SPEC® CFP2006 Result

NEC Corporation

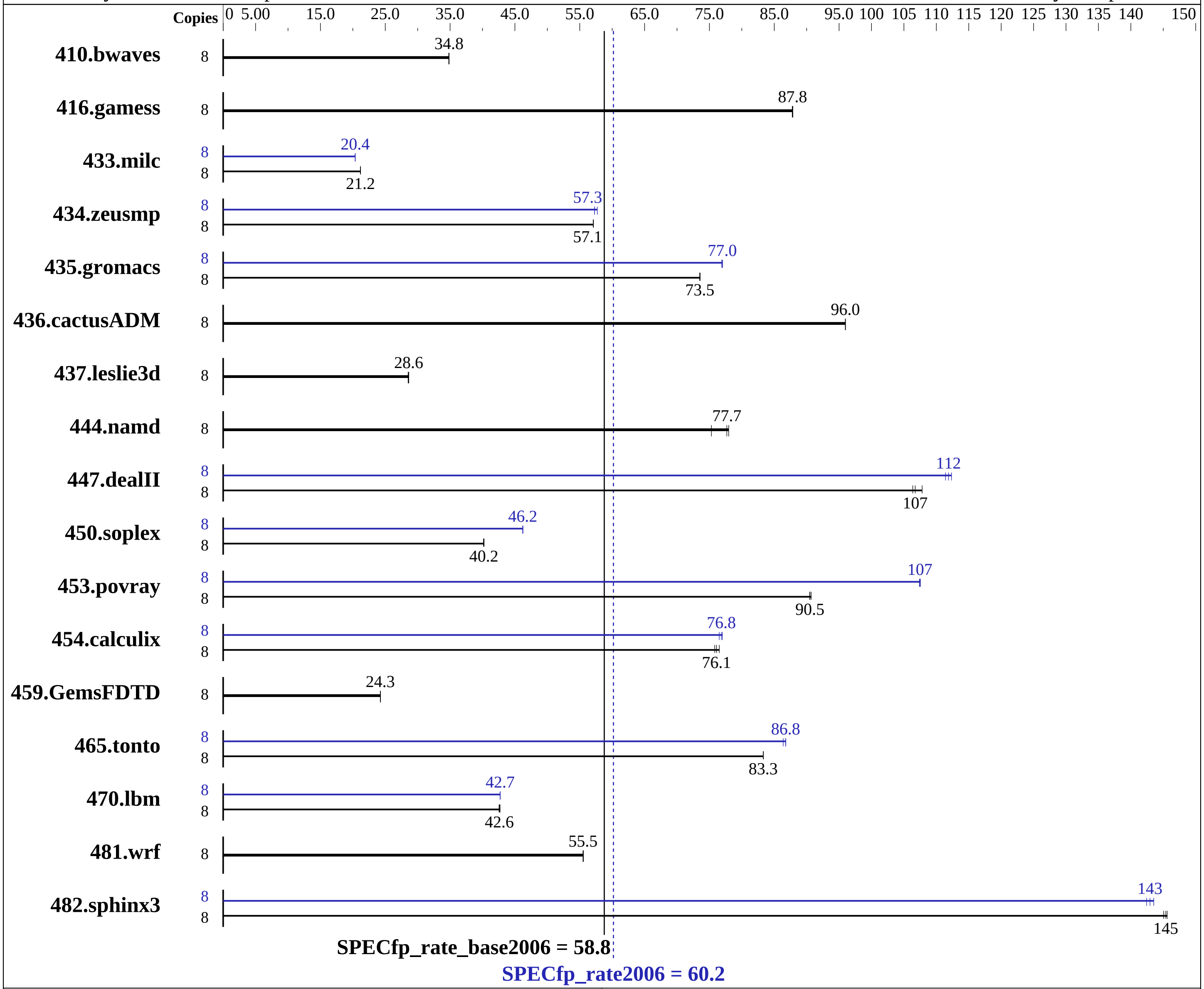
Express5800/140Hf
(Intel Xeon processor 7140M)

SPECfp®_rate2006 = 60.2

SPECfp_rate_base2006 = 58.8

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
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:	64-Bit SUSE LINUX Enterprise Server 10, Kernel 2.6.16.21-0.8-smp on an x86_64
Compiler:	Intel C++ Compiler for IA32/EM64T application, Version 9.1 - Build 20070320, Package-ID: l_cc_c_9.1.049 Intel Fortran Compiler for IA32/EM64T application, Version 9.1 - Build 20070320, Package ID: l_fc_c_9.1.045
Auto Parallel:	No
File System:	ext2

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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:	Multiuser, Runlevel 3
Base Pointers:	64-bit
Peak Pointers:	32/64-bit
Other Software:	None

