



SPEC® CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Inspur Corporation

SPECfp®2006 = **123**

Inspur NF5180M4 (Intel Xeon E5-2698 v4)

SPECfp_base2006 = **116**

CPU2006 license: 3358

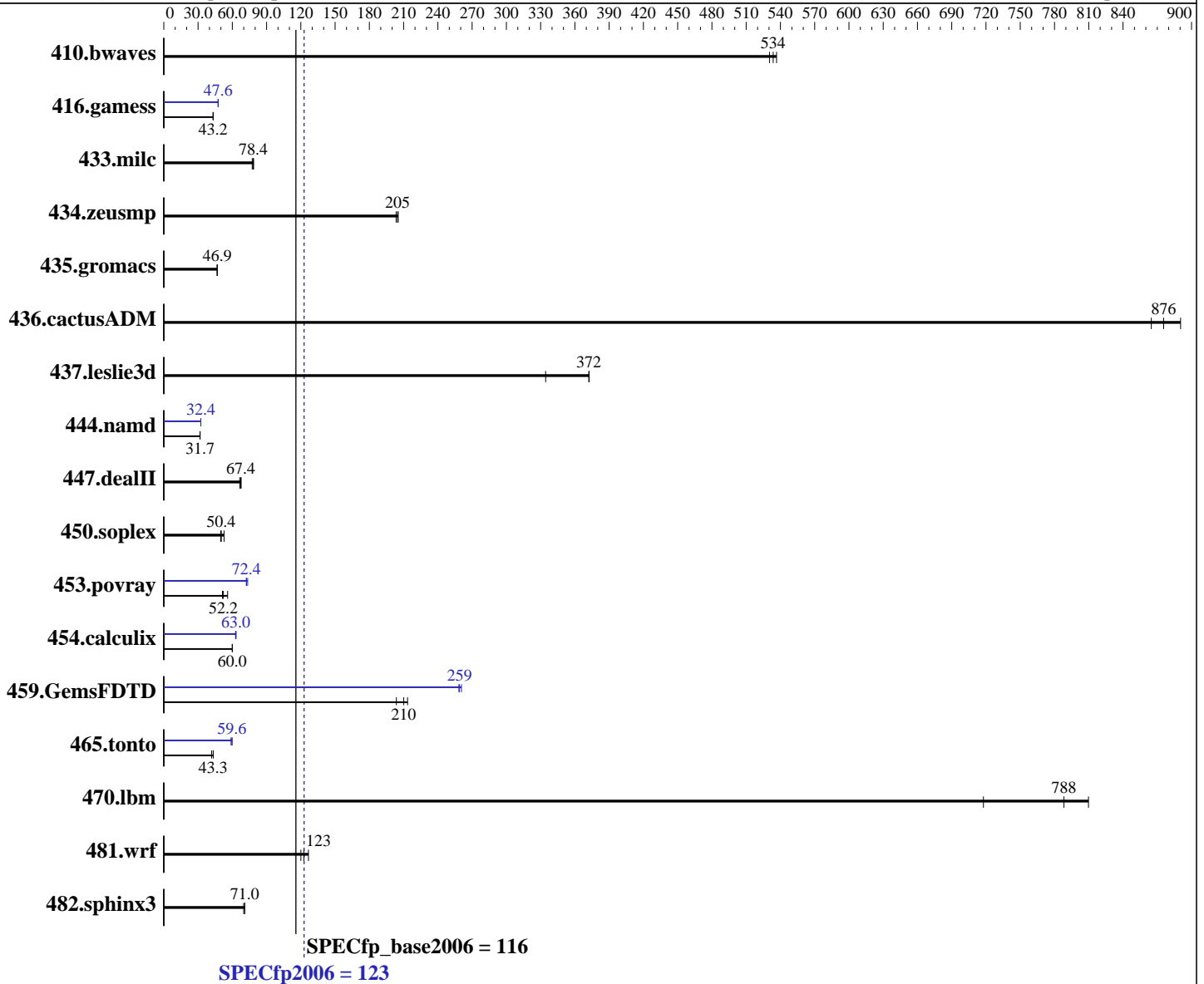
Test date: Jun-2017

Test sponsor: Inspur Corporation

Hardware Availability: Mar-2016

Tested by: Inspur Corporation

Software Availability: Apr-2017



Hardware

CPU Name: Intel Xeon E5-2698 v4
 CPU Characteristics: Intel Turbo Boost Technology up to 3.60 GHz
 CPU MHz: 2200
 FPU: Integrated
 CPU(s) enabled: 40 cores, 2 chips, 20 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: Inspur K-UX release 3.0.5 (Inspur)
 3.10.4-K_UX.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
 System State: Run level 3 (multi-user)

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Inspur Corporation

SPECfp2006 = **123**

Inspur NF5180M4 (Intel Xeon E5-2698 v4)

SPECfp_base2006 = **116**

CPU2006 license: 3358

Test sponsor: Inspur Corporation

Tested by: Inspur Corporation

Test date: Jun-2017

Hardware Availability: Mar-2016

Software Availability: Apr-2017

L3 Cache: 50 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 450 GB SATA SSD
Other Hardware: None

