



# SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

ASUSTeK Computer Inc.

(Test Sponsor: Intel Corporation)

ASUS F2A85-M PRO motherboard (AMD A6-6400K APU with Radeon HD Graphics)

SPECint®\_rate2006 = 44.7

SPECint\_rate\_base2006 = 42.3

CPU2006 license: 13

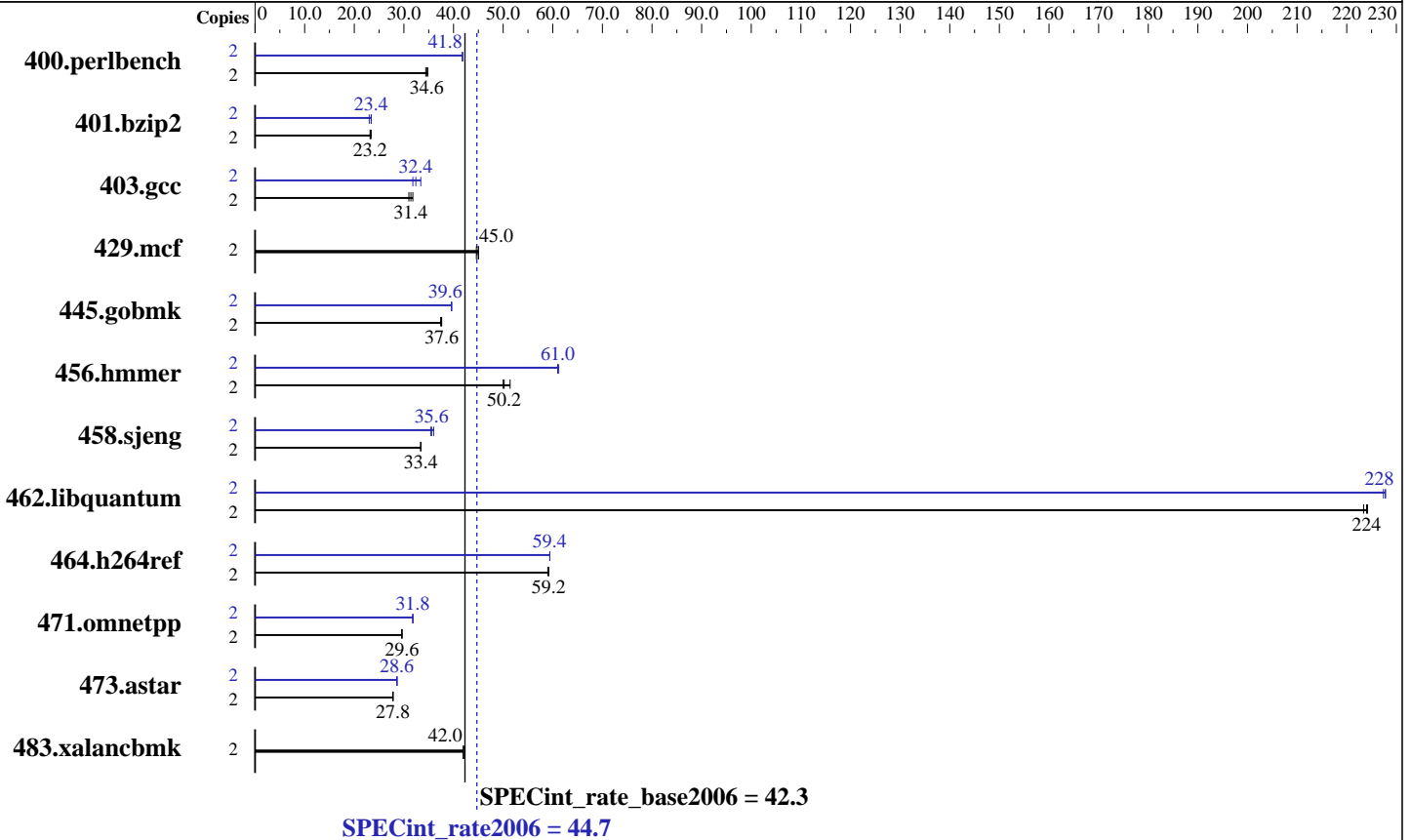
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Oct-2013

Hardware Availability: Jun-2013

Software Availability: Apr-2013



## Hardware

CPU Name: AMD A6-6400K  
 CPU Characteristics: AMD Turbo CORE technology up to 4.10 GHz  
 CPU MHz: 3900  
 FPU: Integrated  
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip  
 CPU(s) orderable: 1 chip  
 Primary Cache: 64 KB I on chip per chip; 16 KB D on chip per core  
 Secondary Cache: 1 MB I+D on chip per chip  
 L3 Cache: None  
 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 Ultimate 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: 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/>



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

ASUSTeK Computer Inc.

