



# SPEC® CINT2006 Result

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## Hewlett-Packard Company

ProLiant BL680c G5  
(2.4 GHz, Intel Xeon E7458)

**SPECint\_rate2006 = 147**

**SPECint\_rate\_base2006 = 135**

CPU2006 license: 3

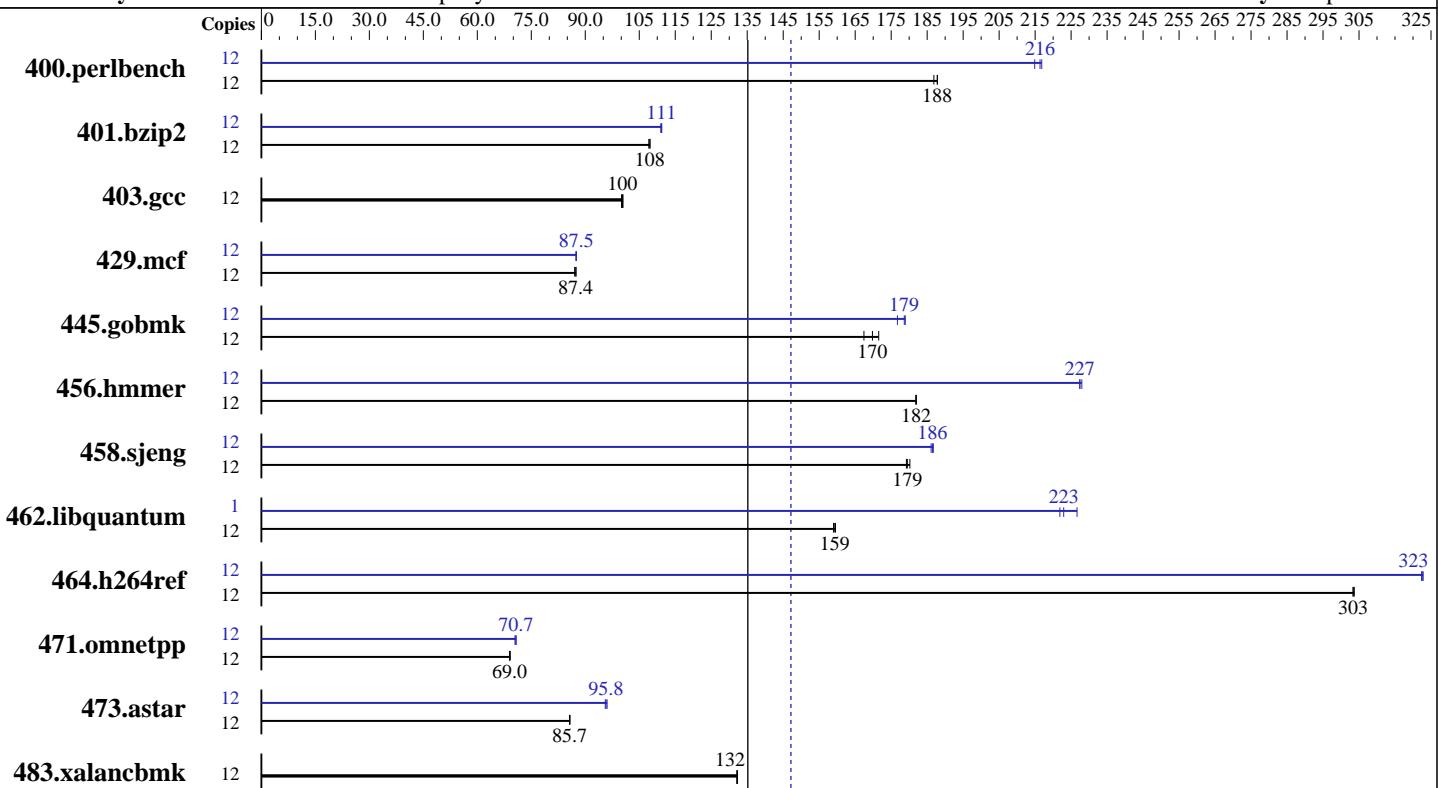
Test sponsor: Hewlett-Packard Company

Tested by: Hewlett-Packard Company

**Test date:** Apr-2009

**Hardware Availability:** Apr-2009

**Software Availability:** Apr-2009



**SPECint\_rate\_base2006 = 135**

**SPECint\_rate2006 = 147**

### Hardware

CPU Name: Intel Xeon E7458  
CPU Characteristics: 2.4 GHz, 16 MB L3 shared, 1066 MHz system bus  
CPU MHz: 2400  
FPU: Integrated  
CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip  
CPU(s) orderable: 2,4 chips  
Primary Cache: 32 KB I + 32 KB D on chip per core  
Secondary Cache: 9 MB I+D on chip per chip, 3 MB shared / 2 cores  
L3 Cache: 16 MB I+D on chip per chip  
Other Cache: None  
Memory: 64 GB (16x4 GB PC2-5300F CL5)  
Disk Subsystem: 1x146 GB 10 K SAS  
Other Hardware: None

