



SPEC[®] CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Acer Incorporated

SPECfp[®]_rate2006 = 245

Acer AW2000h-AW175h F1 (AMD Opteron 6212)

SPECfp_rate_base2006 = 229

CPU2006 license: 97

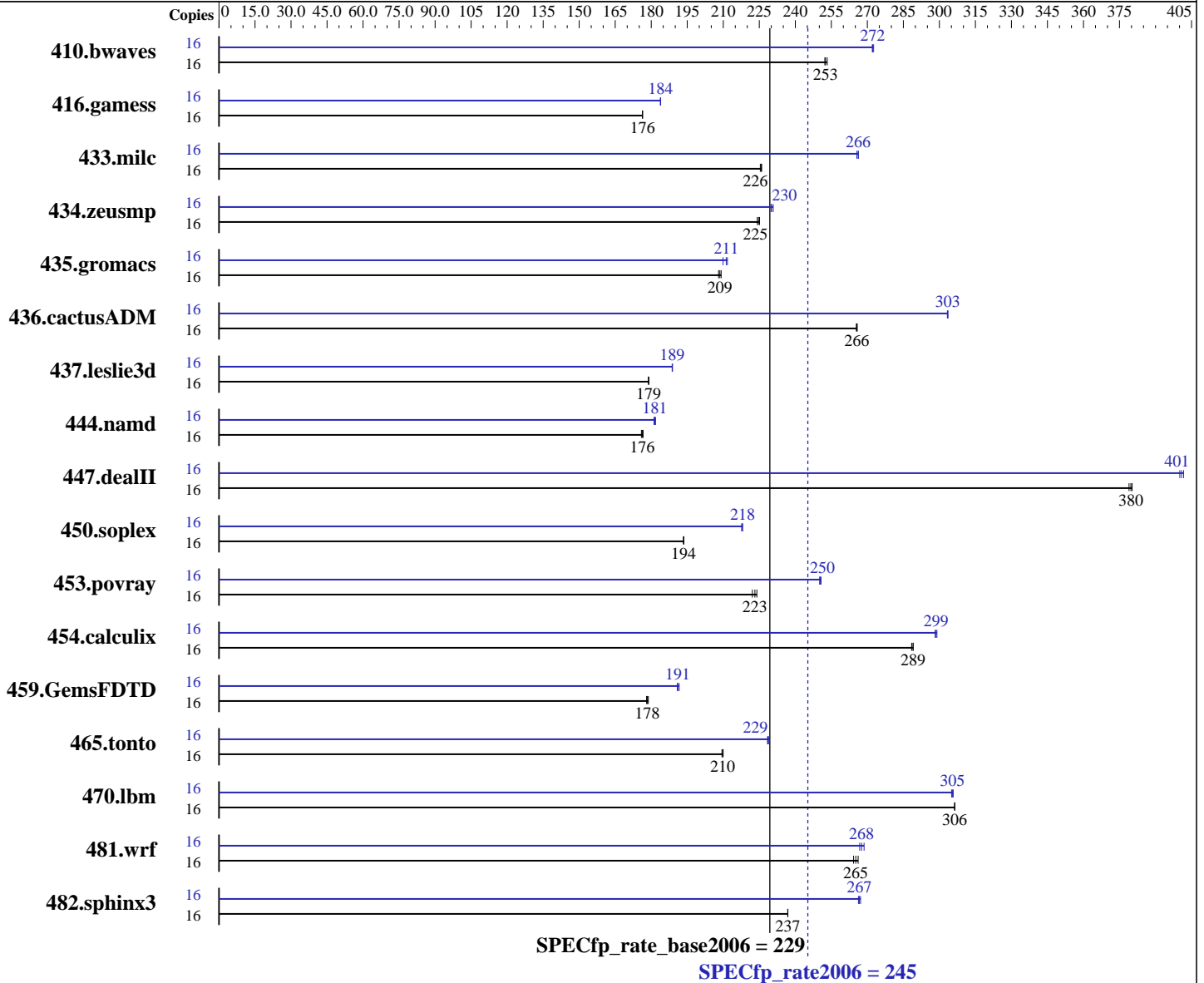
Test date: Dec-2011

Test sponsor: Acer Incorporated

Hardware Availability: Nov-2011

Tested by: Acer Incorporated

Software Availability: Jul-2011



Hardware

CPU Name: AMD Opteron 6212
 CPU Characteristics: AMD Turbo CORE technology up to 3.20 GHz
 CPU MHz: 2600
 FPU: Integrated
 CPU(s) enabled: 16 cores, 2 chips, 8 cores/chip
 CPU(s) orderable: 1,2 chips

