



# SPEC® CINT2006 Result

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ASUSTeK Computer Inc.

(Test Sponsor: Intel Corporation)

ASUS F2A85-M PRO Motherboard (AMD A8-6500 APU with Radeon HD Graphics)

SPECint®2006 = 31.5

SPECint\_base2006 = 29.8

CPU2006 license: 13

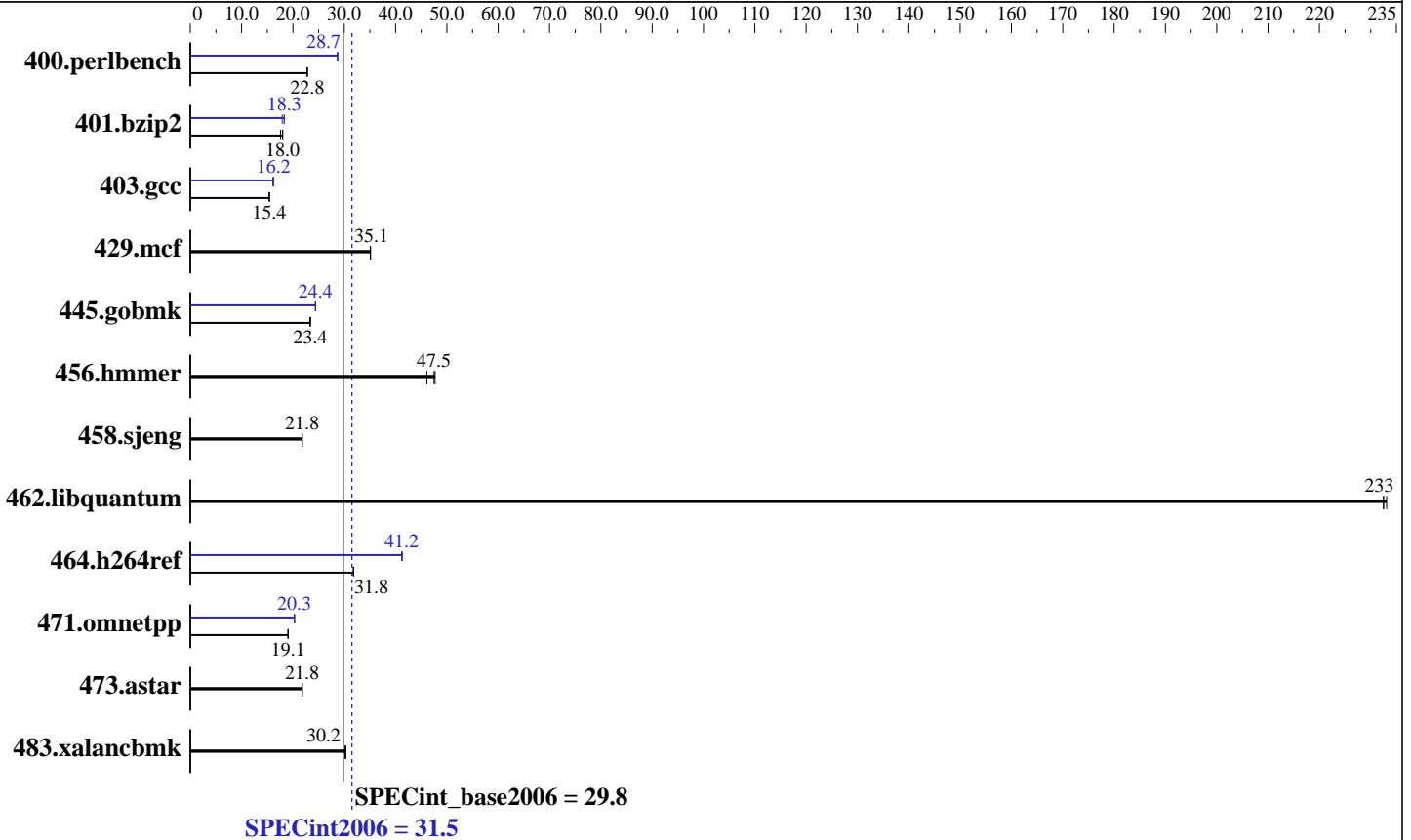
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Jun-2014

