SPEC® CFP2006 Result
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Intel Corporation

Asus P5E3 Deluxe (Intel Core 2 Extreme QX6850)

$SPECfp^{®}2006 =$ 21.2
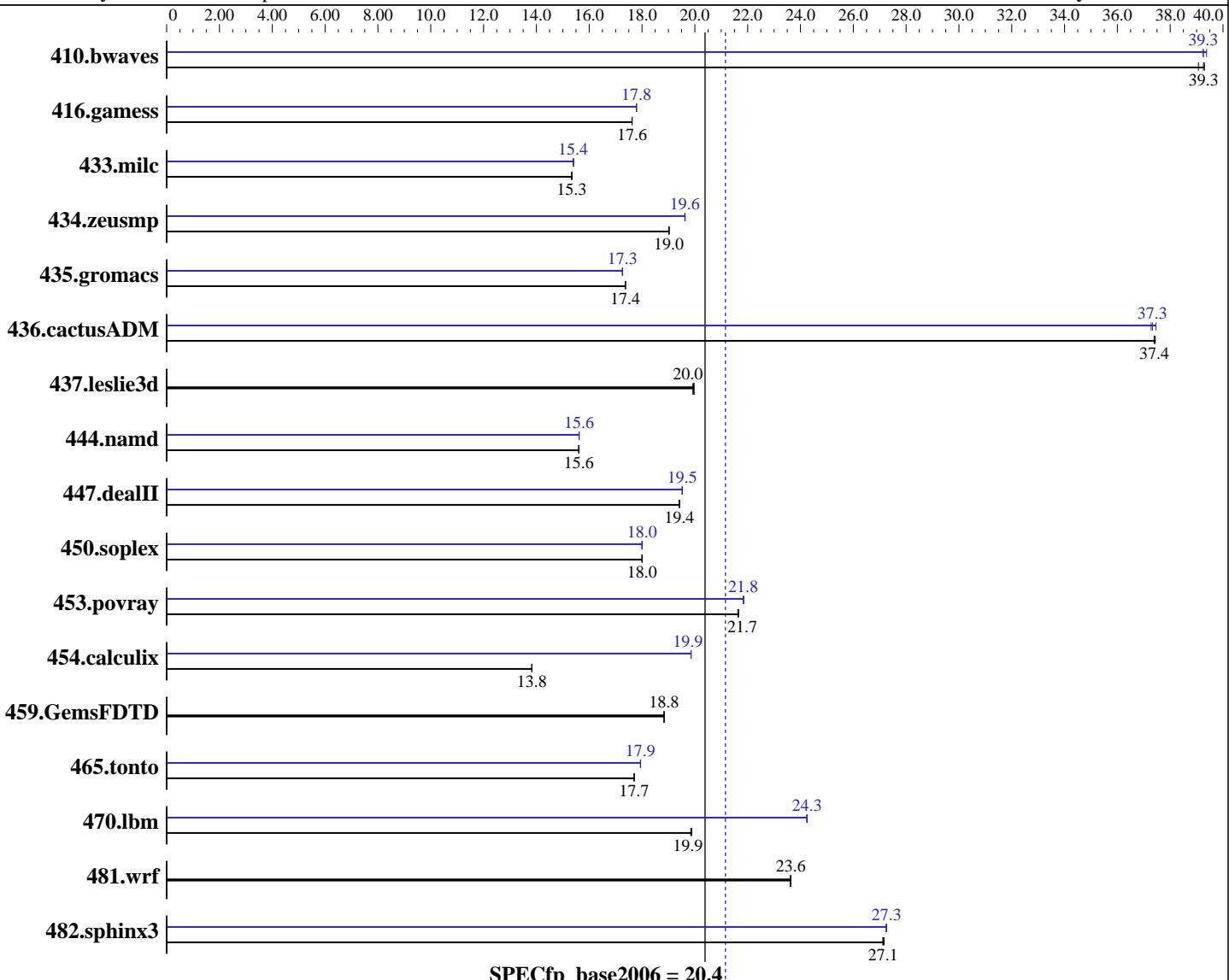
$SPECfp\_base2006 =$ 20.4

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

Test date: Nov-2007
Hardware Availability: Nov-2007
Software Availability: Nov-2007

Benchmark	Result (blue)	Result (black)
410.bwaves	39.3	39.3
416.gamess	17.8	17.6
433.milc	15.4	15.3
434.zeusmp	19.6	19.0
435.gromacs	17.3	17.4
436.cactusADM	37.3	37.4
437.leslie3d		20.0
444.namd	15.6	15.6
447.dealII	19.5	19.4
450.soplex	18.0	18.0
453.povray	21.8	21.7
454.calculix	19.9	13.8
459.GemsFDTD		18.8
465.tonto	17.9	17.7
470.lbm	24.3	19.9
481.wrf		23.6
482.sphinx3	27.3	27.1

SPECfp_base2006 = 20.4
SPECfp2006 = 21.2

Hardware

CPU Name: Intel Core 2 Extreme QX6850
CPU Characteristics: 3.00 GHz 1333 MHz FSB
CPU MHz: 3000
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: Yes
File System: NTFS
System State: Default

