# SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## NEC Corporation

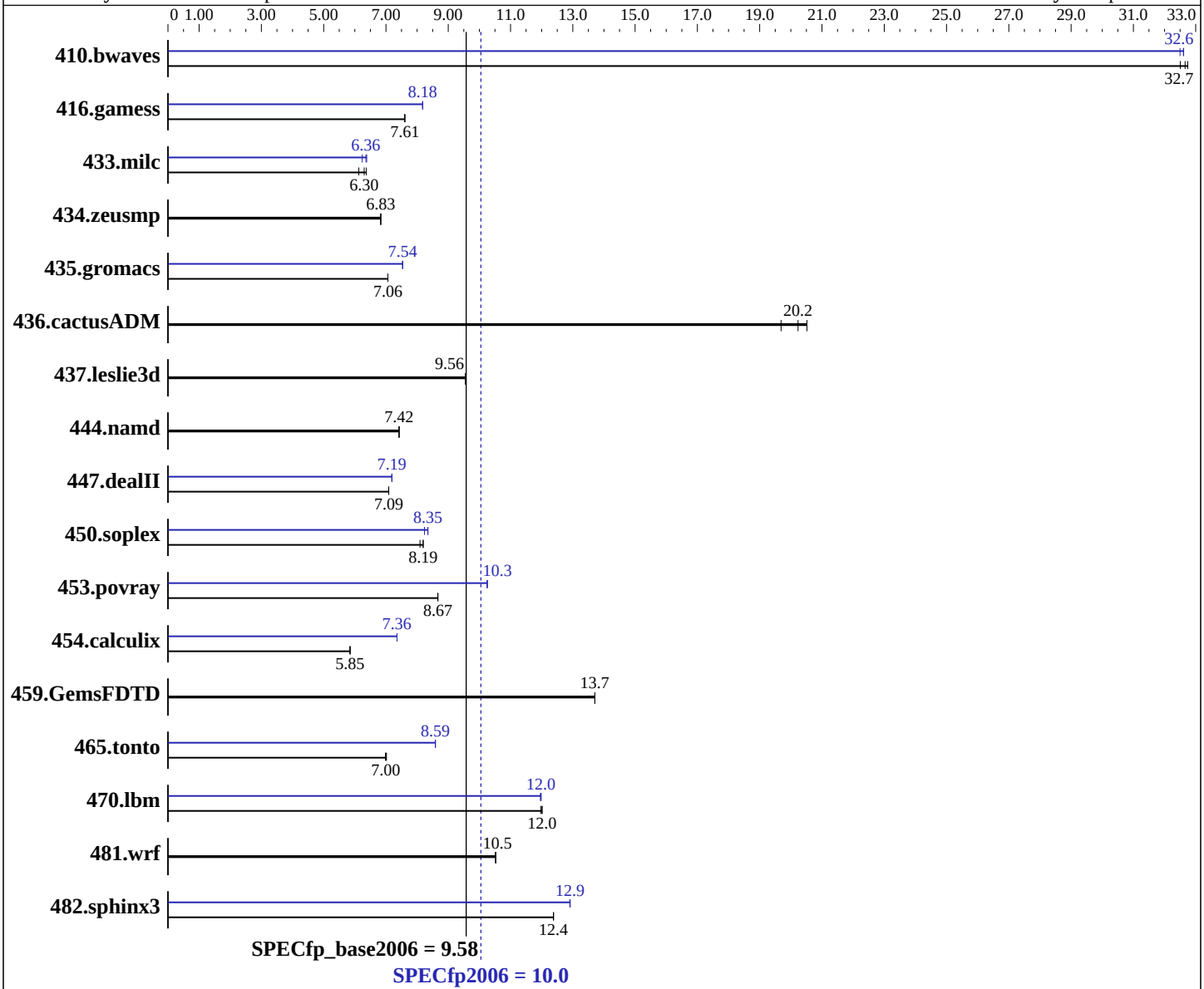
Express5800/140Re-4
(Intel Xeon processor 7110M)

SPECfp®2006 = 10.0

SPECfp_base2006 = 9.58

**CPU2006 license:** 9006
**Test sponsor:** NEC Corporation
**Tested by:** NEC Corporation

**Test date:** Nov-2007
**Hardware Availability:** Oct-2006
**Software Availability:** Apr-2007




## Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon 7110M |
| CPU Characteristics: | 2.60 GHz, 800 MHz bus |
| CPU MHz: | 2600 |
| 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 |

