



# SPEC® CFP2006 Result

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## NEC Corporation

Express5800/110Rh-1  
(Intel Xeon processor 3060)

SPECfp®2006 = 15.4

SPECfp\_base2006 = 15.1

CPU2006 license: 9006

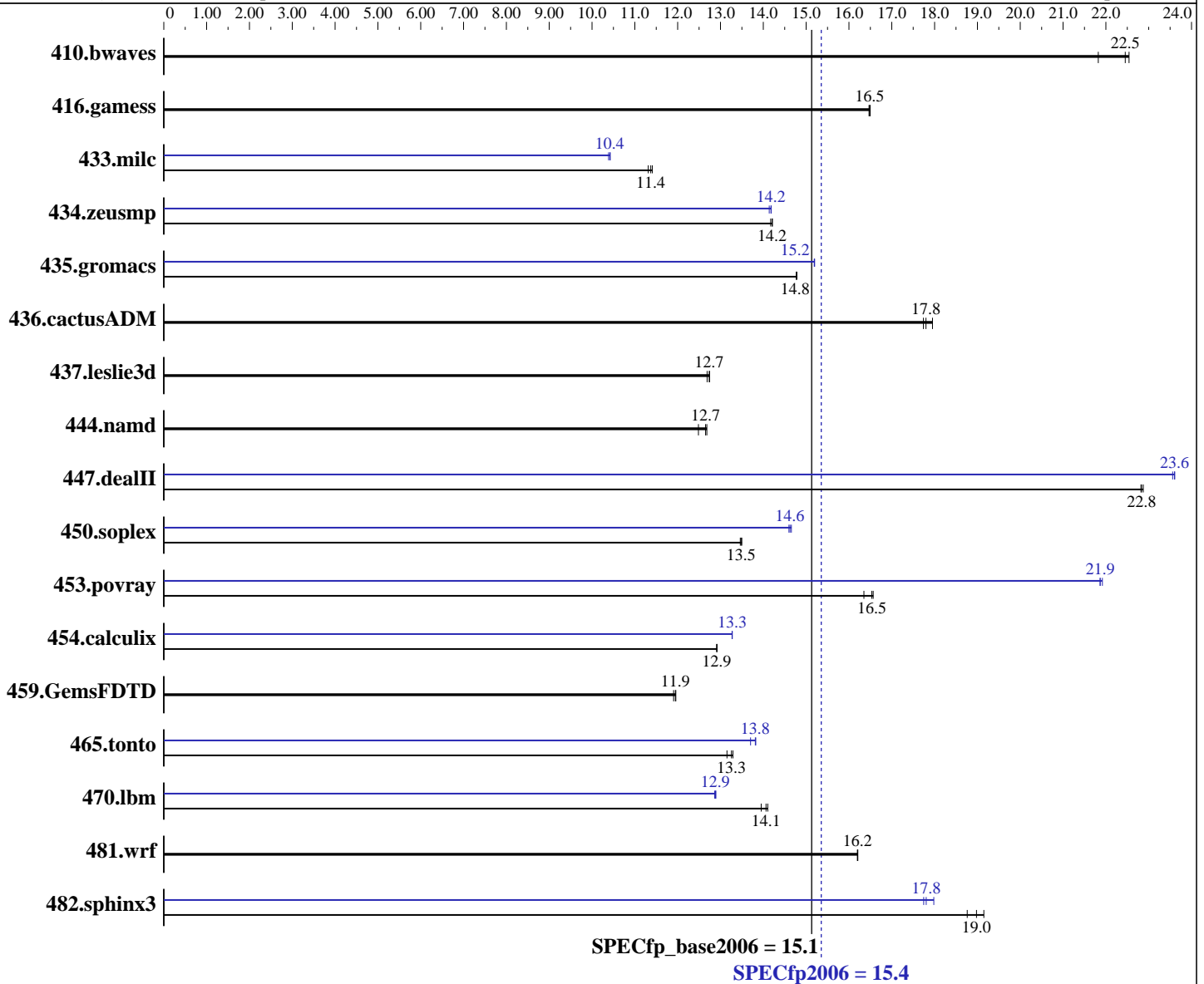
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Nov-2007

