



# SPEC<sup>®</sup> CFP2006 Result

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## NEC Corporation

Express5800/120Ri-2  
(Intel Xeon processor 5140)

SPECfp<sup>®</sup>2006 = 14.8

SPECfp\_base2006 = 14.3

CPU2006 license: 9006

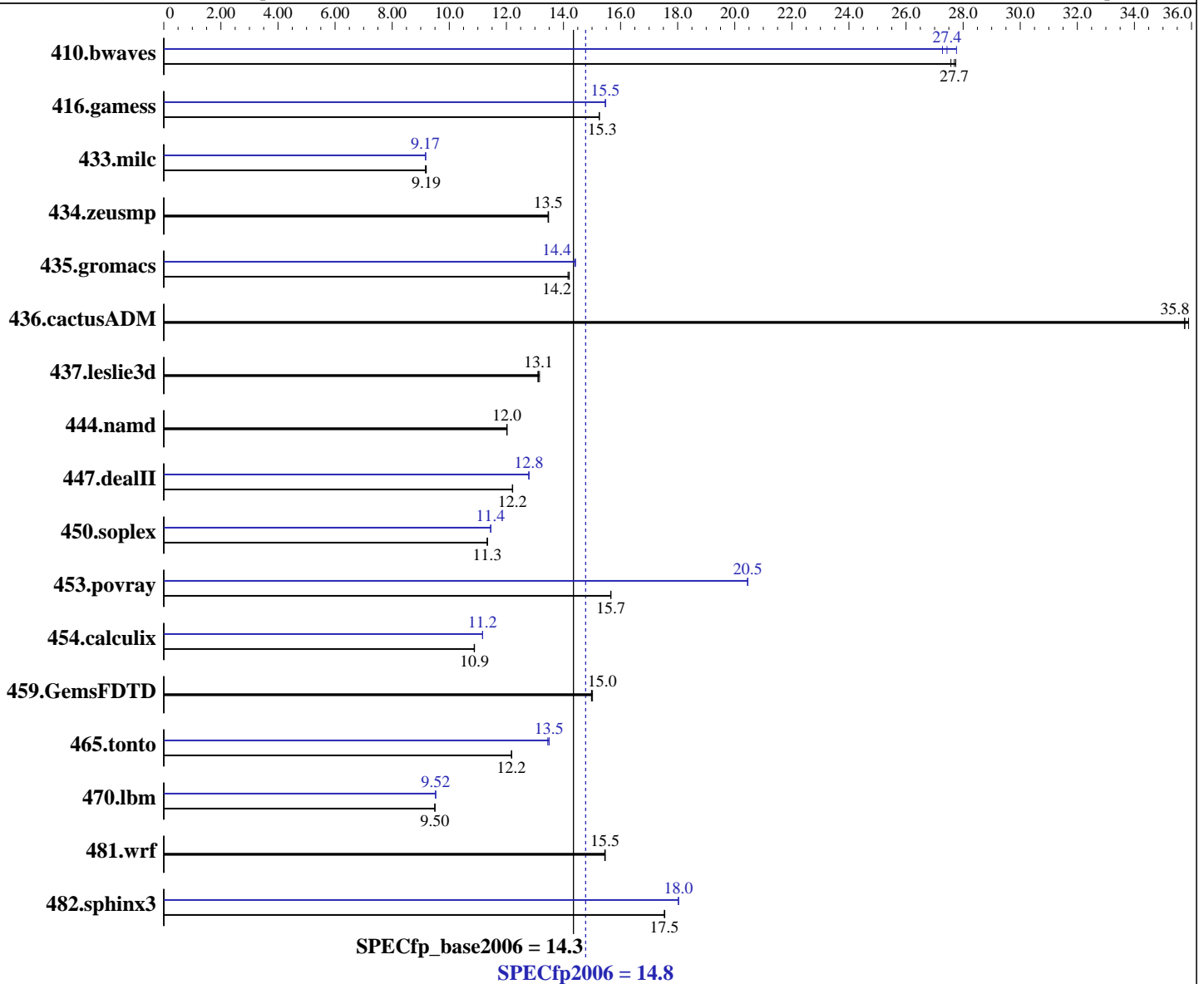
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Jul-2007

