



SPEC[®] CFP2006 Result

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NEC Corporation

SPECfp[®]_rate2006 = 94.0

Express5800/T110i (Intel Celeron G3930)

SPECfp_rate_base2006 = 93.0

CPU2006 license: 9006

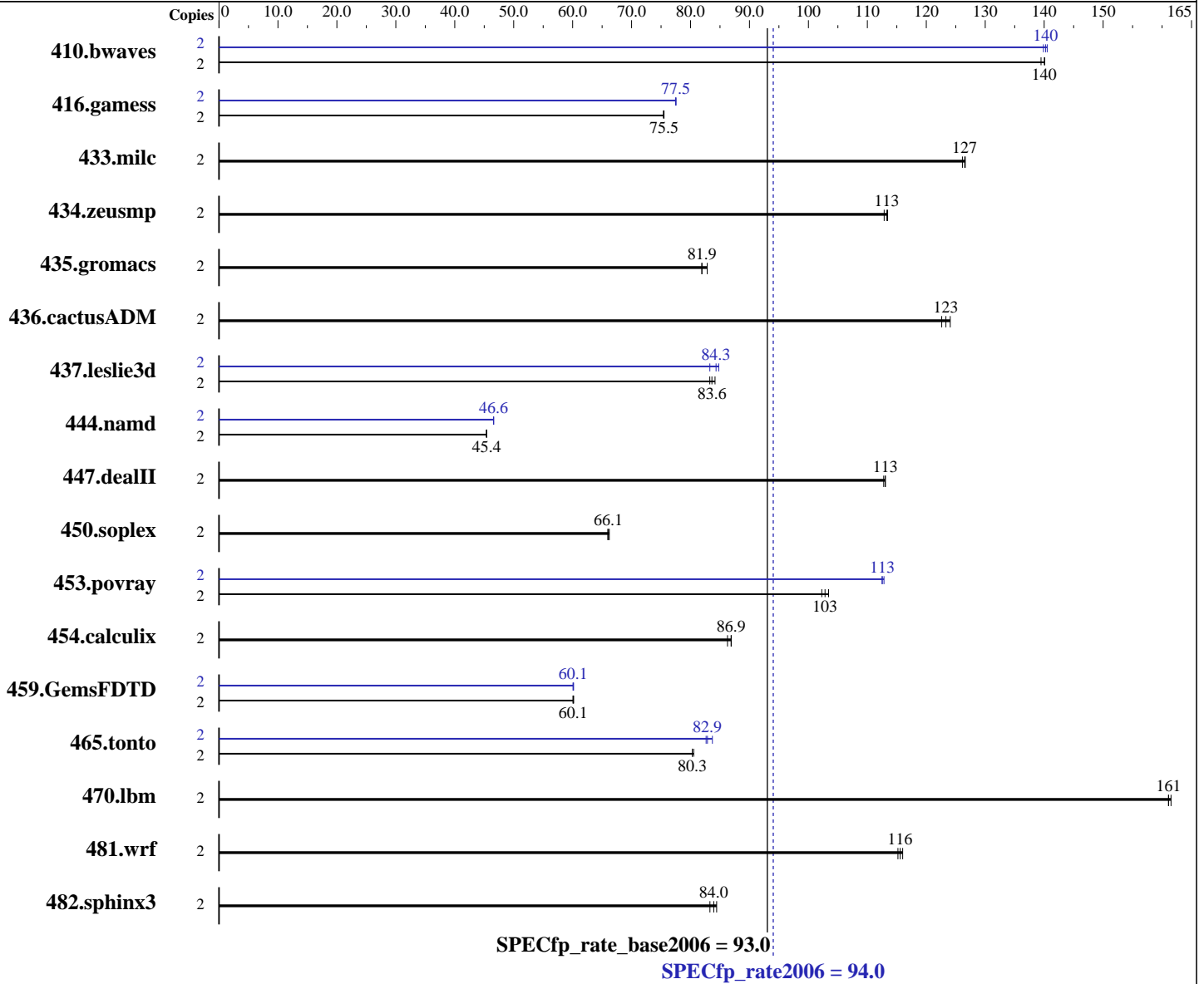
Test date: May-2017

Test sponsor: NEC Corporation

Hardware Availability: Apr-2017

Tested by: NEC Corporation

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

Continued on next page

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: No
 File System: ext4

Continued on next page



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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: 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	2	195	139	194	140	194	140	2	193	141	194	140	194	140
416.gamess	2	519	75.5	519	75.4	519	75.5	2	505	77.6	506	77.5	505	77.5
433.milc	2	145	127	145	127	146	126	2	145	127	145	127	146	126
434.zeusmp	2	161	113	161	113	160	113	2	161	113	161	113	160	113
435.gromacs	2	174	81.9	174	81.9	172	82.8	2	174	81.9	174	81.9	172	82.8
436.cactusADM	2	194	123	193	124	195	123	2	194	123	193	124	195	123
437.leslie3d	2	225	83.6	223	84.2	226	83.3	2	223	84.3	222	84.8	226	83.3
444.namd	2	354	45.3	353	45.4	353	45.4	2	344	46.6	344	46.6	344	46.6
447.dealII	2	202	113	202	113	203	113	2	202	113	202	113	203	113
450.soplex	2	253	66.0	252	66.2	252	66.1	2	253	66.0	252	66.2	252	66.1
453.povray	2	104	102	103	103	103	103	2	94.5	113	94.6	112	94.3	113
454.calculix	2	190	86.9	190	86.9	191	86.3	2	190	86.9	190	86.9	191	86.3
459.GemsFDTD	2	353	60.2	353	60.0	353	60.1	2	353	60.2	353	60.1	353	60.1
465.tonto	2	245	80.3	244	80.5	245	80.3	2	238	82.6	235	83.7	237	82.9
470.lbm	2	171	161	170	162	171	161	2	171	161	170	162	171	161
481.wrf	2	193	116	193	116	194	115	2	193	116	193	116	194	115
482.sphinx3	2	462	84.4	468	83.3	464	84.0	2	462	84.4	468	83.3	464	84.0

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"



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Platform Notes

BIOS Settings:

Power Management Policy: Custom

Energy Performance: Performance

General Notes

Environment variables set by runspec before the start of the run:

LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64:/home/cpu2006/sh10.2"

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.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



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Base Optimization Flags

C benchmarks:

```
-xSSE4.2 -ipo -O3 -no-prec-div -qopt-prefetch -auto-p32  
-qopt-mem-layout-trans=3
```

C++ benchmarks:

```
-xSSE4.2 -ipo -O3 -no-prec-div -qopt-prefetch -auto-p32  
-qopt-mem-layout-trans=3
```

Fortran benchmarks:

```
-xSSE4.2 -ipo -O3 -no-prec-div -qopt-prefetch
```

Benchmarks using both Fortran and C:

```
-xSSE4.2 -ipo -O3 -no-prec-div -qopt-prefetch -auto-p32  
-qopt-mem-layout-trans=3
```

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
```

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Peak Optimization Flags (Continued)

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
-qopt-mem-layout-trans=3

447.dealIII: 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 -qopt-mem-layout-trans=3

Fortran benchmarks:

410.bwaves: -xSSE4.2 -ipo -O3 -no-prec-div -qopt-prefetch

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: Same as 410.bwaves

459.GemsFDTD: Same as 410.bwaves

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

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>



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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 other inquiries, please contact webmaster@spec.org.

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