



# SPEC® CINT2006 Result

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## Hewlett-Packard Company

**SPECint®2006 = 30.1**

ProLiant DL380 G5  
(3.5 GHz, Intel Xeon X5270)

**SPECint\_base2006 = 26.4**

CPU2006 license: 3

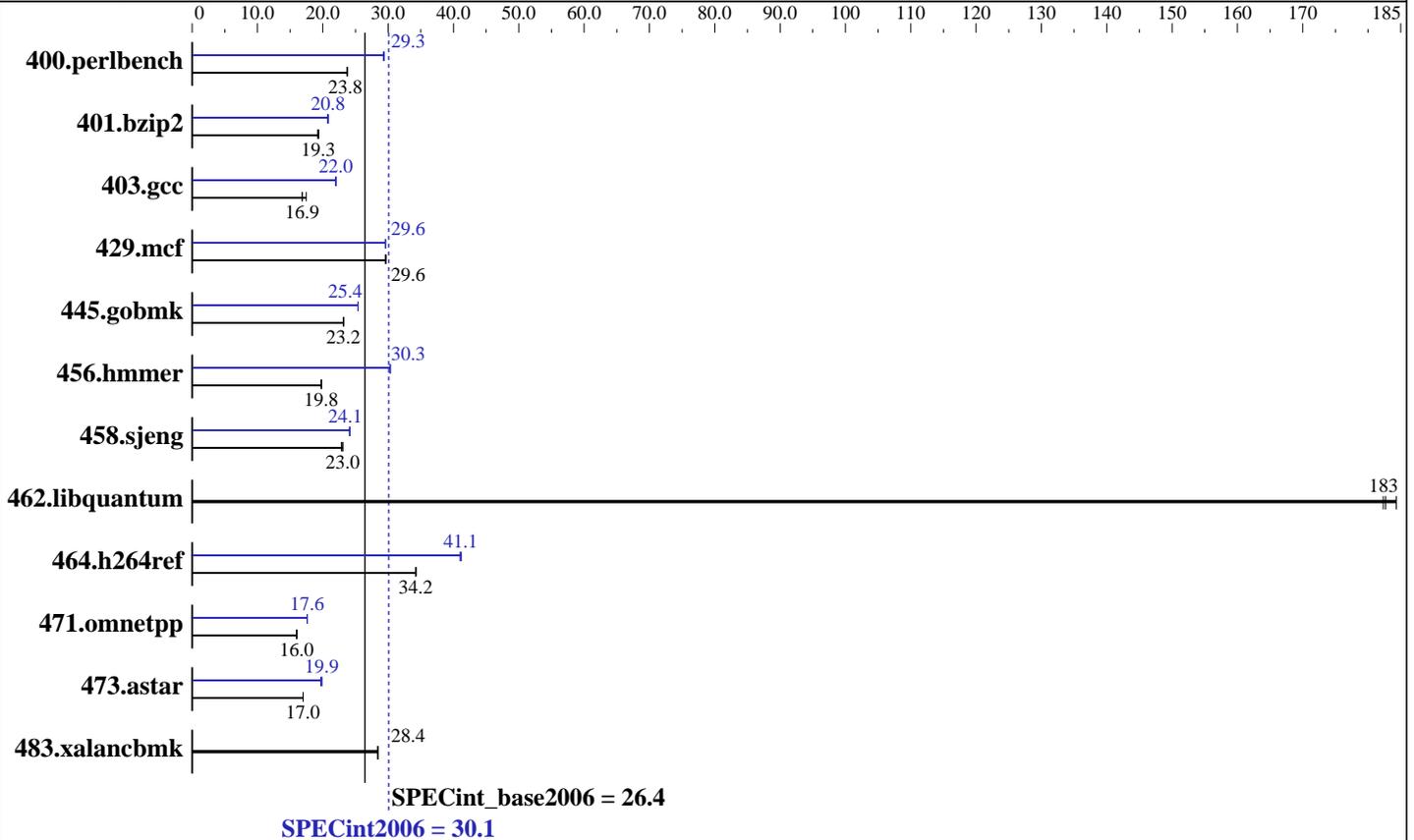
Test date: Aug-2008

Test sponsor: Hewlett-Packard Company

Hardware Availability: Sep-2008

Tested by: Hewlett-Packard Company

Software Availability: Nov-2008



### Hardware

CPU Name: Intel Xeon X5270  
 CPU Characteristics: 3.5 GHz, 6 MB L2 shared, 1333 MHz system bus  
 CPU MHz: 3500  
 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: 1x146 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 11.0 for Linux Build 20080730 Package ID: l\_cproc\_b\_11.0.042  
 Auto Parallel: Yes  
 File System: ext3  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: MicroQuill SmartHeap Library 8.1 Binutils 2.18.50.0.7.20080502



