# SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Intel Corporation

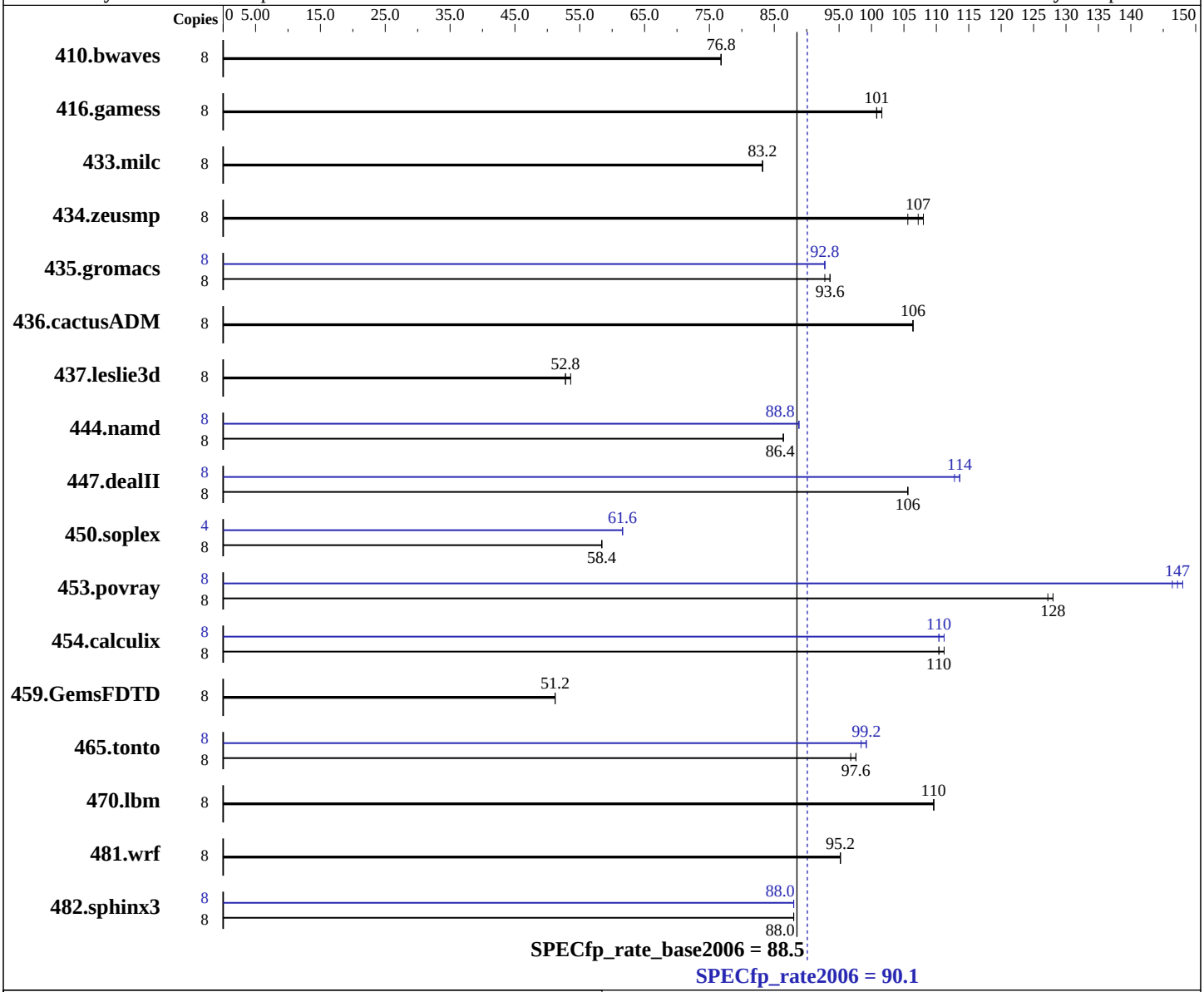
## Intel DP55KG Motherboard (Intel Core i7-860)

