



# SPEC® CINT2006 Result

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## Hewlett-Packard Company

SPECint®2006 = 25.1

ProLiant DL120 G5  
(2.83 GHz, Intel Xeon X3360)

SPECint\_base2006 = 21.0

CPU2006 license: 3

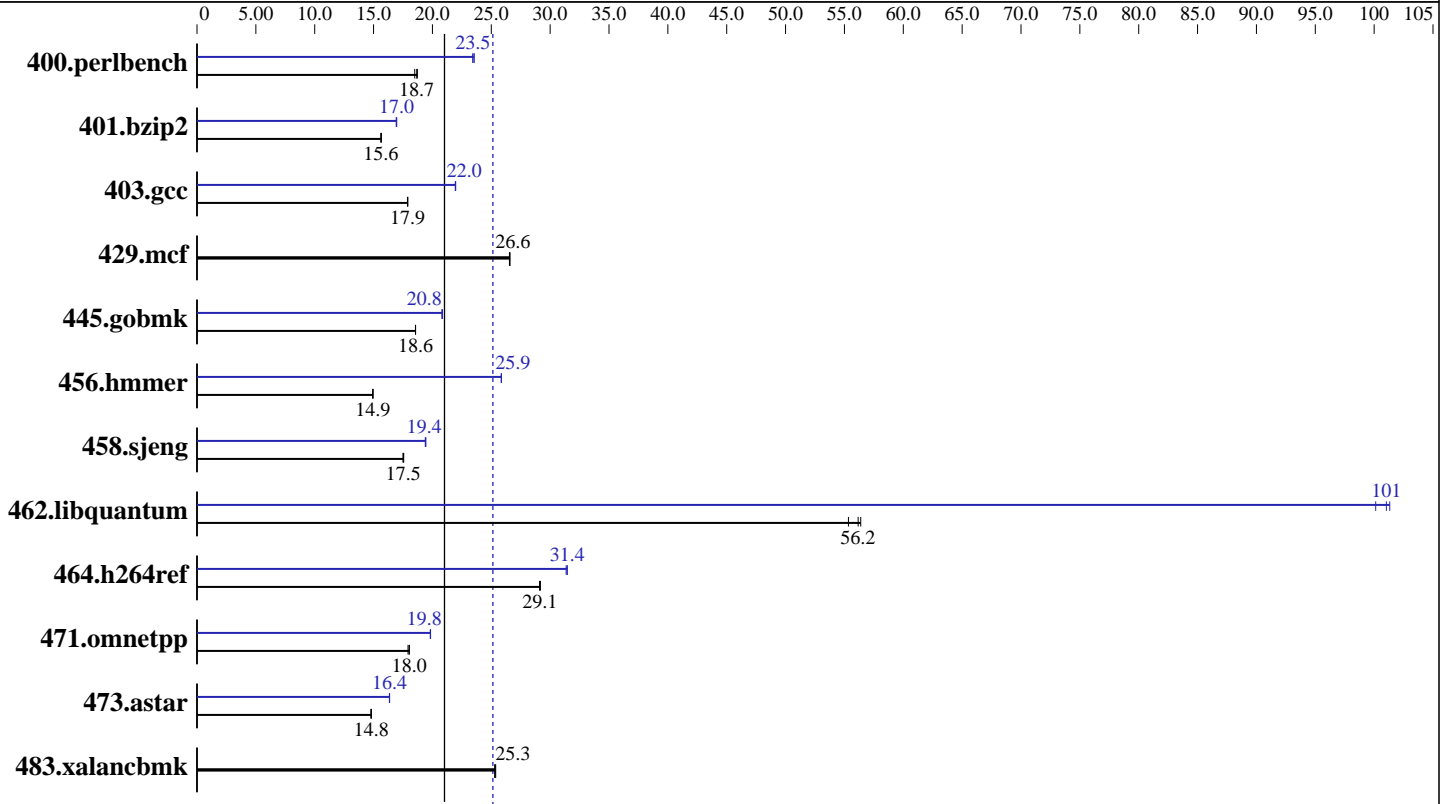
Test date: Jun-2008

Test sponsor: Hewlett-Packard Company

Hardware Availability: Sep-2008

Tested by: Hewlett-Packard Company

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon X3360  
 CPU Characteristics: 2.83 GHz, 2x6 MB L2 shared, 1333 MHz system bus  
 CPU MHz: 2833  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip  
 CPU(s) orderable: 1 chip  
 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: 8 GB (4x2 GB PC2-6400E CL6)  
 Disk Subsystem: 1x160 GB 7.2 K SATA  
 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>523</u></b>	<b><u>18.7</u></b>	528	18.5	522	18.7	417	23.4	<b><u>415</u></b>	<b><u>23.5</u></b>	415	23.5
401.bzip2	618	15.6	616	15.7	<b><u>617</u></b>	<b><u>15.6</u></b>	<b><u>569</u></b>	<b><u>17.0</u></b>	570	16.9	569	17.0
403.gcc	450	17.9	450	17.9	<b><u>450</u></b>	<b><u>17.9</u></b>	<b><u>367</u></b>	<b><u>22.0</u></b>	366	22.0	367	21.9
429.mcf	344	26.5	<b><u>343</u></b>	<b><u>26.6</u></b>	343	26.6	344	26.5	<b><u>343</u></b>	<b><u>26.6</u></b>	343	26.6
445.gobmk	565	18.6	565	18.6	<b><u>565</u></b>	<b><u>18.6</u></b>	<b><u>504</u></b>	<b><u>20.8</u></b>	504	20.8	504	20.8
456.hammer	<b><u>625</u></b>	<b><u>14.9</u></b>	625	14.9	624	14.9	361	25.9	361	25.8	<b><u>361</u></b>	<b><u>25.9</u></b>
458.sjeng	691	17.5	689	17.6	<b><u>691</u></b>	<b><u>17.5</u></b>	<b><u>623</u></b>	<b><u>19.4</u></b>	624	19.4	623	19.4
462.libquantum	367	56.4	<b><u>369</u></b>	<b><u>56.2</u></b>	374	55.3	207	100	204	101	<b><u>205</u></b>	<b><u>101</u></b>
464.h264ref	761	29.1	<b><u>759</u></b>	<b><u>29.1</u></b>	759	29.2	<b><u>704</u></b>	<b><u>31.4</u></b>	704	31.5	706	31.4
471.omnetpp	<b><u>347</u></b>	<b><u>18.0</u></b>	347	18.0	349	17.9	315	19.8	<b><u>315</u></b>	<b><u>19.8</u></b>	315	19.8
473.astar	474	14.8	<b><u>474</u></b>	<b><u>14.8</u></b>	475	14.8	<b><u>429</u></b>	<b><u>16.4</u></b>	430	16.3	429	16.4
483.xalancbmk	<b><u>272</u></b>	<b><u>25.3</u></b>	272	25.4	273	25.3	<b><u>272</u></b>	<b><u>25.3</u></b>	272	25.4	273	25.3

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
```

## Base Compiler Invocation

C benchmarks:  
icc

C++ benchmarks:  
icpc

## Base Portability Flags

```
400.perlbench: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX
```



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## 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/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
```

## Peak Optimization Flags

C benchmarks:

Continued on next page



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## Peak Optimization Flags (Continued)

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: basepeak = yes

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  
-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 -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/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.20090713.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.20090713.xml>

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

Tested with SPEC CPU2006 v1.0.  
Report generated on Tue Jul 22 17:40:18 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 25 June 2008.