



SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint®_rate2006 = 84.6

PowerEdge 6950 (AMD Opteron 8214, 2.20 GHz)

SPECint_rate_base2006 = 77.9

CPU2006 license: 55

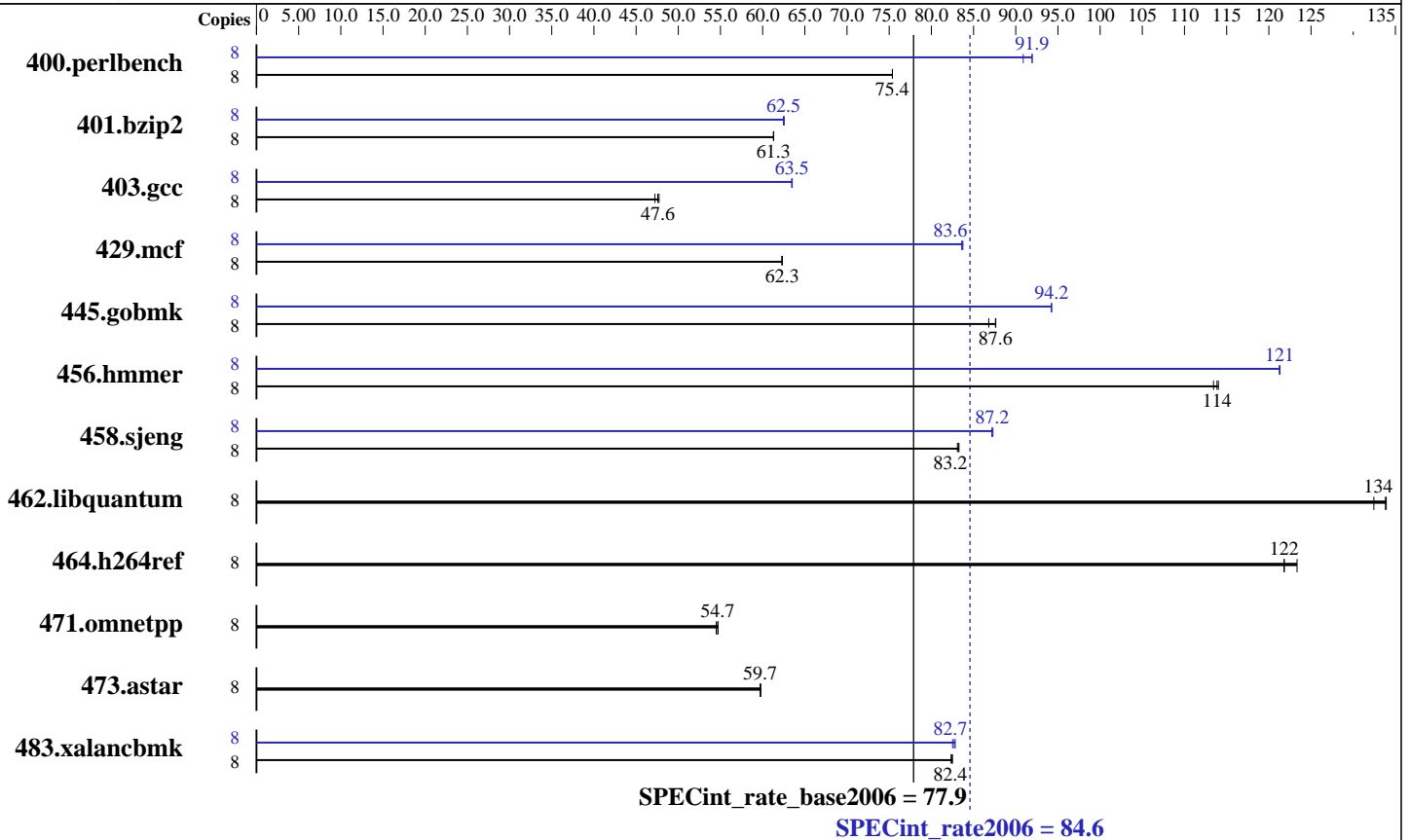
Test date: Oct-2007

Test sponsor: Dell Inc.

Hardware Availability: Dec-2006

Tested by: Dell Inc.

Software Availability: Oct-2007



Hardware

CPU Name: AMD Opteron 8214
 CPU Characteristics:
 CPU MHz: 2200
 FPU: Integrated
 CPU(s) enabled: 8 cores, 4 chips, 2 cores/chip
 CPU(s) orderable: 2,4 chips
 Primary Cache: 64 KB I + 64 KB D on chip per core
 Secondary Cache: 1 MB I+D on chip per core
 L3 Cache: None
 Other Cache: None
 Memory: 32 GB (16x2GB, DDR2-667 CL5 ECC Dual Rank)
 Disk Subsystem: 1 x 250 GB SATA 7200 RPM
 Other Hardware: None

Software

Operating System: 64-Bit SUSE LINUX Enterprise Server 10 SP1
 Compiler: The Portland Group (PGI)
 PGI pgcc 7.1-0 C Compiler
 PGI pgCC 7.1-0 C++ Compiler
 Auto Parallel: No
 File System: ReiserFS
 System State: Multi-user, run level 3
 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 = 84.6

PowerEdge 6950 (AMD Opteron 8214, 2.20 GHz)

SPECint_rate_base2006 = 77.9

CPU2006 license: 55

Test date: Oct-2007

Test sponsor: Dell Inc.

Hardware Availability: Dec-2006

Tested by: Dell Inc.

