



SPEC® CFP2006 Result

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Intel Corporation

Asus P5E3 Pro motherboard (Intel Core 2 Extreme QX9770)

SPECfp®_rate2006 = 56.6

SPECfp_rate_base2006 = 55.1

CPU2006 license: 13

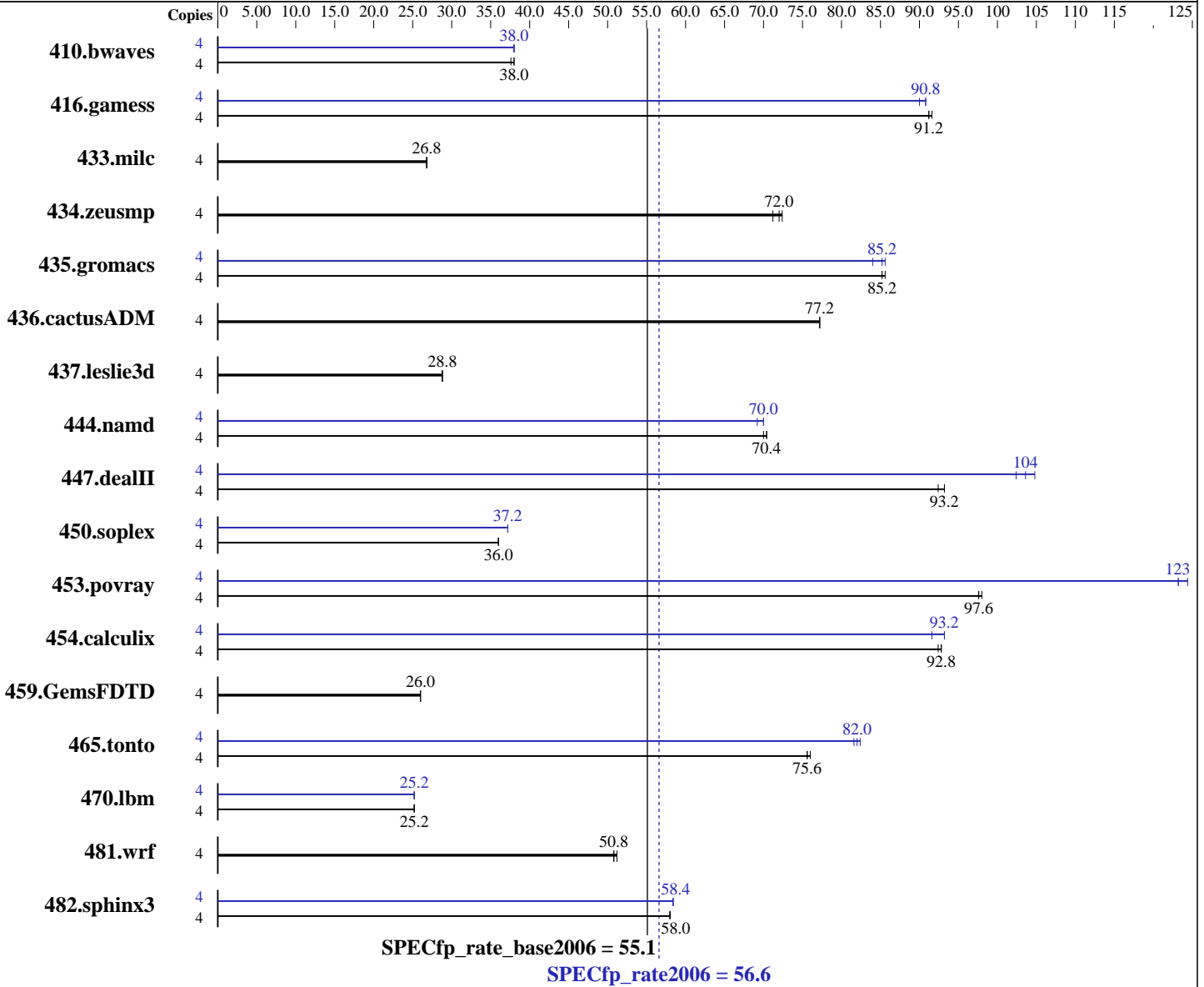
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Feb-2010

Hardware Availability: Jun-2009

Software Availability: Oct-2009



Hardware

CPU Name: Intel Core 2 Extreme QX9770
 CPU Characteristics:
 CPU MHz: 3200
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip
 CPU(s) orderable: 1 chip
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 12 MB I+D on chip per chip, 6 MB shared / 2 cores

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Software

Operating System: Windows Vista Ultimate w/ SP1 (64-bit)
 Compiler: Intel C++ Compiler Professional 11.1 for Intel 64
 Build 20090903 Package ID: w_cproc_p_11.1.045
 Intel Visual Fortran Compiler Professional 11.1 for Intel 64
 Build 20090903 Package ID: w_cproc_p_11.1.045, w_cprof_p_11.1.045
 Microsoft Visual Studio 2008 Professional SP1 (for libraries)
 Auto Parallel: No

