



SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECint®2006 = 21.9

ProLiant DL385 G5p
(2.9 GHz AMD Opteron 2389)

SPECint_base2006 = 18.7

CPU2006 license: 3

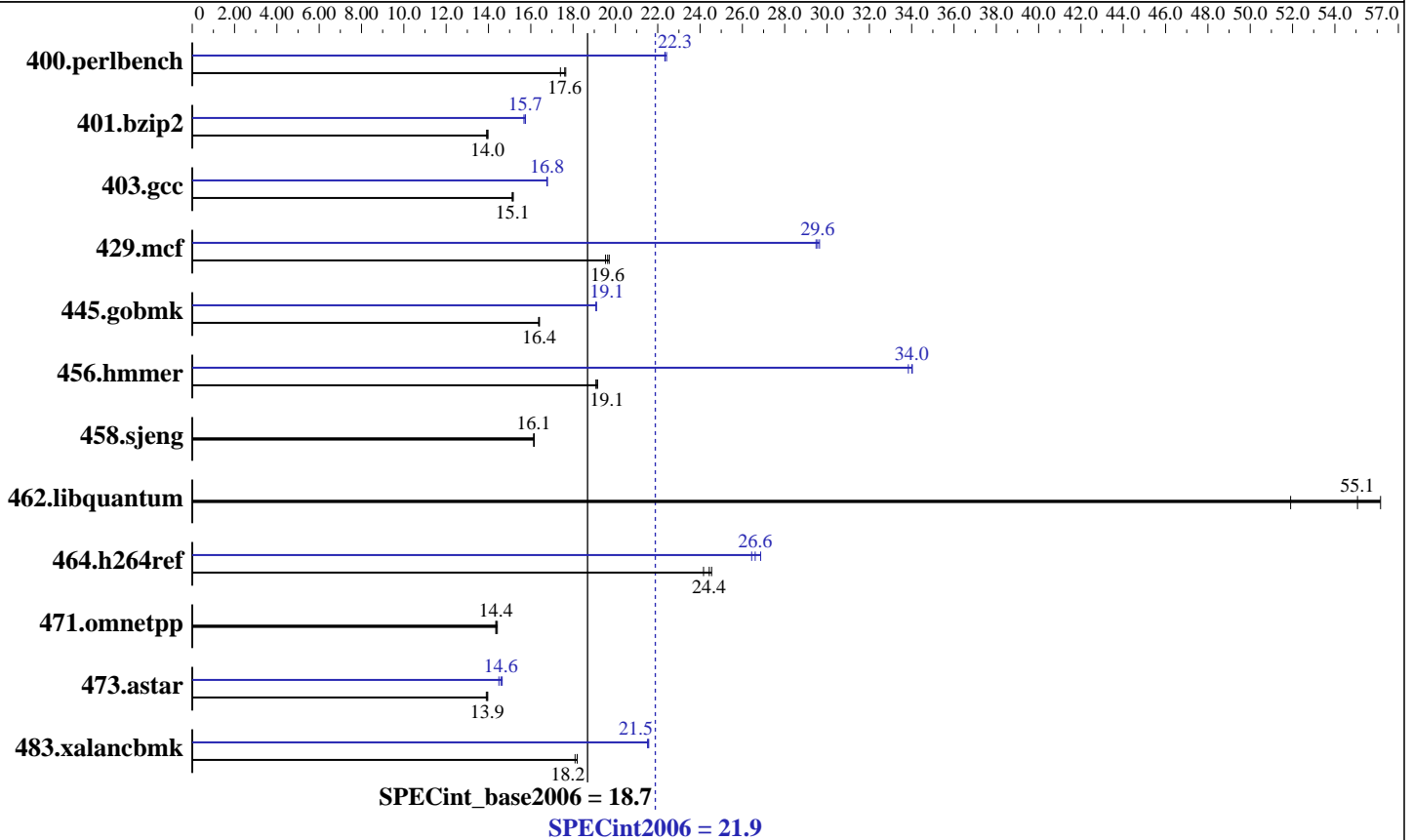
Test date: Mar-2009

Test sponsor: Hewlett-Packard Company

Hardware Availability: Apr-2009

Tested by: Hewlett-Packard Company

Software Availability: Mar-2009



Hardware

CPU Name: AMD Opteron 2389
 CPU Characteristics:
 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: Yes
 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

