



SPEC® CINT2006 Result

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Hewlett-Packard Company

SPECint®2006 = 23.9

ProLiant ML310 G5
(2.66 GHz, Intel Xeon X3350)

SPECint_base2006 = 20.0

CPU2006 license: 3

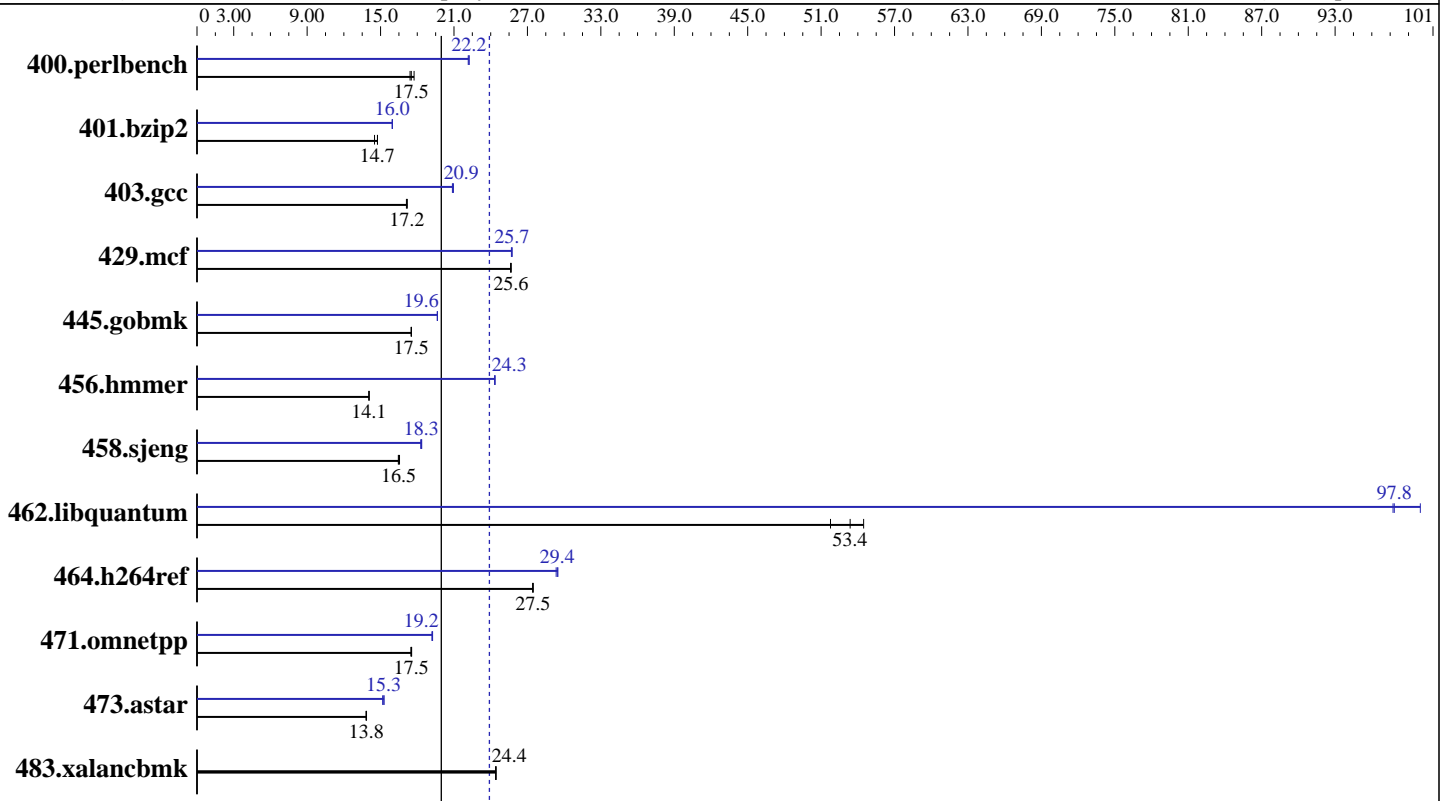
Test date: Apr-2008

Test sponsor: Hewlett-Packard Company

Hardware Availability: Mar-2008

Tested by: Hewlett-Packard Company

Software Availability: Sep-2007



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Hardware

CPU Name: Intel Xeon X3350
 CPU Characteristics: 2.66 GHz, 2x6 MB L2 shared, 1333 MHz system bus
 CPU MHz: 2666
 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: 1x250 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	551	17.7	561	17.4	<u>558</u>	<u>17.5</u>	441	22.2	<u>439</u>	<u>22.2</u>	439	22.2
401.bzip2	665	14.5	<u>654</u>	<u>14.7</u>	654	14.7	605	15.9	604	16.0	<u>604</u>	<u>16.0</u>
403.gcc	470	17.1	469	17.2	<u>469</u>	<u>17.2</u>	384	21.0	386	20.9	<u>385</u>	<u>20.9</u>
429.mcf	356	25.6	<u>356</u>	<u>25.6</u>	355	25.7	<u>354</u>	<u>25.7</u>	355	25.7	354	25.7
445.gobmk	599	17.5	<u>599</u>	<u>17.5</u>	599	17.5	534	19.6	534	19.6	<u>534</u>	<u>19.6</u>
456.hammer	663	14.1	<u>663</u>	<u>14.1</u>	664	14.0	<u>383</u>	<u>24.3</u>	384	24.3	383	24.4
458.sjeng	735	16.5	731	16.5	<u>734</u>	<u>16.5</u>	659	18.4	<u>660</u>	<u>18.3</u>	662	18.3
462.libquantum	400	51.8	<u>388</u>	<u>53.4</u>	380	54.5	<u>212</u>	<u>97.8</u>	212	97.7	207	100
464.h264ref	806	27.5	<u>806</u>	<u>27.5</u>	807	27.4	754	29.3	750	29.5	<u>752</u>	<u>29.4</u>
471.omnetpp	358	17.5	356	17.5	<u>357</u>	<u>17.5</u>	325	19.3	326	19.2	<u>325</u>	<u>19.2</u>
473.astar	508	13.8	<u>507</u>	<u>13.8</u>	507	13.9	463	15.2	459	15.3	<u>460</u>	<u>15.3</u>
483.xalancbmk	<u>283</u>	<u>24.4</u>	283	24.4	282	24.4	<u>283</u>	<u>24.4</u>	283	24.4	282	24.4

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
```

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Base Portability Flags

```
400.perlbench: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX
```



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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.perlbenc: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX
```

Peak Optimization Flags

C benchmarks:

Continued on next page



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Peak Optimization Flags (Continued)

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.hmmer: -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 -lsmartheap

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 -lsmartheap

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

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>



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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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