



SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECint®_rate2006 = 143

ProLiant DL385 G5p
(2.9 GHz AMD Opteron 2389)

SPECint_rate_base2006 = 121

CPU2006 license: 3

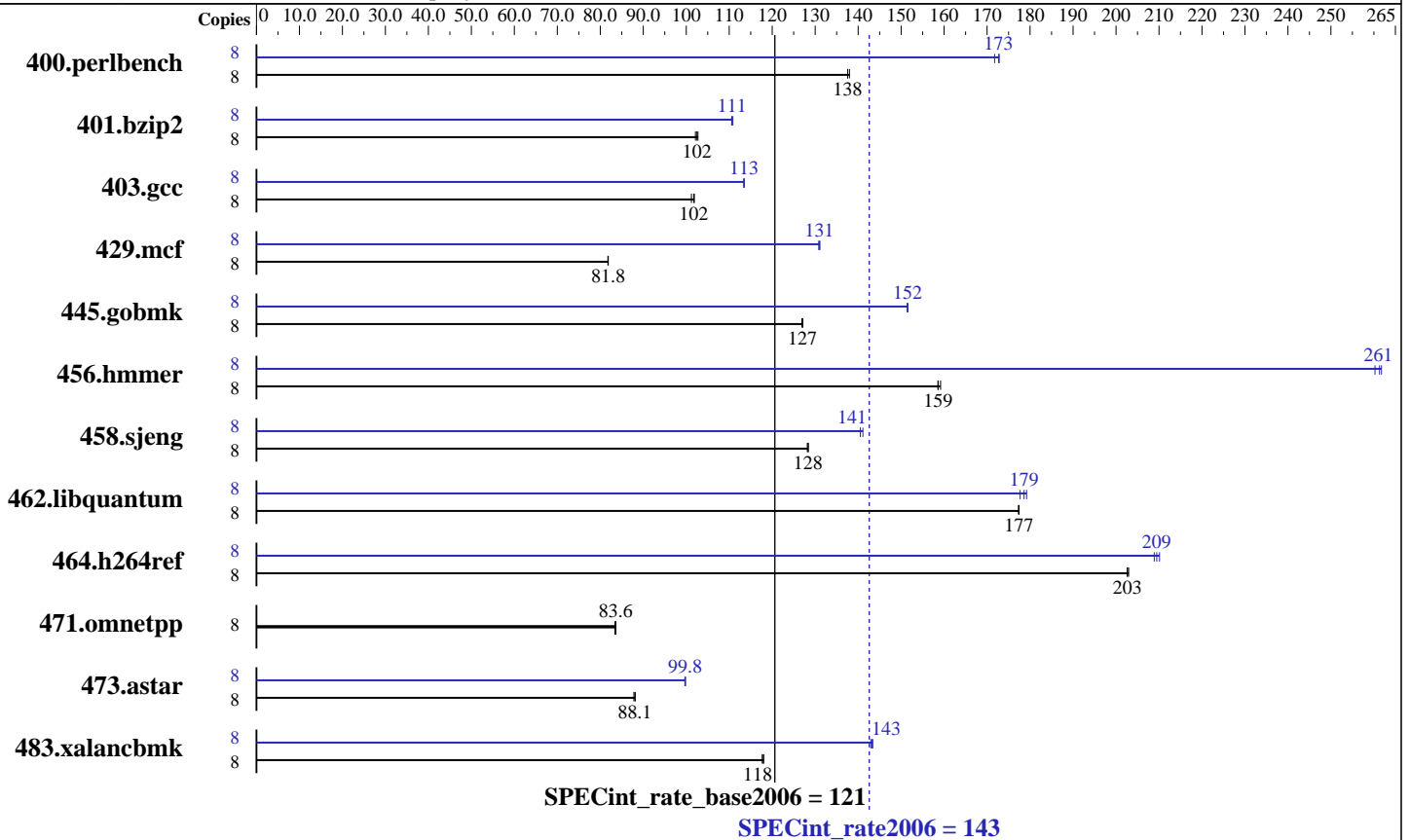
Test date: Mar-2009

Test sponsor: Hewlett-Packard Company

Hardware Availability: Apr-2009

Tested by: Hewlett-Packard Company

Software Availability: Mar-2008



Hardware

CPU Name: AMD Opteron 2389
 CPU Characteristics: 2900
 CPU MHz: 2900
 FPU: Integrated
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip
 CPU(s) orderable: 2,4 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: 6 MB I+D on chip per chip
 Other Cache: None
 Memory: 32 GB (8x4 GB, PC2-6400P CL5)
 Disk Subsystem: 1x72 GB 15 K 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 8.0 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

