



SPEC[®] CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint[®]_rate2006 = 275

PowerEdge M915 (AMD Opteron 6132 HE, 2.20 GHz)

SPECint_rate_base2006 = 237

CPU2006 license: 55

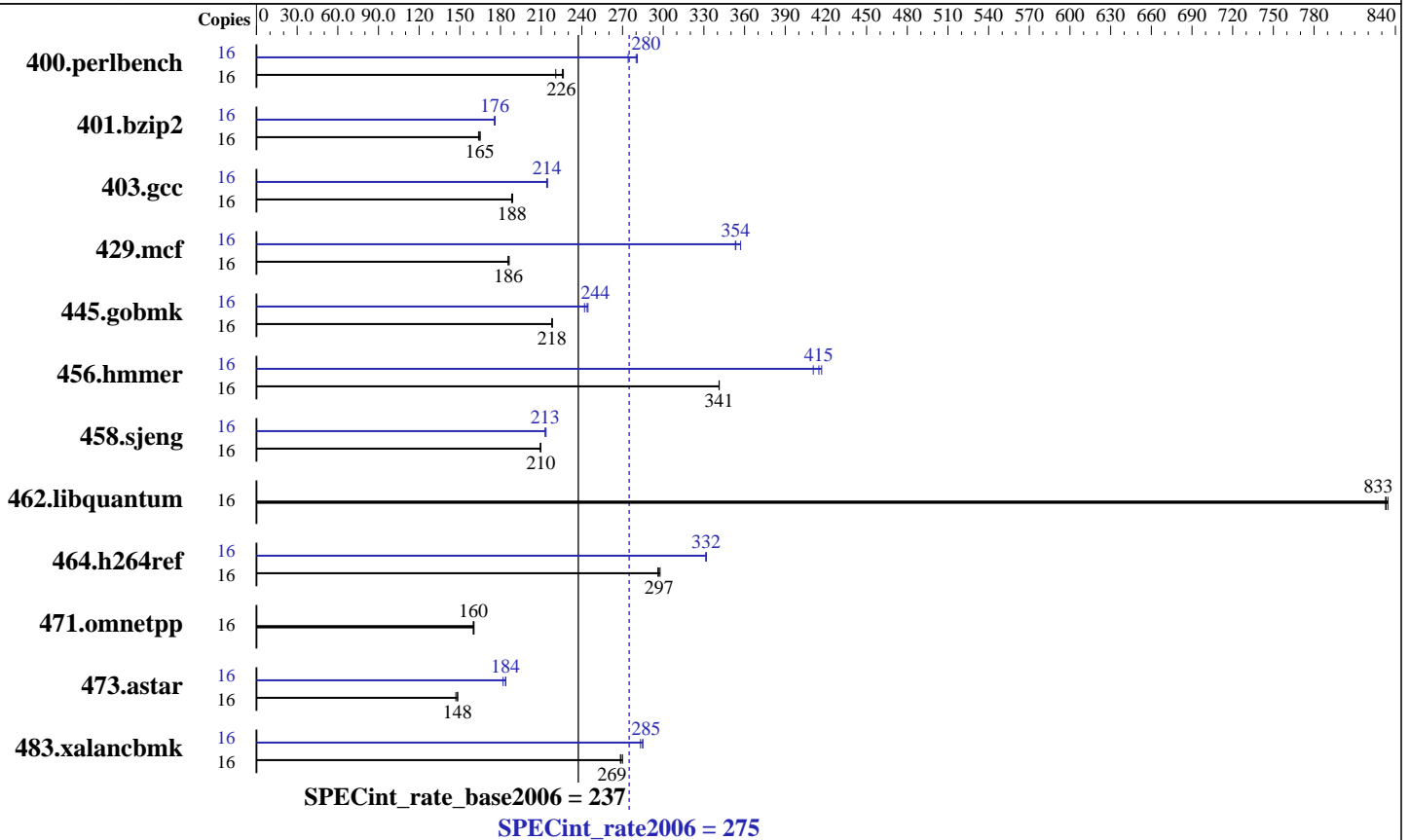
Test date: May-2011

Test sponsor: Dell Inc.

Hardware Availability: Jun-2011

Tested by: Dell Inc.

