SPEC® CFP2006 Result
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Supermicro

$SPECfp^{®}2006 =$ 99.0

SuperServer 6027R-TRF
(X9DRi-F , Intel Xeon E5-2650 v2)

$SPECfp\_base2006 =$ 94.7
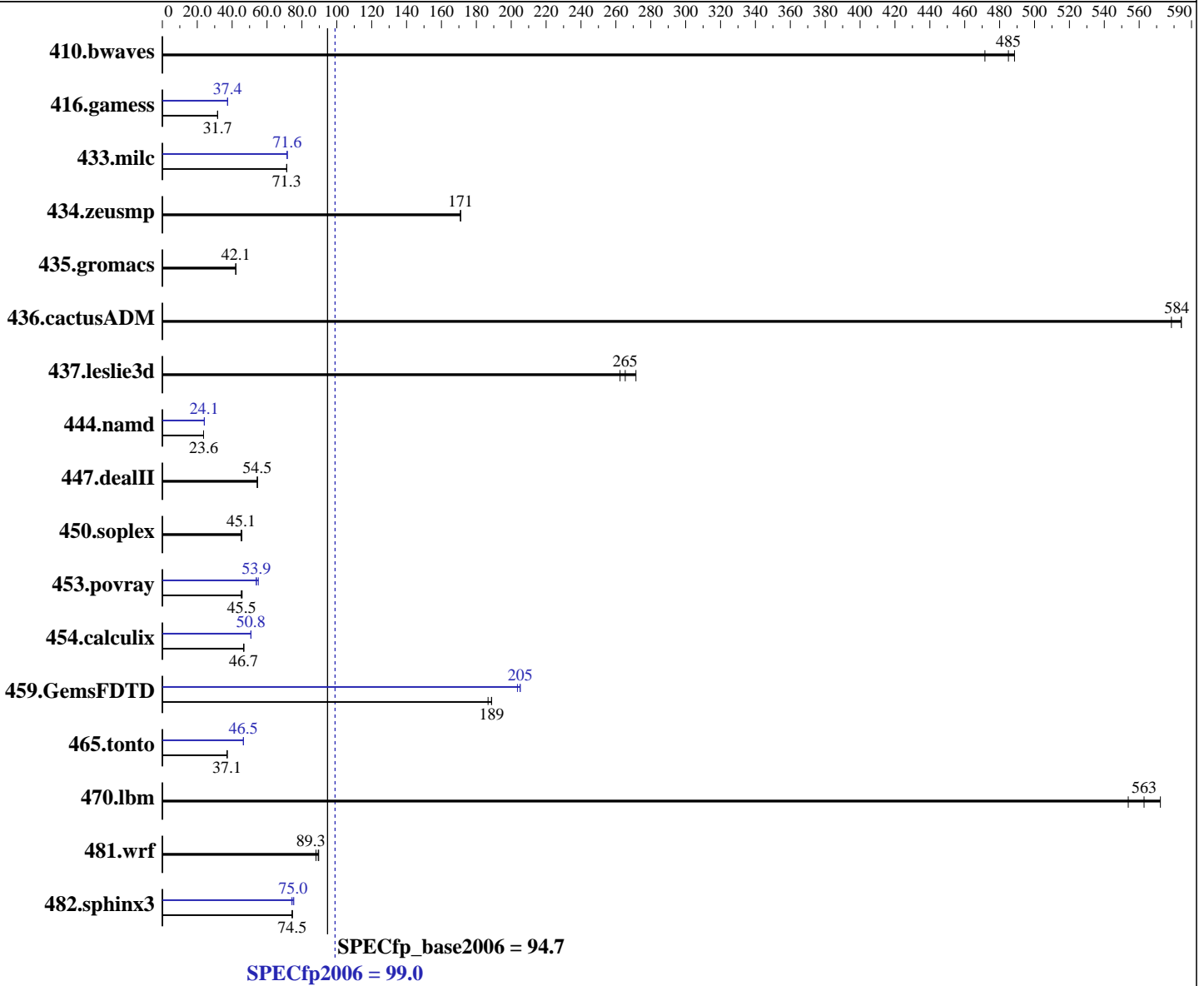
CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

Test date: Nov-2013
Hardware Availability: Oct-2013
Software Availability: Sep-2013

