SPEC® CFP2006 Result

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Intel Corporation

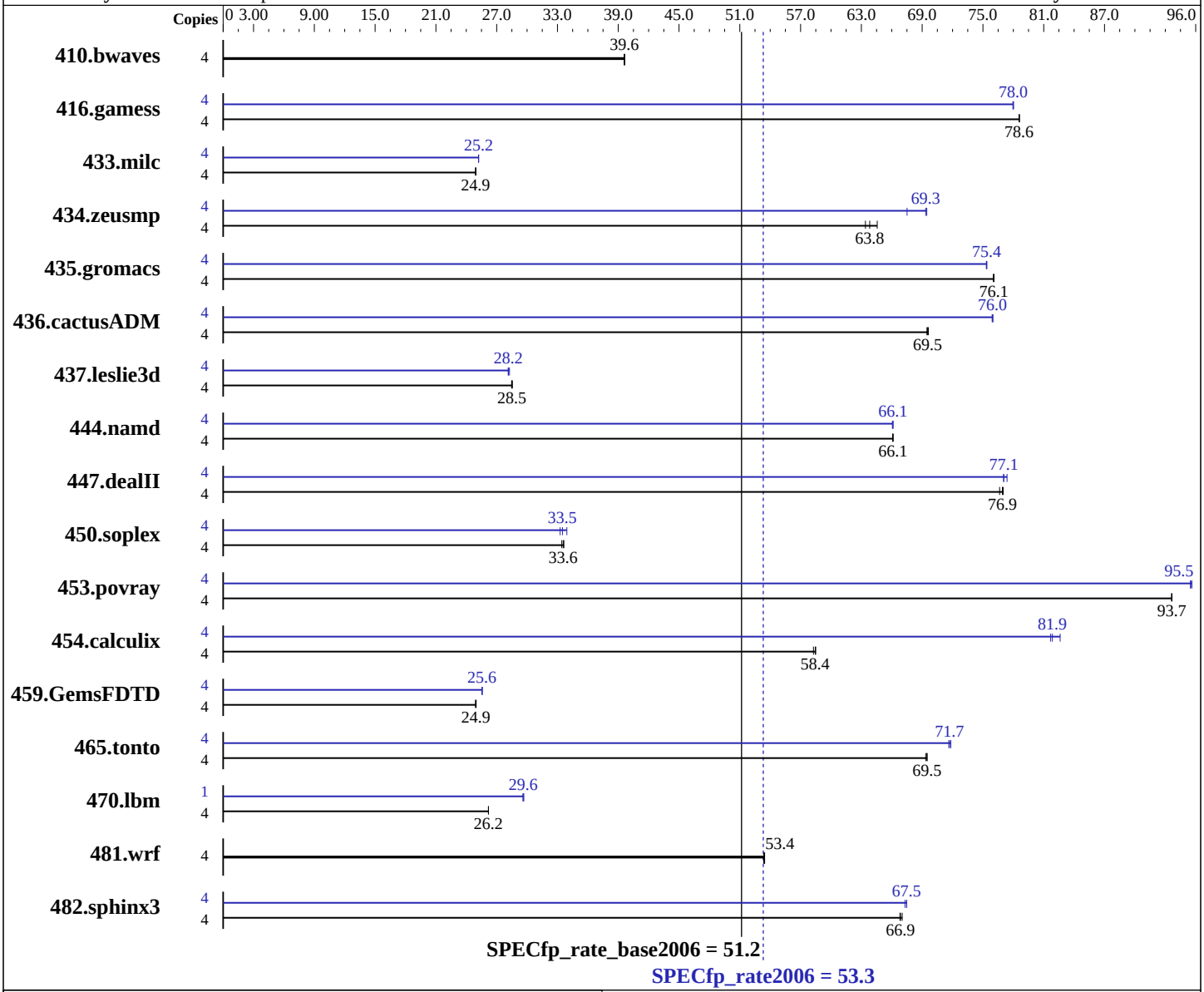
Asus P5E3 Premium (Intel Core 2 Extreme QX9770)

SPECfp®_rate2006 = 53.3

SPECfp_rate_base2006 = 51.2

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

Test date: Nov-2007
Hardware Availability: Apr-2008
Software Availability: Nov-2007



Hardware

CPU Name:	Intel Core 2 Extreme QX9770
CPU Characteristics:	3.20 GHz 1600 FSB
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 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 Corsair TWIN3X2048-1333C9DHX DDR3-1333 CL9)
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	1373	39.6	**1372**	**39.6**	1371	39.6	4	1373	39.6	**1372**	**39.6**	1371	39.6
416.gamess	4	997	78.6	**997**	**78.6**	996	78.6	4	**1004**	**78.0**	1004	78.0	1005	78.0
433.milc	4	1474	24.9	1472	24.9	**1473**	**24.9**	4	1456	25.2	**1456**	**25.2**	1457	25.2
434.zeusmp	4	**570**	**63.8**	574	63.4	564	64.6	4	**525**	**69.3**	524	69.5	539	67.5
435.gromacs	4	**375**	**76.1**	375	76.1	376	76.0	4	**379**	**75.4**	379	75.3	379	75.4
436.cactusADM	4	**687**	**69.5**	687	69.6	688	69.5	4	630	75.9	**629**	**76.0**	629	76.0
437.leslie3d	4	1321	28.5	1317	28.6	**1320**	**28.5**	4	1330	28.3	1336	28.1	**1335**	**28.2**
444.namd	4	485	66.1	485	66.1	**485**	**66.1**	4	**485**	**66.1**	485	66.1	486	66.1
447.dealII	4	**595**	**76.9**	594	77.0	597	76.6	4	594	77.0	591	77.4	**594**	**77.1**
450.soplex	4	992	33.6	**994**	**33.6**	998	33.4	4	983	33.9	1003	33.3	**996**	**33.5**
453.povray	4	227	93.6	**227**	**93.7**	227	93.7	4	**223**	**95.5**	223	95.6	223	95.5
454.calculix	4	564	58.5	**565**	**58.4**	566	58.3	4	404	81.7	**403**	**81.9**	399	82.6
459.GemsFDTD	4	1704	24.9	1699	25.0	**1702**	**24.9**	4	1661	25.5	**1661**	**25.6**	1659	25.6
465.tonto	4	**567**	**69.5**	566	69.5	568	69.4	4	**549**	**71.7**	548	71.8	549	71.6
470.lbm	4	2098	26.2	2099	26.2	**2098**	**26.2**	1	463	29.7	**464**	**29.6**	464	29.6
481.wrf	4	837	53.4	836	53.5	**836**	**53.4**	4	837	53.4	836	53.5	**836**	**53.4**
482.sphinx3	4	1163	67.0	**1166**	**66.9**	1167	66.8	4	**1156**	**67.5**	1155	67.5	1158	67.3

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 9/2008:
http://www.asus.com/products.aspx?modelmenu=1&model=2069&l1=3&l2=11&l3=640&l4=0
The system bus runs at 1600 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 /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

Fortran benchmarks:
ifort

Continued on next page

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

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

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

Continued on next page

Peak Optimization Flags (Continued)

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-ic10.1-win32-revC.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic10.1-win32-revC.xml`

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For other inquiries, please contact webmaster@spec.org.

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