SPEC® CFP2006 Result

BOXX Technologies, Inc.

$SPECfp^{®}2006 =$ 54.6

3DBOXX WORKSTATION 8550 EXXTREME

$SPECfp\_base2006 =$ 51.5

CPU2006 license: 3314		**Test date:**	Sep-2010
Test sponsor:	BOXX Technologies, Inc.	**Hardware Availability:**	Sep-2010
Tested by:	BOXX Technologies, Inc.	**Software Availability:**	Sep-2010

410.bwaves 202 / 201
416.gamess 33.7 / 30.6
433.milc 56.6 / 56.2
434.zeusmp 43.9
435.gromacs 29.8 / 29.4
436.cactusADM 310 / 299
437.leslie3d 44.7
444.namd 24.7 / 24.8
447.dealII 47.7 / 47.8
450.soplex 38.1 / 37.6
453.povray 47.9 / 37.5
454.calculix 37.5 / 36.2
459.GemsFDTD 79.2 / 55.0
465.tonto 41.2 / 31.8
470.lbm 67.8 / 67.2
481.wrf 56.5 / 53.3
482.sphinx3 48.8 / 56.3

SPECfp_base2006 = 51.5
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Hardware

CPU Name:	Intel Xeon X5680
CPU Characteristics:	Intel Turbo Boost Technology disabled
CPU MHz:	4200
FPU:	Integrated
CPU(s) enabled:	12 cores, 2 chips, 6 cores/chip, 2 threads/core
CPU(s) orderable:	2 Processors
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 Desktop 11 (x86_64), Kernel 2.6.32.12-0.7-default
Compiler:	Intel C++ and Fortran Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091130 Package ID: l_cproc_p_11.1.064, l_cprof_p_11.1.064
Auto Parallel:	Yes
File System:	ext3
System State:	Run level 3 (multi-user)

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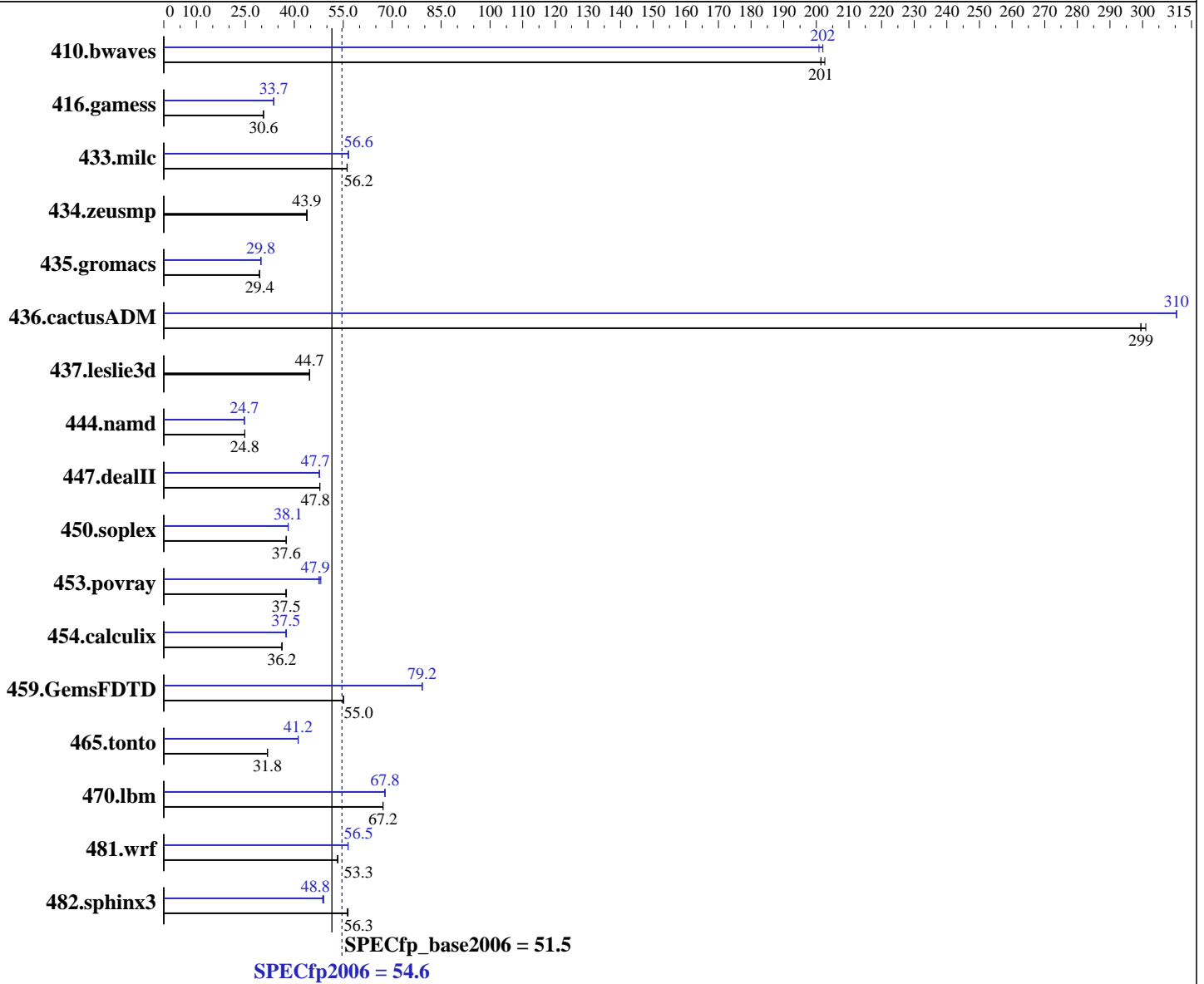| SPECfp2006 =	54.6
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Hardware Availability: Sep-2010
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L3 Cache:	12 MB I+D on chip per chip
Other Cache:	None
Memory:	48 GB (12 x 4 GB 2Rx4 PC3-10600R-9, ECC)
Disk Subsystem:	1 x 300 GB SATA II, 10,000 RPM
Other Hardware:	None