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	3120	34.8	**3120**	**34.8**	3125	34.8	8	3120	34.8	**3120**	**34.8**	3125	34.8
416.gamess	8	1783	87.9	1785	87.8	**1783**	**87.8**	8	1783	87.9	1785	87.8	**1783**	**87.8**
433.milc	8	**3465**	**21.2**	3468	21.2	3465	21.2	8	**3604**	**20.4**	3606	20.4	3604	20.4
434.zeusmp	8	**1275**	**57.1**	1275	57.1	1275	57.1	8	1261	57.7	**1270**	**57.3**	1271	57.3
435.gromacs	8	**777**	**73.5**	776	73.6	777	73.5	8	743	76.9	742	77.0	**742**	**77.0**
436.cactusADM	8	996	96.0	**996**	**96.0**	996	96.0	8	996	96.0	**996**	**96.0**	996	96.0
437.leslie3d	8	2636	28.5	**2628**	**28.6**	2627	28.6	8	2636	28.5	**2628**	**28.6**	2627	28.6
444.namd	8	852	75.3	823	78.0	**826**	**77.7**	8	852	75.3	823	78.0	**826**	**77.7**
447.dealII	8	860	106	849	108	**857**	**107**	8	821	111	**818**	**112**	815	112
450.soplex	8	1658	40.2	**1659**	**40.2**	1662	40.1	8	1443	46.2	1444	46.2	**1444**	**46.2**
453.povray	8	**470**	**90.5**	469	90.7	470	90.5	8	**396**	**107**	396	108	396	107
454.calculix	8	**867**	**76.1**	870	75.8	862	76.5	8	863	76.5	**859**	**76.8**	857	77.0
459.GemsFDTD	8	**3500**	**24.3**	3502	24.2	3499	24.3	8	**3500**	**24.3**	3502	24.2	3499	24.3
465.tonto	8	**945**	**83.3**	945	83.3	945	83.3	8	**907**	**86.8**	907	86.8	911	86.4
470.lbm	8	2573	42.7	**2580**	**42.6**	2583	42.6	8	2572	42.7	**2572**	**42.7**	2573	42.7
481.wrf	8	1608	55.6	**1610**	**55.5**	1610	55.5	8	1608	55.6	**1610**	**55.5**	1610	55.5
482.sphinx3	8	**1072**	**145**	1071	146	1075	145	8	1086	144	1095	142	**1091**	**143**

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

Operating System Notes

```
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
'/usr/bin/taskset' used to bind processes to CPUs
```

General Notes

```
The system bus runs at 800 MHz

All binaries were built with 64-bit Intel compiler except:
433.milc, 434.zeusmp, 450.soplex, 470.lbm and 482.sphinx3 in peak were built with
32-bit Intel compiler by changing the path for include and library files.

BIOS Configuration:
```

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General Notes (Continued)

```
Hyper-Threading Technology = Disabled

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:
`icc`

C++ benchmarks:
`icpc`

Fortran benchmarks:
`ifort`

Benchmarks using both Fortran and C:
`icc ifort`

Base Portability Flags

410.bwaves:	-DSPEC_CPU_LP64
416.gamess:	-DSPEC_CPU_LP64
433.milc:	-DSPEC_CPU_LP64
434.zeusmp:	-DSPEC_CPU_LP64
435.gromacs:	-DSPEC_CPU_LP64 -nofor_main
436.cactusADM:	-DSPEC_CPU_LP64 -nofor_main
437.leslie3d:	-DSPEC_CPU_LP64
444.namd:	-DSPEC_CPU_LP64
447.dealII:	-DSPEC_CPU_LP64
450.soplex:	-DSPEC_CPU_LP64
453.povray:	-DSPEC_CPU_LP64
454.calculix:	-DSPEC_CPU_LP64 -nofor_main
459.GemsFDTD:	-DSPEC_CPU_LP64
465.tonto:	-DSPEC_CPU_LP64
470.lbm:	-DSPEC_CPU_LP64
481.wrf:	-DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
482.sphinx3:	-DSPEC_CPU_LP64

Base Optimization Flags

C benchmarks:
`-fast`

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Base Optimization Flags (Continued)

C++ benchmarks:
`-fast`

Fortran benchmarks:
`-fast`

Benchmarks using both Fortran and C:
`-fast`

Peak Compiler Invocation

C benchmarks:
```
/opt/intel/cc/9.1.049/bin/icc -I/opt/intel/cc/9.1.049/include
-L/opt/intel/cc/9.1.049/lib
```

C++ benchmarks (except as noted below):
`icpc`

450.soplex: `/opt/intel/cc/9.1.049/bin/icpc -I/opt/intel/cc/9.1.049/include -L/opt/intel/cc/9.1.049/lib`

Fortran benchmarks (except as noted below):
`ifort`

434.zeusmp: `/opt/intel/fc/9.1.045/bin/ifort -I/opt/intel/fc/9.1.045/include -L/opt/intel/fc/9.1.045/lib`

Benchmarks using both Fortran and C:
`icc ifort`

Peak Portability Flags

410.bwaves: -DSPEC_CPU_LP64
416.gamess: -DSPEC_CPU_LP64
435.gromacs: -DSPEC_CPU_LP64 -nofor_main
436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
437.leslie3d: -DSPEC_CPU_LP64
444.namd: -DSPEC_CPU_LP64
447.dealII: -DSPEC_CPU_LP64
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64 -nofor_main
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

433.milc: `-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast`

470.lbm: `Same as 433.milc`

482.sphinx3: `-fast`

C++ benchmarks:

444.namd: `basepeak = yes`

447.dealII: `-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast`

450.soplex: `Same as 447.dealII`

453.povray: `Same as 447.dealII`

Fortran benchmarks:

410.bwaves: `basepeak = yes`

416.gamess: `basepeak = yes`

434.zeusmp: `-fast`

437.leslie3d: `basepeak = yes`

459.GemsFDTD: `basepeak = yes`

465.tonto: `-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast`

Benchmarks using both Fortran and C:

435.gromacs: `-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast`

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-linux-flags.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/NEC-ic91-FP-linux-flags.xml`

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Tested by:	NEC Corporation	**Software Availability:**	Apr-2007

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 15:11:02 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 7 November 2007.