SPEC® CFP2006 Result

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Supermicro

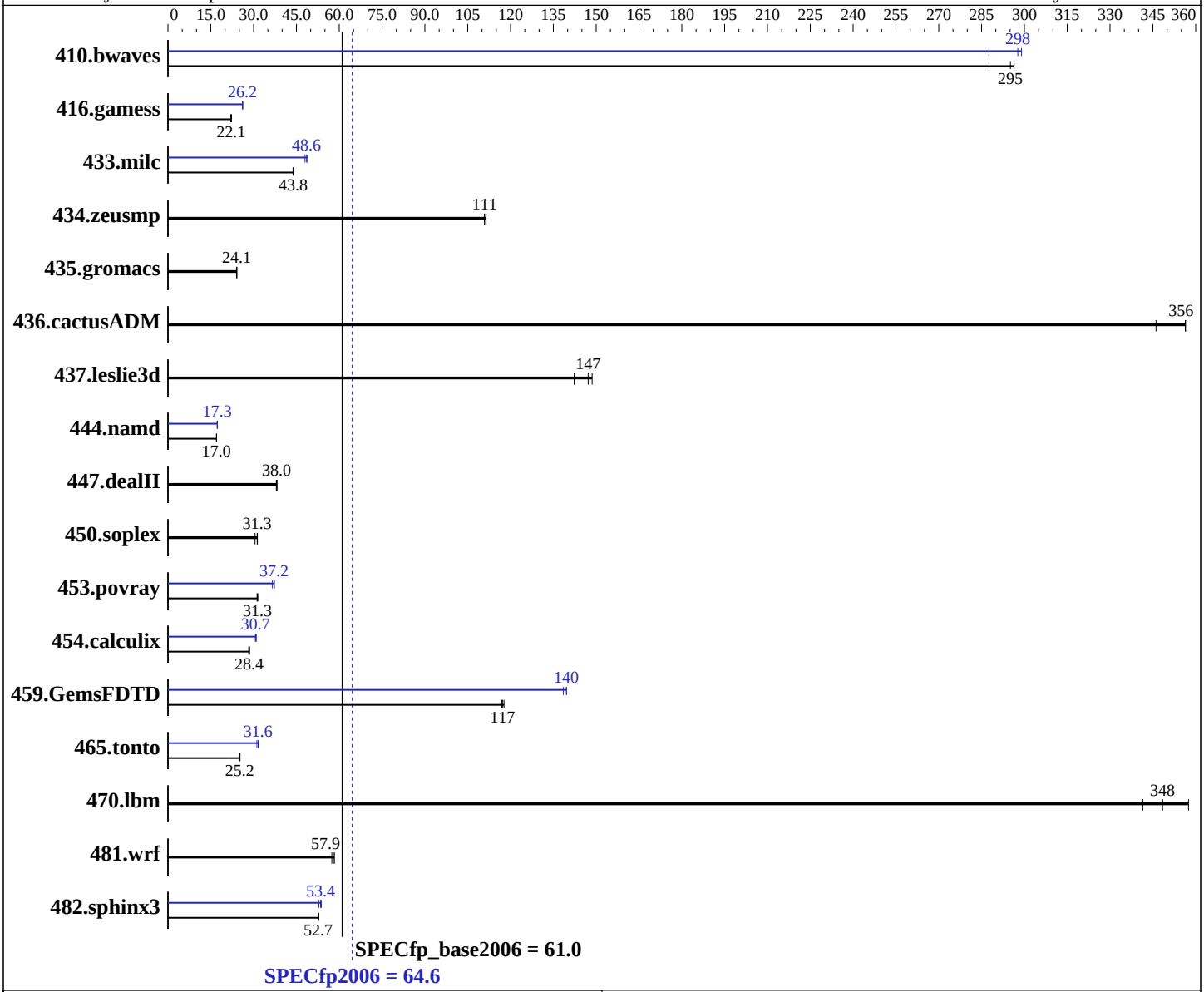
SuperServer 7047R-TXRF (X9DRX+-F, Intel Xeon E5-2630L)

SPECfp®2006 = 64.6

SPECfp_base2006 = 61.0

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

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



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 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 6.2, Kernel 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:	ext3
System State:	Run level 3 (multi-user)

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L3 Cache: 15 MB I+D on chip per chip
Other Cache: None
Memory: 256 GB (16 x 16 GB 1Rx4 PC3-12800R-11, ECC)
Disk Subsystem: 1 x 2 TB SATA II, 7200 RPM
Other Hardware: None

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	47.3	288	45.9	296	**46.1**	**295**	**45.7**	**298**	47.3	288	45.5	299
416.gamess	890	22.0	880	22.3	**886**	**22.1**	749	26.2	**749**	**26.2**	749	26.1
433.milc	**209**	**43.8**	209	43.9	210	43.8	189	48.7	191	48.0	**189**	**48.6**
434.zeusmp	81.7	111	82.1	111	**82.1**	**111**	81.7	111	82.1	111	**82.1**	**111**
435.gromacs	296	24.1	297	24.1	**296**	**24.1**	296	24.1	297	24.1	**296**	**24.1**
436.cactusADM	**33.5**	**356**	33.5	356	34.5	346	**33.5**	**356**	33.5	356	34.5	346
437.leslie3d	66.1	142	**63.9**	**147**	63.3	149	66.1	142	**63.9**	**147**	63.3	149
444.namd	471	17.0	**472**	**17.0**	472	17.0	463	17.3	464	17.3	**464**	**17.3**
447.dealII	**301**	**38.0**	301	38.0	299	38.2	**301**	**38.0**	301	38.0	299	38.2
450.soplex	266	31.3	**267**	**31.3**	273	30.5	266	31.3	**267**	**31.3**	273	30.5
453.povray	169	31.5	170	31.2	**170**	**31.3**	145	36.6	**143**	**37.2**	143	37.3
454.calculix	**290**	**28.4**	289	28.6	292	28.3	**269**	**30.7**	267	30.9	269	30.7
459.GemsFDTD	90.7	117	90.1	118	**90.5**	**117**	76.0	140	76.6	139	**76.0**	**140**
465.tonto	390	25.3	**391**	**25.2**	392	25.1	**311**	**31.6**	310	31.8	316	31.2
470.lbm	40.2	341	**39.4**	**348**	38.4	357	40.2	341	**39.4**	**348**	38.4	357
481.wrf	195	57.4	192	58.3	**193**	**57.9**	195	57.4	192	58.3	**193**	**57.9**
482.sphinx3	**370**	**52.7**	371	52.6	369	52.8	369	52.9	363	53.7	**365**	**53.4**

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"
```

General Notes

```
Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,scatter"
LD_LIBRARY_PATH = "/usr/cpu2006/libs/32:/usr/cpu2006/libs/64"
OMP_NUM_THREADS = "12"

 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
```

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

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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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

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For other inquiries, please contact webmaster@spec.org.

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