SPEC® CFP2006 Result
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Supermicro

$SPECfp^{®}2006 =$ 74.8

SuperServer 5018D-TLN4F
(X10SLM+-LN4F , Intel Xeon E3-1270 v3)

$SPECfp\_base2006 =$ 73.0

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

Test date: Jun-2013
Hardware Availability: Jun-2013
Software Availability: May-2013

Benchmark	Score	Score (base)
410.bwaves	116	
416.gamess	48.0	43.4
433.milc	86.4	86.1
434.zeusmp	118	
435.gromacs	46.5	
436.cactusADM	252	
437.leslie3d	82.5	
444.namd	31.6	30.9
447.dealII	65.8	
450.soplex	41.7	
453.povray	73.1	58.6
454.calculix	52.5	51.1
459.GemsFDTD	64.3	67.8
465.tonto	52.7	49.7
470.lbm	141	
481.wrf	98.5	
482.sphinx3	84.2	81.9

SPECfp_base2006 = 73.0
SPECfp2006 = 74.8

Hardware

CPU Name: Intel Xeon E3-1270 v3
CPU Characteristics: Intel Turbo Boost Technology up to 3.90 GHz
CPU MHz: 3500
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: Red Hat Enterprise Linux Server release 6.4 (Santiago)
Kernel 2.6.32-358.el6.x86_64
Compiler: C/C++: Version 13.1.1.163 of Intel C++ Studio XE for Linux;
Fortran: Version 13.1.1.163 of Intel Fortran Studio XE for Linux
Auto Parallel: Yes
File System: ext4
Continued on next page

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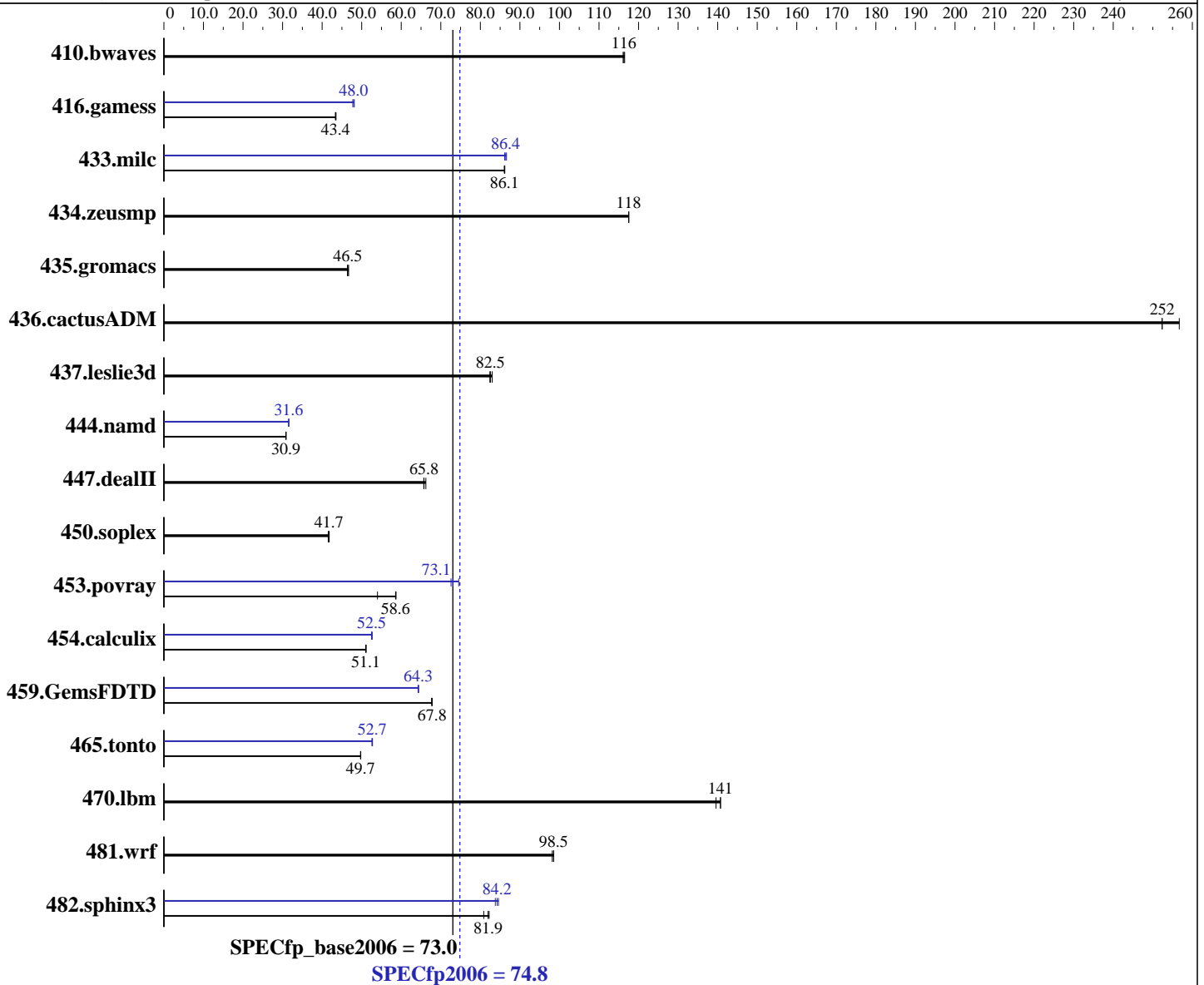|	
CPU2006 license: 001176	**Test date:** Jun-2013
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L3 Cache:	8 MB I+D on chip per chip	System State:	Run level 3 (multi-user)
Other Cache:	None	Base Pointers:	64-bit
Memory:	16 GB (2 x 8 GB 2Rx8 PC3-12800E-11, ECC)	Peak Pointers:	32/64-bit
Disk Subsystem:	1 x 500 GB SATA III, 7200 RPM	Other Software:	None
Other Hardware:	None		

