



SPEC® CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Inspur Corporation

SPECfp®_rate2006 = 879

Inspur NF5280M4 (Intel Xeon E5-2698 v3)

SPECfp_rate_base2006 = 854

CPU2006 license: 3358

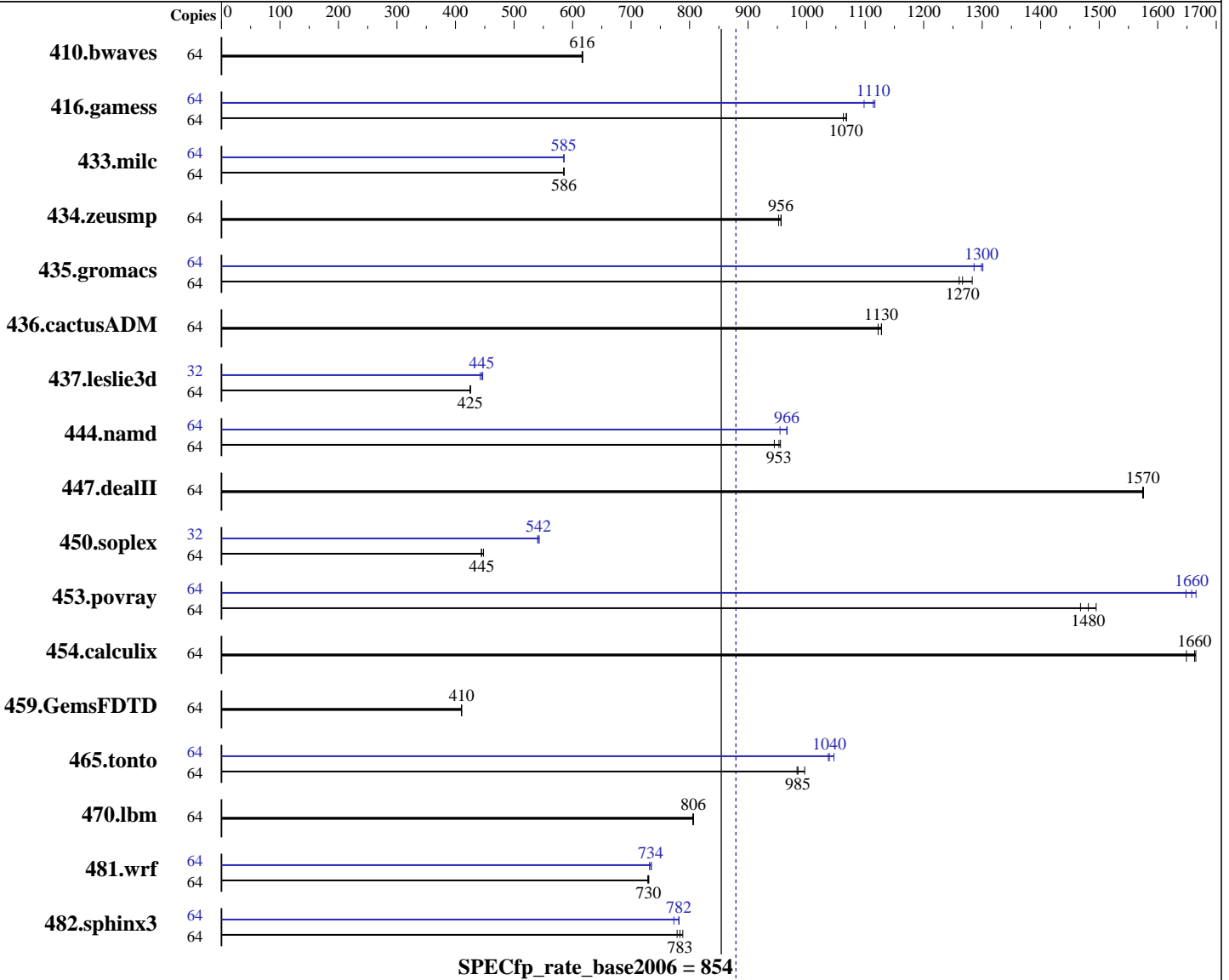
Test date: Sep-2015

Test sponsor: Inspur Corporation

Hardware Availability: Oct-2014

Tested by: Inspur Corporation

Software Availability: Nov-2014



Hardware

CPU Name: Intel Xeon E5-2698 v3
 CPU Characteristics: Intel Turbo Boost Technology up to 3.60 GHz
 CPU MHz: 2300
 FPU: Integrated
 CPU(s) enabled: 32 cores, 2 chips, 16 cores/chip, 2 threads/core
 CPU(s) orderable: 1,2 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 7.1 (Maipo)
 3.10.0-229.el7.x86_64
 Compiler: C/C++: Version 15.0.0.090 of Intel C++ Studio XE for Linux
 Auto Parallel: No
 File System: xfs
 System State: Run level 5
 Base Pointers: 32-bit

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Inspur Corporation

SPECfp_rate2006 = **879**

Inspur NF5280M4 (Intel Xeon E5-2698 v3)

