SPEC® CFP2006 Result

Supermicro

$SPECfp^{®}2006 =$ 48.8

SuperServer 1017C-TF (X9SCL-F, Intel i3-2100)

$SPECfp\_base2006 =$ 47.8

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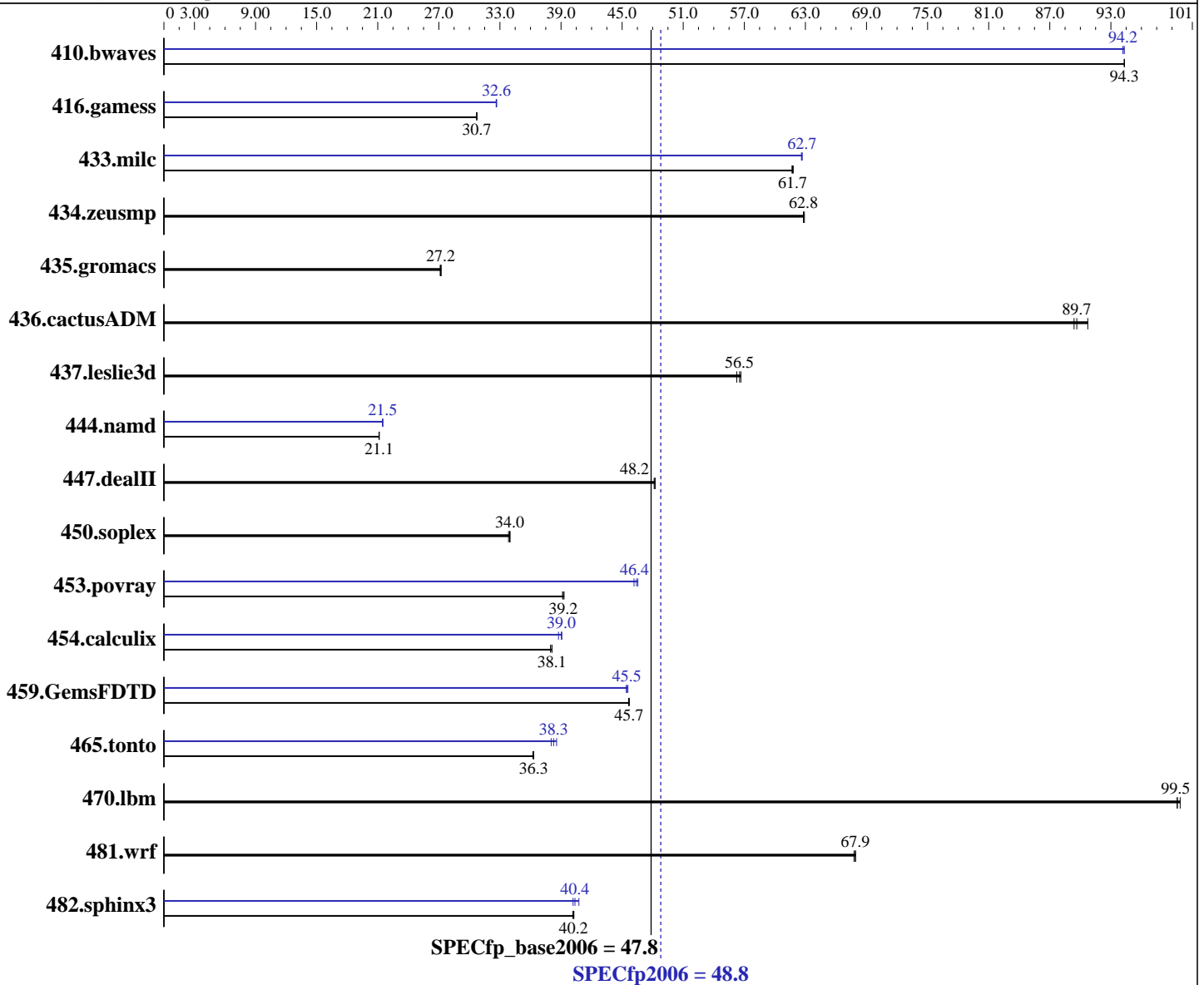**Test sponsor:** Supermicro
Tested by: Supermicro

Test date: Mar-2012
Hardware Availability: Apr-2011
Software Availability: Oct-2011

Benchmark	Result
410.bwaves	94.2 / 94.3
416.gamess	32.6 / 30.7
433.milc	62.7 / 61.7
434.zeusmp	62.8
435.gromacs	27.2
436.cactusADM	89.7
437.leslie3d	56.5
444.namd	21.5 / 21.1
447.dealII	48.2
450.soplex	34.0
453.povray	46.4 / 39.2
454.calculix	39.0 / 38.1
459.GemsFDTD	45.5 / 45.7
465.tonto	38.3 / 36.3
470.lbm	99.5
481.wrf	67.9
482.sphinx3	40.4 / 40.2