Continued on next page

## 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<br>Intel Fortran Compiler for EM64T version 9.1 Build 20070322, Package-ID W_FC_C_9.1.037<br>Microsoft Visual Studio 2005 (libr. & linker) |
| Auto Parallel: | Yes |
| File System: | NTFS |

Continued on next page

# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## NEC Corporation

Express5800/140Re-4
(Intel Xeon processor 7110M)

SPECfp2006 = 10.0

SPECfp_base2006 = 9.58

**CPU2006 license:** 9006
**Test sponsor:** NEC Corporation
**Tested by:** NEC Corporation

**Test date:** Nov-2007
**Hardware Availability:** Oct-2006
**Software Availability:** Apr-2007

L3 Cache: 4 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 | **416** | **32.7** | 415 | 32.7 | 418 | 32.5 | **417** | **32.6** | 418 | 32.5 | 417 | 32.6 |
| 416.gamess | 2576 | 7.60 | **2574** | **7.61** | 2574 | 7.61 | 2394 | 8.18 | **2394** | **8.18** | 2394 | 8.18 |
| 433.milc | 1441 | 6.37 | **1457** | **6.30** | 1498 | 6.13 | **1444** | **6.36** | 1472 | 6.24 | 1438 | 6.38 |
| 434.zeusmp | 1332 | 6.83 | 1332 | 6.83 | **1332** | **6.83** | 1332 | 6.83 | 1332 | 6.83 | **1332** | **6.83** |
| 435.gromacs | 1011 | 7.06 | 1011 | 7.06 | **1011** | **7.06** | **947** | **7.54** | 947 | 7.54 | 948 | 7.54 |
| 436.cactusADM | **591** | **20.2** | 607 | 19.7 | 582 | 20.5 | **591** | **20.2** | 607 | 19.7 | 582 | 20.5 |
| 437.leslie3d | **983** | **9.56** | 983 | 9.56 | 985 | 9.55 | **983** | **9.56** | 983 | 9.56 | 985 | 9.55 |
| 444.namd | 1081 | 7.42 | **1081** | **7.42** | 1081 | 7.42 | 1081 | 7.42 | **1081** | **7.42** | 1081 | 7.42 |
| 447.dealII | 1615 | 7.08 | **1614** | **7.09** | 1614 | 7.09 | 1591 | 7.19 | **1591** | **7.19** | 1591 | 7.19 |
| 450.soplex | 1030 | 8.09 | 1018 | 8.20 | **1018** | **8.19** | 1012 | 8.24 | 999 | 8.35 | **999** | **8.35** |
| 453.povray | 614 | 8.67 | 614 | 8.67 | **614** | **8.67** | 519 | 10.3 | **519** | **10.3** | 519 | 10.2 |
| 454.calculix | 1412 | 5.84 | **1411** | **5.85** | 1410 | 5.85 | 1122 | 7.36 | 1122 | 7.35 | **1122** | **7.36** |
| 459.GemsFDTD | **774** | **13.7** | 774 | 13.7 | 774 | 13.7 | **774** | **13.7** | 774 | 13.7 | 774 | 13.7 |
| 465.tonto | **1406** | **7.00** | 1402 | 7.02 | 1409 | 6.98 | 1146 | 8.58 | **1146** | **8.59** | 1146 | 8.59 |
| 470.lbm | 1148 | 12.0 | **1144** | **12.0** | 1144 | 12.0 | 1149 | 12.0 | 1147 | 12.0 | **1147** | **12.0** |
| 481.wrf | 1062 | 10.5 | 1061 | 10.5 | **1062** | **10.5** | 1062 | 10.5 | 1061 | 10.5 | **1062** | **10.5** |
| 482.sphinx3 | **1575** | **12.4** | 1574 | 12.4 | 1575 | 12.4 | 1510 | 12.9 | **1510** | **12.9** | 1509 | 12.9 |

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

## General Notes

```
The system bus runs at 800 MHz
All binaries were built with 64-bit Intel compiler.

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
```

Continued on next page

## Base Compiler Invocation (Continued)

C++ benchmarks:
icl -Qvc8

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

Continued on next page

## Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:
-fast -Qparallel -F950000000 shlW32M.lib
-link -FORCE:MULTIPLE

## 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

Continued on next page

# Peak Optimization Flags (Continued)

416.gamess: `-fast -F950000000 shlW32M.lib -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 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.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`


SPEC and SPECfp are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.


For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.0.
Report generated on Tue Jul 22 13:51:39 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 11 December 2007.