# SPEC® CFP2006 Result



## Intel Corporation

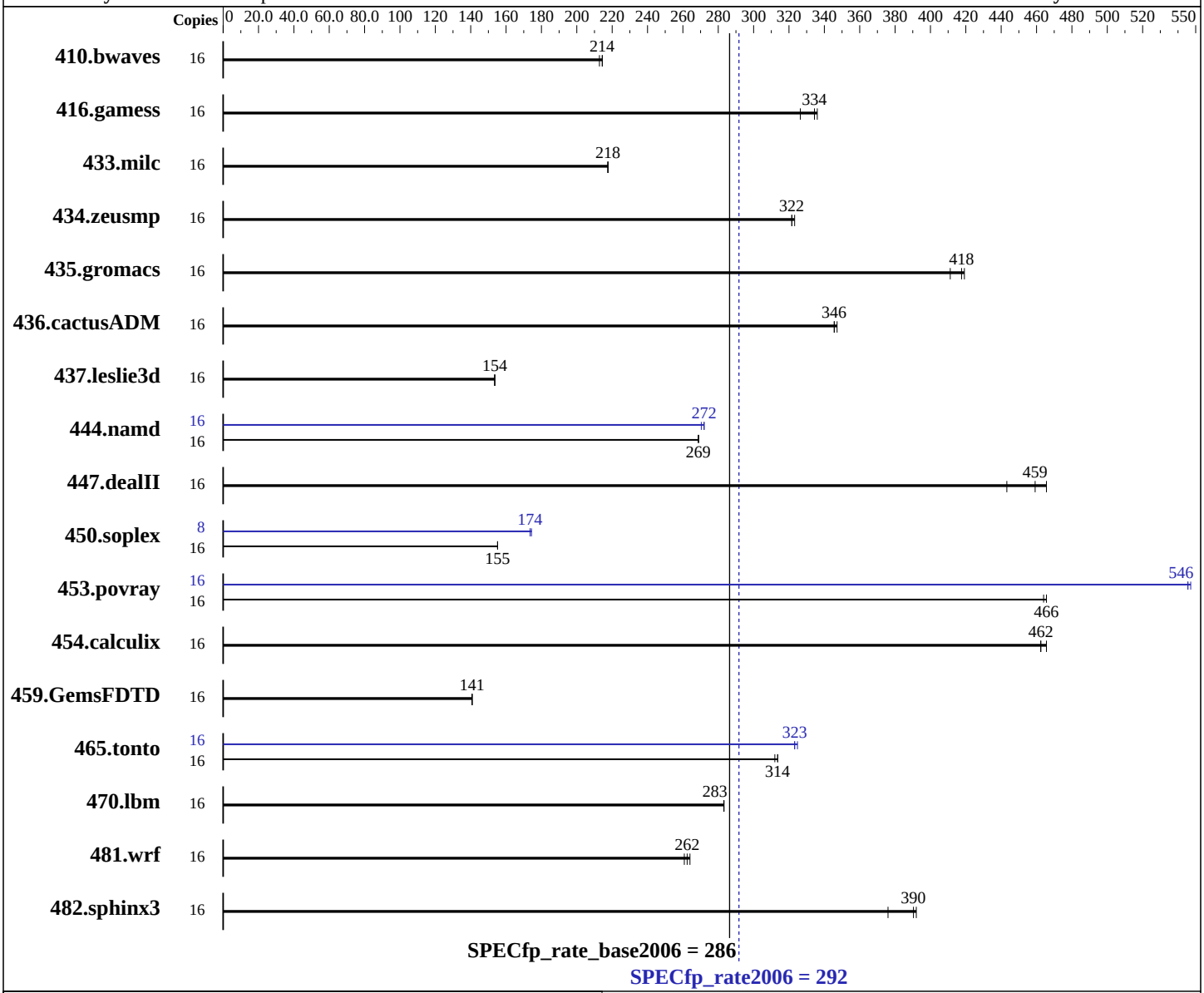
Gigabyte X99-SOC Force-CF Motherboard (Intel Core i7-5960X)

SPECfp®_rate2006 = 292

SPECfp_rate_base2006 = 286

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

**Test date:** Aug-2014
**Hardware Availability:** Aug-2014
**Software Availability:** Oct-2013




### Hardware

| | |
|---|---|
| CPU Name: | Intel Core i7-5960X |
| CPU Characteristics: | Intel Turbo Boost Technology up to 3.50 GHz |
| CPU MHz: | 3000 |
| FPU: | Integrated |
| CPU(s) enabled: | 8 cores, 1 chip, 8 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 |

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### Software

| | |
|---|---|
| Operating System: | Microsoft Windows 8.1 Pro 6.3.9600 N/A Build 9600 |
| Compiler: | C/C++: Version 14.0.1.139 of Intel C++ Studio XE for Windows; Fortran: Version 14.0.1.139 of Intel Fortran Studio XE for Windows; Libraries: Version 16.00.30319.01 of Microsoft Visual Studio 2010 Professional SP1 |
| Auto Parallel: | No |

