



# SPEC® CFP2006 Result

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## NEC Corporation

**SPECfp®2006 = 42.6**

### Express5800/B110d (Intel Pentium 1403)

**SPECfp\_base2006 = 41.8**

CPU2006 license: 9006

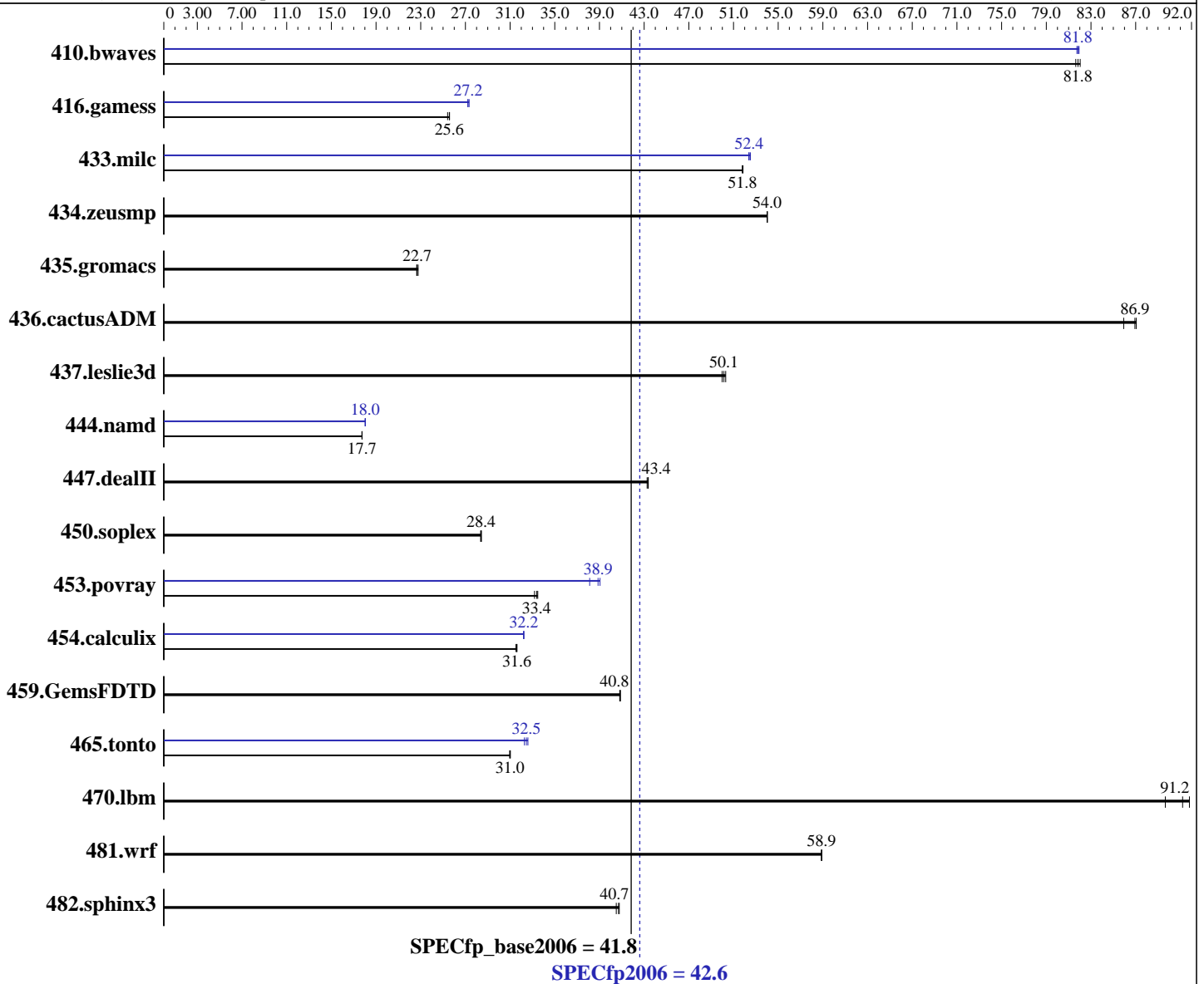
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Jul-2012