Results Table

Benchmark	Base						Peak					
	Seconds	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**
410.bwaves	**117**	**116**	117	116	117	116	**117**	**116**	117	116	117	116
416.gamess	**451**	**43.4**	450	43.5	451	43.4	**408**	**48.0**	407	48.1	410	47.7
433.milc	107	86.1	107	86.2	**107**	**86.1**	107	86.2	**106**	**86.4**	106	86.6
434.zeusmp	77.4	118	77.4	118	**77.4**	**118**	77.4	118	77.4	118	**77.4**	**118**
435.gromacs	153	46.7	154	46.4	**154**	**46.5**	153	46.7	154	46.4	**154**	**46.5**
436.cactusADM	47.4	252	**47.4**	**252**	46.6	257	47.4	252	**47.4**	**252**	46.6	257
437.leslie3d	114	82.4	113	83.0	**114**	**82.5**	114	82.4	113	83.0	**114**	**82.5**
444.namd	260	30.8	**260**	**30.9**	260	30.9	254	31.5	**254**	**31.6**	254	31.6
447.dealII	174	65.7	173	66.2	**174**	**65.8**	174	65.7	173	66.2	**174**	**65.8**
450.soplex	**200**	**41.7**	200	41.8	201	41.5	**200**	**41.7**	200	41.8	201	41.5
453.povray	90.6	58.7	98.5	54.0	**90.8**	**58.6**	**72.8**	**73.1**	73.3	72.6	71.4	74.5
454.calculix	161	51.1	**162**	**51.1**	162	51.0	157	52.5	157	52.7	**157**	**52.5**
459.GemsFDTD	157	67.7	156	67.8	**156**	**67.8**	**165**	**64.3**	165	64.2	165	64.4
465.tonto	198	49.7	198	49.8	**198**	**49.7**	187	52.6	**187**	**52.7**	187	52.7
470.lbm	**97.7**	**141**	97.6	141	98.4	140	**97.7**	**141**	97.6	141	98.4	140
481.wrf	114	98.2	**113**	**98.5**	113	98.5	114	98.2	**113**	**98.5**	113	98.5
482.sphinx3	**238**	**81.9**	237	82.2	241	80.9	230	84.6	233	83.8	**231**	**84.2**

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

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64:/home/cpu2006/sh"
OMP_NUM_THREADS = "4"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
memory using RHEL5.5
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>

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Test sponsor: Supermicro

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Test date: Jun-2013
Hardware Availability: Jun-2013
Software Availability: May-2013

Base Compiler Invocation

C benchmarks:
    icc   -m64

C++ benchmarks:
    icpc   -m64

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:
    -xCORE-AVX2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
    -ansi-alias

C++ benchmarks:
    -xCORE-AVX2 -ipo -O3 -no-prec-div -static -opt-prefetch -ansi-alias

Fortran benchmarks:
    -xCORE-AVX2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

Benchmarks using both Fortran and C:
    -xCORE-AVX2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
    -ansi-alias

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Peak Compiler Invocation

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

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: `-xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)`
`-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -static`
`-auto-ilp32 -ansi-alias`

470.lbm: `basepeak = yes`

482.sphinx3: `-xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -ansi-alias`
`-parallel`

C++ benchmarks:

444.namd: `-xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)`
`-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)`
`-fno-alias -auto-ilp32`

447.dealII: `basepeak = yes`

450.soplex: `basepeak = yes`

453.povray: `-xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)`
`-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll4`
`-ansi-alias`

Fortran benchmarks:

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Test sponsor: Supermicro	
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Peak Optimization Flags (Continued)

410.bwaves: basepeak = yes

416.gamess: `-xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)`
`-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll2`
`-inline-level=0 -scalar-rep- -static`

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: `-xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)`
`-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll2`
`-inline-level=0 -opt-prefetch -parallel`

465.tonto: `-xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)`
`-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)`
`-inline-calloc -opt-malloc-options=3 -auto -unroll4`

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: `-xCORE-AVX2 -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias`

481.wrf: basepeak = yes

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic13-official-linux64.20130702.html
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revB.20130719.html

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You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic13-official-linux64.20130702.xml
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revB.20130719.xml

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

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