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L3 Cache: None
Other Cache: None
Memory: 4 GB (2x2GB Micron MT16JTF25664AZ-1G4 DDR3-1333 CL9)
Disk Subsystem: Intel X25-M 80GB SSD
Other Hardware: None

File System: NTFS
System State: Default
Base Pointers: 64-bit
Peak Pointers: 64-bit
Other Software: None
SmartHeap Library Version 8.1 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	1438	38.0	1438	37.6	1437	38.0	4	1438	38.0	1437	38.0	1438	38.0
416.gamess	4	860	91.2	857	91.6	857	91.2	4	870	90.0	864	90.8	864	90.8
433.milc	4	1377	26.8	1376	26.8	1375	26.8	4	1377	26.8	1376	26.8	1375	26.8
434.zeusmp	4	504	72.4	505	72.0	511	71.2	4	504	72.4	505	72.0	511	71.2
435.gromacs	4	335	85.2	335	85.2	334	85.6	4	339	84.0	336	85.2	334	85.6
436.cactusADM	4	620	77.2	620	77.2	620	77.2	4	620	77.2	620	77.2	620	77.2
437.leslie3d	4	1309	28.8	1307	28.8	1307	28.8	4	1309	28.8	1307	28.8	1307	28.8
444.namd	4	457	70.4	457	70.0	456	70.4	4	463	69.2	459	70.0	457	70.0
447.dealII	4	494	92.4	490	93.2	490	93.2	4	448	102	441	104	436	105
450.soplex	4	924	36.0	924	36.0	925	36.0	4	899	37.2	900	37.2	900	37.2
453.povray	4	217	98.0	218	97.6	218	97.6	4	173	123	173	123	171	124
454.calculix	4	356	92.8	357	92.4	356	92.8	4	361	91.6	354	93.2	355	93.2
459.GemsFDTD	4	1629	26.0	1628	26.0	1627	26.0	4	1629	26.0	1628	26.0	1627	26.0
465.tonto	4	521	75.6	519	76.0	519	75.6	4	483	81.6	478	82.4	479	82.0
470.lbm	4	2187	25.2	2187	25.2	2186	25.2	4	2186	25.2	2187	25.2	2187	25.2
481.wrf	4	875	51.2	878	50.8	878	50.8	4	875	51.2	878	50.8	878	50.8
482.sphinx3	4	1346	58.0	1344	58.0	1346	58.0	4	1334	58.4	1333	58.4	1338	58.4

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.
Windows start command was used to bind copies to processors

General Notes

Tested systems can be used with Shin-G ATX case,
PC Power and Cooling 1200W power supply
System was configured with nVidia GTX 280 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 /Qlowercase
 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 -Qlowercase /assume:underscore
 437.lelie3d: -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 -Qlowercase
 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:

-QxSSE4.1 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qauto-ilp32
/F1000000000 -link /FORCE:MULTIPLE

C++ benchmarks:

-QxSSE4.1 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qcxx-features
-Qauto-ilp32 /F1000000000 shlw64M.lib -link /FORCE:MULTIPLE

Fortran benchmarks:

-QxSSE4.1 -Qipo -O3 -Qprec-div- -Qopt-prefetch /F1000000000
-link /FORCE:MULTIPLE

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Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:

```
-QxSSE4.1 -Qipo -O3 -Qprec-div- -Qopt-prefetch -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: -QxSSE4.1 -Qipo -O3 -Qprec-div- -Qopt-prefetch
-Qauto-ilp32 /F1000000000 -link /FORCE:MULTIPLE
```

```
482.sphinx3: -QxSSE4.1 -Qipo -O3 -Qprec-div- -Qunroll2 -Qauto-ilp32
/F1000000000 -link /FORCE:MULTIPLE
```

C++ benchmarks:

```
444.namd: -QxSSE4.1(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Oa -Qauto-ilp32 /F1000000000
sh1W64M.lib -link /FORCE:MULTIPLE
```

```
447.dealIII: -QxSSE4.1(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qunroll2 -Qansi-alias
-Qscalar-rep- -Qauto-ilp32 /F1000000000 sh1W64M.lib
-link /FORCE:MULTIPLE
```

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Peak Optimization Flags (Continued)

450.soplex: -QxSSE4.1(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qauto-ilp32 /F1000000000 sh1W64M.lib
-link /FORCE:MULTIPLE

453.povray: -QxSSE4.1(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qunroll4 -Qansi-alias -Qauto-ilp32
/F1000000000 sh1W64M.lib -link /FORCE:MULTIPLE

Fortran benchmarks:

410.bwaves: -QxSSE4.1 -Qipo -O3 -Qprec-div- -Qopt-prefetch
/F1000000000 -link /FORCE:MULTIPLE

416.gamess: Same as 410.bwaves

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: -QxSSE4.1(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: -QxSSE4.1(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: -QxSSE4.1 -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-ic11.0-winx64-revA.20100302.01.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-winx64-revA.20100302.01.xml>



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Tested with SPEC CPU2006 v1.1.
Report generated on Wed Jul 23 06:45:43 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 2 March 2010.