Hardware Availability: Aug-2013

Software Availability: Oct-2013



## Hardware

CPU Name: AMD A8-6500  
 CPU Characteristics: AMD Turbo CORE technology up to 4.10 GHz  
 CPU MHz: 3500  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip  
 CPU(s) orderable: 1 chip  
 Primary Cache: 128 KB I on chip per chip, 64 KB I shared / 2 cores; 16 KB D on chip per core  
 Secondary Cache: 4 MB I+D on chip per chip, 2 MB shared / 2 cores  
 L3 Cache: None  
 Other Cache: None  
 Memory: 8 GB (2 x 4 GB 2Rx4 PC3-12800U-11)  
 Disk Subsystem: 1 TB SATA HDD, 7200 RPM  
 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	<b>428</b>	<b>22.8</b>	428	22.8	428	22.8	<b>340</b>	<b>28.7</b>	340	28.7	340	28.7
401.bzip2	<b>537</b>	<b>18.0</b>	547	17.6	536	18.0	<b>527</b>	<b>18.3</b>	526	18.3	538	17.9
403.gcc	524	15.4	522	15.4	<b>523</b>	<b>15.4</b>	<b>498</b>	<b>16.2</b>	497	16.2	500	16.1
429.mcf	260	35.1	<b>260</b>	<b>35.1</b>	260	35.1	260	35.1	<b>260</b>	<b>35.1</b>	260	35.1
445.gobmk	<b>449</b>	<b>23.4</b>	449	23.4	450	23.3	430	24.4	<b>429</b>	<b>24.4</b>	429	24.4
456.hammer	<b>196</b>	<b>47.5</b>	195	47.7	202	46.1	<b>196</b>	<b>47.5</b>	195	47.7	202	46.1
458.sjeng	555	21.8	<b>555</b>	<b>21.8</b>	555	21.8	555	21.8	<b>555</b>	<b>21.8</b>	555	21.8
462.libquantum	<b>89.1</b>	<b>233</b>	88.9	233	89.1	233	<b>89.1</b>	<b>233</b>	88.9	233	89.1	233
464.h264ref	<b>696</b>	<b>31.8</b>	697	31.8	696	31.8	537	41.2	<b>537</b>	<b>41.2</b>	536	41.3
471.omnetpp	329	19.0	328	19.1	<b>328</b>	<b>19.1</b>	<b>308</b>	<b>20.3</b>	308	20.3	308	20.3
473.astar	322	21.8	<b>322</b>	<b>21.8</b>	322	21.8	322	21.8	<b>322</b>	<b>21.8</b>	322	21.8
483.xalancbmk	<b>228</b>	<b>30.2</b>	228	30.3	229	30.2	<b>228</b>	<b>30.2</b>	228	30.3	229	30.2

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 Clt50465DB57F98 Mon Jun 30 18:18:49 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.  
 [01]: AMD64 Family 21 Model 19 Stepping 1 AuthenticAMD ~3500 Mhz  
BIOS Version : American Megatrends Inc. 6303, 8/13/2013  
Total Physical Memory: 7,366 MB

Trying 'wmic cpu get /value'  
DeviceID : CPU0

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## Platform Notes (Continued)

L2CacheSize : 4096  
L3CacheSize : 0  
MaxClockSpeed : 3500  
Name : AMD A8-6500 APU with Radeon(tm) HD Graphics  
NumberOfCores : 2  
NumberOfLogicalProcessors: 4

(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

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



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## Base Optimization Flags

C benchmarks:

```
/arch:AVX -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qparallel
-Qauto-ilp32 /F512000000
```

C++ benchmarks:

```
/arch:AVX -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: /arch:AVX(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
```

```
401.bzip2: /arch:AVX(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qopt-prefetch -Qansi-alias
-Qauto-ilp32 /F512000000
```

```
403.gcc: /arch:AVX(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qauto-ilp32 /F512000000
```

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## Peak Optimization Flags (Continued)

429.mcf: basepeak = yes

445.gobmk: /arch:AVX(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: /arch:AVX(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qprec-div- -Qunroll2 -Qansi-alias  
-Qauto-ilp32 /F512000000

C++ benchmarks:

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

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