



# SPEC® CINT2006 Result

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## Hewlett-Packard Company

SPECint®\_rate2006 = 35.7

ProLiant BL460c G6  
(1.86 GHz, Intel Xeon E5502)

SPECint\_rate\_base2006 = 33.2

CPU2006 license: 3

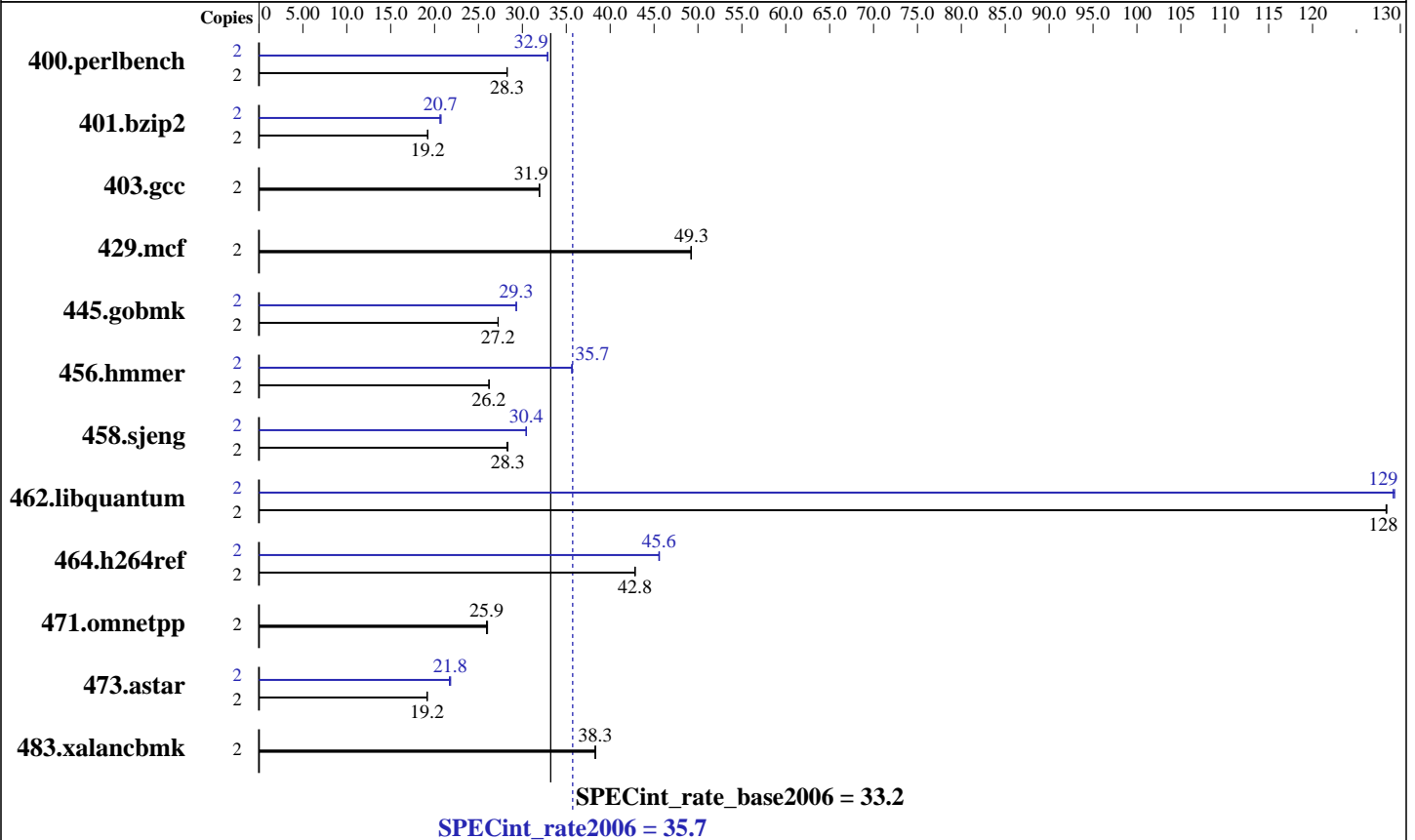
Test date: Sep-2009

Test sponsor: Hewlett-Packard Company

Hardware Availability: Mar-2009

Tested by: Hewlett-Packard Company

Software Availability: Feb-2009



### Hardware

CPU Name: Intel Xeon E5502  
 CPU Characteristics: 1866  
 CPU MHz: 1866  
 FPU: Integrated  
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip  
 CPU(s) orderable: 1,2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 256 KB I+D on chip per core  
 L3 Cache: 4 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 12 GB (3x4 GB PC3-10600R CL9, running at 800 MHz)  
 Disk Subsystem: 1x146 GB 10 K RPM SAS  
 Other Hardware: None

### Software

Operating System: Red Hat Enterprise Linux Server release 5.3  
 Kernel 2.6.18-128.el5  
 Compiler: Intel C++ Compiler 11.0 for Linux  
 Build 20090131 Package ID: l\_cproc\_p\_11.0.080  
 Auto Parallel: No  
 File System: ext3  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V8.1  
 Binutils 2.18.50.0.7.20080502



