



SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Acer Incorporated

SPECint®_rate2006 = 639

Gateway GR585 F1 (AMD Opteron 6164 HE)

SPECint_rate_base2006 = 559

CPU2006 license: 97

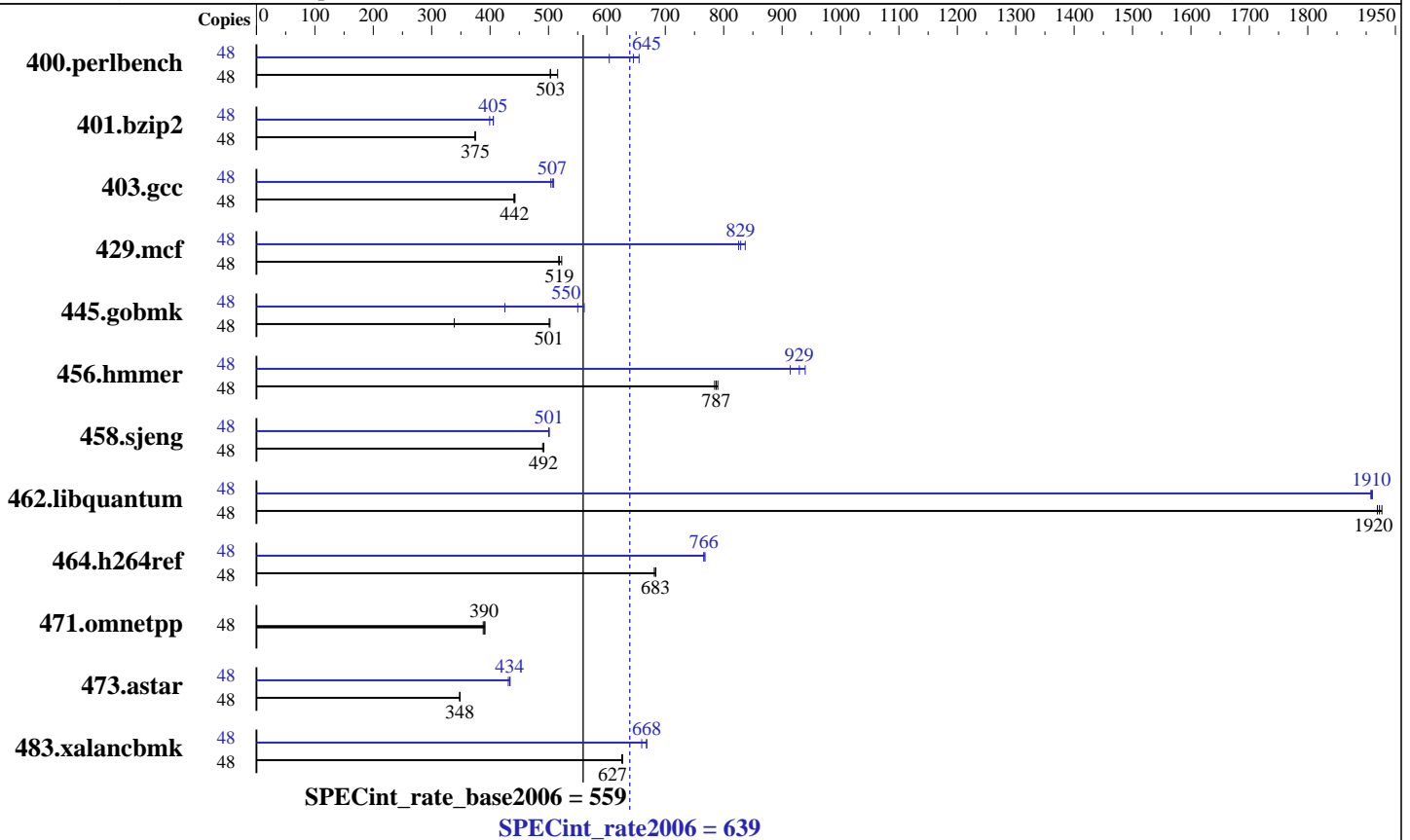
Test date: Apr-2011

Test sponsor: Acer Incorporated

Hardware Availability: Jul-2011

Tested by: Acer Incorporated

Software Availability: Jul-2010



Hardware

CPU Name: AMD Opteron 6164 HE
 CPU Characteristics:
 CPU MHz: 1700
 FPU: Integrated
 CPU(s) enabled: 48 cores, 4 chips, 12 cores/chip
 CPU(s) orderable: 2,4 chips
 Primary Cache: 64 KB I + 64 KB D on chip per core
 Secondary Cache: 512 KB I+D on chip per core
 L3 Cache: 12 MB I+D on chip per chip, 6 MB shared / 6 cores
 Other Cache: None
 Memory: 128 GB (32 x 4 GB 2Rx8 PC3-10600R-9, ECC)
 Disk Subsystem: 1 x 500 GB SATA, 7200 RPM
 Other Hardware: None

