



SPEC[®] CFP2006 Result

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NEC Corporation

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

SPECfp[®]2006 = 10.0

SPECfp_base2006 = 9.58

CPU2006 license: 9006

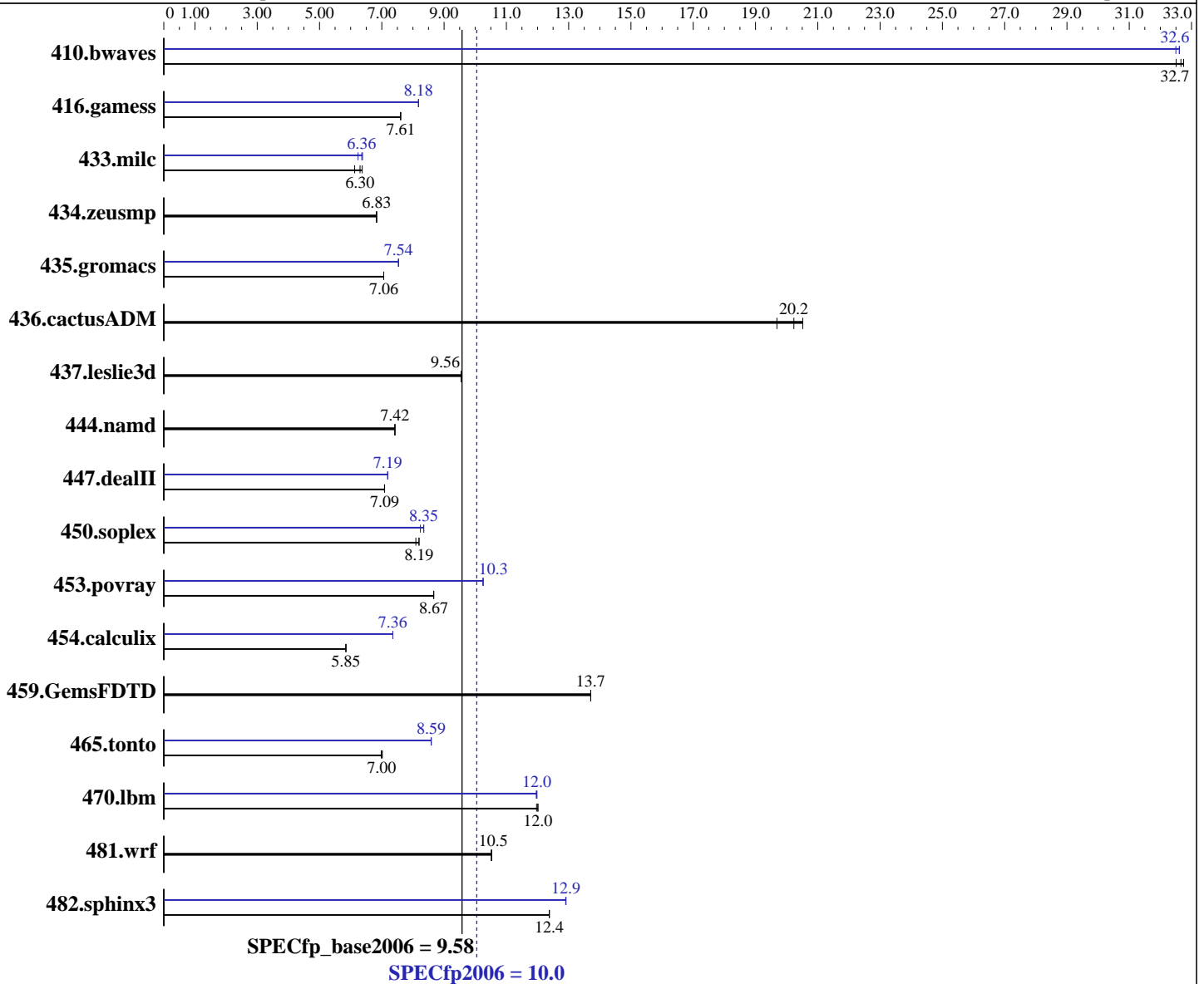
Test sponsor: NEC Corporation

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

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Software

Operating System: Windows Server 2003 Enterprise x64 Edition Service Pack 1
 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: 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

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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

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Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:

```
-fast -Qparallel -F950000000 sh1W32M.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 sh1W32M.lib
-link -FORCE:MULTIPLE
```

C++ benchmarks:

```
444.namd: basepeak = yes
```

```
447.dealII: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qcxx-features
-F950000000 sh1W32M.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 sh1W32M.lib -link -FORCE:MULTIPLE
```

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Peak Optimization Flags (Continued)

416.gamess: -fast -F950000000 sh1w32m.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
sh1w32m.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>

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

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