SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Intel Corporation

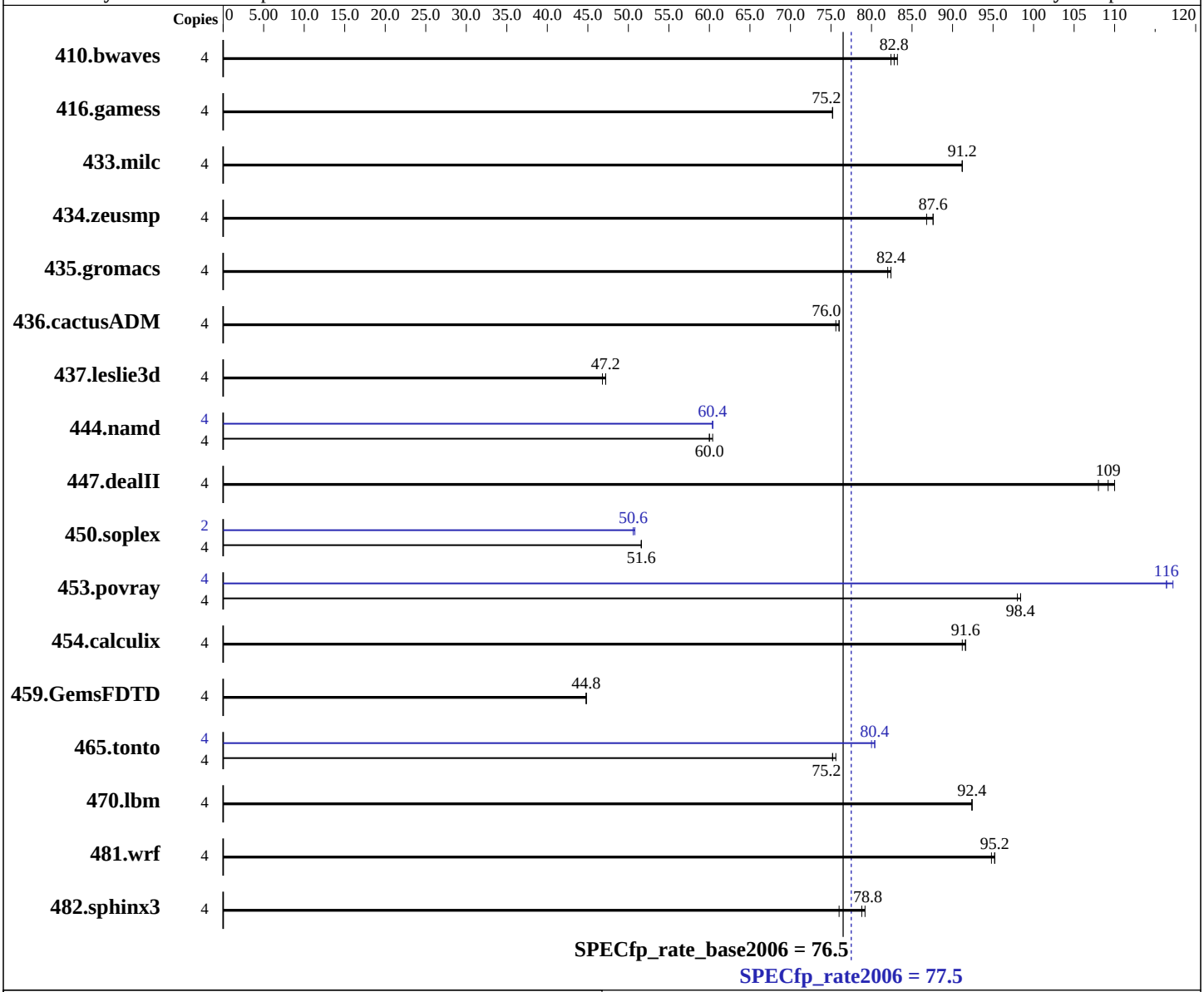
Intel DQ77MK motherboard (Intel Core i3-3245)

SPECfp®_rate2006 = 77.5

SPECfp_rate_base2006 = 76.5

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

Test date: Dec-2013
Hardware Availability: Jun-2013
Software Availability: Apr-2013



Hardware

CPU Name:	Intel Core i3-3245
CPU Characteristics:	
CPU MHz:	3400
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 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:	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 16.00.30319.01 of Microsoft Visual Studio 2010 Professional SP1
Auto Parallel:	No

