



# SPEC® CINT2006 Result

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ASUSTeK Computer Inc.  
(Test Sponsor: Intel Corporation)

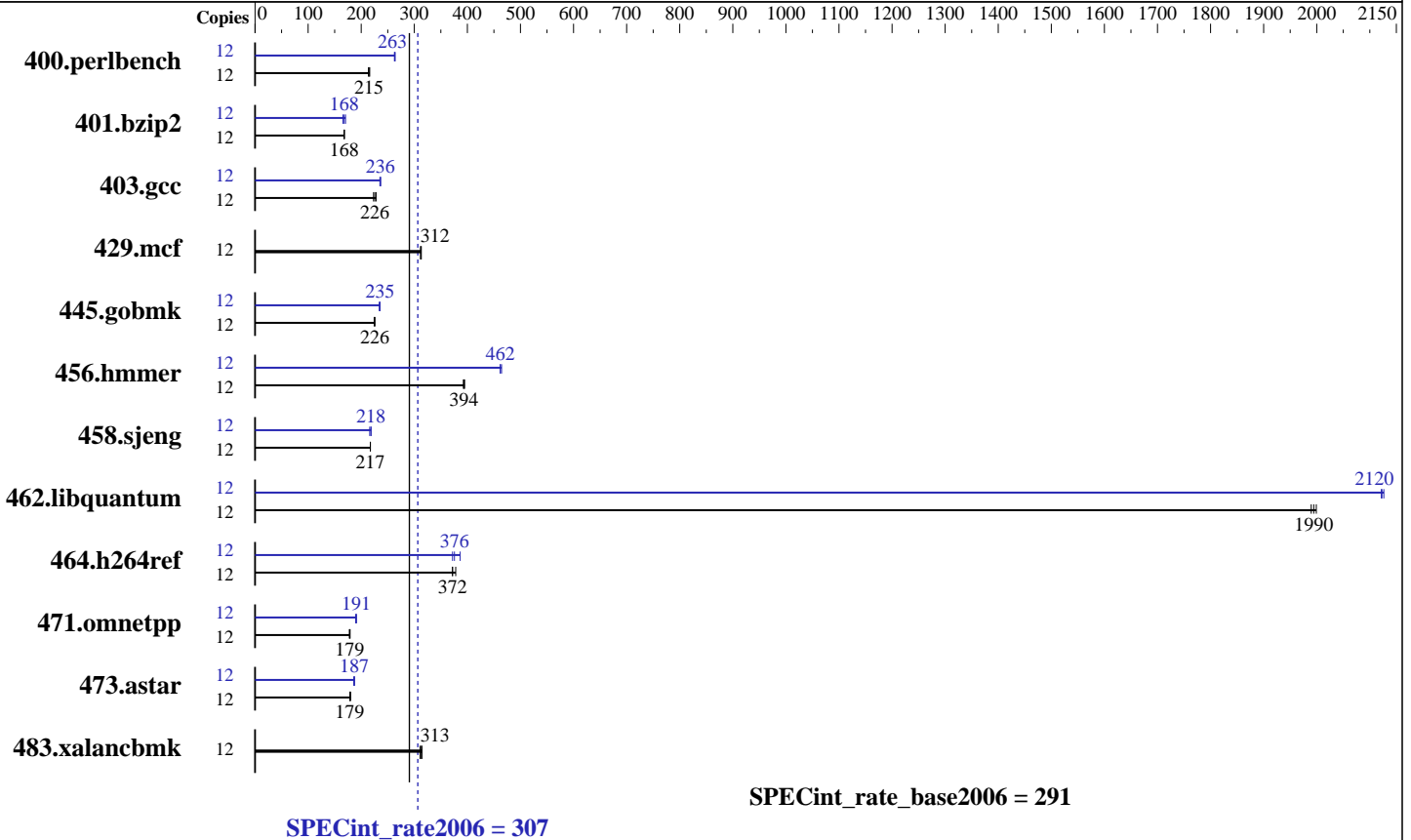
SPECint®\_rate2006 = 307

ASUS P9X79 PRO motherboard (Intel Core i7-4960X)

