



# SPEC® CINT2006 Result

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## Hewlett-Packard Company

**SPECint®2006 = 13.9**

ProLiant DL380 G5  
(1.6 GHz, Intel Xeon processor 5110)

**SPECint\_base2006 = 11.8**

CPU2006 license: 3

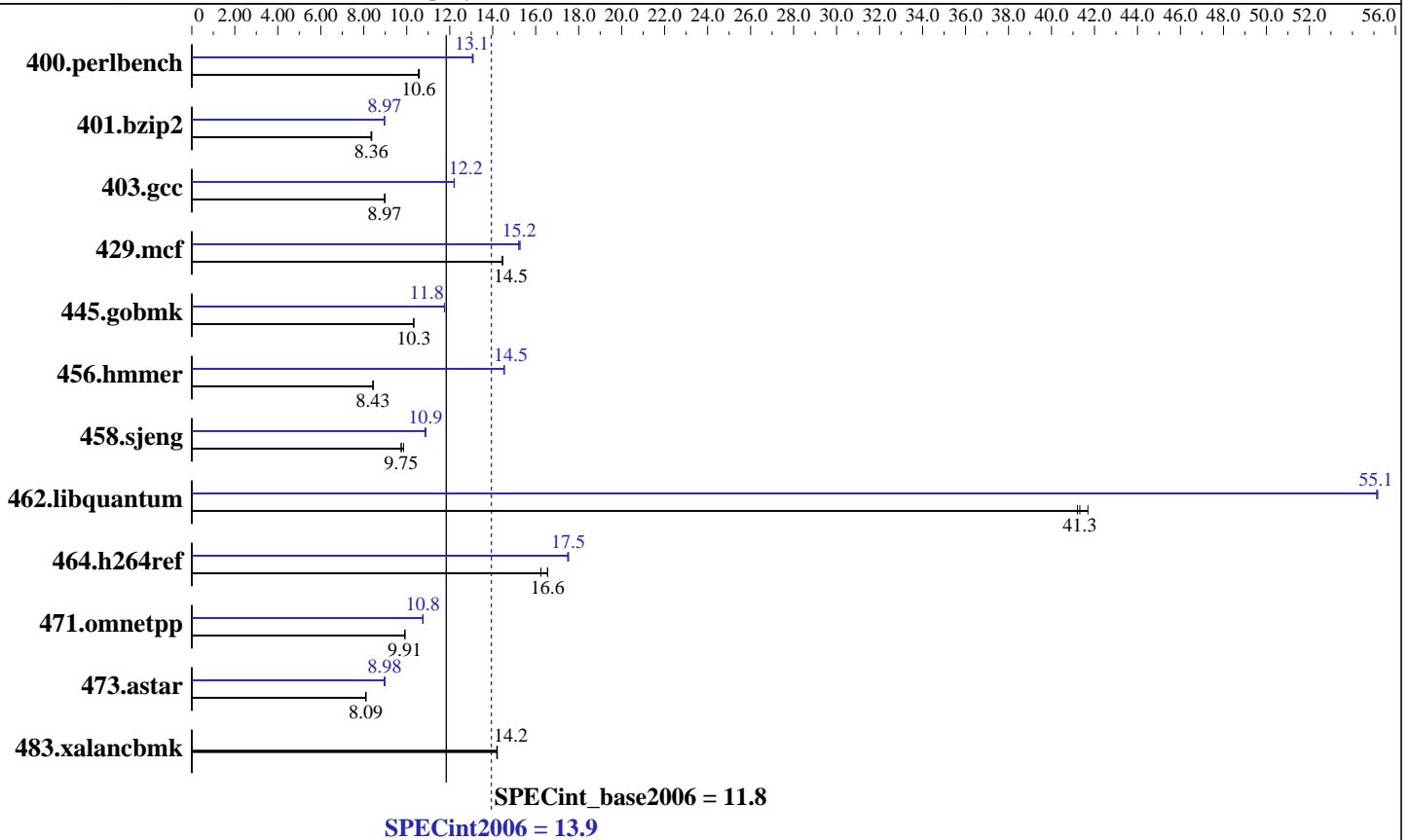
Test date: Sep-2007

Test sponsor: Hewlett-Packard Company

Hardware Availability: Jun-2006

Tested by: Hewlett-Packard Company

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon 5110  
 CPU Characteristics: 1.6 GHz, 4 MB L2 shared, 1066 MHz system bus  
 CPU MHz: 1600  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip  
 CPU(s) orderable: 1 or 2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 4 MB I+D on chip per chip  
 L3 Cache: None  
 Other Cache: None  
 Memory: 8 GB (8x1 GB PC2-5300F CL5)  
 Disk Subsystem: 1x72 GB 10 K SAS  
 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 Linux32 and Linux64 version 10.1, Build 20070824  
 Auto Parallel: Yes  
 File System: ext2  
 System State: Multi-user run level 3  
 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	923	10.6	<u>925</u>	<u>10.6</u>	927	10.5	749	13.1	747	13.1	<u>747</u>	<u>13.1</u>
401.bzip2	1153	8.37	<u>1154</u>	<u>8.36</u>	1158	8.34	<u>1076</u>	<u>8.97</u>	1076	8.97	1077	8.96
403.gcc	897	8.97	896	8.98	<u>897</u>	<u>8.97</u>	659	12.2	660	12.2	<u>659</u>	<u>12.2</u>
429.mcf	<u>631</u>	<u>14.5</u>	631	14.4	631	14.5	<u>599</u>	<u>15.2</u>	600	15.2	597	15.3
445.gobmk	1016	10.3	1016	10.3	<u>1016</u>	<u>10.3</u>	<u>892</u>	<u>11.8</u>	892	11.8	892	11.8
456.hammer	1106	8.43	<u>1106</u>	<u>8.43</u>	1107	8.43	<u>642</u>	<u>14.5</u>	641	14.5	642	14.5
458.sjeng	1228	9.85	1242	9.74	<u>1241</u>	<u>9.75</u>	1111	10.9	<u>1113</u>	<u>10.9</u>	1115	10.8
462.libquantum	503	41.2	<u>501</u>	<u>41.3</u>	497	41.7	<u>376</u>	<u>55.1</u>	376	55.1	375	55.2
464.h264ref	<u>1337</u>	<u>16.6</u>	1363	16.2	1337	16.6	1263	17.5	<u>1263</u>	<u>17.5</u>	1266	17.5
471.omnetpp	630	9.92	631	9.90	<u>630</u>	<u>9.91</u>	582	10.7	581	10.8	<u>581</u>	<u>10.8</u>
473.astar	<u>867</u>	<u>8.09</u>	868	8.09	866	8.11	784	8.95	781	8.99	<u>782</u>	<u>8.98</u>
483.xalancbmk	<u>486</u>	<u>14.2</u>	485	14.2	486	14.2	<u>486</u>	<u>14.2</u>	485	14.2	486	14.2

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.xalancbmk: -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/home/cmplr/usr3/alrahate/cpu2006.1.0/lib -lsmartheap

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):

icc

401.bzip2: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux64/bin/icc  
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux64/lib  
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux64/include

456.hmmer: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux64/bin/icc  
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux64/lib  
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux64/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.xalancbmk: -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/home/cmplr/usr3/alrahate/cpu2006.1.0/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/home/cmplr/usr3/alrahate/cpu2006.1.0/lib -lsmartheap

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-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-flags.20090714.xml>

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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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