



# SPEC® CFP2006 Result

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## NEC Corporation

Express5800/120Bb-m6  
(Intel Xeon processor 5130)

SPECfp®\_rate2006 = 36.7

SPECfp\_rate\_base2006 = 35.7

CPU2006 license: 9006

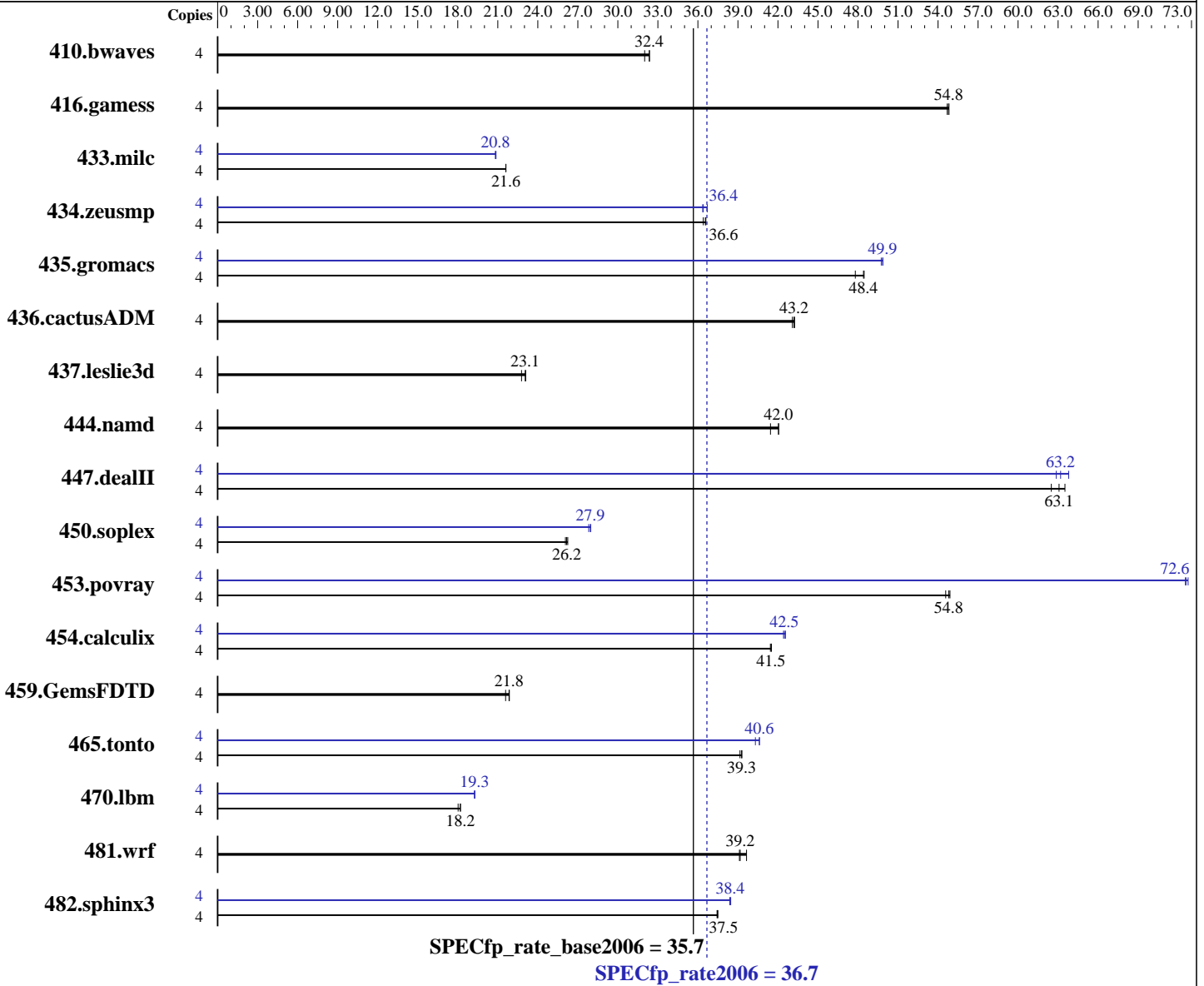
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Sep-2007

Hardware Availability: Jan-2007

Software Availability: Apr-2007



### Hardware

CPU Name: Intel Xeon 5130  
 CPU Characteristics: 2.00 GHz, 4MB L2, 1333MHz bus  
 CPU MHz: 2000  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip  
 CPU(s) orderable: 1,2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 4 MB I+D on chip per chip

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### Software

Operating System: 64-Bit SUSE LINUX Enterprise Server 10, Kernel 2.6.16.21-0.8-smp on an x86\_64  
 Compiler: Intel C++ Compiler for IA32/EM64T application, Version 9.1 - Build 20070320, Package-ID: l\_cc\_c\_9.1.049  
 Intel Fortran Compiler for IA32/EM64T application, Version 9.1 - Build 20070320, Package ID: l\_fc\_c\_9.1.045  
 Auto Parallel: No  
 File System: ext2

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L3 Cache: None  
Other Cache: None  
Memory: 8 GB (8x1 GB PC2-5300F, 2 rank, CL5-5-5, ECC)  
Disk Subsystem: 1x73.2 GB SAS, 10000RPM  
Other Hardware: None

