



# SPEC<sup>®</sup> CFP2006 Result

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## NEC Corporation

SPECfp<sup>®</sup>2006 = **53.7**

### Express5800/T110g-S (Intel Pentium G3240)

SPECfp\_base2006 = **53.1**

CPU2006 license: 9006

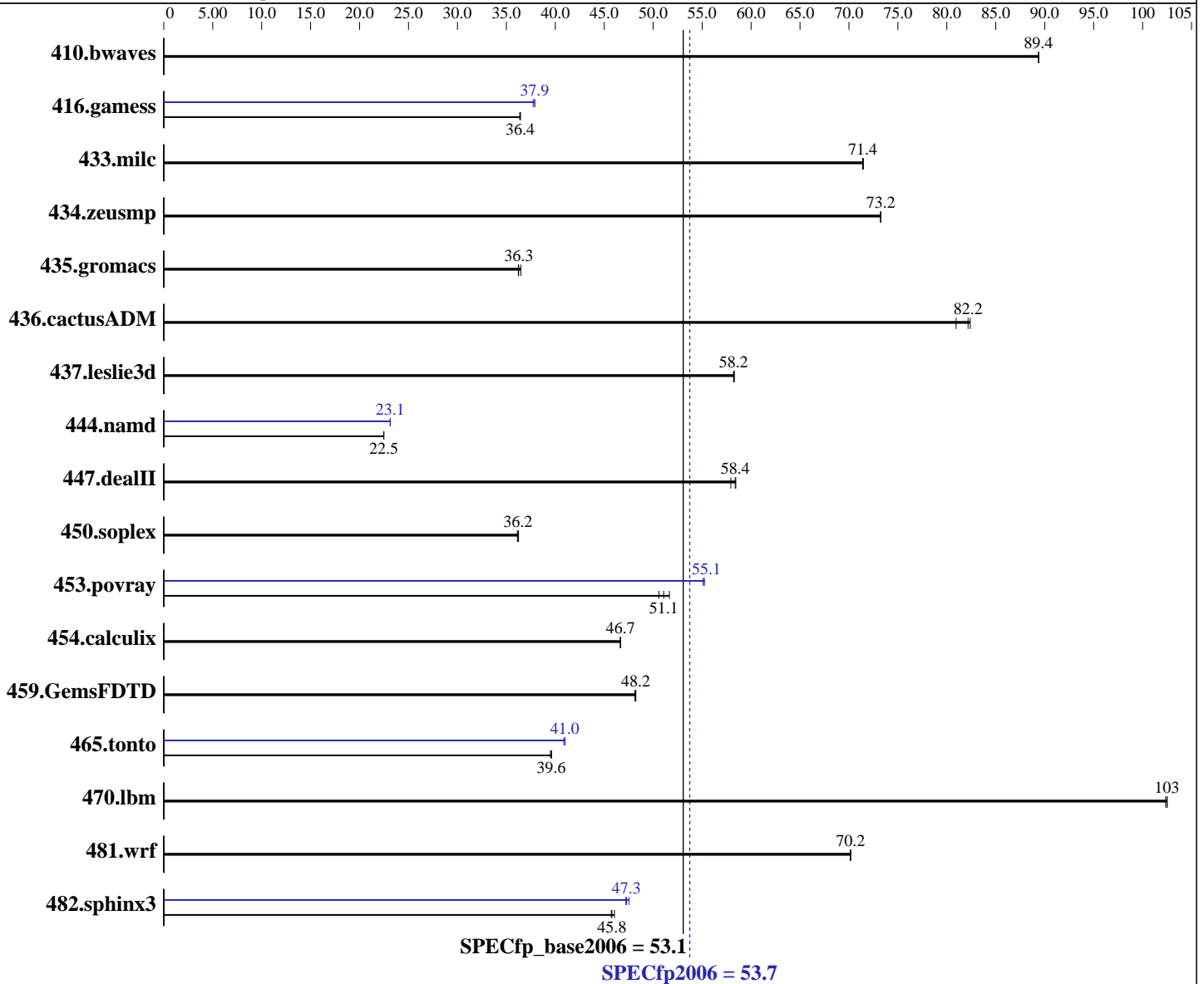
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Jun-2014

