



# SPEC® CINT2006 Result

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## Hewlett-Packard Company

SPECint®\_rate2006 = 43.2

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

SPECint\_rate\_base2006 = 37.8

CPU2006 license: 3

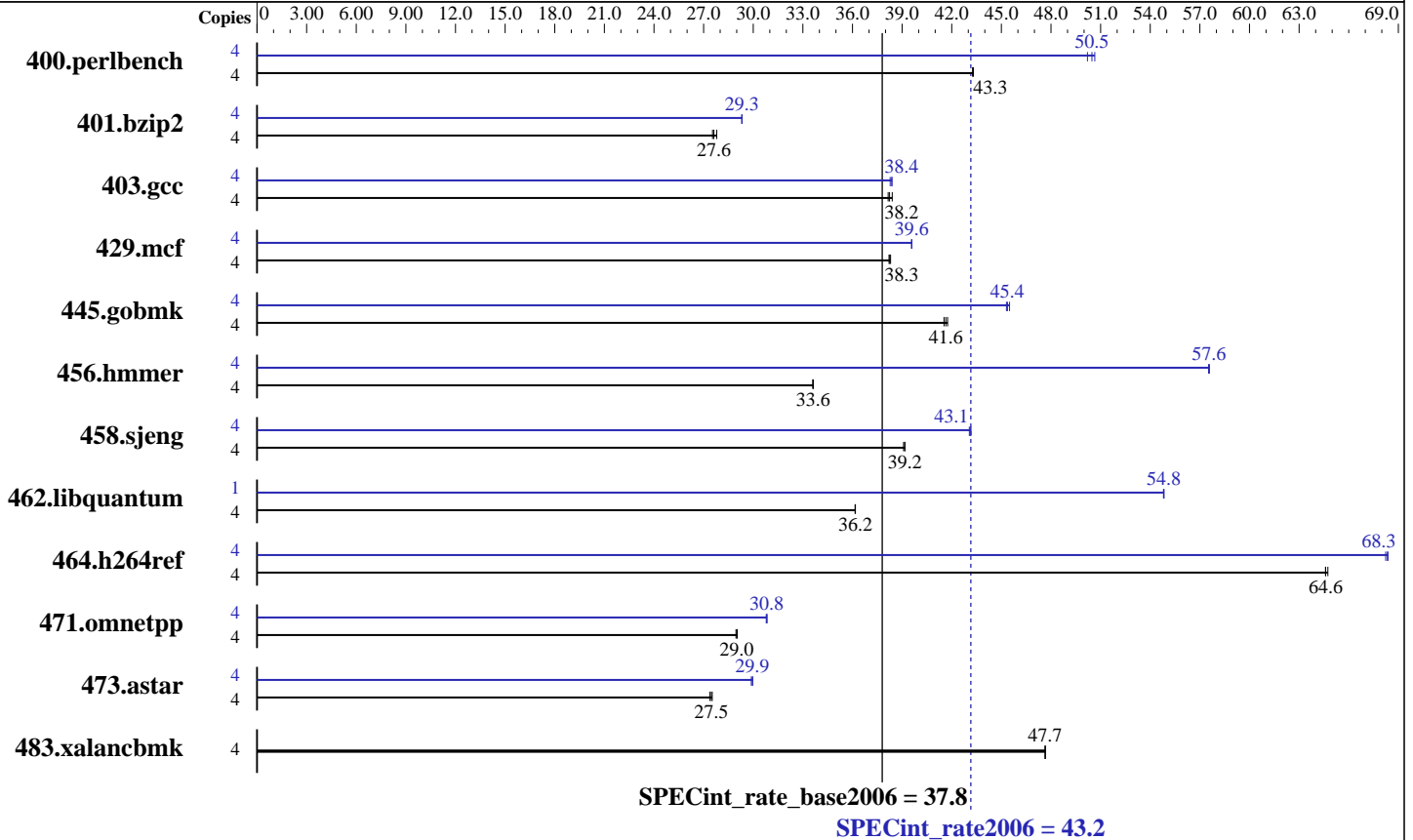
Test date: Oct-2007

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 20070725  
 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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	4	902	43.3	<b>903</b>	<b>43.3</b>	903	43.3	4	772	50.6	778	50.2	<b>774</b>	<b>50.5</b>
401.bzip2	4	<b>1398</b>	<b>27.6</b>	1389	27.8	1402	27.5	4	<b>1317</b>	<b>29.3</b>	1317	29.3	1317	29.3
403.gcc	4	844	38.2	839	38.4	<b>842</b>	<b>38.2</b>	4	<b>839</b>	<b>38.4</b>	839	38.4	841	38.3
429.mcf	4	955	38.2	<b>954</b>	<b>38.3</b>	952	38.3	4	922	39.6	922	39.6	<b>922</b>	<b>39.6</b>
445.gobmk	4	1010	41.5	1005	41.7	<b>1008</b>	<b>41.6</b>	4	922	45.5	<b>925</b>	<b>45.4</b>	926	45.3
456.hammer	4	<b>1110</b>	<b>33.6</b>	1111	33.6	1110	33.6	4	<b>648</b>	<b>57.6</b>	649	57.5	648	57.6
458.sjeng	4	1236	39.2	<b>1236</b>	<b>39.2</b>	1238	39.1	4	1124	43.1	1121	43.2	<b>1122</b>	<b>43.1</b>
462.libquantum	4	2292	36.2	<b>2291</b>	<b>36.2</b>	2291	36.2	1	378	54.8	<b>378</b>	<b>54.8</b>	378	54.8
464.h264ref	4	1367	64.7	<b>1370</b>	<b>64.6</b>	1370	64.6	4	1295	68.4	1297	68.2	<b>1295</b>	<b>68.3</b>
471.omnetpp	4	863	29.0	<b>862</b>	<b>29.0</b>	861	29.0	4	812	30.8	<b>811</b>	<b>30.8</b>	811	30.8
473.astar	4	1020	27.5	<b>1022</b>	<b>27.5</b>	1026	27.4	4	937	30.0	940	29.9	<b>938</b>	<b>29.9</b>
483.xalancbmk	4	579	47.7	<b>579</b>	<b>47.7</b>	579	47.6	4	579	47.7	<b>579</b>	<b>47.7</b>	579	47.6

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  
Adjacent Sector Prefetch Disabled

## Base Compiler Invocation

C benchmarks:  
icc  
  
C++ benchmarks:  
icpc

## Base Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32

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## Base Portability Flags (Continued)

462.libquantum: -DSPEC\_CPU\_LINUX  
483.xalancbmk: -DSPEC\_CPU\_LINUX

## Base Optimization Flags

C benchmarks:

-fast -inline-calloc -opt-malloc-options=3

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/20070725/Linux64/bin/icc  
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/lib  
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/include

456.hmmer: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/bin/icc  
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/lib  
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/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

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

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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