



SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint®2006 = 15.5

PowerEdge M905 (AMD Opteron 8360 SE, 2.50 GHz)

SPECint_base2006 = 13.1

CPU2006 license: 55

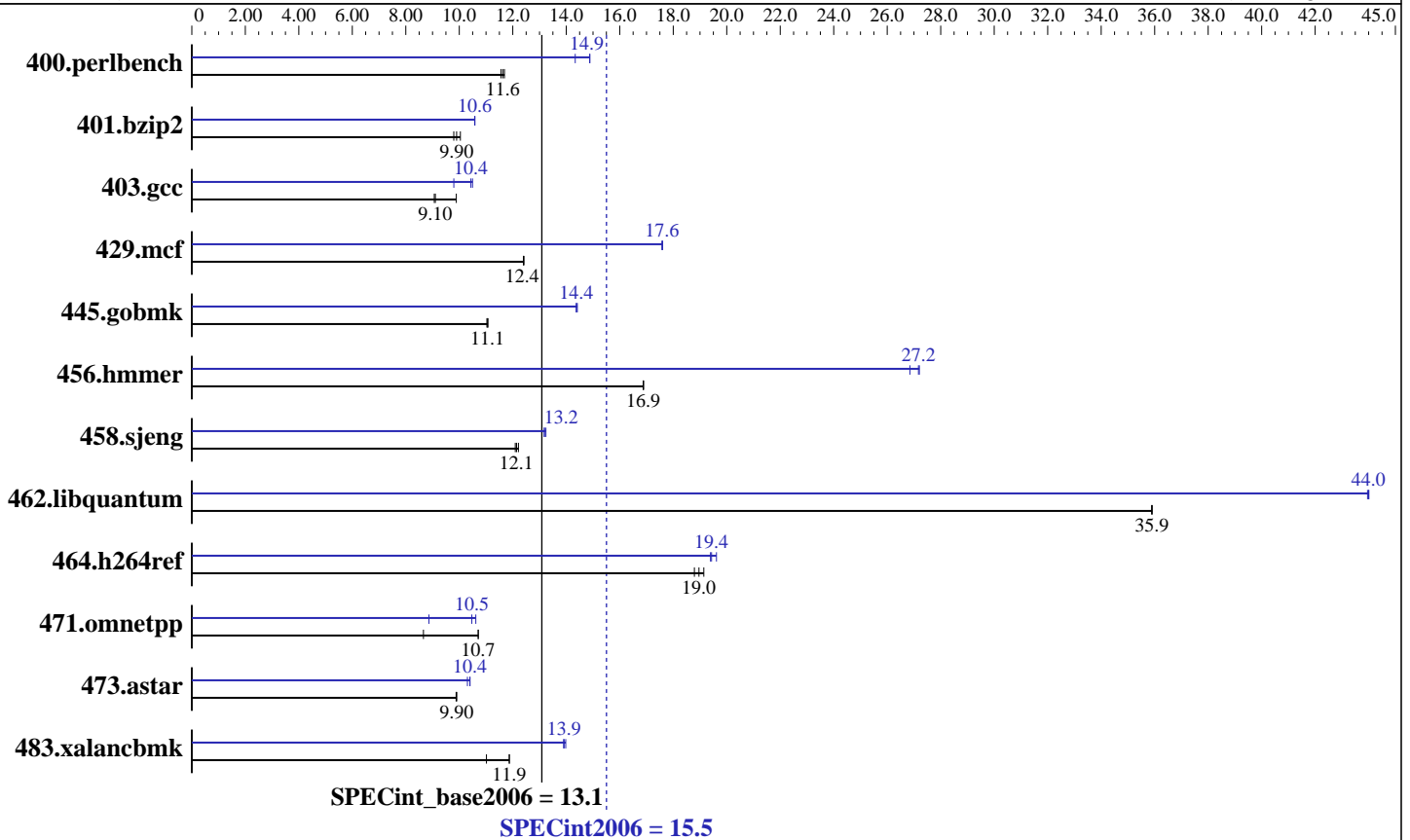
Test date: Sep-2008

Test sponsor: Dell Inc.

Hardware Availability: Oct-2008

Tested by: Dell Inc.

