



SPEC® CINT2006 Result

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Hewlett-Packard Company

SPECint®2006 = 26.4

ProLiant DL160 G5
(3.0 GHz, Intel Xeon X5472)

SPECint_base2006 = 22.9

CPU2006 license: 3

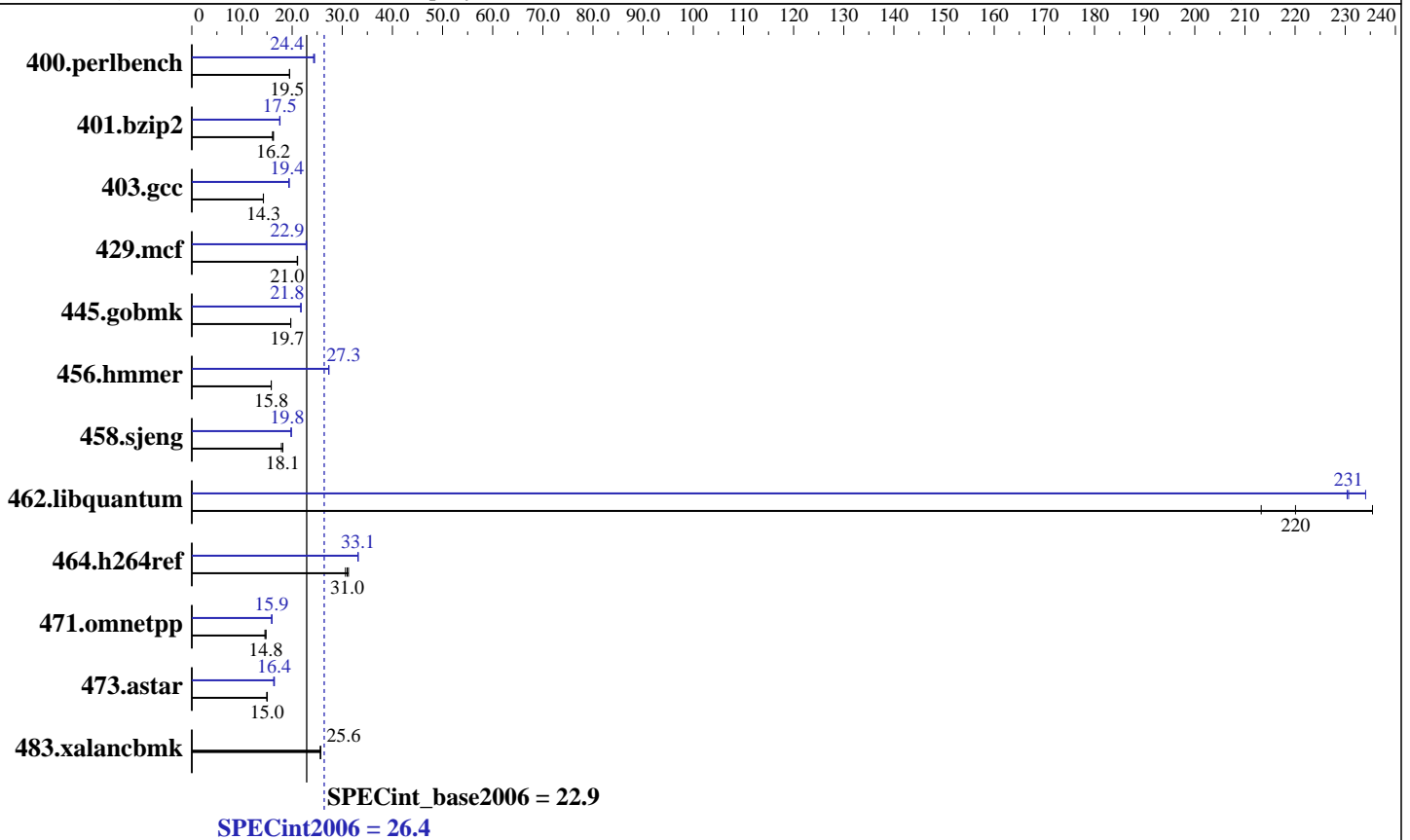
Test date: Feb-2008

Test sponsor: Hewlett-Packard Company

Hardware Availability: Jan-2008

Tested by: Hewlett-Packard Company

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon X5472
 CPU Characteristics: 3.0 GHz, 2x6 MB L2 shared, 1600 MHz system bus
 CPU MHz: 3000
 FPU: Integrated
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip
 CPU(s) orderable: 1,2 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 12 MB I+D on chip per chip, 6 MB shared / 2 cores
 L3 Cache: None
 Other Cache: None
 Memory: 32 GB (8x4 GB PC2-5300F CL5)
 Disk Subsystem: 1x160 GB 7.2 K SATA
 Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 10 (x86_64) SP1, Kernel 2.6.16.46-0.12-smp
 Compiler: Intel C++ Compiler 10.1 for Linux Build 20070913 Package ID: l_cc_p_10.1.008
 Auto Parallel: Yes
 File System: ext2
 System State: Run level 3 (multi-user)
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: MicroQuill SmartHeap Library 8.1 binutils-2.17.50



