SPEC® CFP2006 Result

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ASUSTeK Computer Inc.

(Test Sponsor: Intel Corporation)

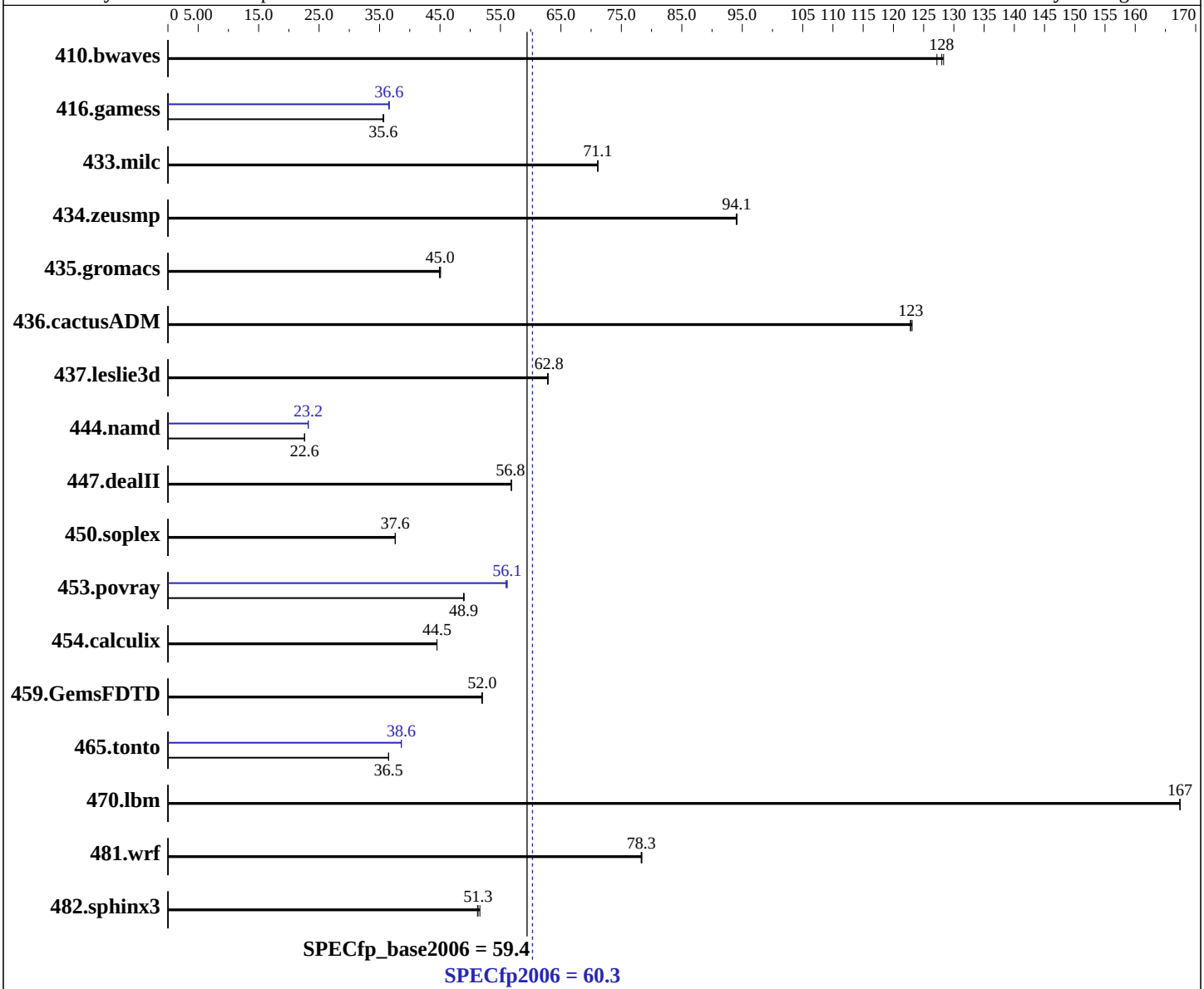
ASUS Q170M-C motherboard (Intel Celeron G3920)

SPECfp®2006 = 60.3

SPECfp_base2006 = 59.4

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

Test date: Apr-2016
Hardware Availability: Dec-2015
Software Availability: Aug-2015



Hardware

CPU Name:	Intel Celeron G3920
CPU Characteristics:	
CPU MHz:	2900
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip
CPU(s) orderable:	1 chip
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core