SPECint\_rate\_base2006 = 291

CPU2006 license: 13  
Test sponsor: Intel Corporation  
Tested by: Intel Corporation

Test date: Sep-2014  
Hardware Availability: Sep-2013  
Software Availability: Oct-2013



## Hardware

CPU Name: Intel Core i7-4960X  
 CPU Characteristics: Intel Turbo Boost Technology up to 4.00 GHz  
 CPU MHz: 3600  
 FPU: Integrated  
 CPU(s) enabled: 6 cores, 1 chip, 6 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: 15 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 16 GB (4 x 4 GB 2Rx4 PC3-14900U-13)  
 Disk Subsystem: 480 GB Intel SSD 530 Series  
 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: No  
 File System: NTFS  
 System State: Default  
 Base Pointers: 32-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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	12	548	214	<b>546</b>	<b>215</b>	543	216	12	<b>445</b>	<b>263</b>	444	264	446	263
401.bzip2	12	689	168	691	168	<b>691</b>	<b>168</b>	12	701	166	680	170	<b>688</b>	<b>168</b>
403.gcc	12	432	223	425	228	<b>429</b>	<b>226</b>	12	408	236	411	235	<b>409</b>	<b>236</b>
429.mcf	12	349	313	<b>351</b>	<b>312</b>	351	312	12	349	313	<b>351</b>	<b>312</b>	351	312
445.gobmk	12	559	226	561	224	<b>559</b>	<b>226</b>	12	537	234	535	235	<b>535</b>	<b>235</b>
456.hmmer	12	285	392	<b>284</b>	<b>394</b>	283	395	12	<b>242</b>	<b>462</b>	241	464	242	462
458.sjeng	12	670	217	<b>670</b>	<b>217</b>	670	217	12	<b>665</b>	<b>218</b>	665	218	673	216
462.libquantum	12	124	2000	125	1990	<b>125</b>	<b>1990</b>	12	117	2130	<b>117</b>	<b>2120</b>	117	2120
464.h264ref	12	702	378	713	372	<b>713</b>	<b>372</b>	12	<b>708</b>	<b>376</b>	687	386	714	372
471.omnetpp	12	420	179	<b>421</b>	<b>179</b>	421	178	12	<b>394</b>	<b>191</b>	393	191	394	190
473.astar	12	470	179	<b>470</b>	<b>179</b>	469	180	12	453	186	<b>451</b>	<b>187</b>	450	187
483.xalancbmk	12	267	311	<b>265</b>	<b>313</b>	263	314	12	267	311	<b>265</b>	<b>313</b>	263	314

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 32-bit binaries with the command:  
"ipsxe-comp-vars.bat ia32 vs2010" (shortcut provided in the Intel(r) Parallel Studio XE 2013 program folder)

## Submit Notes

Processes were bound to specific processors using the start command with the /affinity switch. The config file option 'submit' was used to generate the affinity mask for each process.

## Platform Notes

Sysinfo program C:\SPEC14.0\Docs\sysinfo  
\$Rev: 6775 \$ \$Date:: 2011-08-16 #\$ \8787f7622badcf24e01c368b1db4377c  
running on Clt74D02B2C81C9 Fri Sep 12 19:39:05 2014

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: System manufacturer  
System Model : System Product Name  
Processor(s) : 1 Processor(s) Installed.

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## Platform Notes (Continued)

[01]: Intel64 Family 6 Model 62 Stepping 4 GenuineIntel ~3601 Mhz  
BIOS Version : American Megatrends Inc. 4701, 5/7/2014  
Total Physical Memory: 16,325 MB

```
Trying 'wmic cpu get /value'
DeviceID      : CPU0
L2CacheSize  : 256
L3CacheSize  : 15360
MaxClockSpeed : 3601
Name         : Intel(R) Core(TM) i7-4960X CPU @ 3.60GHz
NumberOfCores : 6
NumberOfLogicalProcessors: 12
```

(End of data from sysinfo program)

## Component Notes

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

## General Notes

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

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

## Base Optimization Flags

C benchmarks:  
-QxAVX -Qipo -O3 -Qprec-div- -Qopt-prefetch /F512000000

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## Base Optimization Flags (Continued)

