



# SPEC<sup>®</sup> CFP2006 Result

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## NEC Corporation

Express5800/120Bb-6  
(Intel Xeon processor E5345)

SPECfp<sup>®</sup>2006 = 15.0

SPECfp\_base2006 = 14.7

CPU2006 license: 9006

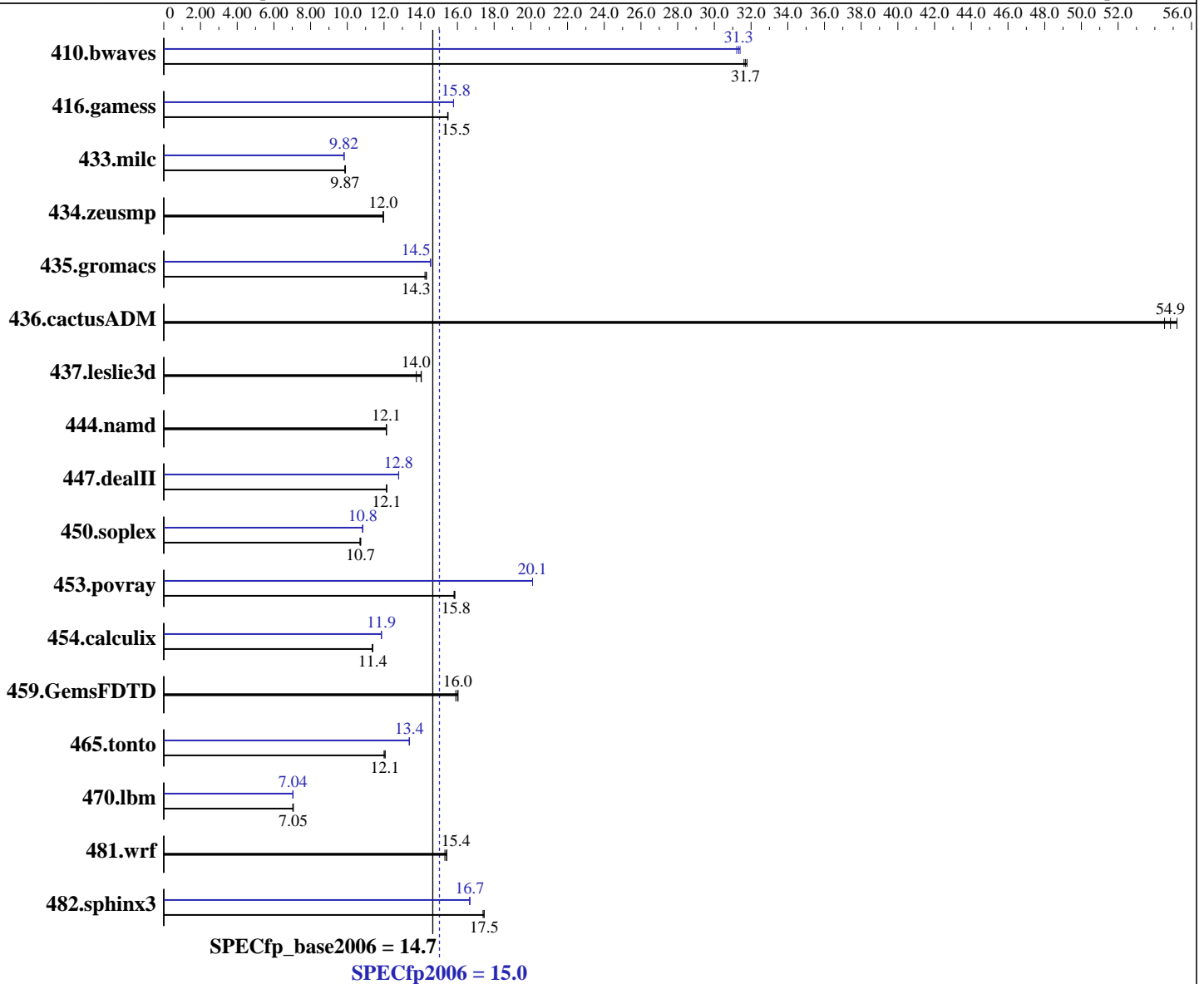
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Oct-2007