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| | |
|---|---|
| L3 Cache: | 20 MB I+D on chip per chip |
| Other Cache: | None |
| Memory: | 16 GB (4 x 4 GB 1Rx8 PC4-2133N-U) |
| Disk Subsystem: | 480 GB Intel 520 Series SATA SSD |
| Other Hardware: | None |

| | |
|---|---|
| File System: | NTFS |
| System State: | Default |
| Base Pointers: | 32/64-bit |
| Peak Pointers: | 32/64-bit |
| Other Software: | SmartHeap Library Version 10.0 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 | 16 | 1020 | 213 | 1017 | 214 | **1017** | **214** | 16 | 1020 | 213 | 1017 | 214 | **1017** | **214** |
| 416.gamess | 16 | 932 | 336 | 959 | 326 | **935** | **334** | 16 | 932 | 336 | 959 | 326 | **935** | **334** |
| 433.milc | 16 | **677** | **218** | 676 | 218 | 677 | 218 | 16 | **677** | **218** | 676 | 218 | 677 | 218 |
| 434.zeusmp | 16 | 453 | 322 | **452** | **322** | 450 | 323 | 16 | 453 | 322 | **452** | **322** | 450 | 323 |
| 435.gromacs | 16 | 272 | 419 | **274** | **418** | 278 | 411 | 16 | 272 | 419 | **274** | **418** | 278 | 411 |
| 436.cactusADM | 16 | 554 | 346 | 550 | 347 | **553** | **346** | 16 | 554 | 346 | 550 | 347 | **553** | **346** |
| 437.leslie3d | 16 | 980 | 154 | **979** | **154** | 978 | 154 | 16 | 980 | 154 | **979** | **154** | 978 | 154 |
| 444.namd | 16 | 477 | 269 | 477 | 269 | **477** | **269** | 16 | 470 | 272 | **471** | **272** | 473 | 270 |
| 447.dealII | 16 | 412 | 443 | 393 | 466 | **398** | **459** | 16 | 412 | 443 | 393 | 466 | **398** | **459** |
| 450.soplex | 16 | 861 | 155 | 856 | 155 | **857** | **155** | 8 | 382 | 174 | **384** | **174** | 384 | 174 |
| 453.povray | 16 | **183** | **466** | 183 | 466 | 183 | 464 | 16 | **156** | **546** | 155 | 547 | 156 | 546 |
| 454.calculix | 16 | **285** | **462** | 284 | 466 | 285 | 462 | 16 | **285** | **462** | 284 | 466 | 285 | 462 |
| 459.GemsFDTD | 16 | **1204** | **141** | 1204 | 141 | 1204 | 141 | 16 | **1204** | **141** | 1204 | 141 | 1204 | 141 |
| 465.tonto | 16 | 502 | 314 | **503** | **314** | 504 | 312 | 16 | **487** | **323** | 485 | 325 | 487 | 323 |
| 470.lbm | 16 | **777** | **283** | 776 | 283 | 777 | 283 | 16 | **777** | **283** | 776 | 283 | 777 | 283 |
| 481.wrf | 16 | **682** | **262** | 683 | 261 | 679 | 264 | 16 | **682** | **262** | 683 | 261 | 679 | 264 |
| 482.sphinx3 | 16 | 797 | 392 | 830 | 376 | **798** | **390** | 16 | 797 | 392 | 830 | 376 | **798** | **390** |

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 14.0 was set up to
generate 64-bit binaries with the command:
"ipsxe-comp-vars.bat intel64 vs2010" (shortcut provided in the Intel(r)
Parallel Studio XE 2013 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.
```

## Platform Notes

```
Sysinfo program C:\SPEC14.0/Docs/sysinfo
$Rev: 6775 $ $Date:: 2011-08-16 #$ \8787f7622badcf24e01c368b1db4377c
running on Clt888888888788 Mon Aug 18 08:04:31 2014

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 8.1 Pro
OS Version    : 6.3.9600 N/A Build 9600
System Manufacturer: Gigabyte Technology Co., Ltd.
System Model  : To be filled by O.E.M.
Processor(s)  : 1 Processor(s) Installed.
     [01]: Intel64 Family 6 Model 63 Stepping 2 GenuineIntel ~3001 Mhz
BIOS Version  : American Megatrends Inc. F1o, 7/22/2014
Total Physical Memory: 16,218 MB

Trying 'wmic cpu get /value'
DeviceID      : CPU0
L2CacheSize   : 2048
L3CacheSize   : 4096
MaxClockSpeed : 3001
Name          : Intel(R) Core(TM) i7-5960X CPU @ 3.00GHz
NumberOfCores : 8
NumberOfLogicalProcessors: 16

(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

```
Binaries compiled on a system with 1x Intel Core i7-860 CPU
+ 8GB memory using Windows 7 Enterprise 64-bit
```

# Base Compiler Invocation

C benchmarks:

```
icl -Qvc10 -Qstd=c99
```

C++ benchmarks:

```
icl -Qvc10
```

Continued on next page

## Base Compiler Invocation (Continued)

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl -Qvc10 -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
-Qoption,cpp,--ms_incompat_treatment_of_commas_in_macros
450.soplex: -DSPEC_CPU_P64
453.povray: -DSPEC_CPU_P64 -DSPEC_CPU_NEED_INVHYP -DNEED_INVHYP
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 -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 -link /FORCE:MULTIPLE

Benchmarks using both Fortran and C:
-QxCORE-AVX2 -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
-Qauto-ilp32 /F1000000000 -link /FORCE:MULTIPLE

## Peak Compiler Invocation

C benchmarks:
icl -Qvc10 -Qstd=c99

C++ benchmarks:
icl -Qvc10

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl -Qvc10 -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: -QxCORE-AVX2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Oa -Qauto-ilp32 /F1000000000 shlW64M.lib -link /FORCE:MULTIPLE

447.dealII: basepeak = yes

450.soplex: -QxCORE-AVX2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qauto-ilp32 /F1000000000 shlW64M.lib -link /FORCE:MULTIPLE

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: basepeak = yes

Continued on next page

## Peak Optimization Flags (Continued)

416.gamess: basepeak = yes

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: -QxCORE-AVX2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll4 -Qauto /F1000000000 -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-ic14.0-official-windows.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-windows.xml



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

Tested with SPEC CPU2006 v1.2.
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