



SPEC® CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Inspur Corporation

SPECfp®2006 = 112

Inspur NF5180M4 (Intel Xeon E5-2620 v4)

SPECfp_base2006 = 108

CPU2006 license: 3358

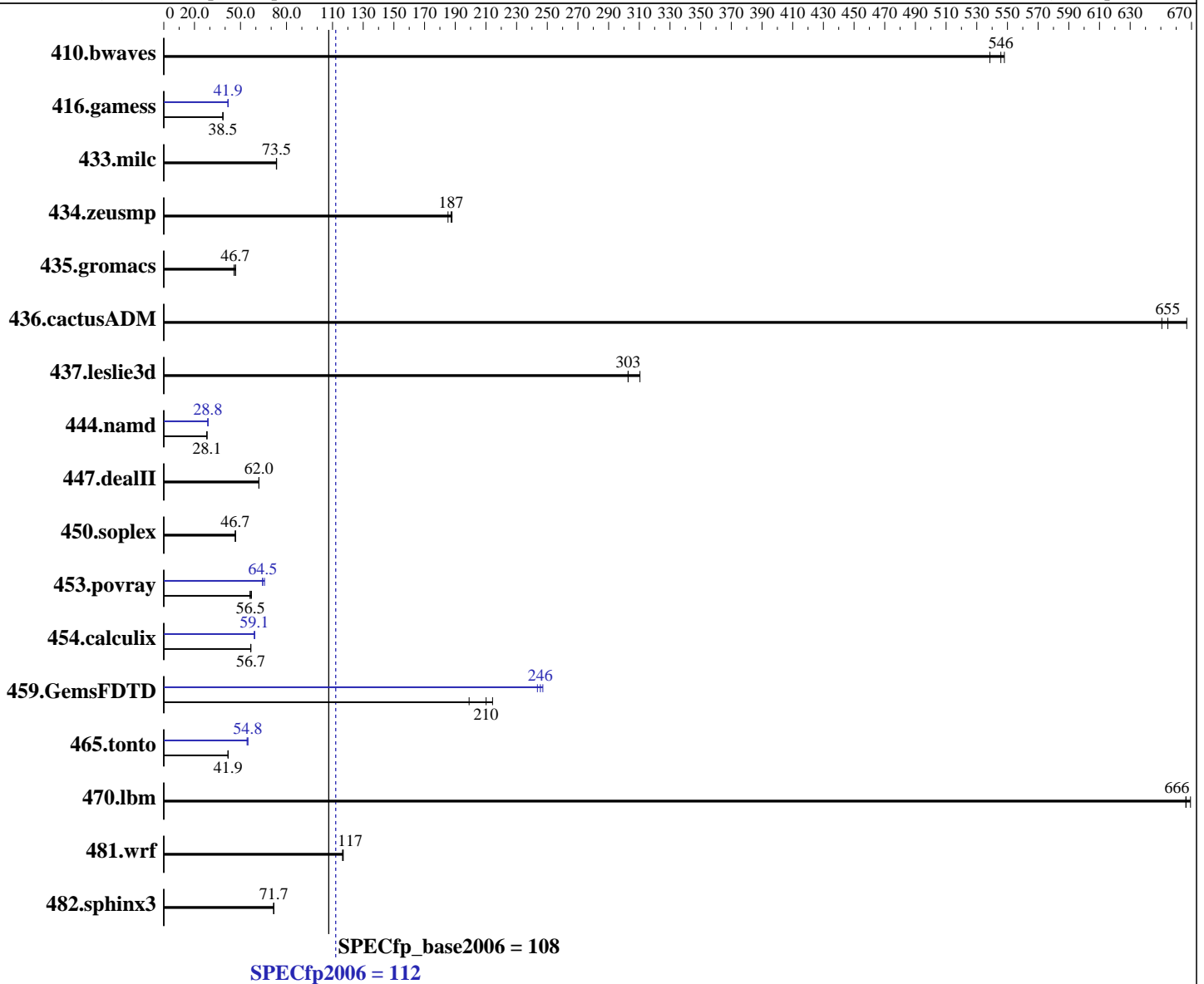
Test date: Aug-2017

Test sponsor: Inspur Corporation

Hardware Availability: Apr-2016

Tested by: Inspur Corporation

Software Availability: Apr-2017



Hardware

CPU Name: Intel Xeon E5-2620 v4
 CPU Characteristics: Intel Turbo Boost Technology up to 3.00 GHz
 CPU MHz: 2100
 FPU: Integrated
 CPU(s) enabled: 16 cores, 2 chips, 8 cores/chip
 CPU(s) orderable: 1,2 chips
 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)
 3.10.0-514.el7.x86_64
 Compiler: C/C++: Version 17.0.3.191 of Intel C/C++ Compiler for Linux;
 Fortran: Version 17.0.3.191 of Intel Fortran Compiler for Linux
 Auto Parallel: Yes
 File System: xfs