Software Availability: Aug-2008



Hardware

CPU Name: AMD Opteron 8360 SE
 CPU Characteristics:
 CPU MHz: 2500
 FPU: Integrated
 CPU(s) enabled: 16 cores, 4 chips, 4 cores/chip
 CPU(s) orderable: 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: 2 MB I+D on chip per chip
 Other Cache: None
 Memory: 32 GB (16 x 2 GB 667 MHz CL5 DDR2 Dual Rank)
 Disk Subsystem: 1 x 36 GB SAS 15000 RPM (OS), 1 x 73 GB SAS 10000 RPM (CPU2006)
 Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 10 (x86_64) SP2, Kernel 2.6.16-60.0.21-smp
 Compiler: PGI Server Complete Version 7.2 PathScale Compiler Suite Version 3.2
 Auto Parallel: No
 File System: ReiserFS
 System State: Run level 3 (multi-user)
 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.

SPECint2006 = 15.5

PowerEdge M905 (AMD Opteron 8360 SE, 2.50 GHz)

SPECint_base2006 = 13.1

CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.

Test date: Sep-2008
Hardware Availability: Oct-2008
Software Availability: Aug-2008

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	840	11.6	836	11.7	845	11.6	657	14.9	682	14.3	657	14.9
401.bzip2	975	9.90	961	10.0	985	9.79	912	10.6	912	10.6	913	10.6
403.gcc	884	9.10	888	9.07	814	9.89	771	10.4	822	9.80	767	10.5
429.mcf	735	12.4	735	12.4	734	12.4	518	17.6	519	17.6	519	17.6
445.gobmk	951	11.0	948	11.1	948	11.1	730	14.4	729	14.4	728	14.4
456.hammer	552	16.9	553	16.9	553	16.9	343	27.2	348	26.8	343	27.2
458.sjeng	997	12.1	991	12.2	1001	12.1	914	13.2	918	13.2	918	13.2
462.libquantum	577	35.9	577	35.9	577	35.9	471	44.0	471	44.0	471	44.0
464.h264ref	1156	19.1	1178	18.8	1167	19.0	1128	19.6	1141	19.4	1139	19.4
471.omnetpp	584	10.7	584	10.7	722	8.66	705	8.87	597	10.5	589	10.6
473.astar	709	9.90	710	9.88	709	9.90	675	10.4	675	10.4	681	10.3
483.xalancbmk	581	11.9	626	11.0	581	11.9	496	13.9	494	14.0	496	13.9

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

Operating System Notes

'ulimit -s unlimited' was used to set environment stack size
'ulimit -l 4915200' was used to set environment locked pages in memory limit
Environment variable PGI_HUGE_PAGES set to 896
Set vm/nr_hugepages=3584 in /etc/sysctl.conf
mount -t hugetlbfs nodev /mnt/hugepages

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/root/cpu2006-1.1/amd729gh-libs:/root/cpu2006-1.1/amd729gh-libs/32:\\$LD_LIBRARY_PATH"

Base Compiler Invocation

C benchmarks:
pgcc

C++ benchmarks:
pgcpp



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint2006 = 15.5

PowerEdge M905 (AMD Opteron 8360 SE, 2.50 GHz)

SPECint_base2006 = 13.1

CPU2006 license: 55

Test date: Sep-2008

Test sponsor: Dell Inc.

Hardware Availability: Oct-2008

Tested by: Dell Inc.

Software Availability: Aug-2008

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:
 -fastsse -Msmartalloc=huge:150 -Mfprelaxed -Mipa=fast -Mipa=inline
 -tp barcelona-64 -Bstatic_pgi

C++ benchmarks:
 -fastsse -Msmartalloc=huge:150 -Mfprelaxed --zc_eh -Mipa=fast
 -Mipa=inline -tp barcelona -Bstatic_pgi

Base Other Flags

C benchmarks:
 -Mipa=jobs:4

C++ benchmarks:
 -Mipa=jobs:4

Peak Compiler Invocation

C benchmarks (except as noted below):
 pgcc

400.perlbench: pathcc

403.gcc: pathcc

445.gobmk: pathcc

464.h264ref: pathcc

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

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint2006 = 15.5

PowerEdge M905 (AMD Opteron 8360 SE, 2.50 GHz)

SPECint_base2006 = 13.1

CPU2006 license: 55

Test date: Sep-2008

Test sponsor: Dell Inc.

