



# SPEC® CINT2006 Result

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ASUSTeK Computer Inc.  
(Test Sponsor: Intel Corporation)

SPECint®2006 = 21.0

Asus M4A89GTD-PRO (Athlon II X2 255)

SPECint\_base2006 = 20.7

CPU2006 license: 13

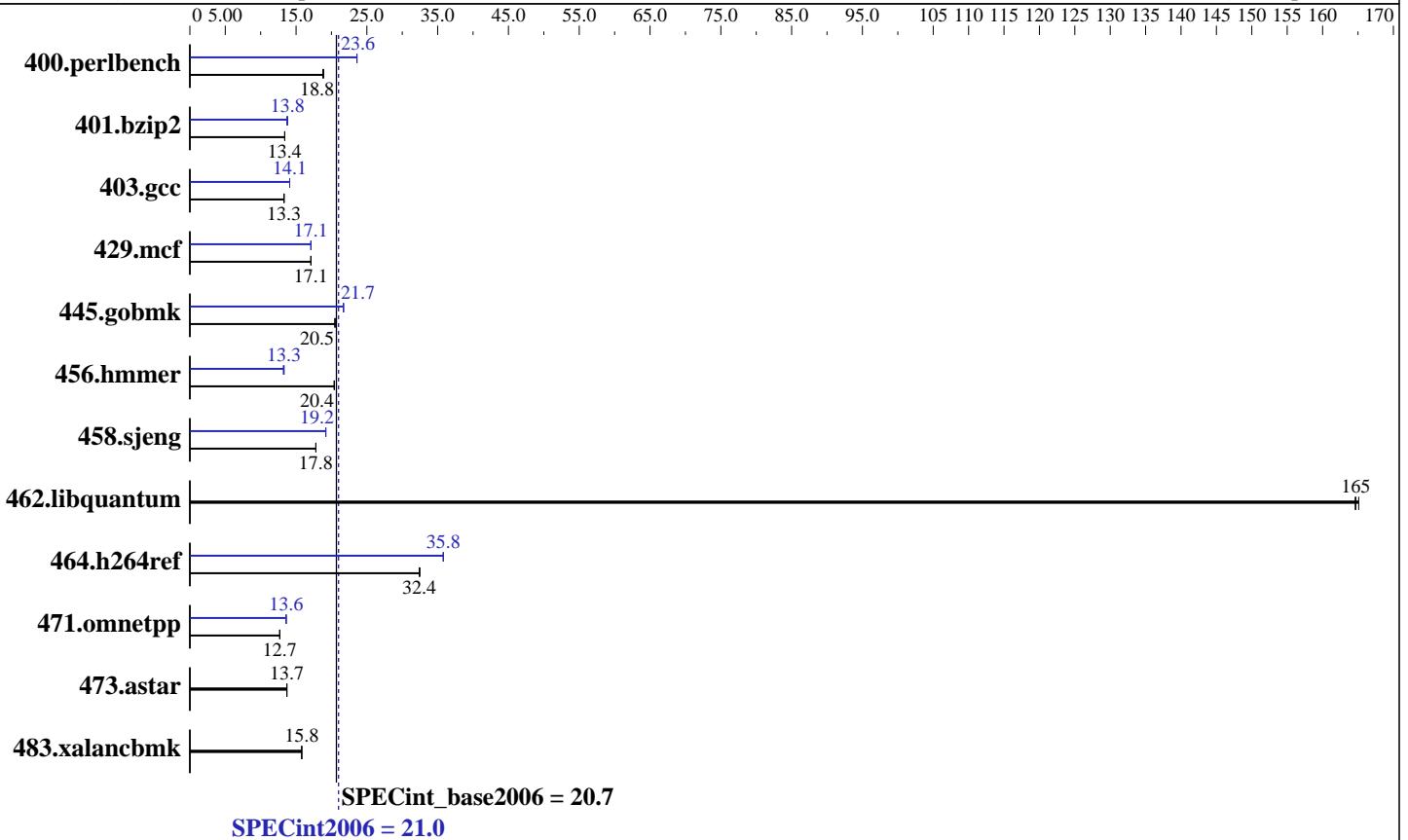
Test date: May-2011

Test sponsor: Intel Corporation

Hardware Availability: Jul-2010

Tested by: Intel Corporation

Software Availability: Apr-2011



## Hardware

CPU Name: AMD Athlon II X2 255  
 CPU Characteristics:  
 CPU MHz: 3100  
 FPU: Integrated  
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip  
 CPU(s) orderable: 1 chip  
 Primary Cache: 64 KB I + 64 KB D on chip per core  
 Secondary Cache: 1 MB I+D on chip per core  
 L3 Cache: None  
 Other Cache: None  
 Memory: 4 GB (2 x 2 GB 2Rx8 PC3-10600U-9)  
 Disk Subsystem: Seagate 1 TB SATA, 7200 RPM  
 Other Hardware: None

