SPEC® CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Acer Incorporated

$SPECfp®\_rate2006 = 304$

Gateway GW2000h-GW175h F1 (AMD Opteron 6174)
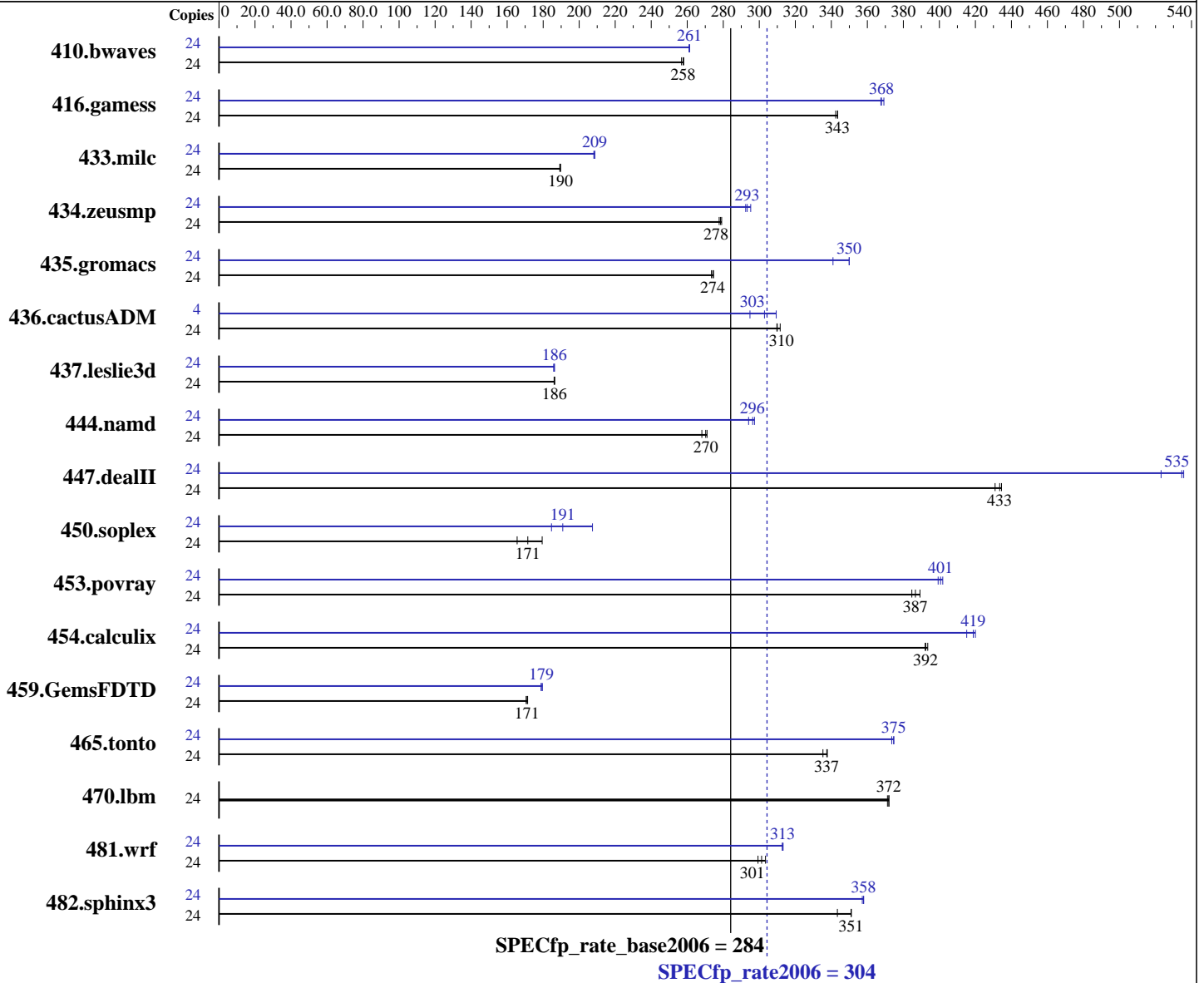
$SPECfp\_rate\_base2006 = 284$

CPU2006 license: 97	**Test date:** Jun-2010
Test sponsor: Acer Incorporated	**Hardware Availability:** Aug-2010
Tested by: Acer Incorporated	**Software Availability:** May-2010

Copies

Benchmark	Copies	Value
410.bwaves	24	261
	24	258
416.gamess	24	368
	24	343
433.milc	24	209
	24	190
434.zeusmp	24	293
	24	278
435.gromacs	24	350
	24	274
436.cactusADM	4	303
	24	310
437.leslie3d	24	186
	24	186
444.namd	24	296
	24	270
447.dealII	24	535
	24	433
450.soplex	24	191
	24	171
453.povray	24	401
	24	387
454.calculix	24	419
	24	392
459.GemsFDTD	24	179
	24	171
465.tonto	24	375
	24	337
470.lbm	24	372
481.wrf	24	313
	24	301
482.sphinx3	24	358
	24	351