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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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	653	83.2	**656**	**82.8**	659	82.4	4	653	83.2	**656**	**82.8**	659	82.4
416.gamess	4	**1042**	**75.2**	1043	75.2	1042	75.2	4	**1042**	**75.2**	1043	75.2	1042	75.2
433.milc	4	403	91.2	**403**	**91.2**	402	91.2	4	403	91.2	**403**	**91.2**	402	91.2
434.zeusmp	4	416	87.6	420	86.8	**416**	**87.6**	4	416	87.6	420	86.8	**416**	**87.6**
435.gromacs	4	346	82.4	**347**	**82.4**	348	82.0	4	346	82.4	**347**	**82.4**	348	82.0
436.cactusADM	4	629	76.0	**630**	**76.0**	632	75.6	4	629	76.0	**630**	**76.0**	632	75.6
437.leslie3d	4	**800**	**47.2**	802	46.8	799	47.2	4	**800**	**47.2**	802	46.8	799	47.2
444.namd	4	533	60.4	**533**	**60.0**	533	60.0	4	531	60.4	**532**	**60.4**	532	60.4
447.dealII	4	416	110	424	108	**419**	**109**	4	416	110	424	108	**419**	**109**
450.soplex	4	**646**	**51.6**	645	51.6	646	51.6	2	329	50.8	**329**	**50.6**	330	50.6
453.povray	4	217	98.0	216	98.4	**216**	**98.4**	4	183	116	182	117	**183**	**116**
454.calculix	4	**360**	**91.6**	362	91.2	360	91.6	4	**360**	**91.6**	362	91.2	360	91.6
459.GemsFDTD	4	943	44.8	946	44.8	**943**	**44.8**	4	943	44.8	946	44.8	**943**	**44.8**
465.tonto	4	**522**	**75.2**	522	75.6	523	75.2	4	490	80.4	**491**	**80.4**	492	80.0
470.lbm	4	595	92.4	596	92.4	**595**	**92.4**	4	595	92.4	596	92.4	**595**	**92.4**
481.wrf	4	**470**	**95.2**	471	94.8	469	95.2	4	**470**	**95.2**	471	94.8	469	95.2
482.sphinx3	4	**988**	**78.8**	1026	76.0	984	79.2	4	**988**	**78.8**	1026	76.0	984	79.2

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 13.1 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:\SPEC13.1/Docs/sysinfo
 $Rev: 6775 $ $Date:: 2011-08-16 #$ \8787f7622badcf24e01c368b1db4377c
 running on Clt7054D2179849 Sat Dec  7 22:48:28 2013

 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 7 Enterprise
 OS Version    : 6.1.7601 Service Pack 1 Build 7601
 System Manufacturer: INTEL_
 System Model  : DQ77MK__
 Processor(s)  : 1 Processor(s) Installed.
      [01]: Intel64 Family 6 Model 58 Stepping 9 GenuineIntel ~3400 Mhz
 BIOS Version  : Intel Corp. MKQ7710H.86A.0054.2012.1120.1444, 11/20/2012
 Total Physical Memory: 3,912 MB

 Trying 'wmic cpu get /value'
 DeviceID      : CPU0
 L2CacheSize   : 512
 L3CacheSize   : 3072
 MaxClockSpeed : 3400
 Name          : Intel(R) Core(TM) i3-3245 CPU @ 3.40GHz
 NumberOfCores : 2
 NumberOfLogicalProcessors: 4

 (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

```
 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
```

Continued on next page

Base Compiler Invocation (Continued)

C++ benchmarks:
icl -Qvc10

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:
-QxAVX -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
-Qauto-ilp32 /F1000000000 -link /FORCE:MULTIPLE

C++ benchmarks:
-QxAVX -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
-Qcxx-features -Qauto-ilp32 /F1000000000 shlW64M.lib
-link /FORCE:MULTIPLE

Fortran benchmarks:
-QxAVX -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
/F1000000000 -link /FORCE:MULTIPLE

Continued on next page

Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:
-QxAVX -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: -QxAVX(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: -QxAVX(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo
-O3 -Qauto-ilp32 /F1000000000 shlW64M.lib
-link /FORCE:MULTIPLE

Continued on next page

Peak Optimization Flags (Continued)

453.povray: `-QxAVX`(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: `-QxAVX`(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-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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For other inquiries, please contact webmaster@spec.org.

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