



# SPEC® CINT2006 Result

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## Hewlett-Packard Company

SPECint®2006 = 19.2

ProLiant BL460c  
(2.00 GHz, Intel Xeon E5405)

SPECint\_base2006 = 16.6

CPU2006 license: 3

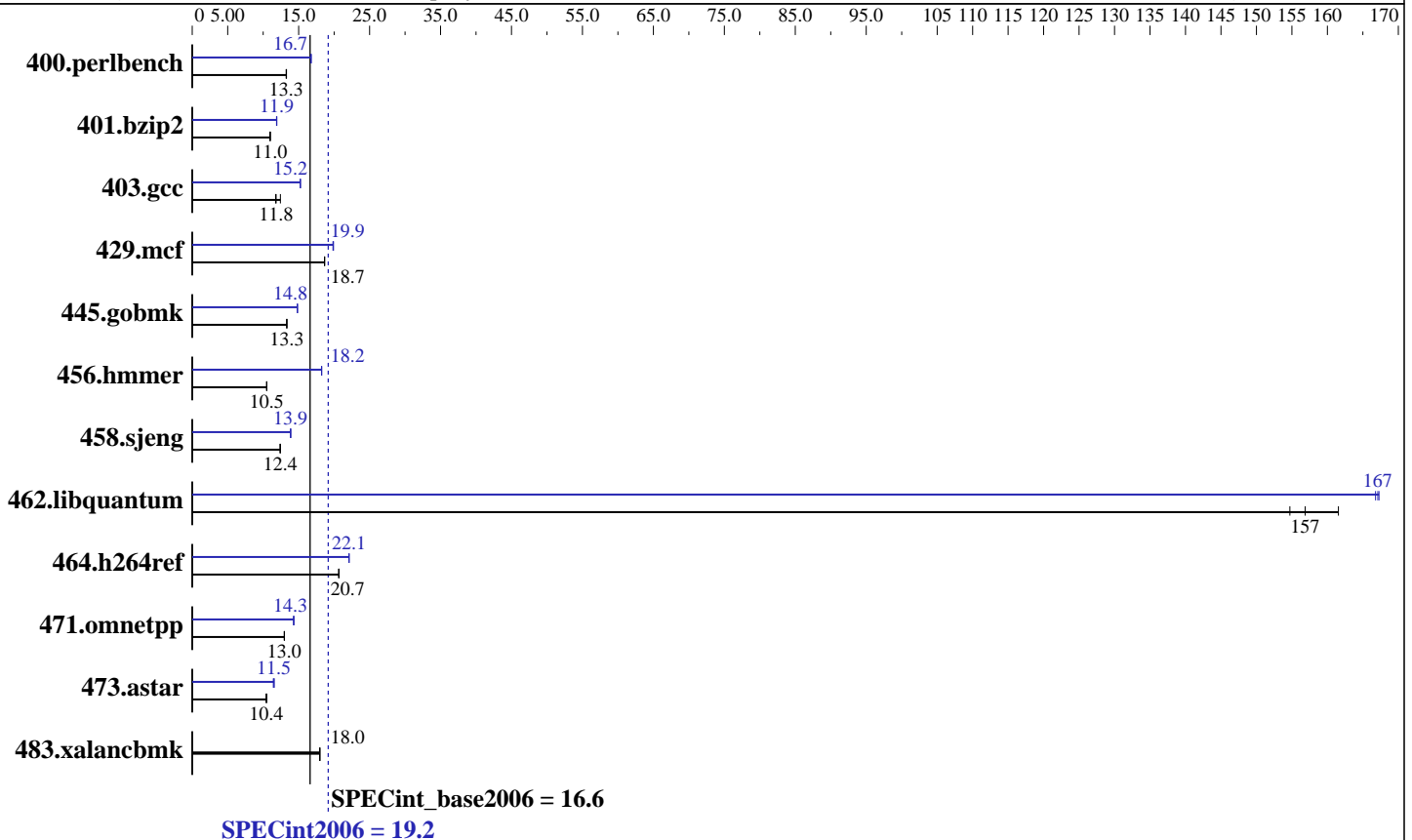
Test date: Mar-2008

Test sponsor: Hewlett-Packard Company

Hardware Availability: Nov-2007

Tested by: Hewlett-Packard Company

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon E5405  
 CPU Characteristics: 2.00 GHz, 2x6 MB L2 shared, 1333 MHz system bus  
 CPU MHz: 2000  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip  
 CPU(s) orderable: 1,2 chips  
 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: 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 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	<b><u>737</u></b>	<b><u>13.3</u></b>	735	13.3	737	13.2	584	16.7	582	16.8	<b><u>584</u></b>	<b><u>16.7</u></b>
401.bzip2	883	10.9	876	11.0	<b><u>877</u></b>	<b><u>11.0</u></b>	<b><u>810</u></b>	<b><u>11.9</u></b>	812	11.9	809	11.9
403.gcc	648	12.4	<b><u>681</u></b>	<b><u>11.8</u></b>	685	11.8	529	15.2	528	15.2	<b><u>528</u></b>	<b><u>15.2</u></b>
429.mcf	<b><u>489</u></b>	<b><u>18.7</u></b>	489	18.6	489	18.7	458	19.9	459	19.8	<b><u>459</u></b>	<b><u>19.9</u></b>
445.gobmk	787	13.3	787	13.3	<b><u>787</u></b>	<b><u>13.3</u></b>	708	14.8	708	14.8	<b><u>708</u></b>	<b><u>14.8</u></b>
456.hammer	889	10.5	888	10.5	<b><u>888</u></b>	<b><u>10.5</u></b>	<b><u>512</u></b>	<b><u>18.2</u></b>	511	18.3	512	18.2
458.sjeng	974	12.4	<b><u>976</u></b>	<b><u>12.4</u></b>	977	12.4	<b><u>873</u></b>	<b><u>13.9</u></b>	871	13.9	873	13.9
462.libquantum	134	155	128	162	<b><u>132</u></b>	<b><u>157</u></b>	124	167	124	167	<b><u>124</u></b>	<b><u>167</u></b>
464.h264ref	1070	20.7	<b><u>1071</u></b>	<b><u>20.7</u></b>	1072	20.7	1001	22.1	1002	22.1	<b><u>1001</u></b>	<b><u>22.1</u></b>
471.omnetpp	481	13.0	<b><u>481</u></b>	<b><u>13.0</u></b>	482	13.0	<b><u>437</u></b>	<b><u>14.3</u></b>	438	14.3	436	14.3
473.astar	668	10.5	674	10.4	<b><u>672</u></b>	<b><u>10.4</u></b>	614	11.4	<b><u>610</u></b>	<b><u>11.5</u></b>	607	11.6
483.xalancbmk	<b><u>384</u></b>	<b><u>18.0</u></b>	384	18.0	384	18.0	<b><u>384</u></b>	<b><u>18.0</u></b>	384	18.0	384	18.0

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 -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.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/cpu2006/SmartHeap\_8.1/lib -lsmarheap

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 -lsmarheap

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-int-flags.20090713.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-int-flags.20090713.xml>

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

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