



# SPEC® CINT2006 Result

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## Intel Corporation

**SPECint®2006 = 48.3**

Intel DQ77MK motherboard (Intel Core i5-3450)

**SPECint\_base2006 = 45.4**

CPU2006 license: 13

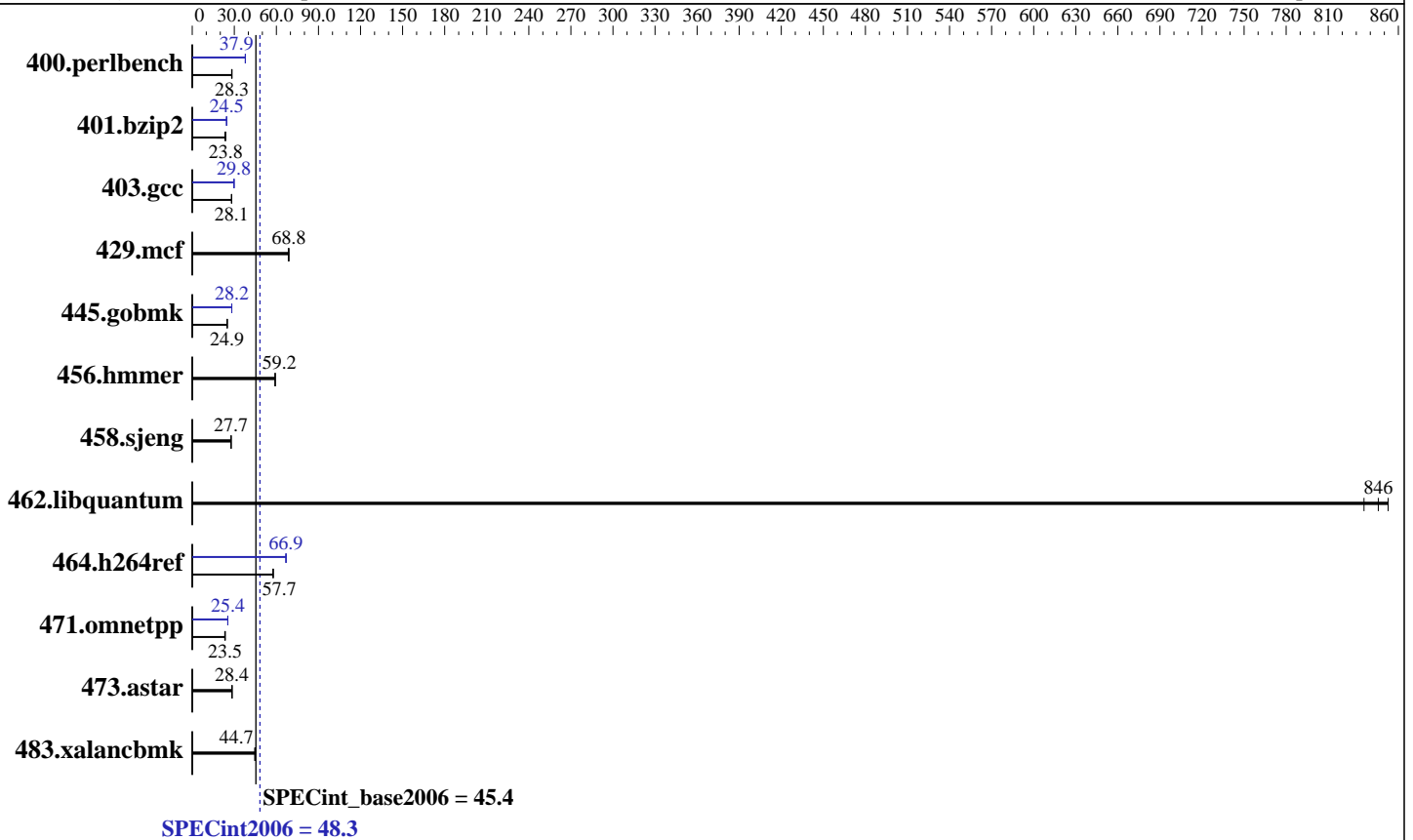
Test date: Nov-2013

Test sponsor: Intel Corporation

Hardware Availability: Nov-2012

Tested by: Intel Corporation

Software Availability: Apr-2013



### Hardware

CPU Name: Intel Core i5-3450  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz  
 CPU MHz: 3100  
 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: 256 KB I+D on chip per core  
 L3 Cache: 6 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 4 GB (2 x 2 GB 1Rx8 PC3-12800U-11)  
 Disk Subsystem: 250 GB Seagate SATA HDD, 7200 RPM  
 Other Hardware: None

