



# SPEC<sup>®</sup> CFP2006 Result

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## Supermicro

SuperServer 5037MC-H8TRF (X9SCD-F single node,  
Intel Celeron G530)

SPECfp<sup>®</sup>2006 = 35.7

SPECfp\_base2006 = 35.0

CPU2006 license: 001176

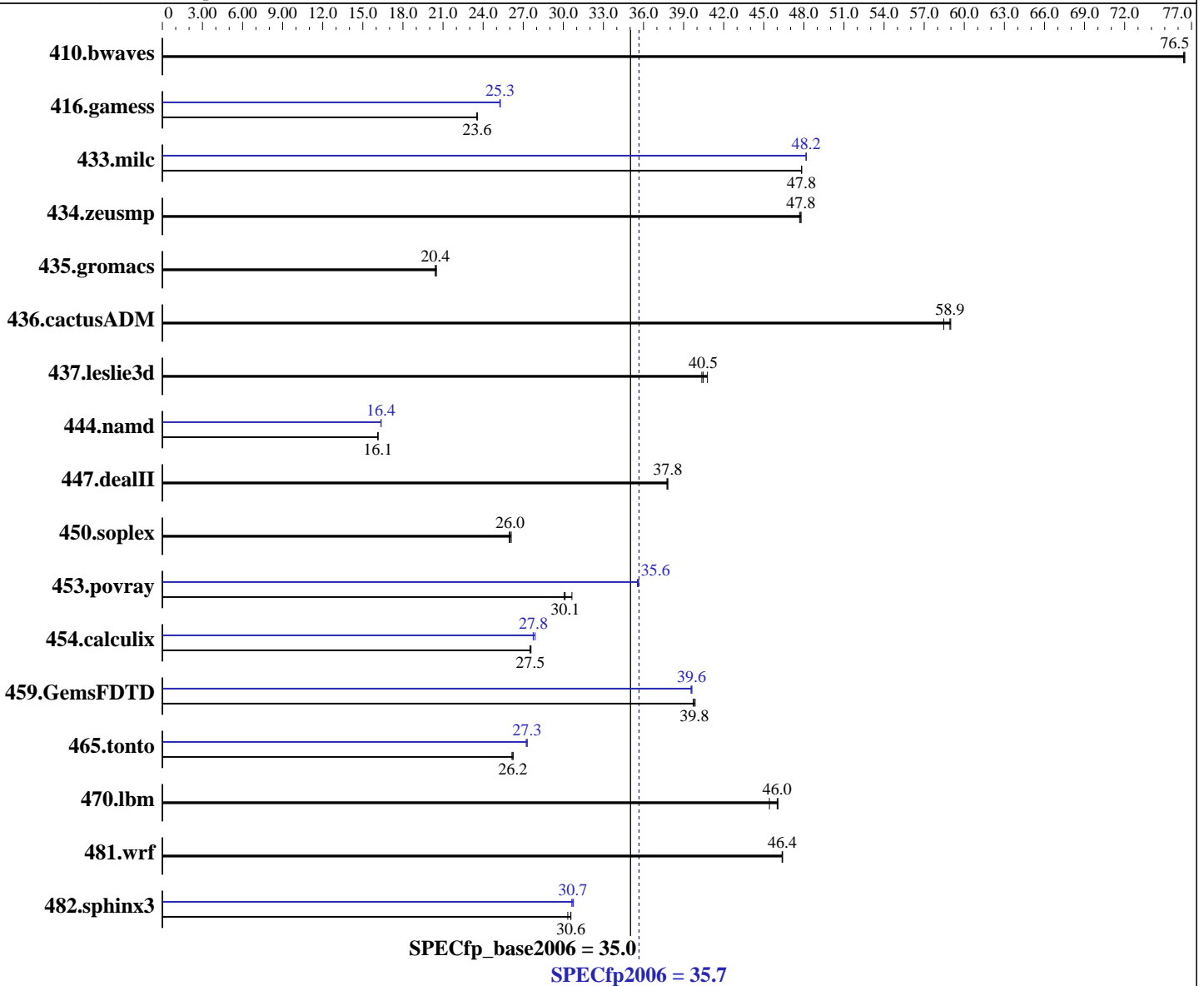
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Mar-2012