Continued on next page

Software

Operating System: Red Hat Enterprise Linux Server release 6.1, Kernel 2.6.32-131.0.15.el6.x86_64
 Compiler: C/C++/Fortran: Version 4.2.5.2 of x86 Open64 Compiler Suite (from AMD)
 Auto Parallel: No
 File System: ext3
 System State: Run level 3 (Full multiuser with network)
 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 = **245**

Acer AW2000h-AW175h F1 (AMD Opteron 6212)

SPECfp_rate_base2006 = **229**

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

Test date: Dec-2011
Hardware Availability: Nov-2011
Software Availability: Jul-2011

Primary Cache: 256 KB I on chip per chip,
64 KB I shared / 2 cores;
16 KB D on chip per core
Secondary Cache: 8 MB I+D on chip per chip, 2 MB shared / 2 cores
L3 Cache: 16 MB I+D on chip per chip, 8 MB shared / 4 cores
Other Cache: None
Memory: 128 GB (16 x 8 GB 2Rx4 PC3-10600R-9, ECC)
Disk Subsystem: 1 x 1000 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	16	862	252	858	253	861	253	16	799	272	799	272	798	273
416.gamess	16	1777	176	1776	176	1776	176	16	1704	184	1703	184	1704	184
433.milc	16	651	226	652	225	650	226	16	552	266	552	266	553	266
434.zeusmp	16	648	225	647	225	649	224	16	633	230	633	230	631	231
435.gromacs	16	546	209	549	208	548	209	16	540	212	541	211	544	210
436.cactusADM	16	720	265	720	266	719	266	16	630	303	630	304	630	303
437.leslie3d	16	840	179	841	179	841	179	16	797	189	796	189	797	189
444.namd	16	729	176	727	177	728	176	16	707	181	706	182	708	181
447.dealII	16	483	379	481	380	482	380	16	456	402	457	401	457	400
450.soplex	16	689	194	689	194	690	193	16	612	218	613	218	612	218
453.povray	16	381	223	380	224	383	222	16	340	250	340	250	339	251
454.calculix	16	457	289	457	289	458	288	16	443	298	441	299	442	299
459.GemsFDTD	16	949	179	952	178	953	178	16	886	192	890	191	888	191
465.tonto	16	750	210	750	210	752	209	16	689	229	689	228	688	229
470.lbm	16	717	306	718	306	718	306	16	719	306	720	305	721	305
481.wrf	16	676	264	671	266	674	265	16	665	269	668	268	670	267
482.sphinx3	16	1317	237	1316	237	1317	237	16	1169	267	1167	267	1171	266

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 transparent_hugepage=never as a boot parameter in /boot/grub/menu.lst
Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Acer Incorporated

SPECfp_rate2006 = 245

Acer AW2000h-AW175h F1 (AMD Opteron 6212)

SPECfp_rate_base2006 = 229

CPU2006 license: 97

Test date: Dec-2011

Test sponsor: Acer Incorporated

Hardware Availability: Nov-2011

Tested by: Acer Incorporated

Software Availability: Jul-2011

Operating System Notes (Continued)

Set kernel/randomize_va_space=0 in /etc/sysctl.conf

Set vm/nr_hugepages=14336 in /etc/sysctl.conf
mount -t hugetlbfs nodev /mnt/hugepages

Platform Notes

BIOS Settings:
PowerNow = Disabled
Fan Speed Control Modes = Full Speed

General Notes

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

HUGETLB_LIMIT = "896"

LD_LIBRARY_PATH = "/usr/cpu2006/amd1104-rate-libs-revB/32:/usr/cpu2006/amd1104-rate-libs-revB/64"

The x86 Open64 Compiler Suite is only available from (and supported by) AMD at <http://developer.amd.com/cpu/open64>

Binaries were compiled on a system with 2x AMD Opteron 6282SE chips + 64GB Memory using RHEL 6.1

