



SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint®_rate2006 = 156

PowerEdge M905 (AMD Opteron 8347 HE, 1.9 GHz)

SPECint_rate_base2006 = 134

CPU2006 license: 55

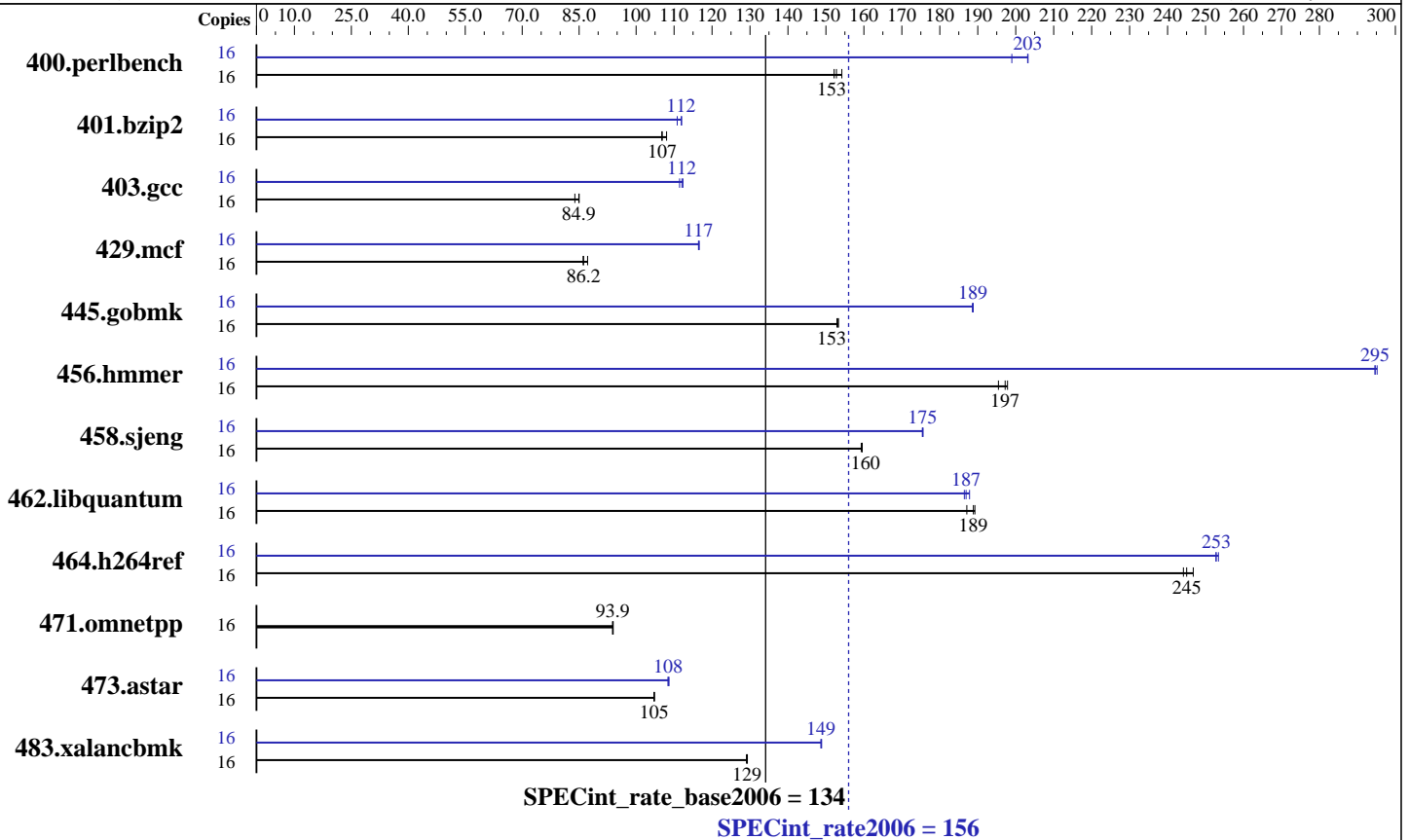
Test date: Jul-2008

Test sponsor: Dell Inc.

Hardware Availability: Aug-2008

Tested by: Dell Inc.

