SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

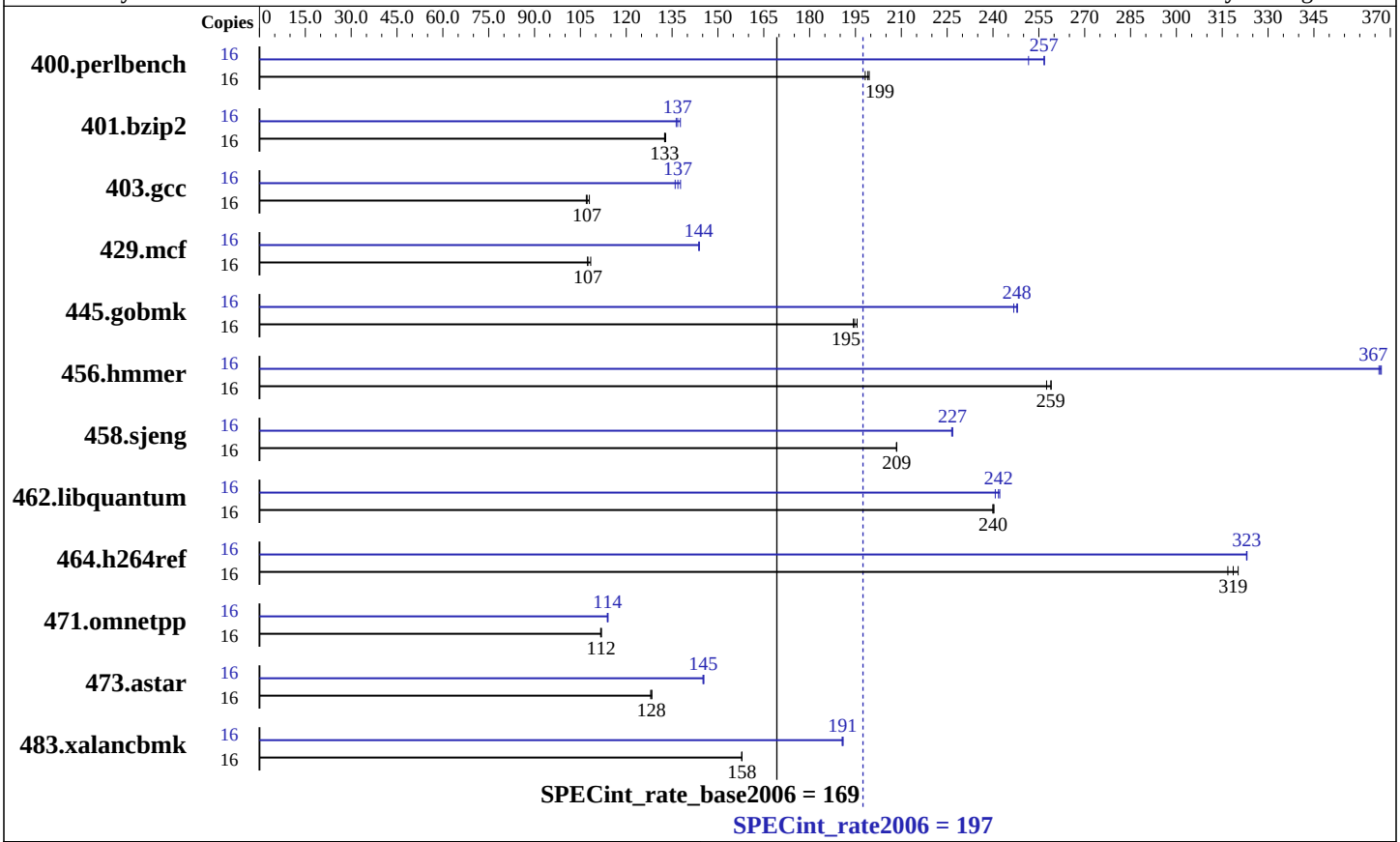
PowerEdge M905 (AMD Opteron 8360 SE, 2.50 GHz)

SPECint®_rate2006 = 197

SPECint_rate_base2006 = 169

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

Test date: Sep-2008
Hardware Availability: Oct-2008
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.

PowerEdge M905 (AMD Opteron 8360 SE, 2.50 GHz)

SPECint_rate2006 = 197

SPECint_rate_base2006 = 169

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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	16	784	200	789	198	**785**	**199**	16	621	252	**609**	**257**	609	257
401.bzip2	16	1162	133	**1164**	**133**	1165	133	16	**1128**	**137**	1132	136	1121	138
403.gcc	16	1193	108	1204	107	**1201**	**107**	16	947	136	935	138	**941**	**137**
429.mcf	16	1346	108	**1358**	**107**	1359	107	16	1014	144	1015	144	**1015**	**144**
445.gobmk	16	864	194	**862**	**195**	858	196	16	**677**	**248**	677	248	680	247
456.hmmer	16	580	258	576	259	**577**	**259**	16	**407**	**367**	407	367	408	366
458.sjeng	16	**928**	**209**	928	209	929	208	16	**854**	**227**	855	226	854	227
462.libquantum	16	1379	240	**1381**	**240**	1382	240	16	**1371**	**242**	1369	242	1377	241
464.h264ref	16	**1111**	**319**	1106	320	1118	317	16	**1096**	**323**	1096	323	1096	323
471.omnetpp	16	896	112	894	112	**894**	**112**	16	**878**	**114**	879	114	877	114
473.astar	16	878	128	875	128	**876**	**128**	16	**773**	**145**	774	145	773	145
483.xalancbmk	16	**699**	**158**	699	158	700	158	16	578	191	**579**	**191**	579	191

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 150
 Set vm/nr_hugepages=2400 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

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

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.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

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.hmmer: -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

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 -lsmartheap`

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`
`-lsmartheap`

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`

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

PowerEdge M905 (AMD Opteron 8360 SE, 2.50 GHz)

SPECint_rate2006 = 197

SPECint_rate_base2006 = 169

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

Test date: Sep-2008
Hardware Availability: Oct-2008
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 20:45:05 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 29 October 2008.