SPECfp_base2006 = 47.8
SPECfp2006 = 48.8

Hardware

CPU Name: Intel Core i3-2100
CPU Characteristics:
CPU MHz: 3100
FPU: Integrated
CPU(s) enabled: 2 cores, 1 chip, 2 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 (Santiago)
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: Yes
File System: ext4
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SPECfp2006 =	48.8
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L3 Cache:	3 MB I+D on chip per chip	System State:	Run level 3 (multi-user)
Other Cache:	None	Base Pointers:	64-bit
Memory:	8 GB (2 x 4 GB 2Rx8 PC3-10600E-9, ECC)	Peak Pointers:	32/64-bit
Disk Subsystem:	1 x 500 GB SATA II, 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	**144**	**94.3**	144	94.3	144	94.3	**144**	**94.2**	144	94.2	144	94.3
416.gamess	637	30.7	**637**	**30.7**	637	30.7	599	32.7	600	32.6	**600**	**32.6**
433.milc	**149**	**61.7**	149	61.8	149	61.7	147	62.6	146	62.7	**146**	**62.7**
434.zeusmp	145	62.8	145	62.9	**145**	**62.8**	145	62.8	145	62.9	**145**	**62.8**
435.gromacs	263	27.1	262	27.2	**263**	**27.2**	263	27.1	262	27.2	**263**	**27.2**
436.cactusADM	132	90.7	**133**	**89.7**	134	89.4	132	90.7	**133**	**89.7**	134	89.4
437.leslie3d	166	56.7	167	56.3	**166**	**56.5**	166	56.7	167	56.3	**166**	**56.5**
444.namd	**379**	**21.1**	379	21.1	379	21.1	**373**	**21.5**	373	21.5	373	21.5
447.dealII	237	48.2	**237**	**48.2**	238	48.1	237	48.2	**237**	**48.2**	238	48.1
450.soplex	245	34.0	**246**	**34.0**	246	33.8	245	34.0	**246**	**34.0**	246	33.8
453.povray	135	39.3	**136**	**39.2**	136	39.2	115	46.2	**115**	**46.4**	114	46.5
454.calculix	217	38.0	217	38.1	**217**	**38.1**	**211**	**39.0**	211	39.1	213	38.8
459.GemsFDTD	233	45.6	**232**	**45.7**	232	45.7	**233**	**45.5**	234	45.4	233	45.6
465.tonto	**271**	**36.3**	272	36.2	271	36.3	**257**	**38.3**	259	38.0	255	38.6
470.lbm	138	99.8	**138**	**99.5**	138	99.5	138	99.8	**138**	**99.5**	138	99.5
481.wrf	165	67.8	**164**	**67.9**	164	67.9	165	67.8	**164**	**67.9**	164	67.9
482.sphinx3	484	40.3	**484**	**40.2**	485	40.2	485	40.2	478	40.8	**483**	**40.4**

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

```
Sysinfo program /home/cpu2006/config/sysinfo.rev6800
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
running on localhost.localdomain Sat Mar 31 23:11:52 2012

This section contains SUT (System Under Test) info as seen by
some common utilities.  To remove or add to this section, see:
  http://www.spec.org/cpu2006/Docs/config.html#sysinfo

From /proc/cpuinfo
   model name : Intel(R) Core(TM) i3-2100 CPU @ 3.10GHz
```
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CPU2006 license: 001176
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Platform Notes (Continued)

```
     1 "physical id"s (chips)
     4 "processors"
  cores, siblings (Caution: counting these is hw and system dependent.  The
  following excerpts from /proc/cpuinfo might not be reliable.  Use with
  caution.)
     cpu cores : 2
     siblings  : 4
     physical 0: cores 0 1
  cache size : 3072 KB

From /proc/meminfo
   MemTotal:        8040476 kB
   HugePages_Total:       0
   Hugepagesize:       2048 kB

/usr/bin/lsb_release -d
   Red Hat Enterprise Linux Server release 6.1 (Santiago)

From /etc/*release* /etc/*version*
   redhat-release: Red Hat Enterprise Linux Server release 6.1 (Santiago)
   system-release: Red Hat Enterprise Linux Server release 6.1 (Santiago)
   system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

uname -a:
   Linux localhost.localdomain 2.6.32-131.0.15.el6.x86_64 #1 SMP Tue May 10
   15:42:40 EDT 2011 x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Mar 30 19:28

SPEC is set to: /home/cpu2006
   Filesystem    Type    Size   Used Avail Use% Mounted on
   /dev/mapper/VolGroup-lv_home
                 ext4    392G   66G  306G  18% /home

Additional information from dmidecode:
  Memory:
   2x Hynix Semiconduc HMT351U7BFR8C-H9 4 GB 1333 MHz 2 rank

(End of data from sysinfo program)
```

General Notes

```
Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,scatter"
LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64"
OMP_NUM_THREADS = "2"

 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
```

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

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

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

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

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

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$SPECfp2006 =$ 48.8

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

Test date: Mar-2012
Hardware Availability: Apr-2011
Software Availability: Oct-2011

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) -static -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`

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

Continued on next page

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Test sponsor: Supermicro
Tested by: Supermicro

Test date: Mar-2012
Hardware Availability: Apr-2011
Software Availability: Oct-2011

Peak Optimization Flags (Continued)

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: 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 file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml

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

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