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: No
 File System: ext3
 System State: Run level 3 (multiuser)
 Base Pointers: 32/64-bit
 Peak Pointers: 32/64-bit
 Other Software: SmartHeap 8.1 32-bit Library for Linux



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Acer Incorporated

SPECint_rate2006 = 639

Gateway GR585 F1 (AMD Opteron 6164 HE)

SPECint_rate_base2006 = 559

CPU2006 license: 97

Test date: Apr-2011

Test sponsor: Acer Incorporated

Hardware Availability: Jul-2011

Tested by: Acer Incorporated

Software Availability: Jul-2010

Results Table

Benchmark	Base						Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	48	909	516	<u>932</u>	<u>503</u>	932	503	48	776	604	<u>727</u>	<u>645</u>	716	655
401.bzip2	48	1237	375	1237	374	<u>1237</u>	<u>375</u>	48	1160	399	1142	406	<u>1143</u>	<u>405</u>
403.gcc	48	873	443	<u>874</u>	<u>442</u>	877	441	48	767	504	759	509	<u>763</u>	<u>507</u>
429.mcf	48	846	517	838	523	<u>844</u>	<u>519</u>	48	<u>528</u>	<u>829</u>	523	837	530	826
445.gobmk	48	<u>1005</u>	<u>501</u>	1002	503	1486	339	48	<u>915</u>	<u>550</u>	1184	425	897	561
456.hammer	48	567	790	571	784	<u>569</u>	<u>787</u>	48	<u>482</u>	<u>929</u>	490	914	477	940
458.sjeng	48	1185	490	1180	492	<u>1181</u>	<u>492</u>	48	1158	501	1161	500	<u>1160</u>	<u>501</u>
462.libquantum	48	516	1930	<u>517</u>	<u>1920</u>	518	1920	48	521	1910	<u>521</u>	<u>1910</u>	521	1910
464.h264ref	48	1560	681	<u>1555</u>	<u>683</u>	1553	684	48	1387	766	<u>1386</u>	<u>766</u>	1383	768
471.omnetpp	48	767	391	<u>769</u>	<u>390</u>	773	388	48	767	391	<u>769</u>	<u>390</u>	773	388
473.astar	48	967	348	969	348	<u>968</u>	<u>348</u>	48	<u>777</u>	<u>434</u>	781	431	776	434
483.xalancbmk	48	530	625	528	627	<u>528</u>	<u>627</u>	48	502	660	496	668	<u>496</u>	<u>668</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=21600 in /etc/sysctl.conf
mount -t hugetlbfs nodev /mnt/hugepages

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"

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 GR585 F1.
The Acer AR585 F1 and Gateway GR585 F1 are electronically equivalent.



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Acer Incorporated

SPECint_rate2006 = 639

Gateway GR585 F1 (AMD Opteron 6164 HE)

SPECint_rate_base2006 = 559

CPU2006 license: 97

Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: Apr-2011

Hardware Availability: Jul-2011

Software Availability: Jul-2010

Base Compiler Invocation

C benchmarks:
opencc

C++ benchmarks:
openCC

Base Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hmmr: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-march=barcelona -mso -Ofast -CG:local_sched_alg=1
-INLINE:aggressive=on -IPA:plimit=8000 -IPA:small_pu=100
-HP:bdt=2m:heap=2m

C++ benchmarks:
-march=barcelona -mso -Ofast -m32 -INLINE:aggressive=on
-CG:cmp_peep=on -L/root/work/libraries/SmartHeap-8.1/lib -lsmartheap

Peak Compiler Invocation

C benchmarks:
opencc

C++ benchmarks:
openCC

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Acer Incorporated

SPECint_rate2006 = 639

Gateway GR585 F1 (AMD Opteron 6164 HE)

SPECint_rate_base2006 = 559

CPU2006 license: 97

Test date: Apr-2011

Test sponsor: Acer Incorporated

Hardware Availability: Jul-2011

Tested by: Acer Incorporated

Software Availability: Jul-2010

Peak Portability Flags (Continued)

```

401.bzip2: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LINUX

