SPEC® CFP2006 Result
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Intel Corporation

Intel DH61WW motherboard (Intel Pentium G850)

$SPECfp®2006 =$ 35.0

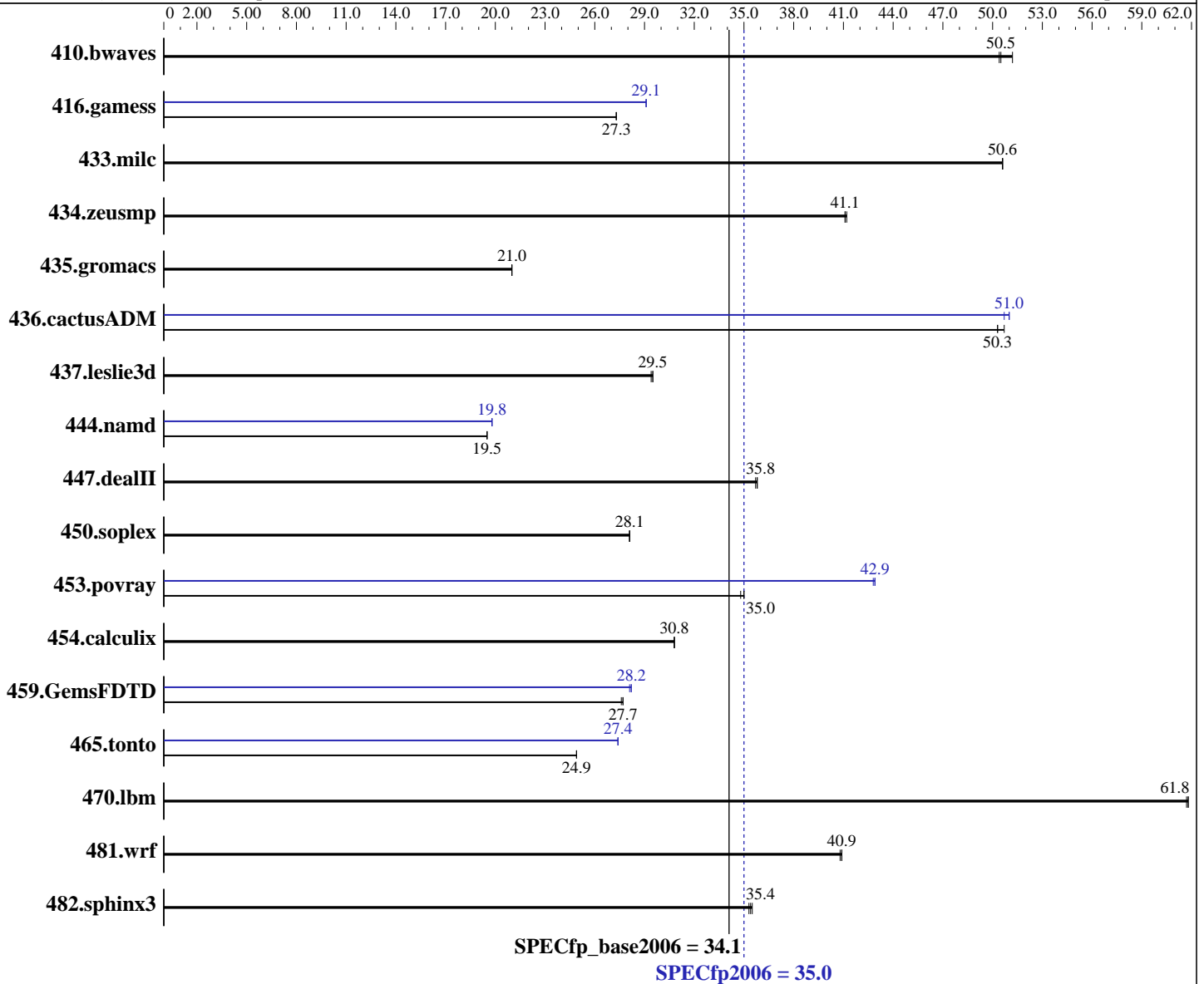$SPECfp\_base2006 =$ 34.1

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

Test date: Oct-2011
Hardware Availability: Jun-2011
Software Availability: Apr-2011

410.bwaves	50.5
416.gamess	29.1 / 27.3
433.milc	50.6
434.zeusmp	41.1
435.gromacs	21.0
436.cactusADM	51.0 / 50.3
437.leslie3d	29.5
444.namd	19.8 / 19.5
447.dealII	35.8
450.soplex	28.1
453.povray	42.9 / 35.0
454.calculix	30.8
459.GemsFDTD	28.2 / 27.7
465.tonto	27.4 / 24.9
470.lbm	61.8
481.wrf	40.9
482.sphinx3	35.4

