



# SPEC® CINT2006 Result

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## Hewlett-Packard Company

ProLiant BL460c  
(3.16 GHz, Intel Xeon processor X5460)

**SPECint\_rate2006 = 138**

**SPECint\_rate\_base2006 = 112**

CPU2006 license: 3

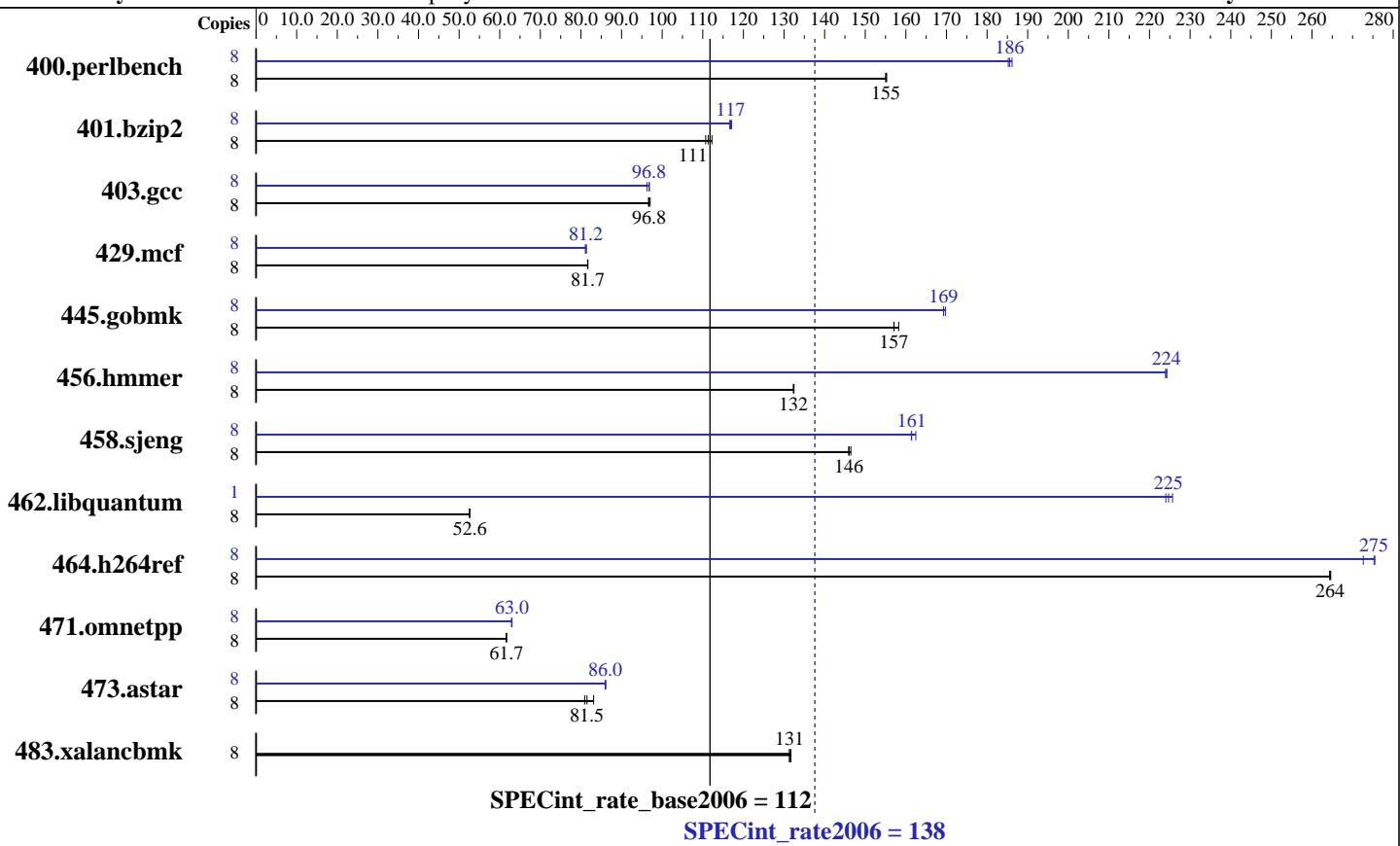
Test sponsor: Hewlett-Packard Company

Tested by: Hewlett-Packard Company

Test date: Jan-2008

Hardware Availability: Jan-2008

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon X5460  
CPU Characteristics: 3.16 GHz, 2x6 MB L2 shared, 1333 MHz system bus  
CPU MHz: 3166  
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 for applications running on IA-32 and Intel 64, Version 10.1 Build 20070913 Package ID: l\_cc\_p\_10.1.008  
Auto Parallel: Yes  
File System: ext2  
System State: Multi-user run level 3  
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	8	504	155	503	155	<b>504</b>	<b>155</b>	8	422	185	<b>421</b>	<b>186</b>	420	186
401.bzip2	8	688	112	<b>694</b>	<b>111</b>	697	111	8	662	117	<b>661</b>	<b>117</b>	659	117
403.gcc	8	666	96.6	664	97.0	<b>666</b>	<b>96.8</b>	8	669	96.2	665	96.8	<b>665</b>	<b>96.8</b>
429.mcf	8	<b>893</b>	<b>81.7</b>	893	81.7	894	81.6	8	900	81.1	<b>898</b>	<b>81.2</b>	897	81.3
445.gobmk	8	<b>534</b>	<b>157</b>	534	157	530	158	8	496	169	494	170	<b>496</b>	<b>169</b>
456.hammer	8	563	132	564	132	<b>564</b>	<b>132</b>	8	333	224	333	224	<b>333</b>	<b>224</b>
458.sjeng	8	661	146	<b>663</b>	<b>146</b>	663	146	8	600	161	596	162	<b>600</b>	<b>161</b>
462.libquantum	8	<b>3150</b>	<b>52.6</b>	3153	52.6	3150	52.6	1	<b>92.2</b>	<b>225</b>	92.5	224	91.8	226
464.h264ref	8	<b>669</b>	<b>264</b>	669	265	670	264	8	649	273	643	275	<b>643</b>	<b>275</b>
471.omnetpp	8	811	61.7	<b>811</b>	<b>61.7</b>	812	61.6	8	<b>794</b>	<b>63.0</b>	795	62.9	793	63.0
473.astar	8	<b>689</b>	<b>81.5</b>	676	83.1	694	80.9	8	<b>653</b>	<b>86.0</b>	652	86.1	653	86.0
483.xalancbmk	8	419	132	<b>420</b>	<b>131</b>	420	131	8	419	132	<b>420</b>	<b>131</b>	420	131

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

## Platform Notes

BIOS configuration:

Power Regulator set to Static High Performance Mode  
Adjacent Sector Prefetch Disabled

## 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 -inline-calloc -opt-malloc-options=3
```

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

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.hmmer: -fast -unroll12 -ansi-alias -opt-multi-version-aggressive

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4

462.libquantum: -fast -unroll14 -O0 -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 -unroll12  
-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.20090714.00.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.20090714.00.xml>



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

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