SPEC® CFP2006 Result

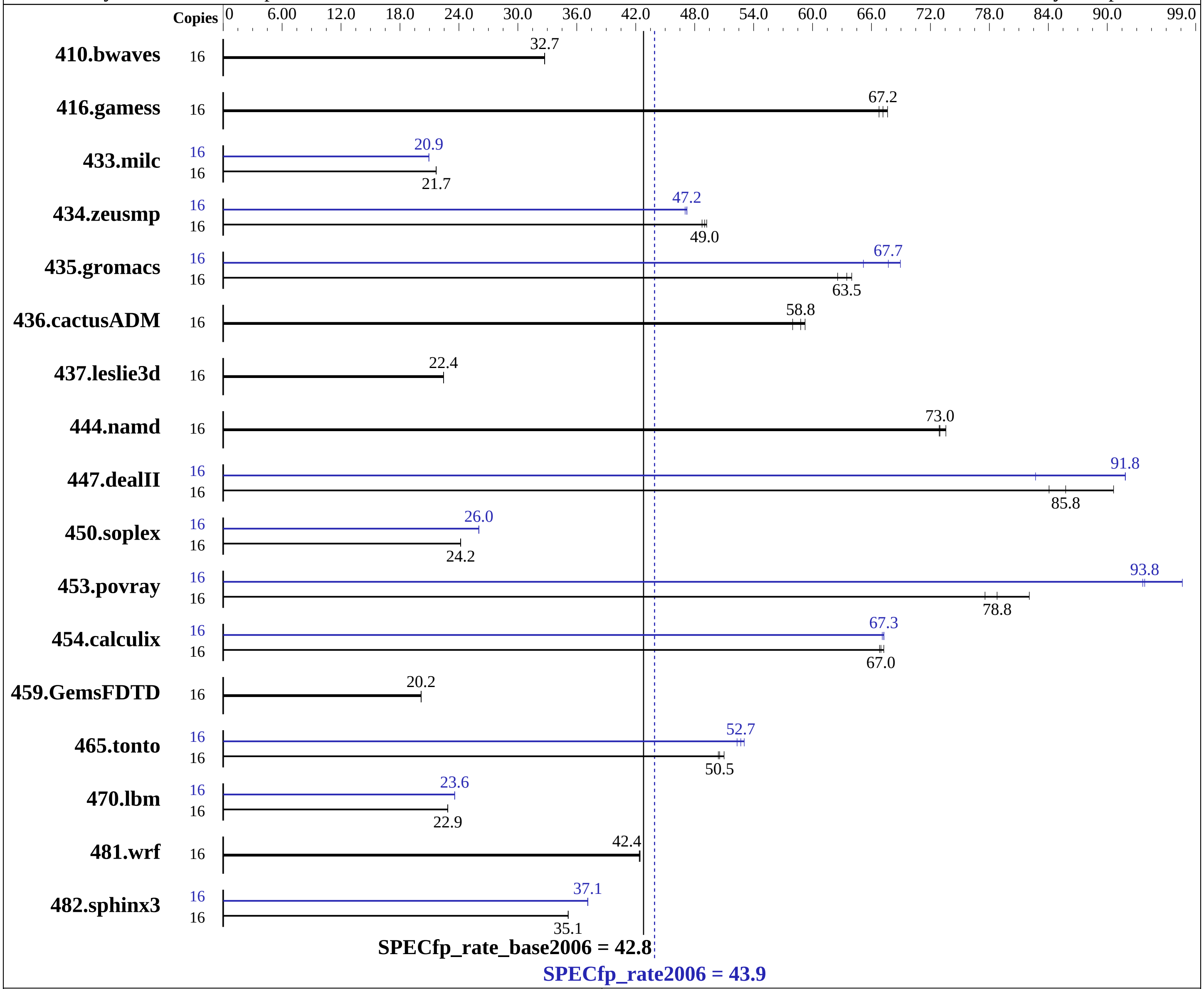
NEC Corporation

Express5800/140Hf
(Intel Xeon processor 7110M)

SPECfp®_rate2006 = 43.9

SPECfp_rate_base2006 = 42.8

CPU2006 license:	9006	**Test date:**	Nov-2007
Test sponsor:	NEC Corporation	**Hardware Availability:**	Oct-2006
Tested by:	NEC Corporation	**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:	SUSE Linux Enterprise Server 10 (x86_64), Kernel 2.6.16.21-0.8-smp
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:	4 MB I+D on chip per chip	System State:	Multiuser, Runlevel 3
Other Cache:	None	Base Pointers:	64-bit
Memory:	32 GB (16x2 GB PC2-3200R, 2 rank, CL3-3-3, ECC)	Peak Pointers:	32/64-bit
Disk Subsystem:	1x146.5 GB SAS, 15000RPM	Other Software:	None
Other Hardware:	None		

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	16	**6643**	**32.7**	6646	32.7	6641	32.7	16	**6643**	**32.7**	6646	32.7	6641	32.7
416.gamess	16	4692	66.8	4632	67.6	**4664**	**67.2**	16	4692	66.8	4632	67.6	**4664**	**67.2**
433.milc	16	6770	21.7	**6770**	**21.7**	6775	21.7	16	7015	20.9	**7014**	**20.9**	7012	20.9
434.zeusmp	16	**2971**	**49.0**	2958	49.2	2987	48.7	16	3084	47.2	3096	47.0	**3084**	**47.2**
435.gromacs	16	1826	62.5	1785	64.0	**1800**	**63.5**	16	1753	65.2	**1687**	**67.7**	1657	68.9
436.cactusADM	16	3298	58.0	**3252**	**58.8**	3228	59.2	16	3298	58.0	**3252**	**58.8**	3228	59.2
437.leslie3d	16	6704	22.4	**6706**	**22.4**	6706	22.4	16	6704	22.4	**6706**	**22.4**	6706	22.4
444.namd	16	**1759**	**73.0**	1760	72.9	1744	73.6	16	**1759**	**73.0**	1760	72.9	1744	73.6
447.dealII	16	2177	84.1	**2134**	**85.8**	2019	90.6	16	1993	91.8	2213	82.7	**1993**	**91.8**
450.soplex	16	**5518**	**24.2**	5523	24.2	5516	24.2	16	5130	26.0	**5127**	**26.0**	5126	26.0
453.povray	16	**1080**	**78.8**	1098	77.6	1037	82.1	16	909	93.6	**907**	**93.8**	872	97.6
454.calculix	16	**1971**	**67.0**	1976	66.8	1963	67.3	16	1967	67.1	**1963**	**67.3**	1962	67.3
459.GemsFDTD	16	8423	20.2	8427	20.1	**8425**	**20.2**	16	8423	20.2	8427	20.1	**8425**	**20.2**
465.tonto	16	3088	51.0	**3115**	**50.5**	3123	50.4	16	2968	53.0	**2988**	**52.7**	3009	52.3
470.lbm	16	**9615**	**22.9**	9616	22.9	9614	22.9	16	**9329**	**23.6**	9330	23.6	9327	23.6
481.wrf	16	4210	42.4	4219	42.4	**4217**	**42.4**	16	4210	42.4	4219	42.4	**4217**	**42.4**
482.sphinx3	16	**8879**	**35.1**	8876	35.1	8882	35.1	16	8400	37.1	**8401**	**37.1**	8405	37.1

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.

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`

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:

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Peak Optimization Flags (Continued)

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

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

Tested with SPEC CPU2006 v1.0.
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