SPEC® CFP2006 Result
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Supermicro

SuperServer 1027GR-TSF (X9DRG-HF, Intel Xeon E5-2630L, 2.5GHz)

$SPECfp^{®}2006 =$ 64.0

$SPECfp\_base2006 =$ 60.3
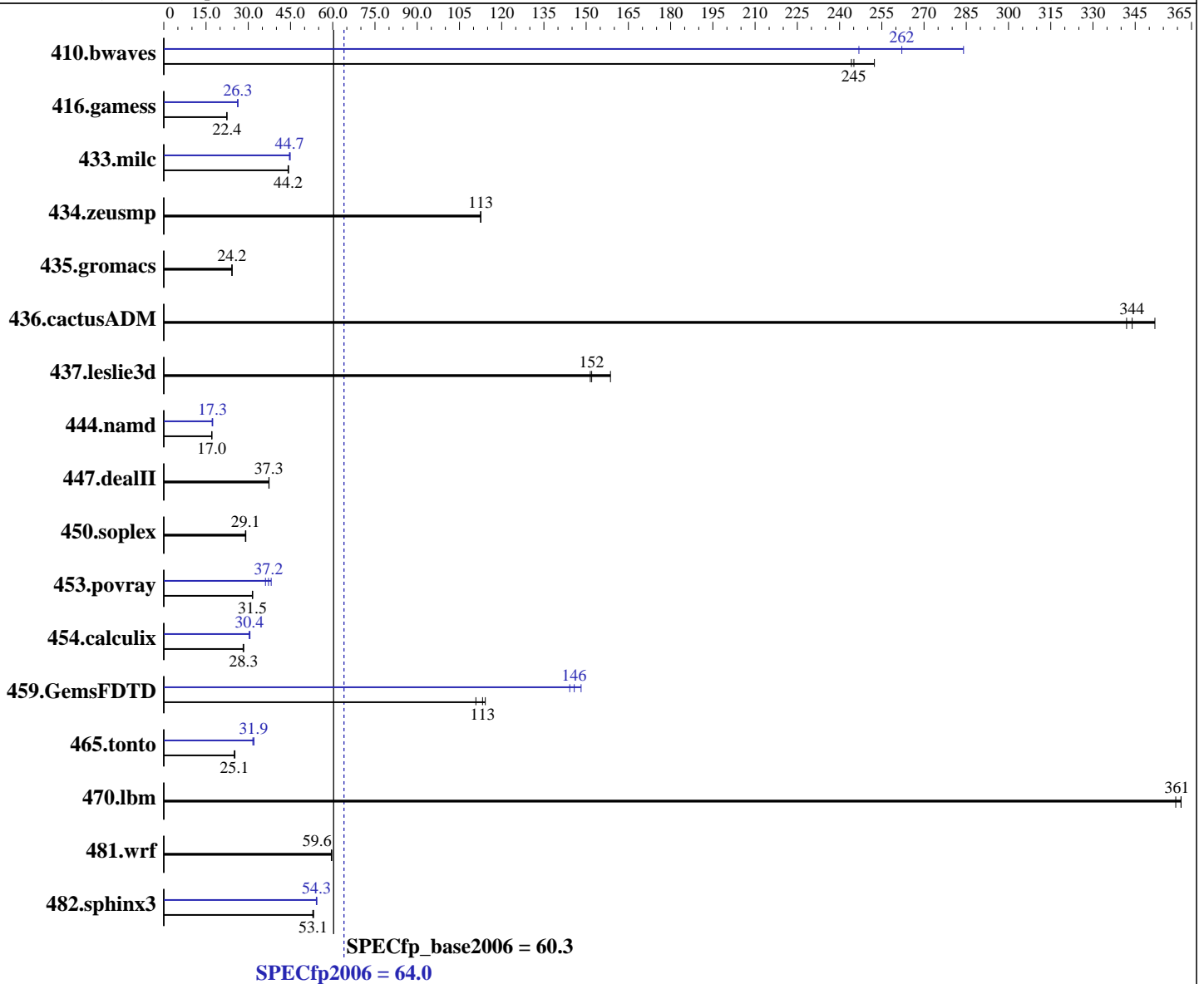
CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

