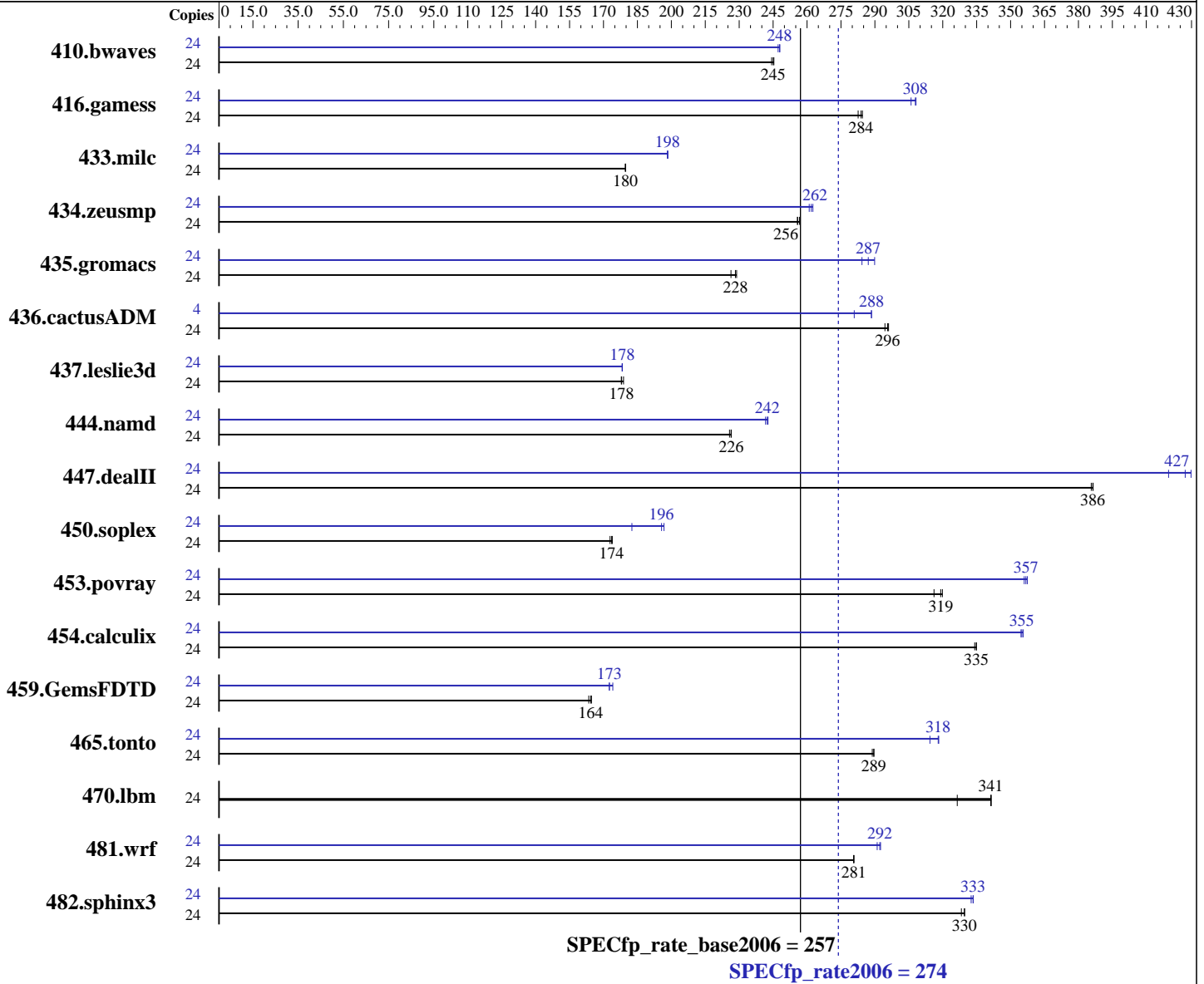
Test date: Apr-2011

Test sponsor: Acer Incorporated

Hardware Availability: Feb-2011

Tested by: Acer Incorporated

Software Availability: Jul-2010



Hardware

CPU Name: AMD Opteron 6166 HE
 CPU Characteristics: 1800
 CPU MHz: Integrated
 FPU: 24 cores, 2 chips, 12 cores/chip
 CPU(s) enabled: 1,2 chips
 CPU(s) orderable: 64 KB I + 64 KB D on chip per core
 Primary Cache: 512 KB I+D on chip per core
 Secondary Cache:

