



# SPEC® CINT2006 Result

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## Hewlett-Packard Company

### SPECint®\_rate2006 = 119

ProLiant BL460c  
(2.50 GHz, Intel Xeon E5420)

### SPECint\_rate\_base2006 = 97.9

CPU2006 license: 3

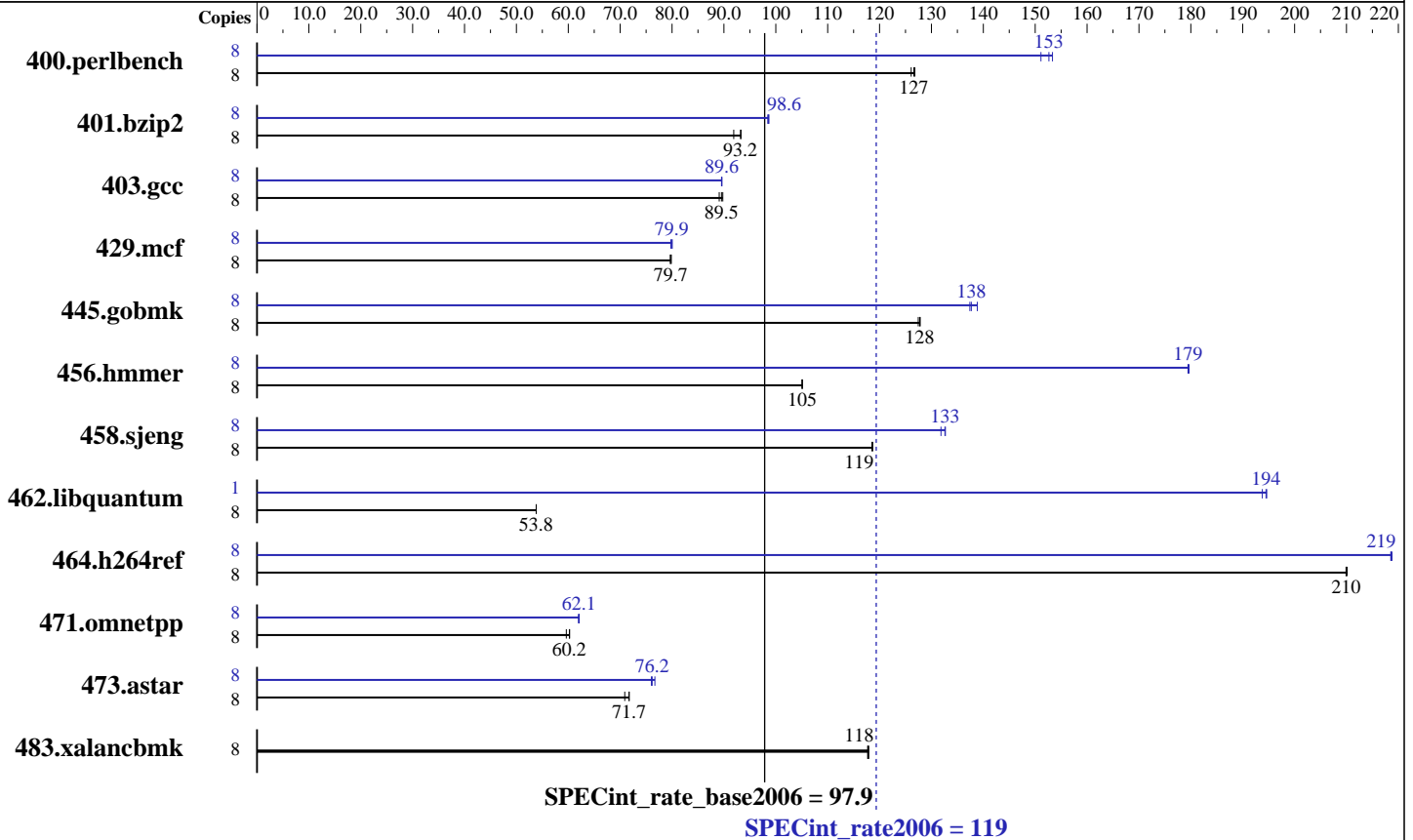
Test date: Feb-2008

Test sponsor: Hewlett-Packard Company

Hardware Availability: Nov-2007

Tested by: Hewlett-Packard Company

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon E5420  
 CPU Characteristics: 2.50 GHz, 2x6 MB L2 shared, 1333 MHz system bus  
 CPU MHz: 2500  
 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							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	8	620	126	616	127	<b>617</b>	<b>127</b>	8	517	151	510	153	<b>512</b>	<b>153</b>
401.bzip2	8	<b>828</b>	<b>93.2</b>	828	93.3	840	91.9	8	782	98.7	784	98.5	<b>783</b>	<b>98.6</b>
403.gcc	8	717	89.8	723	89.1	<b>719</b>	<b>89.5</b>	8	719	89.6	719	89.5	<b>719</b>	<b>89.6</b>
429.mcf	8	914	79.9	<b>915</b>	<b>79.7</b>	916	79.7	8	911	80.0	915	79.8	<b>913</b>	<b>79.9</b>
445.gobmk	8	657	128	658	127	<b>657</b>	<b>128</b>	8	<b>609</b>	<b>138</b>	604	139	611	137
456.hammer	8	710	105	710	105	<b>710</b>	<b>105</b>	8	415	180	<b>416</b>	<b>179</b>	416	179
458.sjeng	8	<b>816</b>	<b>119</b>	817	119	816	119	8	<b>730</b>	<b>133</b>	734	132	730	133
462.libquantum	8	3080	53.8	<b>3080</b>	<b>53.8</b>	3080	53.8	1	106	195	107	194	<b>107</b>	<b>194</b>
464.h264ref	8	843	210	842	210	<b>843</b>	<b>210</b>	8	<b>810</b>	<b>219</b>	810	219	809	219
471.omnetpp	8	839	59.6	830	60.3	<b>830</b>	<b>60.2</b>	8	805	62.1	807	62.0	<b>805</b>	<b>62.1</b>
473.astar	8	783	71.7	<b>783</b>	<b>71.7</b>	792	70.9	8	<b>737</b>	<b>76.2</b>	739	76.0	732	76.7
483.xalancbmk	8	469	118	468	118	<b>469</b>	<b>118</b>	8	469	118	468	118	<b>469</b>	<b>118</b>

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  
Adjacent Sector Prefetch Disabled

## Base Compiler Invocation

C benchmarks:  
icc  
  
C++ benchmarks:  
icpc

## Base Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32

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## Base Portability Flags (Continued)

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

## 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



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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

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 -unroll2 -ansi-alias -opt-multi-version-aggressive

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).

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