



# SPEC® CINT2006 Result

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ASUSTeK Computer Inc.

(Test Sponsor: Intel Corporation)

ASUS A88X-PRO motherboard (AMD A10-7700K APU with Radeon R7 Graphics)

SPECint®\_rate2006 = 82.5

SPECint\_rate\_base2006 = 81.0

CPU2006 license: 13

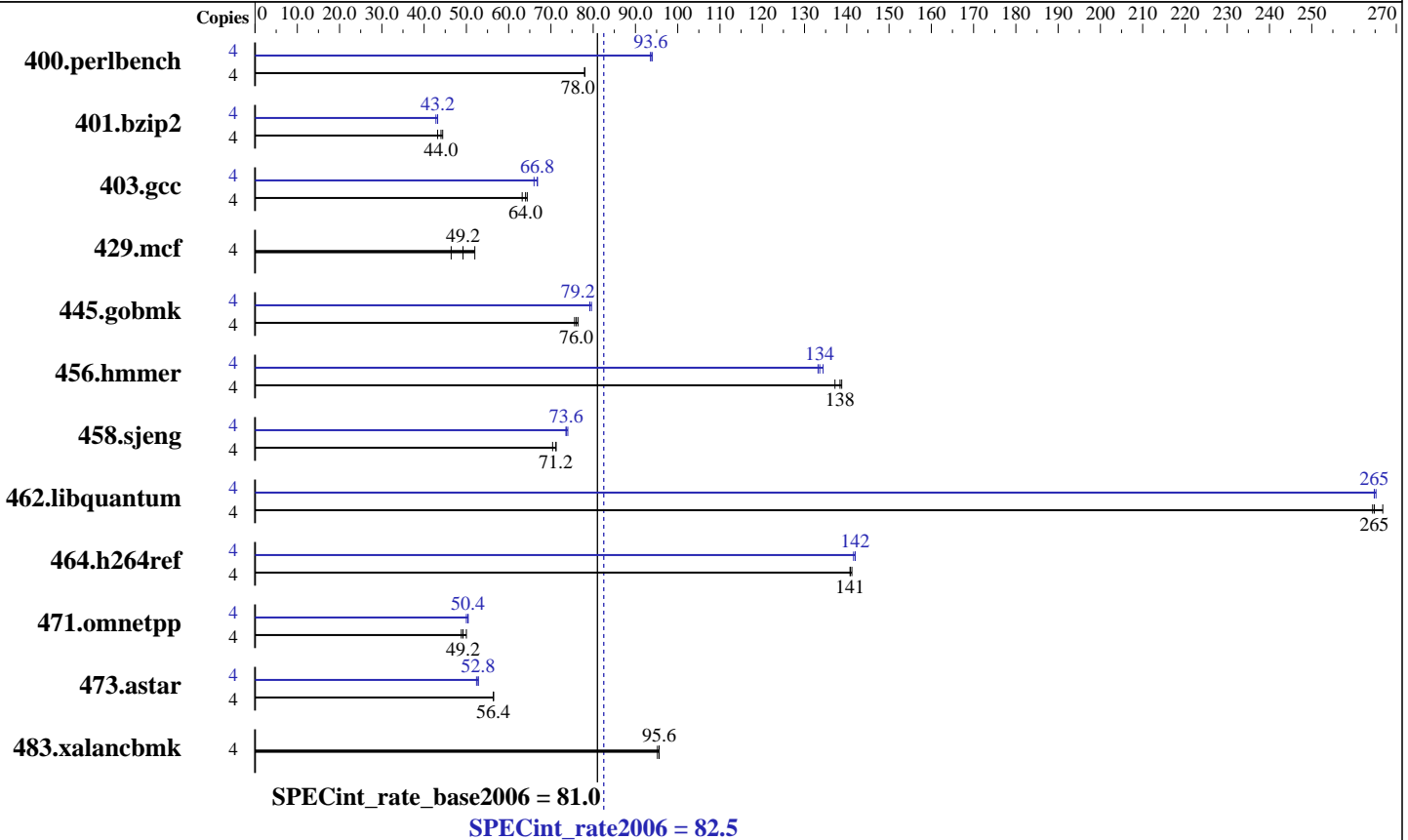
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Jun-2014

Hardware Availability: Jan-2014

Software Availability: Oct-2013



## Hardware

CPU Name: AMD A10-7700K  
 CPU Characteristics: AMD Turbo CORE technology up to 3.80 GHz  
 CPU MHz: 3400  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip  
 CPU(s) orderable: 1 chip  
 Primary Cache: 192 KB I on chip per chip, 96 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: 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 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	4	502	78.0	<u>502</u>	<u>78.0</u>	502	78.0	4	416	94.0	418	93.6	<u>418</u>	<u>93.6</u>
401.bzip2	4	872	44.4	<u>880</u>	<u>44.0</u>	892	43.2	4	891	43.2	899	42.8	<u>894</u>	<u>43.2</u>
403.gcc	4	<u>504</u>	<u>64.0</u>	510	63.2	500	64.4	4	<u>483</u>	<u>66.8</u>	488	66.0	483	66.8
429.mcf	4	<u>743</u>	<u>49.2</u>	784	46.4	703	52.0	4	<u>743</u>	<u>49.2</u>	784	46.4	703	52.0
445.gobmk	4	548	76.4	556	75.6	<u>553</u>	<u>76.0</u>	4	530	79.2	528	79.6	<u>529</u>	<u>79.2</u>
456.hmmer	4	269	139	<u>269</u>	<u>138</u>	272	137	4	<u>279</u>	<u>134</u>	280	133	278	134
458.sjeng	4	682	71.2	687	70.4	<u>682</u>	<u>71.2</u>	4	657	73.6	653	74.0	<u>656</u>	<u>73.6</u>
462.libquantum	4	311	267	<u>313</u>	<u>265</u>	314	264	4	313	265	312	265	<u>313</u>	<u>265</u>
464.h264ref	4	628	141	<u>628</u>	<u>141</u>	629	141	4	623	142	<u>624</u>	<u>142</u>	625	142
471.omnetpp	4	501	50.0	<u>509</u>	<u>49.2</u>	512	48.8	4	500	50.0	496	50.4	<u>498</u>	<u>50.4</u>
473.astar	4	497	56.4	<u>498</u>	<u>56.4</u>	499	56.4	4	534	52.4	531	52.8	<u>533</u>	<u>52.8</u>
483.xalancbmk	4	290	95.2	288	95.6	<u>288</u>	<u>95.6</u>	4	290	95.2	288	95.6	<u>288</u>	<u>95.6</u>

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 A88XPRO-PC Sat Jun 28 22:05:29 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 7 Enterprise  
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.

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## Platform Notes (Continued)

[01]: AMD64 Family 21 Model 48 Stepping 1 AuthenticAMD ~3400 Mhz  
BIOS Version : American Megatrends Inc. 0703, 12/30/2013  
Total Physical Memory: 3,522 MB

Trying 'wmic cpu get /value'

DeviceID : CPU0

L2CacheSize : 4096

L3CacheSize : 0

MaxClockSpeed : 3400

Name : AMD A10-7700K APU with Radeon(TM) R7 Graphics

NumberOfCores : 4

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  
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

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## 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.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:

Continued on next page



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## 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



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## Peak Other Flags (Continued)

403.gcc: -Dalloca=\_alloca

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

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