



SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

SPECint®2006 = 21.2

Motherboard H8DA3-2, AMD Opteron 2439 SE

SPECint_base2006 = 17.6

CPU2006 license: 001176

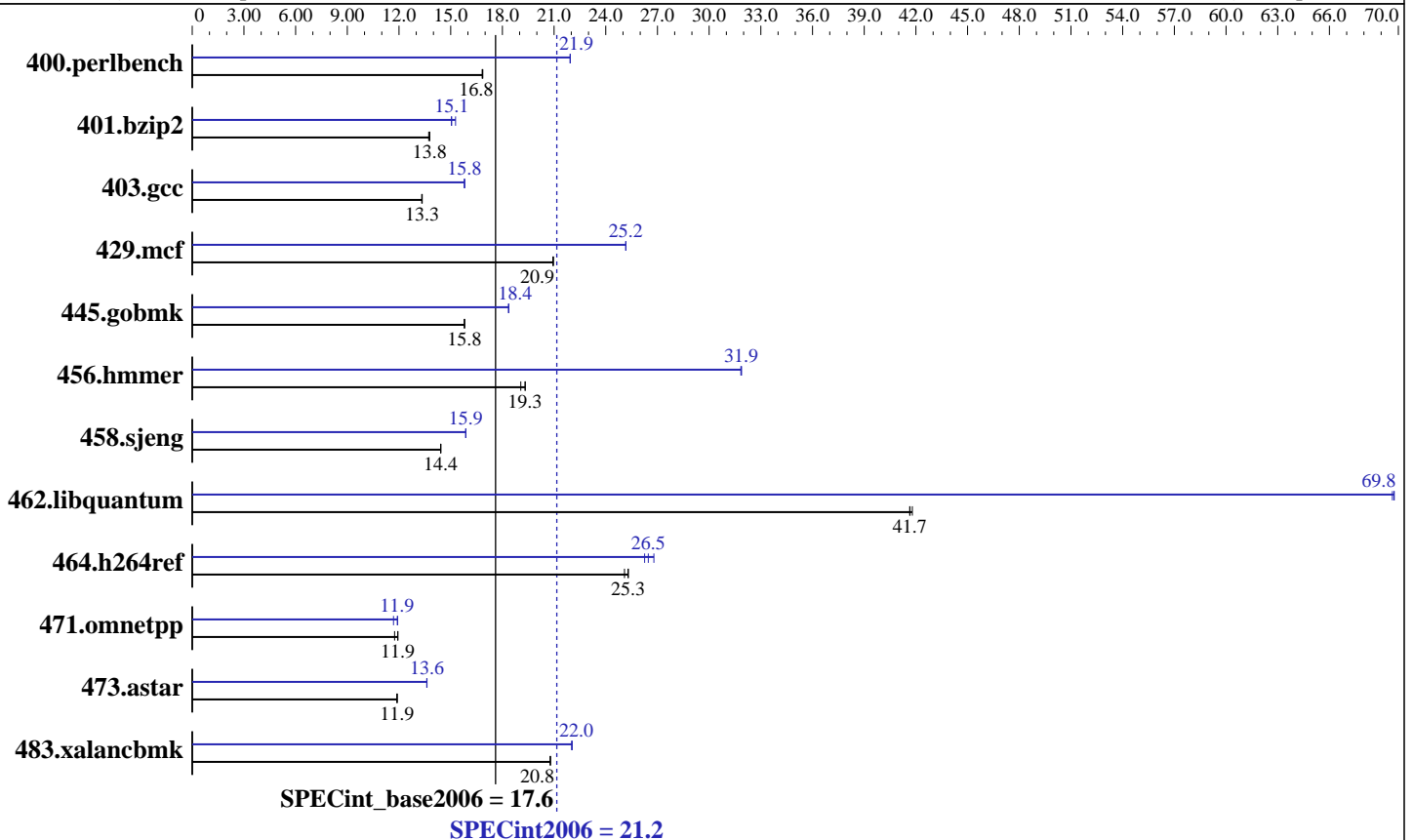
Test date: Aug-2009

Test sponsor: Supermicro

Hardware Availability: Jun-2009

Tested by: Supermicro

Software Availability: Apr-2009



SPECint_base2006 = 17.6

SPECint2006 = 21.2

Hardware

CPU Name: AMD Opteron 2439 SE
 CPU Characteristics:
 CPU MHz: 2800
 FPU: Integrated
 CPU(s) enabled: 12 cores, 2 chips, 6 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
 L3 Cache: 6 MB I+D on chip per chip
 Other Cache: None
 Memory: 32 GB (8x4 GB, DDR2-800, CL5, Reg, Dual Rank)
 Disk Subsystem: 1 x 500 GB SATA, 7200 RPM
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 5.3, Advanced Platform, Kernel 2.6.18-128.el5
 Compiler: PGI Server Complete Version 8.0
 x86 Open64 4.2.2 Compiler Suite (from AMD)
 Auto Parallel: No
 File System: ext3
 System State: Run level 2 (Local multiuser without remote network)
 Base Pointers: 32/64-bit
 Peak Pointers: 32/64-bit
 Other Software: binutils 2.18
 SmartHeap 8.1 32-bit Library for Linux



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

SPECint2006 = **21.2**

Motherboard H8DA3-2, AMD Opteron 2439 SE

SPECint_base2006 = **17.6**

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

Test date: Aug-2009
Hardware Availability: Jun-2009
Software Availability: Apr-2009

