



SPEC® CINT2006 Result

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ASUSTeK Computer Inc.

(Test Sponsor: Intel Corporation)

ASUS F2A85-M PRO motherboard (AMD A10-6800K APU with Radeon HD Graphics)

SPECint®_rate2006 = 74.0

SPECint_rate_base2006 = 70.7

CPU2006 license: 13

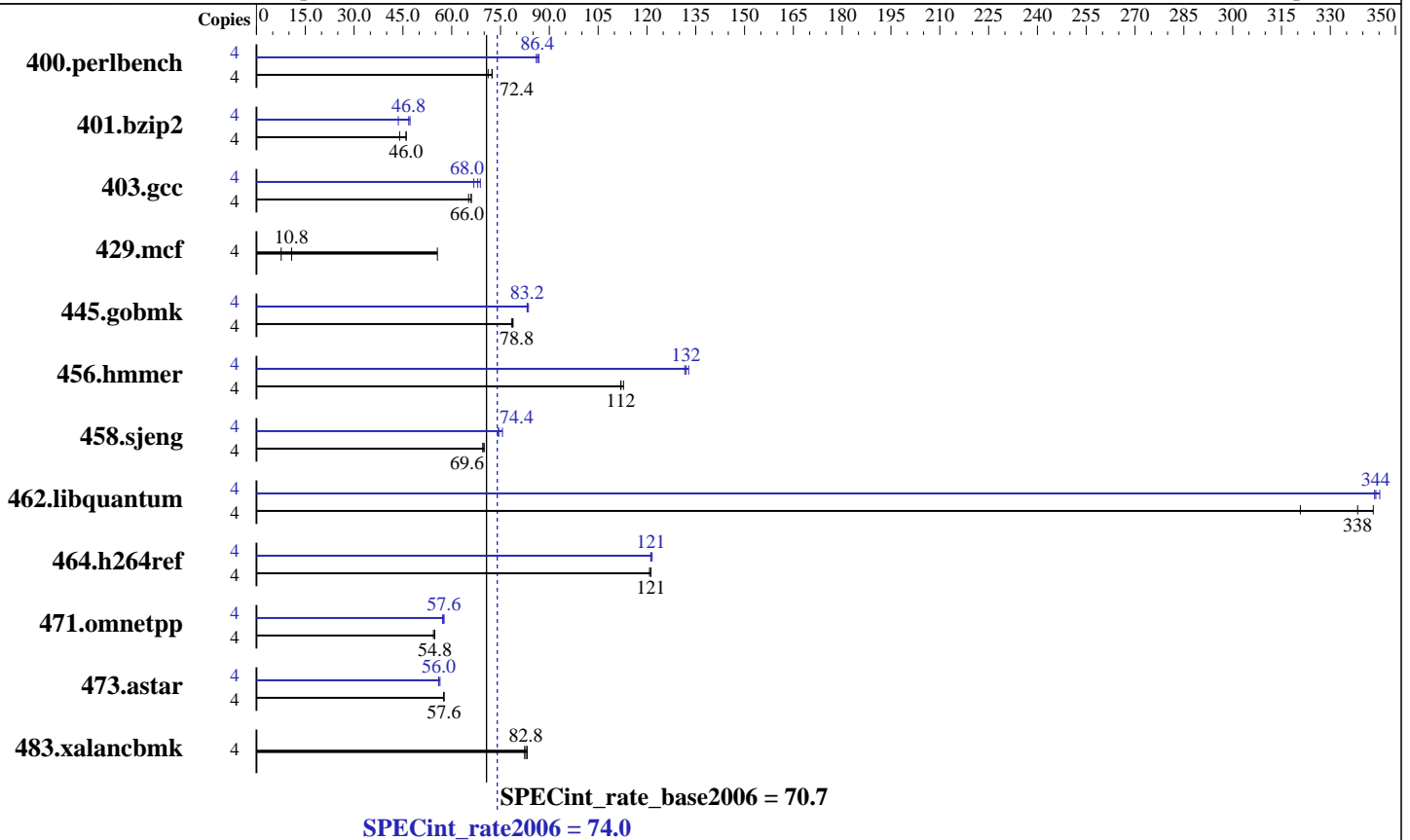
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Sep-2013

Hardware Availability: Jun-2013

Software Availability: Apr-2013



Hardware

CPU Name: AMD A10-6800K
 CPU Characteristics: AMD Turbo CORE technology up to 4.40 GHz
 CPU MHz: 4100
 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: 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/>



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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	<u>541</u>	<u>72.4</u>	550	71.2	540	72.4	4	451	86.8	454	86.0	<u>452</u>	<u>86.4</u>
401.bzip2	4	878	44.0	838	46.0	<u>841</u>	<u>46.0</u>	4	818	47.2	882	43.6	<u>827</u>	<u>46.8</u>
403.gcc	4	487	66.0	<u>487</u>	<u>66.0</u>	495	65.2	4	468	68.8	<u>473</u>	<u>68.0</u>	481	66.8
429.mcf	4	4842	7.60	<u>3398</u>	<u>10.8</u>	655	55.6	4	4842	7.60	<u>3398</u>	<u>10.8</u>	655	55.6
445.gobmk	4	<u>534</u>	<u>78.8</u>	534	78.4	532	78.8	4	504	83.2	503	83.6	<u>504</u>	<u>83.2</u>
456.hammer	4	331	113	<u>333</u>	<u>112</u>	333	112	4	<u>283</u>	<u>132</u>	281	133	283	132
458.sjeng	4	<u>694</u>	<u>69.6</u>	695	69.6	690	70.0	4	<u>649</u>	<u>74.4</u>	639	75.6	649	74.4
462.libquantum	4	<u>245</u>	<u>338</u>	241	343	258	321	4	240	345	<u>241</u>	<u>344</u>	241	344
464.h264ref	4	730	121	732	121	<u>731</u>	<u>121</u>	4	<u>729</u>	<u>121</u>	728	122	730	121
471.omnetpp	4	458	54.4	457	54.8	<u>458</u>	<u>54.8</u>	4	436	57.2	434	57.6	<u>435</u>	<u>57.6</u>
473.astar	4	487	57.6	487	57.6	<u>487</u>	<u>57.6</u>	4	<u>500</u>	<u>56.0</u>	501	56.0	499	56.4
483.xalancbmk	4	335	82.4	<u>333</u>	<u>82.8</u>	333	83.2	4	335	82.4	<u>333</u>	<u>82.8</u>	333	83.2

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 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 Clt14DAE908A2BC Thu Sep 19 11:43:23 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.

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Platform Notes (Continued)

[01]: AMD64 Family 21 Model 19 Stepping 1 AuthenticAMD ~4100 Mhz
BIOS Version : American Megatrends Inc. 6105, 5/8/2013
Total Physical Memory: 3,111 MB

Trying 'wmic cpu get /value'

DeviceID : CPU0

L2CacheSize : 4096

L3CacheSize : 0

MaxClockSpeed : 4100

Name : AMD A10-6800K 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
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.hmmr: 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.hmmr: -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:

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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>

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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