SPEC® CFP2006 Result

Intel Corporation

Intel D975XBX2 motherboard (Intel Core 2 Quad QX6800)

SPECfp®_rate2006 = 40.2

SPECfp_rate_base2006 = 39.2

CPU2006 license: 13

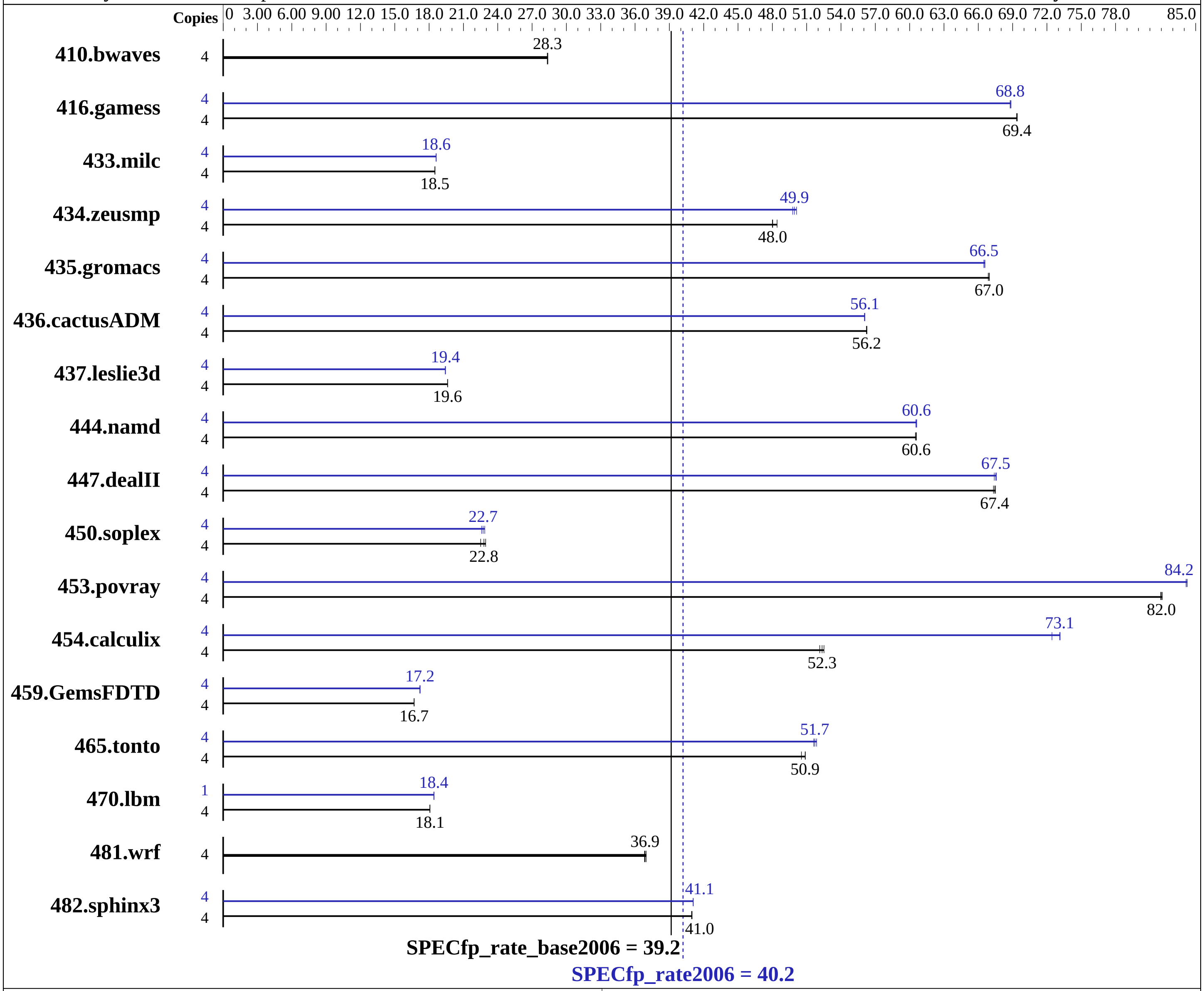
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Nov-2007