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	581	16.8	580	16.8	579	16.9	445	21.9	445	21.9	445	21.9
401.bzip2	700	13.8	703	13.7	701	13.8	642	15.0	641	15.1	631	15.3
403.gcc	603	13.3	604	13.3	603	13.3	509	15.8	509	15.8	510	15.8
429.mcf	435	21.0	436	20.9	435	20.9	362	25.2	362	25.2	362	25.2
445.gobmk	664	15.8	664	15.8	664	15.8	571	18.4	571	18.4	571	18.4
456.hammer	483	19.3	483	19.3	489	19.1	293	31.9	293	31.9	293	31.8
458.sjeng	839	14.4	839	14.4	839	14.4	762	15.9	762	15.9	762	15.9
462.libquantum	497	41.7	496	41.8	498	41.6	297	69.8	297	69.8	297	69.7
464.h264ref	874	25.3	882	25.1	875	25.3	836	26.5	843	26.3	826	26.8
471.omnetpp	524	11.9	524	11.9	532	11.7	525	11.9	535	11.7	524	11.9
473.astar	590	11.9	590	11.9	591	11.9	515	13.6	516	13.6	515	13.6
483.xalancbmk	332	20.8	332	20.8	332	20.8	313	22.1	313	22.0	313	22.0

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=5400 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/amd0905is-libs/64:/spec/amd0905is-libs/32"
PGI_HUGE_PAGES = "450"

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

System was tested in an open environment.
To ensure system stability, a 550W (minimum) ATX power supply
[4-pin (+12V), 8-pin (+12V) and 24-pin are required]

Product description can be obtained at:

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

SPECint2006 = 21.2

Motherboard H8DA3-2, AMD Opteron 2439 SE

SPECint_base2006 = 17.6

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

Test date: Aug-2009
Hardware Availability: Jun-2009
Software Availability: Apr-2009

General Notes (Continued)

<http://www.supermicro.com/Aplus/motherboard/Opteron2000/MCP55/H8DA3-2.cfm>

Base Compiler Invocation

C benchmarks:
openc

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 -Ofast -CG:local_sched_alg=1 -HP:bdt=2m:heap=2m

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

Peak Compiler Invocation

C benchmarks (except as noted below):
openc

456.hmmer: pgcc

C++ benchmarks (except as noted below):
openCC

473.astar: pgcpp



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

SPECint2006 = 21.2

Motherboard H8DA3-2, AMD Opteron 2439 SE

SPECint_base2006 = 17.6

CPU2006 license: 001176

Test date: Aug-2009

Test sponsor: Supermicro

Hardware Availability: Jun-2009

Tested by: Supermicro

Software Availability: Apr-2009

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
 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.xalanbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -march=barcelona -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:bd=2m:heap=2m

401.bzip2: -march=barcelona -fb_create fbdata(pass 1)
 -fb_opt fbdata(pass 2) -O3 -OPT:alias=disjoint
 -OPT:unroll_size=0 -OPT:Ofast -OPT:goto=off
 -INLINE:aggressive=on -CG:local_sched_alg=1 -m3dnw
 -HP:bd=2m:heap=2m

403.gcc: -march=barcelona -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:bd=2m:heap=2m -GRA:unspill=on

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

445.gobmk: -march=barcelona -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:bd=2m:heap=2m

456.hmmer: -fastsse -Mvect=partial -Munroll=n:8 -Msmartalloc=huge
 -Msafeptr -Mprefetch=t0 -Mfprelaxed -Mipa=const -Mipa=ptr
 -Mipa=arg -Mipa=inline -tp shanghai-64 -Bstatic_pgi

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

SPECint2006 = 21.2

Motherboard H8DA3-2, AMD Opteron 2439 SE

SPECint_base2006 = 17.6

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

Test date: Aug-2009
Hardware Availability: Jun-2009
Software Availability: Apr-2009

Peak Optimization Flags (Continued)

458.sjeng: -march=barcelona -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
-HP:bdt=2m:heap=2m

462.libquantum: -march=barcelona -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 -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 -HP:bdt=2m:heap=2m

C++ benchmarks:

471.omnetpp: -march=barcelona -Ofast -CG:gcm=off -INLINE:aggressive=on
-OPT:alias=disjoint -WOPT:if_conv=0 -m32
-L/root/work/libraries/SmartHeap-8.1/lib -lsmarheap

473.astar: -Mpfi(pass 1) -Mpfo(pass 2) -Mipa=fast(pass 2)
-Mipa=inline:6(pass 2) -fastsse -O4 -Msmartalloc=huge
-Msafeptr=global -Mfp relaxed --zc_eh -tp shanghai-32
-Bstatic_pgi

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

Peak Other Flags

C benchmarks:

456.hmmmer: -Mipa=jobs:4

C++ benchmarks:

473.astar: -Mipa=jobs:4(pass 2)

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

<http://www.spec.org/cpu2006/flags/amd-platform.20090710.html>
http://www.spec.org/cpu2006/flags/pgi80_linux_flags.20090914.html
<http://www.spec.org/cpu2006/flags/x86-open64-4.2.2-flags-revE.html>



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

SPECint2006 = 21.2

Motherboard H8DA3-2, AMD Opteron 2439 SE

SPECint_base2006 = 17.6

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Aug-2009

Hardware Availability: Jun-2009

Software Availability: Apr-2009

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

- <http://www.spec.org/cpu2006/flags/amd-platform.20090710.xml>
- http://www.spec.org/cpu2006/flags/pg180_linux_flags.20090914.xml
- <http://www.spec.org/cpu2006/flags/x86-open64-4.2.2-flags-revE.xml>

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 02:43:55 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 15 September 2009.