Continued on next page

Software

Operating System: SUSE Linux Enterprise Server 11 (x86_64)
 SPI
 Kernel 2.6.32.12-0.7-default
 Compiler: x86 Open64 4.2.4 Compiler Suite (from AMD)
 Auto Parallel: Yes
 File System: ext3
 System State: Run level 3 (multiuser)
 Base Pointers: 64-bit
 Peak Pointers: 32/64-bit

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Acer Incorporated

SPECfp_rate2006 = 274

Gateway GW2000h-GW175h F1 (AMD Opteron 6166 HE)

SPECfp_rate_base2006 = 257

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

Test date: Apr-2011
Hardware Availability: Feb-2011
Software Availability: Jul-2010

L3 Cache: 12 MB I+D on chip per chip, 6 MB shared / 6 cores
Other Cache: None
Memory: 64 GB (16 x 4 GB 2Rx8 PC3-10600R-9, ECC)
Disk Subsystem: 1 x 500 GB SATA, 7200 RPM
Other Hardware: None

Other Software: None

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	24	1335	244	1329	245	<u>1331</u>	<u>245</u>	24	<u>1316</u>	<u>248</u>	1319	247	1315	248
416.gamess	24	1652	284	<u>1655</u>	<u>284</u>	1663	283	24	1536	306	1525	308	<u>1526</u>	<u>308</u>
433.milc	24	1226	180	1226	180	<u>1226</u>	<u>180</u>	24	<u>1111</u>	<u>198</u>	1111	198	1110	198
434.zeusmp	24	851	257	<u>854</u>	<u>256</u>	854	256	24	837	261	832	263	<u>834</u>	<u>262</u>
435.gromacs	24	<u>750</u>	<u>228</u>	757	226	749	229	24	<u>597</u>	<u>287</u>	591	290	603	284
436.cactusADM	24	974	294	969	296	<u>970</u>	<u>296</u>	4	170	281	<u>166</u>	<u>288</u>	166	289
437.leslie3d	24	1268	178	<u>1267</u>	<u>178</u>	1261	179	24	<u>1265</u>	<u>178</u>	1266	178	1265	178
444.namd	24	853	226	<u>850</u>	<u>226</u>	850	226	24	797	242	<u>794</u>	<u>242</u>	793	243
447.dealII	24	712	386	<u>711</u>	<u>386</u>	710	387	24	654	420	639	430	<u>643</u>	<u>427</u>
450.soplex	24	1158	173	<u>1153</u>	<u>174</u>	1151	174	24	1096	183	<u>1023</u>	<u>196</u>	1017	197
453.povray	24	404	316	399	320	<u>400</u>	<u>319</u>	24	357	357	359	356	<u>358</u>	<u>357</u>
454.calculix	24	<u>591</u>	<u>335</u>	591	335	593	334	24	558	355	557	356	<u>558</u>	<u>355</u>
459.GemsFDTD	24	1546	165	<u>1550</u>	<u>164</u>	1558	163	24	1476	173	1462	174	<u>1475</u>	<u>173</u>
465.tonto	24	<u>816</u>	<u>289</u>	815	290	818	289	24	<u>743</u>	<u>318</u>	751	314	742	318
470.lbm	24	966	341	<u>966</u>	<u>341</u>	1010	326	24	966	341	<u>966</u>	<u>341</u>	1010	326
481.wrf	24	955	281	<u>955</u>	<u>281</u>	955	281	24	<u>918</u>	<u>292</u>	916	293	921	291
482.sphinx3	24	1425	328	<u>1419</u>	<u>330</u>	1419	330	24	1403	333	1407	333	<u>1403</u>	<u>333</u>

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.
See the configuration file for details.