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Software

Operating System:	Microsoft Windows 7 Professional 6.1.7601 Service Pack 1 Build 7601
Compiler:	C/C++: Version 16.0.0.110 of Intel C++ Studio XE for Windows; Fortran: Version 16.0.0.110 of Intel Fortran Studio XE for Windows; Libraries: Version 18.00.30723 of Microsoft Visual Studio 2013
Auto Parallel:	Yes

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L3 Cache:	2 MB I+D on chip per chip
Other Cache:	None
Memory:	8 GB (2 x 4 GB 2Rx4 PC4-2133P-U)
Disk Subsystem:	1 TB Seagate Barracuda HDD, 7200 RPM
Other Hardware:	None

File System:	NTFS
System State:	Default
Base Pointers:	32/64-bit
Peak Pointers:	32/64-bit
Other Software:	SmartHeap Library Version 11.0 from http://www.microquill.com/

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	107	127	106	128	**106**	**128**	107	127	106	128	**106**	**128**
416.gamess	**549**	**35.6**	549	35.7	549	35.6	535	36.6	**536**	**36.6**	536	36.5
433.milc	129	71.1	**129**	**71.1**	129	71.1	129	71.1	**129**	**71.1**	129	71.1
434.zeusmp	96.8	94.0	96.7	94.1	**96.7**	**94.1**	96.8	94.0	96.7	94.1	**96.7**	**94.1**
435.gromacs	**159**	**45.0**	158	45.1	159	44.9	**159**	**45.0**	158	45.1	159	44.9
436.cactusADM	97.1	123	97.3	123	**97.2**	**123**	97.1	123	97.3	123	**97.2**	**123**
437.leslie3d	**150**	**62.8**	149	62.9	150	62.8	**150**	**62.8**	149	62.9	150	62.8
444.namd	354	22.6	354	22.6	**354**	**22.6**	**345**	**23.2**	345	23.2	345	23.2
447.dealII	202	56.8	**202**	**56.8**	202	56.8	202	56.8	**202**	**56.8**	202	56.8
450.soplex	222	37.6	**222**	**37.6**	222	37.6	222	37.6	**222**	**37.6**	222	37.6
453.povray	109	48.9	**109**	**48.9**	109	49.0	**94.9**	**56.1**	95.2	55.9	94.8	56.1
454.calculix	185	44.5	**185**	**44.5**	186	44.5	185	44.5	**185**	**44.5**	186	44.5
459.GemsFDTD	205	51.9	204	52.0	**204**	**52.0**	205	51.9	204	52.0	**204**	**52.0**
465.tonto	**270**	**36.5**	270	36.5	269	36.5	255	38.6	255	38.6	**255**	**38.6**
470.lbm	82.1	167	**82.1**	**167**	82.1	167	82.1	167	**82.1**	**167**	82.1	167
481.wrf	**143**	**78.3**	143	78.3	143	78.4	**143**	**78.3**	143	78.3	143	78.4
482.sphinx3	**380**	**51.3**	378	51.6	381	51.2	**380**	**51.3**	378	51.6	381	51.2

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

Compiler Invocation Notes

```
To compile these binaries, the Intel Compiler 16.0 was set up to
generate 64-bit binaries with the command:
"psxevars.bat intel64" (shortcut provided in the Intel(r)
Parallel Studio XE 2016 program folder)
```

Platform Notes

```
Sysinfo program C:\SPEC16.0/Docs/sysinfo
$Rev: 6775 $ $Date:: 2011-08-16 #$ \8787f7622badcf24e01c368b1db4377c
running on CltF832E4885693 Sat Apr 23 12:12:12 2016

This section contains SUT (System Under Test) info as seen by
some common utilities.  To remove or add to this section, see:
```

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Platform Notes (Continued)

```
      http://www.spec.org/cpu2006/Docs/config.html#sysinfo

    Trying 'systeminfo'
    OS Name        : Microsoft Windows 7 Professional
    OS Version     : 6.1.7601 Service Pack 1 Build 7601
    System Manufacturer: System manufacturer
    System Model   : System Product Name
    Processor(s)   : 1 Processor(s) Installed.
         [01]: Intel64 Family 6 Model 94 Stepping 3 GenuineIntel ~2900 Mhz
    BIOS Version   : American Megatrends Inc. 0704, 1/12/2016
    Total Physical Memory: 8,070 MB

    Trying 'wmic cpu get /value'
    DeviceID       : CPU0
    L2CacheSize    : 512
    L3CacheSize    : 2048
    MaxClockSpeed  : 2900
    Name           : Intel(R) Celeron(R) CPU G3920 @ 2.90GHz
    NumberOfCores  : 2
    NumberOfLogicalProcessors: 2

    (End of data from sysinfo program)
```