```

Peak Optimization Flags

C benchmarks:

```

400.perlbench: -march=barcelona -mso -fb_create fbdata(pass 1)
               -fb_opt fbdata(pass 2) -Ofast -IPA:plimit=20000 -LNO:opt=0
               -OPT:unroll_times_max=8 -OPT:unroll_size=256
               -OPT:unroll_level=2 -OPT:keep_ext=on -WOPT:if_conv=0
               -CG:local_sched_alg=1 -CG:unroll_fb_req=on
               -HP:bdt=2m:heap=2m

401.bzip2: -march=barcelona -mso -fb_create fbdata(pass 1)
            -fb_opt fbdata(pass 2) -O3 -OPT:alias=disjoint
            -OPT:goto=off -CG:local_sched_alg=1 -HP:bdt=2m:heap=2m

403.gcc: -march=barcelona -mso -fb_create fbdata(pass 1)
          -fb_opt fbdata(pass 2) -Ofast -LNO:trip_count=256
          -LNO:prefetch Ahead=10 -CG:cmp_peep=on -m32
          -HP:bdt=2m:heap=2m -GRA:unspill=on -IPA:small_pu=200

429.mcf: -march=barcelona -mso -O3 -ipa -INLINE:aggressive=on
          -CG:gcm=off -GRA:prioritize_by_density=on -m32
          -HP:bdt=2m:heap=2m

445.gobmk: -march=barcelona -mso -fb_create fbdata(pass 1)
            -fb_opt fbdata(pass 2) -O3 -OPT:alias=restrict
            -OPT:unroll_times_max=8 -OPT:unroll_size=256
            -OPT:unroll_level=2 -OPT:keep_ext=on -ipa -IPA:plimit=750
            -IPA:min_hotness=300 -IPA:pu_reorder=1 -LNO:prefetch=1
            -LNO:ignore_feedback=off -CG:p2align=on
            -CG:unroll_fb_req=on -HP:bdt=2m:heap=2m

456.hmmer: -march=barcelona -mso -fb_create fbdata(pass 1)
            -fb_opt fbdata(pass 2) -Ofast -LNO:prefetch=0
            -OPT:alias=disjoint -OPT:unroll_times_max=8
            -OPT:unroll_size=256 -OPT:unroll_level=2 -OPT:keep_ext=on
            -CG:local_sched_alg=1 -CG:cflow=0
            -CG:push_pop_int_saved_regs=off -CG:cmp_peep=on
            -HP:bdt=2m:heap=2m

```

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Acer Incorporated

SPECint_rate2006 = 639

Gateway GR585 F1 (AMD Opteron 6164 HE)

SPECint_rate_base2006 = 559

CPU2006 license: 97

Test date: Apr-2011

Test sponsor: Acer Incorporated

Hardware Availability: Jul-2011

Tested by: Acer Incorporated

Software Availability: Jul-2010

Peak Optimization Flags (Continued)

```
458.sjeng: -march=barcelona -mso -fb_create fbdata(pass 1)
          -fb_opt fbdata(pass 2) -O3 -ipa -LNO:ignore_feedback=off
          -LNO:full_unroll=10 -LNO:fusion=0 -LNO:fission=2
          -IPA:pu_reorder=2 -CG:ptr_load_use=0
          -OPT:unroll_times_max=8 -INLINE:aggressive=on
```

```
462.libquantum: -march=barcelona -mso -Ofast -LNO:pf2=0 -CG:gcm=off
               -CG:use_prefetchnta=on -CG:cmp_peep=on -WOPT:aggstr=0
               -HP:bdt=2m:heap=2m -OPT:alias=disjoint
               -INLINE:aggressive=on -IPA:space=1000 -IPA:plimit=20000
```

```
464.h264ref: -march=barcelona -mso -fb_create fbdata(pass 1)
             -fb_opt fbdata(pass 2) -O3 -IPA:plimit=20000
             -OPT:alias=disjoint -LNO:prefetch=0 -CG:ptr_load_use=0
             -CG:push_pop_int_saved_regs=off
```

C++ benchmarks:

```
471.omnetpp: basepeak = yes
```

```
473.astar: -march=barcelona -mso -fb_create fbdata(pass 1)
           -fb_opt fbdata(pass 2) -Ofast -TENV:frame_pointer=off
           -WOPT:if_conv=0 -GRA:optimize_boundary=on
           -OPT:alias=disjoint -INLINE:aggressive=on
           -IPA:small_pu=3000 -IPA:plimit=3000 -m32
           -HP:bdt=2m:heap=2m
```

```
483.xalancbmk: -march=barcelona -mso -Ofast -INLINE:aggressive=on -m32
              -CG:cmp_peep=on -GRA:unspill=on -TENV:frame_pointer=off
              -fno-emit-exceptions
              -L/root/work/libraries/SmartHeap-8.1/lib -lsmarheap
```

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 CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Acer Incorporated

SPECint_rate2006 = 639

Gateway GR585 F1 (AMD Opteron 6164 HE)

SPECint_rate_base2006 = 559

CPU2006 license: 97

Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: Apr-2011

Hardware Availability: Jul-2011

Software Availability: Jul-2010

SPEC and SPECint 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 20:51:42 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 10 May 2011.