



SPEC® CINT2006 Result

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ASUSTeK Computer Inc.

(Test Sponsor: Intel Corporation)

ASUS F2A85-M PRO Motherboard (AMD A4-4000 APU with Radeon HD Graphics)

SPECint®2006 = 24.4

SPECint_base2006 = 23.3

CPU2006 license: 13

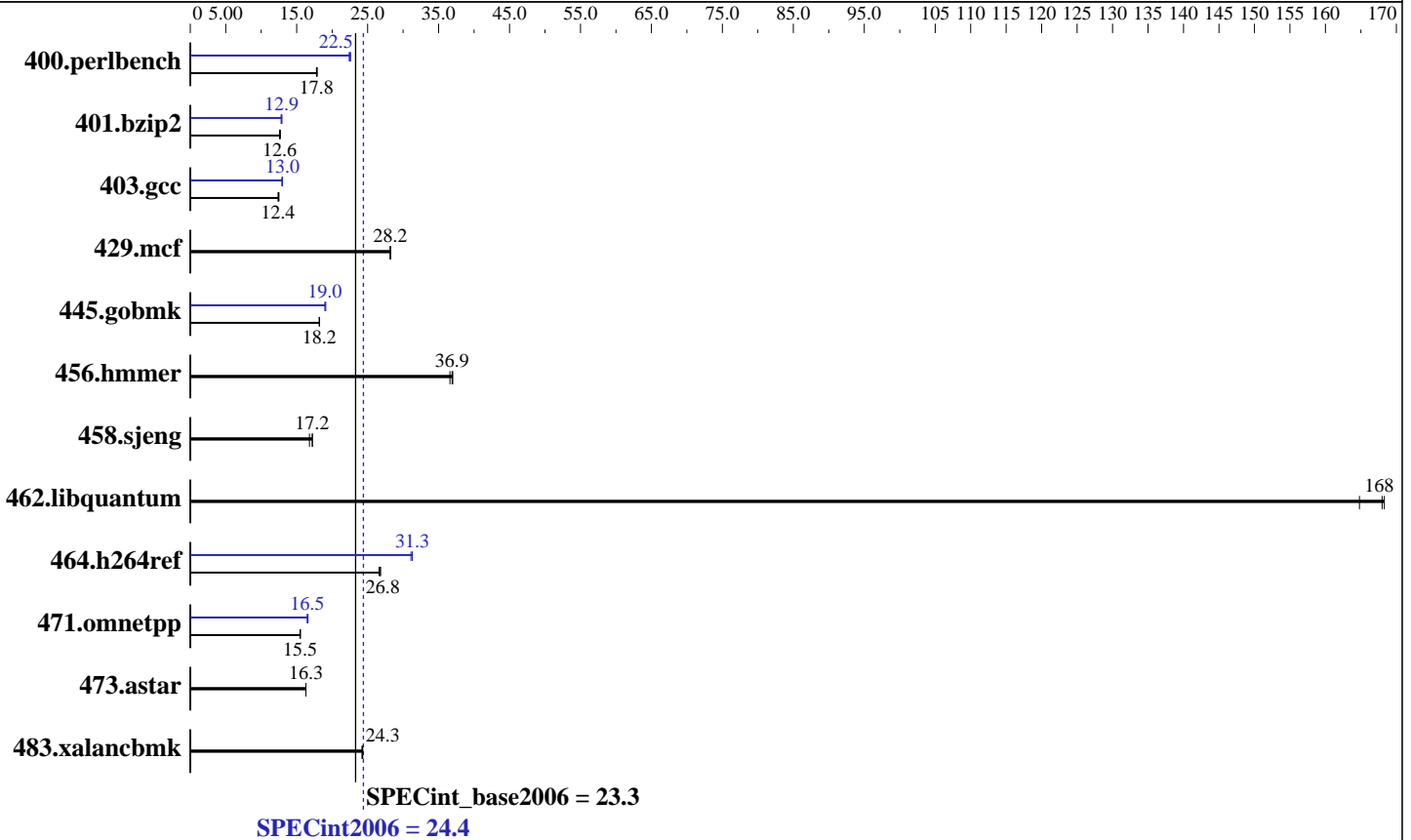
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Jun-2014

Hardware Availability: Aug-2013

Software Availability: Oct-2013



Hardware

CPU Name: AMD A4-4000
 CPU Characteristics: AMD Turbo CORE technology up to 3.20 GHz
 CPU MHz: 3000
 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: 8 GB (2 x 4 GB 2Rx4 PC3-12800U-11, running at 1333 MHz and CL9)
 Disk Subsystem: 1 TB Seagate 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	545	17.9	548	17.8	548	17.8	437	22.4	433	22.6	434	22.5
401.bzip2	761	12.7	763	12.6	764	12.6	752	12.8	748	12.9	748	12.9
403.gcc	648	12.4	647	12.4	643	12.5	619	13.0	622	12.9	618	13.0
429.mcf	323	28.2	323	28.2	324	28.2	323	28.2	323	28.2	324	28.2
445.gobmk	576	18.2	576	18.2	576	18.2	553	19.0	550	19.1	553	19.0
456.hammer	255	36.6	252	37.0	253	36.9	255	36.6	252	37.0	253	36.9
458.sjeng	704	17.2	719	16.8	705	17.2	704	17.2	719	16.8	705	17.2
462.libquantum	126	165	123	168	123	168	126	165	123	168	123	168
464.h264ref	826	26.8	831	26.6	826	26.8	711	31.1	708	31.3	708	31.3
471.omnetpp	403	15.5	403	15.5	403	15.5	378	16.5	377	16.6	378	16.5
473.astar	430	16.3	430	16.3	431	16.3	430	16.3	430	16.3	431	16.3
483.xalancbmk	284	24.3	285	24.2	284	24.3	284	24.3	285	24.2	284	24.3

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 Clt08606E747443 Mon Jun 30 18:18:00 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 ~3000 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 : 1024
L3CacheSize : 0
MaxClockSpeed : 3000
Name : AMD A4-4000 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

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.hmmmer: -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 other inquiries, please contact webmaster@spec.org.

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