# SPEC® CFP2006 Result

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## NEC Corporation

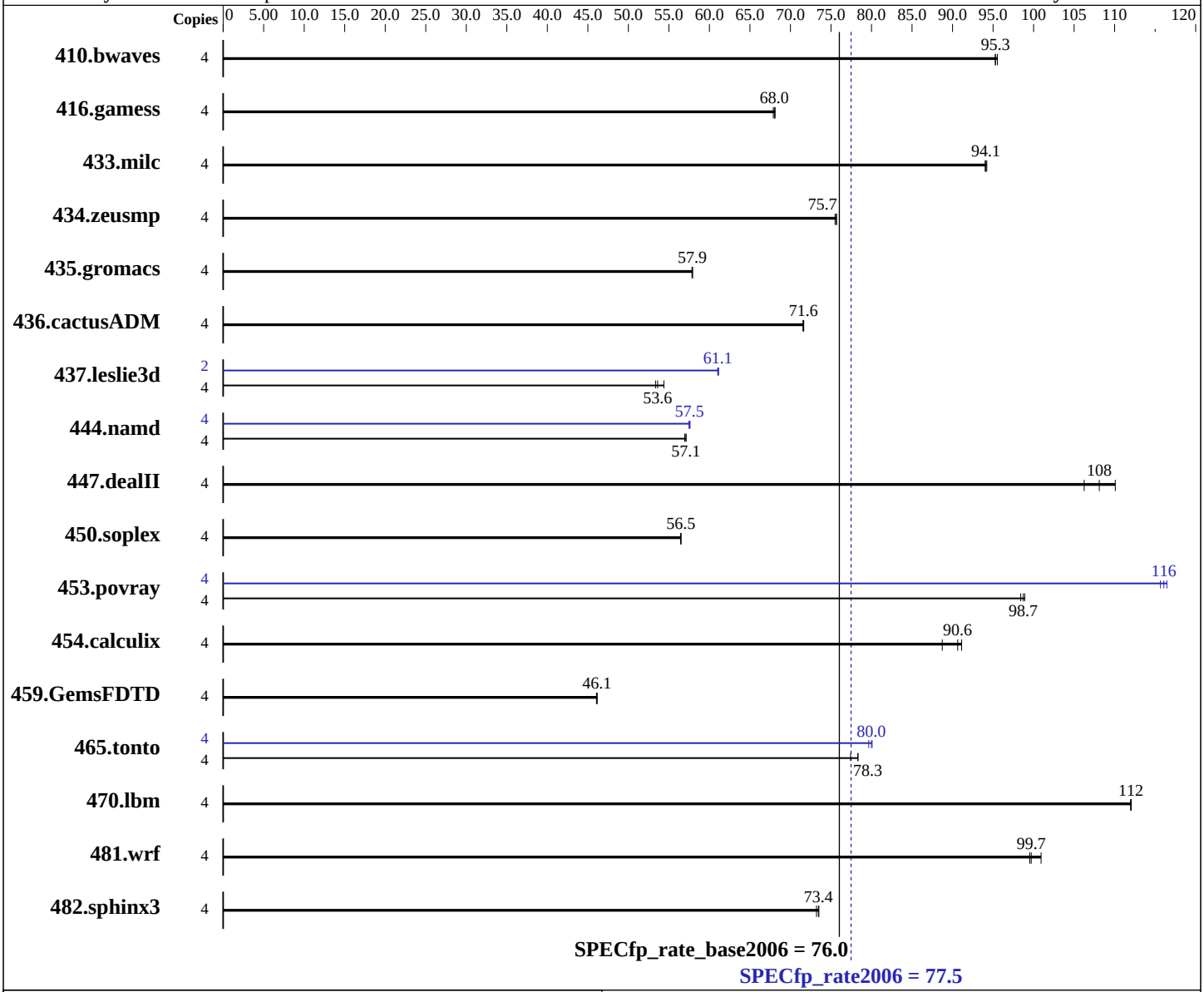
## Express5800/GT110d-S (Intel Core i3-2120)

**SPECfp®_rate2006 = 77.5**

**SPECfp_rate_base2006 = 76.0**

**CPU2006 license:** 9006
**Test sponsor:** NEC Corporation
**Tested by:** NEC Corporation

**Test date:** Sep-2011
**Hardware Availability:** Jun-2011
**Software Availability:** Mar-2011




### Hardware

| | |
|---|---|
| CPU Name: | Intel Core i3-2120 |
| CPU Characteristics: | |
| CPU MHz: | 3300 |
| FPU: | Integrated |
| CPU(s) enabled: | 2 cores, 1 chip, 2 cores/chip, 2 threads/core |
| 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: | SUSE Linux Enterprise Server 11 SP1 (x86_64), Kernel 2.6.32.12-0.7-default |
| Compiler: | Intel C++ and Fortran Intel 64 Compiler XE for applications running on Intel 64, Version 12.0.3.174 Build 20110309 |
| Auto Parallel: | No |
| File System: | ext3 |
| System State: | Run level 3 (multi-user) |
| Base Pointers: | 64-bit |

