



SPEC[®] CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint[®]_rate2006 = 148

PowerEdge R805 (AMD Opteron 2393 SE, 3.10 GHz)

SPECint_rate_base2006 = 124

CPU2006 license: 55

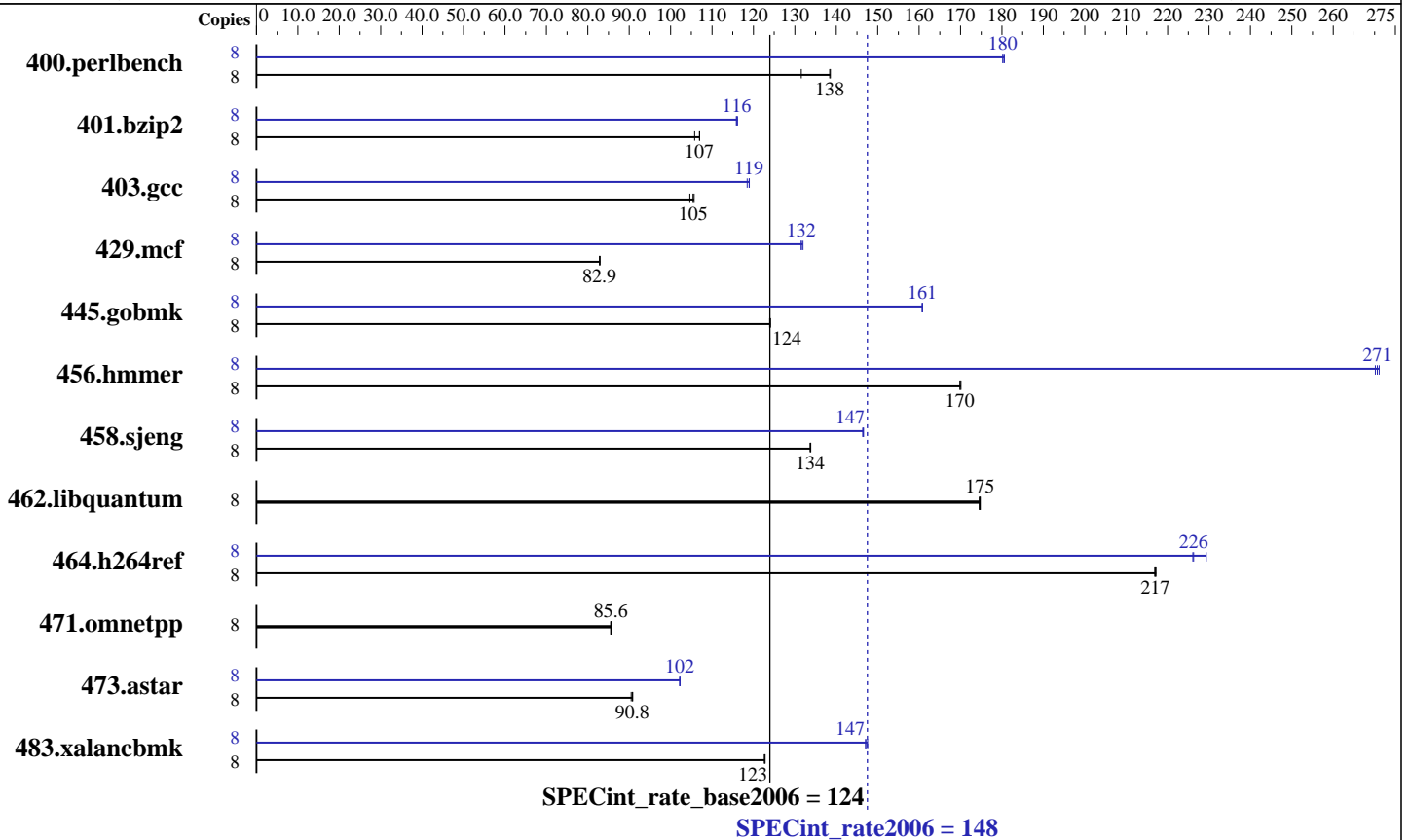
Test date: May-2009

Test sponsor: Dell Inc.

Hardware Availability: May-2009

Tested by: Dell Inc.

