



# SPEC® CFP2006 Result

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## NEC Corporation

SPECfp®2006 = **63.8**

### Express5800/T110i (Intel Celeron G3930)

SPECfp\_base2006 = **63.2**

CPU2006 license: 9006

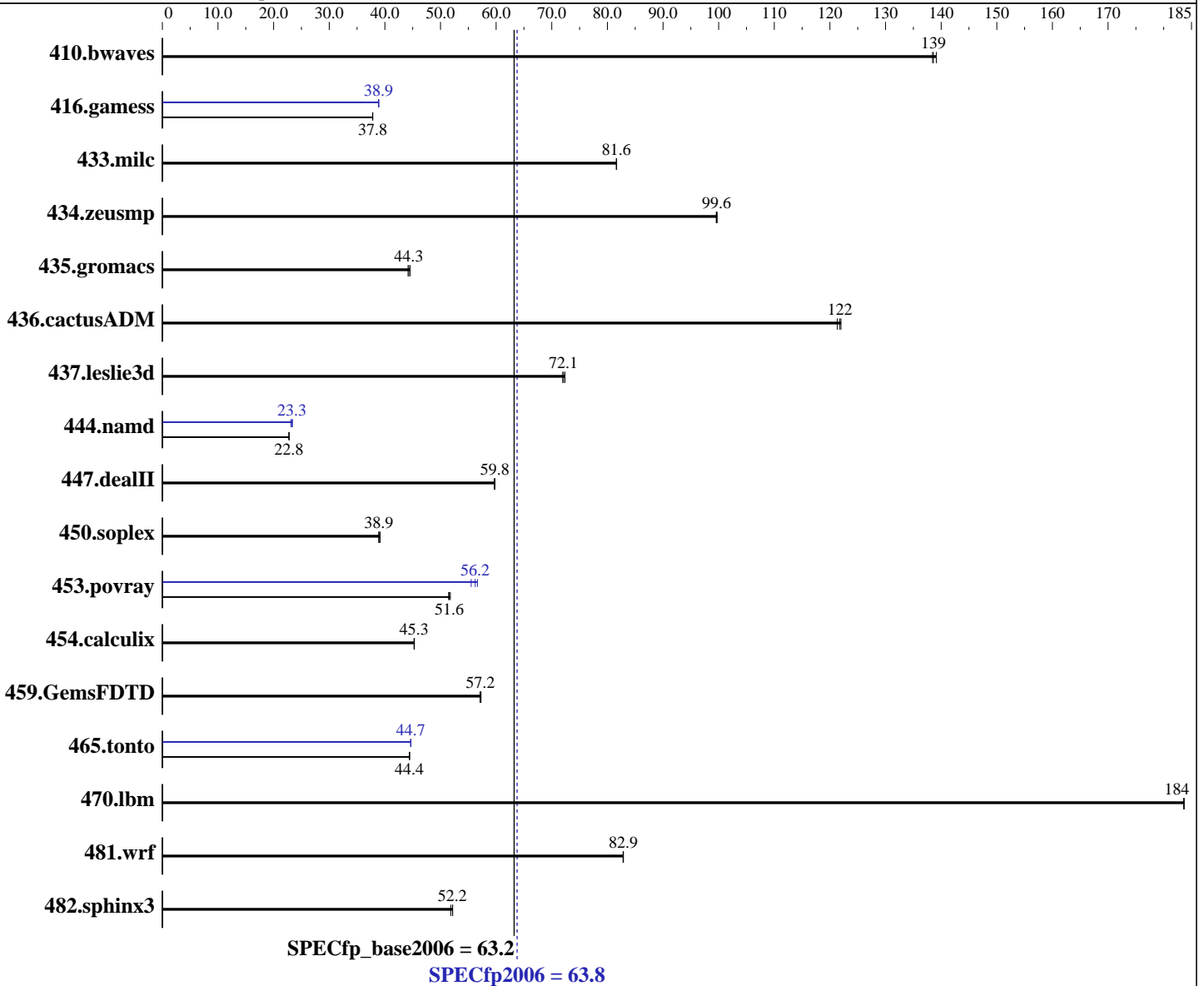
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: May-2017

Hardware Availability: Apr-2017

Software Availability: Jan-2017



**Hardware**

CPU Name: Intel Celeron G3930  
 CPU Characteristics:  
 CPU MHz: 2900  
 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 7.3 (Maipo)  
 Kernel 3.10.0-514.6.1.el7.x86\_64  
 Compiler: C/C++: Version 17.0.0.098 of Intel C/C++ Compiler for Linux;  
 Fortran: Version 17.0.0.098 of Intel Fortran Compiler for Linux  
 Auto Parallel: Yes  
 File System: ext4