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

SPECfp_base2006 = 60.3
SPECfp2006 = 64.0

	Hardware	
CPU Name:	Intel Xeon E5-2630L	
CPU Characteristics:	Intel Turbo Boost Technology up to 2.50 GHz	
CPU MHz:	2000	
FPU:	Integrated	
CPU(s) enabled:	12 cores, 2 chips, 6 cores/chip, 2 threads/core	
CPU(s) orderable:	1,2 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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L3 Cache:	15 MB I+D on chip per chip
Other Cache:	None
Memory:	64 GB (8 x 8 GB 2Rx8 PC3-12800R-11, ECC, running at 1333 MHz and CL9)
Disk Subsystem:	1 x 1 TB SATA II, 7200 RPM
Other Hardware:	None

System State:	Run level 3 (multi-user)
Base Pointers:	64-bit
Peak Pointers:	32/64-bit
Other Software:	none

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	53.8	252	**55.4**	**245**	55.6	244	55.0	247	**51.8**	**262**	47.8	284
416.gamess	873	22.4	875	22.4	**874**	**22.4**	746	26.3	**745**	**26.3**	745	26.3
433.milc	208	44.1	**208**	**44.2**	207	44.3	**205**	**44.7**	206	44.6	204	44.9
434.zeusmp	80.9	113	**80.9**	**113**	80.9	113	80.9	113	**80.9**	**113**	80.9	113
435.gromacs	294	24.3	295	24.2	**295**	**24.2**	294	24.3	295	24.2	**295**	**24.2**
436.cactusADM	**34.7**	**344**	33.9	352	34.9	342	**34.7**	**344**	33.9	352	34.9	342
437.leslie3d	62.1	151	**61.9**	**152**	59.3	159	62.1	151	**61.9**	**152**	59.3	159
444.namd	470	17.1	470	17.0	**470**	**17.0**	**463**	**17.3**	467	17.2	462	17.3
447.dealII	306	37.3	306	37.4	**306**	**37.3**	306	37.3	306	37.4	**306**	**37.3**
450.soplex	286	29.1	**287**	**29.1**	288	29.0	286	29.1	**287**	**29.1**	288	29.0
453.povray	169	31.4	168	31.6	**169**	**31.5**	139	38.1	**143**	**37.2**	147	36.1
454.calculix	293	28.2	291	28.4	**291**	**28.3**	272	30.4	269	30.6	**271**	**30.4**
459.GemsFDTD	92.9	114	95.7	111	**93.7**	**113**	**72.8**	**146**	73.6	144	71.6	148
465.tonto	389	25.3	**392**	**25.1**	392	25.1	**308**	**31.9**	311	31.6	307	32.0
470.lbm	**38.0**	**361**	38.0	361	38.2	359	**38.0**	**361**	38.0	361	38.2	359
481.wrf	187	59.7	188	59.5	**188**	**59.6**	187	59.7	188	59.5	**188**	**59.6**
482.sphinx3	368	52.9	**367**	**53.1**	366	53.2	**359**	**54.3**	359	54.3	360	54.2

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"
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>
```

Platform Notes

```
Sysinfo program /home/cpu2006/config/sysinfo.rev6800
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
running on localhost.localdomain Sat Apr 21 23:12:14 2012
```

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Platform Notes (Continued)

```
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 E5-2630L 0 @ 2.00GHz
      2 "physical id"s (chips)
     24 "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
      physical 1: cores 0 1 2 3 4 5
   cache size : 15360 KB

From /proc/meminfo
   MemTotal:       65949756 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 Apr 20 09:30

SPEC is set to: /home/cpu2006
   Filesystem    Type    Size  Used Avail Use% Mounted on
   /dev/mapper/VolGroup-lv_home
                 ext4    162G   97G   57G  64% /home

Additional information from dmidecode:
  Memory:
   8x Hynix Semiconducto HMT31GR7CFR4C 8 GB 1333 MHz 1 rank

(End of data from sysinfo program)
```

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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 = "12"

 Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
 memory using RHEL5.5
```

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

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Base Optimization Flags (Continued)

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
```

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
```

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Peak Optimization Flags (Continued)

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`

    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 files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20120425.html
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-revA.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-ic12.1-official-linux64.20120425.xml
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-revA.xml

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

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