Hardware Availability: Nov-2006

Software Availability: Apr-2007



### Hardware

CPU Name: Intel Xeon 3060  
 CPU Characteristics: 2.40 GHz, 4 MB L2, 1066 MHz bus  
 CPU MHz: 2400  
 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: 4 MB I+D on chip per chip

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### Software

Operating System: SUSE Linux Enterprise Server 10 (x86\_64),  
Kernel 2.6.16.21-0.8-smp  
 Compiler: Intel C++ Compiler for Linux32 and Linux64  
version 9.1 Build 20070320 Package ID:  
l\_cc\_c\_9.1.049  
Intel Fortran Compiler for Linux32 and Linux64  
version 9.1 Build 20070320 Package ID:  
l\_fc\_c\_9.1.045  
 Auto Parallel: No

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L3 Cache: None  
Other Cache: None  
Memory: 4 GB (4x1 GB PC2-5300E, 2 rank, CL5-5-5, ECC)  
Disk Subsystem: 1x80 GB SATAII, 7200RPM  
Other Hardware: None

File System: ext2  
System State: Multiuser, Runlevel 3  
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	623	21.8	<b>605</b>	<b>22.5</b>	603	22.5	623	21.8	<b>605</b>	<b>22.5</b>	603	22.5
416.gamess	1189	16.5	1187	16.5	<b>1188</b>	<b>16.5</b>	1189	16.5	1187	16.5	<b>1188</b>	<b>16.5</b>
433.milc	811	11.3	<b>807</b>	<b>11.4</b>	805	11.4	884	10.4	<b>881</b>	<b>10.4</b>	881	10.4
434.zeusmp	642	14.2	640	14.2	<b>640</b>	<b>14.2</b>	642	14.2	<b>642</b>	<b>14.2</b>	644	14.1
435.gromacs	<b>483</b>	<b>14.8</b>	483	14.8	483	14.8	<b>470</b>	<b>15.2</b>	470	15.2	470	15.2
436.cactusADM	666	18.0	674	17.7	<b>671</b>	<b>17.8</b>	666	18.0	674	17.7	<b>671</b>	<b>17.8</b>
437.leslie3d	741	12.7	<b>738</b>	<b>12.7</b>	738	12.7	741	12.7	<b>738</b>	<b>12.7</b>	738	12.7
444.namd	<b>634</b>	<b>12.7</b>	642	12.5	632	12.7	<b>634</b>	<b>12.7</b>	642	12.5	632	12.7
447.dealII	500	22.9	501	22.8	<b>501</b>	<b>22.8</b>	486	23.6	485	23.6	<b>485</b>	<b>23.6</b>
450.soplex	620	13.5	618	13.5	<b>619</b>	<b>13.5</b>	571	14.6	<b>570</b>	<b>14.6</b>	569	14.7
453.povray	321	16.6	325	16.3	<b>322</b>	<b>16.5</b>	243	21.9	243	21.9	<b>243</b>	<b>21.9</b>
454.calculix	639	12.9	<b>639</b>	<b>12.9</b>	639	12.9	622	13.3	<b>622</b>	<b>13.3</b>	621	13.3
459.GemsFDTD	891	11.9	<b>888</b>	<b>11.9</b>	887	12.0	891	11.9	<b>888</b>	<b>11.9</b>	887	12.0
465.tonto	748	13.2	740	13.3	<b>742</b>	<b>13.3</b>	712	13.8	<b>712</b>	<b>13.8</b>	718	13.7
470.lbm	985	14.0	974	14.1	<b>977</b>	<b>14.1</b>	1068	12.9	<b>1067</b>	<b>12.9</b>	1066	12.9
481.wrf	690	16.2	689	16.2	<b>689</b>	<b>16.2</b>	690	16.2	689	16.2	<b>689</b>	<b>16.2</b>
482.sphinx3	1039	18.8	1018	19.2	<b>1027</b>	<b>19.0</b>	1098	17.7	<b>1095</b>	<b>17.8</b>	1084	18.0

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

## General Notes

The system bus runs at 1066 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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## 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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