SPECfp_base2006 = 94.7
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Hardware	
CPU Name:	Intel Xeon E5-2650 v2
CPU Characteristics:	Intel Turbo Boost Technology up to 3.40 GHz
CPU MHz:	2600
FPU:	Integrated
CPU(s) enabled:	16 cores, 2 chips, 8 cores/chip
CPU(s) orderable:	1,2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core

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Software	
Operating System:	Red Hat Enterprise Linux Server release 6.4, Kernel 2.6.32-358.18.1.el6.x86_64
Compiler:	C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux; Fortran: Version 14.0.0.080 of Intel Fortran Studio XE for Linux
Auto Parallel:	Yes
File System:	ext4
System State:	Run level 3 (multi-user)

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L3 Cache:	20 MB I+D on chip per chip	Base Pointers:	64-bit
Other Cache:	None	Peak Pointers:	32/64-bit
Memory:	128 GB (16 x 8 GB 2Rx4 PC3-14900R-13, ECC)	Other Software:	None
Disk Subsystem:	1 x 300 GB SATA III 7200 RPM		
Other Hardware:	None		

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	27.8	489	28.8	472	**28.0**	**485**	27.8	489	28.8	472	**28.0**	**485**
416.gamess	618	31.7	618	31.7	**618**	**31.7**	523	37.5	**523**	**37.4**	524	37.4
433.milc	**129**	**71.3**	129	71.3	129	71.3	128	71.6	**128**	**71.6**	128	71.5
434.zeusmp	**53.2**	**171**	53.2	171	53.2	171	**53.2**	**171**	53.2	171	53.2	171
435.gromacs	**170**	**42.1**	170	42.1	170	42.1	**170**	**42.1**	170	42.1	170	42.1
436.cactusADM	20.7	578	**20.5**	**584**	20.5	584	20.7	578	**20.5**	**584**	20.5	584
437.leslie3d	35.8	262	**35.4**	**265**	34.6	271	35.8	262	**35.4**	**265**	34.6	271
444.namd	340	23.6	339	23.6	**339**	**23.6**	333	24.1	333	24.1	**333**	**24.1**
447.dealII	**210**	**54.5**	210	54.5	210	54.5	**210**	**54.5**	210	54.5	210	54.5
450.soplex	185	45.1	**185**	**45.1**	183	45.6	185	45.1	**185**	**45.1**	183	45.6
453.povray	118	45.2	116	45.7	**117**	**45.5**	98.8	53.8	**98.6**	**53.9**	96.7	55.0
454.calculix	**177**	**46.7**	177	46.7	177	46.6	162	50.8	163	50.8	**162**	**50.8**
459.GemsFDTD	56.8	187	56.2	189	**56.2**	**189**	**51.7**	**205**	52.1	204	51.7	205
465.tonto	266	37.1	**265**	**37.1**	264	37.2	**212**	**46.5**	212	46.5	212	46.4
470.lbm	**24.4**	**563**	24.8	554	24.0	572	**24.4**	**563**	24.8	554	24.0	572
481.wrf	127	88.1	125	89.6	**125**	**89.3**	127	88.1	125	89.6	**125**	**89.3**
482.sphinx3	261	74.5	**262**	**74.5**	262	74.4	**260**	**75.0**	263	74.1	259	75.4

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"

Platform Notes

    BIOS Configuration:
    Hyper-threading = Disabled

General Notes

    Environment variables set by runspec before the start of the run:
    KMP_AFFINITY = "granularity=fine,compact,0,1"
    LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64:/home/cpu2006/sh"
    OMP_NUM_THREADS = "16"

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CPU2006 license: 001176	**Test date:** Nov-2013
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General Notes (Continued)

```
Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
memory using RedHat EL 6.4
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>
```

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 -parallel -opt-prefetch -ansi-alias
```

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CPU2006 license: 001176

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Base Optimization Flags (Continued)

C++ benchmarks:
```
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias
```

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

Benchmarks using both Fortran and C:
```
-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -ansi-alias
```

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: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
              -no-prec-div(pass 2) -prof-use(pass 2) -auto-ilp32
              -ansi-alias

     470.lbm: basepeak = yes

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

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
```

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Peak Optimization Flags (Continued)

447.dealII: basepeak = yes

450.soplex: basepeak = yes

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: basepeak = yes

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-

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: -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 -opt-prefetch -parallel

465.tonto: -xAVX(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: -xAVX -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-ic14.0-official-linux64.20140128.html
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revB.20130719.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.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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