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.leslie3d: -DSPEC_CPU_LP64

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Acer Incorporated

SPECfp_rate2006 = 245

Acer AW2000h-AW175h F1 (AMD Opteron 6212)

SPECfp_rate_base2006 = 229

CPU2006 license: 97

Test date: Dec-2011

Test sponsor: Acer Incorporated

Hardware Availability: Nov-2011

Tested by: Acer Incorporated

Software Availability: Jul-2011

Base Portability Flags (Continued)

```

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_LINUX -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LP64
      -fno-second-underscore
482.sphinx3: -DSPEC_CPU_LP64

```

Base Optimization Flags

C benchmarks:

```

-march=bdver1 -Ofast -OPT:malloc_alg=1 -HP:bd=2m:heap=2m
-IPA:plimit=8000 -IPA:small_pu=100 -mso

```

C++ benchmarks:

```

-march=bdver1 -Ofast -static -CG:load_exe=0 -OPT:malloc_alg=1
-INLINE:aggressive=on -HP:bd=2m:heap=2m -D__OPEN64_FAST_SET

```

Fortran benchmarks:

```

-march=bdver1 -Ofast -LNO:blocking=off -OPT:rsqrt=2
-OPT:unroll_size=256 -HP:bd=2m:heap=2m -mso

```

Benchmarks using both Fortran and C:

```

-march=bdver1 -Ofast -OPT:malloc_alg=1 -HP:bd=2m:heap=2m
-IPA:plimit=8000 -IPA:small_pu=100 -mso -LNO:blocking=off
-OPT:rsqrt=2 -OPT:unroll_size=256

```

Peak Compiler Invocation

C benchmarks:

opencc

C++ benchmarks:

openCC

Fortran benchmarks:

openf95

Benchmarks using both Fortran and C:

opencc openf95



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Acer Incorporated

SPECfp_rate2006 = 245

Acer AW2000h-AW175h F1 (AMD Opteron 6212)

SPECfp_rate_base2006 = 229

CPU2006 license: 97

Test date: Dec-2011

Test sponsor: Acer Incorporated

Hardware Availability: Nov-2011

Tested by: Acer Incorporated

Software Availability: Jul-2011

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_LINUX -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LP64
-fno-second-underscore
482.sphinx3: -DSPEC_CPU_LP64

```

Peak Optimization Flags

C benchmarks:

```

433.milc: -march=bdver1 -Ofast -CG:movnti=1 -CG:locs_best=on
-HP:bdt=2m:heap=2m -IPA:plimit=7000 -IPA:callee_limit=1200
-OPT:struct_array_copy=2 -OPT:alias=field_sensitive -mso

470.lbm: -march=bdver1 -Ofast -CG:cmp_peep=on
-OPT:unroll_times_max=8 -OPT:unroll_size=256
-OPT:unroll_level=2 -OPT:keep_ext=on -HP:bdt=2m:heap=2m
-IPA:plimit=8000 -IPA:small_pu=100 -mso

482.sphinx3: -march=bdver1 -fb_create fbdata(pass 1)
-fb_opt fbdata(pass 2) -Ofast -OPT:malloc_alg=2
-CG:cmp_peep=on -CG:local_sched_alg=2 -INLINE:aggressive=on
-LNO:prefetch=2 -LNO:prefetch_ahead=4 -mso

```

C++ benchmarks:

```

444.namd: -march=bdver1 -fb_create fbdata(pass 1)
-fb_opt fbdata(pass 2) -Ofast -LNO:ignore_feedback=off
-CG:local_sched_alg=2 -CG:load_exe=0 -OPT:unroll_size=256
-fno-exceptions -HP:bdt=2m:heap=2m