### Software

Operating System: Red Hat Enterprise Linux Server release 5.3, Kernel 2.6.18-128.el5 on an x86\_64  
Compiler: Intel C++ Compiler 11.0 for Linux Build 20080730 Package ID: l\_cproc\_b\_11.0.074  
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-2.17.50



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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	12	627	187	624	188	<b>624</b>	<b>188</b>	12	<b>542</b>	<b>216</b>	546	215	541	217
401.bzip2	12	1073	108	1076	108	<b>1073</b>	<b>108</b>	12	1041	111	<b>1042</b>	<b>111</b>	1043	111
403.gcc	12	961	100	965	100	<b>963</b>	<b>100</b>	12	961	100	965	100	<b>963</b>	<b>100</b>
429.mcf	12	1257	87.0	<b>1253</b>	<b>87.4</b>	1252	87.4	12	1252	87.4	1251	87.5	<b>1251</b>	<b>87.5</b>
445.gobmk	12	734	172	<b>741</b>	<b>170</b>	752	167	12	<b>705</b>	<b>179</b>	704	179	712	177
456.hammer	12	<b>615</b>	<b>182</b>	616	182	615	182	12	492	227	491	228	<b>492</b>	<b>227</b>
458.sjeng	12	810	179	806	180	<b>809</b>	<b>179</b>	12	780	186	<b>779</b>	<b>186</b>	778	187
462.libquantum	12	1564	159	1559	160	<b>1561</b>	<b>159</b>	1	93.4	222	91.4	227	<b>92.9</b>	<b>223</b>
464.h264ref	12	875	303	<b>875</b>	<b>303</b>	874	304	12	823	323	824	322	<b>823</b>	<b>323</b>
471.omnetpp	12	<b>1088</b>	<b>69.0</b>	1084	69.2	1088	68.9	12	<b>1060</b>	<b>70.7</b>	1064	70.5	1060	70.8
473.astar	12	983	85.7	<b>983</b>	<b>85.7</b>	983	85.7	12	<b>880</b>	<b>95.8</b>	882	95.6	877	96.1
483.xalancbmk	12	627	132	<b>626</b>	<b>132</b>	626	132	12	627	132	<b>626</b>	<b>132</b>	626	132

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.

## 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  
Hardware Prefetcher Disabled  
Defer All Transactions Disabled

## 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:

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

C++ benchmarks:

-xSSE4.1 -ipo -O3 -no-prec-div -opt-prefetch -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/Compiler/11.0/074/bin/intel64/icc  
-L/opt/intel/Compiler/11.0/074/ipp/em64t/lib  
-I/opt/intel/Compiler/11.0/074/ipp/em64t/include

456.hmmr: /opt/intel/Compiler/11.0/074/bin/intel64/icc  
-L/opt/intel/Compiler/11.0/074/ipp/em64t/lib  
-I/opt/intel/Compiler/11.0/074/ipp/em64t/include

C++ benchmarks:

icpc

## Peak Portability Flags

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

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## Peak Portability Flags (Continued)

462.libquantum: -DSPEC\_CPU\_LINUX  
483.xalancbmk: -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

C benchmarks:

```
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 -opt-prefetch -ansi-alias

403.gcc: basepeak = yes

429.mcf: -prof-gen(pass 1) -prof-use(pass 2) -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.hmmr: -xSSE4.1 -ipo -O3 -no-prec-div -static -unroll12
               -ansi-alias

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
               -no-prec-div -static -unroll14

462.libquantum: -xSSE4.1 -ipo -O3 -no-prec-div -static
               -opt-malloc-options=3 -parallel -par-runtime-control
               -opt-prefetch

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
               -no-prec-div -static -unroll12 -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/cpu2006/SmartHeap_8.1/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/cpu2006/SmartHeap_8.1/lib -lsmartheap

483.xalancbmk: basepeak = yes
```



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