## Software

Operating System: Windows 7 Ultimate (64-bit)  
 Compiler: Intel C++ Compiler XE for IA32 and Intel 64 Version 12.0.3.176 Build 20110309  
 Microsoft Visual Studio 2008 Professional SP1 (for libraries)  
 Auto Parallel: Yes  
 File System: NTFS  
 System State: Default  
 Base Pointers: 32/64-bit  
 Peak Pointers: 32/64-bit  
 Other Software: SmartHeap Library Version 9.01 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	518	18.9	520	18.8	<u>519</u>	<u>18.8</u>	<u>414</u>	<u>23.6</u>	415	23.6	414	23.6
401.bzip2	718	13.4	<u>720</u>	<u>13.4</u>	721	13.4	699	13.8	<u>700</u>	<u>13.8</u>	702	13.7
403.gcc	607	13.3	<u>607</u>	<u>13.3</u>	607	13.3	570	14.1	<u>570</u>	<u>14.1</u>	570	14.1
429.mcf	532	17.1	<u>532</u>	<u>17.1</u>	532	17.1	<u>535</u>	<u>17.1</u>	535	17.1	534	17.1
445.gobmk	512	20.5	512	20.5	<u>512</u>	<u>20.5</u>	485	21.7	<u>484</u>	<u>21.7</u>	484	21.7
456.hmmer	458	20.4	458	20.4	<u>458</u>	<u>20.4</u>	704	13.3	<u>704</u>	<u>13.3</u>	704	13.2
458.sjeng	679	17.8	<u>679</u>	<u>17.8</u>	679	17.8	631	19.2	<u>632</u>	<u>19.2</u>	632	19.2
462.libquantum	<u>126</u>	<u>165</u>	126	165	126	165	<u>126</u>	<u>165</u>	126	165	126	165
464.h264ref	682	32.4	682	32.5	<u>682</u>	<u>32.4</u>	618	35.8	<u>618</u>	<u>35.8</u>	618	35.8
471.omnetpp	492	12.7	<u>492</u>	<u>12.7</u>	492	12.7	459	13.6	<u>459</u>	<u>13.6</u>	459	13.6
473.astar	511	13.7	511	13.7	<u>511</u>	<u>13.7</u>	511	13.7	511	13.7	<u>511</u>	<u>13.7</u>
483.xalancbmk	<u>437</u>	<u>15.8</u>	437	15.8	437	15.8	<u>437</u>	<u>15.8</u>	437	15.8	437	15.8

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## General Notes

Tested systems can be used with Shin-G ATX case,  
PC Power and Cooling 1200W power supply  
OMP\_NUM\_THREADS set to number of processors cores  
KMP\_AFFINITY set to granularity=fine,scatter

## Base Compiler Invocation

C benchmarks:

```
icl -Qvc9 -Qstd=c99
```

C++ benchmarks:

```
icl -Qvc9
```

## 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

```

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## Base Portability Flags (Continued)

```
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:SSE3 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qparallel
-Qauto-ilp32 /F512000000
```

C++ benchmarks:

```
/arch:SSE3 -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 -Qvc9 -Qstd=c99
```

C++ benchmarks:

```
icl -Qvc9
```

## Peak Portability Flags

Same as Base Portability Flags

## Peak Optimization Flags

C benchmarks:

```
400.perlbench: /arch:SSE3(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
-Qauto-ilp32 /F512000000 shlw64M.lib
```

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## Peak Optimization Flags (Continued)

400.perlbench (continued):

-link /FORCE:MULTIPLE

401.bzip2: /arch:SSE3(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qprec-div- -Qopt-prefetch -Qansi-alias  
-Qauto-ilp32 /F512000000

403.gcc: /arch:SSE3(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qprec-div- -Qauto-ilp32 /F512000000

429.mcf: /arch:SSE3 -Qipo -O3 -Qprec-div- -Qopt-prefetch  
-Qauto-ilp32 /F512000000

445.gobmk: /arch:SSE3(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O2 -Qprec-div- -Qansi-alias -Qauto-ilp32  
/F512000000

456.hmmer: /arch:SSE3 -Qipo -O3 -Qprec-div- -Qunroll2 -Qansi-alias  
-Qauto-ilp32 /F512000000

458.sjeng: /arch:SSE3(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qprec-div- -Qunroll4 -Qauto-ilp32 /F512000000

462.libquantum: basepeak = yes

464.h264ref: /arch:SSE3(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:SSE3(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



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The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic12-winx64-revB.html>

<http://www.spec.org/cpu2006/flags/Intel-Windows-Platform-Settings.20110719.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic12-winx64-revB.xml>

<http://www.spec.org/cpu2006/flags/Intel-Windows-Platform-Settings.20110719.xml>

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For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.1.  
Report generated on Wed Jul 23 21:18:56 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 19 July 2011.