



SPEC® CFP2006 Result

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Supermicro

SuperServer 5037MC-H8TRF (X9SCD-F single node, Intel E3-1240)

SPECfp®_rate2006 = 120

SPECfp_rate_base2006 = 116

CPU2006 license: 001176

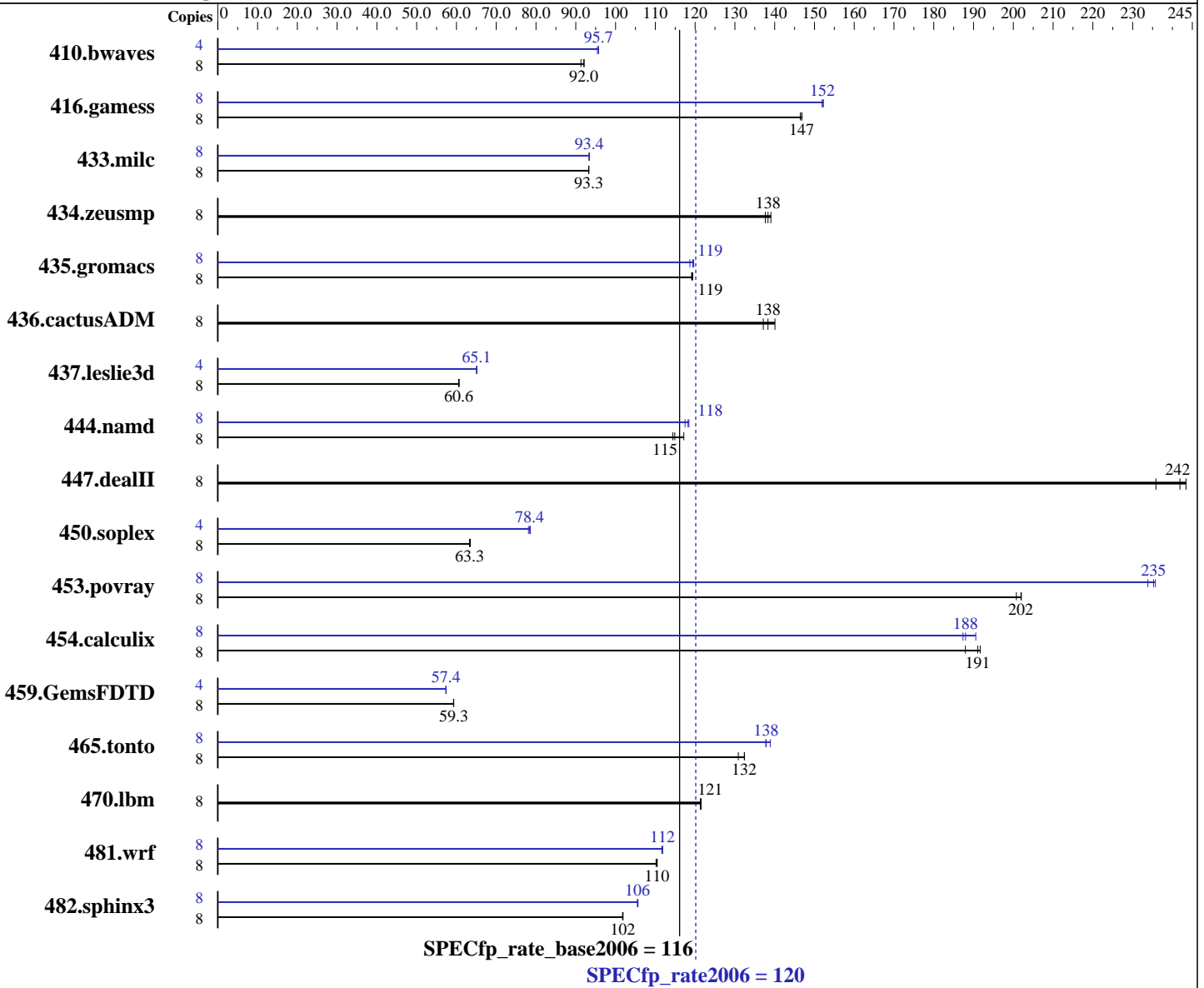
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Mar-2012