### Software

Operating System: Microsoft Windows 7 Enterprise 6.1.7601 Service Pack 1 Build 7601  
 Compiler: C/C++: Version 13.1.1.171 of Intel C++ Studio XE for Windows;  
 Libraries: Version 16.00.30319.01 of Microsoft Visual Studio 2010 Professional SP1  
 Auto Parallel: Yes  
 File System: NTFS  
 System State: Default  
 Base Pointers: 32/64-bit  
 Peak Pointers: 32/64-bit  
 Other Software: SmartHeap Library Version 10.0 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	347	28.1	346	28.3	<b><u>346</u></b>	<b><u>28.3</u></b>	<b><u>258</u></b>	<b><u>37.9</u></b>	258	37.9	258	37.8
401.bzip2	413	23.3	405	23.8	<b><u>406</u></b>	<b><u>23.8</u></b>	395	24.5	393	24.5	<b><u>393</u></b>	<b><u>24.5</u></b>
403.gcc	287	28.1	<b><u>287</u></b>	<b><u>28.1</u></b>	287	28.0	<b><u>270</u></b>	<b><u>29.8</u></b>	270	29.8	270	29.8
429.mcf	132	69.0	<b><u>133</u></b>	<b><u>68.8</u></b>	133	68.5	132	69.0	<b><u>133</u></b>	<b><u>68.8</u></b>	133	68.5
445.gobmk	<b><u>421</u></b>	<b><u>24.9</u></b>	420	25.0	421	24.9	<b><u>372</u></b>	<b><u>28.2</u></b>	372	28.2	372	28.2
456.hammer	<b><u>158</u></b>	<b><u>59.2</u></b>	158	59.0	158	59.2	<b><u>158</u></b>	<b><u>59.2</u></b>	158	59.0	158	59.2
458.sjeng	<b><u>436</u></b>	<b><u>27.7</u></b>	437	27.7	436	27.7	<b><u>436</u></b>	<b><u>27.7</u></b>	437	27.7	436	27.7
462.libquantum	24.3	853	24.8	836	<b><u>24.5</u></b>	<b><u>846</u></b>	24.3	853	24.8	836	<b><u>24.5</u></b>	<b><u>846</u></b>
464.h264ref	385	57.6	383	57.8	<b><u>383</u></b>	<b><u>57.7</u></b>	332	66.7	330	67.0	<b><u>331</u></b>	<b><u>66.9</u></b>
471.omnetpp	269	23.2	<b><u>266</u></b>	<b><u>23.5</u></b>	266	23.5	<b><u>246</u></b>	<b><u>25.4</u></b>	247	25.3	246	25.4
473.astar	<b><u>247</u></b>	<b><u>28.4</u></b>	247	28.4	248	28.3	<b><u>247</u></b>	<b><u>28.4</u></b>	247	28.4	248	28.3
483.xalancbmk	154	44.8	<b><u>154</u></b>	<b><u>44.7</u></b>	154	44.7	154	44.8	<b><u>154</u></b>	<b><u>44.7</u></b>	154	44.7

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

## Compiler Invocation Notes

To compile these binaries, the Intel Compiler 13.1 was set up to generate 64-bit binaries with the command:  
"ipsxe-comp-vars.bat intel64 vs2010" (shortcut provided in the Intel(r) Parallel Studio XE 2013 program folder)

## Platform Notes

Sysinfo program C:\SPEC13.1\Docs\sysinfo  
\$Rev: 6775 \$ \$Date: 2011-08-16 # \$ \8787f7622badcf24e01c368b1db4377c  
running on DQ77MK-PC Sat Nov 9 06:33:37 2013

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see:  
<http://www.spec.org/cpu2006/Docs/config.html#sysinfo>

```
Trying 'systeminfo'
OS Name       : Microsoft Windows 7 Enterprise
OS Version    : 6.1.7601 Service Pack 1 Build 7601
System Manufacturer: INTEL_
System Model   : DQ77MK_
Processor(s)  : 1 Processor(s) Installed.
               [01]: Intel64 Family 6 Model 58 Stepping 9 GenuineIntel ~3101 Mhz
BIOS Version  : Intel Corp. MKQ7710H.86A.0054.2012.1120.1444, 11/20/2012
Total Physical Memory: 3,912 MB
```

```
Trying 'wmic cpu get /value'
DeviceID      : CPU0
```