Operating System Notes

'ulimit -s unlimited' was used to set environment stack size
'ulimit -l 2097152' was used to set environment locked pages in memory limit

Set vm/nr_hugepages=10800 in /etc/sysctl.conf
mount -t hugetlbfs nodev /mnt/hugepages



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Acer Incorporated

SPECfp_rate2006 = 274

Gateway GW2000h-GW175h F1 (AMD Opteron 6166 HE)

SPECfp_rate_base2006 = 257

CPU2006 license: 97

Test date: Apr-2011

Test sponsor: Acer Incorporated

Hardware Availability: Feb-2011

Tested by: Acer Incorporated

Software Availability: Jul-2010

General Notes

Environment variables set by runspec before the start of the run:

HUGETLB_LIMIT = "450"

LD_LIBRARY_PATH = "/usr/cpu2006/amd1002-rate-libs-revC/64:/usr/cpu2006/amd1002-rate-libs-revC/32"

OMP_NUM_THREADS = "6"

The x86 Open64 Compiler Suite is only available from (and supported by) AMD at

<http://developer.amd.com/cpu/open64>

Binaries were compiled on SLES10 SP2 with binutils 2.18

This result was measured on the Gateway GW2000h-GW175h F1.

The Acer AW2000h-AW175h F1 and Gateway GW2000h-GW175h F1 are electronically equivalent.

Base Compiler Invocation

C benchmarks:

opencc

C++ benchmarks:

openCC

Fortran benchmarks:

openf95

Benchmarks using both Fortran and C:

opencc openf95

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
 436.cactusADM: -DSPEC_CPU_LP64 -fno-second-underscore
 437.lelie3d: -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
 459.GemsFDTD: -DSPEC_CPU_LP64
 465.tonto: -DSPEC_CPU_LP64
 470.lbm: -DSPEC_CPU_LP64
 481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX -DSPEC_CPU_CASE_FLAG
 -fno-second-underscore
 482.sphinx3: -DSPEC_CPU_LP64



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Acer Incorporated

SPECfp_rate2006 = 274

Gateway GW2000h-GW175h F1 (AMD Opteron 6166 HE)

SPECfp_rate_base2006 = 257

CPU2006 license: 97

Test date: Apr-2011

Test sponsor: Acer Incorporated

Hardware Availability: Feb-2011

Tested by: Acer Incorporated

Software Availability: Jul-2010

Base Optimization Flags

C benchmarks:

-march=barcelona -mso -Ofast -OPT:malloc_alg=1 -HP:bdt=2m

C++ benchmarks:

-march=barcelona -mso -Ofast -static -INLINE:aggressive=on
-OPT:malloc_alg=1 -HP:bdt=2m

Fortran benchmarks:

-march=barcelona -mso -Ofast -HP

Benchmarks using both Fortran and C:

-march=barcelona -mso -Ofast -OPT:malloc_alg=1 -HP:bdt=2m -HP

Peak Compiler Invocation

C benchmarks:

opencc

C++ benchmarks:

openCC

Fortran benchmarks:

openf95

Benchmarks using both Fortran and C:

opencc openf95

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
436.cactusADM: -DSPEC_CPU_LP64 -fno-second-underscore
437.leslie3d: -DSPEC_CPU_LP64
444.namd: -DSPEC_CPU_LP64
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX -DSPEC_CPU_CASE_FLAG
-fno-second-underscore
482.sphinx3: -DSPEC_CPU_LP64



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Acer Incorporated

SPECfp_rate2006 = 274

Gateway GW2000h-GW175h F1 (AMD Opteron 6166 HE)

SPECfp_rate_base2006 = 257

CPU2006 license: 97

Test date: Apr-2011

Test sponsor: Acer Incorporated

Hardware Availability: Feb-2011

Tested by: Acer Incorporated

Software Availability: Jul-2010

Peak Optimization Flags

C benchmarks:

433.milc: -march=barcelona -mso -Ofast -CG:movnti=1
-CG:local_sched_alg=1 -CG:locs_shallow_depth=1
-HP:bdt=2m:heap=2m -LNO:prefetch=3

470.lbm: basepeak = yes

482.sphinx3: -march=barcelona -mso -fb_create fbdata(pass 1)
-fb_opt fbdata(pass 2) -Ofast -OPT:malloc_alg=2
-CG:sse_cse_regs=0 -CG:locs_shallow_depth=1 -CG:cmp_peep=on
-CG:local_sched_alg=1 -INLINE:aggressive=on

C++ benchmarks:

444.namd: -march=barcelona -mso -fb_create fbdata(pass 1)
-fb_opt fbdata(pass 2) -Ofast -LNO:ignore_feedback=off
-CG:local_sched_alg=2 -CG:load_exe=0 -CG:compute_to=on
-OPT:unroll_size=256 -fno-exceptions -HP:bdt=2m:heap=2m