(Test Sponsor: Intel Corporation)

ASUS F2A85-M PRO motherboard (AMD A6-6400K APU with Radeon HD Graphics)

SPECint\_rate2006 = 44.7

SPECint\_rate\_base2006 = 42.3

CPU2006 license: 13

Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Oct-2013

Hardware Availability: Jun-2013

Software Availability: Apr-2013

## Results Table

| Benchmark      | Base   |            |             |            |             |            |             | Peak   |            |             |            |             |            |             |
|----------------|--------|------------|-------------|------------|-------------|------------|-------------|--------|------------|-------------|------------|-------------|------------|-------------|
|                | Copies | Seconds    | Ratio       | Seconds    | Ratio       | Seconds    | Ratio       | Copies | Seconds    | Ratio       | Seconds    | Ratio       | Seconds    | Ratio       |
| 400.perlbench  | 2      | 562        | 34.8        | 568        | 34.4        | <b>564</b> | <b>34.6</b> | 2      | 468        | 41.8        | 467        | 41.8        | <b>468</b> | <b>41.8</b> |
| 401.bzip2      | 2      | <b>829</b> | <b>23.2</b> | 828        | 23.4        | 833        | 23.2        | 2      | <b>822</b> | <b>23.4</b> | 837        | 23.0        | 821        | 23.4        |
| 403.gcc        | 2      | 520        | 31.0        | <b>514</b> | <b>31.4</b> | 508        | 31.8        | 2      | <b>497</b> | <b>32.4</b> | 483        | 33.4        | 507        | 31.8        |
| 429.mcf        | 2      | <b>405</b> | <b>45.0</b> | 409        | 44.6        | 405        | 45.0        | 2      | <b>405</b> | <b>45.0</b> | 409        | 44.6        | 405        | 45.0        |
| 445.gobmk      | 2      | 561        | 37.4        | <b>559</b> | <b>37.6</b> | 558        | 37.6        | 2      | 531        | 39.6        | <b>530</b> | <b>39.6</b> | 529        | 39.6        |
| 456.hammer     | 2      | 364        | 51.4        | 373        | 50.0        | <b>372</b> | <b>50.2</b> | 2      | <b>306</b> | <b>61.0</b> | 306        | 61.0        | 305        | 61.2        |
| 458.sjeng      | 2      | <b>726</b> | <b>33.4</b> | 727        | 33.4        | 722        | 33.4        | 2      | 684        | 35.4        | <b>681</b> | <b>35.6</b> | 671        | 36.0        |
| 462.libquantum | 2      | <b>185</b> | <b>224</b>  | 186        | 223         | 185        | 224         | 2      | 182        | 228         | <b>182</b> | <b>228</b>  | 182        | 227         |
| 464.h264ref    | 2      | <b>747</b> | <b>59.2</b> | 751        | 59.0        | 747        | 59.2        | 2      | 745        | 59.4        | <b>745</b> | <b>59.4</b> | 745        | 59.4        |
| 471.omnetpp    | 2      | <b>423</b> | <b>29.6</b> | 423        | 29.6        | 423        | 29.6        | 2      | <b>392</b> | <b>31.8</b> | 392        | 31.8        | 394        | 31.8        |
| 473.astar      | 2      | 504        | 27.8        | 506        | 27.8        | <b>505</b> | <b>27.8</b> | 2      | 491        | 28.6        | <b>491</b> | <b>28.6</b> | 492        | 28.6        |
| 483.xalancbmk  | 2      | 329        | 42.0        | 329        | 42.0        | <b>329</b> | <b>42.0</b> | 2      | 329        | 42.0        | 329        | 42.0        | <b>329</b> | <b>42.0</b> |

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 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:\SPEC13.1\Docs\sysinfo  
\$Rev: 6775 \$ \$Date:: 2011-08-16 #\$ \8787f7622badcf24e01c368b1db4377c  
running on Clt3085A9AEE4F6 Tue Oct 8 10:48:27 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 Ultimate  
OS Version : 6.1.7601 Service Pack 1 Build 7601  
System Manufacturer: System manufacturer  
System Model : System Product Name  
Processor(s) : 1 Processor(s) Installed.