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	25.5	534	25.6	530	25.3	537	25.5	534	25.6	530	25.3	537
416.gamess	452	43.3	454	43.2	453	43.2	411	47.6	412	47.5	411	47.6
433.milc	119	77.4	117	78.6	117	78.4	119	77.4	117	78.6	117	78.4
434.zeusmp	44.5	205	44.7	203	44.3	205	44.5	205	44.7	203	44.3	205
435.gromacs	153	46.6	152	47.0	152	46.9	153	46.6	152	47.0	152	46.9
436.cactusADM	13.6	876	13.4	890	13.8	865	13.6	876	13.4	890	13.8	865
437.leslie3d	25.3	372	25.2	373	28.1	334	25.3	372	25.2	373	28.1	334
444.namd	253	31.7	253	31.7	253	31.7	247	32.4	247	32.4	247	32.4
447.dealII	172	66.5	170	67.4	169	67.7	172	66.5	170	67.4	169	67.7
450.soplex	158	52.8	166	50.4	167	49.8	158	52.8	166	50.4	167	49.8
453.povray	95.2	55.9	104	51.3	102	52.2	72.4	73.4	73.6	72.3	73.5	72.4
454.calculix	138	60.0	137	60.1	138	60.0	130	63.3	131	63.0	131	62.8
459.GemsFDTD	49.7	213	50.5	210	52.1	204	41.1	258	40.7	261	41.0	259
465.tonto	227	43.3	235	41.8	227	43.3	167	58.8	165	59.6	164	59.8
470.lbm	17.4	788	17.0	810	19.1	718	17.4	788	17.0	810	19.1	718
481.wrf	88.2	127	91.0	123	93.1	120	88.2	127	91.0	123	93.1	120
482.sphinx3	275	71.0	279	69.9	275	71.0	275	71.0	279	69.9	275	71.0

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 Thu Jun 15 16:55:19 2017

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Inspur Corporation

SPECfp2006 = 123

Inspur NF5180M4 (Intel Xeon E5-2698 v4)

SPECfp_base2006 = 116

CPU2006 license: 3358

Test date: Jun-2017

Test sponsor: Inspur Corporation

Hardware Availability: Mar-2016

Tested by: Inspur Corporation

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 E5-2698 v4 @ 2.20GHz
 2 "physical id"s (chips)
 40 "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    : 20
  siblings     : 20
  physical 0: cores 0 1 2 3 4 8 9 10 11 12 16 17 18 19 20 24 25 26 27 28
  physical 1: cores 0 1 2 3 4 8 9 10 11 12 16 17 18 19 20 24 25 26 27 28
cache size     : 51200 KB
```

From /proc/meminfo

```
MemTotal:      264029356 kB
HugePages_Total: 0
Hugepagesize:   2048 kB
```

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

```
inspur-release: Inspur K-UX release 3.0.5 (Inspur)
os-release:
  NAME="Inspur K-UX"
  VERSION="3 (Inspur)"
  ID="k-ux"
  VERSION_ID="3"
  PRETTY_NAME="Inspur K-UX 3 (Inspur)"
  ANSI_COLOR="0;31"
  CPE_NAME="cpe:/o:k-ux:k-ux:3"
  HOME_URL="http://www.inspur.com/"
system-release: Inspur K-UX release 3.0.5 (Inspur)
system-release-cpe: cpe:/o:k-ux:k-ux:3
```

uname -a:

```
Linux localhost.localdomain 3.10.4-K_UX.x86_64 #1 SMP Fri Sep 30 11:06:29 GMT 2016 x86_64 x86_64 x86_64 GNU/Linux
```

SPEC is set to: /home/CPU2006

```
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/mapper/ik-home xfs  393G  11G  382G   3% /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 = 123

Inspur NF5180M4 (Intel Xeon E5-2698 v4)

SPECfp_base2006 = 116

CPU2006 license: 3358

Test date: Jun-2017

Test sponsor: Inspur Corporation

Hardware Availability: Mar-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 = "40"

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

450.soplex: -DSPEC_CPU_LP64

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/

Page 4



SPEC CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Inspur Corporation

SPECfp2006 = 123

Inspur NF5180M4 (Intel Xeon E5-2698 v4)

SPECfp_base2006 = 116

CPU2006 license: 3358

Test date: Jun-2017

Test sponsor: Inspur Corporation

Hardware Availability: Mar-2016

Tested by: Inspur Corporation

Software Availability: Apr-2017

Base Portability Flags (Continued)

```

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 = 123

Inspur NF5180M4 (Intel Xeon E5-2698 v4)

SPECfp_base2006 = 116

CPU2006 license: 3358

Test date: Jun-2017

Test sponsor: Inspur Corporation

Hardware Availability: Mar-2016

Tested by: Inspur Corporation

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 = 123

Inspur NF5180M4 (Intel Xeon E5-2698 v4)

SPECfp_base2006 = 116

CPU2006 license: 3358

Test sponsor: Inspur Corporation

Tested by: Inspur Corporation

Test date: Jun-2017

Hardware Availability: Mar-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 Jul 12 12:11:54 2017 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 11 July 2017.