SPEC® CINT2006 Result

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ASUSTeK Computer Inc.

(Test Sponsor: Intel Corporation)

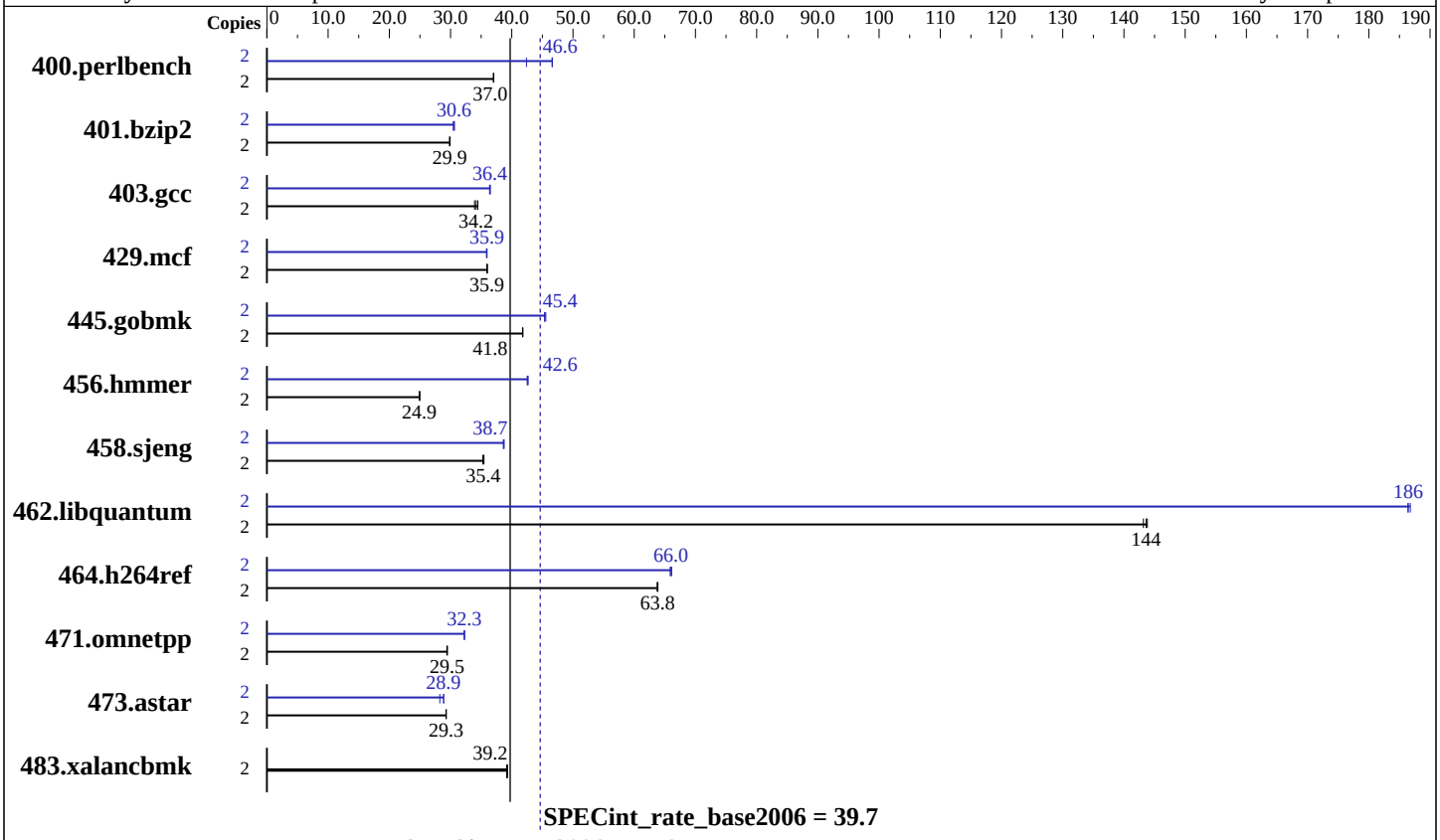
Asus M4A89GTD-PRO (Phenom II X2 555)

SPECint®_rate2006 = 44.6

SPECint_rate_base2006 = 39.7

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

Test date: May-2011
Hardware Availability: Apr-2010
Software Availability: Apr-2011



Hardware

CPU Name:	AMD Phenom II X2 555
CPU Characteristics:	
CPU MHz:	3200
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:	6 MB I+D on chip per chip
Other Cache:	None
Memory:	8 GB (2 x 4 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:	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	528	37.0	527	37.1	**528**	**37.0**	2	419	46.6	**419**	**46.6**	461	42.4
401.bzip2	2	647	29.9	**646**	**29.9**	645	29.9	2	630	30.6	634	30.4	**631**	**30.6**
403.gcc	2	475	33.9	467	34.5	**471**	**34.2**	2	441	36.5	443	36.4	**442**	**36.4**
429.mcf	2	508	35.9	506	36.0	**507**	**35.9**	2	507	36.0	509	35.9	**508**	**35.9**
445.gobmk	2	502	41.8	**502**	**41.8**	502	41.8	2	463	45.3	460	45.6	**462**	**45.4**
456.hmmer	2	749	24.9	**749**	**24.9**	747	25.0	2	437	42.7	**438**	**42.6**	439	42.5
458.sjeng	2	686	35.3	**684**	**35.4**	683	35.5	2	625	38.7	**625**	**38.7**	627	38.6
462.libquantum	2	288	144	**289**	**144**	289	143	2	222	187	**222**	**186**	222	186
464.h264ref	2	694	63.7	693	63.9	**693**	**63.8**	2	672	65.9	669	66.1	**671**	**66.0**
471.omnetpp	2	425	29.4	424	29.5	**424**	**29.5**	2	388	32.3	387	32.3	**387**	**32.3**
473.astar	2	479	29.3	**480**	**29.3**	480	29.3	2	486	28.9	497	28.3	**486**	**28.9**
483.xalancbmk	2	**352**	**39.2**	352	39.2	351	39.3	2	**352**	**39.2**	352	39.2	351	39.3

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`

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.hmmer: `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.hmmer: `-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`

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.bzip2: /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

Peak Other Flags

C benchmarks:

403.gcc: `-Dalloca=_alloca`

456.hmmer: `-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-revB.20110511.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-revB.20110511.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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