



# SPEC® CINT2006 Result

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ASUSTeK Computer Inc.  
(Test Sponsor: Intel Corporation)

SPECint®\_rate2006 = 78.1

Asus P5E3 Premium (Intel Core 2 Quad Q9450)

SPECint\_rate\_base2006 = 73.5

CPU2006 license: 13

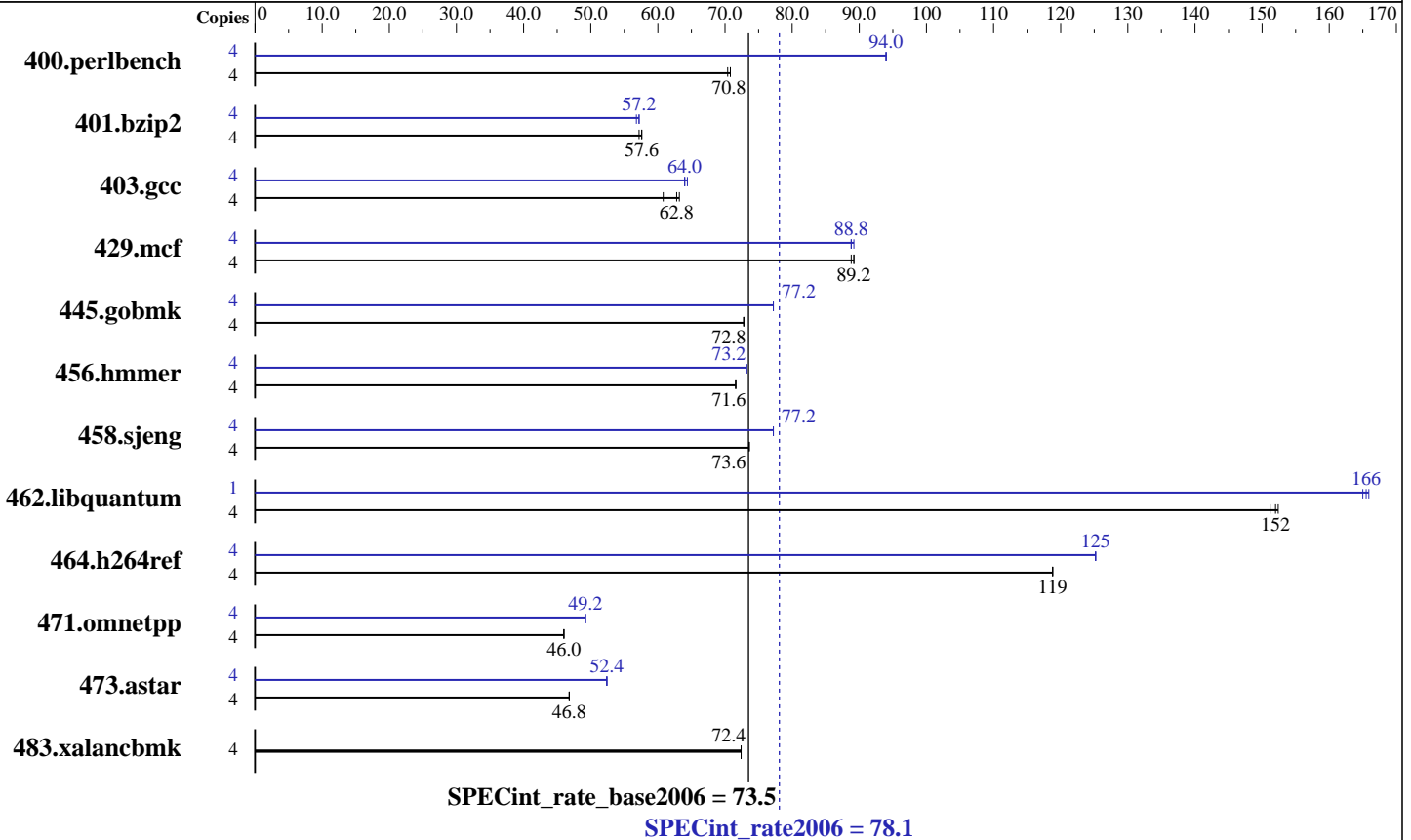
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Oct-2008

