SPEC® CFP2006 Result
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Supermicro

SuperServer 1017GR-TRF (X9SRG-F, Intel E5-1650)

$SPECfp^{®}2006 =$ 82.0

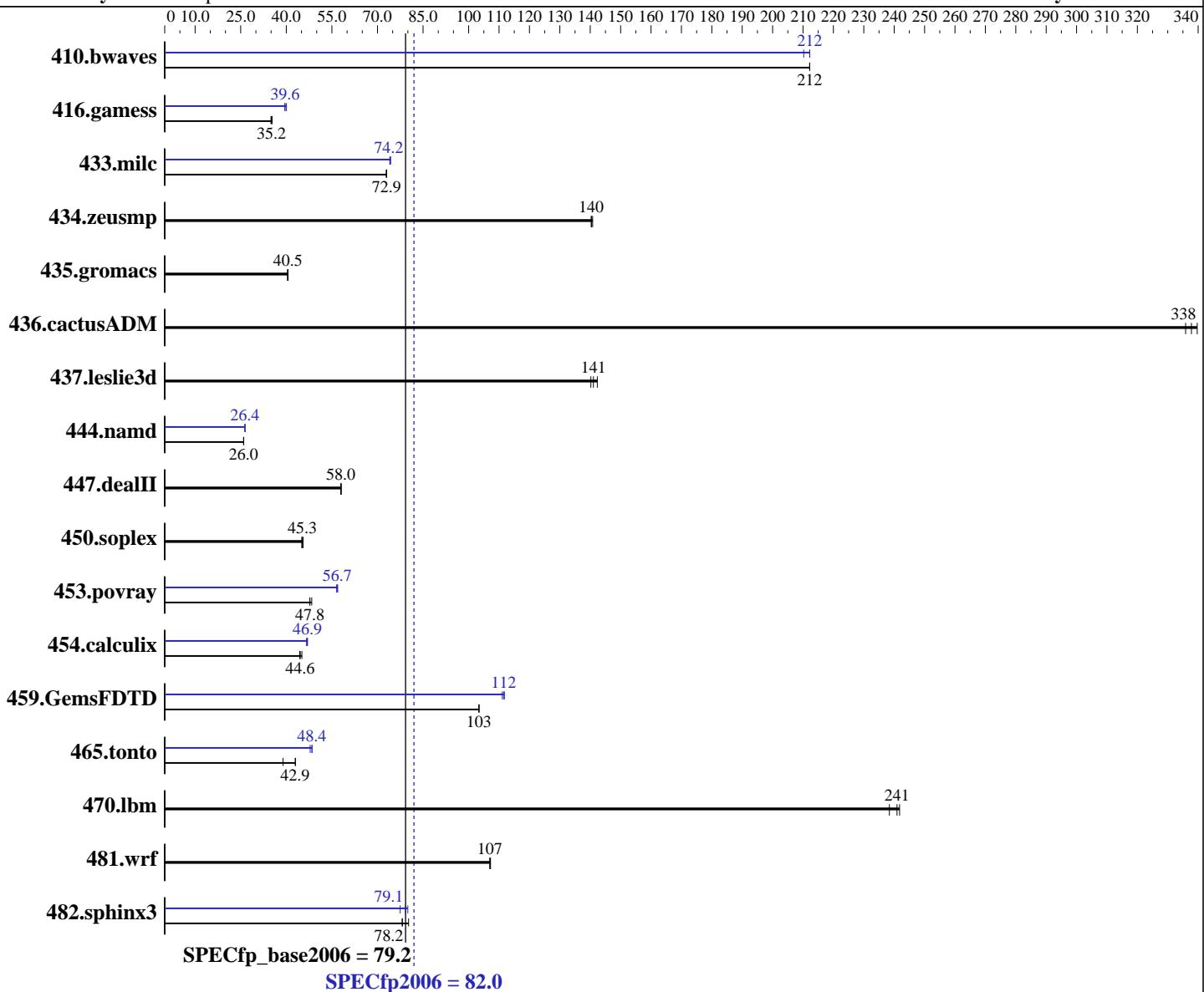$SPECfp\_base2006 =$ 79.2

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

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

Benchmark	Value (blue)	Value (black)
410.bwaves	212	212
416.gamess	39.6	35.2
433.milc	74.2	72.9
434.zeusmp		140
435.gromacs		40.5
436.cactusADM		338
437.leslie3d		141
444.namd	26.4	26.0
447.dealII		58.0
450.soplex		45.3
453.povray	56.7	47.8
454.calculix	46.9	44.6
459.GemsFDTD	112	103
465.tonto	48.4	42.9
470.lbm		241
481.wrf		107
482.sphinx3	79.1	78.2