Hardware Availability: Aug-2011

Software Availability: Oct-2011



Hardware

CPU Name: Intel Xeon E3-1240
 CPU Characteristics: Intel Turbo Boost Technology up to 3.70 GHz
 CPU MHz: 3300
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 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

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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: 8 MB I+D on chip per chip
Other Cache: None
Memory: 8 GB (2 x 4 GB 2Rx8 PC3-10600E-9, ECC)
Disk Subsystem: 1 x 500 GB SATA III, 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	8	1191	91.3	1180	92.1	<u>1181</u>	<u>92.0</u>	4	<u>568</u>	<u>95.7</u>	568	95.7	570	95.4
416.gamess	8	1070	146	<u>1067</u>	<u>147</u>	1067	147	8	1031	152	1029	152	<u>1030</u>	<u>152</u>
433.milc	8	787	93.3	<u>787</u>	<u>93.3</u>	787	93.3	8	786	93.4	787	93.3	<u>786</u>	<u>93.4</u>
434.zeusmp	8	529	138	<u>526</u>	<u>138</u>	524	139	8	529	138	<u>526</u>	<u>138</u>	524	139
435.gromacs	8	478	119	480	119	<u>479</u>	<u>119</u>	8	477	120	481	119	<u>478</u>	<u>119</u>
436.cactusADM	8	<u>691</u>	<u>138</u>	697	137	683	140	8	<u>691</u>	<u>138</u>	697	137	683	140
437.leslie3d	8	1239	60.7	1242	60.5	<u>1242</u>	<u>60.6</u>	4	577	65.1	<u>578</u>	<u>65.1</u>	578	65.0
444.namd	8	548	117	<u>558</u>	<u>115</u>	561	114	8	542	118	<u>543</u>	<u>118</u>	546	117
447.dealII	8	<u>378</u>	<u>242</u>	388	236	376	243	8	<u>378</u>	<u>242</u>	388	236	376	243
450.soplex	8	<u>1054</u>	<u>63.3</u>	1054	63.3	1051	63.5	4	<u>425</u>	<u>78.4</u>	425	78.6	427	78.1
453.povray	8	211	202	<u>211</u>	<u>202</u>	212	201	8	182	234	<u>181</u>	<u>235</u>	181	236
454.calculix	8	344	192	<u>345</u>	<u>191</u>	351	188	8	346	191	<u>351</u>	<u>188</u>	352	187
459.GemsFDTD	8	1431	59.3	1432	59.3	<u>1431</u>	<u>59.3</u>	4	<u>740</u>	<u>57.4</u>	740	57.4	740	57.4
465.tonto	8	602	131	594	132	<u>595</u>	<u>132</u>	8	571	138	<u>571</u>	<u>138</u>	567	139
470.lbm	8	905	122	<u>906</u>	<u>121</u>	906	121	8	905	122	<u>906</u>	<u>121</u>	906	121
481.wrf	8	811	110	<u>809</u>	<u>110</u>	809	110	8	801	112	799	112	<u>799</u>	<u>112</u>
482.sphinx3	8	1532	102	<u>1531</u>	<u>102</u>	1530	102	8	<u>1477</u>	<u>106</u>	1478	106	1476	106

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"

General Notes

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

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General Notes (Continued)

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:
-xAVX -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:

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

Fortran benchmarks:

-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch

Benchmarks using both Fortran and C:

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



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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
-opt-mem-layout-trans=3

470.lbm: basepeak = yes

482.sphinx3: -xAVX -ipo -O3 -no-prec-div -unroll2

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.dealIII: basepeak = yes

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

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(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -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: -xAVX -ipo -O3 -no-prec-div -static -opt-prefetch

459.GemsFDTD: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -opt-malloc-options=3

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

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Peak Optimization Flags (Continued)

436.cactusADM: basepeak = yes

454.calculix: -xAVX -ipo -O3 -no-prec-div -static -auto-ilp32
-opt-mem-layout-trans=3

481.wrf: Same as 454.calculix

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

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