



SPEC® CINT2006 Result

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ASUSTeK Computer Inc.
(Test Sponsor: Intel Corporation)

SPECint®_rate2006 = 36.9

ASUSTek M4A89GTD PRO/USB3 (Athlon II X2 220)

SPECint_rate_base2006 = 32.8

CPU2006 license: 13

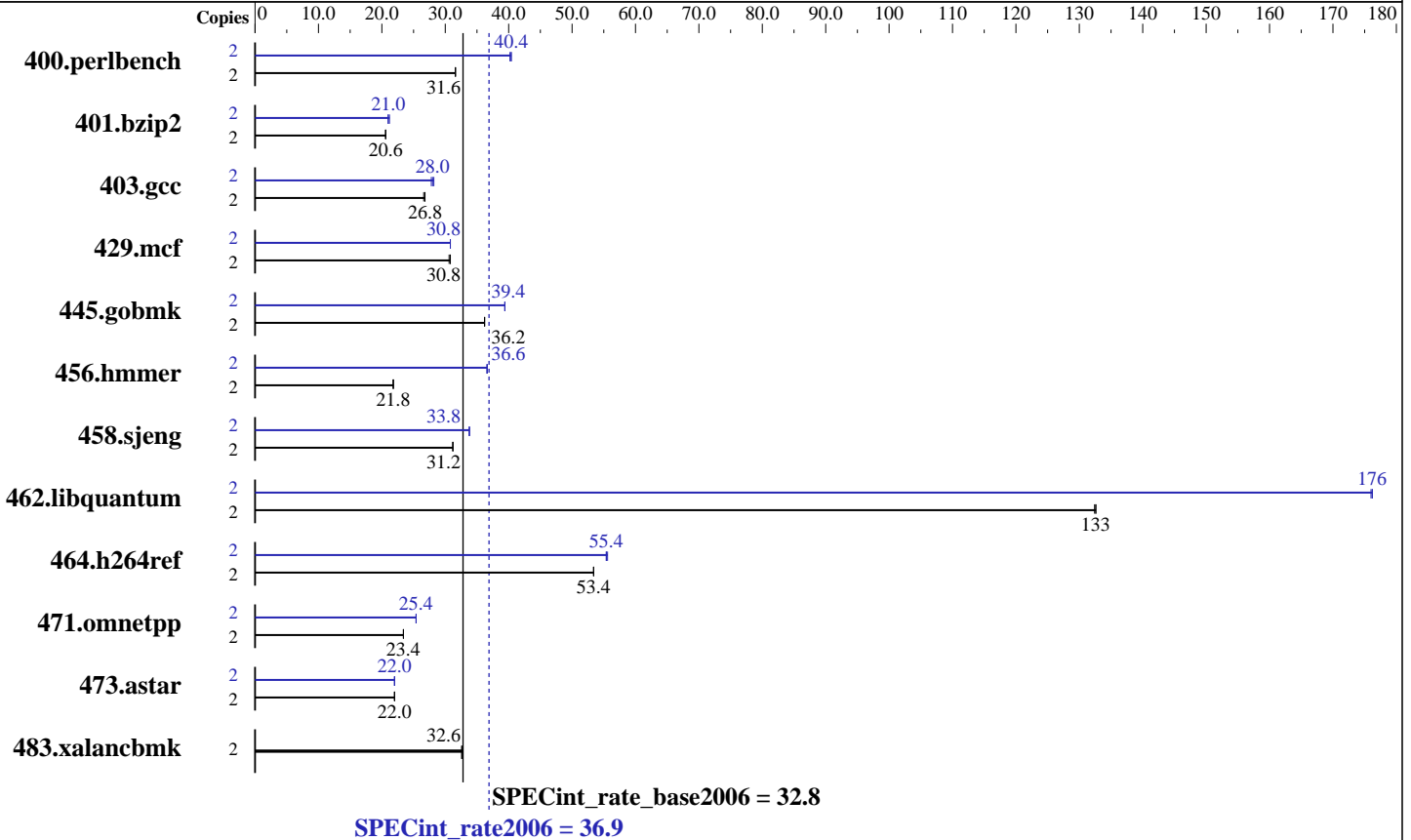
Test date: Jun-2011

Test sponsor: Intel Corporation

Hardware Availability: Feb-2011

Tested by: Intel Corporation

Software Availability: Apr-2011



Hardware

CPU Name: AMD Athlon II X2 220
 CPU Characteristics:
 CPU MHz: 2800
 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: 512 KB I+D on chip per core
 L3 Cache: None
 Other Cache: None
 Memory: 4 GB (2 x 2 GB 2Rx4 PC3-10600U-9)
 Disk Subsystem: 1 TB Seagate 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: No
 File System: NTFS
 System State: Default
 Base Pointers: 32-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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	2	619	31.6	619	31.6	619	31.6	2	486	40.2	485	40.4	484	40.4
401.bzip2	2	938	20.6	933	20.6	934	20.6	2	921	21.0	915	21.2	915	21.0
403.gcc	2	606	26.6	602	26.8	602	26.8	2	572	28.2	576	28.0	578	27.8
429.mcf	2	594	30.8	595	30.6	594	30.8	2	593	30.8	594	30.8	592	30.8
445.gobmk	2	579	36.2	578	36.2	578	36.2	2	533	39.4	533	39.4	533	39.4
456.hammer	2	859	21.8	859	21.8	859	21.8	2	509	36.6	509	36.6	509	36.6
458.sjeng	2	776	31.2	776	31.2	776	31.2	2	716	33.8	716	33.8	715	33.8
462.libquantum	2	313	133	313	133	313	132	2	235	176	236	176	235	176
464.h264ref	2	829	53.4	827	53.4	828	53.4	2	798	55.4	798	55.4	797	55.6
471.omnetpp	2	536	23.4	535	23.4	536	23.4	2	493	25.4	493	25.4	493	25.4
473.astar	2	636	22.0	636	22.0	636	22.0	2	639	22.0	639	22.0	639	22.0
483.xalancbmk	2	422	32.6	422	32.6	422	32.8	2	422	32.6	422	32.6	422	32.8

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

Submit Notes

The config file option 'submit' was used.

