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)

$SPECint^{®}2006 =$ 32.9
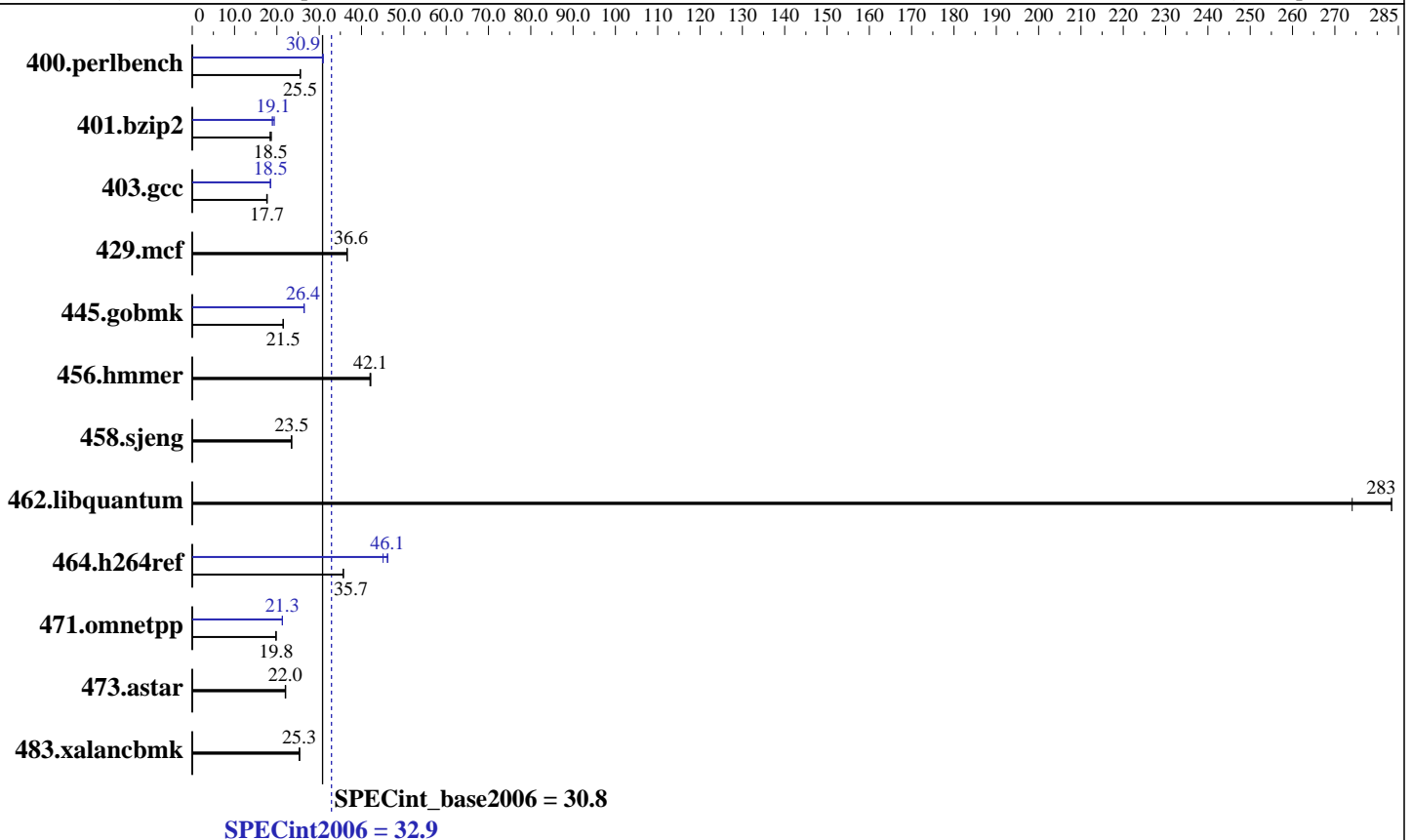
$SPECint\_base2006 =$ 30.8

CPU2006 license: 13
Test sponsor: Intel Corporation
Tested by: Intel Corporation

Test date: Sep-2013
Hardware Availability: Jun-2013
Software Availability: Apr-2013

0 10.0 20.0 30.0 40.0 50.0 60.0 70.0 80.0 90.0 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 285

Benchmark	Peak	Base
400.perlbench	30.9	25.5
401.bzip2	19.1	18.5
403.gcc	18.5	17.7
429.mcf		36.6
445.gobmk	26.4	21.5
456.hmmer		42.1
458.sjeng		23.5
462.libquantum		283
464.h264ref	46.1	35.7
471.omnetpp	21.3	19.8
473.astar		22.0
483.xalancbmk		25.3

SPECint_base2006 = 30.8

SPECint2006 = 32.9

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:	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	**383**	**25.5**	381	25.6	384	25.5	**316**	**30.9**	316	30.9	317	30.9
401.bzip2	523	18.4	517	18.7	**522**	**18.5**	497	19.4	**505**	**19.1**	511	18.9
403.gcc	456	17.6	455	17.7	**456**	**17.7**	**435**	**18.5**	435	18.5	436	18.5
429.mcf	249	36.6	**249**	**36.6**	249	36.6	249	36.6	**249**	**36.6**	249	36.6
445.gobmk	**488**	**21.5**	488	21.5	488	21.5	**397**	**26.4**	396	26.5	397	26.4
456.hmmer	**222**	**42.1**	222	42.0	221	42.2	**222**	**42.1**	222	42.0	221	42.2
458.sjeng	**516**	**23.5**	517	23.4	516	23.5	**516**	**23.5**	517	23.4	516	23.5
462.libquantum	73.1	283	**73.1**	**283**	75.6	274	73.1	283	**73.1**	**283**	75.6	274
464.h264ref	620	35.7	**620**	**35.7**	620	35.7	480	46.2	491	45.1	**480**	**46.1**
471.omnetpp	315	19.8	316	19.8	**316**	**19.8**	293	21.3	294	21.3	**293**	**21.3**
473.astar	319	22.0	318	22.1	**318**	**22.0**	319	22.0	318	22.1	**318**	**22.0**
483.xalancbmk	273	25.3	272	25.4	**272**	**25.3**	273	25.3	272	25.4	**272**	**25.3**

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 13.1 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:\SPEC13.1/Docs/sysinfo
$Rev: 6775 $ $Date:: 2011-08-16 #$ \8787f7622badcf24e01c368b1db4377c
running on Clt14DAE908A2BC Wed Sep 18 17:53:25 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.
    [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
```

Continued on next page

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Platform Notes (Continued)

```
    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

```
    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-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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