



# SPEC® CINT2006 Result

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## Hewlett-Packard Company

### SPECint®\_rate2006 = 82.2

ProLiant BL480c  
(3.33 GHz, Intel Xeon processor X5260)

### SPECint\_rate\_base2006 = 70.1

CPU2006 license: 3

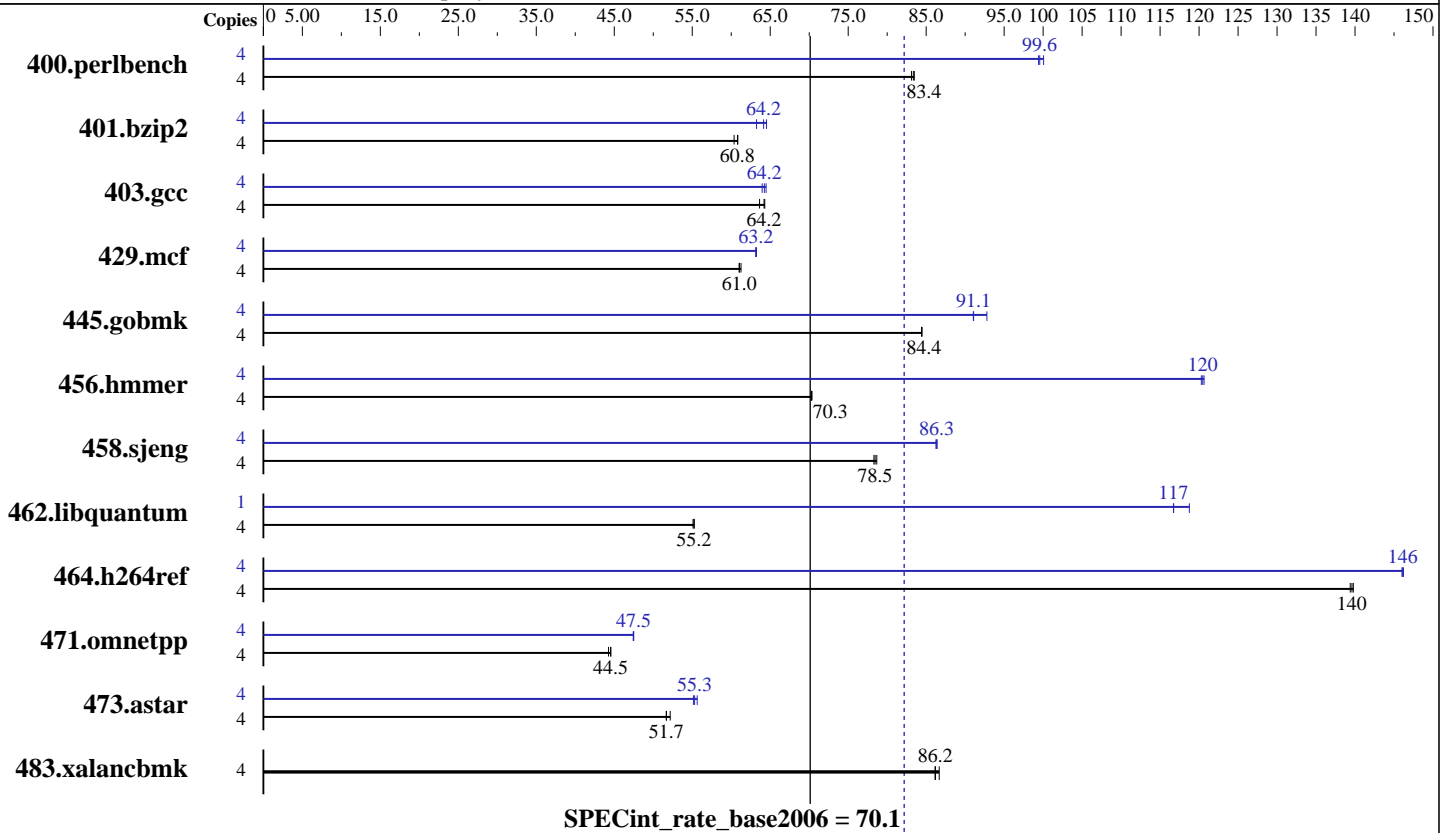
Test date: Dec-2007

Test sponsor: Hewlett-Packard Company

Hardware Availability: Jan-2008

Tested by: Hewlett-Packard Company

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon X5260  
 CPU Characteristics: 3.33 GHz, 6 MB L2 shared, 1333 MHz system bus  
 CPU MHz: 3333  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip  
 CPU(s) orderable: 1,2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 6 MB I+D on chip per chip  
 L3 Cache: None  
 Other Cache: None  
 Memory: 16 GB (8x2 GB PC2-5300F CL5)  
 Disk Subsystem: 1x72 GB 15 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 applications running on IA-32 and Intel 64, Version 10.1  
 Build 20070913 Package ID: l\_cc\_p\_10.1.008  
 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	<b><u>469</u></b>	<b><u>83.4</u></b>	468	83.5	470	83.1	4	391	100	393	99.4	<b><u>392</u></b>	<b><u>99.6</u></b>
401.bzip2	4	639	60.4	634	60.8	<b><u>635</u></b>	<b><u>60.8</u></b>	4	<b><u>602</u></b>	<b><u>64.2</u></b>	598	64.5	610	63.2
403.gcc	4	506	63.6	501	64.3	<b><u>501</u></b>	<b><u>64.2</u></b>	4	503	64.0	<b><u>501</u></b>	<b><u>64.2</u></b>	499	64.5
429.mcf	4	598	61.0	<b><u>598</u></b>	<b><u>61.0</u></b>	596	61.3	4	<b><u>577</u></b>	<b><u>63.2</u></b>	578	63.1	577	63.2
445.gobmk	4	497	84.5	497	84.4	<b><u>497</u></b>	<b><u>84.4</u></b>	4	<b><u>461</u></b>	<b><u>91.1</u></b>	452	92.8	461	91.0
456.hammer	4	<b><u>531</u></b>	<b><u>70.3</u></b>	531	70.3	530	70.4	4	309	121	310	120	<b><u>310</u></b>	<b><u>120</u></b>
458.sjeng	4	618	78.3	<b><u>617</u></b>	<b><u>78.5</u></b>	615	78.7	4	560	86.4	<b><u>561</u></b>	<b><u>86.3</u></b>	561	86.3
462.libquantum	4	1500	55.3	<b><u>1501</u></b>	<b><u>55.2</u></b>	1504	55.1	1	<b><u>177</u></b>	<b><u>117</u></b>	178	117	174	119
464.h264ref	4	635	139	<b><u>634</u></b>	<b><u>140</u></b>	633	140	4	<b><u>606</u></b>	<b><u>146</u></b>	605	146	606	146
471.omnetpp	4	<b><u>561</u></b>	<b><u>44.5</u></b>	561	44.6	565	44.3	4	527	47.4	526	47.5	<b><u>526</u></b>	<b><u>47.5</u></b>
473.astar	4	543	51.7	<b><u>543</u></b>	<b><u>51.7</u></b>	538	52.2	4	<b><u>508</u></b>	<b><u>55.3</u></b>	505	55.6	509	55.2
483.xalancbmk	4	318	86.7	320	86.1	<b><u>320</u></b>	<b><u>86.2</u></b>	4	318	86.7	320	86.1	<b><u>320</u></b>	<b><u>86.2</u></b>

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/cpu2006.1.0/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.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/cpu2006.1.0/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/cpu2006.1.0/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.20090714.00.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.20090714.00.xml>

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For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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