SPEC® CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

NEC Corporation

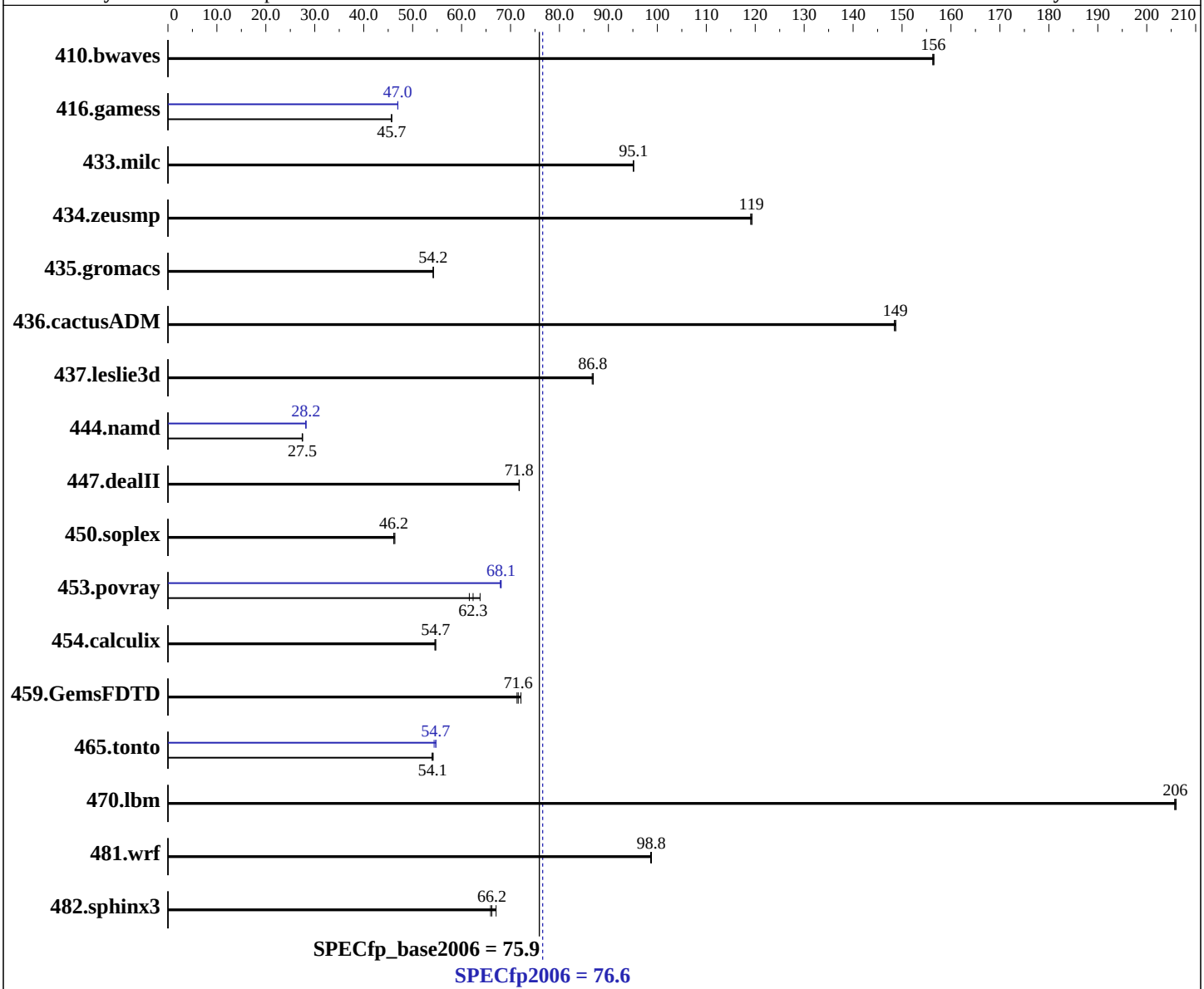
Express5800/T110i-S (Intel Pentium G4560)

SPECfp®2006 = 76.6

SPECfp_base2006 = 75.9

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

Test date: Apr-2017
Hardware Availability: Apr-2017
Software Availability: Jan-2017



Hardware

CPU Name:	Intel Pentium G4560
CPU Characteristics:	
CPU MHz:	3500
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip
CPU(s) orderable:	1 chip
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core

Continued on next page

Software

Operating System:	Red Hat Enterprise Linux Server release 7.3 (Maipo) Kernel 3.10.0-514.6.1.el7.x86_64
Compiler:	C/C++: Version 17.0.0.098 of Intel C/C++ Compiler for Linux; Fortran: Version 17.0.0.098 of Intel Fortran Compiler for Linux
Auto Parallel:	Yes
File System:	ext4

Continued on next page

SPEC CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

NEC Corporation

Express5800/T110i-S (Intel Pentium G4560)

SPECfp2006 = 76.6

SPECfp_base2006 = 75.9

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

Test date: Apr-2017
Hardware Availability: Apr-2017
Software Availability: Jan-2017

L3 Cache:	3 MB I+D on chip per chip
Other Cache:	None
Memory:	32 GB (2 x 16 GB 2Rx8 PC4-2400T-E)
Disk Subsystem:	1 x 1 TB SATA, 7200 RPM
Other Hardware:	None