SPECfp®_rate2006 = 90.1

SPECfp_rate_base2006 = 88.5

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

**Test date:** Jul-2011
**Hardware Availability:** Mar-2011
**Software Availability:** Apr-2011




### Hardware

| | |
|---|---|
| CPU Name: | Intel Core i7-860 |
| CPU Characteristics: | Intel Turbo Boost Technology up to 3.46 GHz |
| CPU MHz: | 2800 |
| 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: | Windows 7 Ultimate (64-bit) |
| Compiler: | Intel C++ Compiler XE for Intel 64 Version 12.0.3.176 Build 20110309<br>Intel Visual Fortran Compiler XE for Intel 64 Version 12.0.3.176 Build 20110309<br>Microsoft Visual Studio 2008 Professional SP1 (for libraries) |
| Auto Parallel: | No |
| File System: | NTFS |

Continued on next page

# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Intel Corporation

## Intel DP55KG Motherboard (Intel Core i7-860)

SPECfp_rate2006 = 90.1

SPECfp_rate_base2006 = 88.5

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

**Test date:** Jul-2011
**Hardware Availability:** Mar-2011
**Software Availability:** Apr-2011

| | |
|---|---|
| L3 Cache: | 8 MB I+D on chip per chip |
| Other Cache: | None |
| Memory: | 8 GB (2 x 4 GB 2Rx8 PC3-10600U-9) |
| Disk Subsystem: | Seagate 1 TB SATA, 7200 RPM |
| Other Hardware: | None |

| | |
|---|---|
| System State: | Default |
| Base Pointers: | 32/64-bit |
| Peak Pointers: | 32/64-bit |
| Other Software: | SmartHeap Library Version 9.01 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 | 1418 | 76.8 | 1411 | 76.8 | **1414** | **76.8** | 8 | 1418 | 76.8 | 1411 | 76.8 | **1414** | **76.8** |
| 416.gamess | 8 | 1557 | 101 | **1552** | **101** | 1541 | 102 | 8 | 1557 | 101 | **1552** | **101** | 1541 | 102 |
| 433.milc | 8 | 885 | 83.2 | **885** | **83.2** | 885 | 83.2 | 8 | 885 | 83.2 | **885** | **83.2** | 885 | 83.2 |
| 434.zeusmp | 8 | **677** | **107** | 676 | 108 | 689 | 106 | 8 | **677** | **107** | 676 | 108 | 689 | 106 |
| 435.gromacs | 8 | **611** | **93.6** | 614 | 92.8 | 609 | 93.6 | 8 | 616 | 92.8 | 615 | 92.8 | **615** | **92.8** |
| 436.cactusADM | 8 | **897** | **106** | 898 | 106 | 896 | 106 | 8 | **897** | **106** | 898 | 106 | 896 | 106 |
| 437.leslie3d | 8 | **1417** | **52.8** | 1421 | 52.8 | 1413 | 53.6 | 8 | **1417** | **52.8** | 1421 | 52.8 | 1413 | 53.6 |
| 444.namd | 8 | **741** | **86.4** | 741 | 86.4 | 740 | 86.4 | 8 | 720 | 88.8 | **720** | **88.8** | 720 | 88.8 |
| 447.dealII | 8 | 868 | 106 | 865 | 106 | **867** | **106** | 8 | 809 | 113 | 804 | 114 | **807** | **114** |
| 450.soplex | 8 | **1149** | **58.4** | 1144 | 58.4 | 1150 | 58.4 | 4 | 541 | 61.6 | **542** | **61.6** | 542 | 61.6 |
| 453.povray | 8 | **334** | **128** | 333 | 128 | 334 | 127 | 8 | 288 | 148 | **290** | **147** | 291 | 146 |
| 454.calculix | 8 | 599 | 110 | 594 | 111 | **598** | **110** | 8 | 595 | 111 | 599 | 110 | **598** | **110** |
| 459.GemsFDTD | 8 | 1658 | 51.2 | **1659** | **51.2** | 1660 | 51.2 | 8 | 1658 | 51.2 | **1659** | **51.2** | 1660 | 51.2 |
| 465.tonto | 8 | 805 | 97.6 | **808** | **97.6** | 814 | 96.8 | 8 | 797 | 98.4 | **795** | **99.2** | 794 | 99.2 |
| 470.lbm | 8 | 1005 | 110 | 1004 | 110 | **1005** | **110** | 8 | 1005 | 110 | 1004 | 110 | **1005** | **110** |
| 481.wrf | 8 | 941 | 95.2 | 941 | 95.2 | **941** | **95.2** | 8 | 941 | 95.2 | 941 | 95.2 | **941** | **95.2** |
| 482.sphinx3 | 8 | 1769 | 88.0 | 1773 | 88.0 | **1769** | **88.0** | 8 | 1770 | 88.0 | 1771 | 88.0 | **1771** | **88.0** |

