



SPEC[®] CFP2006 Result

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Supermicro

SPECfp[®]_rate2006 = 52.7

SuperServer 5017C-MF (X9SCL-F, Intel G530)

SPECfp_rate_base2006 = 51.6

CPU2006 license: 001176

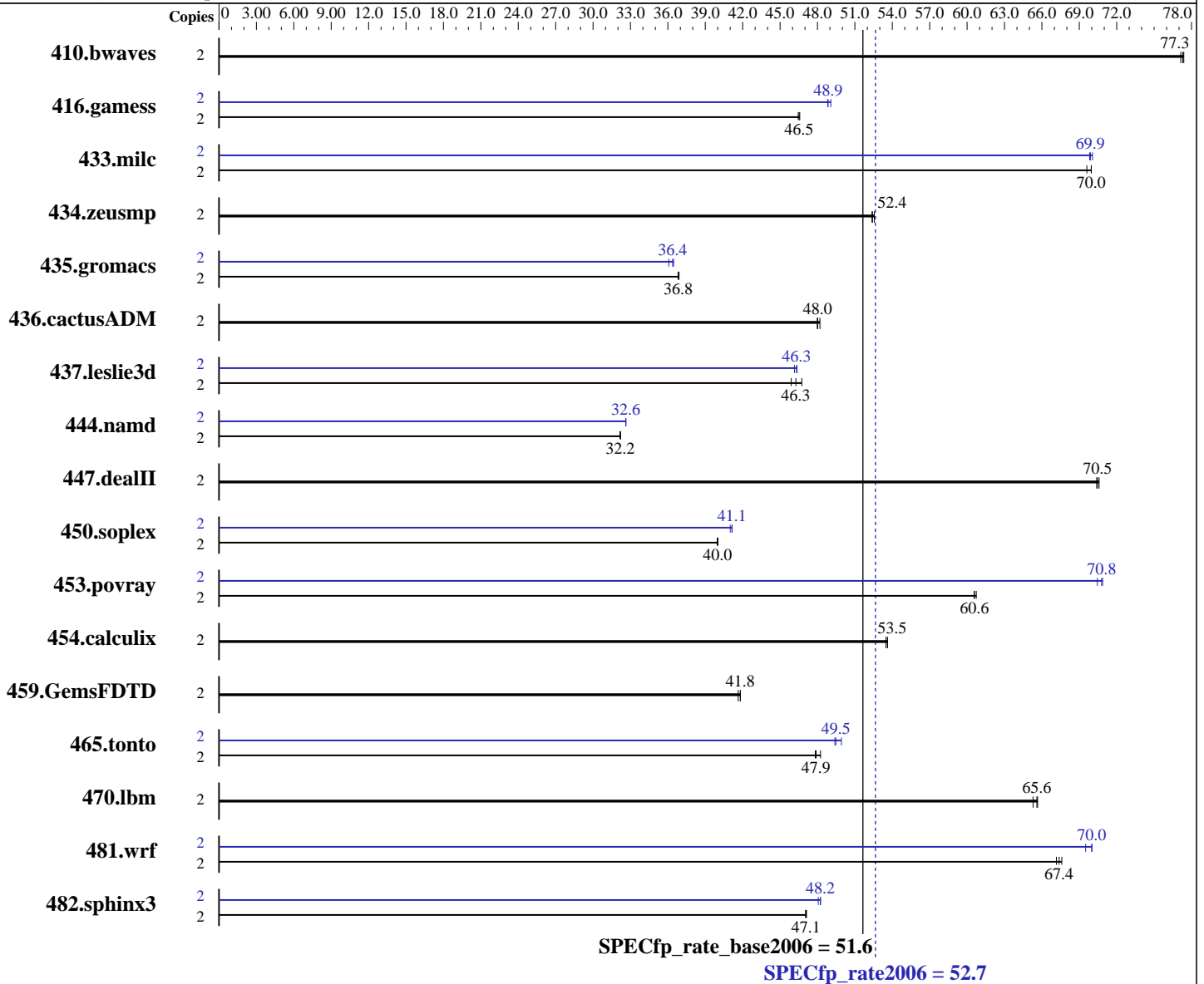
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Mar-2012

Hardware Availability: Apr-2011

Software Availability: Oct-2011



Hardware

CPU Name: Intel Celeron G530
 CPU Characteristics:
 CPU MHz: 2400
 FPU: Integrated
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip
 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

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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: No
 File System: ext4

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L3 Cache: 2 MB I+D on chip per chip
 Other Cache: None
 Memory: 8 GB (2 x 4 GB 2Rx8 PC3-10600E-9, ECC, running at 1066 MHz and CL7)
 Disk Subsystem: 1 x 1 TB SATA II, 7200 RPM
 Other Hardware: None

