



# SPEC® CINT2006 Result

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## Intel Corporation

**SPECint®2006 = 22.9**

Intel DQ45CB motherboard (Intel Core 2 Quad Q9400)

**SPECint\_base2006 = 20.9**

CPU2006 license: 13

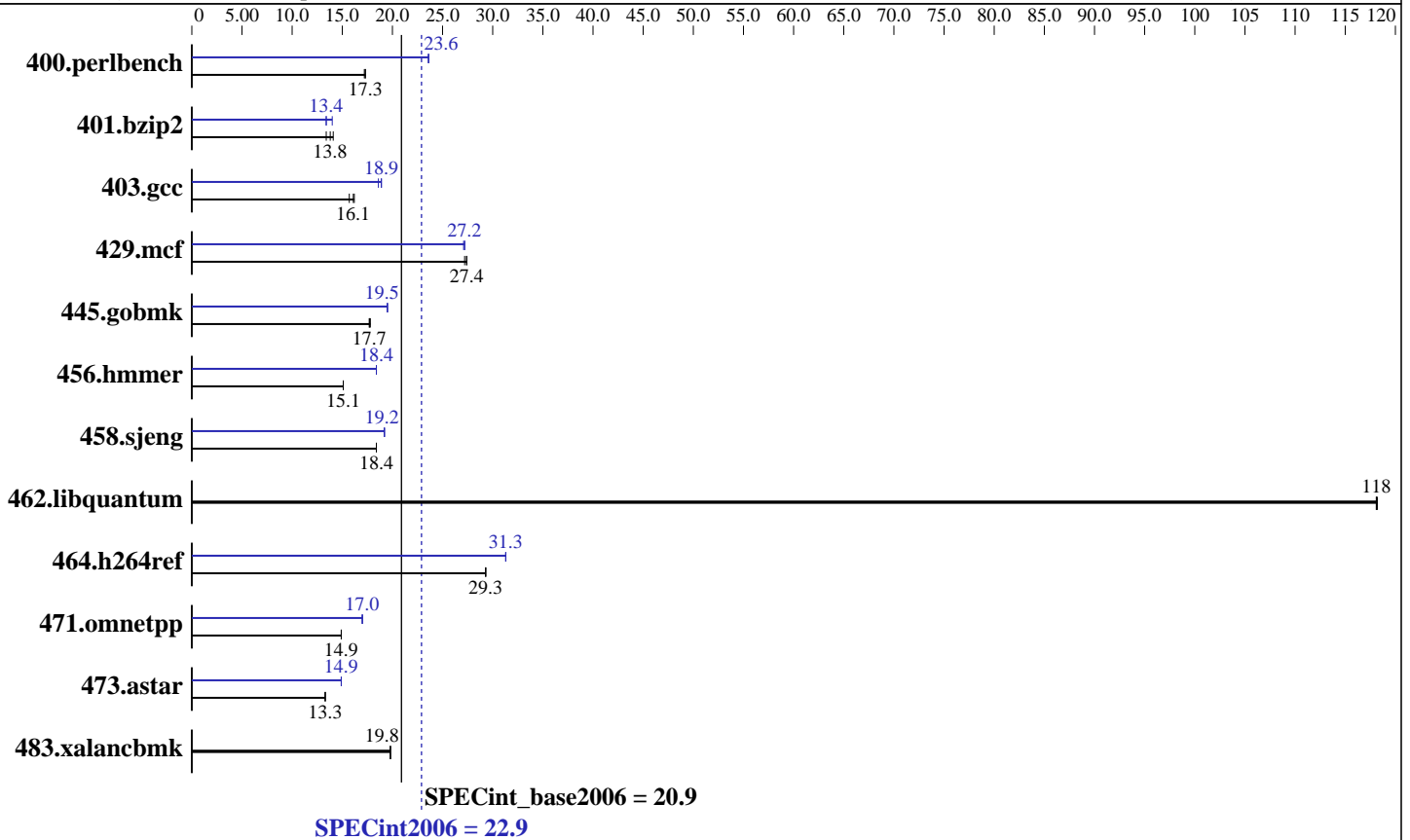
**Test date:** Apr-2009

**Test sponsor:** Intel Corporation

**Hardware Availability:** May-2009

**Tested by:** Intel Corporation

**Software Availability:** Nov-2008



### Hardware

CPU Name: Intel Core 2 Quad Q9400  
 CPU Characteristics:  
 CPU MHz: 2666  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip  
 CPU(s) orderable: 1 chip  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 6 MB I+D on chip per chip, 3 MB shared / 2 cores  
 L3 Cache: None  
 Other Cache: None  
 Memory: 4 GB (4x1GB DDR2-800 CL5)  
 Disk Subsystem: Seagate 320 GB SATA, 7200RPM  
 Other Hardware: None

### Software

Operating System: Windows Vista Ultimate w/ SP1 (64-bit)  
 Compiler: Intel C++ Compiler Professional 11.0 for IA32  
 Build 20080930 Package ID: w\_cproc\_p\_11.0.054  
 Microsoft Visual Studio 2008 (for libraries)  
 Auto Parallel: Yes  
 File System: NTFS  
 System State: Default  
 Base Pointers: 32-bit  
 Peak Pointers: 32-bit  
 Other Software: SmartHeap Library Version 8.1 from  
<http://www.microquill.com/>