Hardware Availability: Oct-2008

Tested by: Dell Inc.

Software Availability: Aug-2008

Peak Compiler Invocation (Continued)

473.astar: pgcpp

Peak Portability Flags

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

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
 -WOPT:if_conv=0 -CG:local_sched_alg=1

401.bzip2: -Mpfi=indirect(pass 1) -Mpfo=indirect(pass 2) -fastsse -O4
 -Msmartalloc=huge:150 -Mprefetch=t0 -Mnounroll
 -tp barcelona-64 -Bstatic_pgi

403.gcc: -march=barcelona -fb_create fbdata(pass 1)
 -fb_opt fbdata(pass 2) -O3 -OPT:Ofast -m32

429.mcf: -fastsse -Msmartalloc=huge:150 -Mipa=fast -Mipa=inline:1
 -tp barcelona -Bstatic_pgi

445.gobmk: -march=barcelona -fb_create fbdata(pass 1)
 -fb_opt fbdata(pass 2) -O3 -OPT:alias=restrict
 -LNO:prefetch=1 -LNO:ignore_feedback=off -CG:p2align=on

456.hmmr: -fastsse -Mvect=partial -Munroll=n:8 -Msmartalloc=huge:150
 -Msafeptr -Mprefetch=t0 -Mfprelaxed -Mipa=const -Mipa=ptr
 -Mipa=arg -Mipa=inline -tp barcelona-64 -Bstatic_pgi

458.sjeng: -Mpfi(pass 1) -Mpfo(pass 2) -Mipa=fast(pass 2)
 -Mipa=inline:1(pass 2) -Mipa=noarg(pass 2) -fastsse
 -Msmartalloc=huge:150 -Mfprelaxed -tp barcelona-64
 -Bstatic_pgi

462.libquantum: -fastsse -Munroll=m:8 -Msmartalloc=huge:150
 -Mprefetch=distance:4 -Mfprelaxed -Mipa=fast -Mipa=inline
 -Mipa=noarg -tp barcelona-64 -Bstatic_pgi

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint2006 = 15.5

PowerEdge M905 (AMD Opteron 8360 SE, 2.50 GHz)

SPECint_base2006 = 13.1

CPU2006 license: 55

Test date: Sep-2008

Test sponsor: Dell Inc.

Hardware Availability: Oct-2008

Tested by: Dell Inc.

Software Availability: Aug-2008

Peak Optimization Flags (Continued)

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

C++ benchmarks:

471.omnetpp: -march=barcelona -Ofast -CG:gcm=off -INLINE:aggressive=on
-OPT:alias=disjoint -WOPT:if_conv=0 -m32 -lsmarheap

473.astar: -Mpfi(pass 1) -Mpfo(pass 2) -Mipa=fast(pass 2)
-Mipa=inline:6(pass 2) -fastsse -O4 -Msmartalloc=huge:150
-Msafeptr=global -Mfprelaxed --zc_eh -tp barcelona
-Bstatic_pgi

483.xalancbmk: -march=barcelona -Ofast -OPT:unroll_times_max=8
-CG:push_pop_int_saved_regs=off -CG:ptr_load_use=0 -m32
-lsmarheap

Peak Other Flags

C benchmarks:

429.mcf: -Mipa=jobs:4

456.hmmer: -Mipa=jobs:4

458.sjeng: -Mipa=jobs:4(pass 2)

462.libquantum: -Mipa=jobs:4

C++ benchmarks (except as noted below):

-L/root/work/libraries/SmartHeap-8.1/lib

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/amd729gh-flags.html>

<http://www.spec.org/cpu2006/flags/amd-platform.20090713.html>

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

<http://www.spec.org/cpu2006/flags/amd729gh-flags.xml>

<http://www.spec.org/cpu2006/flags/amd-platform.20090713.xml>



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint2006 = 15.5

PowerEdge M905 (AMD Opteron 8360 SE, 2.50 GHz)

SPECint_base2006 = 13.1

CPU2006 license: 55

Test date: Sep-2008

Test sponsor: Dell Inc.

Hardware Availability: Oct-2008

Tested by: Dell Inc.

Software Availability: Aug-2008

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 Tue Jul 22 20:38:16 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 29 October 2008.