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Inspur Corporation

SPECfp2006 = **112**

Inspur NF5180M4 (Intel Xeon E5-2620 v4)

SPECfp_base2006 = **108**

CPU2006 license: 3358

Test sponsor: Inspur Corporation

Tested by: Inspur Corporation

Test date: Aug-2017

Hardware Availability: Apr-2016

Software Availability: Apr-2017

L3 Cache: 20 MB I+D on chip per chip
 Other Cache: None
 Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2400T-R, running at 2133 MHz)
 Disk Subsystem: 1 x 900 GB SATA SSD
 Other Hardware: None

System State: Run level 5 (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	24.9	546	25.2	539	24.8	548	24.9	546	25.2	539	24.8	548
416.gamess	508	38.6	508	38.5	508	38.5	466	42.0	467	41.9	469	41.8
433.milc	125	73.5	125	73.4	125	73.5	125	73.5	125	73.4	125	73.5
434.zeusmp	49.1	185	48.6	187	48.4	188	49.1	185	48.6	187	48.4	188
435.gromacs	156	45.8	153	46.7	153	46.8	156	45.8	153	46.7	153	46.8
436.cactusADM	17.9	667	18.3	655	18.4	651	17.9	667	18.3	655	18.4	651
437.leslie3d	31.1	303	31.1	303	30.3	310	31.1	303	31.1	303	30.3	310
444.namd	285	28.1	285	28.1	285	28.1	279	28.8	279	28.8	279	28.8
447.dealII	184	62.0	184	62.1	185	62.0	184	62.0	184	62.1	185	62.0
450.soplex	179	46.7	179	46.7	179	46.6	179	46.7	179	46.7	179	46.6
453.povray	94.2	56.5	94.7	56.2	93.1	57.2	81.0	65.7	82.5	64.5	82.6	64.4
454.calculix	145	56.8	146	56.7	145	56.7	139	59.2	140	59.1	140	59.0
459.GemsFDTD	53.3	199	49.5	214	50.5	210	42.9	247	43.2	246	43.6	244
465.tonto	235	42.0	235	41.8	235	41.9	180	54.8	180	54.8	181	54.3
470.lbm	20.6	666	20.5	669	20.6	666	20.6	666	20.5	669	20.6	666
481.wrf	95.9	116	95.5	117	95.6	117	95.9	116	95.5	117	95.6	117
482.sphinx3	272	71.7	272	71.8	272	71.6	272	71.7	272	71.8	272	71.6

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 and OS configuration:
 SCALING_GOVERNOR set to Performance
 Hardware Prefetch set to Disable
 VT Support set to Disable
 C1E Support set to Disable
 Hyper-Threading set to Disable
 Sysinfo program /home/CPU2006/config/sysinfo.rev6993
 Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
 running on localhost.localdomain Wed Aug 2 07:47:55 2017

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Inspur Corporation

SPECfp2006 = 112

Inspur NF5180M4 (Intel Xeon E5-2620 v4)

SPECfp_base2006 = 108

CPU2006 license: 3358

Test sponsor: Inspur Corporation

Tested by: Inspur Corporation

Test date: Aug-2017

Hardware Availability: Apr-2016

Software Availability: Apr-2017

Platform Notes (Continued)

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see: <http://www.spec.org/cpu2006/Docs/config.html#sysinfo>

From /proc/cpuinfo

```
model name : Intel(R) Xeon(R) CPU E5-2620 v4 @ 2.10GHz
 2 "physical id"s (chips)
 16 "processors"
```

cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)

```
cpu cores : 8
siblings : 8
physical 0: cores 0 1 2 3 4 5 6 7
physical 1: cores 0 1 2 3 4 5 6 7
cache size : 20480 KB
```

From /proc/meminfo

```
MemTotal: 263852996 kB
HugePages_Total: 0
Hugepagesize: 2048 kB
```