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## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	568	17.2	565	17.3	<b>566</b>	<b>17.3</b>	414	23.6	414	23.6	<b>414</b>	<b>23.6</b>
401.bzip2	684	14.1	<b>698</b>	<b>13.8</b>	723	13.4	720	13.4	688	14.0	<b>718</b>	<b>13.4</b>
403.gcc	514	15.7	<b>499</b>	<b>16.1</b>	498	16.2	425	18.9	<b>425</b>	<b>18.9</b>	433	18.6
429.mcf	333	27.4	335	27.2	<b>333</b>	<b>27.4</b>	336	27.1	<b>335</b>	<b>27.2</b>	335	27.2
445.gobmk	591	17.8	591	17.7	<b>591</b>	<b>17.7</b>	539	19.5	<b>539</b>	<b>19.5</b>	539	19.5
456.hammer	618	15.1	<b>618</b>	<b>15.1</b>	618	15.1	<b>507</b>	<b>18.4</b>	507	18.4	507	18.4
458.sjeng	659	18.4	<b>659</b>	<b>18.4</b>	659	18.4	629	19.2	629	19.2	<b>629</b>	<b>19.2</b>
462.libquantum	176	118	<b>175</b>	<b>118</b>	175	118	176	118	<b>175</b>	<b>118</b>	175	118
464.h264ref	<b>756</b>	<b>29.3</b>	756	29.3	756	29.3	707	31.3	706	31.3	<b>706</b>	<b>31.3</b>
471.omnetpp	<b>418</b>	<b>14.9</b>	418	14.9	418	14.9	368	17.0	369	17.0	<b>368</b>	<b>17.0</b>
473.astar	528	13.3	<b>528</b>	<b>13.3</b>	528	13.3	471	14.9	471	14.9	<b>471</b>	<b>14.9</b>
483.xalancbmk	<b>349</b>	<b>19.8</b>	349	19.8	349	19.8	<b>349</b>	<b>19.8</b>	349	19.8	349	19.8

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

## General Notes

Tested systems can be used with Shin-G ATX case,  
 Antec Truepower Trio power supply TP3-650  
 Binaries were built on Windows Vista Ultimate (32-bit)  
 Binaries were built on Windows Vista Ultimate (32-bit)  
 OMP\_NUM\_THREADS set to number of logical processors as seen by the OS  
 KMP\_AFFINITY set to physical,0

## Base Compiler Invocation

C benchmarks:  
 icl -Qvc9 -Qc99

C++ benchmarks:  
 icl -Qvc9

## Base Portability Flags

403.gcc: -DSPEC\_CPU\_WIN32  
 464.h264ref: -DSPEC\_CPU\_NO\_INTTYPES -DWIN32  
 483.xalancbmk: -Qoption,cpp,--no\_wchar\_t\_keyword



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## Base Optimization Flags

C benchmarks:

-QxSSE4.1 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qparallel  
-Qpar-runtime-control -Qvec-guard-write /F512000000

C++ benchmarks:

-QxSSE4.1 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qcxx-features  
/F512000000 shlw32m.lib -link /FORCE:MULTIPLE

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks:

icl -Qvc9 -Qc99

C++ benchmarks:

icl -Qvc9

## Peak Portability Flags

403.gcc: -DSPEC\_CPU\_WIN32  
464.h264ref: -DSPEC\_CPU\_NO\_INTTYPES -DWIN32  
483.xalanbmk: -Qoption,cpp,--no\_wchar\_t\_keyword

## Peak Optimization Flags

C benchmarks:

400.perlbench: -QxSSE4.1(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch  
/F512000000 shlw32m.lib -link /FORCE:MULTIPLE

401.bzip2: -QxSSE4.1(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qprec-div- -Qopt-prefetch -Qansi-alias  
/F512000000

403.gcc: -QxSSE4.1(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qprec-div- /F512000000

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## Peak Optimization Flags (Continued)

429.mcf: -QxSSE4.1 -Qipo -O3 -Qprec-div- -Qopt-prefetch /F512000000

445.gobmk: -QxSSE4.1(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -Qipo -O2 -Qprec-div- -Qansi-alias /F512000000

456.hmmr: -QxSSE4.1 -Qipo -O3 -Qprec-div- -Qunroll2 -Qansi-alias /F512000000

458.sjeng: -QxSSE4.1(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll4 /F512000000

462.libquantum: basepeak = yes

464.h264ref: -QxSSE4.1(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll2 -Qansi-alias /F512000000

C++ benchmarks:

471.omnetpp: -QxSSE4.1(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-ra-region-strategy=block /F512000000 shlw32m.lib -link /FORCE:MULTIPLE

473.astar: -QxSSE4.1(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-ra-region-strategy=routine /F512000000 shlw32m.lib -link /FORCE:MULTIPLE

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/Intel-ic11.0-win32-revA.20090710.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-win32-revA.20090710.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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