Hardware Availability: Aug-2011

Software Availability: Oct-2011



### Hardware

CPU Name: Intel 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,  
 Kernel 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  
 System State: Run level 3 (multi-user)

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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 500 GB SATA III, 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	178	76.4	178	76.5	<b>178</b>	<b>76.5</b>	178	76.4	178	76.5	<b>178</b>	<b>76.5</b>
416.gamess	832	23.5	<b>831</b>	<b>23.6</b>	831	23.6	775	25.2	<b>775</b>	<b>25.3</b>	774	25.3
433.milc	<b>192</b>	<b>47.8</b>	192	47.8	192	47.8	<b>191</b>	<b>48.2</b>	191	48.2	191	48.2
434.zeusmp	191	47.7	<b>190</b>	<b>47.8</b>	190	47.8	191	47.7	<b>190</b>	<b>47.8</b>	190	47.8
435.gromacs	<b>349</b>	<b>20.4</b>	348	20.5	350	20.4	<b>349</b>	<b>20.4</b>	348	20.5	350	20.4
436.cactusADM	<b>203</b>	<b>58.9</b>	203	59.0	204	58.5	<b>203</b>	<b>58.9</b>	203	59.0	204	58.5
437.leslie3d	<b>232</b>	<b>40.5</b>	233	40.4	230	40.8	<b>232</b>	<b>40.5</b>	233	40.4	230	40.8
444.namd	<b>497</b>	<b>16.1</b>	497	16.1	497	16.1	490	16.4	490	16.4	<b>490</b>	<b>16.4</b>
447.dealII	<b>303</b>	<b>37.8</b>	303	37.8	303	37.8	<b>303</b>	<b>37.8</b>	303	37.8	303	37.8
450.soplex	320	26.1	321	25.9	<b>320</b>	<b>26.0</b>	320	26.1	321	25.9	<b>320</b>	<b>26.0</b>
453.povray	<b>176</b>	<b>30.1</b>	174	30.6	177	30.1	150	35.5	<b>149</b>	<b>35.6</b>	149	35.6
454.calculix	299	27.6	<b>300</b>	<b>27.5</b>	300	27.5	296	27.9	<b>297</b>	<b>27.8</b>	297	27.7
459.GemsFDTD	266	39.9	<b>267</b>	<b>39.8</b>	267	39.7	268	39.6	<b>268</b>	<b>39.6</b>	268	39.6
465.tonto	375	26.2	376	26.2	<b>375</b>	<b>26.2</b>	<b>361</b>	<b>27.3</b>	361	27.2	360	27.3
470.lbm	303	45.4	<b>299</b>	<b>46.0</b>	298	46.1	303	45.4	<b>299</b>	<b>46.0</b>	298	46.1
481.wrf	<b>241</b>	<b>46.4</b>	241	46.4	241	46.4	<b>241</b>	<b>46.4</b>	241	46.4	241	46.4
482.sphinx3	<b>638</b>	<b>30.6</b>	642	30.3	638	30.6	<b>635</b>	<b>30.7</b>	634	30.8	636	30.6

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 = "2"

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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## 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 -parallel -opt-prefetch  
-ansi-alias

C++ benchmarks:  
-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch -ansi-alias

Fortran benchmarks:  
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

Benchmarks using both Fortran and C:  
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch  
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## 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: -xSSE4.2(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: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -ansi-alias  
-parallel

C++ benchmarks:

444.namd: -xSSE4.2(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: basepeak = yes

453.povray: -xSSE4.2(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: basepeak = yes

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## Peak Optimization Flags (Continued)

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: basepeak = yes

459.GemsFDTD: -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 -opt-prefetch -parallel

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) -inline-calloc  
-opt-malloc-options=3 -auto -unroll4

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: -xSSE4.2 -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](mailto:webmaster@spec.org).

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