SPEC® CFP2006 Result
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ASUSTeK Computer Inc.

ASUS P6T6 WS REVOLUTION workstation motherboard
(Intel Core i7-965 Extreme Edition)

$SPECfp®2006 =$ 39.7

$SPECfp\_base2006 =$ 38.5
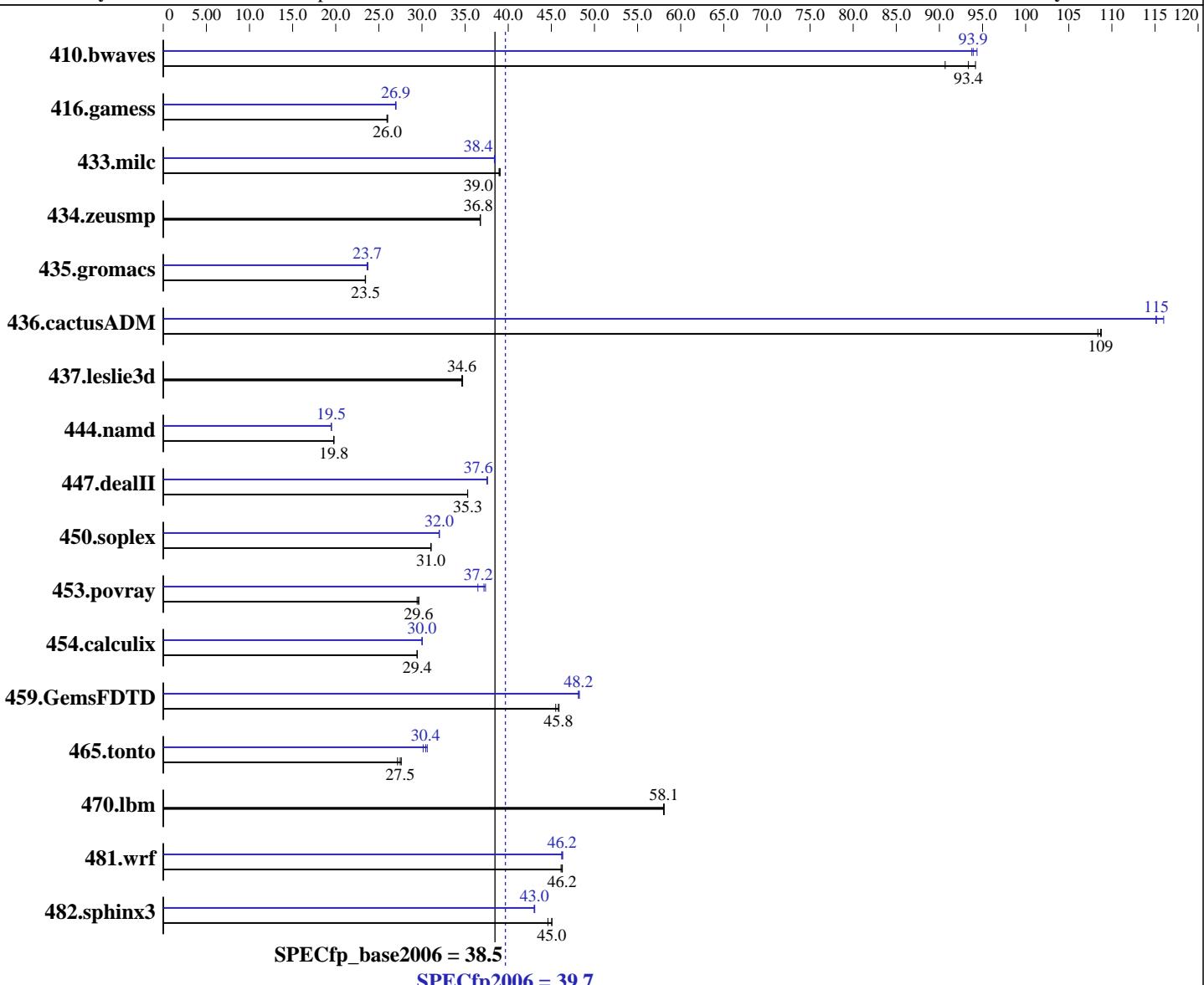
CPU2006 license: 9016
Test sponsor: ASUSTeK Computer Inc.
Tested by: ASUSTeK Computer Inc.

