SPEC® CFP2006 Result

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Intel Corporation

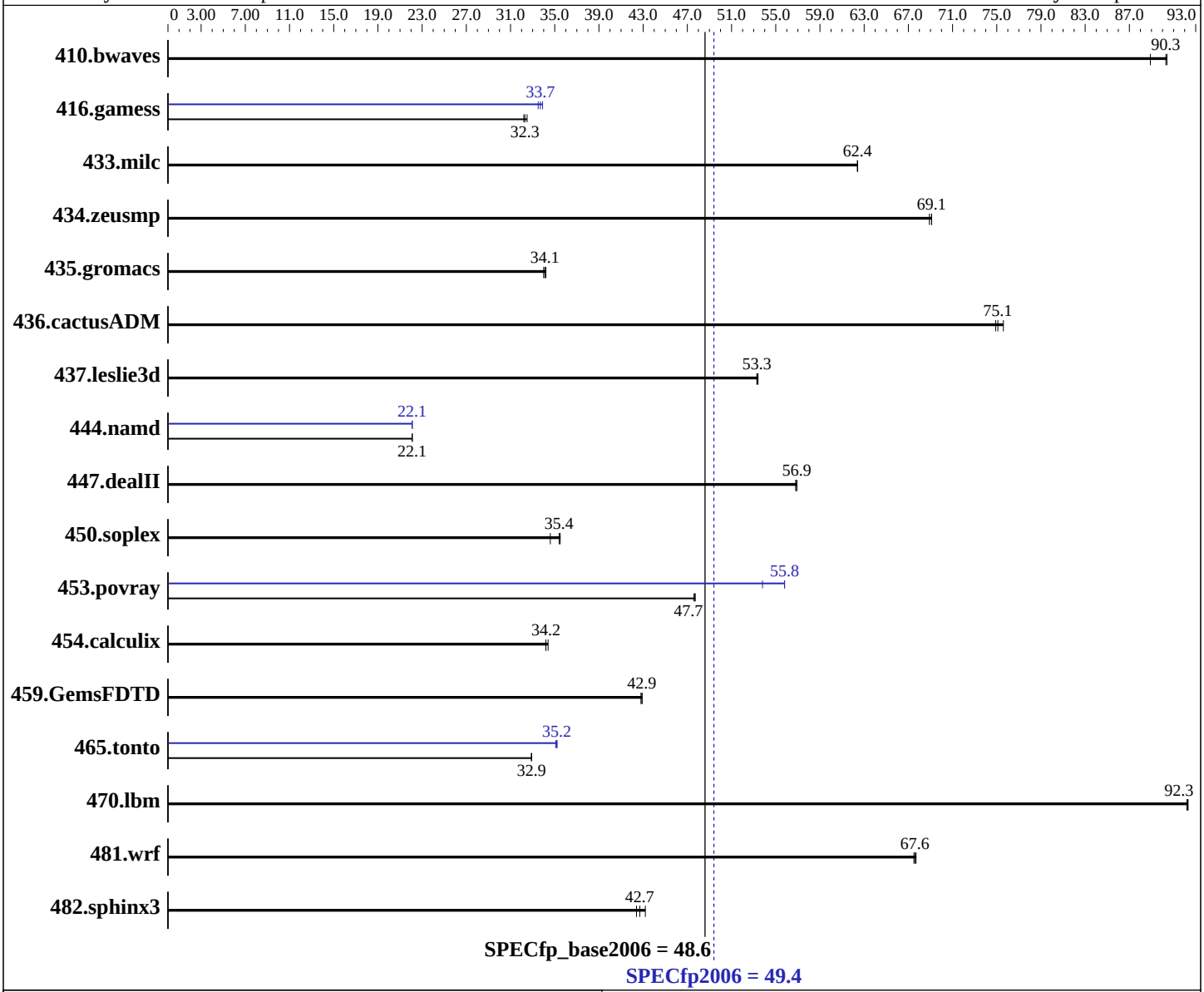
Intel DQ87PG motherboard (Intel Pentium G3430)

SPECfp®2006 = 49.4

SPECfp_base2006 = 48.6

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

Test date: Sep-2013
Hardware Availability: Sep-2013
Software Availability: Sep-2012



Hardware

CPU Name:	Intel Pentium G3430
CPU Characteristics:	
CPU MHz:	3300
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

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Software

Operating System:	Microsoft Windows 7 Enterprise 6.1.7601 Service Pack 1 Build 7601
Compiler:	C/C++: Version 13.1.1.171 of Intel C++ Studio XE for Windows; Fortran: Version 13.1.1.171 of Intel Fortran Studio XE for Windows; Libraries: Version 15.00.30729.01 of Microsoft Visual Studio 2008 Professional SP1
Auto Parallel:	Yes

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L3 Cache:	3 MB I+D on chip per chip
Other Cache:	None
Memory:	4 GB (2 x 2 GB 1Rx8 PC3-12800U-11)
Disk Subsystem:	250 GB 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 10.0 from http://www.microquill.com/

