SPEC® CFP2006 Result
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Supermicro

$SPECfp^{®}\_rate2006 =$ 226

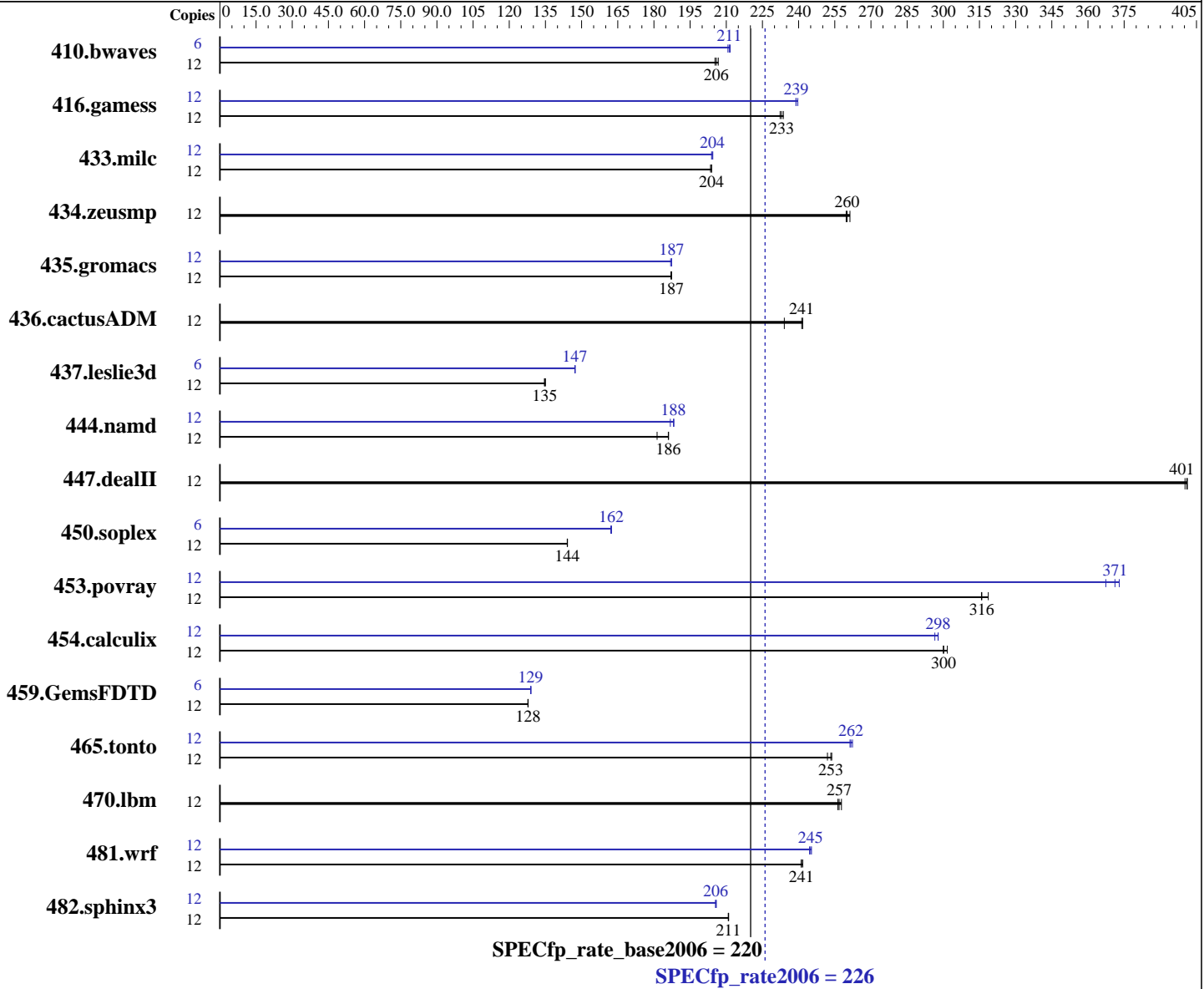SuperServer 1017GR-TF (X9SRG-F, Intel E5-1660)

SPECfp_rate_base2006 = 220

CPU2006 license: 001176	**Test date:** Jan-2012
Test sponsor: Supermicro	**Hardware Availability:** Mar-2012
Tested by: Supermicro	**Software Availability:** Oct-2011

Copies

Benchmark	Copies	Result
410.bwaves	6	211
	12	206
416.gamess	12	239
	12	233
433.milc	12	204
	12	204
434.zeusmp	12	260
435.gromacs	12	187
	12	187
436.cactusADM	12	241
437.leslie3d	6	147
	12	135
444.namd	12	188
	12	186
447.dealII	12	401
450.soplex	6	162
	12	144
453.povray	12	371
	12	316
454.calculix	12	298
	12	300
459.GemsFDTD	6	129
	12	128
465.tonto	12	262
	12	253
470.lbm	12	257
481.wrf	12	245
	12	241
482.sphinx3	12	206
	12	211