Software Availability: Jul-2010



Hardware

CPU Name: AMD Opteron 6132 HE
 CPU Characteristics: 2200
 CPU MHz: 2200
 FPU: Integrated
 CPU(s) enabled: 16 cores, 2 chips, 8 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 / 4 cores
 Other Cache: None
 Memory: 64 GB (16 x 4 GB 2Rx4 PC3L-10600R-9, ECC)
 Disk Subsystem: 1 x 146 GB 10000 RPM SAS
 Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 11 (x86_64), Kernel 2.6.27.19-5-default
 Compiler: x86 Open64 4.2.4 Compiler Suite (from AMD)
 Auto Parallel: No
 File System: ext3
 System State: Run level 3 (Full multiuser with network)
 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

Dell Inc.

SPECint_rate2006 = 275

PowerEdge M915 (AMD Opteron 6132 HE, 2.20 GHz)

SPECint_rate_base2006 = 237

CPU2006 license: 55

Test date: May-2011

Test sponsor: Dell Inc.

Hardware Availability: Jun-2011

Tested by: Dell Inc.

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	16	708	221	690	226	<u>693</u>	<u>226</u>	16	570	274	557	281	<u>558</u>	<u>280</u>
401.bzip2	16	943	164	936	165	<u>937</u>	<u>165</u>	16	880	175	<u>878</u>	<u>176</u>	877	176
403.gcc	16	<u>683</u>	<u>188</u>	682	189	684	188	16	602	214	<u>601</u>	<u>214</u>	600	215
429.mcf	16	786	186	783	186	<u>786</u>	<u>186</u>	16	413	353	409	357	<u>413</u>	<u>354</u>
445.gobmk	16	<u>770</u>	<u>218</u>	770	218	769	218	16	686	245	694	242	<u>688</u>	<u>244</u>
456.hammer	16	437	341	<u>437</u>	<u>341</u>	438	341	16	364	411	<u>360</u>	<u>415</u>	358	417
458.sjeng	16	<u>923</u>	<u>210</u>	923	210	925	209	16	909	213	906	214	<u>909</u>	<u>213</u>
462.libquantum	16	<u>398</u>	<u>833</u>	397	834	398	833	16	<u>398</u>	<u>833</u>	397	834	398	833
464.h264ref	16	1196	296	1189	298	<u>1193</u>	<u>297</u>	16	1068	331	<u>1068</u>	<u>332</u>	1067	332
471.omnetpp	16	625	160	<u>625</u>	<u>160</u>	623	160	16	625	160	<u>625</u>	<u>160</u>	623	160
473.astar	16	757	148	<u>758</u>	<u>148</u>	764	147	16	617	182	611	184	<u>611</u>	<u>184</u>
483.xalancbmk	16	<u>411</u>	<u>269</u>	411	268	409	270	16	390	283	388	285	<u>388</u>	<u>285</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=14336 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 = "896"
LD_LIBRARY_PATH = "/root/cpu2006-1.1./amd1002-rate-libs-revC/64:/root/cpu2006-1.1./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

Base Compiler Invocation

C benchmarks:
opencc

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint_rate2006 = 275

PowerEdge M915 (AMD Opteron 6132 HE, 2.20 GHz)

SPECint_rate_base2006 = 237

CPU2006 license: 55

Test date: May-2011

Test sponsor: Dell Inc.

Hardware Availability: Jun-2011

Tested by: Dell Inc.

Software Availability: Jul-2010

Base Compiler Invocation (Continued)

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
-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 -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
456.hmmer: -DSPEC_CPU_LP64

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint_rate2006 = 275

PowerEdge M915 (AMD Opteron 6132 HE, 2.20 GHz)

SPECint_rate_base2006 = 237

CPU2006 license: 55

Test date: May-2011

Test sponsor: Dell Inc.

Hardware Availability: Jun-2011

Tested by: Dell Inc.

Software Availability: Jul-2010

Peak Portability Flags (Continued)

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

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

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint_rate2006 = 275

PowerEdge M915 (AMD Opteron 6132 HE, 2.20 GHz)

SPECint_rate_base2006 = 237

CPU2006 license: 55

Test date: May-2011

Test sponsor: Dell Inc.

Hardware Availability: Jun-2011

Tested by: Dell Inc.

Software Availability: Jul-2010

Peak Optimization Flags (Continued)

458.sjeng (continued):

-OPT:unroll_times_max=8 -INLINE:aggressive=on

462.libquantum: basepeak = yes

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 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 21:44:08 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 5 July 2011.