System State:	Run level 3 (multi-user)
Base Pointers:	64-bit
Peak Pointers:	32/64-bit
Other Software:	None

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	87.0	156	**86.9**	**156**	86.8	157	87.0	156	**86.9**	**156**	86.8	157
416.gamess	429	45.7	**429**	**45.7**	429	45.7	417	47.0	417	47.0	**417**	**47.0**
433.milc	**96.5**	**95.1**	96.5	95.2	96.5	95.1	**96.5**	**95.1**	96.5	95.2	96.5	95.1
434.zeusmp	76.3	119	76.4	119	**76.3**	**119**	76.3	119	76.4	119	**76.3**	**119**
435.gromacs	132	54.2	132	54.2	**132**	**54.2**	132	54.2	132	54.2	**132**	**54.2**
436.cactusADM	80.3	149	**80.4**	**149**	80.5	148	80.3	149	**80.4**	**149**	80.5	148
437.leslie3d	108	86.9	108	86.7	**108**	**86.8**	108	86.9	108	86.7	**108**	**86.8**
444.namd	**292**	**27.5**	292	27.5	292	27.4	**285**	**28.2**	284	28.2	285	28.2
447.dealII	**159**	**71.8**	159	71.7	159	71.8	**159**	**71.8**	159	71.7	159	71.8
450.soplex	**181**	**46.2**	180	46.4	181	46.2	**181**	**46.2**	180	46.4	181	46.2
453.povray	**85.3**	**62.3**	83.4	63.8	86.4	61.6	78.3	67.9	78.1	68.1	**78.2**	**68.1**
454.calculix	151	54.7	**151**	**54.7**	151	54.5	151	54.7	**151**	**54.7**	151	54.5
459.GemsFDTD	147	72.1	**148**	**71.6**	149	71.3	147	72.1	**148**	**71.6**	149	71.3
465.tonto	182	54.2	182	54.0	**182**	**54.1**	180	54.8	181	54.4	**180**	**54.7**
470.lbm	66.8	206	66.7	206	**66.8**	**206**	66.8	206	66.7	206	**66.8**	**206**
481.wrf	113	98.6	**113**	**98.8**	113	98.8	113	98.6	**113**	**98.8**	113	98.8
482.sphinx3	296	65.9	291	67.1	**294**	**66.2**	296	65.9	291	67.1	**294**	**66.2**

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

Operating System Notes

```
Stack size set to unlimited using "ulimit -s unlimited"
```

Platform Notes

```
BIOS Settings:
 Power Management Policy: Custom
 Energy Performance: Performance
 Hyper-Threading: Disabled
```

General Notes

```
Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,compact,1,0"
LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64:/home/cpu2006/sh10.2"
OMP_NUM_THREADS = "2"

 Binaries compiled on a system with 1x Intel Core i7-4790 CPU + 32GB RAM
 memory using Redhat Enterprise Linux 7.2
 Transparent Huge Pages enabled by default.
```

Base Compiler Invocation

C benchmarks:
```
icc -m64
```

C++ benchmarks:
```
icpc -m64
```

Fortran benchmarks:
```
ifort -m64
```

Benchmarks using both Fortran and C:
```
icc -m64 ifort -m64
```

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:
`-xSSE4.2 -ipo -O3 -no-prec-div -parallel -qopt-prefetch`

C++ benchmarks:
`-xSSE4.2 -ipo -O3 -no-prec-div -qopt-prefetch`

Fortran benchmarks:
`-xSSE4.2 -ipo -O3 -no-prec-div -parallel -qopt-prefetch`

Benchmarks using both Fortran and C:
`-xSSE4.2 -ipo -O3 -no-prec-div -parallel -qopt-prefetch`

Peak Compiler Invocation

C benchmarks:
`icc -m64`

C++ benchmarks:
`icpc -m64`

Fortran benchmarks:
`ifort -m64`

Benchmarks using both Fortran and C:
`icc -m64 ifort -m64`

Peak Portability Flags

`Same as Base Portability Flags`

Peak Optimization Flags

C benchmarks:

433.milc: `basepeak = yes`

470.lbm: `basepeak = yes`

482.sphinx3: `basepeak = yes`

C++ benchmarks:

444.namd: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xSSE4.2`(pass 2) `-par-num-threads=1`(pass 1) `-ipo`(pass 2) `-O3`(pass 2) `-no-prec-div`(pass 2) `-fno-alias -auto-ilp32`

Continued on next page

Peak Optimization Flags (Continued)

447.dealII: basepeak = yes

450.soplex: basepeak = yes

453.povray: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.2(pass 2) -par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -unroll4 -ansi-alias

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.2(pass 2) -par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -unroll2 -inline-level=0 -scalar-rep-

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.2(pass 2) -par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -inline-calloc -qopt-malloc-options=3 -auto -unroll4

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: basepeak = yes

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic17.0-official-linux64.html
http://www.spec.org/cpu2006/flags/NEC-Platform-Settings-V1.2-110i-RevA.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic17.0-official-linux64.xml
http://www.spec.org/cpu2006/flags/NEC-Platform-Settings-V1.2-110i-RevA.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 v1.2.
Report generated on Tue May 30 15:31:52 2017 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 30 May 2017.