



SPEC[®] CINT2006 Result

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Hewlett-Packard Company

SPECint[®]2006 = 23.9

ProLiant DL320 G5p
(2.83 GHz, Intel Xeon X3360)

SPECint_base2006 = 20.5

CPU2006 license: 3

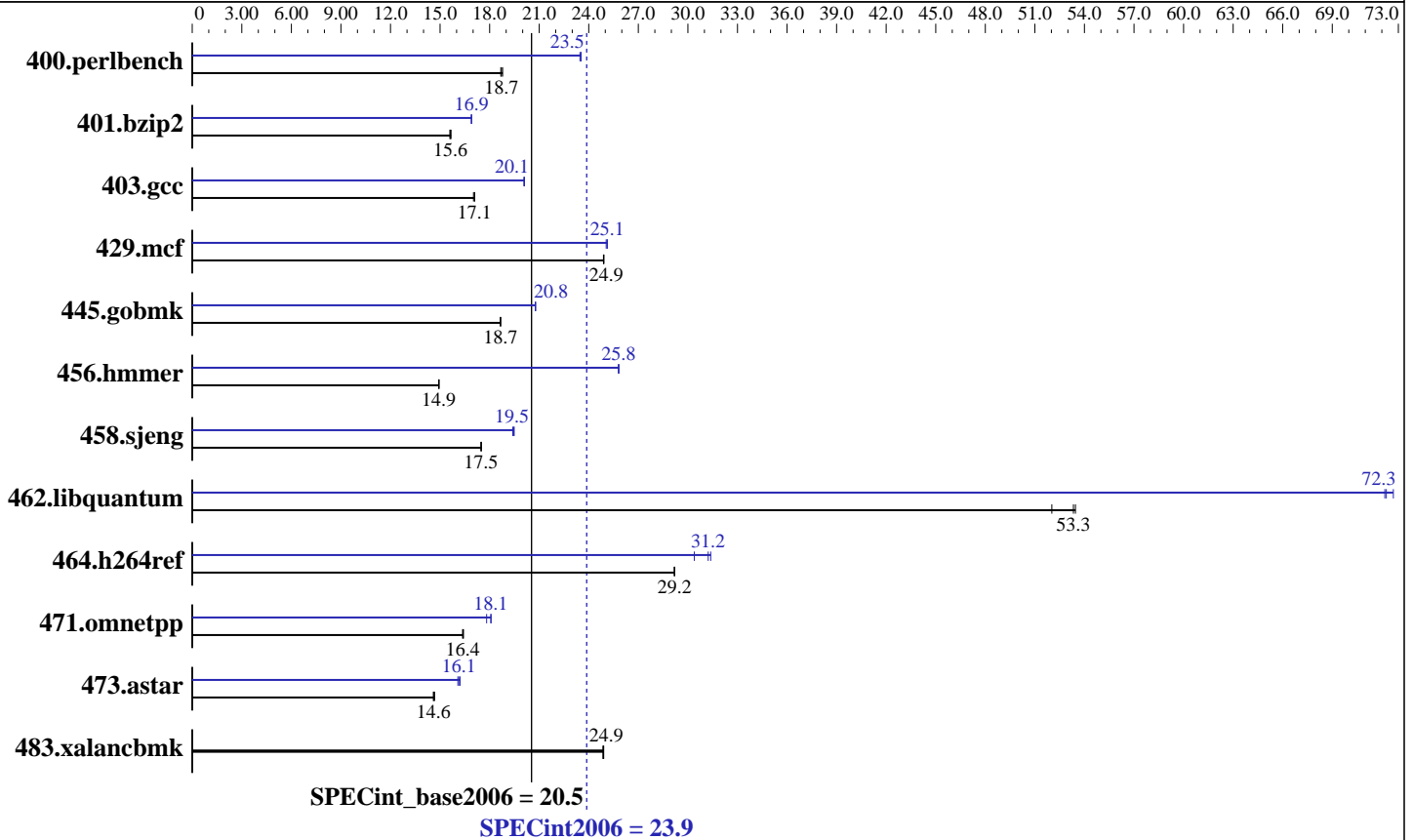
Test date: May-2008

Test sponsor: Hewlett-Packard Company

Hardware Availability: May-2008

Tested by: Hewlett-Packard Company

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon X3360
 CPU Characteristics: 2.83 GHz, 2x6 MB L2 shared, 1333 MHz system bus
 CPU MHz: 2833
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip
 CPU(s) orderable: 1 chip
 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: 8 GB (4x2 GB PC2-6400E CL5)
 Disk Subsystem: 1 x 80 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 for applications running on 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	520	18.8	523	18.7	<u>522</u>	<u>18.7</u>	416	23.5	415	23.5	<u>415</u>	<u>23.5</u>
401.bzip2	619	15.6	<u>617</u>	<u>15.6</u>	616	15.7	<u>571</u>	<u>16.9</u>	571	16.9	571	16.9
403.gcc	471	17.1	<u>471</u>	<u>17.1</u>	473	17.0	400	20.1	401	20.1	<u>401</u>	<u>20.1</u>
429.mcf	366	24.9	<u>366</u>	<u>24.9</u>	366	24.9	<u>363</u>	<u>25.1</u>	364	25.1	363	25.1
445.gobmk	562	18.7	562	18.7	<u>562</u>	<u>18.7</u>	505	20.8	505	20.8	<u>505</u>	<u>20.8</u>
456.hammer	625	14.9	<u>625</u>	<u>14.9</u>	625	14.9	361	25.8	362	25.8	<u>361</u>	<u>25.8</u>
458.sjeng	691	17.5	<u>692</u>	<u>17.5</u>	693	17.5	621	19.5	<u>621</u>	<u>19.5</u>	624	19.4
462.libquantum	<u>388</u>	<u>53.3</u>	388	53.5	398	52.0	285	72.7	287	72.2	<u>287</u>	<u>72.3</u>
464.h264ref	758	29.2	<u>758</u>	<u>29.2</u>	759	29.2	728	30.4	705	31.4	<u>709</u>	<u>31.2</u>
471.omnetpp	<u>381</u>	<u>16.4</u>	381	16.4	382	16.4	346	18.1	<u>346</u>	<u>18.1</u>	351	17.8
473.astar	<u>481</u>	<u>14.6</u>	481	14.6	479	14.7	433	16.2	<u>435</u>	<u>16.1</u>	437	16.1
483.xalancbmk	277	24.9	278	24.9	<u>277</u>	<u>24.9</u>	277	24.9	278	24.9	<u>277</u>	<u>24.9</u>

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.hmmcr: -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.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.xml>

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

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