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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	2	691	28.3	<b><u>691</u></b>	<b><u>28.3</u></b>	692	28.2	2	595	32.9	<b><u>594</u></b>	<b><u>32.9</u></b>	594	32.9
401.bzip2	2	1003	19.2	<b><u>1005</u></b>	<b><u>19.2</u></b>	1005	19.2	2	930	20.7	<b><u>934</u></b>	<b><u>20.7</u></b>	936	20.6
403.gcc	2	504	31.9	504	32.0	<b><u>504</u></b>	<b><u>31.9</u></b>	2	504	31.9	504	32.0	<b><u>504</u></b>	<b><u>31.9</u></b>
429.mcf	2	<b><u>370</u></b>	<b><u>49.3</u></b>	370	49.3	371	49.2	2	<b><u>370</u></b>	<b><u>49.3</u></b>	370	49.3	371	49.2
445.gobmk	2	770	27.2	<b><u>770</u></b>	<b><u>27.2</u></b>	771	27.2	2	716	29.3	716	29.3	<b><u>716</u></b>	<b><u>29.3</u></b>
456.hammer	2	712	26.2	<b><u>712</u></b>	<b><u>26.2</u></b>	712	26.2	2	524	35.6	<b><u>523</u></b>	<b><u>35.7</u></b>	523	35.7
458.sjeng	2	854	28.3	857	28.2	<b><u>854</u></b>	<b><u>28.3</u></b>	2	<b><u>795</u></b>	<b><u>30.4</u></b>	795	30.5	796	30.4
462.libquantum	2	<b><u>323</u></b>	<b><u>128</u></b>	323	128	323	128	2	<b><u>321</u></b>	<b><u>129</u></b>	320	129	321	129
464.h264ref	2	1033	42.9	1034	42.8	<b><u>1033</u></b>	<b><u>42.8</u></b>	2	972	45.5	970	45.6	<b><u>971</u></b>	<b><u>45.6</u></b>
471.omnetpp	2	482	25.9	<b><u>482</u></b>	<b><u>25.9</u></b>	480	26.0	2	482	25.9	<b><u>482</u></b>	<b><u>25.9</u></b>	480	26.0
473.astar	2	732	19.2	733	19.1	<b><u>733</u></b>	<b><u>19.2</u></b>	2	643	21.8	647	21.7	<b><u>645</u></b>	<b><u>21.8</u></b>
483.xalancbmk	2	360	38.3	<b><u>360</u></b>	<b><u>38.3</u></b>	360	38.3	2	360	38.3	<b><u>360</u></b>	<b><u>38.3</u></b>	360	38.3

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## Submit Notes

The config file option 'submit' was used.  
numactl was used to bind copies to the cores

## Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run

## Platform Notes

BIOS configuration:  
Power Profile set to Maximum Performance  
Power Regulator set to Static High Performance Mode  
Thermal Configuration set to Increased Cooling

## Base Compiler Invocation

C benchmarks:  
icc

C++ benchmarks:  
icpc



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## Base Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
462.libquantum: -DSPEC\_CPU\_LINUX  
483.xalancbmk: -DSPEC\_CPU\_LINUX

## Base Optimization Flags

C benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static -inline-calloc  
-opt-malloc-options=3 -opt-prefetch

C++ benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs  
-L/spec/cpu2006.1.1/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/Compiler/11.0/080/bin/intel64/icc

456.hmmer: /opt/intel/Compiler/11.0/080/bin/intel64/icc

458.sjeng: /opt/intel/Compiler/11.0/080/bin/intel64/icc

C++ benchmarks (except as noted below):

icpc

473.astar: /opt/intel/Compiler/11.0/080/bin/intel64/icpc

## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
401.bzip2: -DSPEC\_CPU\_LP64  
456.hmmer: -DSPEC\_CPU\_LP64

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## Peak Portability Flags (Continued)

458.sjeng: -DSPEC\_CPU\_LP64  
462.libquantum: -DSPEC\_CPU\_LINUX  
473.astar: -DSPEC\_CPU\_LP64  
483.xalancbmk: -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

C benchmarks:

400.perlbench: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)  
-prof-use(pass 2) -ansi-alias -opt-prefetch

401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)  
-prof-use(pass 2) -opt-prefetch -ansi-alias -auto-ilp32

403.gcc: basepeak = yes

429.mcf: basepeak = yes

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -O2  
-ipo -no-prec-div -ansi-alias

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2  
-ansi-alias -auto-ilp32

458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)  
-prof-use(pass 2) -unroll4 -auto-ilp32

462.libquantum: -xSSE4.2 -ipo -O3 -no-prec-div -static  
-opt-malloc-options=3 -opt-prefetch

464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)  
-prof-use(pass 2) -unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: basepeak = yes

473.astar: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)  
-ansi-alias -opt-ra-region-strategy=routine -auto-ilp32  
-Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap64

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## Peak Optimization Flags (Continued)

483.xalanbmk: basepeak = yes

## Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090901.00.html>

<http://www.spec.org/cpu2006/flags/HP-Intel-Linux-Settings-flags.20090915.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090901.00.xml>

<http://www.spec.org/cpu2006/flags/HP-Intel-Linux-Settings-flags.20090915.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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