



SPEC® CINT2006 Result

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Acer Incorporated

SPECint®_rate2006 = 762

Acer AR585 F1 (AMD Opteron 6174)

SPECint_rate_base2006 = 592

CPU2006 license: 97

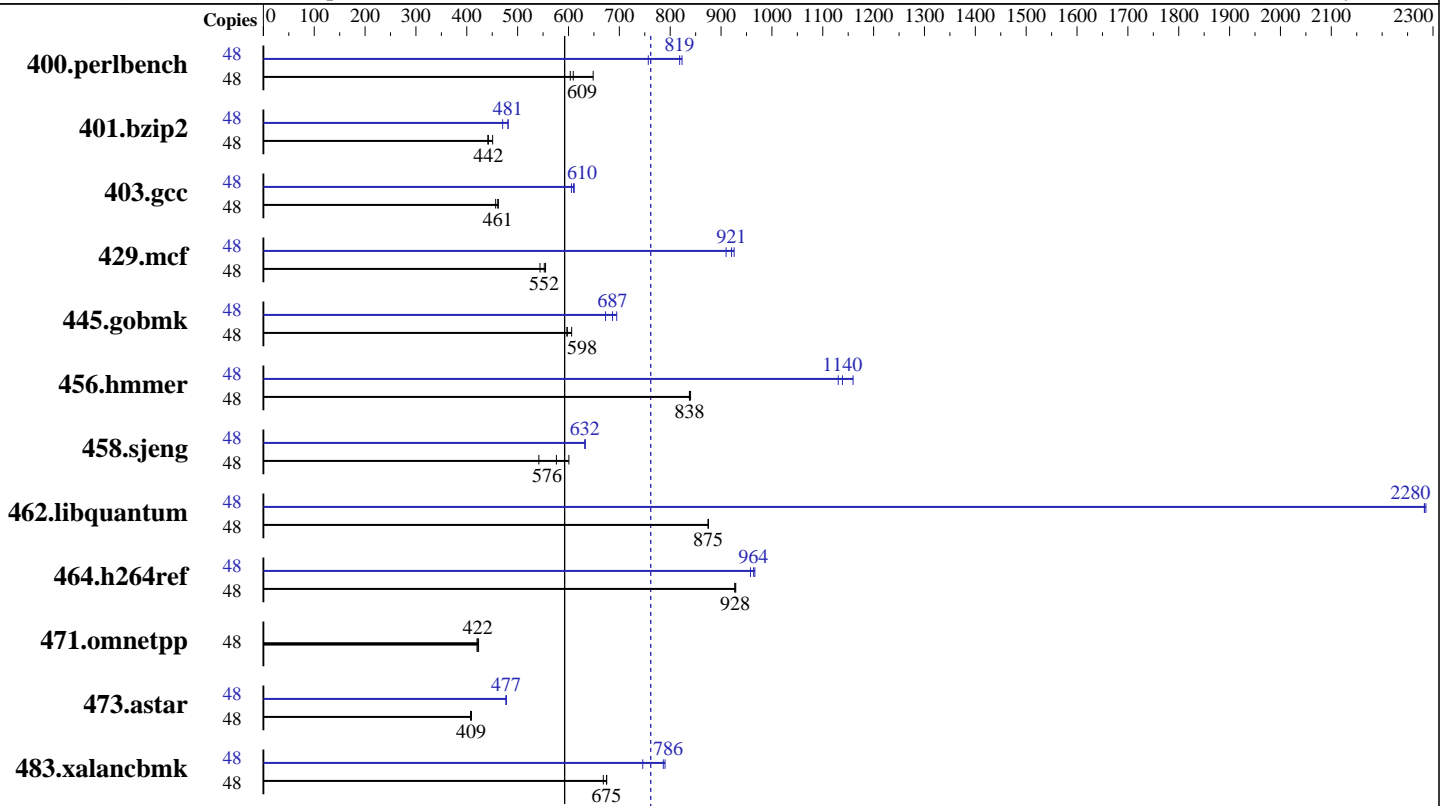
Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: Jun-2010

Hardware Availability: Jul-2010

Software Availability: May-2010



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Hardware

CPU Name: AMD Opteron 6174
 CPU Characteristics:
 CPU MHz: 2200
 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 DDR3-1333 RDIMM)
 Disk Subsystem: 1 x 500 GB SATA, 7200 RPM
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 5.5, Kernel 2.6.18-194.el5
 Compiler: x86 Open64 4.2.3.2 Compiler Suite (from AMD)
 Auto Parallel: No
 File System: ext3
 System State: Run level 3 (multi-user)
 Base Pointers: 32/64-bit
 Peak Pointers: 32/64-bit
 Other Software: binutils 2.18, SmartHeap 8.1 32-bit Library for Linux



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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	48	723	649	777	603	770	609	48	620	757	570	823	573	819
401.bzip2	48	1027	451	1049	441	1047	442	48	985	470	962	481	963	481
403.gcc	48	846	457	836	462	838	461	48	638	606	632	611	633	610
429.mcf	48	805	544	792	552	789	555	48	475	921	473	926	481	910
445.gobmk	48	842	598	831	606	844	597	48	733	687	725	695	748	673
456.hammer	48	534	838	535	838	533	840	48	393	1140	386	1160	396	1130
458.sjeng	48	1072	542	967	601	1008	576	48	918	632	918	633	918	632
462.libquantum	48	1137	875	1137	875	1137	875	48	436	2280	435	2290	436	2280
464.h264ref	48	1144	929	1145	928	1146	927	48	1109	958	1102	964	1099	966
471.omnetpp	48	714	420	712	422	709	423	48	714	420	712	422	709	423
473.astar	48	824	409	824	409	827	407	48	706	477	705	478	706	477
483.xalancbmk	48	491	675	491	675	495	668	48	444	746	421	786	419	790

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 = "/spec/amd1002mc-rate-libs-revB/64:/spec/amd1002mc-rate-libs-revB/32"

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 GR585 F1.

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



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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.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

Base Optimization Flags

C benchmarks:
-march=barcelona -mso -Ofast -CG:local_sched_alg=1 -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 -lsmarheap

Peak Compiler Invocation

C benchmarks:
opencc

C++ benchmarks:
openCC

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64

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Peak Portability Flags (Continued)

456.hmmr: -DSPEC_CPU_LP64
 458.sjeng: -DSPEC_CPU_LP64
 462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
 464.h264ref: -DSPEC_CPU_LP64
 483.xalanbmk: -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.hmmr: -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

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

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Peak Optimization Flags (Continued)

458.sjeng (continued):

-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-open64-4.2.3-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>

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

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