SPECfp_base2006 = 34.1
SPECfp2006 = 35.0

Hardware
CPU Name: Intel Pentium G850
CPU Characteristics:
CPU MHz: 2900
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

Continued on next page

Software
Operating System: Windows 7 Ultimate (64-bit)
Compiler: C/C++: Version 12.0.3.176 of Intel C++ Studio XE
for Windows;
Fortran: Version 12.0.3.176 of Intel Fortran
Studio XE
for Windows;
Libraries: Version 15.00.30729.01 of Microsoft
Visual Studio 2008 Professional SP1
Auto Parallel: Yes
File System: NTFS

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L3 Cache:	3 MB I+D on chip per chip	System State:	Default
Other Cache:	None	Base Pointers:	32/64-bit
Memory:	2 GB (2 x 1 GB 2Rx4 PC3-10600U-9)	Peak Pointers:	32/64-bit
Disk Subsystem:	1 TB Seagate SATA, 7200 RPM	Other Software:	SmartHeap Library Version 9.01 from
Other Hardware:	None		http://www.microquill.com/

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	266	51.2	**269**	**50.5**	270	50.4	266	51.2	**269**	**50.5**	270	50.4
416.gamess	718	27.3	**718**	**27.3**	718	27.3	673	29.1	**673**	**29.1**	673	29.1
433.milc	181	50.6	**181**	**50.6**	182	50.6	181	50.6	**181**	**50.6**	182	50.6
434.zeusmp	**221**	**41.1**	221	41.2	221	41.1	**221**	**41.1**	221	41.2	221	41.1
435.gromacs	340	21.0	**340**	**21.0**	340	21.0	340	21.0	**340**	**21.0**	340	21.0
436.cactusADM	**238**	**50.3**	238	50.3	236	50.7	234	51.0	**234**	**51.0**	236	50.7
437.leslie3d	**319**	**29.5**	319	29.4	319	29.5	**319**	**29.5**	319	29.4	319	29.5
444.namd	412	19.5	**412**	**19.5**	412	19.5	405	19.8	**405**	**19.8**	405	19.8
447.dealII	320	35.7	**320**	**35.8**	320	35.8	320	35.7	**320**	**35.8**	320	35.8
450.soplex	297	28.1	**296**	**28.1**	296	28.1	297	28.1	**296**	**28.1**	296	28.1
453.povray	152	35.0	**152**	**35.0**	153	34.8	124	42.8	**124**	**42.9**	124	42.9
454.calculix	268	30.8	**268**	**30.8**	268	30.8	268	30.8	**268**	**30.8**	268	30.8
459.GemsFDTD	384	27.7	385	27.6	**384**	**27.7**	**377**	**28.2**	376	28.2	377	28.1
465.tonto	396	24.9	395	24.9	**395**	**24.9**	359	27.4	**359**	**27.4**	359	27.4
470.lbm	223	61.8	223	61.7	**223**	**61.8**	223	61.8	223	61.7	**223**	**61.8**
481.wrf	**273**	**40.9**	274	40.8	273	40.9	**273**	**40.9**	274	40.8	273	40.9
482.sphinx3	549	35.5	553	35.3	**551**	**35.4**	549	35.5	553	35.3	**551**	**35.4**

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

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
    OMP_NUM_THREADS set to number of processor cores
    KMP_AFFINITY set to granularity=fine,scatter
```

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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- -Qparallel -Qansi-alias
-Qopt-prefetch -Qauto-ilp32 /F1000000000
```

C++ benchmarks:
```
-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias
-Qopt-prefetch -Qcxx-features -Qauto-ilp32 /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 -Qauto-ilp32 /F1000000000
```

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: basepeak = yes

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: basepeak = yes

> 450.soplex: basepeak = yes

> 453.povray: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
>   -Qipo -O3 -Qprec-div- -Qunroll4 -Qansi-alias -Qauto-ilp32
>   /F1000000000 shlW64M.lib   -link /FORCE:MULTIPLE

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Peak Optimization Flags (Continued)

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: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
                -Qipo -O3 -Qprec-div- -Qunroll2 -Qopt-prefetch -Qparallel
                /F1000000000

      465.tonto: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
                -Qipo -O3 -Qprec-div- -Qunroll4 -Qauto -Qinline-calloc
                /F1000000000

Benchmarks using both Fortran and C:

    435.gromacs: basepeak = yes

  436.cactusADM: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
                -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qparallel -Qunroll2
                -Qauto-ilp32 /F1000000000

    454.calculix: basepeak = yes

       481.wrf: basepeak = yes

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic12-winx64-revC.20111012.html
http://www.spec.org/cpu2006/flags/Intel-Windows-Platform-Settings-revC.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12-winx64-revC.20111012.xml
http://www.spec.org/cpu2006/flags/Intel-Windows-Platform-Settings-revC.xml

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