SPEC® CINT2006 Result
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ASUSTeK Computer Inc.
(Test Sponsor: Intel Corporation)

ASUS M4A89GTD-PRO (AMD Phenom II X6 1100T)

$SPECint®_rate2006 = $ 116

$SPECint_rate_base2006 = $ 109
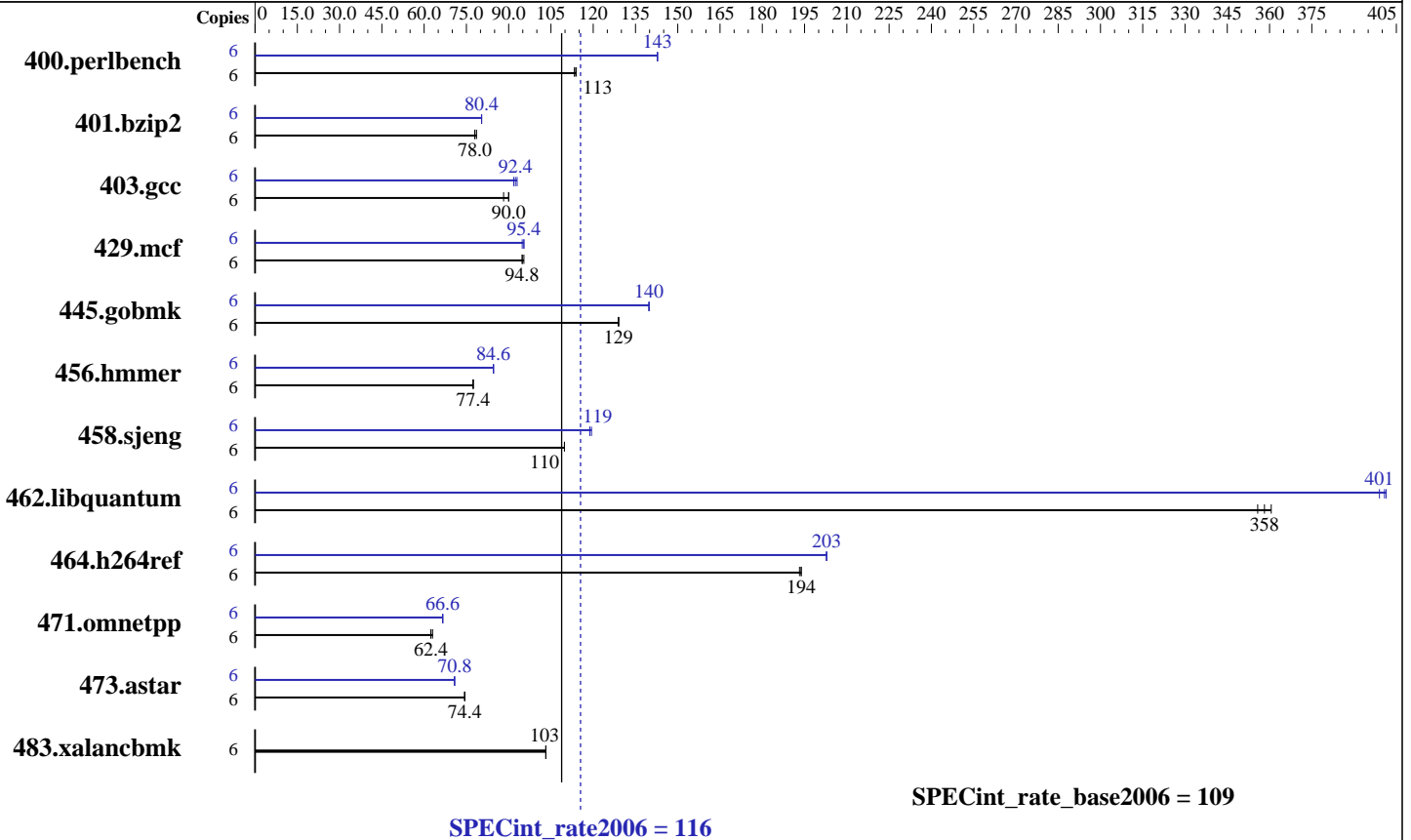
CPU2006 license: 13

Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Oct-2011

Hardware Availability: Dec-2010

Software Availability: Apr-2011

Copies 0 15.0 30.0 45.0 60.0 75.0 90.0 105 120 135 150 165 180 195 210 225 240 255 270 285 300 315 330 345 360 375 405

Benchmark	Copies	Value
400.perlbench	6	143
400.perlbench	6	113
401.bzip2	6	80.4
401.bzip2	6	78.0
403.gcc	6	92.4
403.gcc	6	90.0
429.mcf	6	95.4
429.mcf	6	94.8
445.gobmk	6	140
445.gobmk	6	129
456.hmmer	6	84.6
456.hmmer	6	77.4
458.sjeng	6	119
458.sjeng	6	110
462.libquantum	6	401
462.libquantum	6	358
464.h264ref	6	203
464.h264ref	6	194
471.omnetpp	6	66.6
471.omnetpp	6	62.4
473.astar	6	70.8
473.astar	6	74.4
483.xalancbmk	6	103

SPECint_rate_base2006 = 109

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Hardware

CPU Name:	AMD Phenom II X6 1100T
CPU Characteristics:	AMD Turbo CORE technology up to 3.70 GHz
CPU MHz:	3300
FPU:	Integrated
CPU(s) enabled:	6 cores, 1 chip, 6 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 2Rx4 PC3-10600U-9)
Disk Subsystem:	Intel 160GB SSD
Other Hardware:	None

Software

Operating System:	Windows 7 Ultimate SP1 (64-bit)
Compiler:	C/C++: Version 12.0.3.176 of Intel C++ Studio XE for Windows; Libraries: Version 15.00.30729.01 of Microsoft Visual Studio 2008 Professional SP1
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 Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	6	**516**	**113**	516	113	515	114	6	411	143	**410**	**143**	410	143
401.bzip2	6	**742**	**78.0**	744	78.0	738	78.6	6	723	80.4	722	80.4	**722**	**80.4**
403.gcc	6	547	88.2	537	90.0	**538**	**90.0**	6	527	91.8	**523**	**92.4**	518	93.0
429.mcf	6	576	94.8	**576**	**94.8**	574	95.4	6	575	95.4	**575**	**95.4**	575	94.8
445.gobmk	6	489	129	**488**	**129**	488	129	6	450	140	**450**	**140**	450	140
456.hmmer	6	724	77.4	**724**	**77.4**	723	77.4	6	662	84.6	**662**	**84.6**	662	84.6
458.sjeng	6	**662**	**110**	662	110	661	110	6	**610**	**119**	609	119	610	119
462.libquantum	6	350	356	**347**	**358**	345	361	6	**310**	**401**	310	401	312	399
464.h264ref	6	687	193	**686**	**194**	686	194	6	656	203	**655**	**203**	655	203
471.omnetpp	6	600	62.4	**598**	**62.4**	597	63.0	6	**562**	**66.6**	562	66.6	562	66.6
473.astar	6	567	74.4	**567**	**74.4**	567	74.4	6	594	70.8	593	70.8	**593**	**70.8**
483.xalancbmk	6	401	103	**401**	**103**	400	103	6	401	103	**401**	**103**	400	103

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

Component Notes

     Tested systems can be used with Shin-G ATX case,
     PC Power and Cooling 1200W power supply
     System was configured with an ATI HD 6990 discrete graphics card

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.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
```

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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.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
```

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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-revC.20111012.html
http://www.spec.org/cpu2006/flags/Intel-Windows-Platform-Settings-revC.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12-win32-revC.20111012.xml
http://www.spec.org/cpu2006/flags/Intel-Windows-Platform-Settings-revC.xml

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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