



SPEC® CFP2006 Result

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Intel Corporation

SPECfp®_rate2006 = 76.0

Intel DQ77MK motherboard (Intel Core i3-3220)

SPECfp_rate_base2006 = 75.2

CPU2006 license: 13

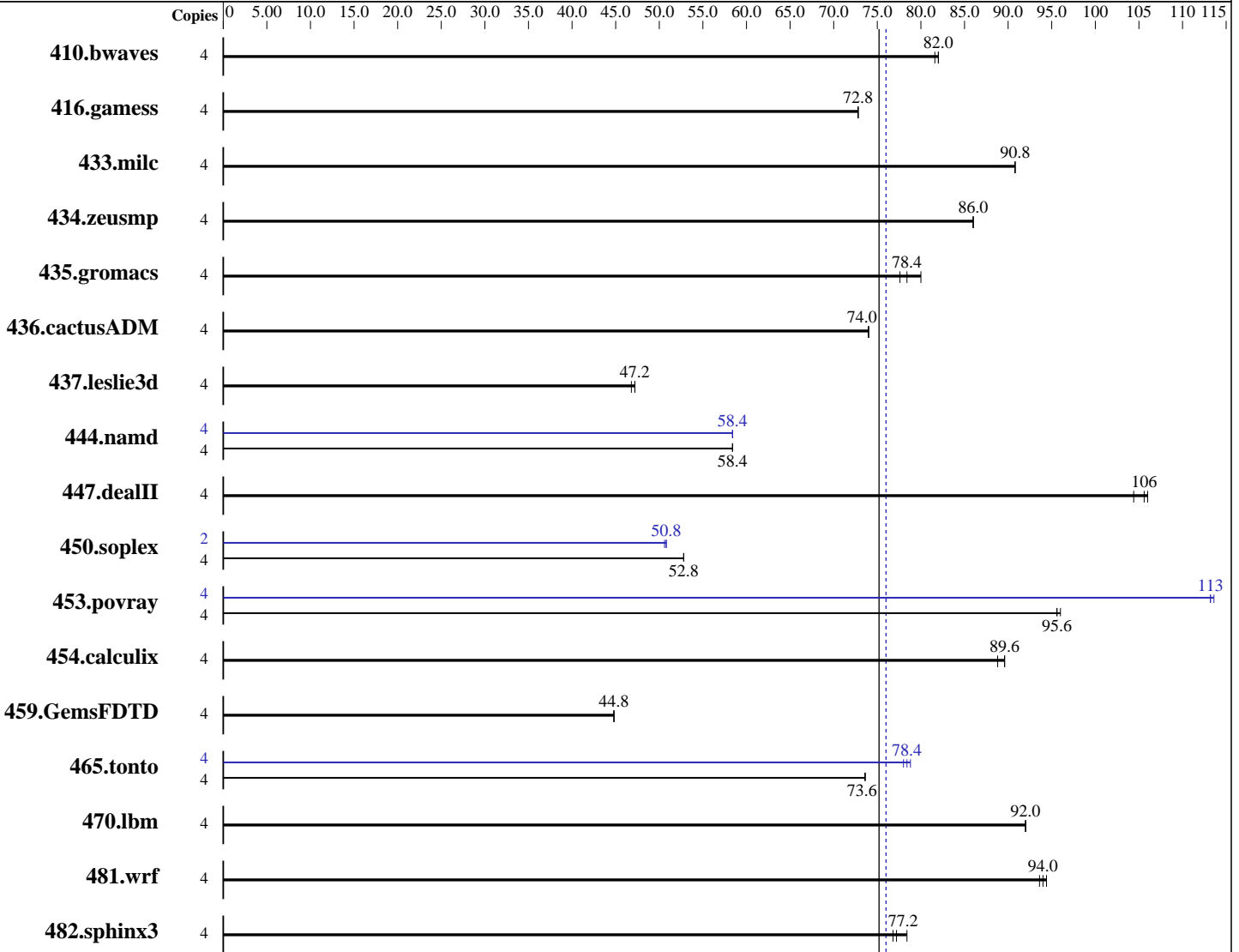
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Dec-2013

Hardware Availability: Sep-2013

Software Availability: Apr-2013



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Hardware

CPU Name: Intel Core i3-3220
 CPU Characteristics:
 CPU MHz: 3300
 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

Continued on next page



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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	662	82.0	665	81.6	664	82.0	4	662	82.0	665	81.6	664	82.0
416.gamess	4	1073	72.8	1075	72.8	1074	72.8	4	1073	72.8	1075	72.8	1074	72.8
433.milc	4	404	90.8	405	90.8	404	90.8	4	404	90.8	405	90.8	404	90.8
434.zeusmp	4	424	86.0	423	86.0	424	86.0	4	424	86.0	423	86.0	424	86.0
435.gromacs	4	368	77.6	365	78.4	357	80.0	4	368	77.6	365	78.4	357	80.0
436.cactusADM	4	646	74.0	646	74.0	645	74.0	4	646	74.0	646	74.0	645	74.0
437.leslie3d	4	801	46.8	799	47.2	799	47.2	4	801	46.8	799	47.2	799	47.2
444.namd	4	550	58.4	549	58.4	549	58.4	4	548	58.4	550	58.4	548	58.4
447.dealII	4	433	106	434	106	439	104	4	433	106	434	106	439	104
450.soplex	4	632	52.8	631	52.8	632	52.8	2	329	50.6	329	50.8	329	50.8
453.povray	4	222	96.0	223	95.6	223	95.6	4	188	113	188	113	188	114
454.calculix	4	372	88.8	369	89.6	368	89.6	4	372	88.8	369	89.6	368	89.6
459.GemsFDTD	4	951	44.8	947	44.8	946	44.8	4	951	44.8	947	44.8	946	44.8
465.tonto	4	535	73.6	534	73.6	535	73.6	4	504	78.0	502	78.4	498	78.8
470.lbm	4	597	92.0	597	92.0	598	92.0	4	597	92.0	597	92.0	598	92.0
481.wrf	4	474	94.4	478	93.6	476	94.0	4	474	94.4	478	93.6	476	94.0
482.sphinx3	4	1017	76.8	997	78.4	1009	77.2	4	1017	76.8	997	78.4	1009	77.2

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.



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Platform Notes

Sysinfo program C:\SPEC13.1/Docs/sysinfo
\$Rev: 6775 \$ \$Date:: 2011-08-16 #\$ \8787f7622badcf24e01c368b1db4377c
running on Clt7054D217ADD3 Sun Dec 8 10:25:27 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 ~3300 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 : 3300
Name : Intel(R) Core(TM) i3-3220 CPU @ 3.30GHz
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

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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

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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
```

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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
           sh1W64M.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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