Hardware Availability: Jun-2012

Software Availability: Dec-2011



#### Hardware

CPU Name: Intel Pentium 1403  
 CPU Characteristics:  
 CPU MHz: 2600  
 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 6.2 (Santiago)  
 Kernel 2.6.32-220.el6.x86\_64  
 Compiler: C/C++: Version 12.1.2.273 of Intel C++ Studio XE for Linux;  
 Fortran: Version 12.1.2.273 of Intel Fortran Studio XE for Linux  
 Auto Parallel: Yes  
 File System: ext4

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L3 Cache: 5 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 48 GB (6 x 8 GB 2Rx4 PC3L-12800R-11, ECC, running at 1066 MHz and CL7)  
 Disk Subsystem: 1 x 500 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	<b>166</b>	<b>81.8</b>	166	81.6	166	82.0	166	81.7	<b>166</b>	<b>81.8</b>	166	81.9
416.gamess	765	25.6	<b>766</b>	<b>25.6</b>	771	25.4	716	27.3	<b>719</b>	<b>27.2</b>	719	27.2
433.milc	<b>177</b>	<b>51.8</b>	177	51.8	177	51.8	175	52.4	175	52.5	<b>175</b>	<b>52.4</b>
434.zeusmp	<b>168</b>	<b>54.0</b>	168	54.0	168	54.0	<b>168</b>	<b>54.0</b>	168	54.0	168	54.0
435.gromacs	314	22.8	<b>315</b>	<b>22.7</b>	315	22.6	314	22.8	<b>315</b>	<b>22.7</b>	315	22.6
436.cactusADM	137	87.1	<b>137</b>	<b>86.9</b>	139	85.9	137	87.1	<b>137</b>	<b>86.9</b>	139	85.9
437.leslie3d	188	50.0	187	50.3	<b>187</b>	<b>50.1</b>	188	50.0	<b>187</b>	<b>50.3</b>	<b>187</b>	<b>50.1</b>
444.namd	<b>452</b>	<b>17.7</b>	452	17.7	452	17.7	445	18.0	<b>445</b>	<b>18.0</b>	445	18.0
447.dealII	264	43.4	264	43.3	<b>264</b>	<b>43.4</b>	264	43.4	264	43.3	<b>264</b>	<b>43.4</b>
450.soplex	<b>294</b>	<b>28.4</b>	293	28.4	294	28.4	<b>294</b>	<b>28.4</b>	293	28.4	294	28.4
453.povray	159	33.5	<b>159</b>	<b>33.4</b>	160	33.2	136	39.1	<b>137</b>	<b>38.9</b>	140	38.1
454.calculix	261	31.6	<b>261</b>	<b>31.6</b>	262	31.5	256	32.2	256	32.2	<b>256</b>	<b>32.2</b>
459.GemsFDTD	<b>260</b>	<b>40.8</b>	260	40.8	260	40.9	<b>260</b>	<b>40.8</b>	260	40.8	260	40.9
465.tonto	<b>318</b>	<b>31.0</b>	318	31.0	317	31.0	305	32.3	<b>303</b>	<b>32.5</b>	302	32.6
470.lbm	153	89.7	150	91.8	<b>151</b>	<b>91.2</b>	153	89.7	150	91.8	<b>151</b>	<b>91.2</b>
481.wrf	190	58.9	190	58.9	<b>190</b>	<b>58.9</b>	190	58.9	190	58.9	<b>190</b>	<b>58.9</b>
482.sphinx3	481	40.5	<b>479</b>	<b>40.7</b>	478	40.8	481	40.5	<b>479</b>	<b>40.7</b>	478	40.8

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"  
 OMP\_NUM\_THREADS = "2"

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## General Notes (Continued)

Added glibc-static-2.12-1.47.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.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 -parallel -opt-prefetch  
-ansi-alias

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## Base Optimization Flags (Continued)

C++ benchmarks:

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

Fortran benchmarks:

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

Benchmarks using both Fortran and C:

-xAVX -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: -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  
-ansi-alias

470.lbm: basepeak = yes

482.sphinx3: basepeak = yes

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

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## Peak Optimization Flags (Continued)

447.dealII: basepeak = yes

450.soplex: basepeak = yes

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 -ipo -O3 -no-prec-div -opt-prefetch -parallel  
-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: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: -xAVX(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: -xAVX -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias

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-ic12.1-official-linux64.20120425.html>  
<http://www.spec.org/cpu2006/flags/NEC-Platform-Settings-V1.2-R120d-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-linux64.20120425.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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