Component Notes

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

General Notes

```
  450.soplex (base): "getline_test" src.alt was used.

  447.dealII (base): "max_prototype" src.alt was used.
  447.dealII (base): "cxx11_make_pair" src.alt was used.

  450.soplex (base): "getline_test" src.alt was used.

  447.dealII (base): "max_prototype" src.alt was used.
  447.dealII (base): "cxx11_make_pair" src.alt was used.

   OMP_NUM_THREADS set to number of processors cores
   KMP_AFFINITY set to granularity=fine,scatter
   Binaries compiled on a system with 1x Intel Xeon E5-2699 v3 CPU
   + 64GB memory using Windows 8.1 Enterprise 64-bit
```

Base Compiler Invocation

C benchmarks:
icl -Qvc12 -Qstd=c99

C++ benchmarks:
icl -Qvc12

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl -Qvc12 -Qstd=c99 ifort

Base Portability Flags

410.bwaves: -DSPEC_CPU_P64
416.gamess: -DSPEC_CPU_P64
433.milc: -DSPEC_CPU_P64
434.zeusmp: -DSPEC_CPU_P64
435.gromacs: -DSPEC_CPU_P64
436.cactusADM: -DSPEC_CPU_P64 -names:lowercase /assume:underscore
437.leslie3d: -DSPEC_CPU_P64
444.namd: -DSPEC_CPU_P64 /TP
447.dealII: -DSPEC_CPU_P64 -DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG -DSPEC_CPU_BOOST_CONFIG_MSC_VER -DSPEC_NEED_ALGORITHM
450.soplex: -DSPEC_CPU_P64 -DSPEC_GETLINE_TEST
453.povray: -DSPEC_CPU_P64
454.calculix: -DSPEC_CPU_P64 -DSPEC_CPU_NOZMODIFIER -names:lowercase
459.GemsFDTD: -DSPEC_CPU_P64
465.tonto: -DSPEC_CPU_P64
470.lbm: -DSPEC_CPU_P64
481.wrf: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL
482.sphinx3: -DSPEC_CPU_P64

Base Optimization Flags

C benchmarks:
-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias -Qopt-prefetch /F1000000000

C++ benchmarks:
-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias -Qopt-prefetch -Qcxx-features /F1000000000 shlW64M.lib -link /FORCE:MULTIPLE

Fortran benchmarks:
-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias -Qopt-prefetch /F1000000000

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Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:
`-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias -Qopt-prefetch /F1000000000`

Peak Compiler Invocation

C benchmarks:
`icl -Qvc12 -Qstd=c99`

C++ benchmarks:
`icl -Qvc12`

Fortran benchmarks:
`ifort`

Benchmarks using both Fortran and C:
`icl -Qvc12 -Qstd=c99 ifort`

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

433.milc: `basepeak = yes`

470.lbm: `basepeak = yes`

482.sphinx3: `basepeak = yes`

C++ benchmarks:

444.namd: `-QxSSE4.2`(pass 2) `-Qprof_gen`(pass 1) `-Qprof_use`(pass 2) `-Qipo -O3 -Qprec-div- -Oa /F1000000000 shlW64M.lib -link /FORCE:MULTIPLE`

447.dealII: `basepeak = yes`

450.soplex: `basepeak = yes`

Continued on next page

Peak Optimization Flags (Continued)

453.povray: `-QxSSE4.2`(pass 2) `-Qprof_gen`(pass 1) `-Qprof_use`(pass 2) `-Qipo -O3 -Qprec-div- -Qunroll4 -Qansi-alias /F1000000000 shlW64M.lib -link /FORCE:MULTIPLE`

Fortran benchmarks:

410.bwaves: `basepeak = yes`

416.gamess: `-QxSSE4.2`(pass 2) `-Qprof_gen`(pass 1) `-Qprof_use`(pass 2) `-Qipo -O3 -Qprec-div- -Qunroll2 -Ob0 -Qansi-alias -Qscalar-rep- /F1000000000`

434.zeusmp: `basepeak = yes`

437.leslie3d: `basepeak = yes`

459.GemsFDTD: `basepeak = yes`

465.tonto: `-QxSSE4.2`(pass 2) `-Qprof_gen`(pass 1) `-Qprof_use`(pass 2) `-Qipo -O3 -Qprec-div- -Qunroll4 -Qauto -Qinline-calloc /F1000000000`

Benchmarks using both Fortran and C:

435.gromacs: `basepeak = yes`

436.cactusADM: `basepeak = yes`

454.calculix: `basepeak = yes`

481.wrf: `basepeak = yes`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-windows.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-windows.xml`

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