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

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	2	351	77.4	352	77.3	352	77.1	2	351	77.4	352	77.3	352	77.1
416.gamess	2	842	46.5	843	46.5	841	46.6	2	802	48.8	798	49.1	802	48.9
433.milc	2	262	70.0	262	70.0	264	69.6	2	263	69.8	262	70.1	263	69.9
434.zeusmp	2	346	52.6	347	52.4	347	52.4	2	346	52.6	347	52.4	347	52.4
435.gromacs	2	387	36.9	388	36.8	388	36.8	2	396	36.1	392	36.4	392	36.5
436.cactusADM	2	498	48.0	498	48.0	496	48.2	2	498	48.0	498	48.0	496	48.2
437.leslie3d	2	402	46.7	406	46.3	410	45.9	2	406	46.3	405	46.4	407	46.2
444.namd	2	498	32.2	499	32.2	498	32.2	2	491	32.6	492	32.6	492	32.6
447.dealII	2	325	70.4	324	70.6	325	70.5	2	325	70.4	324	70.6	325	70.5
450.soplex	2	417	40.0	417	40.0	417	40.0	2	407	41.0	405	41.1	405	41.2
453.povray	2	176	60.6	175	60.7	176	60.6	2	151	70.4	150	70.8	150	70.9
454.calculix	2	308	53.5	308	53.5	308	53.6	2	308	53.5	308	53.5	308	53.6
459.GemsFDTD	2	510	41.6	507	41.8	508	41.8	2	510	41.6	507	41.8	508	41.8
465.tonto	2	408	48.2	411	47.9	412	47.8	2	398	49.5	398	49.4	394	49.9
470.lbm	2	419	65.7	419	65.6	421	65.3	2	419	65.7	419	65.6	421	65.3
481.wrf	2	333	67.2	332	67.4	330	67.6	2	319	70.0	319	70.0	321	69.5
482.sphinx3	2	828	47.1	827	47.1	829	47.0	2	811	48.1	808	48.2	808	48.2

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"

Platform Notes

Sysinfo program /usr/cpu2006/config/sysinfo.rev6800
 \$Rev: 6800 \$ \$Date:: 2011-10-11 #\$ 6f2ebdff5032aaa42e583f96b07f99d3
 running on localhost.localdomain Sat Mar 31 05:20:08 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) Celeron(R) CPU G530 @ 2.40GHz
 1 "physical id"s (chips)
 2 "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  : 2
physical 0: cores 0 1
cache size : 2048 KB
```

From /proc/meminfo

```
MemTotal:      8040724 kB
HugePages_Total: 0
Hugepagesize:  2048 kB
```

/usr/bin/lsc_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 20:12

SPEC is set to: /usr/cpu2006

```
Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/mapper/VolGroup-lv_root
ext4             50G     35G   13G   75% /
```

Additional information from dmidecode:

Memory:

```
2x Micron 18JSF51272AZ-1G4D1 4 GB 1067 MHz 2 rank
```

(End of data from sysinfo program)



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General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/usr/cpu2006/libs/32:/usr/cpu2006/libs/64"

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:

-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3

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Base Optimization Flags (Continued)

C++ benchmarks:

```
-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3
```

Fortran benchmarks:

```
-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch
```

Benchmarks using both Fortran and C:

```
-xSSE4.2 -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
459.GemsFDTD: -DSPEC_CPU_LP64
```

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Peak Portability Flags (Continued)

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

Peak Optimization Flags

C benchmarks:

433.milc: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -opt-mem-layout-trans=3(pass 2)
-prof-use(pass 2) -static -auto-ilp32

470.lbm: basepeak = yes

482.sphinx3: -xSSE4.2 -ipo -O3 -no-prec-div -opt-mem-layout-trans=3
-unroll2

C++ benchmarks:

444.namd: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -opt-mem-layout-trans=3(pass 2)
-prof-use(pass 2) -fno-alias -auto-ilp32

447.dealIII: basepeak = yes

450.soplex: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -opt-mem-layout-trans=3(pass 2)
-prof-use(pass 2) -opt-malloc-options=3

453.povray: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -opt-mem-layout-trans=3(pass 2)
-prof-use(pass 2) -unroll4 -ansi-alias

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: -xSSE4.2(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: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

459.GemsFDTD: basepeak = yes

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Peak Optimization Flags (Continued)

465.tonto: -xSSE4.2(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: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -opt-mem-layout-trans=3(pass 2)
-prof-use(pass 2) -opt-prefetch -static -auto-ilp32

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32

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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