



SPEC® CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

ASUSTeK Computer Inc.
(Test Sponsor: Intel Corporation)

SPECfp®_rate2006 = 188

ASUS Z170MPLUS motherboard (Intel Core i7-6700K)

SPECfp_rate_base2006 = 182

CPU2006 license: 13

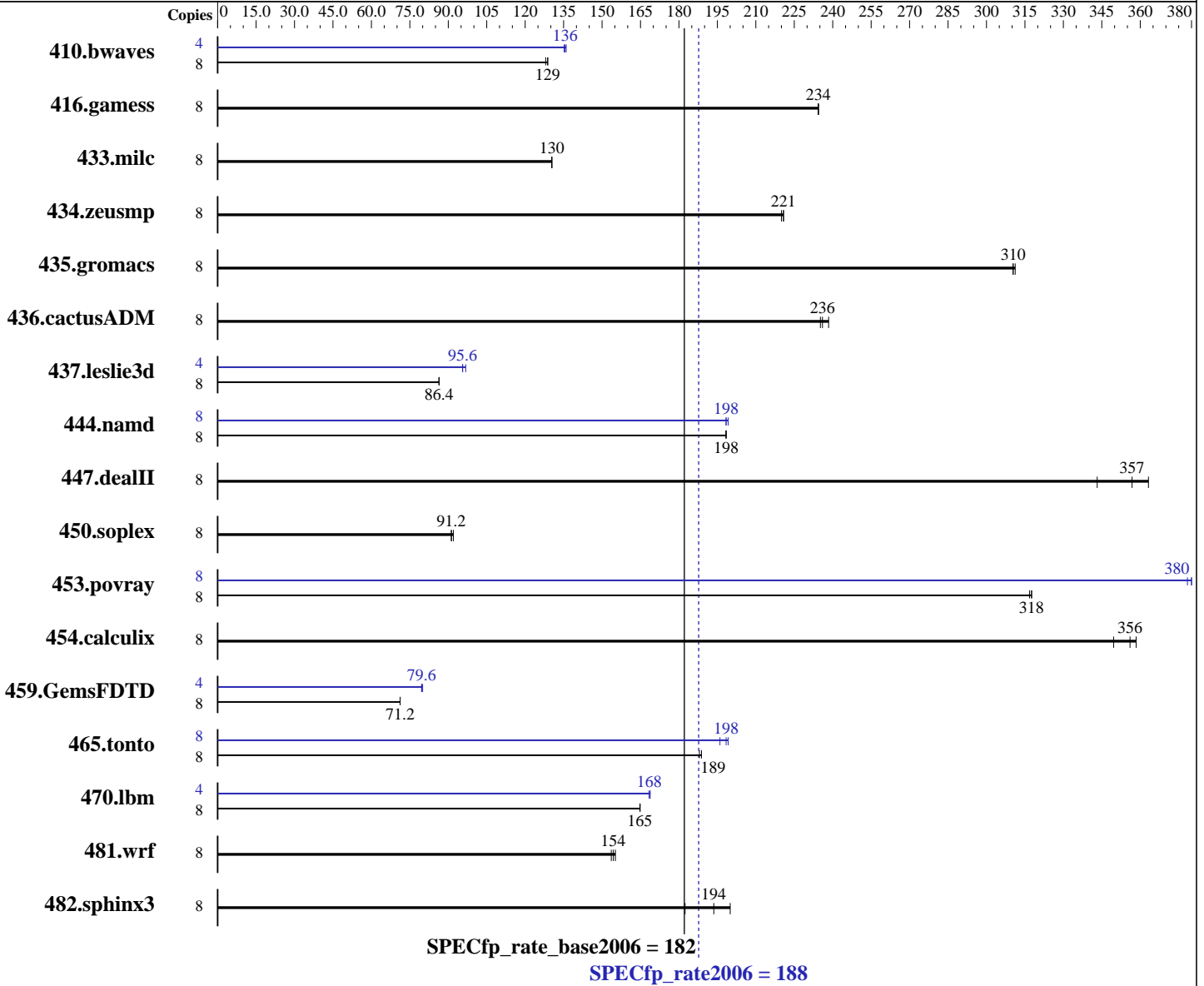
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Oct-2015