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	**151**	**90.3**	150	90.4	153	88.9	**151**	**90.3**	150	90.4	153	88.9
416.gamess	609	32.2	**606**	**32.3**	602	32.5	578	33.9	**581**	**33.7**	585	33.5
433.milc	147	62.4	**147**	**62.4**	147	62.4	147	62.4	**147**	**62.4**	147	62.4
434.zeusmp	132	68.9	132	69.1	**132**	**69.1**	132	68.9	132	69.1	**132**	**69.1**
435.gromacs	209	34.2	210	34.0	**209**	**34.1**	209	34.2	210	34.0	**209**	**34.1**
436.cactusADM	160	74.9	158	75.6	**159**	**75.1**	160	74.9	158	75.6	**159**	**75.1**
437.leslie3d	176	53.4	176	53.3	**176**	**53.3**	176	53.4	176	53.3	**176**	**53.3**
444.namd	363	22.1	**364**	**22.1**	364	22.1	**364**	**22.1**	363	22.1	364	22.1
447.dealII	**201**	**56.9**	201	56.8	201	56.9	**201**	**56.9**	201	56.8	201	56.9
450.soplex	**236**	**35.4**	235	35.5	241	34.6	**236**	**35.4**	235	35.5	241	34.6
453.povray	112	47.6	112	47.7	**112**	**47.7**	95.4	55.8	**95.4**	**55.8**	98.8	53.8
454.calculix	240	34.4	**241**	**34.2**	241	34.2	240	34.4	**241**	**34.2**	241	34.2
459.GemsFDTD	248	42.8	**247**	**42.9**	247	42.9	248	42.8	**247**	**42.9**	247	42.9
465.tonto	299	32.9	**299**	**32.9**	299	32.9	280	35.1	280	35.2	**280**	**35.2**
470.lbm	149	92.3	149	92.2	**149**	**92.3**	149	92.3	149	92.2	**149**	**92.3**
481.wrf	**165**	**67.6**	165	67.5	165	67.7	**165**	**67.6**	165	67.5	165	67.7
482.sphinx3	451	43.2	460	42.4	**457**	**42.7**	451	43.2	460	42.4	**457**	**42.7**

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 13.0 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)
```

Platform Notes

```
Sysinfo program C:\SPEC13.1/Docs/sysinfo
$Rev: 6775 $ $Date:: 2011-08-16 #$ \8787f7622badcf24e01c368b1db4377c
running on Clt7C05070FB2B7 Mon Sep 23 06:26:20 2013

This section contains SUT (System Under Test) info as seen by
some common utilities.  To remove or add to this section, see:
```

Continued on next page

Platform Notes (Continued)

```
      http://www.spec.org/cpu2006/Docs/config.html#sysinfo

    Trying 'systeminfo'
    OS Name       : Microsoft Windows 7 Enterprise
    OS Version    : 6.1.7601 Service Pack 1 Build 7601
    System Manufacturer: INTEL_
    System Model  : DQ87PG__
    Processor(s)  : 1 Processor(s) Installed.
         [01]: Intel64 Family 6 Model 60 Stepping 3 GenuineIntel ~3300 Mhz
    BIOS Version  : Intel(R) Corp. PGQ8710H.86A.0036.2013.0702.1908, 7/2/2013
    Total Physical Memory: 3,749 MB

    Trying 'wmic cpu get /value'
    DeviceID      : CPU0
    L2CacheSize   : 512
    L3CacheSize   : 3072
    MaxClockSpeed : 3300
    Name          : Intel(R) Pentium(R) CPU G3430 @ 3.30GHz
    NumberOfCores : 2
    NumberOfLogicalProcessors: 2

    (End of data from sysinfo program)
  BIOS: SATA mode set to RAID
  Windows Disk Driver: Intel Rapid Storage Technology 12.5.0.1066
  Windows Chipset Driver: Intel Chipset Driver 9.4.0.1027
```

Component Notes

```
  Tested systems can be used with Shin-G ATX case,
  PC Power and Cooling 1200W power supply
  Micron MT8JTF25664AZ-1G6 Series Memory DIMMs
```

General Notes

```
  OMP_NUM_THREADS set to number of processors cores
  KMP_AFFINITY set to granularity=fine,scatter
  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: /Qlowercase
436.cactusADM: -Qlowercase /assume:underscore
444.namd: /TP
447.dealII: -DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG
-Qoption,cpp,--ms_incompat_treatment_of_commas_in_macros
453.povray: -DSPEC_CPU_NEED_INVHYP -DNEED_INVHYP
454.calculix: -DSPEC_CPU_NOZMODIFIER -Qlowercase
481.wrf: -DSPEC_CPU_WINDOWS_ICL

Base Optimization Flags

C benchmarks:
-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias
-Qopt-prefetch /F1000000000

C++ benchmarks:
-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias
-Qopt-prefetch -Qcxx-features /F1000000000 shlW32M.lib
-link /FORCE:MULTIPLE

Fortran benchmarks:
-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias
-Qopt-prefetch /F1000000000

Benchmarks using both Fortran and C:
-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias
-Qopt-prefetch /F1000000000

Peak Compiler Invocation

C benchmarks:
icl -Qvc10 -Qstd=c99

C++ benchmarks:
icl -Qvc10

Continued on next page

Peak Compiler Invocation (Continued)

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl -Qvc10 -Qstd=c99 ifort

Peak Portability Flags

410.bwaves: /Qlowercase
436.cactusADM: -Qlowercase /assume:underscore
444.namd: /TP
447.dealII: -DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG
-Qoption,cpp,--ms_incompat_treatment_of_commas_in_macros
453.povray: -DSPEC_CPU_NEED_INVHYP -DNEED_INVHYP
454.calculix: -DSPEC_CPU_NOZMODIFIER -Qlowercase
481.wrf: -DSPEC_CPU_WINDOWS_ICL

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 /F1000000000 shlW32M.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 /F1000000000
shlW32M.lib -link /FORCE:MULTIPLE

Fortran benchmarks:

410.bwaves: basepeak = yes

Continued on next page

Peak Optimization Flags (Continued)

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: `basepeak = yes`

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: `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-ic13.1-official-windows.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic13.1-official-windows.xml`

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