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Hardware

CPU Name:	Intel Xeon E5-1660
CPU Characteristics:	Intel Turbo Boost Technology up to 3.90 GHz
CPU MHz:	3300
FPU:	Integrated
CPU(s) enabled:	6 cores, 1 chip, 6 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 6.1, Kernel 2.6.32-131.0.15.el6.x86_64
Compiler:	C/C++: Version 12.1.0.225 of Intel C++ Studio XE for Linux; Fortran: Version 12.1.0.225 of Intel Fortran Studio XE for Linux
Auto Parallel:	No
File System:	ext4
System State:	Run level 3 (multi-user)

Continued on next page

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L3 Cache:	15 MB I+D on chip per chip	Base Pointers:	32/64-bit
Other Cache:	None	Peak Pointers:	32/64-bit
Memory:	64 GB (8 x 8 GB 2Rx4 PC3-12800R-11, ECC)	Other Software:	None
Disk Subsystem:	1 x 3 TB SATA III, 7200 RPM		
Other Hardware:	None		

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	12	789	207	**792**	**206**	794	205	6	387	211	385	212	**386**	**211**
416.gamess	12	**1009**	**233**	1011	232	1005	234	12	**983**	**239**	984	239	980	240
433.milc	12	**540**	**204**	541	203	540	204	12	540	204	539	204	**540**	**204**
434.zeusmp	12	418	261	420	260	**420**	**260**	12	418	261	420	260	**420**	**260**
435.gromacs	12	457	187	458	187	**458**	**187**	12	**457**	**187**	457	187	458	187
436.cactusADM	12	613	234	**594**	**241**	593	242	12	613	234	**594**	**241**	593	242
437.leslie3d	12	838	135	836	135	**837**	**135**	6	383	147	383	147	**383**	**147**
444.namd	12	**518**	**186**	531	181	517	186	12	**512**	**188**	515	187	511	188
447.dealII	12	**342**	**401**	343	400	342	401	12	**342**	**401**	343	400	342	401
450.soplex	12	694	144	**695**	**144**	695	144	6	**308**	**162**	308	162	309	162
453.povray	12	200	319	**202**	**316**	202	316	12	171	373	174	367	**172**	**371**
454.calculix	12	328	302	**330**	**300**	330	300	12	334	296	**332**	**298**	332	298
459.GemsFDTD	12	996	128	**996**	**128**	997	128	6	**494**	**129**	493	129	494	129
465.tonto	12	**466**	**253**	465	254	469	252	12	450	262	452	261	**451**	**262**
470.lbm	12	640	258	**642**	**257**	643	256	12	640	258	**642**	**257**	643	256
481.wrf	12	556	241	**556**	**241**	555	242	12	546	245	**547**	**245**	548	245
482.sphinx3	12	1108	211	1109	211	**1109**	**211**	12	1136	206	1138	206	**1137**	**206**

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

Submit Notes

   The taskset mechanism was used to bind copies to processors. The config file option 'submit' was used to generate taskset commands to bind each copy to a specific processor. For details, please see the config file.

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"

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General Notes (Continued)

```
 Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
 memory using RHEL5.5
 Transparent Huge Pages disabled with:
 echo never  > /sys/kernel/mm/redhat_transparent_hugepage/enabled
```

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:
```
     -xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -auto-p32
     -ansi-alias -opt-mem-layout-trans=3
```

Continued on next page

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Base Optimization Flags (Continued)

C++ benchmarks:
```
-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3
```

Fortran benchmarks:
```
-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch
```

Benchmarks using both Fortran and C:
```
-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3
```

Peak Compiler Invocation

C benchmarks (except as noted below):
```
icc    -m64
```

```
482.sphinx3: icc -m32
```

C++ benchmarks (except as noted below):
```
icpc   -m64
```

```
450.soplex: icpc -m32
```

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

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

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
      465.tonto: -DSPEC_CPU_LP64
       470.lbm: -DSPEC_CPU_LP64
        481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
```

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Peak Optimization Flags

C benchmarks:

> 433.milc: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
> -no-prec-div(pass 2) -prof-use(pass 2) -static -auto-ilp32
> -opt-mem-layout-trans=3

> 470.lbm: basepeak = yes

> 482.sphinx3: -xAVX -ipo -O3 -no-prec-div -unroll2

C++ benchmarks:

> 444.namd: -xAVX(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: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
> -no-prec-div(pass 2) -prof-use(pass 2) -opt-malloc-options=3

> 453.povray: -xAVX(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:

> 410.bwaves: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
> -no-prec-div(pass 2) -prof-use(pass 2) -static

> 416.gamess: -xAVX(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: -xAVX -ipo -O3 -no-prec-div -static -opt-prefetch

> 459.GemsFDTD: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
> -no-prec-div(pass 2) -prof-use(pass 2) -opt-malloc-options=3

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

Benchmarks using both Fortran and C:

> 435.gromacs: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
> -no-prec-div(pass 2) -prof-use(pass 2) -opt-prefetch
> -static -auto-ilp32 -opt-mem-layout-trans=3

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Peak Optimization Flags (Continued)

436.cactusADM: basepeak = yes

454.calculix: -xAVX -ipo -O3 -no-prec-div -static -auto-ilp32
-opt-mem-layout-trans=3

481.wrf: Same as 454.calculix

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.html
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-revA.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-revA.xml

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