From /etc/*release* /etc/*version*

```
os-release:
NAME="Red Hat Enterprise Linux Server"
VERSION="7.3 (Maipo)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="7.3"
PRETTY_NAME="Red Hat Enterprise Linux Server 7.3 (Maipo)"
ANSI_COLOR="0;31"
CPE_NAME="cpe:/o:redhat:enterprise_linux:7.3:GA:server"
redhat-release: Red Hat Enterprise Linux Server release 7.3 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.3 (Maipo)
system-release-cpe: cpe:/o:redhat:enterprise_linux:7.3:ga:server
```

uname -a:

```
Linux localhost.localdomain 3.10.0-514.el7.x86_64 #1 SMP Wed Oct 19 11:24:13 EDT 2016 x86_64 x86_64 x86_64 GNU/Linux
```

run-level 5 Jul 25 22:32

SPEC is set to: /home/CPU2006

```
Filesystem Type Size Used Avail Use% Mounted on
/dev/mapper/rhel-home xfs 877G 97G 780G 12% /home
```

Additional information from dmidecode:

Warning: Use caution when you interpret this section. The 'dmidecode' program reads system data which is "intended to allow hardware to be accurately determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Inspur Corporation

SPECfp2006 = 112

Inspur NF5180M4 (Intel Xeon E5-2620 v4)

SPECfp_base2006 = 108

CPU2006 license: 3358

Test date: Aug-2017

Test sponsor: Inspur Corporation

Hardware Availability: Apr-2016

Tested by: Inspur Corporation

Software Availability: Apr-2017

Platform Notes (Continued)

BIOS American Megatrends Inc. 4.1.11 09/07/2016

Memory:

8x NO DIMM NO DIMM

16x Samsung M393A2K43BB1-CNC 16 GB 2 rank 2400 MHz, configured at 2133 MHz

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:

KMP_AFFINITY = "granularity=fine,compact"

LD_LIBRARY_PATH = "/home/CPU2006/lib/ia32:/home/CPU2006/lib/intel64:/home/CPU2006/sh10.2"

OMP_NUM_THREADS = "16"

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.

Filesystem page cache cleared with:

shell invocation of 'sync; echo 3 > /proc/sys/vm/drop_caches' prior to run

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

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/



SPEC CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Inspur Corporation

SPECfp2006 = 112

Inspur NF5180M4 (Intel Xeon E5-2620 v4)

SPECfp_base2006 = 108

CPU2006 license: 3358

Test date: Aug-2017

Test sponsor: Inspur Corporation

Hardware Availability: Apr-2016

Tested by: Inspur Corporation

Software Availability: Apr-2017

Base Portability Flags (Continued)

```

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:
 -xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -qopt-prefetch

C++ benchmarks:
 -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch

Fortran benchmarks:
 -xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -qopt-prefetch

Benchmarks using both Fortran and C:
 -xCORE-AVX2 -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



SPEC CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Inspur Corporation

SPECfp2006 = 112

Inspur NF5180M4 (Intel Xeon E5-2620 v4)

SPECfp_base2006 = 108

CPU2006 license: 3358

Test sponsor: Inspur Corporation

Tested by: Inspur Corporation

Test date: Aug-2017

Hardware Availability: Apr-2016

Software Availability: Apr-2017

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) -xCORE-AVX2(pass 2)
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -fno-alias -auto-ilp32

447.dealII: basepeak = yes

450.soplex: basepeak = yes

453.povray: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(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) -xCORE-AVX2(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: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -unroll2 -inline-level=0
-qopt-prefetch -parallel

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(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

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Inspur Corporation

SPECfp2006 = 112

Inspur NF5180M4 (Intel Xeon E5-2620 v4)

SPECfp_base2006 = 108

CPU2006 license: 3358

Test sponsor: Inspur Corporation

Tested by: Inspur Corporation

Test date: Aug-2017

Hardware Availability: Apr-2016

Software Availability: Apr-2017

Peak Optimization Flags (Continued)

454.calculix: -xCORE-AVX2 -ipo -O3 -no-prec-div -auto-ilp32

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-revF.html>

<http://www.spec.org/cpu2006/flags/Inspur-Platform-Settings-V1.0-HSW.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-revF.xml>

<http://www.spec.org/cpu2006/flags/Inspur-Platform-Settings-V1.0-HSW.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 Wed Aug 23 13:12:23 2017 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 22 August 2017.

Standard Performance Evaluation Corporation

info@spec.org

<http://www.spec.org/>