# SPEC® CINT2006 Result

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## ASUSTeK Computer Inc.

(Test Sponsor: Intel Corporation)

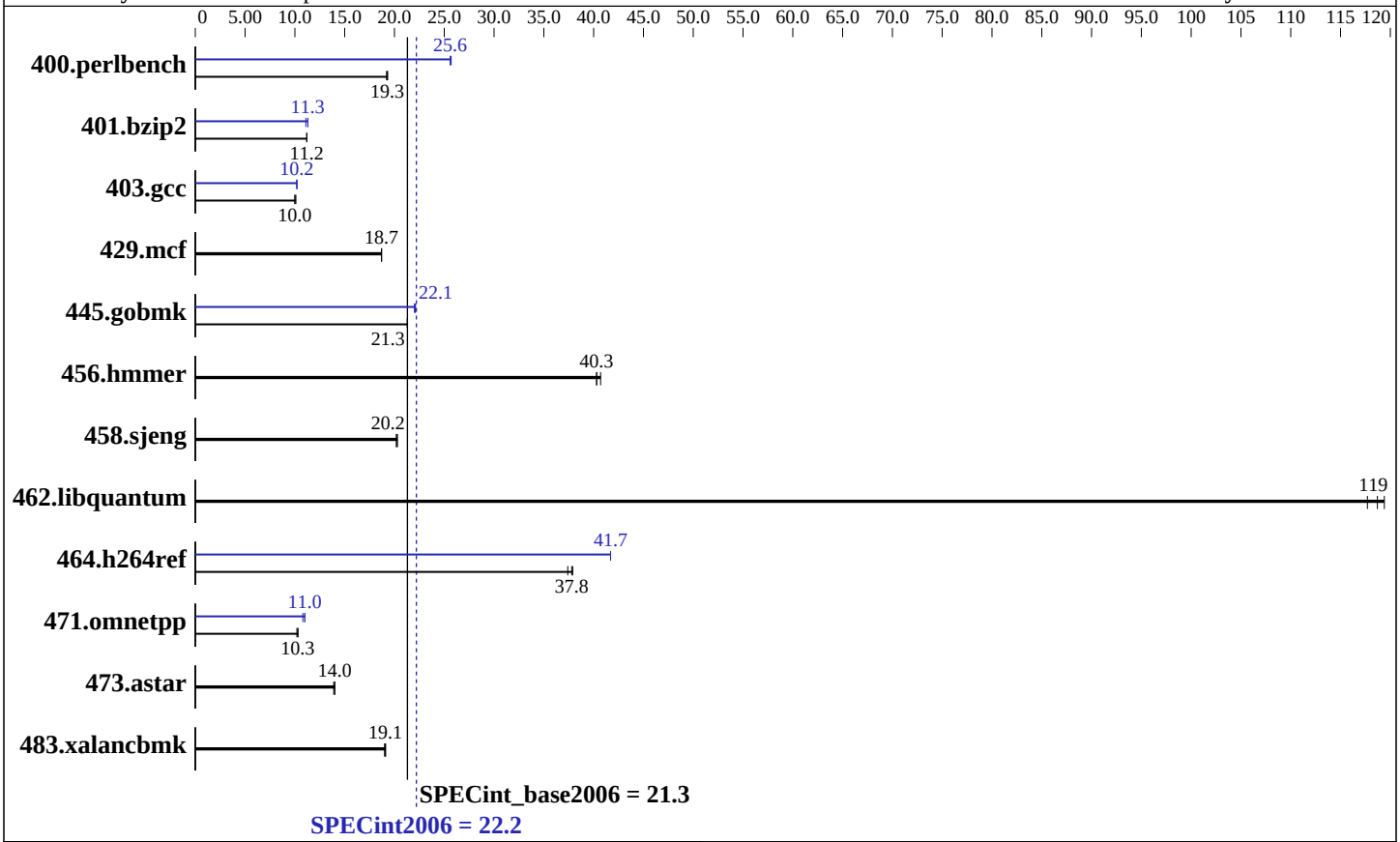
ASUS A88X-PRO Motherboard (AMD A6 PRO-7400B with Radeon R5 Graphics)

SPECint®2006 = 22.2

SPECint_base2006 = 21.3

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

**Test date:** Nov-2014
**Hardware Availability:** Jul-2014
**Software Availability:** Oct-2013




## Hardware

| | |
|---|---|
| CPU Name: | AMD A6 PRO-7400B |
| CPU Characteristics: | AMD Turbo CORE technology up to 3.90 GHz |
| CPU MHz: | 3500 |
| FPU: | Integrated |
| CPU(s) enabled: | 2 cores, 1 chip, 2 cores/chip |
| CPU(s) orderable: | 1 chip |
| Primary Cache: | 96 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 PC3-14900U-13) |
| Disk Subsystem: | 160 GB Western Digital 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: | Microquill SmartHeap V10.0 |

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## Results Table

| Benchmark | Base | | | | | | Peak | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 400.perlbench | 508 | 19.2 | **507** | **19.3** | 506 | 19.3 | 382 | 25.6 | 381 | 25.7 | **381** | **25.6** |
| 401.bzip2 | **859** | **11.2** | 858 | 11.2 | 864 | 11.2 | 855 | 11.3 | 869 | 11.1 | **855** | **11.3** |
| 403.gcc | **805** | **10.0** | 807 | 10.0 | 800 | 10.1 | 790 | 10.2 | 788 | 10.2 | **789** | **10.2** |
| 429.mcf | **488** | **18.7** | 489 | 18.7 | 488 | 18.7 | **488** | **18.7** | 489 | 18.7 | 488 | 18.7 |
| 445.gobmk | **492** | **21.3** | 494 | 21.3 | 491 | 21.3 | 475 | 22.1 | 477 | 22.0 | **476** | **22.1** |
| 456.hmmer | **231** | **40.3** | 229 | 40.7 | 232 | 40.3 | **231** | **40.3** | 229 | 40.7 | 232 | 40.3 |
| 458.sjeng | 596 | 20.3 | 599 | 20.2 | **598** | **20.2** | 596 | 20.3 | 599 | 20.2 | **598** | **20.2** |
| 462.libquantum | 176 | 118 | 174 | 119 | **175** | **119** | 176 | 118 | 174 | 119 | **175** | **119** |
| 464.h264ref | **586** | **37.8** | 591 | 37.4 | 584 | 37.9 | **531** | **41.7** | 531 | 41.7 | 530 | 41.7 |
| 471.omnetpp | 610 | 10.2 | 608 | 10.3 | **609** | **10.3** | 570 | 11.0 | 576 | 10.8 | **570** | **11.0** |
| 473.astar | 502 | 14.0 | 503 | 13.9 | **503** | **14.0** | 502 | 14.0 | 503 | 13.9 | **503** | **14.0** |
| 483.xalancbmk | 364 | 19.0 | 361 | 19.1 | **362** | **19.1** | 364 | 19.0 | 361 | 19.1 | **362** | **19.1** |

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 CltE03F49B01B77 Wed Nov  5 22:28:22 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 48 Stepping 1 AuthenticAMD ~3500 Mhz
BIOS Version  : American Megatrends Inc. 1301, 6/24/2014
Total Physical Memory: 7,105 MB

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

Continued on next page

## Platform Notes (Continued)

```
L2CacheSize   : 25359
L3CacheSize   : 0
MaxClockSpeed : 3500
Name          : AMD A6 PRO-7400B R5, 6 Compute Cores 2C+4G
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.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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For other inquiries, please contact webmaster@spec.org.

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