Hardware Availability: Jan-2007

Software Availability: Apr-2007



### Hardware

CPU Name: Intel Xeon E5345  
 CPU Characteristics: 2.33 GHz, 2x4 MB L2 shared, 1333 MHz bus  
 CPU MHz: 2333  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip  
 CPU(s) orderable: 1,2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 8 MB I+D on chip per chip, 4 MB shared / 2 cores

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### Software

Operating System: Windows Server 2003, Standard x64 Edition Service Pack1  
 Compiler: Intel C++ Compiler for EM64T version 9.1 Build 20070322, Package-ID W\_CC\_C\_9.1.037  
 Intel Fortran Compiler for EM64T version 9.1 Build 20070322, Package-ID W\_FC\_C\_9.1.037  
 Microsoft Visual Studio 2005 (libr. & linker)  
 Auto Parallel: Yes  
 File System: NTFS

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L3 Cache: None  
Other Cache: None  
Memory: 8 GB (4x2 GB PC2-5300F, 2 rank, CL5-5-5, ECC)  
Disk Subsystem: 1x146.5 GB SAS, 10000RPM  
Other Hardware: None

System State: Default  
Base Pointers: 64-bit  
Peak Pointers: 64-bit  
Other Software: None

## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	430	31.6	<b>429</b>	<b>31.7</b>	428	31.8	<b>434</b>	<b>31.3</b>	433	31.4	435	31.2
416.gamess	1264	15.5	<b>1265</b>	<b>15.5</b>	1266	15.5	1240	15.8	<b>1240</b>	<b>15.8</b>	1240	15.8
433.milc	930	9.87	927	9.90	<b>930</b>	<b>9.87</b>	934	9.83	<b>935</b>	<b>9.82</b>	936	9.81
434.zeusmp	760	12.0	<b>761</b>	<b>12.0</b>	761	12.0	760	12.0	<b>761</b>	<b>12.0</b>	761	12.0
435.gromacs	<b>499</b>	<b>14.3</b>	499	14.3	502	14.2	492	14.5	<b>491</b>	<b>14.5</b>	491	14.5
436.cactusADM	216	55.2	<b>218</b>	<b>54.9</b>	219	54.5	216	55.2	<b>218</b>	<b>54.9</b>	219	54.5
437.leslie3d	670	14.0	<b>671</b>	<b>14.0</b>	683	13.8	670	14.0	<b>671</b>	<b>14.0</b>	683	13.8
444.namd	662	12.1	661	12.1	<b>661</b>	<b>12.1</b>	662	12.1	661	12.1	<b>661</b>	<b>12.1</b>
447.dealII	942	12.1	<b>942</b>	<b>12.1</b>	943	12.1	894	12.8	894	12.8	<b>894</b>	<b>12.8</b>
450.soplex	<b>778</b>	<b>10.7</b>	777	10.7	780	10.7	770	10.8	<b>769</b>	<b>10.8</b>	769	10.8
453.povray	335	15.9	336	15.8	<b>336</b>	<b>15.8</b>	265	20.1	<b>265</b>	<b>20.1</b>	265	20.1
454.calculix	<b>725</b>	<b>11.4</b>	725	11.4	726	11.4	695	11.9	<b>696</b>	<b>11.9</b>	696	11.8
459.GemsFDTD	662	16.0	<b>663</b>	<b>16.0</b>	667	15.9	662	16.0	<b>663</b>	<b>16.0</b>	667	15.9
465.tonto	816	12.1	<b>816</b>	<b>12.1</b>	820	12.0	<b>736</b>	<b>13.4</b>	736	13.4	735	13.4
470.lbm	<b>1948</b>	<b>7.05</b>	1947	7.06	1955	7.03	<b>1952</b>	<b>7.04</b>	1951	7.04	1954	7.03
481.wrf	724	15.4	<b>725</b>	<b>15.4</b>	729	15.3	724	15.4	<b>725</b>	<b>15.4</b>	729	15.3
482.sphinx3	1117	17.5	<b>1117</b>	<b>17.5</b>	1120	17.4	1169	16.7	1169	16.7	<b>1169</b>	<b>16.7</b>