Hardware Availability: Sep-2007

Software Availability: Nov-2007



Hardware

CPU Name:	Intel Core 2 Quad QX6800
CPU Characteristics:	2.93 GHz 1066 MHz FSB
CPU MHz:	2933
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:	8 MB I+D on chip per chip, 4 MB shared / 2 cores

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Software

Operating System:	Windows Vista64 Ultimate
Compiler:	Intel C++ Compiler for IA32 version 10.1 Build 20070913 Package ID: w_cc_p_10.1.011 Intel Fortran Compiler for IA32 version 10.1 Build 20070913 Package ID: w_fc_p_10.1.011 Microsoft Visual Studio 2005 SP1 (for libraries)
Auto Parallel:	No
File System:	NTFS
System State:	Default

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L3 Cache:	None
Other Cache:	None
Memory:	4 GB (4x1GB Micron MT16HTF12864AY-80ED4 DDR2-800 CL5)
Disk Subsystem:	Seagate 320GB NCQ SATA, 16MB cache, 7200 RPM
Other Hardware:	None
Base Pointers:	32-bit
Peak Pointers:	32-bit
Other Software:	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	**1918**	**28.3**	1919	28.3	1915	28.4	4	**1918**	**28.3**	1919	28.3	1915	28.4
416.gamess	4	1128	69.4	1129	69.3	**1129**	**69.4**	4	1137	68.9	**1139**	**68.8**	1139	68.8
433.milc	4	**1984**	**18.5**	1983	18.5	1984	18.5	4	**1972**	**18.6**	1973	18.6	1972	18.6
434.zeusmp	4	752	48.4	**758**	**48.0**	758	48.0	4	**729**	**49.9**	726	50.1	731	49.8
435.gromacs	4	426	67.0	427	66.9	**427**	**67.0**	4	430	66.5	**429**	**66.5**	429	66.6
436.cactusADM	4	850	56.2	850	56.3	**850**	**56.2**	4	852	56.1	853	56.0	**852**	**56.1**
437.leslie3d	4	**1917**	**19.6**	1916	19.6	1917	19.6	4	1937	19.4	**1935**	**19.4**	1935	19.4
444.namd	4	530	60.6	**530**	**60.6**	530	60.5	4	530	60.5	**529**	**60.6**	529	60.6
447.dealII	4	680	67.3	678	67.5	**679**	**67.4**	4	677	67.6	679	67.4	**678**	**67.5**
450.soplex	4	1454	22.9	1482	22.5	**1464**	**22.8**	4	1477	22.6	1459	22.9	**1468**	**22.7**
453.povray	4	260	81.9	259	82.1	**260**	**82.0**	4	**253**	**84.2**	253	84.3	253	84.2
454.calculix	4	628	52.5	**630**	**52.3**	633	52.1	4	456	72.4	451	73.2	**451**	**73.1**
459.GemsFDTD	4	**2542**	**16.7**	2543	16.7	2542	16.7	4	**2468**	**17.2**	2469	17.2	2464	17.2
465.tonto	4	774	50.9	**774**	**50.9**	779	50.5	4	**761**	**51.7**	759	51.9	762	51.6
470.lbm	4	**3041**	**18.1**	3042	18.1	3040	18.1	1	**746**	**18.4**	746	18.4	745	18.4
481.wrf	4	1208	37.0	**1212**	**36.9**	1213	36.8	4	1208	37.0	**1212**	**36.9**	1213	36.8
482.sphinx3	4	1904	40.9	**1903**	**41.0**	1902	41.0	4	**1897**	**41.1**	1898	41.1	1897	41.1

