# SPEC® CINT2006 Result

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## ASUSTeK Computer Inc.

(Test Sponsor: Intel Corporation)

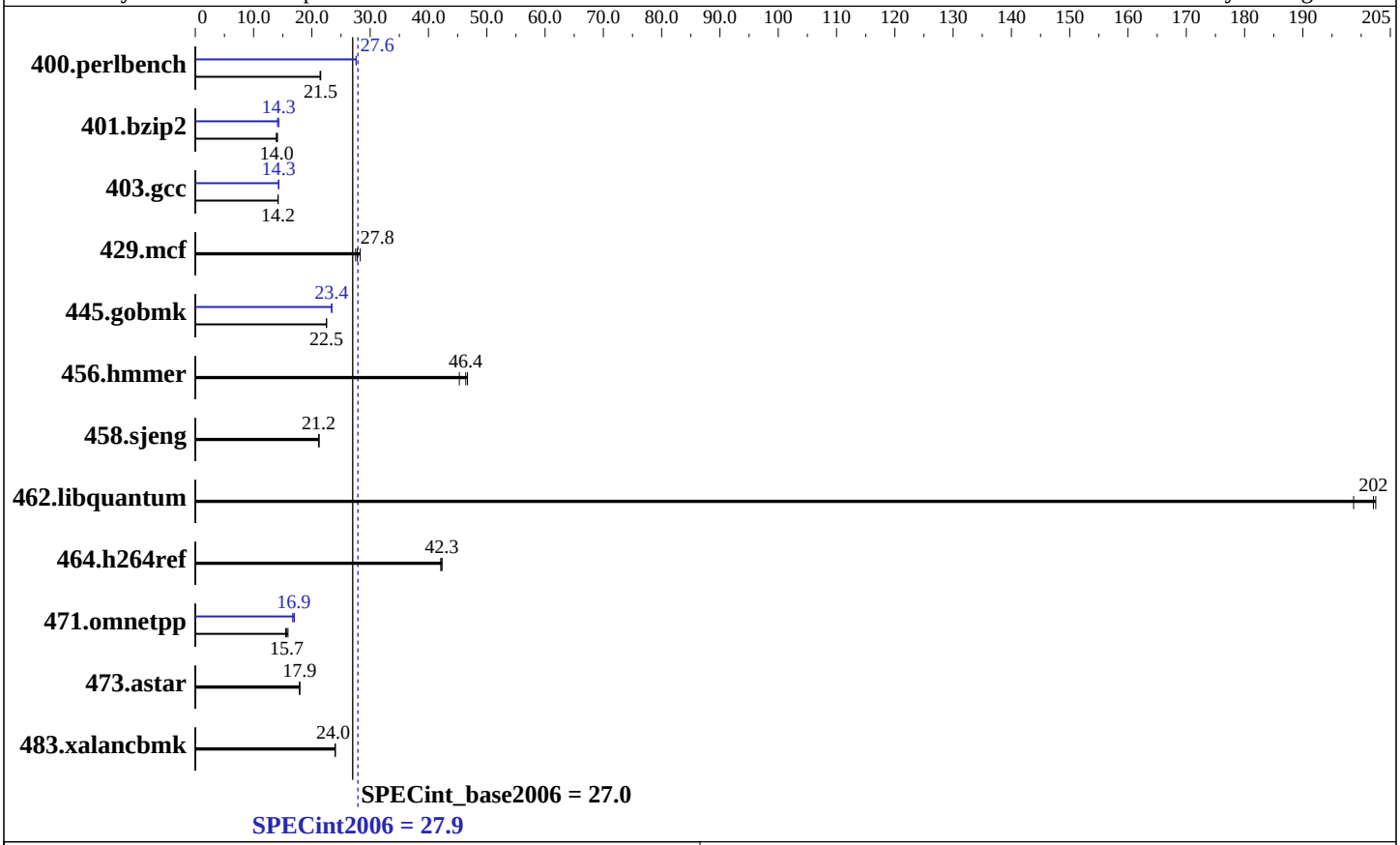
ASUS A88X-PRO Motherboard (AMD A6 PRO-7400B with Radeon R5 Graphics)

SPECint®2006 = 27.9

SPECint_base2006 = 27.0

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

**Test date:** May-2016
**Hardware Availability:** Jul-2014
**Software Availability:** Aug-2015




### 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 2Rx8 PC3-10600U-11) |
| Disk Subsystem: | Seagate Barracuda 250 GB SATA, 7200 RPM |
| Other Hardware: | None |