SPECfp_rate_base2006 = **854**

CPU2006 license: 3358

Test sponsor: Inspur Corporation

Tested by: Inspur Corporation

Test date: Sep-2015

Hardware Availability: Oct-2014

Software Availability: Nov-2014

L3 Cache: 40 MB I+D on chip per chip
Other Cache: None
Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R)
Disk Subsystem: 1 x 450 GB SATA SSD
Other Hardware: None

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	64	1409	617	<u>1411</u>	<u>616</u>	1411	616	64	1409	617	<u>1411</u>	<u>616</u>	1411	616
416.gamess	64	1179	1060	<u>1174</u>	<u>1070</u>	1173	1070	64	<u>1125</u>	<u>1110</u>	1141	1100	1122	1120
433.milc	64	1003	586	<u>1003</u>	<u>586</u>	1005	585	64	1004	585	1003	586	<u>1004</u>	<u>585</u>
434.zeusmp	64	612	952	609	956	<u>609</u>	<u>956</u>	64	612	952	609	956	<u>609</u>	<u>956</u>
435.gromacs	64	356	1280	362	1260	<u>361</u>	<u>1270</u>	64	351	1300	355	1290	<u>352</u>	<u>1300</u>
436.cactusADM	64	682	1120	<u>678</u>	<u>1130</u>	678	1130	64	682	1120	<u>678</u>	<u>1130</u>	678	1130
437.leslie3d	64	1416	425	<u>1415</u>	<u>425</u>	1413	426	32	674	447	<u>676</u>	<u>445</u>	680	442
444.namd	64	<u>539</u>	<u>953</u>	537	955	543	945	64	538	955	<u>531</u>	<u>966</u>	531	967
447.dealII	64	<u>465</u>	<u>1570</u>	465	1570	465	1580	64	<u>465</u>	<u>1570</u>	465	1570	465	1580
450.soplex	64	1192	448	1202	444	<u>1200</u>	<u>445</u>	32	491	543	494	540	<u>493</u>	<u>542</u>
453.povray	64	228	1490	<u>230</u>	<u>1480</u>	232	1470	64	207	1650	<u>205</u>	<u>1660</u>	204	1670
454.calculix	64	<u>317</u>	<u>1660</u>	317	1670	320	1650	64	<u>317</u>	<u>1660</u>	317	1670	320	1650
459.GemsFDTD	64	1656	410	<u>1655</u>	<u>410</u>	1654	411	64	1656	410	<u>1655</u>	<u>410</u>	1654	411
465.tonto	64	<u>639</u>	<u>985</u>	632	997	640	984	64	602	1050	607	1040	<u>606</u>	<u>1040</u>
470.lbm	64	<u>1091</u>	<u>806</u>	1092	806	1090	807	64	<u>1091</u>	<u>806</u>	1092	806	1090	807
481.wrf	64	981	729	979	730	<u>980</u>	<u>730</u>	64	<u>974</u>	<u>734</u>	973	735	977	731
482.sphinx3	64	1582	788	1602	779	<u>1592</u>	<u>783</u>	64	<u>1596</u>	<u>782</u>	1614	773	1595	782

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

Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

Operating System Notes

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

Platform Notes

BIOS and OS configuration:
SCALING_GOVNOR set to Performance
Hardware Prefetch set to Disable

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Inspur Corporation

SPECfp_rate2006 = 879

Inspur NF5280M4 (Intel Xeon E5-2698 v3)

SPECfp_rate_base2006 = 854

CPU2006 license: 3358

Test sponsor: Inspur Corporation

Tested by: Inspur Corporation

Test date: Sep-2015

Hardware Availability: Oct-2014

Software Availability: Nov-2014

Platform Notes (Continued)

Memory Frequency set to 2133 MHz
 VT Support set to Disable
 ClE Support set to Disable
 Sysinfo program /home/CPU2006/config/sysinfo.rev6914
 \$Rev: 6914 \$ \$Date:: 2014-06-25 #\$ e3fbb8667b5a285932ceab81e28219e1
 running on localhost.localdomain Sun Sep 6 22:31:50 2015

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 v3 @ 2.30GHz
 2 "physical id"s (chips)
 64 "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    : 16
  siblings     : 32
  physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
  physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
cache size     : 20480 KB

```

From /proc/meminfo

```

MemTotal:      264035220 kB
HugePages_Total: 0
Hugepagesize:  2048 kB

```

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

```

os-release:
NAME="Red Hat Enterprise Linux Server"
VERSION="7.1 (Maipo)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="7.1"
PRETTY_NAME="Red Hat Enterprise Linux Server 7.1 (Maipo)"
ANSI_COLOR="0;31"
CPE_NAME="cpe:/o:redhat:enterprise_linux:7.1:GA:server"
redhat-release: Red Hat Enterprise Linux Server release 7.1 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.1 (Maipo)
system-release-cpe: cpe:/o:redhat:enterprise_linux:7.1:ga:server

```

uname -a:

```

Linux localhost.localdomain 3.10.0-229.el7.x86_64 #1 SMP Thu Jan 29 18:37:38 EST 2015 x86_64 x86_64 x86_64 GNU/Linux

```

run-level 5 Sep 6 10:34

SPEC is set to: /home/CPU2006

