



# SPEC® CFP2006 Result

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## NEC Corporation

Express5800/140Hf  
(Intel Xeon processor 7140M)

SPECfp®2006 = 13.3

SPECfp\_base2006 = 12.6

CPU2006 license: 9006

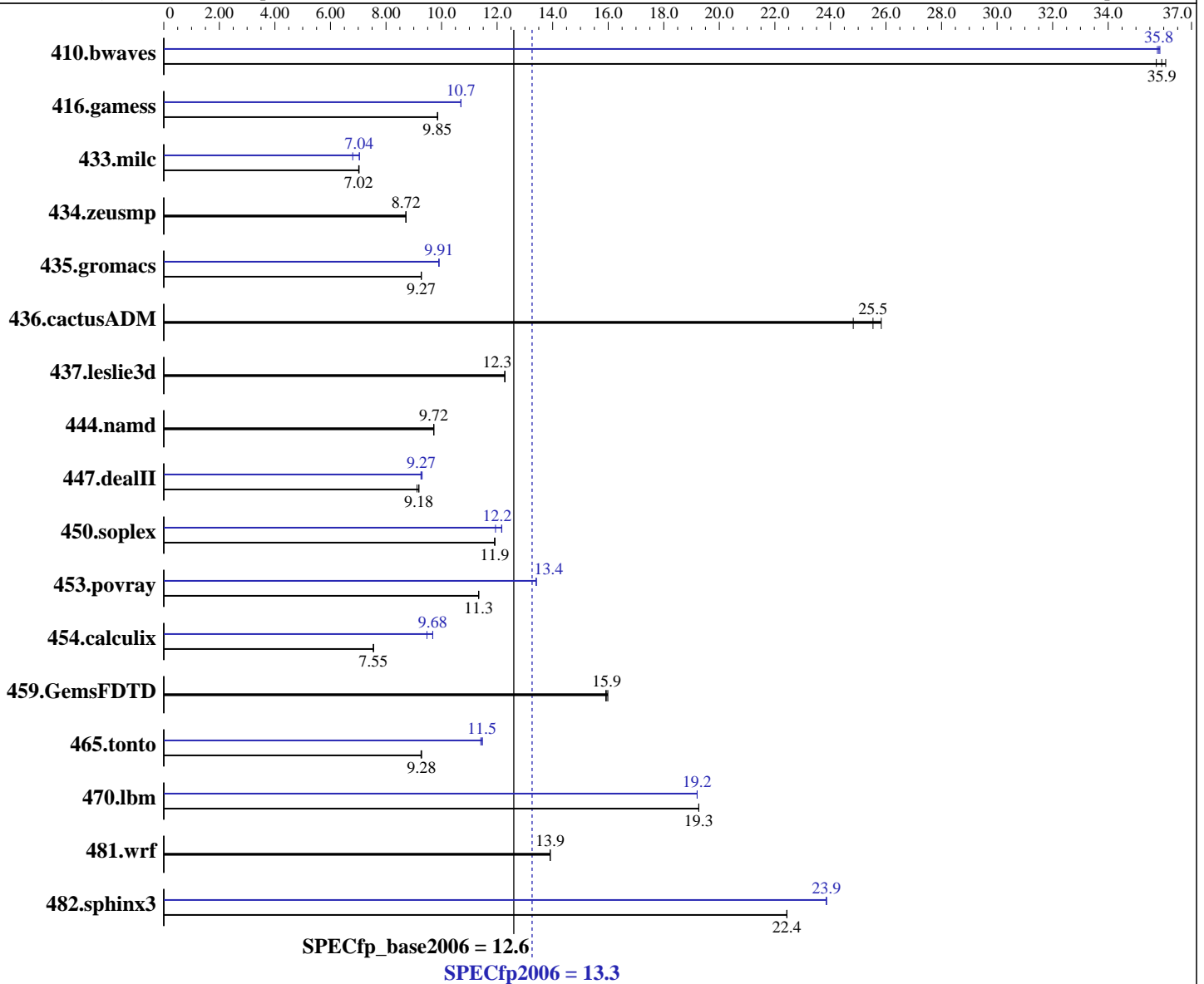
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Sep-2007

Hardware Availability: Oct-2006

Software Availability: Apr-2007



### Hardware

CPU Name: Intel Xeon 7140M  
 CPU Characteristics: 3.40 GHz, 800MHz bus  
 CPU MHz: 3400  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 4 chips, 2 cores/chip, 2 threads/core  
 CPU(s) orderable: 1,2,4 chips  
 Primary Cache: 12 K micro-ops I + 16 KB D on chip per core  
 Secondary Cache: 1 MB I+D on chip per core

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### Software

Operating System: Windows Server 2003, Enterprise 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: 16 MB I+D on chip per chip  
Other Cache: None  
Memory: 32 GB (16x2 GB PC2-3200R, 2 rank, CL3-3-3, ECC)  
Disk Subsystem: 1x146.5 GB SAS, 15000RPM  
Other Hardware: None