Hardware Availability: Jul-2014

Software Availability: Jan-2014



#### Hardware

CPU Name: Intel Pentium G3240  
 CPU Characteristics:  
 CPU MHz: 3100  
 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 6.5 (Santiago)  
 Kernel 2.6.32-431.el6.x86\_64  
 Compiler: C/C++: Version 14.0.2.144 of Intel C++ Studio XE for Linux;  
 Fortran: Version 14.0.2.144 of Intel Fortran Studio XE for Linux  
 Auto Parallel: Yes  
 File System: ext4

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L3 Cache: 3 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 16 GB (2 x 8 GB 2Rx8 PC3-12800E-11, ECC, running at 1333 MHz and CL9)  
 Disk Subsystem: 1 x 250 GB SATA, 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	152	89.4	<b>152</b>	<b>89.4</b>	152	89.4	152	89.4	<b>152</b>	<b>89.4</b>	152	89.4
416.gamess	538	36.4	537	36.4	<b>538</b>	<b>36.4</b>	517	37.9	<b>517</b>	<b>37.9</b>	519	37.7
433.milc	128	71.5	129	71.4	<b>129</b>	<b>71.4</b>	128	71.5	129	71.4	<b>129</b>	<b>71.4</b>
434.zeusmp	124	73.2	124	73.2	<b>124</b>	<b>73.2</b>	124	73.2	124	73.2	<b>124</b>	<b>73.2</b>
435.gromacs	<b>197</b>	<b>36.3</b>	196	36.5	197	36.2	<b>197</b>	<b>36.3</b>	196	36.5	197	36.2
436.cactusADM	148	80.9	<b>145</b>	<b>82.2</b>	145	82.4	148	80.9	<b>145</b>	<b>82.2</b>	145	82.4
437.leslie3d	<b>161</b>	<b>58.2</b>	161	58.2	161	58.3	<b>161</b>	<b>58.2</b>	161	58.2	161	58.3
444.namd	357	22.5	<b>357</b>	<b>22.5</b>	357	22.5	347	23.1	<b>347</b>	<b>23.1</b>	347	23.1
447.dealII	196	58.4	197	57.9	<b>196</b>	<b>58.4</b>	196	58.4	197	57.9	<b>196</b>	<b>58.4</b>
450.soplex	231	36.1	<b>230</b>	<b>36.2</b>	230	36.2	231	36.1	<b>230</b>	<b>36.2</b>	230	36.2
453.povray	<b>104</b>	<b>51.1</b>	103	51.7	105	50.6	96.3	55.2	<b>96.5</b>	<b>55.1</b>	96.5	55.1
454.calculix	177	46.7	177	46.7	<b>177</b>	<b>46.7</b>	177	46.7	177	46.7	<b>177</b>	<b>46.7</b>
459.GemsFDTD	<b>220</b>	<b>48.2</b>	220	48.1	220	48.2	<b>220</b>	<b>48.2</b>	220	48.1	220	48.2
465.tonto	249	39.5	<b>249</b>	<b>39.6</b>	248	39.6	241	40.9	<b>240</b>	<b>41.0</b>	240	41.0
470.lbm	<b>134</b>	<b>103</b>	134	102	134	103	<b>134</b>	<b>103</b>	134	102	134	103
481.wrf	159	70.2	<b>159</b>	<b>70.2</b>	159	70.2	159	70.2	<b>159</b>	<b>70.2</b>	159	70.2
482.sphinx3	426	45.7	423	46.0	<b>426</b>	<b>45.8</b>	<b>412</b>	<b>47.3</b>	410	47.5	413	47.2

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"

## Platform Notes

BIOS Settings:  
Energy Performance: Performance

## General Notes

Environment variables set by runspec before the start of the run:  
 KMP\_AFFINITY = "granularity=fine,compact,1,0"  
 LD\_LIBRARY\_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64:/home/cpu2006/sh"  
 OMP\_NUM\_THREADS = "2"

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## General Notes (Continued)

Added glibc-static-2.12-1.132.el6.x86\_64.rpm  
to enable static linking  
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.deallI: -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

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## Base Optimization Flags (Continued)

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  
-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: basepeak = yes

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

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## Peak Optimization Flags (Continued)

447.dealll: 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

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: basepeak = yes

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: basepeak = yes

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-ic14.0-official-linux64.20140128.html>  
<http://www.spec.org/cpu2006/flags/NEC-Platform-Settings-V1.2-R120-RevB.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml>  
<http://www.spec.org/cpu2006/flags/NEC-Platform-Settings-V1.2-R120-RevB.xml>



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For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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