Hewlett-Packard Company

ProLiant DL385 G5p
(2.9 GHz AMD Opteron 2389)

SPECint_rate2006 = 143

SPECint_rate_base2006 = 121

CPU2006 license: 3

Test sponsor: Hewlett-Packard Company

Tested by: Hewlett-Packard Company

Test date: Mar-2009

Hardware Availability: Apr-2009

Software Availability: Mar-2008

Results Table

Benchmark	Base						Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	8	568	138	566	138	568	138	8	452	173	455	172	453	173
401.bzip2	8	752	103	753	102	756	102	8	698	111	698	111	696	111
403.gcc	8	636	101	632	102	633	102	8	568	113	567	113	568	113
429.mcf	8	892	81.8	892	81.8	891	81.9	8	558	131	557	131	557	131
445.gobmk	8	661	127	660	127	660	127	8	554	151	554	152	554	152
456.hammer	8	469	159	471	159	471	159	8	285	262	286	261	287	260
458.sjeng	8	754	128	754	128	755	128	8	686	141	689	141	689	141
462.libquantum	8	934	177	935	177	934	177	8	933	178	928	179	925	179
464.h264ref	8	874	203	874	203	872	203	8	845	209	843	210	848	209
471.omnetpp	8	598	83.6	598	83.6	599	83.4	8	598	83.6	598	83.6	599	83.4
473.astar	8	639	87.8	638	88.1	637	88.1	8	563	99.7	563	99.8	563	99.8
483.xalancbmk	8	469	118	468	118	468	118	8	385	143	385	143	386	143

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

Environment stack size set to 'unlimited'
Max locked memory set to 2097152
The libhugetlbfs libraries were installed using the
installation rpms that came with the distribution.
PGI_HUGE_PAGES set to 896.
Total number of huge pages available is 7168.

Platform Notes

BIOS configuration:
Power Regulator set to Static High Performance Mode

General Notes

Environment variables set by runspec before the start of the run:
HUGETLB_MORECORE = "yes"



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECint_rate2006 = 143

ProLiant DL385 G5p
(2.9 GHz AMD Opteron 2389)

SPECint_rate_base2006 = 121

CPU2006 license: 3

Test date: Mar-2009

Test sponsor: Hewlett-Packard Company

Hardware Availability: Apr-2009

Tested by: Hewlett-Packard Company

Software Availability: Mar-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:6 -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

Hewlett-Packard Company

SPECint_rate2006 = 143

ProLiant DL385 G5p
(2.9 GHz AMD Opteron 2389)

SPECint_rate_base2006 = 121

CPU2006 license: 3

Test date: Mar-2009

Test sponsor: Hewlett-Packard Company

Hardware Availability: Apr-2009

Tested by: Hewlett-Packard Company

Software Availability: Mar-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

Hewlett-Packard Company

SPECint_rate2006 = 143

ProLiant DL385 G5p
(2.9 GHz AMD Opteron 2389)

SPECint_rate_base2006 = 121

CPU2006 license: 3

Test date: Mar-2009

Test sponsor: Hewlett-Packard Company

Hardware Availability: Apr-2009

Tested by: Hewlett-Packard Company

Software Availability: Mar-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.hmmcr: -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: -Mvect=cachesize:6291456 -fastsse -Munroll=m:8
-Msmartalloc=huge -Mprefetch=distance:4 -Mfprelaxed
-Mipa=fast -Mipa=inline -Mipa=noarg -tp barcelona-64
-Bstatic_pgi

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/cpu2006/SmartHeap_8.1/lib -lsmartheap

Peak Other Flags

C benchmarks:

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECint_rate2006 = 143

ProLiant DL385 G5p
(2.9 GHz AMD Opteron 2389)

SPECint_rate_base2006 = 121

CPU2006 license: 3

Test date: Mar-2009

Test sponsor: Hewlett-Packard Company

Hardware Availability: Apr-2009

Tested by: Hewlett-Packard Company

Software Availability: Mar-2008

Peak Other Flags (Continued)

456.hmmer: -Mipa=jobs:4

462.libquantum: -Mipa=jobs:4

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/CPU2006_flags.20090710.00.html
http://www.spec.org/cpu2006/flags/pgi80_linux_flags.20090710.00.html
<http://www.spec.org/cpu2006/flags/amd-platform-amd909gh.20090710.html>

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

http://www.spec.org/cpu2006/flags/CPU2006_flags.20090710.00.xml
http://www.spec.org/cpu2006/flags/pgi80_linux_flags.20090710.00.xml
<http://www.spec.org/cpu2006/flags/amd-platform-amd909gh.20090710.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 Tue Jul 22 23:46:55 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 12 May 2009.