447.deallI: -march=barcelona -mso -Ofast -static -INLINE:aggressive=on
-LNO:opt=0 -fno-emit-exceptions -m32
-OPT:unroll_times_max=8 -OPT:unroll_size=256
-OPT:unroll_level=2 -HP:bdt=2m:heap=2m -GRA:unspill=on
-CG:cmp_peep=on -TENV:frame_pointer=off

450.soplex: -march=barcelona -mso -fb_create fbdata(pass 1)
-fb_opt fbdata(pass 2) -O3 -INLINE:aggressive=on
-OPT:IEEE_arith=3 -OPT:IEEE_NaN_Inf=off
-OPT:fold_unsigned_relops=on -OPT:malloc_alg=1
-CG:load_exe=0 -fno-exceptions -m32 -HP:bdt=2m

453.povray: -march=barcelona -mso -fb_create fbdata(pass 1)
-fb_opt fbdata(pass 2) -Ofast -INLINE:aggressive=on

Fortran benchmarks:

410.bwaves: -march=barcelona -mso -O3 -OPT:Ofast -OPT:treeheight=on
-LNO:blocking=off -LNO:prefetch_ahead=5
-LNO:ignore_feedback=off -WOPT:aggstr=0 -HP:bdt=2m:heap=2m
-CG:cmp_peep=on

416.gamess: -march=barcelona -mso -fb_create fbdata(pass 1)
-fb_opt fbdata(pass 2) -O3 -LNO:fu=6 -LNO:blocking=0
-LNO:prefetch=0 -OPT:Ofast -OPT:ro=3 -OPT:unroll_size=256
-HP:bdt=2m:heap=2m

434.zeusmp: -march=barcelona -mso -Ofast -LNO:blocking=off
-LNO:interchange=off -OPT:treeheight=on -OPT:unroll_size=256
-CG:cmp_peep=on -GRA:prioritize_by_density=on -HP

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Acer Incorporated

SPECfp_rate2006 = 274

Gateway GW2000h-GW175h F1 (AMD Opteron 6166 HE)

SPECfp_rate_base2006 = 257

CPU2006 license: 97

Test date: Apr-2011

Test sponsor: Acer Incorporated

Hardware Availability: Feb-2011

Tested by: Acer Incorporated

Software Availability: Jul-2010

Peak Optimization Flags (Continued)

437.leslie3d: -march=barcelona -mso -Ofast -HP:bdt=2m:heap=2m

459.GemsFDTD: -march=barcelona -mso -Ofast -LNO:fission=2
-LNO:prefetch_ahead=1 -CG:load_exe=0 -CG:local_sched_alg=1
-HP

465.tonto: -march=barcelona -mso -Ofast
-OPT:alias=no_f90_pointer_alias -LNO:blocking=off
-CG:load_exe=1 -IPA:plimit=525 -HP

Benchmarks using both Fortran and C:

435.gromacs: -march=barcelona -mso -Ofast -OPT:rsqrt=2
-HP:bdt=2m:heap=2m

436.cactusADM: -march=barcelona -mso -fb_create fbdata(pass 1)
-fb_opt fbdata(pass 2) -Ofast -apo -LNO:prefetch_ahead=1
-HP:bdt=2m:heap=2m -LANG:heap_allocation_threshold=100

454.calculix: -march=barcelona -mso -Ofast -CG:load_exe=0
-CG:ptr_load_use=0 -CG:local_sched_alg=2 -CG:compute_to=on
-LNO:prefetch_ahead=30 -WOPT:unroll=2
-GRA:optimize_boundary=on -HP:bdt=2m:heap=2m

481.wrf: -march=barcelona -mso -Ofast -LNO:blocking=off
-LNO:prefetch_ahead=10 -LANG:copyinout=off
-IPA:callee_limit=5000 -GRA:prioritize_by_density=on -m3dnow
-HP

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

<http://www.spec.org/cpu2006/flags/x86-open64-424-flags-rate-revC.20100901.html>
<http://www.spec.org/cpu2006/flags/amd-platform-rate-revC.html>

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

<http://www.spec.org/cpu2006/flags/x86-open64-424-flags-rate-revC.20100901.xml>
<http://www.spec.org/cpu2006/flags/amd-platform-rate-revC.xml>

SPEC and SPECfp are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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

Tested with SPEC CPU2006 v1.1.
Report generated on Wed Jul 23 21:04:56 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 10 May 2011.