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## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio										
400.perlbench	411	23.8	<b><u>411</u></b>	<b><u>23.8</u></b>	412	23.7	333	29.4	333	29.3	<b><u>333</u></b>	<b><u>29.3</u></b>
401.bzip2	503	19.2	498	19.4	<b><u>500</u></b>	<b><u>19.3</u></b>	<b><u>464</u></b>	<b><u>20.8</u></b>	463	20.8	466	20.7
403.gcc	479	16.8	461	17.5	<b><u>477</u></b>	<b><u>16.9</u></b>	366	22.0	366	22.0	<b><u>366</u></b>	<b><u>22.0</u></b>
429.mcf	308	29.6	<b><u>308</u></b>	<b><u>29.6</u></b>	307	29.7	308	29.6	308	29.6	<b><u>308</u></b>	<b><u>29.6</u></b>
445.gobmk	<b><u>453</u></b>	<b><u>23.2</u></b>	453	23.2	453	23.2	413	25.4	<b><u>413</u></b>	<b><u>25.4</u></b>	413	25.4
456.hammer	472	19.8	<b><u>472</u></b>	<b><u>19.8</u></b>	472	19.8	308	30.3	<b><u>308</u></b>	<b><u>30.3</u></b>	307	30.3
458.sjeng	525	23.0	<b><u>525</u></b>	<b><u>23.0</u></b>	530	22.8	<b><u>501</u></b>	<b><u>24.1</u></b>	501	24.2	502	24.1
462.libquantum	<b><u>113</u></b>	<b><u>183</u></b>	112	184	114	182	<b><u>113</u></b>	<b><u>183</u></b>	112	184	114	182
464.h264ref	647	34.2	646	34.3	<b><u>647</u></b>	<b><u>34.2</u></b>	<b><u>539</u></b>	<b><u>41.1</u></b>	540	41.0	537	41.2
471.omnetpp	391	16.0	390	16.0	<b><u>390</u></b>	<b><u>16.0</u></b>	355	17.6	355	17.6	<b><u>355</u></b>	<b><u>17.6</u></b>
473.astar	<b><u>413</u></b>	<b><u>17.0</u></b>	413	17.0	414	17.0	357	19.7	<b><u>354</u></b>	<b><u>19.9</u></b>	353	19.9
483.xalancbmk	<b><u>243</u></b>	<b><u>28.4</u></b>	243	28.4	243	28.4	<b><u>243</u></b>	<b><u>28.4</u></b>	243	28.4	243	28.4

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

## 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  
483.xalancbmk: -DSPEC\_CPU\_LINUX



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## Base Optimization Flags

C benchmarks:

```
-xSSE4.1 -ipo -O3 -no-prec-div -static -parallel
-par-runtime-control -opt-prefetch
```

C++ benchmarks:

```
-xSSE4.1 -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/11.0/042/bin/intel64/icc
-L/opt/intel/Compiler/11.0/042/ipp/em64t/lib
-I/opt/intel/Compiler/11.0/042/ipp/em64t/include
```

```
456.hmmer: /opt/intel/Compiler/11.0/042/bin/intel64/icc
-L/opt/intel/Compiler/11.0/042/ipp/em64t/lib
-I/opt/intel/Compiler/11.0/042/ipp/em64t/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) -xSSE4.1 -ipo -O3  
-no-prec-div -static -ansi-alias -opt-prefetch

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

403.gcc: -xSSE4.1 -ipo -O3 -no-prec-div -static -inline-calloc  
-opt-malloc-options=3

429.mcf: -xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch

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

456.hmmcr: -xSSE4.1 -ipo -O3 -no-prec-div -static -unroll2  
-ansi-alias -auto-ilp32

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

462.libquantum: basepeak = yes

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

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -ansi-alias -opt-ra-region-strategy=block  
-Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap

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

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-revD.20090713.00.html>

<http://www.spec.org/cpu2006/flags/HP-Intel-Linux-Settings-flags.20090713.00.html>



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

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revD.20090713.00.xml>

<http://www.spec.org/cpu2006/flags/HP-Intel-Linux-Settings-flags.20090713.00.xml>

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

Tested with SPEC CPU2006 v1.1.  
Report generated on Tue Jul 22 19:35:15 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 16 September 2008.