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

General Notes

```
Tested systems can be used with Shin-G ATX case, Antec NeoPower 480W power supply
Product description located as of 11/2007:
http://www.intel.com/products/motherboard/D975XBX2/index.htm
The system bus runs at 1066 MHz
System was configured with Asus EN8800GTX discrete graphics card
Binaries were built on Windows Vista32
The following VS 2005 SP1 updates were applied: KB926601 and KB932232
The start command with the /affinity switch was used to bind processes to cores
```

Base Compiler Invocation

C benchmarks:
```
icl -Qvc8 -Qc99
```

C++ benchmarks:
```
icl -Qvc8
```

Fortran benchmarks:
```
ifort
```

Benchmarks using both Fortran and C:
```
icl -Qvc8 -Qc99 ifort
```

Base Portability Flags

436.cactusADM: `-Qlowercase /assume:underscore`
444.namd: `-TP`
447.dealII: `-DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG`
453.povray: `-DSPEC_CPU_WINDOWS_ICL`
454.calculix: `-DSPEC_CPU_NOZMODIFIER -Qlowercase`
481.wrf: `-DSPEC_CPU_WINDOWS_ICL`

Base Optimization Flags

C benchmarks:
```
-fast /F1000000000
```

C++ benchmarks:
```
-fast -Qcxx_features /F1000000000 shlw32m.lib
           -link /FORCE:MULTIPLE
```

Fortran benchmarks:
```
-fast /F1000000000
```

Benchmarks using both Fortran and C:
```
-fast /F1000000000
```

Peak Compiler Invocation

C benchmarks:
```
icl -Qvc8 -Qc99
```

C++ benchmarks:
```
icl -Qvc8
```

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Peak Compiler Invocation (Continued)

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl -Qvc8 -Qc99 ifort

Peak Portability Flags

436.cactusADM: -Qlowercase /assume:underscore
444.namd: -TP
447.dealII: -DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG
453.povray: -DSPEC_CPU_WINDOWS_ICL
454.calculix: -DSPEC_CPU_NOZMODIFIER -Qlowercase
481.wrf: -DSPEC_CPU_WINDOWS_ICL

Peak Optimization Flags

C benchmarks:

433.milc: -fast -Qunroll2 -Oa /F1000000000

470.lbm: -fast -Qunroll2 -Qscalar-rep- -Qprefetch /F1000000000

482.sphinx3: -fast -Qunroll2 /F1000000000

C++ benchmarks:

444.namd: -fast -Oa -Qcxx_features /F1000000000 shlw32m.lib -link /FORCE:MULTIPLE

447.dealII: -fast -Qunroll2 -Qprefetch -Qcxx_features /F1000000000 shlw32m.lib -link /FORCE:MULTIPLE

450.soplex: -fast -Qcxx_features /F1000000000 shlw32m.lib -link /FORCE:MULTIPLE

453.povray: -fast -Qunroll4 -Qansi-alias -Qcxx_features /F1000000000 shlw32m.lib -link /FORCE:MULTIPLE

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: -fast -Qunroll2 -Ob0 -Qansi-alias -Qscalar-rep- /F1000000000

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Peak Optimization Flags (Continued)

434.zeusmp: `-QxT -O2 -Qprec-div- -Qunroll0 -Qscalar-rep- /F1000000000`

437.leslie3d: `-fast -Qprefetch /F1000000000`

459.GemsFDTD: `-fast -Qunroll2 -Ob0 -Qprefetch /F1000000000`

465.tonto: `-fast -Qunroll4 -Qauto /F1000000000`

Benchmarks using both Fortran and C:

435.gromacs: `-fast -Oa -Qprefetch /F1000000000`

436.cactusADM: `-fast -Qunroll2 -Qprefetch /F1000000000`

454.calculix: `-fast -Qunroll-aggressive /F1000000000`

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-ic10-ia32-intel64-linux-flags.20090714.09.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.09.xml