### Software

| | |
|---|---|
| Operating System: | Microsoft Windows 7 Ultimate 6.1.7601 Service Pack 1 Build 7601 |
| Compiler: | C/C++: Version 16.0.0.110 of Intel C++ Studio XE for Windows; Libraries: Version 18.00.30723 of Microsoft Visual Studio 2013 |
| Auto Parallel: | Yes |
| File System: | NTFS |
| System State: | Default |
| Base Pointers: | 32/64-bit |
| Peak Pointers: | 32/64-bit |
| Other Software: | SmartHeap Library Version 11.0 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 | **454** | **21.5** | 454 | 21.5 | 456 | 21.4 | 354 | 27.6 | 354 | 27.6 | **354** | **27.6** |
| 401.bzip2 | **691** | **14.0** | 686 | 14.1 | 692 | 13.9 | 674 | 14.3 | **675** | **14.3** | 684 | 14.1 |
| 403.gcc | 565 | 14.2 | **567** | **14.2** | 567 | 14.2 | **561** | **14.3** | 563 | 14.3 | 561 | 14.3 |
| 429.mcf | 323 | 28.3 | **328** | **27.8** | 332 | 27.5 | 323 | 28.3 | **328** | **27.8** | 332 | 27.5 |
| 445.gobmk | 465 | 22.5 | **466** | **22.5** | 466 | 22.5 | 449 | 23.4 | **449** | **23.4** | 449 | 23.4 |
| 456.hmmer | **201** | **46.4** | 206 | 45.3 | 200 | 46.7 | **201** | **46.4** | 206 | 45.3 | 200 | 46.7 |
| 458.sjeng | **571** | **21.2** | 571 | 21.2 | 570 | 21.2 | **571** | **21.2** | 571 | 21.2 | 570 | 21.2 |
| 462.libquantum | 104 | 199 | 102 | 203 | **103** | **202** | 104 | 199 | 102 | 203 | **103** | **202** |
| 464.h264ref | 523 | 42.3 | **524** | **42.3** | 525 | 42.1 | 523 | 42.3 | **524** | **42.3** | 525 | 42.1 |
| 471.omnetpp | 403 | 15.5 | 392 | 15.9 | **397** | **15.7** | 374 | 16.7 | 369 | 17.0 | **371** | **16.9** |
| 473.astar | 393 | 17.9 | 391 | 17.9 | **391** | **17.9** | 393 | 17.9 | 391 | 17.9 | **391** | **17.9** |
| 483.xalancbmk | 288 | 24.0 | 287 | 24.0 | **287** | **24.0** | 288 | 24.0 | 287 | 24.0 | **287** | **24.0** |

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 16.0 was set up to
generate 64-bit binaries with the command:
"psxevars.bat intel64" (shortcut provided in the Intel(r)
Parallel Studio XE 2016 program folder)
```

## Platform Notes

```
Sysinfo program C:\SPEC16.0/Docs/sysinfo
$Rev: 6775 $ $Date:: 2011-08-16 #$ \8787f7622badcf24e01c368b1db4377c
running on Clt1C872C5DF572 Sat May 14 01:25:27 2016

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 48 Stepping 1 AuthenticAMD ~3500 Mhz
BIOS Version   : American Megatrends Inc. 2502, 12/11/2015
Total Physical Memory: 7,108 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 Xeon E5-2699 v3 CPU
+ 64GB memory using Windows 8.1 Enterprise 64-bit
```

# Base Compiler Invocation

C benchmarks:
```
icl -Qvc12 -Qstd=c99
```

C++ benchmarks:
```
icl -Qvc12
```

# Base Portability Flags

400.perlbench: -DSPEC_CPU_P64 -DSPEC_CPU_WIN64_X64
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
471.omnetpp: -DSPEC_CPU_P64 -DSPEC_CPU_WIN64
473.astar: -DSPEC_CPU_P64
483.xalancbmk: -DSPEC_CPU_P64 -Qoption,cpp,--no_wchar_t_keyword -DWIN64

## Base Optimization Flags

C benchmarks:
```
/arch:AVX -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qparallel
-Qauto-ilp32 /F64000000
```

C++ benchmarks:
```
/arch:AVX -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qcxx-features
-Qauto-ilp32 /F64000000 shlW64M.lib            -link /FORCE:MULTIPLE
```

## Base Other Flags

C benchmarks:

403.gcc: `-Dalloca=_alloca`

## Peak Compiler Invocation

C benchmarks:
```
icl -Qvc12 -Qstd=c99
```

C++ benchmarks:
```
icl -Qvc12
```

## 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 /F64000000 shlW64M.lib`
`/F256000000 -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 /F64000000`

403.gcc: `/arch:AVX`(pass 2) `-Qprof_gen`(pass 1) `-Qprof_use`(pass 2)
`-Qipo -O3 -Qprec-div- -Qauto-ilp32 /F64000000`

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 /F64000000

456.hmmer: basepeak = yes

458.sjeng: basepeak = yes

462.libquantum: basepeak = yes

464.h264ref: basepeak = yes

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 /F64000000 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-ic16.0-official-windows.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-windows.xml

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For other inquiries, please contact webmaster@spec.org.

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