SPECfp_rate_base2006 = 284

SPECfp_rate2006 = 304

Hardware

CPU Name:	AMD Opteron 6174
CPU Characteristics:	
CPU MHz:	2200
FPU:	Integrated
CPU(s) enabled:	24 cores, 2 chips, 12 cores/chip
CPU(s) orderable:	1,2 chips
Primary Cache:	64 KB I + 64 KB D on chip per core
Secondary Cache:	512 KB I+D on chip per core

Continued on next page

Software

Operating System:	Red Hat Enterprise Linux Server release 5.4, Advanced Platform with patch RHSA-2009:1670, Kernel 2.6.18-164.9.1.el5
Compiler:	x86 Open64 4.2.3.2 Compiler Suite (from AMD)
Auto Parallel:	Yes
File System:	ext3
System State:	Run level 3 (multi-user)
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

Gateway GW2000h-GW175h F1 (AMD Opteron 6174)

$SPECfp\_rate2006 =$ 304

$SPECfp\_rate\_base2006 =$ 284

CPU2006 license: 97	**Test date:** Jun-2010
Test sponsor: Acer Incorporated	**Hardware Availability:** Aug-2010
Tested by: Acer Incorporated	**Software Availability:** May-2010

L3 Cache: 12 MB I+D on chip per chip, 6 MB shared / 6 cores	Other Software: binutils 2.18
Other Cache: None	
Memory: 64 GB (16 x 4 GB DDR3-1333 RDIMM)	
Disk Subsystem: 1 x 320 GB SATA, 7200 RPM	
Other Hardware: None	

Results Table

Benchmark	Base						Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	24	1264	258	1270	257	**1266**	**258**	24	1250	261	**1249**	**261**	1248	261
416.gamess	24	**1368**	**343**	1372	342	1368	344	24	**1277**	**368**	1279	368	1273	369
433.milc	24	1164	189	**1162**	**190**	1162	190	24	1056	209	**1056**	**209**	1059	208
434.zeusmp	24	786	278	783	279	**784**	**278**	24	**745**	**293**	747	292	740	295
435.gromacs	24	627	273	**625**	**274**	624	275	24	490	350	503	341	**490**	**350**
436.cactusADM	24	**925**	**310**	920	312	926	310	4	**158**	**303**	154	309	162	295
437.leslie3d	24	1211	186	1212	186	**1211**	**186**	24	**1212**	**186**	1214	186	1211	186
444.namd	24	718	268	710	271	**712**	**270**	24	655	294	**650**	**296**	647	297
447.dealII	24	632	435	**633**	**433**	637	431	24	**514**	**535**	525	523	513	536
450.soplex	24	1209	166	**1167**	**171**	1115	179	24	1084	185	**1049**	**191**	965	207
453.povray	24	332	385	**330**	**387**	328	389	24	**319**	**401**	320	399	318	402
454.calculix	24	503	394	**505**	**392**	505	392	24	**473**	**419**	471	420	477	415
459.GemsFDTD	24	1486	171	1493	171	**1489**	**171**	24	1424	179	1418	180	**1423**	**179**
465.tonto	24	699	338	**700**	**337**	704	335	24	630	375	632	374	**630**	**375**
470.lbm	24	887	372	888	371	**887**	**372**	24	887	372	888	371	**887**	**372**
481.wrf	24	896	299	**890**	**301**	883	303	24	**857**	**313**	857	313	856	313
482.sphinx3	24	1332	351	1362	343	**1333**	**351**	24	1307	358	1309	357	**1307**	**358**

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

Gateway GW2000h-GW175h F1 (AMD Opteron 6174)

$SPECfp\_rate2006 = \quad 304$

$SPECfp\_rate\_base2006 = \quad 284$

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

Test date: Jun-2010
Hardware Availability: Aug-2010
Software Availability: May-2010

General Notes

```
Environment variables set by runspec before the start of the run:
HUGETLB_LIMIT = "450"
LD_LIBRARY_PATH = "/usr/cpu2006/amd1002mc-rate-libs-revB/64:/usr/cpu2006/amd1002mc-rate-libs-revB/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

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.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
 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
```

Acer Incorporated

Gateway GW2000h-GW175h F1 (AMD Opteron 6174)

$SPECfp_rate2006 = $ 304

$SPECfp_rate_base2006 = $ 284

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

Test date: Jun-2010
Hardware Availability: Aug-2010
Software Availability: May-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

Gateway GW2000h-GW175h F1 (AMD Opteron 6174)

SPECfp_rate2006 =   304

SPECfp_rate_base2006 =   284

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

Test date: Jun-2010
Hardware Availability: Aug-2010
Software Availability: May-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.dealII: -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
```

Acer Incorporated

Gateway GW2000h-GW175h F1 (AMD Opteron 6174)

SPECfp_rate2006 =   304

SPECfp_rate_base2006 =   284

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

Test date: Jun-2010
Hardware Availability: Aug-2010
Software Availability: May-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-open64-4.2.3-flags-revA.20100721.html
http://www.spec.org/cpu2006/flags/amd-platform-revA.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/x86-open64-4.2.3-flags-revA.20100721.xml
http://www.spec.org/cpu2006/flags/amd-platform-revA.xml

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 12:02:36 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 17 August 2010.