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L3 Cache: 3 MB I+D on chip per chip
Other Cache: None
Memory: 8 GB (2 x 4 GB 2Rx8 PC3-10600E-9, ECC)
Disk Subsystem: 1 x 160 GB SATA, 7200 RPM
Other Hardware: None

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 | 4 | 569 | 95.5 | **570** | **95.3** | 571 | 95.3 | 4 | 569 | 95.5 | **570** | **95.3** | 571 | 95.3 |
| 416.gamess | 4 | **1152** | **68.0** | 1154 | 67.9 | 1150 | 68.1 | 4 | **1152** | **68.0** | 1154 | 67.9 | 1150 | 68.1 |
| 433.milc | 4 | 390 | 94.2 | 391 | 94.0 | **390** | **94.1** | 4 | 390 | 94.2 | 391 | 94.0 | **390** | **94.1** |
| 434.zeusmp | 4 | 481 | 75.7 | 482 | 75.5 | **481** | **75.7** | 4 | 481 | 75.7 | 482 | 75.5 | **481** | **75.7** |
| 435.gromacs | 4 | 494 | 57.8 | **493** | **57.9** | 493 | 57.9 | 4 | 494 | 57.8 | **493** | **57.9** | 493 | 57.9 |
| 436.cactusADM | 4 | 668 | 71.5 | 667 | 71.6 | **668** | **71.6** | 4 | 668 | 71.5 | 667 | 71.6 | **668** | **71.6** |
| 437.leslie3d | 4 | 691 | 54.4 | 705 | 53.3 | **701** | **53.6** | 2 | 308 | 61.0 | 308 | 61.1 | **308** | **61.1** |
| 444.namd | 4 | 562 | 57.1 | 563 | 56.9 | **562** | **57.1** | 4 | 557 | 57.6 | 558 | 57.5 | **558** | **57.5** |
| 447.dealII | 4 | 431 | 106 | **423** | **108** | 416 | 110 | 4 | 431 | 106 | **423** | **108** | 416 | 110 |
| 450.soplex | 4 | 591 | 56.5 | **591** | **56.5** | 591 | 56.5 | 4 | 591 | 56.5 | **591** | **56.5** | 591 | 56.5 |
| 453.povray | 4 | **216** | **98.7** | 215 | 98.9 | 216 | 98.4 | 4 | 183 | 116 | **183** | **116** | 184 | 116 |
| 454.calculix | 4 | **364** | **90.6** | 362 | 91.1 | 372 | 88.7 | 4 | **364** | **90.6** | 362 | 91.1 | 372 | 88.7 |
| 459.GemsFDTD | 4 | 921 | 46.1 | **920** | **46.1** | 920 | 46.2 | 4 | 921 | 46.1 | **920** | **46.1** | 920 | 46.2 |
| 465.tonto | 4 | **503** | **78.3** | 502 | 78.3 | 508 | 77.4 | 4 | 494 | 79.7 | **492** | **80.0** | 492 | 80.1 |
| 470.lbm | 4 | 490 | 112 | **491** | **112** | 491 | 112 | 4 | 490 | 112 | **491** | **112** | 491 | 112 |
| 481.wrf | 4 | 443 | 101 | **448** | **99.7** | 449 | 99.5 | 4 | 443 | 101 | **448** | **99.7** | 449 | 99.5 |
| 482.sphinx3 | 4 | 1065 | 73.2 | **1061** | **73.4** | 1061 | 73.5 | 4 | 1065 | 73.2 | **1061** | **73.4** | 1061 | 73.5 |

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## Submit Notes

```
The config file option 'submit' was used.
 numactl was used to bind copies to the cores
```

## Operating System Notes

```
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
Huge pages were not configured for this run
```

## Platform Notes

```
Default BIOS settings were used.
```

## 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 -ansi-alias

C++ benchmarks:
-xAVX -ipo -O3 -no-prec-div -static -ansi-alias

Fortran benchmarks:
-xAVX -ipo -O3 -no-prec-div -static

Benchmarks using both Fortran and C:
-xAVX -ipo -O3 -no-prec-div -static -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: 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

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 -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: basepeak = yes

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## Peak Optimization Flags (Continued)

434.zeusmp: basepeak = yes

437.leslie3d: -xAVX -ipo -O3 -no-prec-div
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

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) -unroll4 -auto
-inline-calloc -opt-malloc-options=3
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

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-ic12.0-linux64-revB.html
http://www.spec.org/cpu2006/flags/NEC-Intel-Linux-Settings-flags-revF.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.xml
http://www.spec.org/cpu2006/flags/NEC-Intel-Linux-Settings-flags-revF.xml


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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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