



# SPEC® CINT2006 Result

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## Intel Corporation

**SPECint®2006 = 61.4**

ASUS Z97-A motherboard (Intel Core i7-4770K)

**SPECint\_base2006 = 59.3**

CPU2006 license: 13

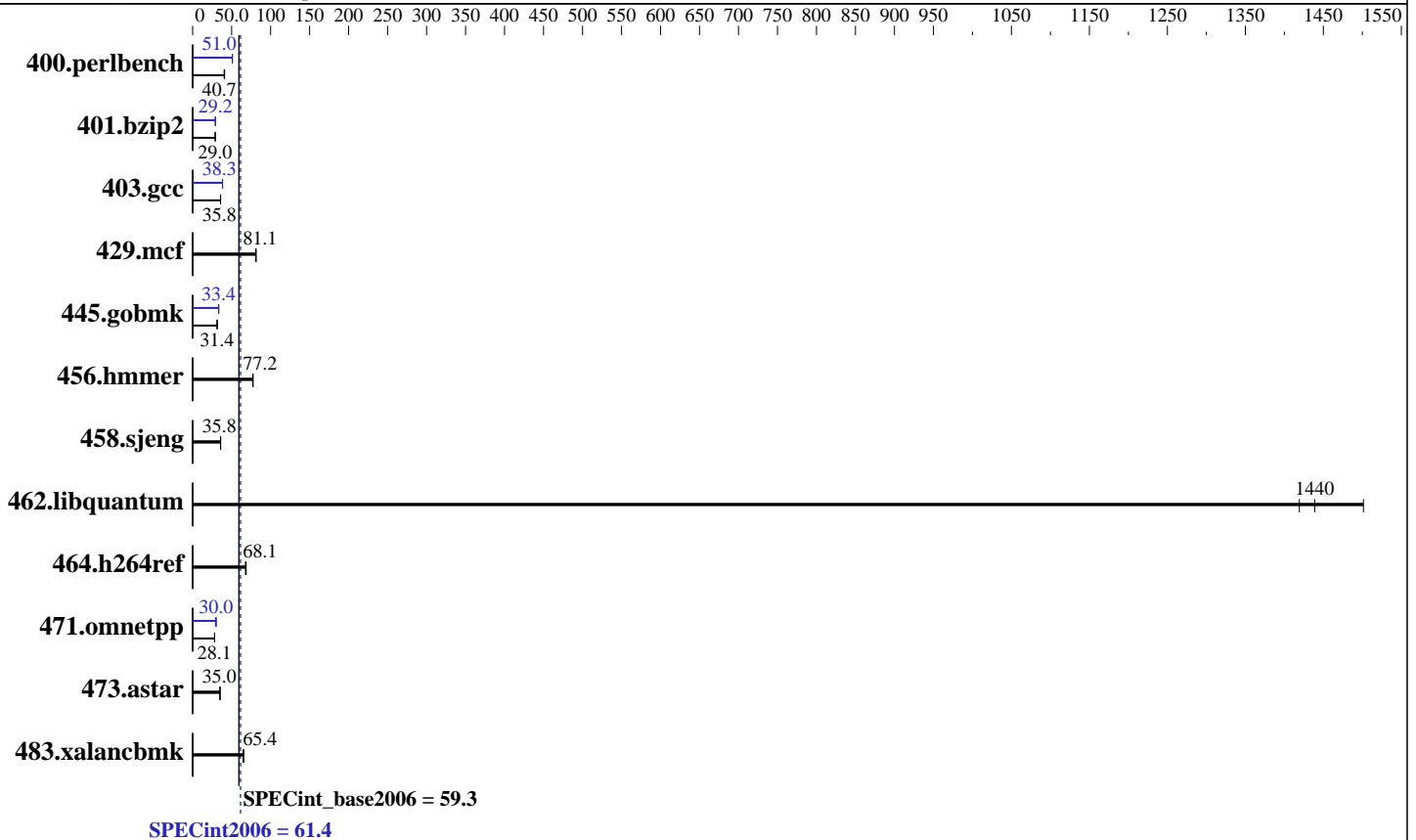
**Test date:** May-2014

**Test sponsor:** Intel Corporation

**Hardware Availability:** Apr-2014

**Tested by:** Intel Corporation

**Software Availability:** Oct-2013



### Hardware

CPU Name: Intel Core i7-4770K  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.90 GHz  
 CPU MHz: 3500  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip, 2 threads/core  
 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: 8 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 8 GB (2 x 4 GB 2Rx4 PC3-12800U-11)  
 Disk Subsystem: 180 GB Intel SSD 530  
 Other Hardware: None