System State: Multiuser, Runlevel 3  
Base Pointers: 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	4	1679	32.4	1698	32.0	<b>1680</b>	<b>32.4</b>	4	1679	32.4	1698	32.0	<b>1680</b>	<b>32.4</b>
416.gamess	4	<b>1430</b>	<b>54.8</b>	1429	54.8	1432	54.7	4	<b>1430</b>	<b>54.8</b>	1429	54.8	1432	54.7
433.milc	4	1700	21.6	<b>1700</b>	<b>21.6</b>	1699	21.6	4	1760	20.9	<b>1763</b>	<b>20.8</b>	1763	20.8
434.zeusmp	4	1000	36.4	<b>996</b>	<b>36.6</b>	995	36.6	4	<b>1000</b>	<b>36.4</b>	1001	36.4	992	36.7
435.gromacs	4	597	47.8	<b>590</b>	<b>48.4</b>	589	48.5	4	574	49.7	<b>573</b>	<b>49.9</b>	573	49.9
436.cactusADM	4	1110	43.1	1105	43.2	<b>1106</b>	<b>43.2</b>	4	1110	43.1	1105	43.2	<b>1106</b>	<b>43.2</b>
437.leslie3d	4	1651	22.8	<b>1631</b>	<b>23.1</b>	1628	23.1	4	1651	22.8	<b>1631</b>	<b>23.1</b>	1628	23.1
444.namd	4	774	41.4	<b>763</b>	<b>42.0</b>	763	42.0	4	774	41.4	<b>763</b>	<b>42.0</b>	763	42.0
447.dealII	4	732	62.5	720	63.5	<b>726</b>	<b>63.1</b>	4	717	63.8	<b>724</b>	<b>63.2</b>	728	62.9
450.soplex	4	1280	26.1	<b>1275</b>	<b>26.2</b>	1271	26.2	4	1199	27.8	<b>1194</b>	<b>27.9</b>	1193	28.0
453.povray	4	390	54.6	388	54.9	<b>388</b>	<b>54.8</b>	4	293	72.7	293	72.5	<b>293</b>	<b>72.6</b>
454.calculix	4	<b>795</b>	<b>41.5</b>	795	41.5	796	41.4	4	775	42.6	<b>777</b>	<b>42.5</b>	778	42.4
459.GemsFDTD	4	<b>1943</b>	<b>21.8</b>	1941	21.9	1966	21.6	4	<b>1943</b>	<b>21.8</b>	1941	21.9	1966	21.6
465.tonto	4	<b>1002</b>	<b>39.3</b>	1002	39.3	1005	39.2	4	976	40.3	969	40.6	<b>969</b>	<b>40.6</b>
470.lbm	4	<b>3021</b>	<b>18.2</b>	3020	18.2	3049	18.0	4	<b>2853</b>	<b>19.3</b>	2852	19.3	2854	19.3
481.wrf	4	1142	39.1	1127	39.6	<b>1141</b>	<b>39.2</b>	4	1142	39.1	1127	39.6	<b>1141</b>	<b>39.2</b>
482.sphinx3	4	2083	37.4	<b>2081</b>	<b>37.5</b>	2079	37.5	4	2031	38.4	2027	38.5	<b>2029</b>	<b>38.4</b>

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

## Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run  
'/usr/bin/taskset' used to bind processes to CPUs

## General Notes

The system bus runs at 1333 MHz  
All binaries were built with 64-bit Intel compiler except:  
433.milc, 434.zeusmp, 450.soplex, 470.lbm and 482.sphinx3 in peak were built with  
32-bit Intel compiler by changing the path for include and library files.



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**Hardware Availability:** Jan-2007  
**Software Availability:** Apr-2007

## Base Compiler Invocation

C benchmarks:  
icc  
  
C++ benchmarks:  
icpc  
  
Fortran benchmarks:  
ifort  
  
Benchmarks using both Fortran and C:  
icc ifort

## 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:  
-fast  
  
C++ benchmarks:  
-fast  
  
Fortran benchmarks:  
-fast  
  
Benchmarks using both Fortran and C:  
-fast



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## Peak Compiler Invocation

C benchmarks:

```
/opt/intel/cc/9.1.049/bin/icc -I/opt/intel/cc/9.1.049/include
-L/opt/intel/cc/9.1.049/lib
```

C++ benchmarks (except as noted below):

icpc

```
450.soplex: /opt/intel/cc/9.1.049/bin/icpc
-I/opt/intel/cc/9.1.049/include -L/opt/intel/cc/9.1.049/lib
```

Fortran benchmarks (except as noted below):

ifort

```
434.zeusmp: /opt/intel/fc/9.1.045/bin/ifort
-I/opt/intel/fc/9.1.045/include -L/opt/intel/fc/9.1.045/lib
```

Benchmarks using both Fortran and C:

icc ifort

## Peak Portability Flags

```
410.bwaves: -DSPEC_CPU_LP64
416.gamess: -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
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64 -nofor_main
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
```

## Peak Optimization Flags

C benchmarks:

```
433.milc: -prof_gen(pass 1) -prof_use(pass 2) -fast
```

```
470.lbm: Same as 433.milc
```

```
482.sphinx3: -fast
```

C++ benchmarks:

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## Peak Optimization Flags (Continued)

444.namd: basepeak = yes

447.dealII: -prof\_gen(pass 1) -prof\_use(pass 2) -fast

450.soplex: Same as 447.dealII

453.povray: Same as 447.dealII

### Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: basepeak = yes

434.zeusmp: -fast

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: -prof\_gen(pass 1) -prof\_use(pass 2) -fast

### Benchmarks using both Fortran and C:

435.gromacs: -prof\_gen(pass 1) -prof\_use(pass 2) -fast

436.cactusADM: basepeak = yes

454.calculix: Same as 435.gromacs

481.wrf: basepeak = yes

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/NEC-ic91-FP-linux-flags.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/NEC-ic91-FP-linux-flags.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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