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

## Base Compiler Invocation

C benchmarks:  
icl -Qvc8 -Qc99

C++ benchmarks:  
icl -Qvc8

Fortran benchmarks:  
ifort

Benchmarks using both Fortran and C:  
icl -Qvc8 -Qc99 ifort



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## Base Portability Flags

```

410.bwaves: -DSPEC_CPU_P64
416.gamess: -DSPEC_CPU_P64
433.milc: -D_Complex= -DSPEC_CPU_P64
434.zeusmp: -DSPEC_CPU_P64
435.gromacs: -D_Complex= -DSPEC_CPU_P64
436.cactusADM: -D_Complex= -DSPEC_CPU_P64 -Qlowercase /assume:underscore
437.leslie3d: -DSPEC_CPU_P64
444.namd: -DSPEC_CPU_P64 /TP
447.dealII: -D_Complex= -DSPEC_CPU_P64 -DBOOST_NO_INTRINSIC_WCHAR_T
-DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG
450.soplex: -DSPEC_CPU_P64
453.povray: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL
454.calculix: -D_Complex= -DSPEC_CPU_P64 -DSPEC_CPU_NOZMODIFIER
-Qlowercase
459.GemsFDTD: -DSPEC_CPU_P64
465.tonto: -DSPEC_CPU_P64
470.lbm: -D_Complex= -DSPEC_CPU_P64
481.wrf: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL
482.sphinx3: -D_Complex= -DSPEC_CPU_P64

```

## Base Optimization Flags

```

C benchmarks:
  -fast -Qparallel -F950000000 -link -FORCE:MULTIPLE

C++ benchmarks:
  -fast -Qparallel -Qcxx-features -F950000000
  -link -FORCE:MULTIPLE

Fortran benchmarks:
  -fast -Qparallel -F950000000 -link -FORCE:MULTIPLE

Benchmarks using both Fortran and C:
  -fast -Qparallel -F950000000 -link -FORCE:MULTIPLE

```

## Peak Compiler Invocation

```

C benchmarks:
  icl -Qvc8 -Qc99

C++ benchmarks:
  icl -Qvc8

Fortran benchmarks:
  ifort

```

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## Peak Compiler Invocation (Continued)

Benchmarks using both Fortran and C:  
icl -Qvc8 -Qc99 ifort

## Peak Portability Flags

Same as Base Portability Flags

## Peak Optimization Flags

C benchmarks:

```
-Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -F950000000  
-link -FORCE:MULTIPLE
```

C++ benchmarks:

444.namd: basepeak = yes

```
447.dealII: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qcxx-features  
-F950000000 -link -FORCE:MULTIPLE
```

450.soplex: Same as 447.dealII

453.povray: Same as 447.dealII

Fortran benchmarks:

```
410.bwaves: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qparallel  
-F950000000 -link -FORCE:MULTIPLE
```

```
416.gamess: -fast -F950000000 -link -FORCE:MULTIPLE
```

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: Same as 410.bwaves

Benchmarks using both Fortran and C:

```
435.gromacs: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -F950000000  
-link -FORCE:MULTIPLE
```

436.cactusADM: basepeak = yes

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## Peak Optimization Flags (Continued)

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-win-flags.html>

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

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

Tested with SPEC CPU2006 v1.0.  
Report generated on Tue Jul 22 14:25:18 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 27 November 2007.