SPECint2006 = **21.9**

ProLiant DL385 G5p
(2.9 GHz AMD Opteron 2389)

SPECint_base2006 = **18.7**

CPU2006 license: 3

Test date: Mar-2009

Test sponsor: Hewlett-Packard Company

Hardware Availability: Apr-2009

Tested by: Hewlett-Packard Company

Software Availability: Mar-2009

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	555	17.6	553	17.7	562	17.4	437	22.3	436	22.4	437	22.3
401.bzip2	691	14.0	690	14.0	694	13.9	613	15.7	613	15.7	616	15.7
403.gcc	531	15.2	532	15.1	532	15.1	480	16.8	480	16.8	480	16.8
429.mcf	463	19.7	465	19.6	467	19.5	308	29.6	309	29.6	309	29.5
445.gobmk	641	16.4	639	16.4	640	16.4	549	19.1	550	19.1	550	19.1
456.hammer	489	19.1	488	19.1	487	19.2	274	34.0	274	34.0	276	33.8
458.sjeng	750	16.1	749	16.2	750	16.1	750	16.1	749	16.2	750	16.1
462.libquantum	369	56.2	376	55.1	399	51.9	369	56.2	376	55.1	399	51.9
464.h264ref	916	24.2	906	24.4	902	24.5	832	26.6	837	26.4	824	26.9
471.omnetpp	435	14.4	435	14.4	433	14.4	435	14.4	435	14.4	433	14.4
473.astar	504	13.9	503	14.0	505	13.9	479	14.6	481	14.6	484	14.5
483.xalancbmk	381	18.1	379	18.2	379	18.2	321	21.5	320	21.6	320	21.5

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

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.
NCPUS set to number of cores
```

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"
NCPUS = "8"
```

Base Compiler Invocation

```
C benchmarks:
pgcc
```

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECint2006 = 21.9

ProLiant DL385 G5p
(2.9 GHz AMD Opteron 2389)

SPECint_base2006 = 18.7

CPU2006 license: 3

Test date: Mar-2009

Test sponsor: Hewlett-Packard Company

Hardware Availability: Apr-2009

Tested by: Hewlett-Packard Company

Software Availability: Mar-2009

Base Compiler Invocation (Continued)

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 -Mconcur=innermost
-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

456.hmmer: pgcc

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECint2006 = 21.9

ProLiant DL385 G5p
(2.9 GHz AMD Opteron 2389)

SPECint_base2006 = 18.7

CPU2006 license: 3

Test date: Mar-2009

Test sponsor: Hewlett-Packard Company

Hardware Availability: Apr-2009

Tested by: Hewlett-Packard Company

Software Availability: Mar-2009

Peak Compiler Invocation (Continued)

458.sjeng: 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.hmmmer: -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

SPECint2006 = 21.9

ProLiant DL385 G5p
(2.9 GHz AMD Opteron 2389)

SPECint_base2006 = 18.7

CPU2006 license: 3

Test date: Mar-2009

Test sponsor: Hewlett-Packard Company

Hardware Availability: Apr-2009

Tested by: Hewlett-Packard Company

Software Availability: Mar-2009

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: basepeak = yes

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/cpu2006/SmartHeap_8.1/lib -lsmarheap

Peak Other Flags

C benchmarks:

456.hmmer: -Mipa=jobs:4

458.sjeng: -Mipa=jobs:4

462.libquantum: -Mipa=jobs:4

C++ benchmarks (except as noted below):

-Mipa=jobs:4(pass 2)

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

ProLiant DL385 G5p
(2.9 GHz AMD Opteron 2389)

SPECint2006 = 21.9

SPECint_base2006 = 18.7

CPU2006 license: 3

Test sponsor: Hewlett-Packard Company

Tested by: Hewlett-Packard Company

Test date: Mar-2009

Hardware Availability: Apr-2009

Software Availability: Mar-2009

Peak Other Flags (Continued)

483.xalanbmk: 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 23:51:18 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 12 May 2009.