



# SPEC® CINT2006 Result

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## Hewlett-Packard Company

### SPECint®\_rate2006 = 137

ProLiant DL380 G5  
(3.16 GHz, Intel Xeon processor X5460)

### SPECint\_rate\_base2006 = 112

CPU2006 license: 3

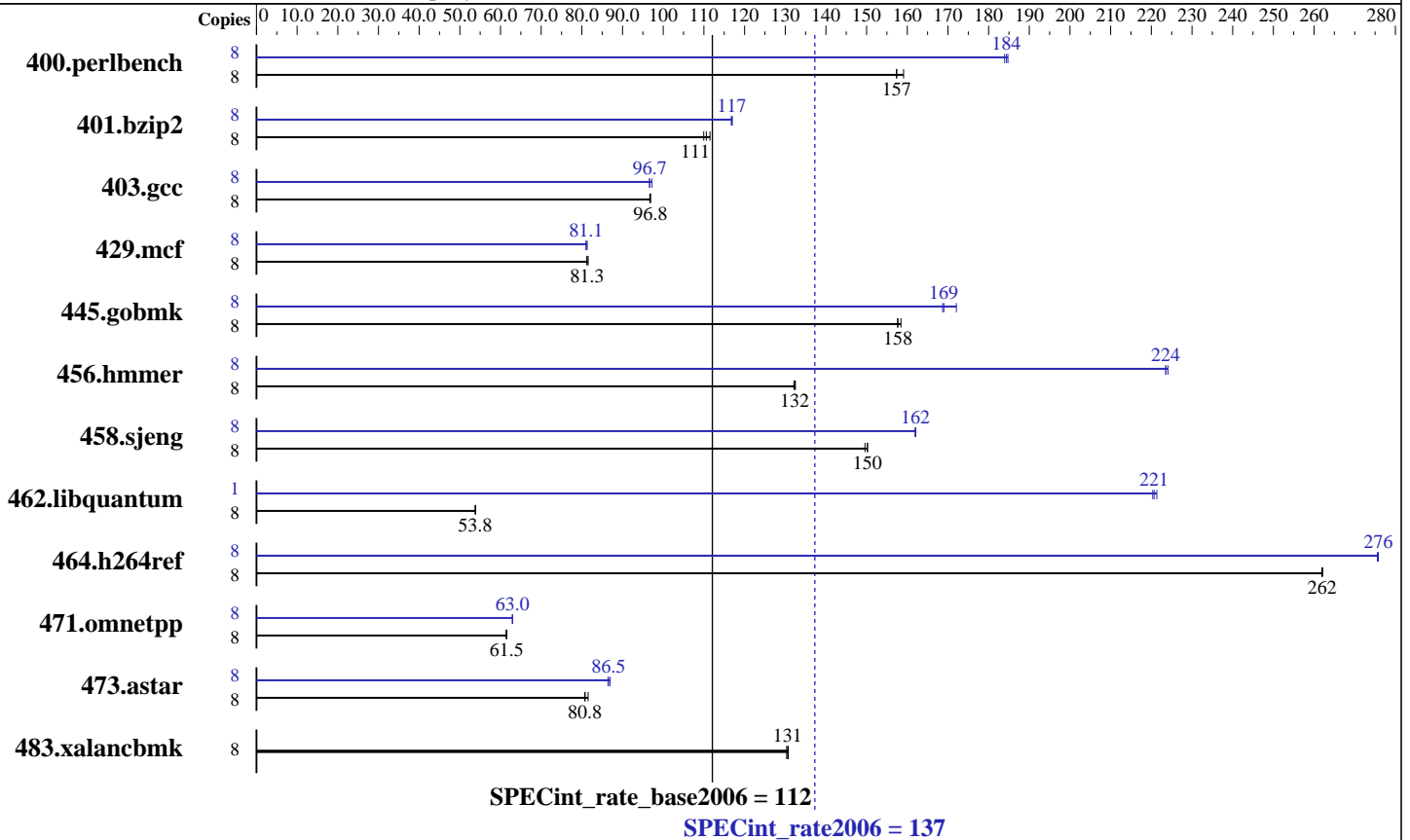
Test date: Oct-2007

Test sponsor: Hewlett-Packard Company

Hardware Availability: Nov-2007

Tested by: Hewlett-Packard Company

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon X5460  
 CPU Characteristics: 3.16GHz, 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 GHz 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 for Linux32 and  
 Linux64 version 10.1  
 Build 20070725  
 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	491	159	497	157	<b><u>497</u></b>	<b><u>157</u></b>	8	425	184	<b><u>424</u></b>	<b><u>184</u></b>	423	185
401.bzip2	8	692	111	702	110	<b><u>698</u></b>	<b><u>111</u></b>	8	660	117	<b><u>661</u></b>	<b><u>117</u></b>	661	117
403.gcc	8	666	96.7	<b><u>665</u></b>	<b><u>96.8</u></b>	665	96.9	8	667	96.6	<b><u>666</u></b>	<b><u>96.7</u></b>	662	97.2
429.mcf	8	898	81.2	895	81.5	<b><u>898</u></b>	<b><u>81.3</u></b>	8	<b><u>900</u></b>	<b><u>81.1</u></b>	901	81.0	897	81.3
445.gobmk	8	532	158	<b><u>532</u></b>	<b><u>158</u></b>	530	158	8	<b><u>497</u></b>	<b><u>169</u></b>	497	169	488	172
456.hammer	8	565	132	<b><u>564</u></b>	<b><u>132</u></b>	563	132	8	<b><u>334</u></b>	<b><u>224</u></b>	334	224	333	224
458.sjeng	8	644	150	<b><u>645</u></b>	<b><u>150</u></b>	647	150	8	598	162	597	162	<b><u>597</u></b>	<b><u>162</u></b>
462.libquantum	8	3079	53.8	3081	53.8	<b><u>3081</u></b>	<b><u>53.8</u></b>	1	<b><u>93.9</u></b>	<b><u>221</u></b>	94.0	220	93.6	221
464.h264ref	8	676	262	<b><u>676</u></b>	<b><u>262</u></b>	675	262	8	<b><u>642</u></b>	<b><u>276</u></b>	642	276	642	276
471.omnetpp	8	813	61.5	815	61.4	<b><u>813</u></b>	<b><u>61.5</u></b>	8	<b><u>794</u></b>	<b><u>63.0</u></b>	794	63.0	795	62.9
473.astar	8	<b><u>695</u></b>	<b><u>80.8</u></b>	689	81.5	695	80.8	8	<b><u>649</u></b>	<b><u>86.5</u></b>	646	86.9	650	86.4
483.xalancbmk	8	<b><u>423</u></b>	<b><u>131</u></b>	422	131	423	130	8	<b><u>423</u></b>	<b><u>131</u></b>	422	131	423	130

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## Operating System Notes

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  
462.libquantum: -DSPEC\_CPU\_LINUX

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## Base Portability Flags (Continued)

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/home/cmplr/usr3/alrahate/cpu2006.1.0/lib -lsmartheap

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):

icc

401.bzip2: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/bin/icc  
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/lib  
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/include

456.hmmer: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/bin/icc  
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/lib  
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/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/home/cmplr/usr3/alrahate/cpu2006.1.0/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/home/cmplr/usr3/alrahate/cpu2006.1.0/lib -lsmartheap

483.xalancbmk: basepeak = yes

## Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca



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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-flags.20090714.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-flags.20090714.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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