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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	<u>501</u>	<u>19.5</u>	502	19.5	501	19.5	<u>400</u>	<u>24.4</u>	400	24.4	402	24.3
401.bzip2	<u>594</u>	<u>16.2</u>	600	16.1	593	16.3	549	17.6	551	17.5	<u>550</u>	<u>17.5</u>
403.gcc	565	14.3	<u>564</u>	<u>14.3</u>	563	14.3	<u>415</u>	<u>19.4</u>	416	19.3	415	19.4
429.mcf	<u>433</u>	<u>21.0</u>	434	21.0	432	21.1	399	22.9	<u>399</u>	<u>22.9</u>	400	22.8
445.gobmk	532	19.7	532	19.7	<u>532</u>	<u>19.7</u>	482	21.8	<u>482</u>	<u>21.8</u>	482	21.8
456.hammer	<u>589</u>	<u>15.8</u>	590	15.8	589	15.9	341	27.3	<u>342</u>	<u>27.3</u>	342	27.3
458.sjeng	667	18.1	677	17.9	<u>667</u>	<u>18.1</u>	<u>611</u>	<u>19.8</u>	611	19.8	610	19.8
462.libquantum	<u>94.1</u>	<u>220</u>	97.2	213	88.0	235	<u>89.8</u>	<u>231</u>	88.5	234	89.9	230
464.h264ref	722	30.6	<u>714</u>	<u>31.0</u>	708	31.2	667	33.2	<u>668</u>	<u>33.1</u>	668	33.1
471.omnetpp	423	14.8	<u>423</u>	<u>14.8</u>	429	14.6	392	16.0	392	15.9	<u>392</u>	<u>15.9</u>
473.astar	<u>468</u>	<u>15.0</u>	466	15.1	470	14.9	430	16.3	426	16.5	<u>428</u>	<u>16.4</u>
483.xalancbmk	268	25.7	<u>269</u>	<u>25.6</u>	269	25.6	268	25.7	<u>269</u>	<u>25.6</u>	269	25.6

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

Operating System Notes

```
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to physical,0
KMP_STACKSIZE set to 64M
```

Platform Notes

BIOS configuration:
Power Regulator set to Static High Performance Mode

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Base Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX

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Base Portability Flags (Continued)

483.xalanbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:

-fast -vec-guard-write -opt-malloc-options=3 -parallel
-par-runtime-control

C++ benchmarks:

-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs
-L/cpu2006/SmartHeap_8.1/lib -lsmartheap

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):

icc

401.bzip2: /opt/intel/cce/10.1.008/bin/icc
-L/opt/intel/cce/10.1.008/lib
-I/opt/intel/cce/10.1.008/include

456.hmmer: /opt/intel/cce/10.1.008/bin/icc
-L/opt/intel/cce/10.1.008/lib
-I/opt/intel/cce/10.1.008/include

C++ benchmarks:

icpc

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX
483.xalanbmk: -DSPEC_CPU_LINUX



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Peak Optimization Flags

C benchmarks:

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -fast -ansi-alias
-prefetch

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch
-auto-ilp32

403.gcc: -fast -inline-calloc -opt-malloc-options=3

429.mcf: -fast -prefetch

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xT -O2 -ipo
-no-prec-div -ansi-alias

456.hmmr: -fast -unroll2 -ansi-alias -opt-multi-version-aggressive
-auto-ilp32

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4

462.libquantum: -fast -unroll4 -Ob0 -prefetch
-opt-streaming-stores always -vec-guard-write
-opt-malloc-options=3 -parallel -par-runtime-control

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-ansi-alias

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo
-no-prec-div -ansi-alias -opt-ra-region-strategy=block
-Wl,-z,muldefs -L/cpu2006/SmartHeap_8.1/lib -lsmarheap

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo
-no-prec-div -ansi-alias -opt-ra-region-strategy=routine
-Wl,-z,muldefs -L/cpu2006/SmartHeap_8.1/lib -lsmarheap

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca



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

<http://www.spec.org/cpu2006/flags/HP-Intel-ic10.1-linux-int-flags.20090714.00.html>

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

<http://www.spec.org/cpu2006/flags/HP-Intel-ic10.1-linux-int-flags.20090714.00.xml>

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For other inquiries, please contact webmaster@spec.org.

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