



# SPEC<sup>®</sup> CFP2006 Result

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## NEC Corporation

T120Rc-1  
(Intel Xeon X5260)

SPECfp<sup>®</sup>2006 = 23.6

SPECfp\_base2006 = 20.2

CPU2006 license: 9006

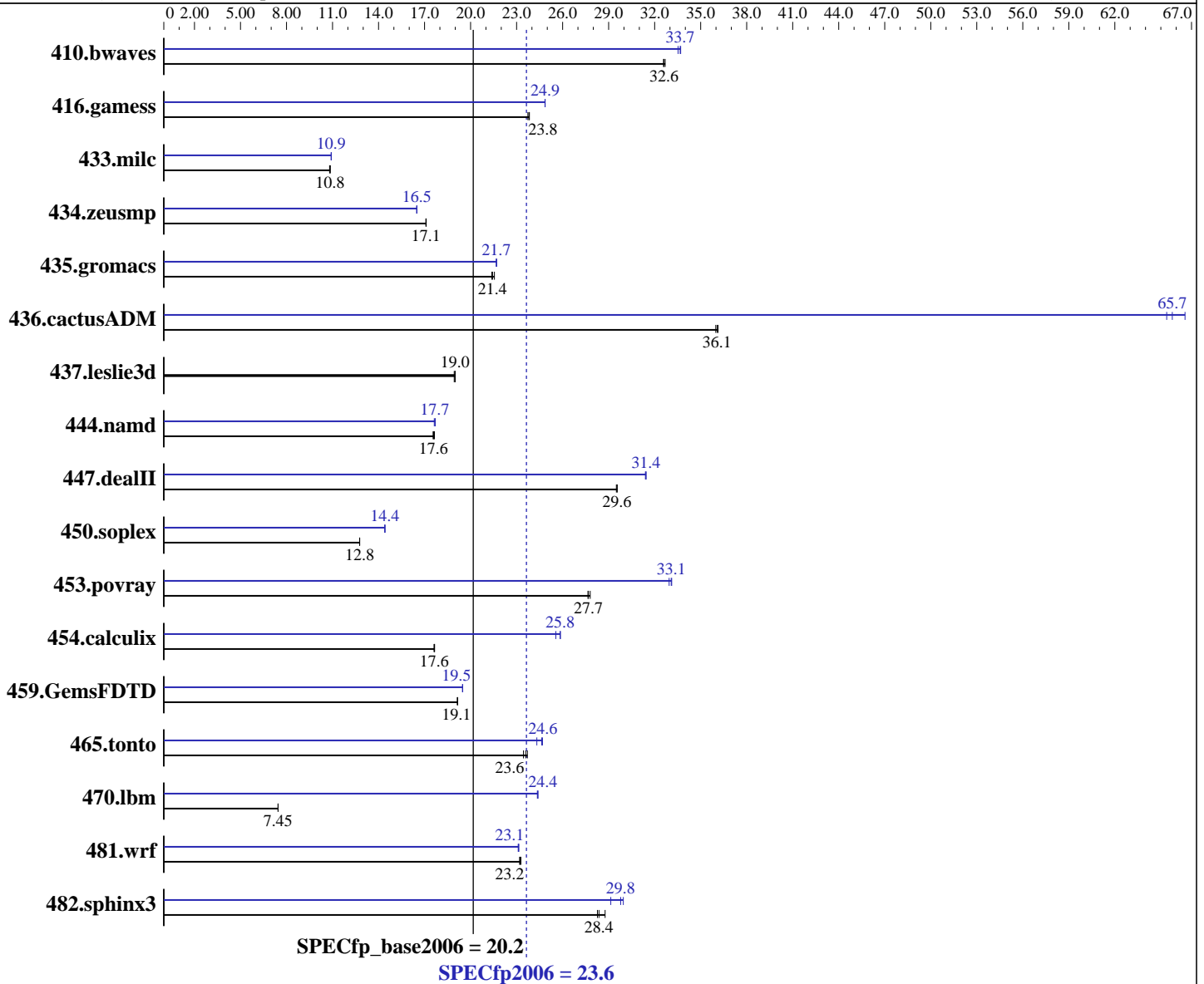
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Feb-2008

Hardware Availability: Jan-2008

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon X5260  
 CPU Characteristics: 3.33 GHz, 6 MB L2, 1333 MHz bus  
 CPU MHz: 3333  
 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: 6 MB I+D on chip per chip

Continued on next page

### Software

Operating System: SUSE Linux Enterprise Server 10 (x86\_64) SP1, Kernel 2.6.16.46-0.12-smpp  
 Compiler: Intel C++ and Fortran Compiler for Linux32 and Linux64 version 10.1 Build 20070913 Package ID: l\_cc\_p\_10.1.008, l\_fc\_p\_10.1.008  
 Auto Parallel: Yes  
 File System: ext2

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L3 Cache: None  
Other Cache: None  
Memory: 12 GB (12x1 GB PC2-5300F, 2 rank, CL5-5-5, ECC)  
Disk Subsystem: 1x250 GB SATA, 7200RPM  
Other Hardware: None

System State: Run level 3 (multi-user)  
Base Pointers: 64-bit  
Peak Pointers: 32/64-bit  
Other Software: binutils-2.17.tar.gz, Version 2.17

## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	416	32.7	<b>417</b>	<b>32.6</b>	417	32.6	405	33.5	403	33.7	<b>404</b>	<b>33.7</b>
416.gamess	821	23.8	<b>823</b>	<b>23.8</b>	825	23.7	788	24.8	788	24.9	<b>788</b>	<b>24.9</b>
433.milc	849	10.8	846	10.9	<b>847</b>	<b>10.8</b>	841	10.9	<b>841</b>	<b>10.9</b>	841	10.9
434.zeusmp	532	17.1	<b>532</b>	<b>17.1</b>	532	17.1	551	16.5	<b>552</b>	<b>16.5</b>	552	16.5
435.gromacs	<b>333</b>	<b>21.4</b>	331	21.6	334	21.4	<b>329</b>	<b>21.7</b>	329	21.7	329	21.7
436.cactusADM	332	36.0	<b>331</b>	<b>36.1</b>	331	36.1	179	66.6	<b>182</b>	<b>65.7</b>	183	65.4
437.leslie3d	<b>495</b>	<b>19.0</b>	497	18.9	495	19.0	<b>495</b>	<b>19.0</b>	497	18.9	495	19.0
444.namd	455	17.6	<b>456</b>	<b>17.6</b>	457	17.6	453	17.7	<b>454</b>	<b>17.7</b>	455	17.6
447.dealII	388	29.5	<b>387</b>	<b>29.6</b>	387	29.6	364	31.4	<b>364</b>	<b>31.4</b>	364	31.4
450.soplex	653	12.8	<b>653</b>	<b>12.8</b>	653	12.8	<b>579</b>	<b>14.4</b>	579	14.4	578	14.4
453.povray	191	27.8	<b>192</b>	<b>27.7</b>	192	27.7	161	32.9	<b>161</b>	<b>33.1</b>	161	33.1
454.calculix	<b>468</b>	<b>17.6</b>	468	17.6	467	17.7	323	25.6	319	25.9	<b>319</b>	<b>25.8</b>
459.GemsFDTD	<b>554</b>	<b>19.1</b>	554	19.2	554	19.1	545	19.5	<b>545</b>	<b>19.5</b>	545	19.5
465.tonto	415	23.7	420	23.4	<b>417</b>	<b>23.6</b>	<b>399</b>	<b>24.6</b>	405	24.3	399	24.7
470.lbm	1844	7.45	<b>1844</b>	<b>7.45</b>	1846	7.44	<b>563</b>	<b>24.4</b>	563	24.4	564	24.4
481.wrf	<b>481</b>	<b>23.2</b>	480	23.3	482	23.2	483	23.1	483	23.1	<b>483</b>	<b>23.1</b>
482.sphinx3	<b>687</b>	<b>28.4</b>	677	28.8	689	28.3	669	29.1	<b>654</b>	<b>29.8</b>	651	30.0

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  
OMP\_NUM\_THREADS set to number of cores

## Platform Notes

Bios settings:  
Intel SpeedStep Technology: Disabled

## General Notes

All benchmarks compiled in 64-bit mode except 450.soplex,  
470.lbm and 482.sphinx3, for peak, are compiled in 32-bit mode



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## 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 -parallel

C++ benchmarks:

-fast -parallel

Fortran benchmarks:

-fast -parallel

Benchmarks using both Fortran and C:

-fast -parallel



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## Peak Compiler Invocation

C benchmarks (except as noted below):

```
/opt/intel/cc/10.1.008/bin/icc -L/opt/intel/cc/10.1.008/lib
-I/opt/intel/cc/10.1.008/include
```

```
433.milc: icc
```

C++ benchmarks (except as noted below):

```
icpc
```

```
450.soplex: /opt/intel/cc/10.1.008/bin/icpc -L/opt/intel/cc/10.1.008/lib
-I/opt/intel/cc/10.1.008/include
```

Fortran benchmarks:

```
ifort
```

Benchmarks using both Fortran and C:

```
icc ifort
```

## Peak 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
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 -fno-alias
-auto-ilp32
```

```
470.lbm: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-scalar-req- -prefetch -opt-malloc-options=3
```

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## Peak Optimization Flags (Continued)

482.sphinx3: -fast -unroll2

### C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias  
-auto-ilp32

447.dealIII: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2  
-ansi-alias -scalar-rep-

450.soplex: -prof-gen(pass 1) -prof-use(pass 2) -fast  
-opt-malloc-options=3

453.povray: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4  
-ansi-alias

### Fortran benchmarks:

410.bwaves: -fast -prefetch -parallel

416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0  
-ansi-alias -scalar-rep-

434.zeusmp: -prof-gen(pass 1) -prof-use(pass 2) -fast

437.leslie3d: basepeak = yes

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0  
-prefetch -parallel

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -auto

### Benchmarks using both Fortran and C:

435.gromacs: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch  
-auto-ilp32

436.cactusADM: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2  
-prefetch -parallel -auto-ilp32

454.calculix: -fast -unroll-aggressive -auto-ilp32

481.wrf: -fast -parallel -prefetch -auto-ilp32

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

<http://www.spec.org/cpu2006/flags/NEC-Intel-ic10.1-FP-intel64-linux-flags.20090713.html>

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

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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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