C++ benchmarks:  
-QxAVX -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 (except as noted below):  
icl -Qvc10 -Qstd=c99  
456.hmmmer: C:\Program Files (x86)\Intel\Composer XE 2013 SP1/bin/intel64/icl.exe  
458.sjeng: C:\Program Files (x86)\Intel\Composer XE 2013 SP1/bin/intel64/icl.exe  
462.libquantum: C:\Program Files (x86)\Intel\Composer XE 2013 SP1/bin/intel64/icl.exe  
-Qstd=c99  
C++ benchmarks (except as noted below):  
icl -Qvc10  
473.astar: C:\Program Files (x86)\Intel\Composer XE 2013 SP1/bin/intel64/icl.exe

## Peak Portability Flags

403.gcc: -DSPEC\_CPU\_WIN32  
456.hmmmer: -DSPEC\_CPU\_P64  
458.sjeng: -DSPEC\_CPU\_P64  
462.libquantum: -DSPEC\_CPU\_P64  
464.h264ref: -DWIN32 -DSPEC\_CPU\_NO\_INTTYPES  
473.astar: -DSPEC\_CPU\_P64  
483.xalancbmk: -Qoption,cpp,--no\_wchar\_t\_keyword

## Peak Optimization Flags

C benchmarks:

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## Peak Optimization Flags (Continued)

400.perlbench: -QxAVX(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: -QxAVX(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -Qipo  
-O3 -Qprec-div- -Qopt-prefetch -Qansi-alias /F512000000

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

429.mcf: basepeak = yes

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

456.hmmcr: -Qauto-ilp32 -QxAVX(pass 2) -Qprof\_gen(pass 1)  
-Qprof\_use(pass 2) -Qipo -O3 -Qprec-div- -Qopt-prefetch  
/F512000000

458.sjeng: -Qauto-ilp32 -QxAVX(pass 2) -Qprof\_gen(pass 1)  
-Qprof\_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll4  
/F512000000

462.libquantum: -Qauto-ilp32 -QxAVX -Qipo -O3 -Qprec-div- -Qopt-prefetch  
/F512000000

464.h264ref: -QxAVX(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -Qipo  
-O3 -Qprec-div- -Qunroll2 -Qansi-alias /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 /F512000000 shlw32M.lib  
-link /FORCE:MULTIPLE

473.astar: -Qauto-ilp32 -QxAVX -Qipo -O3 -Qprec-div- -Qopt-prefetch  
/F512000000 shlw64M.lib -link /FORCE:MULTIPLE

483.xalancbmk: basepeak = yes

## Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

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## Peak Other Flags (Continued)

```
456.hmmr: -link -LIBPATH:C:\Program Files (x86)\Intel\Composer XE 2013 SP1/compiler/lib/intel64
          -link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 10.0/VC/lib/AMD64
          -link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 10.0/VC/lib
          -link -LIBPATH:C:/Program Files (x86)/Microsoft SDKs/Windows/v7.0A/lib/x64
```

```
458.sjeng: -link -LIBPATH:C:\Program Files (x86)\Intel\Composer XE 2013 SP1/compiler/lib/intel64
           -link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 10.0/VC/lib/AMD64
           -link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 10.0/VC/lib
           -link -LIBPATH:C:/Program Files (x86)/Microsoft SDKs/Windows/v7.0A/lib/x64
```

```
462.libquantum: -link -LIBPATH:C:\Program Files (x86)\Intel\Composer XE 2013 SP1/compiler/lib/intel64
                -link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 10.0/VC/lib/AMD64
                -link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 10.0/VC/lib
                -link -LIBPATH:C:/Program Files (x86)/Microsoft SDKs/Windows/v7.0A/lib/x64
```

### C++ benchmarks:

```
473.astar: -link -LIBPATH:C:\Program Files (x86)\Intel\Composer XE 2013 SP1/compiler/lib/intel64
           -link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 10.0/VC/lib/AMD64
           -link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 10.0/VC/lib
           -link -LIBPATH:C:/Program Files (x86)/Microsoft SDKs/Windows/v7.0A/lib/x64
```

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

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