SPECfp_base2006 = 79.2
SPECfp2006 = 82.0

Hardware

CPU Name: Intel Xeon E5-1650
CPU Characteristics: Intel Turbo Boost Technology up to 3.80 GHz
CPU MHz: 3200
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 6.2 (Santiago)
2.6.32-220.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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L3 Cache:	12 MB I+D on chip per chip	System State:	Run level 3 (multi-user)
Other Cache:	None	Base Pointers:	64-bit
Memory:	64 GB (8 x 8 GB 2Rx4 PC3-12800R-11, ECC)	Peak Pointers:	32/64-bit
Disk Subsystem:	1 x 160 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	64.0	212	**64.0**	**212**	64.0	212	**64.0**	**212**	64.6	210	64.0	212
416.gamess	**557**	**35.2**	554	35.3	560	35.0	**494**	**39.6**	489	40.1	495	39.5
433.milc	**126**	**72.9**	126	72.9	126	73.0	124	74.3	**124**	**74.2**	124	74.0
434.zeusmp	**64.8**	**140**	64.8	140	64.6	141	**64.8**	**140**	64.8	140	64.6	141
435.gromacs	176	40.6	**176**	**40.5**	177	40.4	176	40.6	**176**	**40.5**	177	40.4
436.cactusADM	**35.4**	**338**	35.2	340	35.6	336	**35.4**	**338**	35.2	340	35.6	336
437.leslie3d	67.0	140	66.0	142	**66.6**	**141**	67.0	140	66.0	142	**66.6**	**141**
444.namd	**309**	**26.0**	309	26.0	309	26.0	304	26.4	304	26.4	**304**	**26.4**
447.dealII	197	57.9	197	58.1	**197**	**58.0**	197	57.9	197	58.1	**197**	**58.0**
450.soplex	183	45.5	**184**	**45.3**	185	45.1	183	45.5	**184**	**45.3**	185	45.1
453.povray	110	48.4	111	47.7	**111**	**47.8**	93.5	56.9	94.1	56.6	**93.8**	**56.7**
454.calculix	**185**	**44.6**	186	44.4	183	45.1	**176**	**46.9**	176	47.0	177	46.7
459.GemsFDTD	**103**	**103**	103	103	103	103	**95.1**	**112**	95.5	111	94.9	112
465.tonto	**229**	**42.9**	229	43.0	253	38.9	**203**	**48.4**	203	48.5	206	47.9
470.lbm	57.6	238	56.8	242	**57.0**	**241**	57.6	238	56.8	242	**57.0**	**241**
481.wrf	104	107	104	107	**104**	**107**	104	107	104	107	**104**	**107**
482.sphinx3	243	80.3	249	78.1	**249**	**78.2**	244	80.0	**246**	**79.1**	252	77.4

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 103-69.inet Sun Apr  1 02:21:21 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) Xeon(R) CPU E5-1650 0 @ 3.20GHz
```
Continued on next page

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Platform Notes (Continued)

```
     1 "physical id"s (chips)
    12 "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 : 6
     siblings  : 12
     physical 0: cores 0 1 2 3 4 5
  cache size : 12288 KB

From /proc/meminfo
   MemTotal:        65946132 kB
   HugePages_Total:        0
   Hugepagesize:        2048 kB

/usr/bin/lsb_release -d
   Red Hat Enterprise Linux Server release 6.2 (Santiago)

From /etc/*release* /etc/*version*
   redhat-release: Red Hat Enterprise Linux Server release 6.2 (Santiago)
   system-release: Red Hat Enterprise Linux Server release 6.2 (Santiago)
   system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

uname -a:
   Linux 103-69.inet 2.6.32-220.el6.x86_64 #1 SMP Wed Nov 9 08:03:13 EST 2011
   x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Mar 30 22:56

SPEC is set to: /home/cpu2006
   Filesystem    Type    Size  Used Avail Use% Mounted on
   /dev/mapper/vg_10369-lv_home
                 ext4    116G   27G   84G  24% /home

Additional information from dmidecode:
  Memory:
   8x Hynix Semiconducto HMT31GR7CFR4C 8 GB 1600 MHz 1 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 = "6"

 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:**	Apr-2012
Test sponsor:	Supermicro	**Hardware Availability:**	Mar-2012
Tested by:	Supermicro	**Software Availability:**	Dec-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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Test sponsor: Supermicro		**Hardware Availability:**	Mar-2012
Tested by: Supermicro		**Software Availability:**	Dec-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
```

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SuperServer 1017GR-TRF (X9SRG-F, Intel E5-1650)

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Tested by:	Supermicro	**Software Availability:**	Dec-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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