```

Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/mapper/rhel-home xfs      393G  125G  268G  32% /home

```

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Inspur Corporation

SPECfp_rate2006 = 879

Inspur NF5280M4 (Intel Xeon E5-2698 v3)

SPECfp_rate_base2006 = 854

CPU2006 license: 3358

Test date: Sep-2015

Test sponsor: Inspur Corporation

Hardware Availability: Oct-2014

Tested by: Inspur Corporation

Software Availability: Nov-2014

Platform Notes (Continued)

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.

BIOS American Megatrends Inc. 4.0.1 10/30/2014

Memory:

8x NO DIMM NO DIMM

16x Samsung M393A2G40DB0-CPB 16 GB 2 rank 2133 MHz

(End of data from sysinfo program)

General Notes

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

LD_LIBRARY_PATH = "/home/CPU2006/libs/32:/home/CPU2006/libs/64:/home/CPU2006/sh"

Binaries compiled on a system with 1x Core i5-4670K CPU + 16GB memory using RedHat EL 7.0

Transparent Huge Pages enabled with:

echo always > /sys/kernel/mm/transparent_hugepage/enabled

Filesystem page cache cleared with:

echo 1> /proc/sys/vm/drop_caches

runspec command invoked through numactl i.e.:

numactl --interleave=all runspec <etc>

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

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/

Page 4



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Inspur Corporation

SPECfp_rate2006 = 879

Inspur NF5280M4 (Intel Xeon E5-2698 v3)

SPECfp_rate_base2006 = 854

CPU2006 license: 3358

Test date: Sep-2015

Test sponsor: Inspur Corporation

Hardware Availability: Oct-2014

Tested by: Inspur Corporation

Software Availability: Nov-2014

Base Portability Flags (Continued)

```

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:

```

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3

```

C++ benchmarks:

```

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3

```

Fortran benchmarks:

```

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch

```

Benchmarks using both Fortran and C:

```

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3

```

Peak Compiler Invocation

C benchmarks:

```

icc -m64

```

C++ benchmarks (except as noted below):

```

icpc -m64

```

```

450.soplex: icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32

```

Fortran benchmarks:

```

ifort -m64

```

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Inspur Corporation

SPECfp_rate2006 = 879

Inspur NF5280M4 (Intel Xeon E5-2698 v3)

SPECfp_rate_base2006 = 854

CPU2006 license: 3358

Test date: Sep-2015

Test sponsor: Inspur Corporation

Hardware Availability: Oct-2014

Tested by: Inspur Corporation

Software Availability: Nov-2014

Peak Compiler Invocation (Continued)

Benchmarks using both Fortran and C:

icc -m64 ifort -m64

Peak 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
 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

Peak Optimization Flags

C benchmarks:

433.milc: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
 -O3(pass 2) -no-prec-div(pass 2)
 -opt-mem-layout-trans=3(pass 2) -prof-use(pass 2)
 -auto-ilp32

470.lbm: basepeak = yes

482.sphinx3: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-mem-layout-trans=3
 -unroll2

C++ benchmarks:

444.namd: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
 -O3(pass 2) -no-prec-div(pass 2)
 -opt-mem-layout-trans=3(pass 2) -prof-use(pass 2) -fno-alias
 -auto-ilp32

447.dealII: basepeak = yes

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Inspur Corporation

SPECfp_rate2006 = 879

Inspur NF5280M4 (Intel Xeon E5-2698 v3)

SPECfp_rate_base2006 = 854

CPU2006 license: 3358

Test date: Sep-2015

Test sponsor: Inspur Corporation

Hardware Availability: Oct-2014

Tested by: Inspur Corporation

Software Availability: Nov-2014

Peak Optimization Flags (Continued)

450.soplex: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2)
-opt-mem-layout-trans=3(pass 2) -prof-use(pass 2)
-opt-malloc-options=3

453.povray: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2)
-opt-mem-layout-trans=3(pass 2) -prof-use(pass 2) -unroll4
-ansi-alias

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll2
-inline-level=0 -scalar-rep-

434.zeusmp: basepeak = yes

437.leslie3d: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch

459.GemsFDTD: basepeak = yes

465.tonto: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll4
-auto -inline-calloc -opt-malloc-options=3

Benchmarks using both Fortran and C:

435.gromacs: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2)
-opt-mem-layout-trans=3(pass 2) -prof-use(pass 2)
-opt-prefetch -auto-ilp32

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: -xCORE-AVX2 -ipo -O3 -no-prec-div -auto-ilp32

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.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-ic15.0-official-linux64.xml>

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



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Inspur Corporation

SPECfp_rate2006 = 879

Inspur NF5280M4 (Intel Xeon E5-2698 v3)

SPECfp_rate_base2006 = 854

CPU2006 license: 3358

Test sponsor: Inspur Corporation

Tested by: Inspur Corporation

Test date: Sep-2015

Hardware Availability: Oct-2014

Software Availability: Nov-2014

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 Oct 20 16:25:20 2015 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 20 October 2015.