System State: Default  
Base Pointers: 64-bit  
Peak Pointers: 64-bit  
Other Software: MicroQuill SmartHeap Library 8.1

## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	380	35.7	<b>378</b>	<b>35.9</b>	377	36.1	379	35.9	380	35.8	<b>379</b>	<b>35.8</b>
416.gamess	1987	9.85	1985	9.86	<b>1987</b>	<b>9.85</b>	1830	10.7	<b>1830</b>	<b>10.7</b>	1830	10.7
433.milc	1305	7.03	<b>1308</b>	<b>7.02</b>	1308	7.02	1350	6.80	<b>1304</b>	<b>7.04</b>	1304	7.04
434.zeusmp	<b>1044</b>	<b>8.72</b>	1044	8.72	1043	8.72	<b>1044</b>	<b>8.72</b>	1044	8.72	1043	8.72
435.gromacs	<b>770</b>	<b>9.27</b>	770	9.27	770	9.27	721	9.90	721	9.91	<b>721</b>	<b>9.91</b>
436.cactusADM	<b>468</b>	<b>25.5</b>	463	25.8	481	24.8	<b>468</b>	<b>25.5</b>	463	25.8	481	24.8
437.leslie3d	766	12.3	765	12.3	<b>765</b>	<b>12.3</b>	766	12.3	765	12.3	<b>765</b>	<b>12.3</b>
444.namd	825	9.72	825	9.72	<b>825</b>	<b>9.72</b>	825	9.72	825	9.72	<b>825</b>	<b>9.72</b>
447.dealII	1246	9.18	<b>1246</b>	<b>9.18</b>	1255	9.12	1230	9.30	1236	9.26	<b>1234</b>	<b>9.27</b>
450.soplex	699	11.9	<b>700</b>	<b>11.9</b>	700	11.9	<b>686</b>	<b>12.2</b>	698	11.9	685	12.2
453.povray	469	11.3	469	11.3	<b>469</b>	<b>11.3</b>	397	13.4	<b>397</b>	<b>13.4</b>	397	13.4
454.calculix	<b>1093</b>	<b>7.55</b>	1094	7.54	1092	7.55	852	9.68	871	9.47	<b>852</b>	<b>9.68</b>
459.GemsFDTD	667	15.9	<b>665</b>	<b>15.9</b>	664	16.0	667	15.9	<b>665</b>	<b>15.9</b>	664	16.0
465.tonto	1061	9.28	1063	9.26	<b>1061</b>	<b>9.28</b>	<b>859</b>	<b>11.5</b>	862	11.4	858	11.5
470.lbm	<b>713</b>	<b>19.3</b>	713	19.3	713	19.3	716	19.2	<b>716</b>	<b>19.2</b>	716	19.2
481.wrf	<b>803</b>	<b>13.9</b>	803	13.9	803	13.9	<b>803</b>	<b>13.9</b>	803	13.9	803	13.9
482.sphinx3	869	22.4	<b>869</b>	<b>22.4</b>	869	22.4	<b>817</b>	<b>23.9</b>	817	23.9	817	23.9

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

## General Notes

The Express5800/140Hf and the Express5800/140Re-4 models are electronically equivalent.  
The results have been measured on a Express5800/140Re-4 model.

## Base Compiler Invocation

C benchmarks:  
icl -Qvc8 -Qc99

C++ benchmarks:  
icl -Qvc8

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## Base Compiler Invocation (Continued)

Fortran benchmarks:

ifort

Benchmarks using both Fortran and C:

icl -Qvc8 -Qc99 ifort

## 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 shlw32M.lib  
-link -FORCE:MULTIPLE

C++ benchmarks:

-fast -Qparallel -Qcxx-features -F950000000 shlw32M.lib  
-link -FORCE:MULTIPLE

Fortran benchmarks:

-fast -Qparallel -F950000000 shlw32M.lib  
-link -FORCE:MULTIPLE

Benchmarks using both Fortran and C:

-fast -Qparallel -F950000000 shlw32M.lib  
-link -FORCE:MULTIPLE



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## Peak Compiler Invocation

C benchmarks:  
icl -Qvc8 -Qc99

C++ benchmarks:  
icl -Qvc8

Fortran benchmarks:  
ifort

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 shlw32M.lib  
-link -FORCE:MULTIPLE

C++ benchmarks:

444.namd: basepeak = yes

447.dealII: -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -fast -Qcxx-features  
-F950000000 shlw32M.lib -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 shlw32M.lib -link -FORCE:MULTIPLE

416.gamess: -fast -F950000000 shlw32M.lib  
-link -FORCE:MULTIPLE

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

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## Peak Optimization Flags (Continued)

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  
shlw32M.lib -link -FORCE:MULTIPLE

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-win-flags.20090714.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.20090714.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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