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**ASUSTeK Computer Inc.**

(Test Sponsor: Intel Corporation)

ASUS F2A85-M PRO motherboard (AMD A6-6400K APU with Radeon HD Graphics)

**SPECint\_rate2006 = 44.7**

**SPECint\_rate\_base2006 = 42.3**

**CPU2006 license:** 13

**Test sponsor:** Intel Corporation

**Tested by:** Intel Corporation

**Test date:** Oct-2013

**Hardware Availability:** Jun-2013

**Software Availability:** Apr-2013

## Platform Notes (Continued)

[01]: AMD64 Family 21 Model 19 Stepping 1 AuthenticAMD ~3900 Mhz  
BIOS Version : American Megatrends Inc. 6105, 5/8/2013  
Total Physical Memory: 3,111 MB

Trying 'wmic cpu get /value'

DeviceID : CPU0

L2CacheSize : 1024

L3CacheSize : 0

MaxClockSpeed : 3900

Name : AMD A6-6400K APU with Radeon(tm) HD Graphics

NumberOfCores : 1

NumberOfLogicalProcessors: 2

(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  
Micron MT8JTF25664AZ-1G6 Series Memory DIMMs

## 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:

/arch:AVX -Qipo -O3 -Qprec-div- -Qopt-prefetch /F512000000

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/

Page 3



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

ASUSTeK Computer Inc.

(Test Sponsor: Intel Corporation)

ASUS F2A85-M PRO motherboard (AMD A6-6400K APU with Radeon HD Graphics)

SPECint\_rate2006 = 44.7

SPECint\_rate\_base2006 = 42.3

CPU2006 license: 13

Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Oct-2013

Hardware Availability: Jun-2013

Software Availability: Apr-2013

## Base Optimization Flags (Continued)

C++ benchmarks:

/arch:AVX -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.hmmer: C:\Program Files (x86)\Intel\Composer XE 2013.171\bin\intel64\icl.exe

458.sjeng: C:\Program Files (x86)\Intel\Composer XE 2013.171\bin\intel64\icl.exe

462.libquantum: C:\Program Files (x86)\Intel\Composer XE 2013.171\bin\intel64\icl.exe  
-Qstd=c99

C++ benchmarks (except as noted below):

icl -Qvc10

473.astar: C:\Program Files (x86)\Intel\Composer XE 2013.171\bin\intel64\icl.exe

## Peak Portability Flags

403.gcc: -DSPEC\_CPU\_WIN32  
456.hmmer: -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:

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

ASUSTeK Computer Inc.

(Test Sponsor: Intel Corporation)

ASUS F2A85-M PRO motherboard (AMD A6-6400K APU with Radeon HD Graphics)

SPECint\_rate2006 = 44.7

SPECint\_rate\_base2006 = 42.3

CPU2006 license: 13

Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Oct-2013

Hardware Availability: Jun-2013

Software Availability: Apr-2013

## Peak Optimization Flags (Continued)

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

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

429.mcf: basepeak = yes

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

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

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

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

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

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

483.xalancbmk: basepeak = yes

## Peak Other Flags

C benchmarks:

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**ASUSTeK Computer Inc.**

(Test Sponsor: Intel Corporation)

ASUS F2A85-M PRO motherboard (AMD A6-6400K APU with Radeon HD Graphics)

**SPECint\_rate2006 = 44.7**

**SPECint\_rate\_base2006 = 42.3**

**CPU2006 license:** 13

**Test sponsor:** Intel Corporation

**Tested by:** Intel Corporation

**Test date:** Oct-2013

**Hardware Availability:** Jun-2013

**Software Availability:** Apr-2013

## Peak Other Flags (Continued)

403.gcc: -Dalloca=\_alloca

456.hmmr: -link -LIBPATH:C:\Program Files (x86)\Intel\Composer XE 2013.171/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 2013.171/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 2013.171/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 2013.171/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-ic13.1-official-windows.20130924.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.20130924.xml>

SPEC and SPECint are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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

Tested with SPEC CPU2006 v1.2.  
Report generated on Fri Jul 25 00:39:47 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 15 July 2014.