The start command with the /affinity switch was used to bind processes to cores

General Notes

Tested systems can be used with Shin-G ATX case,
PC Power and Cooling 1200W power supply

Base Compiler Invocation

C benchmarks:

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

C++ benchmarks:

```
icl -Qvc9
```

Base Portability Flags

```
403.gcc: -DSPEC_CPU_WIN32
464.h264ref: -DWIN32 -DSPEC_CPU_NO_INTTYPES
483.xalancbmk: -Qoption,cpp,--no_wchar_t_keyword
```



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Base Optimization Flags

C benchmarks:

/arch:SSE3 -Qipo -O3 -Qprec-div- -Qopt-prefetch /F512000000

C++ benchmarks:

/arch:SSE3 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qcxx-features
/F512000000 shlw32M.lib -link /FORCE:MULTIPLE

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):

icl -Qvc9 -Qstd=c99

456.hmmr: C:/Program Files (x86)/Intel/ComposerXE-2011/bin/intel64/icl.exe

458.sjeng: C:/Program Files (x86)/Intel/ComposerXE-2011/bin/intel64/icl.exe

462.libquantum: C:/Program Files (x86)/Intel/ComposerXE-2011/bin/intel64/icl.exe
-Qstd=c99

C++ benchmarks (except as noted below):

icl -Qvc9

473.astar: C:/Program Files (x86)/Intel/ComposerXE-2011/bin/intel64/icl.exe

Peak Portability Flags

403.gcc: -DSPEC_CPU_WIN32

456.hmmr: -DSPEC_CPU_P64

458.sjeng: -DSPEC_CPU_P64

462.libquantum: -DSPEC_CPU_P64

464.h264ref: -DWIN32 -DSPEC_CPU_NO_INTTYPES

473.astar: -DSPEC_CPU_P64

483.xalancbmk: -Qoption,cpp,--no_wchar_t_keyword



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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
               /F512000000 shlW32M.lib -link /FORCE:MULTIPLE

401.bzips2: /arch:SSE3(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
            -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qansi-alias
            /F512000000

403.gcc: /arch:SSE3(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
         -Qipo -O3 -Qprec-div- -Qopt-prefetch /F512000000

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

445.gobmk: /arch:SSE3(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
          -Qipo -O2 -Qprec-div- -Qansi-alias /F512000000

456.hmmer: -Qauto-ilp32 /arch:SSE3(pass 2) -Qprof_gen(pass 1)
           -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qopt-prefetch
           /F512000000

458.sjeng: -Qauto-ilp32 /arch:SSE3(pass 2) -Qprof_gen(pass 1)
           -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll4
           /F512000000

462.libquantum: -Qauto-ilp32 /arch:SSE3 -Qipo -O3 -Qprec-div-
                -Qopt-prefetch /F512000000

464.h264ref: /arch:SSE3(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
            -Qipo -O3 -Qprec-div- -Qunroll2 -Qansi-alias /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 /F512000000 shlW32M.lib
            -link /FORCE:MULTIPLE

473.astar: -Qauto-ilp32 /arch:SSE3 -Qipo -O3 -Qprec-div-
           -Qopt-prefetch /F512000000 shlW64M.lib
           -link /FORCE:MULTIPLE

483.xalancbmk: basepeak = yes

```



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Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

456.hmmcr: -link -LIBPATH:C:/Program Files (x86)/Intel/ComposerXE-2011/compiler/lib/intel64
-link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 9.0/VC/lib/AMD64
-link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 9.0/VC/lib
-link -LIBPATH:C:/Program Files (x86)/Microsoft SDKs/Windows/v7.0A/lib/x64

458.sjeng: -link -LIBPATH:C:/Program Files (x86)/Intel/ComposerXE-2011/compiler/lib/intel64
-link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 9.0/VC/lib/AMD64
-link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 9.0/VC/lib
-link -LIBPATH:C:/Program Files (x86)/Microsoft SDKs/Windows/v7.0A/lib/x64

462.libquantum: -link -LIBPATH:C:/Program Files (x86)/Intel/ComposerXE-2011/compiler/lib/intel64
-link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 9.0/VC/lib/AMD64
-link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 9.0/VC/lib
-link -LIBPATH:C:/Program Files (x86)/Microsoft SDKs/Windows/v7.0A/lib/x64

C++ benchmarks:

473.astar: -link -LIBPATH:C:/Program Files (x86)/Intel/ComposerXE-2011/compiler/lib/intel64
-link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 9.0/VC/lib/AMD64
-link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 9.0/VC/lib
-link -LIBPATH:C:/Program Files (x86)/Microsoft SDKs/Windows/v7.0A/lib/x64

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

<http://www.spec.org/cpu2006/flags/Intel-ic12-win32-revC.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-win32-revC.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.

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