SPEC® CFP2006 Result
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Intel Corporation

Intel DX58SO2 Motherboard (Intel Core i7-930)

$SPECfp®\_rate2006 =$ 94.6

$SPECfp\_rate\_base2006 =$ 93.2
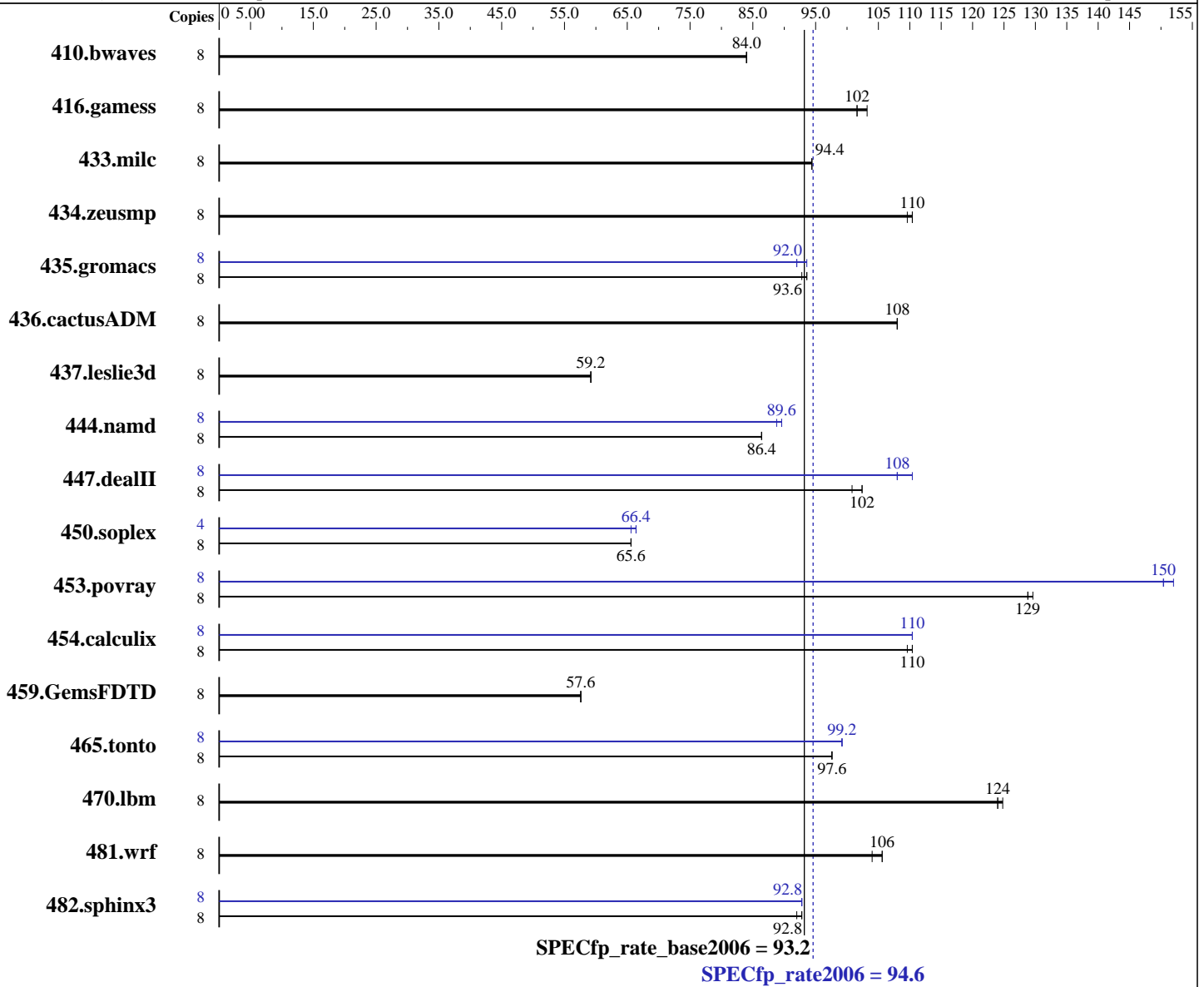
CPU2006 license: 13
Test sponsor: Intel Corporation
Tested by: Intel Corporation