Software Availability: Oct-2008



Hardware

CPU Name: AMD Opteron 2393 SE
 CPU Characteristics:
 CPU MHz: 3100
 FPU: Integrated
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip
 CPU(s) orderable: 1,2 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: 6 MB I+D on chip per chip
 Other Cache: None
 Memory: 32 GB (8 x 4 GB DDR2-800)
 Disk Subsystem: 1 x 73 GB 15000 RPM SAS
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 5.3, Kernel 2.6.18-128.el5
 Compiler: PGI Server Complete Version 7.2 PathScale Compiler Suite Version 3.2
 Auto Parallel: No
 File System: ext3
 System State: Run level 3 (multi-user)
 Base Pointers: 32/64-bit
 Peak Pointers: 32/64-bit
 Other Software: binutils 2.18
 32-bit and 64-bit libhugetlbfs libraries
 SmartHeap 8.1 32-bit Library for Linux



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint_rate2006 = 148

PowerEdge R805 (AMD Opteron 2393 SE, 3.10 GHz)

SPECint_rate_base2006 = 124

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

Test date: May-2009
Hardware Availability: May-2009
Software Availability: Oct-2008

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	8	564	139	<u>565</u>	<u>138</u>	594	132	8	433	181	434	180	<u>434</u>	<u>180</u>
401.bzip2	8	<u>722</u>	<u>107</u>	730	106	721	107	8	<u>666</u>	<u>116</u>	666	116	665	116
403.gcc	8	609	106	<u>611</u>	<u>105</u>	615	105	8	<u>541</u>	<u>119</u>	541	119	544	118
429.mcf	8	881	82.8	<u>880</u>	<u>82.9</u>	879	83.0	8	<u>555</u>	<u>132</u>	553	132	555	132
445.gobmk	8	677	124	<u>677</u>	<u>124</u>	676	124	8	522	161	<u>522</u>	<u>161</u>	522	161
456.hammer	8	439	170	<u>439</u>	<u>170</u>	439	170	8	275	271	276	270	<u>276</u>	<u>271</u>
458.sjeng	8	723	134	<u>724</u>	<u>134</u>	724	134	8	661	146	<u>661</u>	<u>147</u>	660	147
462.libquantum	8	950	175	948	175	<u>949</u>	<u>175</u>	8	950	175	948	175	<u>949</u>	<u>175</u>
464.h264ref	8	815	217	816	217	<u>816</u>	<u>217</u>	8	783	226	<u>782</u>	<u>226</u>	772	229
471.omnetpp	8	<u>584</u>	<u>85.6</u>	584	85.6	585	85.5	8	<u>584</u>	<u>85.6</u>	584	85.6	585	85.5
473.astar	8	618	90.9	<u>619</u>	<u>90.8</u>	621	90.5	8	549	102	<u>549</u>	<u>102</u>	549	102
483.xalancbmk	8	450	123	449	123	<u>450</u>	<u>123</u>	8	<u>375</u>	<u>147</u>	374	148	375	147

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

The libhugetlbfs libraries were installed using the installation RPMs that came with the distribution.

'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=7168 in /etc/sysctl.conf
mount -t hugetlbfs nodev /mnt/hugepages

General Notes

Environment variables set by runspec before the start of the run:
HUGETLB_MORECORE = "yes"
LD_LIBRARY_PATH = "/root/cpu2006-1.1/amd909gh-libs/64:/root/cpu2006-1.1/amd909gh-libs/32"



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint_rate2006 = 148

PowerEdge R805 (AMD Opteron 2393 SE, 3.10 GHz)

SPECint_rate_base2006 = 124

CPU2006 license: 55

Test date: May-2009

Test sponsor: Dell Inc.

Hardware Availability: May-2009

Tested by: Dell Inc.

Software Availability: Oct-2008

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:
-Mvect=cachesize:6291456 -fastsse -Msmartalloc=huge -Mfprelaxed
-Mipa=fast -Mipa=inline -tp barcelona-64 -Bstatic_pgi

C++ benchmarks:
-Mvect=cachesize:6291456 -fastsse -Msmartalloc=huge -Mfprelaxed
--zc_eh -Mipa=fast -Mipa=inline:10 -tp barcelona-32 -Bstatic_pgi

Base Other Flags

C benchmarks:
-Mipa=jobs:4

C++ benchmarks:
-Mipa=jobs:4

Peak Compiler Invocation

C benchmarks (except as noted below):
pathcc

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint_rate2006 = 148

PowerEdge R805 (AMD Opteron 2393 SE, 3.10 GHz)

SPECint_rate_base2006 = 124

CPU2006 license: 55

Test date: May-2009

Test sponsor: Dell Inc.

Hardware Availability: May-2009

Tested by: Dell Inc.