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L3 Cache:	None	Base Pointers:	32-bit
Other Cache:	None	Peak Pointers:	32-bit
Memory:	4 GB (4x1GB Corsair TWIN3X2048-1333C9DHX DDR3-1333 CL9)	Other Software:	SmartHeap Library Version 8.1 from http://www.microquill.com/
Disk Subsystem:	Seagate 320GB NCQ SATA, 16MB cache, 7200 RPM		
Other Hardware:	None		

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	346	39.3	**346**	**39.3**	348	39.1	346	39.3	**346**	**39.3**	345	39.4
416.gamess	1111	17.6	1111	17.6	**1111**	**17.6**	1101	17.8	**1101**	**17.8**	1101	17.8
433.milc	598	15.3	598	15.3	**598**	**15.3**	596	15.4	**596**	**15.4**	596	15.4
434.zeusmp	**478**	**19.0**	478	19.0	478	19.0	463	19.6	**464**	**19.6**	464	19.6
435.gromacs	411	17.4	411	17.4	**411**	**17.4**	414	17.3	414	17.3	**414**	**17.3**
436.cactusADM	**320**	**37.4**	319	37.4	320	37.4	321	37.3	**320**	**37.3**	319	37.5
437.leslie3d	**471**	**20.0**	471	20.0	472	19.9	**471**	**20.0**	471	20.0	472	19.9
444.namd	514	15.6	**514**	**15.6**	514	15.6	513	15.6	**513**	**15.6**	514	15.6
447.dealII	589	19.4	**589**	**19.4**	589	19.4	586	19.5	**586**	**19.5**	586	19.5
450.soplex	463	18.0	463	18.0	**463**	**18.0**	**463**	**18.0**	463	18.0	463	18.0
453.povray	246	21.7	**246**	**21.7**	246	21.6	**244**	**21.8**	243	21.9	244	21.8
454.calculix	597	13.8	596	13.8	**596**	**13.8**	416	19.9	415	19.9	**416**	**19.9**
459.GemsFDTD	563	18.8	563	18.8	**563**	**18.8**	563	18.8	563	18.8	**563**	**18.8**
465.tonto	556	17.7	556	17.7	**556**	**17.7**	549	17.9	548	17.9	**548**	**17.9**
470.lbm	691	19.9	**691**	**19.9**	692	19.8	**567**	**24.3**	567	24.2	566	24.3
481.wrf	473	23.6	473	23.6	**473**	**23.6**	473	23.6	473	23.6	**473**	**23.6**
482.sphinx3	719	27.1	717	27.2	**718**	**27.1**	715	27.3	**715**	**27.3**	716	27.2

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.asus.com/products.aspx?l1=3&l2=11&l3=572&l4=0&model=1872&modelmenu=1
The system bus runs at 1333 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
```

Base Compiler Invocation

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

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Base Compiler Invocation (Continued)

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 -Qparallel /F1000000000 libguide40.lib
```

C++ benchmarks:
```
-fast -Qparallel -Qcxx_features /F1000000000 shlw32m.lib
libguide40.lib          -link /FORCE:MULTIPLE
```

Fortran benchmarks:
```
-fast -Qparallel /F1000000000 libguide40.lib
```

Benchmarks using both Fortran and C:
```
-fast -Qparallel /F1000000000 libguide40.lib
```

Peak Compiler Invocation

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

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

Fortran benchmarks:
```
ifort
```

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Peak Compiler Invocation (Continued)

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 libguide40.lib

     470.lbm: -fast -Qunroll2 -Qscalar-rep- -Qprefetch /F1000000000
              libguide40.lib

  482.sphinx3: -fast -Qunroll2 /F1000000000 libguide40.lib
```

C++ benchmarks:

```
    444.namd: -fast -Oa -Qcxx_features /F1000000000 shlw32m.lib
              libguide40.lib            -link /FORCE:MULTIPLE

   447.dealII: -fast -Qunroll2 -Qprefetch -Qcxx_features /F1000000000
              shlw32m.lib libguide40.lib          -link /FORCE:MULTIPLE

   450.soplex: -fast -Qparallel -Qcxx_features /F1000000000 shlw32m.lib
              libguide40.lib            -link /FORCE:MULTIPLE

   453.povray: -fast -Qunroll4 -Qcxx_features /F1000000000 shlw32m.lib
              libguide40.lib            -link /FORCE:MULTIPLE
```

Fortran benchmarks:

```
   410.bwaves: -fast -Qparallel -Qprefetch /F1000000000 libguide40.lib

   416.gamess: -fast -Qunroll2 -Ob0 -Qansi-alias -Qscalar-rep-
              /F1000000000 libguide40.lib

   434.zeusmp: -QxT -O2 -Qprec-div- -Qunroll0 -Qscalar-rep- /F1000000000
              libguide40.lib
```

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Peak Optimization Flags (Continued)

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: `-fast -Qunroll4 -Qauto /F1000000000 libguide40.lib`

Benchmarks using both Fortran and C:

435.gromacs: `-fast -Oa -Qprefetch /F1000000000 libguide40.lib`

436.cactusADM: `-fast -Qunroll2 -Qparallel -Qprefetch /F1000000000 libguide40.lib`

454.calculix: `-fast -Qunroll-aggressive /F1000000000 libguide40.lib`

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`

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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