447.deallI: -march=bdver1 -Ofast -D__OPEN64_FAST_SET -static
-INLINE:aggressive=on -LNO:opt=0 -LNO:simd=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 -CG:movext_icmp=off
-TENV:frame_pointer=off

```

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Acer Incorporated

SPECfp_rate2006 = 245

Acer AW2000h-AW175h F1 (AMD Opteron 6212)

SPECfp_rate_base2006 = 229

CPU2006 license: 97

Test date: Dec-2011

Test sponsor: Acer Incorporated

Hardware Availability: Nov-2011

Tested by: Acer Incorporated

Software Availability: Jul-2011

Peak Optimization Flags (Continued)

450.soplex: -march=bdver1 -fb_create fbdata(pass 1)
 -fb_opt fbdata(pass 2) -O3 -INLINE:aggressive=on -OPT:RO=1
 -OPT:IEEE_arith=3 -OPT:IEEE_NaN_Inf=off
 -OPT:fold_unsigned_relops=on -fno-exceptions -m32
 -HP:bd=2m:heap=2m -WOPT:sib=on

453.povray: -march=bdver1 -fb_create fbdata(pass 1)
 -fb_opt fbdata(pass 2) -Ofast -CG:pre_local_sched=off
 -INLINE:aggressive=on -HP:bd=2m:heap=2m -OPT:transform=2
 -OPT:alias=disjoint -WOPT:aggcm=0

Fortran benchmarks:

410.bwaves: -march=bdver1 -fb_create fbdata(pass 1)
 -fb_opt fbdata(pass 2) -Ofast -OPT:Ofast -OPT:treeheight=on
 -LNO:blocking=off -LNO:ignore_feedback=off -LNO:fu=4
 -LNO:loop_model_simd=on -LNO:simd_rm_unity_remainder=on
 -WOPT:aggstr=0 -HP:bd=2m:heap=2m -CG:cmp_peep=on

416.gamess: -march=bdver1 -fb_create fbdata(pass 1)
 -fb_opt fbdata(pass 2) -O3 -LNO:fu=6 -LNO:blocking=0
 -LNO:simd=0 -OPT:Ofast -OPT:ro=3 -OPT:unroll_size=256
 -OPT:unroll_times_max=2 -CG:local_sched_alg=1
 -HP:bd=2m:heap=2m -WOPT:sib=on

434.zeusmp: -march=bdver1 -Ofast -LNO:blocking=off -LNO:interchange=off
 -HP:bd=2m:heap=2m

437.leslie3d: -march=bdver1 -Ofast -CG:pre_minreg_level=2 -LNO:simd=0
 -LNO:fusion=2 -HP:bd=2m:heap=2m -mso

459.GemsFDTD: -march=bdver1 -Ofast -OPT:unroll_size=0 -LNO:fission=2
 -CG:load_exe=0 -CG:local_sched_alg=2 -HP

465.tonto: -march=bdver1 -Ofast -OPT:alias=no_f90_pointer_alias
 -LNO:blocking=off -CG:load_exe=1 -IPA:plimit=525
 -HP:bd=2m:heap=2m

Benchmarks using both Fortran and C:

435.gromacs: -march=bdver1 -fb_create fbdata(pass 1)
 -fb_opt fbdata(pass 2) -Ofast -OPT:rsqrt=2
 -HP:bd=2m:heap=2m

436.cactusADM: -march=bdver1 -fb_create fbdata(pass 1)
 -fb_opt fbdata(pass 2) -Ofast -LNO:blocking=off
 -LNO:prefetch=2 -HP -CG:locs_shallow_depth=1 -CG:load_exe=0
 -WOPT:sib=on

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Acer Incorporated

SPECfp_rate2006 = 245

Acer AW2000h-AW175h F1 (AMD Opteron 6212)

SPECfp_rate_base2006 = 229

CPU2006 license: 97

Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: Dec-2011

Hardware Availability: Nov-2011

Software Availability: Jul-2011

Peak Optimization Flags (Continued)

454.calculix: -march=bdver1 -Ofast -OPT:unroll_size=256
-GRA:optimize_boundary=on -HP:bdt=2m:heap=2m

481.wrf: -march=bdver1 -Ofast -LNO:blocking=off -LANG:copyinout=off
-IPA:callee_limit=5000 -GRA:prioritize_by_density=on
-CG:load_exe=1 -HP -WOPT:sib=on

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

<http://www.spec.org/cpu2006/flags/x86-open64-425-flags-rate-revB.html>

<http://www.spec.org/cpu2006/flags/acer-amd-platform-rate-revB.html>

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

<http://www.spec.org/cpu2006/flags/x86-open64-425-flags-rate-revB.xml>

<http://www.spec.org/cpu2006/flags/acer-amd-platform-rate-revB.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 v1.2.

Report generated on Thu Jul 24 03:56:58 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 14 February 2012.