Hardware Availability: Apr-2008

Software Availability: Nov-2008



## Hardware

CPU Name: Intel Core 2 Quad Q9450  
 CPU Characteristics:  
 CPU MHz: 2667  
 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: 12 MB I+D on chip per chip, 6 MB shared / 2 cores  
 L3 Cache: None  
 Other Cache: None  
 Memory: 4 GB (4 x 1GB Corsair CM3X1024-1333C9DHX DDR3-1333 CL9)  
 Disk Subsystem: 80 GB Intel X-25M SATA Solid-State Drive  
 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: None  
 SmartHeap Library Version 8.1 from <http://www.microquill.com/>



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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	4	554	70.4	<u>553</u>	<u>70.8</u>	553	70.8	4	<u>416</u>	<u>94.0</u>	416	94.0	416	94.0
401.bzip2	4	672	57.6	673	57.2	<u>672</u>	<u>57.6</u>	4	674	57.2	<u>674</u>	<u>57.2</u>	678	56.8
403.gcc	4	<u>513</u>	<u>62.8</u>	529	60.8	511	63.2	4	502	64.4	<u>504</u>	<u>64.0</u>	504	64.0
429.mcf	4	<u>410</u>	<u>89.2</u>	410	88.8	409	89.2	4	<u>410</u>	<u>88.8</u>	409	89.2	411	88.8
445.gobmk	4	576	72.8	576	72.8	<u>576</u>	<u>72.8</u>	4	544	77.2	544	77.2	<u>544</u>	<u>77.2</u>
456.hammer	4	<u>521</u>	<u>71.6</u>	521	71.6	521	71.6	4	510	73.2	510	73.2	<u>510</u>	<u>73.2</u>
458.sjeng	4	657	73.6	657	73.6	<u>657</u>	<u>73.6</u>	4	629	77.2	<u>628</u>	<u>77.2</u>	628	77.2
462.libquantum	4	548	151	<u>546</u>	<u>152</u>	543	152	1	<u>125</u>	<u>166</u>	125	166	126	165
464.h264ref	4	<u>745</u>	<u>119</u>	745	119	745	119	4	<u>707</u>	<u>125</u>	707	125	707	125
471.omnetpp	4	543	46.0	543	46.0	<u>543</u>	<u>46.0</u>	4	507	49.2	<u>508</u>	<u>49.2</u>	508	49.2
473.astar	4	601	46.8	602	46.8	<u>601</u>	<u>46.8</u>	4	537	52.4	<u>537</u>	<u>52.4</u>	537	52.4
483.xalancbmk	4	382	72.4	382	72.4	<u>382</u>	<u>72.4</u>	4	382	72.4	382	72.4	<u>382</u>	<u>72.4</u>

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

## Submit Notes

The config file option 'submit' was used.

## General Notes

Tested systems can be used with Shin-G ATX case,  
PC Power and Cooling 1200W power supply  
The system bus runs at 1333 MHz  
System was configured with nVidia GTX 280 discrete graphics card  
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  
submit disabled for 462.libquantum peak

## Base Compiler Invocation

C benchmarks:  
icl -Qvc9 -Qc99

C++ benchmarks:  
icl -Qvc9



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## Base Portability Flags

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

## Base Optimization Flags

C benchmarks:  
-QxSSE4.1 -Qipo -O3 -Qprec-div- -Qopt-prefetch /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.xalancbmk: -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

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## Peak Optimization Flags (Continued)

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- -Qopt-prefetch /F512000000

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

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



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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-win32-revA.20090713.html>  
<http://www.spec.org/cpu2006/flags/Intel-Win32-Platform.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-win32-revA.20090713.xml>  
<http://www.spec.org/cpu2006/flags/Intel-Win32-Platform.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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