Software Availability: Oct-2007

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	8	1037	75.4	1037	75.4	1037	75.4	8	860	90.9	850	91.9	850	91.9
401.bzip2	8	1259	61.3	1259	61.3	1260	61.3	8	1234	62.6	1236	62.5	1235	62.5
403.gcc	8	1349	47.7	1354	47.6	1363	47.2	8	1014	63.5	1014	63.5	1015	63.4
429.mcf	8	1170	62.3	1171	62.3	1172	62.3	8	872	83.6	871	83.7	873	83.6
445.gobmk	8	958	87.6	958	87.6	967	86.8	8	890	94.2	891	94.2	891	94.2
456.hmmer	8	655	114	656	114	658	113	8	616	121	615	121	615	121
458.sjeng	8	1165	83.1	1164	83.2	1162	83.3	8	1110	87.2	1109	87.3	1111	87.2
462.libquantum	8	1252	132	1239	134	1238	134	8	1252	132	1239	134	1238	134
464.h264ref	8	1453	122	1454	122	1435	123	8	1453	122	1454	122	1435	123
471.omnetpp	8	914	54.7	914	54.7	917	54.5	8	914	54.7	914	54.7	917	54.5
473.astar	8	939	59.8	940	59.7	940	59.7	8	939	59.8	940	59.7	940	59.7
483.xalancbmk	8	669	82.5	670	82.3	670	82.4	8	666	82.8	667	82.7	669	82.5

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

General Notes

```
'ulimit -s unlimited' was used to set environment stack size
'ulimit -l 2457600' was used to set environment locked pages in memory quantity
'numactl' was used to bind one copy per core, and memory to a local NUMA node
Set vm/nr_hugepages=1200 in /etc/sysctl.conf
mount -t hugetlbfs nodev /mnt/hugepages
Environment variable PGI_HUGE_PAGES set to 150
```

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 = 84.6

PowerEdge 6950 (AMD Opteron 8214, 2.20 GHz)

SPECint_rate_base2006 = 77.9

CPU2006 license: 55

Test date: Oct-2007

Test sponsor: Dell Inc.

Hardware Availability: Dec-2006

Tested by: Dell Inc.

Software Availability: Oct-2007

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 -Mipa=noarg -Mfprelaxed
-Msmartalloc=huge:64 -tp k8-64 -Bstatic_pgi

C++ benchmarks:

-fastsse -Mipa=fast -Mipa=inline -Mfprelaxed -Msmartalloc --zc_eh
-tp k8-32 -Bstatic_pgi -lsmarheap

Base Other Flags

C benchmarks:

-w

C++ benchmarks:

-w -L/proj/qa/smarheap/SmartHeap_8/lib

Peak Compiler Invocation

C benchmarks:

pgcc

C++ benchmarks:

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



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint_rate2006 = 84.6

PowerEdge 6950 (AMD Opteron 8214, 2.20 GHz)

SPECint_rate_base2006 = 77.9

CPU2006 license: 55

Test date: Oct-2007

Test sponsor: Dell Inc.

Hardware Availability: Dec-2006

Tested by: Dell Inc.

Software Availability: Oct-2007

Peak Optimization Flags

C benchmarks:

400.perlbench: -Mpfi(pass 1) -Mpfo(pass 2) -Mipa=inline(pass 2) -fast
-O4 -Mfp relaxed -Msmartalloc=huge:8 -Mnounroll -tp k8-64
-Bstatic_pgi

401.bzip2: -Mpfi(pass 1) -Mpfo(pass 2) -fast -O4
-Msmartalloc=huge:64 -tp k8-64 -Bstatic_pgi

403.gcc: -fastsse -Mfp relaxed -Msmartalloc=huge:32 -Mipa=fast
-Mipa=inline -tp k8-32 -Bstatic_pgi

429.mcf: -fastsse -Mipa=fast -Mipa=inline -Msmartalloc=huge:16
-tp k8-32 -Bstatic_pgi

445.gobmk: -Mpfi(pass 1) -Mpfo(pass 2) -Mipa=fast(pass 2) -fast -O4
-Msmartalloc=huge:32 -Mfp relaxed -Mnovect -tp k8-64
-Bstatic_pgi

456.hmmer: -fast -Msmartalloc=huge:32 -Mfp relaxed -Msafeptr
-Mipa=const -Mipa=ptr -Mipa=arg -tp k8-64 -Bstatic_pgi

458.sjeng: -Mpfi(pass 1) -Mipa=fast(pass 2) -Mipa=inline(pass 2)
-Mipa=noarg(pass 2) -Mpfo(pass 2) -fast
-Msmartalloc=huge:32 -Mfp relaxed -tp k8-64 -Bstatic_pgi

462.libquantum: basepeak = yes

464.h264ref: basepeak = yes

C++ benchmarks:

471.omnetpp: basepeak = yes

473.astar: basepeak = yes

483.xalancbmk: -fastsse -O4 -Mipa=fast -Mipa=inline -Mfp relaxed
-Msmartalloc --zc_eh -tp k8-32 -Bstatic_pgi -lsmartheap

Peak Other Flags

C benchmarks:

-w

C++ benchmarks:

-w -L/proj/qa/smartheap/SmartHeap_8/lib



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint_rate2006 = 84.6

PowerEdge 6950 (AMD Opteron 8214, 2.20 GHz)

SPECint_rate_base2006 = 77.9

CPU2006 license: 55

Test sponsor: Dell Inc.

Tested by: Dell Inc.

Test date: Oct-2007

Hardware Availability: Dec-2006

Software Availability: Oct-2007

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

http://www.spec.org/cpu2006/flags/pgi710_flags.html

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

http://www.spec.org/cpu2006/flags/pgi710_flags.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 14:11:25 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 30 October 2007.