Software Availability: Oct-2008

Peak Compiler Invocation (Continued)

456.hmmcr: pgcc

462.libquantum: pgcc

C++ benchmarks (except as noted below):

pgcpp

483.xalancbmk: pathCC

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
 401.bzip2: -DSPEC_CPU_LP64
 445.gobmk: -DSPEC_CPU_LP64
 456.hmmcr: -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)
 -Wl,-T/usr/share/libhugetlbfs/ldscripts/elf_x86_64.xBDT(pass 2)
 -L/usr/lib64 -lhugetlbfs(pass 2) -Ofast -IPA:plimit=20000
 -IPA:field_reorder=on -LNO:opt=0 -WOPT:if_conv=0
 -CG:local_sched_alg=1

401.bzip2: -march=barcelona -O3 -OPT:alias=disjoint -OPT:Ofast
 -OPT:goto=off -INLINE:aggressive=on -CG:local_sched_alg=1
 -m3dnow
 -Wl,-T/usr/share/libhugetlbfs/ldscripts/elf_x86_64.xBDT
 -L/usr/lib64 -lhugetlbfs

403.gcc: -march=barcelona -fb_create fbdata(pass 1)
 -fb_opt fbdata(pass 2) -Ofast -OPT:malloc_alg=1
 -LNO:trip_count=256 -LNO:prefetch_ahead=10
 -CG:prefer_lru_reg=off -m32

429.mcf: -march=barcelona -O3 -ipa -INLINE:aggressive=on
 -CG:gcm=off -GRA:prioritize_by_density=on -m32
 -L/usr/lib -lhugetlbfs

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint_rate2006 = 148

PowerEdge R805 (AMD Opteron 2393 SE, 3.10 GHz)

SPECint_rate_base2006 = 124

CPU2006 license: 55

Test date: May-2009

Test sponsor: Dell Inc.

Hardware Availability: May-2009

Tested by: Dell Inc.

Software Availability: Oct-2008

Peak Optimization Flags (Continued)

445.gobmk: -march=barcelona -fb_create fbdata(pass 1)
 -fb_opt fbdata(pass 2)
 -Wl,-T/usr/share/libhugetlbfs/ldscripts/elf_x86_64.xBDT(pass 2)
 -L/usr/lib64 -lhugetlbfs(pass 2) -O3 -OPT:alias=restrict
 -LNO:prefetch=1 -LNO:ignore_feedback=off -CG:p2align=on

456.hmmer: -Mvect=cachesize:6291456 -fastsse -Mvect=partial
 -Munroll=n:8 -Msmartalloc=huge -Msafeptr -Mprefetch=t0
 -Mfprelaxed -Mipa=const -Mipa=ptr -Mipa=arg -Mipa=inline
 -tp barcelona-64 -Bstatic_pgi

458.sjeng: -march=barcelona -fb_create fbdata(pass 1)
 -fb_opt fbdata(pass 2)
 -Wl,-T/usr/share/libhugetlbfs/ldscripts/elf_x86_64.xBDT(pass 2)
 -L/usr/lib64 -lhugetlbfs(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
 -OPT:unroll_times_max=8 -INLINE:aggressive=on

462.libquantum: basepeak = yes

464.h264ref: -march=barcelona -fb_create fbdata(pass 1)
 -fb_opt fbdata(pass 2)
 -Wl,-T/usr/share/libhugetlbfs/ldscripts/elf_x86_64.xBDT(pass 2)
 -L/usr/lib64 -lhugetlbfs(pass 2) -O3 -IPA:plimit=20000
 -OPT:alias=disjoint -LNO:prefetch=0 -CG:ptr_load_use=0
 -CG:push_pop_int_saved_regs=off -CG:prefer_lru_reg=off

C++ benchmarks:

471.omnetpp: basepeak = yes

473.astar: -Mpfi(pass 1) -Mpfo(pass 2) -Mipa=fast(pass 2)
 -Mipa=inline:6(pass 2) -Mvect=cachesize:6291456 -fastsse
 -O4 -Msmartalloc=huge -Msafeptr=global -Mfprelaxed
 --zc_eh -tp barcelona-32 -Bstatic_pgi

483.xalancbmk: -march=barcelona -Ofast -INLINE:aggressive=on -m32
 -L/root/work/libraries/SmartHeap_8.1/lib -lsmartheap

Peak Other Flags

C benchmarks:

456.hmmer: -Mipa=jobs:4

462.libquantum: -Mipa=jobs:4

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint_rate2006 = 148

PowerEdge R805 (AMD Opteron 2393 SE, 3.10 GHz)

SPECint_rate_base2006 = 124

CPU2006 license: 55

Test date: May-2009

Test sponsor: Dell Inc.

Hardware Availability: May-2009

Tested by: Dell Inc.

Software Availability: Oct-2008

Peak Other Flags (Continued)

C++ benchmarks (except as noted below):
-Mipa=jobs:4(pass 2)

483.xalancbmk: No flags used

The flags files that were used to format this result can be browsed at

http://www.spec.org/cpu2006/flags/pgi72_linux_flags.20090710.html
<http://www.spec.org/cpu2006/flags/pathscale32-flags.html>
<http://www.spec.org/cpu2006/flags/amd-platform-amd909gh.html>

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

http://www.spec.org/cpu2006/flags/pgi72_linux_flags.20090710.xml
<http://www.spec.org/cpu2006/flags/pathscale32-flags.xml>
<http://www.spec.org/cpu2006/flags/amd-platform-amd909gh.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 00:28:01 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 26 May 2009.