Hardware Availability: Sep-2015

Software Availability: Aug-2015



Hardware

CPU Name: Intel Core i7-6700K
 CPU Characteristics: Intel Turbo Boost Technology up to 4.20 GHz
 CPU MHz: 4000
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip, 2 threads/core
 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

Continued on next page

Software

Operating System: Microsoft Windows 10 Pro
 10.0.10240 N/A Build 10240
 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: No

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

ASUSTeK Computer Inc.
(Test Sponsor: Intel Corporation)

SPECfp_rate2006 = 188

ASUS Z170MPLUS motherboard (Intel Core i7-6700K)

SPECfp_rate_base2006 = 182

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

Test date: Oct-2015
Hardware Availability: Sep-2015
Software Availability: Aug-2015

L3 Cache: 8 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 SATA 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							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	850	128	845	129	845	129	4	401	136	400	136	402	135
416.gamess	8	668	234	667	234	668	234	8	668	234	667	234	668	234
433.milc	8	564	130	564	130	564	130	8	564	130	564	130	564	130
434.zeusmp	8	330	221	331	220	330	221	8	330	221	331	220	330	221
435.gromacs	8	184	310	184	311	184	310	8	184	310	184	311	184	310
436.cactusADM	8	401	238	405	236	406	235	8	401	238	405	236	406	235
437.leslie3d	8	867	86.4	867	86.4	868	86.4	4	393	95.6	388	96.8	394	95.6
444.namd	8	324	198	324	198	323	198	8	324	198	323	198	323	199
447.dealII	8	252	363	256	357	267	343	8	252	363	256	357	267	343
450.soplex	8	732	91.2	728	92.0	729	91.2	8	732	91.2	728	92.0	729	91.2
453.povray	8	134	317	134	318	134	318	8	112	380	112	380	113	378
454.calculix	8	189	350	184	358	185	356	8	189	350	184	358	185	356
459.GemsFDTD	8	1191	71.2	1189	71.2	1187	71.2	4	532	80.0	533	79.6	533	79.6
465.tonto	8	418	189	419	188	417	189	8	402	196	395	199	397	198
470.lbm	8	666	165	666	165	666	165	4	327	168	326	169	326	168
481.wrf	8	578	154	575	155	583	154	8	578	154	575	155	583	154
482.sphinx3	8	856	182	807	194	779	200	8	856	182	807	194	779	200

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)

Submit Notes

Processes were bound to specific processors using the start command with the /affinity switch. The config file option 'submit' was used to generate the affinity mask for each process.



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

ASUSTeK Computer Inc.
(Test Sponsor: Intel Corporation)

SPECfp_rate2006 = 188

ASUS Z170MPLUS motherboard (Intel Core i7-6700K)

SPECfp_rate_base2006 = 182

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

Test date: Oct-2015
Hardware Availability: Sep-2015
Software Availability: Aug-2015

Platform Notes

Sysinfo program C:\SPEC16.0/Docs/sysinfo
\$Rev: 6775 \$ \$Date:: 2011-08-16 #\$ \8787f7622badcf24e01c368b1db4377c
running on Clt305A3A7B76F6 Thu Oct 8 07:34:25 2015

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see:
<http://www.spec.org/cpu2006/Docs/config.html#sysinfo>

```
Trying 'systeminfo'
OS Name           : Microsoft Windows 10 Pro
OS Version        : 10.0.10240 N/A Build 10240
System Manufacturer: System manufacturer
System Model      : System Product Name
Processor(s)      : 1 Processor(s) Installed.
                   [01]: Intel64 Family 6 Model 94 Stepping 3 GenuineIntel ~4001 Mhz
BIOS Version      : American Megatrends Inc. 0408, 8/28/2015
Total Physical Memory: 8,084 MB
```

```
Trying 'wmic cpu get /value'
DeviceID          : CPU0
L2CacheSize      : 1024
L3CacheSize      : 8192
MaxClockSpeed    : 4001
Name              : Intel(R) Core(TM) i7-6700K CPU @ 4.00GHz
NumberOfCores    : 4
NumberOfLogicalProcessors: 8
```

(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.