Test date: Feb-2009
Hardware Availability: Nov-2008
Software Availability: Nov-2008

Benchmark	Result
410.bwaves	93.9 / 93.4
416.gamess	26.9 / 26.0
433.milc	38.4 / 39.0
434.zeusmp	36.8
435.gromacs	23.7 / 23.5
436.cactusADM	115 / 109
437.leslie3d	34.6
444.namd	19.5 / 19.8
447.dealII	37.6 / 35.3
450.soplex	32.0 / 31.0
453.povray	37.2 / 29.6
454.calculix	30.0 / 29.4
459.GemsFDTD	48.2 / 45.8
465.tonto	30.4 / 27.5
470.lbm	58.1
481.wrf	46.2 / 46.2
482.sphinx3	43.0 / 45.0

SPECfp_base2006 = 38.5
SPECfp2006 = 39.7

Hardware
CPU Name: Intel Core i7-965 Extreme Edition
CPU Characteristics: Intel Turbo Boost Technology up to 3.46 GHz
CPU MHz: 3200
FPU: Integrated
CPU(s) enabled: 4 cores, 1 chip, 4 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: SUSE Linux Enterprise Server 10 SP2
Kernel 2.6.16.60-0.21-smp
Compiler: Intel C++ and Fortran Compiler 11.0 for Linux
Build 20090131 Package ID: l_cproc_p_11.0.080,
l_cprof_p_11.0.080
Auto Parallel: Yes
File System: ReiserFS
System State: Run level 3 (multi-user)
Base Pointers: 64-bit

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L3 Cache:	8 MB I+D on chip per chip	Peak Pointers:	32/64-bit
Other Cache:	None	Other Software:	Binutils 2.18.50.0.7.20080502
Memory:	12 GB (6 x 2 GB PC3-10600E, CL=9)		
Disk Subsystem:	HITACHI HDT725050VLA360 500GB SATAII, 7200RPM		
Other Hardware:	None		

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	150	90.7	144	94.2	**146**	**93.4**	**145**	**93.9**	144	94.4	145	93.8
416.gamess	755	25.9	**753**	**26.0**	753	26.0	725	27.0	**727**	**26.9**	727	26.9
433.milc	236	38.9	235	39.1	**235**	**39.0**	**239**	**38.4**	238	38.5	239	38.4
434.zeusmp	248	36.7	247	36.8	**247**	**36.8**	248	36.7	247	36.8	**247**	**36.8**
435.gromacs	304	23.5	**304**	**23.5**	305	23.4	**302**	**23.7**	301	23.7	302	23.6
436.cactusADM	110	109	110	108	**110**	**109**	**104**	**115**	104	115	103	116
437.leslie3d	**271**	**34.6**	271	34.6	271	34.7	**271**	**34.6**	271	34.6	271	34.7
444.namd	**405**	**19.8**	405	19.8	406	19.8	412	19.5	411	19.5	**411**	**19.5**
447.dealII	324	35.3	324	35.3	**324**	**35.3**	**305**	**37.6**	304	37.6	305	37.5
450.soplex	**269**	**31.0**	268	31.1	269	31.0	261	32.0	**261**	**32.0**	260	32.0
453.povray	181	29.4	**180**	**29.6**	180	29.6	146	36.5	142	37.4	**143**	**37.2**
454.calculix	280	29.4	**280**	**29.4**	280	29.4	275	30.0	275	30.0	**275**	**30.0**
459.GemsFDTD	233	45.5	**232**	**45.8**	231	45.9	**220**	**48.2**	220	48.1	220	48.3
465.tonto	362	27.2	356	27.6	**358**	**27.5**	321	30.6	327	30.1	**323**	**30.4**
470.lbm	237	58.0	**237**	**58.1**	237	58.1	237	58.0	**237**	**58.1**	237	58.1
481.wrf	241	46.3	242	46.1	**242**	**46.2**	242	46.2	**242**	**46.2**	241	46.3
482.sphinx3	**433**	**45.0**	432	45.1	437	44.6	452	43.1	**453**	**43.0**	453	43.0

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

Operating System Notes

```
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to granularity=fine,scatter
KMP_STACKSIZE set to 200M
```