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
```

## General Notes

```
Tested systems can be used with Shin-G ATX case,
PC Power and Cooling 1200W power supply
System was configured with an ATI HD5770 discrete graphics card
```

## Base Compiler Invocation

C benchmarks:
```
icl -Qvc9 -Qstd=c99
```

C++ benchmarks:
```
icl -Qvc9
```

Fortran benchmarks:
```
ifort
```

Benchmarks using both Fortran and C:
```
icl -Qvc9 -Qstd=c99 ifort
```

## Base Portability Flags

```
410.bwaves: -DSPEC_CPU_P64 -names:lowercase
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
450.soplex: -DSPEC_CPU_P64
453.povray: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL
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- -Qansi-alias -Qauto-ilp32
/F1000000000            -link /FORCE:MULTIPLE
```

C++ benchmarks:
```
-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qansi-alias -Qcxx-features
-Qauto-ilp32 /F1000000000 shlW64M.lib            -link /FORCE:MULTIPLE
```

Fortran benchmarks:
```
-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qansi-alias /F1000000000
            -link /FORCE:MULTIPLE
```

Continued on next page

## Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:
-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qansi-alias -Qauto-ilp32
/F1000000000 -link /FORCE:MULTIPLE

## Peak Compiler Invocation

C benchmarks:
icl -Qvc9 -Qstd=c99

C++ benchmarks:
icl -Qvc9

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl -Qvc9 -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: -QxSSE4.2 -Qipo -O3 -Qprec-div- -Qunroll2 -Qansi-alias
-Qauto-ilp32 /F1000000000 -link /FORCE:MULTIPLE

C++ benchmarks:

444.namd: -QxSSE4.2(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: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qunroll2 -Qansi-alias
-Qscalar-rep- -Qauto-ilp32 /F1000000000 shlW64M.lib
-link /FORCE:MULTIPLE

Continued on next page

# Peak Optimization Flags (Continued)

450.soplex: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qauto-ilp32 /F1000000000 shlW64M.lib
-link /FORCE:MULTIPLE

453.povray: -QxSSE4.2(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

416.gamess: basepeak = yes

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 /F1000000000
-link /FORCE:MULTIPLE

Benchmarks using both Fortran and C:

435.gromacs: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qopt-prefetch -Qauto-ilp32
/F1000000000 -link /FORCE:MULTIPLE

436.cactusADM: basepeak = yes

454.calculix: -QxSSE4.2 -Qipo -O3 -Qprec-div- -Qauto-ilp32 /F1000000000
-link /FORCE:MULTIPLE

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-ic12-winx64-revB.20110808.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic12-winx64-revB.20110808.xml

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Intel Corporation

Intel DP55KG Motherboard (Intel Core i7-860)

SPECfp_rate2006 = 90.1

SPECfp_rate_base2006 = 88.5

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

**Test date:** Jul-2011
**Hardware Availability:** Mar-2011
**Software Availability:** Apr-2011

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 v1.1.
Report generated on Thu Jul 24 00:07:40 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 2 August 2011.