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

Copies		
410.bwaves	8	84.0
416.gamess	8	102
433.milc	8	94.4
434.zeusmp	8	110
435.gromacs	8	92.0
	8	93.6
436.cactusADM	8	108
437.leslie3d	8	59.2
444.namd	8	89.6
	8	86.4
447.dealII	8	108
	8	102
450.soplex	4	66.4
	8	65.6
453.povray	8	150
	8	129
454.calculix	8	110
	8	110
459.GemsFDTD	8	57.6
465.tonto	8	99.2
	8	97.6
470.lbm	8	124
481.wrf	8	106
482.sphinx3	8	92.8
	8	92.8

SPECfp_rate_base2006 = 93.2

SPECfp_rate2006 = 94.6

Hardware
CPU Name: Intel Core i7-930
CPU Characteristics: Intel Turbo Boost Technology up to 3.06 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
Intel Visual Fortran Compiler XE for Intel 64
Version 12.0.3.176 Build 20110309
Microsoft Visual Studio 2008 Professional SP1
(for libraries)
Auto Parallel: No
File System: NTFS

Continued on next page

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L3 Cache:	8 MB I+D on chip per chip
Other Cache:	None
Memory:	12 GB (3 x 4 GB 2Rx8 PC3-8600U-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	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
			Base								Peak			
410.bwaves	8	1298	84.0	**1297**	**84.0**	1295	84.0	8	1298	84.0	**1297**	**84.0**	1295	84.0
416.gamess	8	1516	103	1541	102	**1536**	**102**	8	1516	103	1541	102	**1536**	**102**
433.milc	8	779	94.4	780	94.4	**780**	**94.4**	8	779	94.4	780	94.4	**780**	**94.4**
434.zeusmp	8	662	110	**662**	**110**	660	110	8	662	110	**662**	**110**	660	110
435.gromacs	8	609	93.6	614	92.8	**613**	**93.6**	8	613	93.6	**619**	**92.0**	620	92.0
436.cactusADM	8	**882**	**108**	882	108	884	108	8	**882**	**108**	882	108	884	108
437.leslie3d	8	1275	59.2	**1275**	**59.2**	1278	59.2	8	1275	59.2	**1275**	**59.2**	1278	59.2
444.namd	8	**739**	**86.4**	739	86.4	740	86.4	8	719	89.6	**719**	**89.6**	720	88.8
447.dealII	8	**897**	**102**	907	101	893	102	8	828	110	848	108	**846**	**108**
450.soplex	8	1021	65.6	1012	65.6	**1013**	**65.6**	4	510	65.6	501	66.4	**502**	**66.4**
453.povray	8	331	129	329	130	**330**	**129**	8	280	152	**283**	**150**	283	150
454.calculix	8	597	110	601	110	**598**	**110**	8	**598**	**110**	599	110	597	110
459.GemsFDTD	8	1481	57.6	1478	57.6	**1479**	**57.6**	8	1481	57.6	1478	57.6	**1479**	**57.6**
465.tonto	8	807	97.6	804	97.6	**807**	**97.6**	8	**793**	**99.2**	793	99.2	792	99.2
470.lbm	8	884	124	884	125	**884**	**124**	8	884	124	884	125	**884**	**124**
481.wrf	8	847	106	856	104	**848**	**106**	8	847	106	856	104	**848**	**106**
482.sphinx3	8	1690	92.0	1682	92.8	**1683**	**92.8**	8	1685	92.8	**1681**	**92.8**	1680	92.8

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

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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
```

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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
```

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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

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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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