Base Pointers:	64-bit
Peak Pointers:	32/64-bit
Other Software:	None

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	67.1	203	**67.5**	**201**	67.5	201	67.3	202	67.7	201	**67.3**	**202**
416.gamess	640	30.6	**641**	**30.6**	642	30.5	581	33.7	581	33.7	**581**	**33.7**
433.milc	163	56.2	**163**	**56.2**	164	56.1	**162**	**56.6**	162	56.5	162	56.6
434.zeusmp	208	43.8	**207**	**43.9**	207	43.9	208	43.8	**207**	**43.9**	207	43.9
435.gromacs	243	29.4	**243**	**29.4**	243	29.3	240	29.8	240	29.7	**240**	**29.8**
436.cactusADM	39.7	301	39.9	299	**39.9**	**299**	38.5	310	38.5	310	**38.5**	**310**
437.leslie3d	211	44.7	210	44.7	**210**	**44.7**	211	44.7	210	44.7	**210**	**44.7**
444.namd	323	24.8	323	24.8	**323**	**24.8**	325	24.7	**325**	**24.7**	325	24.7
447.dealII	239	47.8	**239**	**47.8**	239	47.8	240	47.7	**240**	**47.7**	240	47.7
450.soplex	**222**	**37.6**	223	37.5	222	37.6	219	38.1	219	38.2	**219**	**38.1**
453.povray	**142**	**37.5**	142	37.4	141	37.6	112	47.5	110	48.2	**111**	**47.9**
454.calculix	228	36.2	**228**	**36.2**	228	36.2	**220**	**37.5**	219	37.6	220	37.4
459.GemsFDTD	**193**	**55.0**	193	55.0	193	55.1	134	79.2	134	79.2	**134**	**79.2**
465.tonto	310	31.8	310	31.8	**310**	**31.8**	239	41.2	**239**	**41.2**	239	41.2
470.lbm	205	67.2	204	67.2	**205**	**67.2**	203	67.7	**203**	**67.8**	203	67.8
481.wrf	210	53.2	**209**	**53.3**	209	53.4	198	56.4	198	56.5	**198**	**56.5**
482.sphinx3	**346**	**56.3**	345	56.5	346	56.3	397	49.0	400	48.7	**399**	**48.8**

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

General Notes

```
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to granularity=fine,scatter
KMP_STACKSIZE set to 200M
Binaries were compiled on SLES 10 with Binutils 2.18.50.0.7.20080502
```

Base Compiler Invocation

C benchmarks:
```
icc   -m64
```

C++ benchmarks:
```
icpc  -m64
```

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Base Compiler Invocation (Continued)

Fortran benchmarks:
```
ifort -m64
```

Benchmarks using both Fortran and C:
```
icc   -m64 ifort -m64
```

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
```

Peak Compiler Invocation

C benchmarks:
```
icc   -m64
```

BOXX Technologies, Inc.

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CPU2006 license: 3314	**Test date:** Sep-2010
Test sponsor: BOXX Technologies, Inc.	**Hardware Availability:** Sep-2010
Tested by: BOXX Technologies, Inc.	**Software Availability:** Sep-2010

Peak Compiler Invocation (Continued)

C++ benchmarks:
        icpc -m64

Fortran benchmarks:
        ifort -m64

Benchmarks using both Fortran and C:
        icc   -m64 ifort -m64

Peak Portability Flags

Same as Base Portability Flags

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)
>   -ansi-alias

>   470.lbm: -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)
>   -parallel -ansi-alias -auto-ilp32

>   482.sphinx3: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32
>   -unroll2

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- -auto-ilp32

>   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 -auto-ilp32

>   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

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Peak Optimization Flags (Continued)

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)
               -inline-calloc -opt-malloc-options=3 -auto -unroll4
```

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

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

       481.wrf: Same as 454.calculix
```

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100316.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100316.xml

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

Tested with SPEC CPU2006 v1.1.
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