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L3 Cache: 2 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 32 GB (2 x 16 GB 2Rx8 PC4-2400T-E, running at 2133 MHz)  
 Disk Subsystem: 1 x 1 TB 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	<b>98.0</b>	<b>139</b>	97.7	139	98.2	138	<b>98.0</b>	<b>139</b>	97.7	139	98.2	138
416.gamess	<b>518</b>	<b>37.8</b>	518	37.8	518	37.8	<b>504</b>	<b>38.9</b>	503	38.9	504	38.9
433.milc	<b>112</b>	<b>81.6</b>	112	81.7	112	81.6	<b>112</b>	<b>81.6</b>	112	81.7	112	81.6
434.zeusmp	<b>91.3</b>	<b>99.6</b>	91.2	99.7	91.4	99.6	<b>91.3</b>	<b>99.6</b>	91.2	99.7	91.4	99.6
435.gromacs	<b>161</b>	<b>44.3</b>	160	44.5	162	44.2	<b>161</b>	<b>44.3</b>	160	44.5	162	44.2
436.cactusADM	98.0	122	<b>98.1</b>	<b>122</b>	98.5	121	98.0	122	<b>98.1</b>	<b>122</b>	98.5	121
437.leslie3d	130	72.4	131	72.0	<b>130</b>	<b>72.1</b>	130	72.4	131	72.0	<b>130</b>	<b>72.1</b>
444.namd	352	22.8	352	22.8	<b>352</b>	<b>22.8</b>	343	23.4	<b>344</b>	<b>23.3</b>	347	23.1
447.dealII	<b>191</b>	<b>59.8</b>	191	59.8	192	59.7	<b>191</b>	<b>59.8</b>	191	59.8	192	59.7
450.soplex	213	39.1	<b>214</b>	<b>38.9</b>	214	38.9	213	39.1	<b>214</b>	<b>38.9</b>	214	38.9
453.povray	103	51.8	<b>103</b>	<b>51.6</b>	103	51.5	93.9	56.6	<b>94.6</b>	<b>56.2</b>	95.8	55.5
454.calculix	182	45.3	<b>182</b>	<b>45.3</b>	182	45.2	182	45.3	<b>182</b>	<b>45.3</b>	182	45.2
459.GemsFDTD	186	57.1	185	57.3	<b>186</b>	<b>57.2</b>	186	57.1	185	57.3	<b>186</b>	<b>57.2</b>
465.tonto	221	44.5	<b>222</b>	<b>44.4</b>	222	44.4	221	44.6	220	44.7	<b>220</b>	<b>44.7</b>
470.lbm	74.8	184	<b>74.8</b>	<b>184</b>	74.8	184	74.8	184	<b>74.8</b>	<b>184</b>	74.8	184
481.wrf	<b>135</b>	<b>82.9</b>	135	82.8	135	82.9	<b>135</b>	<b>82.9</b>	135	82.8	135	82.9
482.sphinx3	373	52.2	376	51.9	<b>374</b>	<b>52.2</b>	373	52.2	376	51.9	<b>374</b>	<b>52.2</b>

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:  
 Power Management Policy: Custom  
 Energy Performance: Performance



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## 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/sh10.2"

OMP\_NUM\_THREADS = "2"

Binaries compiled on a system with 1x Intel Core i7-4790 CPU + 32GB RAM  
memory using Redhat Enterprise Linux 7.2  
Transparent Huge Pages enabled by default.

## 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



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<b>CPU2006 license:</b> 9006	<b>Test date:</b> May-2017
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## Base Optimization Flags

C benchmarks:  
 -xSSE4.2 -ipo -O3 -no-prec-div -parallel -qopt-prefetch

C++ benchmarks:  
 -xSSE4.2 -ipo -O3 -no-prec-div -qopt-prefetch

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

Benchmarks using both Fortran and C:  
 -xSSE4.2 -ipo -O3 -no-prec-div -parallel -qopt-prefetch

## 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: basepeak = yes

C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.2(pass 2)  
 -par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
 -no-prec-div(pass 2) -fno-alias -auto-ilp32

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## Peak Optimization Flags (Continued)

447.dealII: basepeak = yes

450.soplex: basepeak = yes

453.povray: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.2(pass 2)  
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -unroll4 -ansi-alias

### Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.2(pass 2)  
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -unroll2 -inline-level=0 -scalar-rep-

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.2(pass 2)  
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -inline-calloc -qopt-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-ic17.0-official-linux64.html>  
<http://www.spec.org/cpu2006/flags/NEC-Platform-Settings-V1.2-110i-RevA.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic17.0-official-linux64.xml>  
<http://www.spec.org/cpu2006/flags/NEC-Platform-Settings-V1.2-110i-RevA.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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