### Software

Operating System: Microsoft Windows 8.1 Pro  
 6.3.9600 N/A Build 9600  
 Compiler: C/C++: Version 14.0.1.139 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	238	41.0	242	40.4	<b>240</b>	<b>40.7</b>	191	51.0	<b>192</b>	<b>51.0</b>	192	50.8
401.bzip2	334	28.9	<b>333</b>	<b>29.0</b>	332	29.1	330	29.2	<b>331</b>	<b>29.2</b>	332	29.1
403.gcc	225	35.8	<b>225</b>	<b>35.8</b>	225	35.8	211	38.2	<b>210</b>	<b>38.3</b>	210	38.4
429.mcf	113	80.9	112	81.4	<b>112</b>	<b>81.1</b>	113	80.9	112	81.4	<b>112</b>	<b>81.1</b>
445.gobmk	333	31.5	<b>334</b>	<b>31.4</b>	334	31.4	314	33.4	<b>314</b>	<b>33.4</b>	315	33.3
456.hammer	<b>121</b>	<b>77.2</b>	121	77.2	120	77.5	<b>121</b>	<b>77.2</b>	121	77.2	120	77.5
458.sjeng	338	35.8	337	35.9	<b>338</b>	<b>35.8</b>	338	35.8	337	35.9	<b>338</b>	<b>35.8</b>
462.libquantum	13.8	1500	14.6	1420	<b>14.4</b>	<b>1440</b>	13.8	1500	14.6	1420	<b>14.4</b>	<b>1440</b>
464.h264ref	323	68.6	326	67.9	<b>325</b>	<b>68.1</b>	323	68.6	326	67.9	<b>325</b>	<b>68.1</b>
471.omnetpp	<b>222</b>	<b>28.1</b>	222	28.2	223	28.1	<b>208</b>	<b>30.0</b>	207	30.2	214	29.3
473.astar	<b>200</b>	<b>35.0</b>	200	35.1	200	35.0	<b>200</b>	<b>35.0</b>	200	35.1	200	35.0
483.xalancbmk	105	65.5	<b>106</b>	<b>65.4</b>	106	64.8	105	65.5	<b>106</b>	<b>65.4</b>	106	64.8

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 14.0 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:\SPEC14.0\Docs\sysinfo  
 \$Rev: 6775 \$ \$Date: 2011-08-16 # \$ \8787f7622badcf24e01c368b1db4377c  
 running on Z97A Thu Mar 12 15:31:08 2015

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 8.1 Pro
OS Version    : 6.3.9600 N/A Build 9600
System Manufacturer: ASUS
System Model   : All Series
Processor(s)  : 1 Processor(s) Installed.
               [01]: Intel64 Family 6 Model 60 Stepping 3 GenuineIntel ~3501 Mhz
BIOS Version  : American Megatrends Inc. 0702, 4/23/2014
Total Physical Memory: 8,069 MB
```

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

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## Platform Notes (Continued)

L2CacheSize : 1024  
L3CacheSize : 8192  
MaxClockSpeed : 3501  
Name : Intel(R) Core(TM) i7-4770K CPU @ 3.50GHz  
NumberOfCores : 4  
NumberOfLogicalProcessors: 8

(End of data from sysinfo program)

BIOS: SATA mode set to RAID

Windows Disk Driver: Intel Rapid Storage Technology 12.9.0.1001

## Component Notes

Tested systems can be used with Shin-G ATX case,  
PC Power and Cooling 1200W power supply

## 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  
471.omnetpp: -DSPEC\_CPU\_P64 -DSPEC\_CPU\_WIN64  
473.astar: -DSPEC\_CPU\_P64

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## Base Portability Flags (Continued)

483.xalanbmk: -DSPEC\_CPU\_P64 -Qoption,cpp,--no\_wchar\_t\_keyword

## Base Optimization Flags

C benchmarks:

-QxCORE-AVX2 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qparallel  
-Qauto-ilp32 /F512000000

C++ benchmarks:

-QxCORE-AVX2 -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: -QxCORE-AVX2(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: -QxCORE-AVX2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qprec-div- -Qopt-prefetch -Qansi-alias  
-Qauto-ilp32 /F512000000

403.gcc: -QxCORE-AVX2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qprec-div- -Qauto-ilp32 /F512000000

429.mcf: basepeak = yes

445.gobmk: -QxCORE-AVX2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O2 -Qprec-div- -Qansi-alias -Qauto-ilp32  
/F512000000

456.hmmer: basepeak = yes

458.sjeng: basepeak = yes

462.libquantum: basepeak = yes

464.h264ref: basepeak = yes

C++ benchmarks:

471.omnetpp: -QxCORE-AVX2(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-ic14.0-official-windows.html>

You can also download the XML flags source by saving the following link:  
<http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-windows.xml>



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

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