



SPEC® CFP2006 Result

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ASUSTeK Computer Inc.
(Test Sponsor: Intel Corporation)

SPECfp®2006 = 55.5

ASUS Q170M-C motherboard (Intel Celeron G3900T)

SPECfp_base2006 = 54.7

CPU2006 license: 13

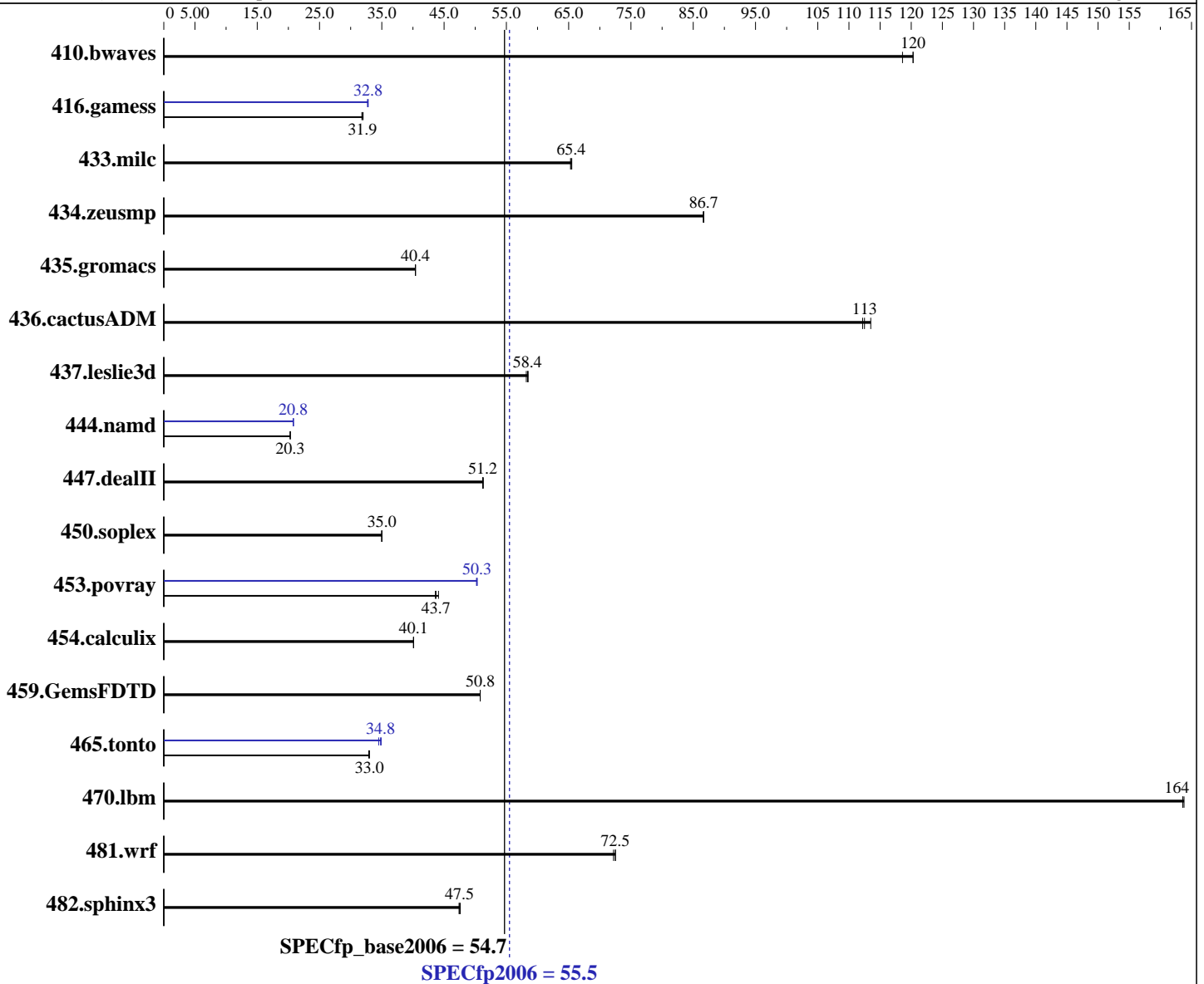
Test date: Apr-2016

Test sponsor: Intel Corporation

Hardware Availability: Dec-2015

Tested by: Intel Corporation

Software Availability: Aug-2015



Hardware

CPU Name: Intel Celeron G3900T
 CPU Characteristics:
 CPU MHz: 2600
 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	115	119	113	120	<u>113</u>	<u>120</u>	115	119	113	120	<u>113</u>	<u>120</u>
416.gamess	<u>614</u>	<u>31.9</u>	616	31.8	613	32.0	598	32.7	597	32.8	<u>598</u>	<u>32.8</u>
433.milc	<u>140</u>	<u>65.4</u>	141	65.3	140	65.5	<u>140</u>	<u>65.4</u>	141	65.3	140	65.5
434.zeusmp	105	86.7	<u>105</u>	<u>86.7</u>	105	86.6	<u>105</u>	<u>86.7</u>	<u>105</u>	<u>86.7</u>	105	86.6
435.gromacs	177	40.4	177	40.4	<u>177</u>	<u>40.4</u>	177	40.4	177	40.4	<u>177</u>	<u>40.4</u>
436.cactusADM	107	112	105	114	<u>106</u>	<u>113</u>	107	112	105	114	<u>106</u>	<u>113</u>
437.leslie3d	161	58.2	161	58.5	<u>161</u>	<u>58.4</u>	161	58.2	161	58.5	<u>161</u>	<u>58.4</u>
444.namd	<u>395</u>	<u>20.3</u>	395	20.3	395	20.3	385	20.8	<u>385</u>	<u>20.8</u>	385	20.8
447.dealII	<u>223</u>	<u>51.2</u>	224	51.2	223	51.3	<u>223</u>	<u>51.2</u>	224	51.2	223	51.3
450.soplex	239	35.0	238	35.0	<u>238</u>	<u>35.0</u>	239	35.0	238	35.0	<u>238</u>	<u>35.0</u>
453.povray	<u>122</u>	<u>43.7</u>	121	44.1	122	43.6	106	50.3	<u>106</u>	<u>50.3</u>	106	50.2
454.calculix	206	40.1	<u>206</u>	<u>40.1</u>	206	40.1	206	40.1	<u>206</u>	<u>40.1</u>	206	40.1
459.GemsFDTD	209	50.8	<u>209</u>	<u>50.8</u>	209	50.8	209	50.8	<u>209</u>	<u>50.8</u>	209	50.8
465.tonto	299	32.9	<u>299</u>	<u>33.0</u>	298	33.0	<u>282</u>	<u>34.8</u>	285	34.5	282	34.9
470.lbm	<u>84.0</u>	<u>164</u>	84.0	164	83.9	164	<u>84.0</u>	<u>164</u>	84.0	164	83.9	164
481.wrf	<u>154</u>	<u>72.5</u>	155	72.2	154	72.5	<u>154</u>	<u>72.5</u>	155	72.2	154	72.5
482.sphinx3	<u>411</u>	<u>47.5</u>	411	47.4	410	47.6	<u>411</u>	<u>47.5</u>	411	47.4	410	47.6

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 CltF832E48856E2 Sat Apr 23 12:55:34 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 ~2601 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 : 2601
Name          : Intel(R) Celeron(R) CPU G3900T @ 2.60GHz
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
```



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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.dealIII: basepeak = yes
450.soplex: basepeak = yes

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

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