Hardware Availability: May-2007

Software Availability: Apr-2007



### Hardware

CPU Name: Intel Xeon 5140  
 CPU Characteristics: 2.33 GHz, 4MB L2, 1333MHz bus  
 CPU MHz: 2333  
 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: Windows Server 2003, Standard x64 Edition  
 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  
 System State: Default

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L3 Cache: None  
Other Cache: None  
Memory: 8 GB (4x2 GB DDR2 5300F, 2 rank, CL5-5-5, ECC)  
Disk Subsystem: 1x73.2 GB SAS, 15000RPM  
Other Hardware: None

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	<u>491</u>	<u>27.7</u>	490	27.7	493	27.6	489	27.8	498	27.3	<u>495</u>	<u>27.4</u>
416.gamess	<u>1283</u>	<u>15.3</u>	1284	15.2	1283	15.3	1265	15.5	<u>1266</u>	<u>15.5</u>	1266	15.5
433.milc	<u>999</u>	<u>9.19</u>	999	9.19	1002	9.16	<u>1001</u>	<u>9.17</u>	1001	9.17	1001	9.17
434.zeusmp	<u>676</u>	<u>13.5</u>	675	13.5	676	13.5	<u>676</u>	<u>13.5</u>	675	13.5	676	13.5
435.gromacs	<u>503</u>	<u>14.2</u>	504	14.2	503	14.2	496	14.4	<u>495</u>	<u>14.4</u>	495	14.4
436.cactusADM	<u>334</u>	<u>35.8</u>	333	35.9	334	35.7	<u>334</u>	<u>35.8</u>	333	35.9	334	35.7
437.leslie3d	714	13.2	<u>716</u>	<u>13.1</u>	717	13.1	714	13.2	<u>716</u>	<u>13.1</u>	717	13.1
444.namd	667	12.0	667	12.0	<u>667</u>	<u>12.0</u>	667	12.0	667	12.0	<u>667</u>	<u>12.0</u>
447.dealII	936	12.2	937	12.2	<u>937</u>	<u>12.2</u>	<u>895</u>	<u>12.8</u>	894	12.8	895	12.8
450.soplex	735	11.3	<u>736</u>	<u>11.3</u>	736	11.3	<u>728</u>	<u>11.4</u>	728	11.4	728	11.5
453.povray	340	15.7	340	15.7	<u>340</u>	<u>15.7</u>	260	20.5	260	20.4	<u>260</u>	<u>20.5</u>
454.calculix	759	10.9	<u>758</u>	<u>10.9</u>	758	10.9	<u>739</u>	<u>11.2</u>	739	11.2	739	11.2
459.GemsFDTD	<u>708</u>	<u>15.0</u>	706	15.0	708	15.0	<u>708</u>	<u>15.0</u>	706	15.0	708	15.0
465.tonto	808	12.2	<u>808</u>	<u>12.2</u>	807	12.2	<u>729</u>	<u>13.5</u>	732	13.4	729	13.5
470.lbm	<u>1447</u>	<u>9.50</u>	1447	9.49	1447	9.50	1443	9.52	1443	9.52	<u>1443</u>	<u>9.52</u>
481.wrf	722	15.5	<u>723</u>	<u>15.5</u>	723	15.4	722	15.5	<u>723</u>	<u>15.5</u>	723	15.4
482.sphinx3	1112	17.5	<u>1111</u>	<u>17.5</u>	1111	17.6	1081	18.0	1081	18.0	<u>1081</u>	<u>18.0</u>

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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**Test date:** Jul-2007

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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.deallI: -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-cpu2006-ic91-flags.html>

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

<http://www.spec.org/cpu2006/flags/NEC-cpu2006-ic91-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 12:51:14 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 8 August 2007.