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## Platform Notes (Continued)

```

L2CacheSize      : 1024
L3CacheSize      : 6144
MaxClockSpeed    : 3101
Name              : Intel(R) Core(TM) i5-3450 CPU @ 3.10GHz
NumberOfCores    : 4
NumberOfLogicalProcessors: 4

```

(End of data from sysinfo program)

BIOS: SATA mode set to RAID

Windows Disk Driver: Intel Rapid Storage Technology 12.5.0.1066

Windows Chipset Driver: Intel Chipset Driver 9.4.0.1027

## Component Notes

Tested systems can be used with Shin-G ATX case,  
 PC Power and Cooling 1200W power supply  
 Micron MT8JTF25664AZ-1G6 Series Memory DIMMs

## General Notes

OMP\_NUM\_THREADS set to number of processors cores  
 KMP\_AFFINITY set to granularity=fine,scatter  
 Binaries compiled on a system with 1x Intel Core i7-860 CPU  
 + 8GB memory using Windows 7 Enterprise 64-bit

## Base Compiler Invocation

C benchmarks:

icl -Qvc10 -Qstd=c99

C++ benchmarks:

icl -Qvc10

## Base Portability Flags

```

400.perlbench: -DSPEC_CPU_P64 -DSPEC_CPU_WIN64_X64
               -DSPEC_CPU_NO_NEED_VA_COPY
401.bzip2: -DSPEC_CPU_P64
403.gcc: -DSPEC_CPU_P64 -DSPEC_CPU_WIN64
429.mcf: -DSPEC_CPU_P64
445.gobmk: -DSPEC_CPU_P64
456.hmmer: -DSPEC_CPU_P64
458.sjeng: -DSPEC_CPU_P64
462.libquantum: -DSPEC_CPU_P64
464.h264ref: -DSPEC_CPU_P64 -DWIN32 -DSPEC_CPU_NO_INTTYPES

```

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## Base Portability Flags (Continued)

471.omnetpp: -DSPEC\_CPU\_P64 -DSPEC\_CPU\_WIN64  
473.astar: -DSPEC\_CPU\_P64  
483.xalancbmk: -DSPEC\_CPU\_P64 -Qoption,cpp,--no\_wchar\_t\_keyword

## Base Optimization Flags

C benchmarks:  
-QxAVX -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qparallel -Qauto-ilp32 /F512000000  
C++ benchmarks:  
-QxAVX -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qcxx-features -Qauto-ilp32 /F512000000 shlw64M.lib -link /FORCE:MULTIPLE

## Base Other Flags

C benchmarks:  
403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks:  
icl -Qvc10 -Qstd=c99  
C++ benchmarks:  
icl -Qvc10

## Peak Portability Flags

Same as Base Portability Flags

## Peak Optimization Flags

C benchmarks:  
400.perlbench: -QxAVX(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch -Qauto-ilp32 /F512000000 shlw64M.lib -link /FORCE:MULTIPLE

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## Peak Optimization Flags (Continued)

401.bzip2: -QxAVX(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -Qipo  
-O3 -Qprec-div- -Qopt-prefetch -Qansi-alias -Qauto-ilp32  
/F512000000

403.gcc: -QxAVX(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -Qipo  
-O3 -Qprec-div- -Qauto-ilp32 /F512000000

429.mcf: basepeak = yes

445.gobmk: -QxAVX(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -Qipo  
-O2 -Qprec-div- -Qansi-alias -Qauto-ilp32 /F512000000

456.hmmr: basepeak = yes

458.sjeng: basepeak = yes

462.libquantum: basepeak = yes

464.h264ref: -QxAVX(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -Qipo  
-O3 -Qprec-div- -Qunroll2 -Qansi-alias -Qauto-ilp32  
/F512000000

C++ benchmarks:

471.omnetpp: -QxAVX(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -Qipo  
-O3 -Qprec-div- -Qansi-alias  
-Qopt-ra-region-strategy=block -Qauto-ilp32 /F512000000  
shlW64M.lib -link /FORCE:MULTIPLE

473.astar: basepeak = yes

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-ic13.1-official-windows.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic13.1-official-windows.xml>



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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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