



SPEC® CINT2006 Result

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ASUSTeK Computer Inc.
(Test Sponsor: Intel Corporation)

SPECint®_rate2006 = 72.8

ASUSTek M4A89GTD PRO/USB3 (Athlon II X4 645)

SPECint_rate_base2006 = 66.0

CPU2006 license: 13

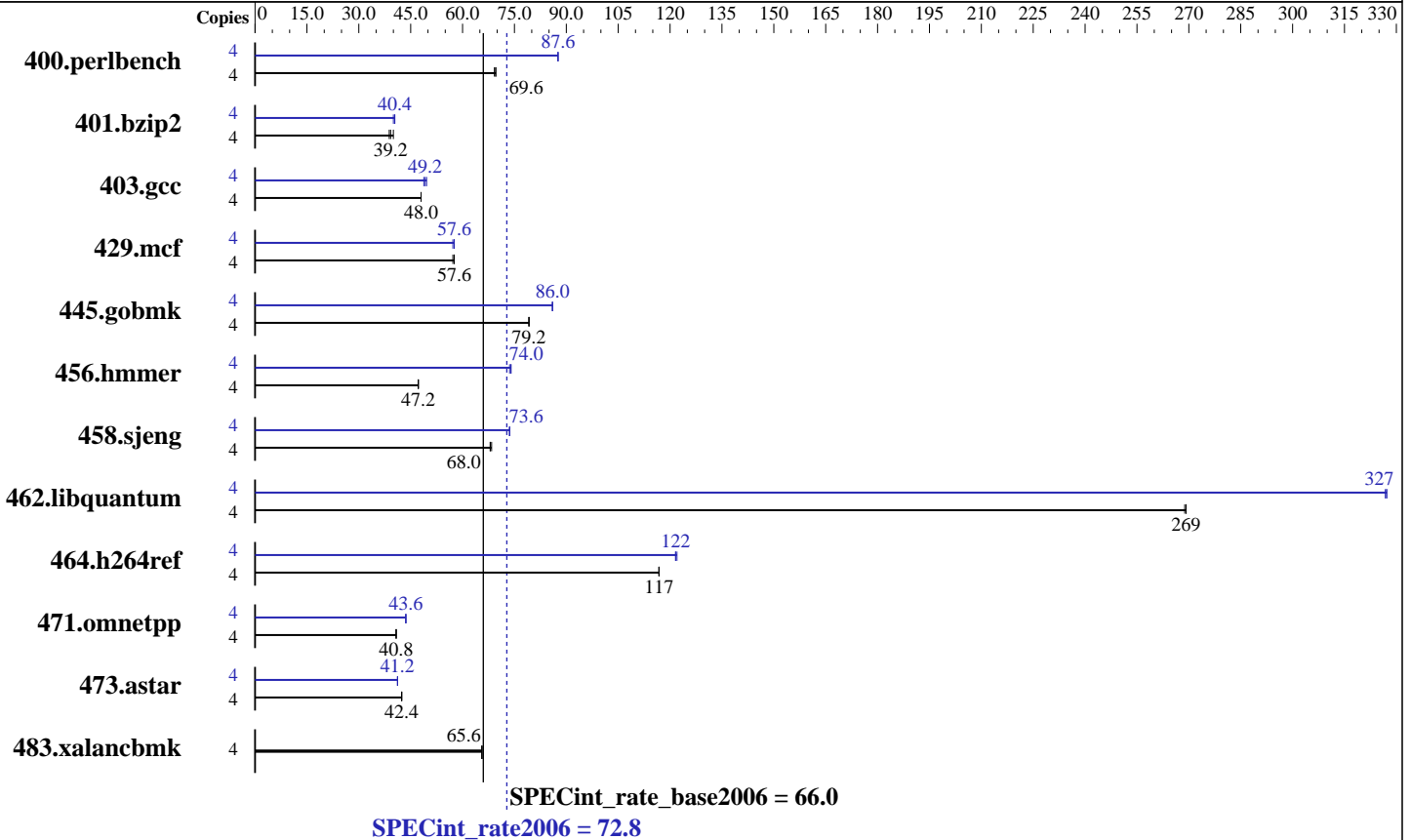
Test date: Jun-2011

Test sponsor: Intel Corporation

Hardware Availability: Feb-2011

Tested by: Intel Corporation

Software Availability: Apr-2011



Hardware

CPU Name: AMD Athlon II X4 645
 CPU Characteristics:
 CPU MHz: 3100
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 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	4	562	69.6	563	69.2	563	69.6	4	446	87.6	445	87.6	445	87.6		
401.bzip2	4	997	38.8	970	40.0	981	39.2	4	955	40.4	955	40.4	963	40.0		
403.gcc	4	672	48.0	672	48.0	672	48.0	4	655	49.2	652	49.6	657	48.8		
429.mcf	4	637	57.2	633	57.6	636	57.6	4	639	57.2	634	57.6	635	57.6		
445.gobmk	4	530	79.2	530	79.2	530	79.2	4	489	86.0	489	86.0	489	86.0		
456.hammer	4	788	47.2	788	47.2	788	47.2	4	505	74.0	505	74.0	506	73.6		
458.sjeng	4	709	68.4	710	68.0	710	68.0	4	656	73.6	656	73.6	656	73.6		
462.libquantum	4	308	269	309	269	308	269	4	253	327	254	327	253	327		
464.h264ref	4	758	117	758	117	758	117	4	727	122	727	122	727	122		
471.omnetpp	4	615	40.8	614	40.8	614	40.8	4	575	43.6	575	43.6	575	43.6		
473.astar	4	660	42.4	660	42.4	661	42.4	4	683	41.2	684	41.2	684	41.2		
483.xalancbmk	4	422	65.6	422	65.6	422	65.6	4	422	65.6	422	65.6	422	65.6		

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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