Software Availability: May-2008



Hardware

CPU Name: AMD Opteron 8347 HE
 CPU Characteristics:
 CPU MHz: 1900
 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, DDR2-667, CL5, Reg, 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 3.1
 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 8.0 32-bit Library for Linux



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint_rate2006 = 156

PowerEdge M905 (AMD Opteron 8347 HE, 1.9 GHz)

SPECint_rate_base2006 = 134

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

Test date: Jul-2008
Hardware Availability: Aug-2008
Software Availability: May-2008

Results Table

Benchmark	Base						Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	16	1014	154	1027	152	1023	153	16	786	199	769	203	770	203
401.bzip2	16	1429	108	1446	107	1444	107	16	1393	111	1379	112	1380	112
403.gcc	16	1536	83.9	1515	85.0	1517	84.9	16	1149	112	1146	112	1156	111
429.mcf	16	1673	87.2	1696	86.0	1693	86.2	16	1253	116	1252	117	1251	117
445.gobmk	16	1095	153	1098	153	1095	153	16	890	189	889	189	889	189
456.hmmer	16	757	197	755	198	764	195	16	506	295	507	295	507	295
458.sjeng	16	1213	160	1213	160	1215	159	16	1103	175	1104	175	1103	176
462.libquantum	16	1752	189	1755	189	1772	187	16	1778	186	1774	187	1765	188
464.h264ref	16	1435	247	1445	245	1450	244	16	1401	253	1401	253	1397	253
471.omnetpp	16	1065	93.9	1066	93.8	1064	94.0	16	1065	93.9	1066	93.8	1064	94.0
473.astar	16	1073	105	1072	105	1071	105	16	1036	108	1034	109	1035	108
483.xalancbmk	16	854	129	855	129	854	129	16	742	149	742	149	742	149

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Operating System Notes

'numactl' was used to bind copies to the cores
Environment variable PGI_HUGE_PAGES set to 150
'ulimit -s unlimited' was used to set environment stack size
'ulimit -l 4915200' was used to set environment locked pages in memory quantity
Set vm/nr_hugepages=2400 in /etc/sysctl.conf
mount -t hugetlbfs nodev /mnt/hugepages

Base Compiler Invocation

C benchmarks:
pgcc

C++ benchmarks:
pgcpp

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

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint_rate2006 = 156

PowerEdge M905 (AMD Opteron 8347 HE, 1.9 GHz)

SPECint_rate_base2006 = 134

CPU2006 license: 55

Test date: Jul-2008

Test sponsor: Dell Inc.

Hardware Availability: Aug-2008

Tested by: Dell Inc.

Software Availability: May-2008

Base 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

Base Optimization Flags

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

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

Base Other Flags

C benchmarks:
-w -Mipa=jobs:4

C++ benchmarks:
-w -Mipa=jobs:4

Peak Compiler Invocation

C benchmarks (except as noted below):
pgcc

400.perlbench: pathcc

403.gcc: pathcc

445.gobmk: pathcc

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

471.omnetpp: pgcpp



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint_rate2006 = 156

PowerEdge M905 (AMD Opteron 8347 HE, 1.9 GHz)

SPECint_rate_base2006 = 134

CPU2006 license: 55

Test date: Jul-2008

Test sponsor: Dell Inc.

Hardware Availability: Aug-2008

Tested by: Dell Inc.

Software Availability: May-2008

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

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

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

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

445.gobmk: -march=barcelona -fb_create fbdata(pass 1)
            -fb_opt fbdata(pass 2) -O3 -OPT:alias=restrict -LNO:opt=0
            -CG:p2align=on

456.hmmer: -fastsse -Munroll=n:8 -Msmartalloc=huge:150 -Mfp relaxed
            -Mvect=partial -Msafeptr -Mipa=const -Mipa=ptr -Mipa=arg
            -Mipa=inline -tp barcelona-64 -Bstatic_pgi

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

462.libquantum: -fastsse -Mfp relaxed -Msmartalloc=huge:150 -Munroll=m:8
                -Mipa=fast -Mipa=inline -Mipa=noarg -tp barcelona-64
                -Bstatic_pgi

464.h264ref: -Mpfi=indirect(pass 1) -Mipa=fast(pass 2)
              -Mipa=inline(pass 2) -Mpfo=indirect(pass 2) -fastsse
              -Msmartalloc=huge:150 -Mfp relaxed -tp barcelona-64
              -Bstatic_pgi

```

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint_rate2006 = 156

PowerEdge M905 (AMD Opteron 8347 HE, 1.9 GHz)

SPECint_rate_base2006 = 134

CPU2006 license: 55

Test date: Jul-2008

Test sponsor: Dell Inc.

Hardware Availability: Aug-2008

Tested by: Dell Inc.

Software Availability: May-2008

Peak Optimization Flags (Continued)

C++ benchmarks:

471.omnetpp: basepeak = yes

473.astar: -march=barcelona -Ofast -TENV:frame_pointer=off
-WOPT:if_conv=0 -GRA:optimize_boundary=on -IPA:plimit=525
-m32 -lsmartheap

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

Peak Other Flags

C benchmarks (except as noted below):

-w -Mipa=jobs:4(pass 2)

400.perlbench: No flags used

401.bzip2: -w

403.gcc: No flags used

445.gobmk: No flags used

C++ benchmarks (except as noted below):

-L/root/work/cpu2006/amd123GH.libs/32

471.omnetpp: -w -Mipa=jobs:4

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/amd123GH-flags.20090713.01.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/amd123GH-flags.20090713.01.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 v1.0.
Report generated on Tue Jul 22 19:06:02 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 2 September 2008.