# SPEC® CINT2006 Result

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## ASUSTeK Computer Inc.

(Test Sponsor: Intel Corporation)

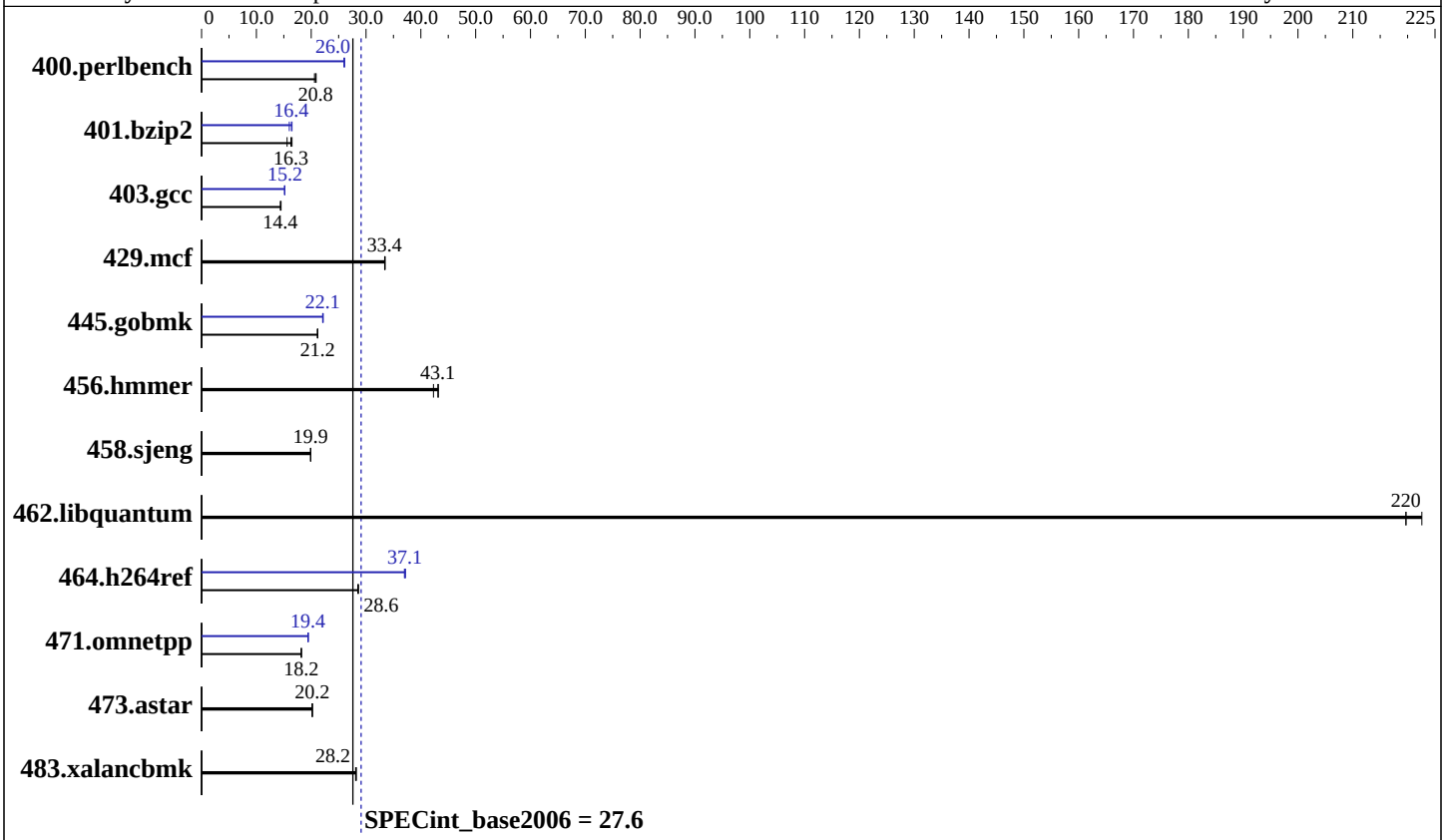
ASUS F2A85-M PRO Motherboard (AMD A8-5500 APU with Radeon HD Graphics)

SPECint®2006 = 29.1

SPECint_base2006 = 27.6

**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 A8-5500 |
| CPU Characteristics: | AMD Turbo CORE technology up to 3.70 GHz |
| CPU MHz: | 3200 |
| 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: | 8 GB (2 x 4 GB 2Rx4 PC3-12800U-11) |
| Disk Subsystem: | 1 TB 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 | **471** | **20.8** | 473 | 20.6 | 468 | 20.9 | 376 | 26.0 | 375 | 26.1 | **376** | **26.0** |
| 401.bzip2 | 585 | 16.5 | 618 | 15.6 | **592** | **16.3** | 605 | 16.0 | 585 | 16.5 | **589** | **16.4** |
| 403.gcc | 557 | 14.5 | 557 | 14.4 | **557** | **14.4** | 534 | 15.1 | 530 | 15.2 | **530** | **15.2** |
| 429.mcf | **273** | **33.4** | 273 | 33.4 | 273 | 33.5 | **273** | **33.4** | 273 | 33.4 | 273 | 33.5 |
| 445.gobmk | 496 | 21.2 | **496** | **21.2** | 496 | 21.1 | 475 | 22.1 | 473 | 22.2 | **474** | **22.1** |
| 456.hmmer | 216 | 43.2 | **217** | **43.1** | 221 | 42.3 | 216 | 43.2 | **217** | **43.1** | 221 | 42.3 |
| 458.sjeng | **609** | **19.9** | 608 | 19.9 | 609 | 19.9 | **609** | **19.9** | 608 | 19.9 | 609 | 19.9 |
| 462.libquantum | **94.3** | **220** | 93.1 | 223 | 94.3 | 220 | **94.3** | **220** | 93.1 | 223 | 94.3 | 220 |
| 464.h264ref | 773 | 28.6 | 776 | 28.5 | **773** | **28.6** | **597** | **37.1** | 595 | 37.2 | 598 | 37.0 |
| 471.omnetpp | 344 | 18.2 | **343** | **18.2** | 343 | 18.2 | **321** | **19.4** | 321 | 19.5 | 321 | 19.4 |
| 473.astar | **348** | **20.2** | 348 | 20.2 | 348 | 20.2 | **348** | **20.2** | 348 | 20.2 | 348 | 20.2 |
| 483.xalancbmk | 245 | 28.1 | **245** | **28.2** | 245 | 28.2 | 245 | 28.1 | **245** | **28.2** | 245 | 28.2 |

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 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 Clt3085A9AEE495 Mon Jun 30 18:38:58 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 16 Stepping 1 AuthenticAMD ~3200 Mhz
BIOS Version  : American Megatrends Inc. 6303, 8/13/2013
Total Physical Memory: 7,366 MB

Trying 'wmic cpu get /value'
DeviceID      : CPU0
```

Continued on next page

## Platform Notes (Continued)

```
L2CacheSize   : 4096
L3CacheSize   : 0
MaxClockSpeed : 3200
Name          : AMD A8-5500 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
```

## 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
```

## 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`

Continued on next page

## 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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