



# SPEC® CINT2006 Result

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## Hewlett-Packard Company

SPECint®2006 = 25.1

ProLiant DL580 G5  
(2.66 GHz, Intel Xeon X7460)

SPECint\_base2006 = 21.8

CPU2006 license: 3

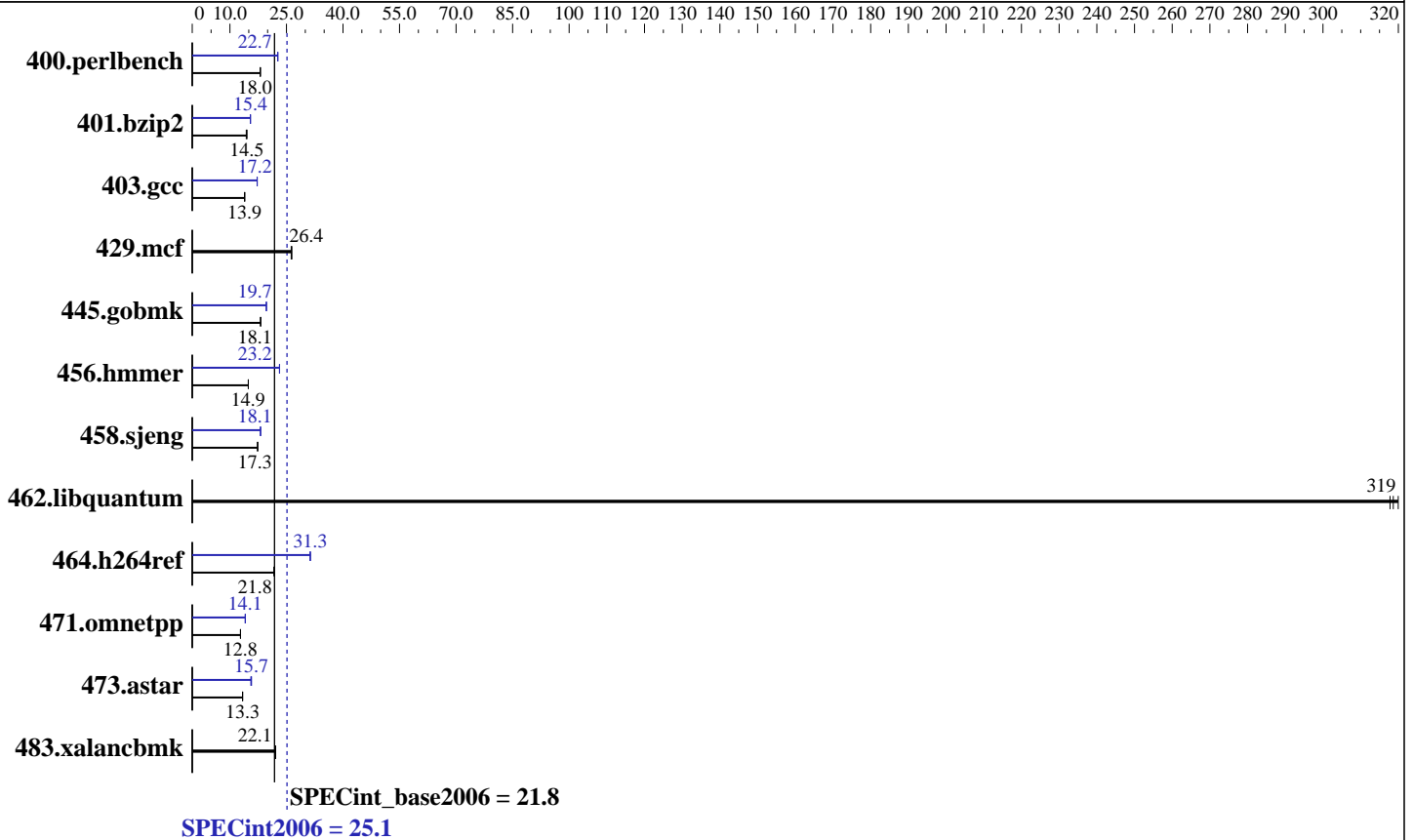
Test date: Aug-2008

Test sponsor: Hewlett-Packard Company

Hardware Availability: Sep-2008

Tested by: Hewlett-Packard Company

Software Availability: Nov-2008



### Hardware

CPU Name: Intel Xeon X7460  
 CPU Characteristics: 2.66 GHz, 16 MB L3 shared, 1333 MHz system bus  
 CPU MHz: 2667  
 FPU: Integrated  
 CPU(s) enabled: 24 cores, 4 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: 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	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	543	18.0	<b>542</b>	<b>18.0</b>	539	18.1	<b>430</b>	<b>22.7</b>	431	22.7	430	22.7
401.bzip2	673	14.3	666	14.5	<b>667</b>	<b>14.5</b>	624	15.5	<b>625</b>	<b>15.4</b>	626	15.4
403.gcc	577	13.9	580	13.9	<b>580</b>	<b>13.9</b>	468	17.2	<b>467</b>	<b>17.2</b>	467	17.2
429.mcf	347	26.3	345	26.4	<b>346</b>	<b>26.4</b>	347	26.3	345	26.4	<b>346</b>	<b>26.4</b>
445.gobmk	<b>578</b>	<b>18.1</b>	578	18.1	578	18.1	<b>533</b>	<b>19.7</b>	533	19.7	534	19.7
456.hammer	627	14.9	627	14.9	<b>627</b>	<b>14.9</b>	403	23.1	<b>403</b>	<b>23.2</b>	403	23.2
458.sjeng	697	17.4	698	17.3	<b>698</b>	<b>17.3</b>	<b>668</b>	<b>18.1</b>	669	18.1	667	18.1
462.libquantum	65.2	318	64.8	320	<b>65.0</b>	<b>319</b>	65.2	318	64.8	320	<b>65.0</b>	<b>319</b>
464.h264ref	1021	21.7	<b>1017</b>	<b>21.8</b>	1016	21.8	708	31.3	<b>707</b>	<b>31.3</b>	705	31.4
471.omnetpp	488	12.8	488	12.8	<b>488</b>	<b>12.8</b>	<b>444</b>	<b>14.1</b>	443	14.1	445	14.1
473.astar	526	13.3	<b>526</b>	<b>13.3</b>	525	13.4	452	15.5	<b>448</b>	<b>15.7</b>	447	15.7
483.xalancbmk	<b>312</b>	<b>22.1</b>	312	22.1	313	22.1	<b>312</b>	<b>22.1</b>	312	22.1	313	22.1

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  
Defer All Transactions Enabled

## 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:

-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



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## 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 -auto-ilp32 -opt-prefetch  
-ansi-alias

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

429.mcf: basepeak = yes

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

456.hmmer: -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.xalancbmk: basepeak = yes

## Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca



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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>

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 questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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