Platform Notes

```
BIOS setting:
Hardware Prefetcher: Enabled
Adjacent Cache Line Prefetch: Enabled
Tested system case compliance with Intel ATX spec
600W or higher ATX Power Supply
System was configured with ATi RV530LE discrete graphics card
```

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Base Compiler Invocation

C benchmarks:
        icc

C++ benchmarks:
        icpc

Fortran benchmarks:
        ifort

Benchmarks using both Fortran and C:
        icc ifort

Base Portability Flags

```
    410.bwaves: -DSPEC_CPU_LP64
    416.gamess: -DSPEC_CPU_LP64
      433.milc: -DSPEC_CPU_LP64
    434.zeusmp: -DSPEC_CPU_LP64
   435.gromacs: -DSPEC_CPU_LP64 -nofor_main
  436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
   437.leslie3d: -DSPEC_CPU_LP64
      444.namd: -DSPEC_CPU_LP64
     447.dealII: -DSPEC_CPU_LP64
     450.soplex: -DSPEC_CPU_LP64
     453.povray: -DSPEC_CPU_LP64
    454.calculix: -DSPEC_CPU_LP64 -nofor_main
   459.GemsFDTD: -DSPEC_CPU_LP64
     465.tonto: -DSPEC_CPU_LP64
      470.lbm: -DSPEC_CPU_LP64
       481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
    482.sphinx3: -DSPEC_CPU_LP64
```

Base Optimization Flags

C benchmarks:
        -xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

C++ benchmarks:
        -xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

Fortran benchmarks:
        -xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

Benchmarks using both Fortran and C:
        -xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

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Hardware Availability: Nov-2008

Software Availability: Nov-2008

Peak Compiler Invocation

C benchmarks (except as noted below):
    `icc`

    482.sphinx3: `icc -m32`

C++ benchmarks (except as noted below):
    `icpc`

    450.soplex: `icpc -m32`

Fortran benchmarks:
    `ifort`

Benchmarks using both Fortran and C:
    `icc ifort`

Peak Portability Flags

    410.bwaves: `-DSPEC_CPU_LP64`
    416.gamess: `-DSPEC_CPU_LP64`
    433.milc: `-DSPEC_CPU_LP64`
    434.zeusmp: `-DSPEC_CPU_LP64`
    435.gromacs: `-DSPEC_CPU_LP64 -nofor_main`
  436.cactusADM: `-DSPEC_CPU_LP64 -nofor_main`
    437.leslie3d: `-DSPEC_CPU_LP64`
    444.namd: `-DSPEC_CPU_LP64`
    447.dealII: `-DSPEC_CPU_LP64`
    453.povray: `-DSPEC_CPU_LP64`
    454.calculix: `-DSPEC_CPU_LP64 -nofor_main`
  459.GemsFDTD: `-DSPEC_CPU_LP64`
    465.tonto: `-DSPEC_CPU_LP64`
    470.lbm: `-DSPEC_CPU_LP64`
    481.wrf: `-DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX`

Peak Optimization Flags

C benchmarks:

    433.milc: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)`
        `-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)`
        `-fno-alias`

    470.lbm: basepeak = yes

    482.sphinx3: `-xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2`

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Peak Optimization Flags (Continued)

C++ benchmarks:

      444.namd: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
            -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
            -fno-alias -auto-ilp32

      447.dealII: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
            -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
            -unroll2 -ansi-alias -scalar-rep- -opt-prefetch

      450.soplex: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
            -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
            -opt-malloc-options=3

      453.povray: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
            -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
            -unroll4 -ansi-alias

Fortran benchmarks:

      410.bwaves: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch
            -parallel

      416.gamess: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
            -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
            -unroll2 -Ob0 -ansi-alias -scalar-rep-

      434.zeusmp: basepeak = yes

      437.leslie3d: basepeak = yes

   459.GemsFDTD: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
            -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
            -unroll2 -Ob0 -opt-prefetch -parallel

      465.tonto: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
            -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
            -unroll4 -auto

Benchmarks using both Fortran and C:

      435.gromacs: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
            -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
            -opt-prefetch -auto-ilp32

      436.cactusADM: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
            -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
            -unroll2 -opt-prefetch -parallel -auto-ilp32

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Peak Optimization Flags (Continued)

454.calculix: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32

481.wrf: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch
-parallel -auto-ilp32

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revA.20090710.04.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revA.20090710.04.xml

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

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