Binaries compiled on a system with 1x Intel Xeon E5-2699 v3 CPU
+ 64GB memory using Windows 8.1 Enterprise 64-bit



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

ASUSTeK Computer Inc.
(Test Sponsor: Intel Corporation)

SPECfp_rate2006 = 188

ASUS Z170MPLUS motherboard (Intel Core i7-6700K)

SPECfp_rate_base2006 = 182

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

Test date: Oct-2015
Hardware Availability: Sep-2015
Software Availability: Aug-2015

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:
-QxCORE-AVX2 -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
-Qauto-ilp32 /F1000000000 shlw64M.lib -link /FORCE:MULTIPLE

C++ benchmarks:
-QxCORE-AVX2 -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
-Qcxx-features -Qauto-ilp32 /F1000000000 shlw64M.lib
-link /FORCE:MULTIPLE

Fortran benchmarks:
-QxCORE-AVX2 -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
/F1000000000 shlw64M.lib -link /FORCE:MULTIPLE

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

ASUSTeK Computer Inc.
(Test Sponsor: Intel Corporation)

SPECfp_rate2006 = 188

ASUS Z170MPLUS motherboard (Intel Core i7-6700K)

SPECfp_rate_base2006 = 182

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

Test date: Oct-2015
Hardware Availability: Sep-2015
Software Availability: Aug-2015

Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:

```
-QxCORE-AVX2 -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch  
-Qauto-ilp32 /F1000000000 sh1W64M.lib -link /FORCE:MULTIPLE
```

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: -QxCORE-AVX2 -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo  
-O3 -Qprec-div- -Qansi-alias -Qopt-prefetch -Qauto-ilp32  
/F1000000000 sh1W64M.lib -link /FORCE:MULTIPLE
```

```
482.sphinx3: basepeak = yes
```

C++ benchmarks:

```
444.namd: -QxCORE-AVX2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)  
-Qipo -O3 -Qprec-div- -Oa -Qauto-ilp32 /F1000000000  
sh1W64M.lib -link /FORCE:MULTIPLE
```

```
447.dealIII: basepeak = yes
```

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

ASUSTeK Computer Inc.
(Test Sponsor: Intel Corporation)

SPECfp_rate2006 = 188

ASUS Z170MPLUS motherboard (Intel Core i7-6700K)

SPECfp_rate_base2006 = 182

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

Test date: Oct-2015
Hardware Availability: Sep-2015
Software Availability: Aug-2015

Peak Optimization Flags (Continued)

450.soplex: basepeak = yes

453.povray: -QxCORE-AVX2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qopt-prefetch -Qauto-ilp32
/F1000000000 shlw64M.lib -link /FORCE:MULTIPLE

Fortran benchmarks:

410.bwaves: -QxCORE-AVX2 -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo
-O3 -Qprec-div- -Qansi-alias -Qopt-prefetch /F1000000000
shlw64M.lib -link /FORCE:MULTIPLE

416.gamess: basepeak = yes

434.zeusmp: basepeak = yes

437.leslie3d: Same as 410.bwaves

459.GemsFDTD: Same as 410.bwaves

465.tonto: -QxCORE-AVX2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qunroll4 -Qauto /F1000000000
shlw64M.lib -link /FORCE:MULTIPLE

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>



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

ASUSTeK Computer Inc.
(Test Sponsor: Intel Corporation)

SPECfp_rate2006 = 188

ASUS Z170MPLUS motherboard (Intel Core i7-6700K)

SPECfp_rate_base2006 = 182

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

Test date: Oct-2015
Hardware Availability: Sep-2015
Software Availability: Aug-2015

SPEC and SPECfp are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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

Tested with SPEC CPU2006 v1.2.
Report generated on Tue Nov 3 11:56:48 2015 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 3 November 2015.