



SPEC® CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Huawei

SPECfp®_rate2006 = NC

Huawei CH222 V3 (Intel Xeon E5-2695 v4)

SPECfp_rate_base2006 = NC

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Feb-2016

Hardware Availability: Mar-2016

Software Availability: Mar-2016

SPEC has determined that this result is not in compliance with the SPEC CPU2006 run and reporting rules. Specifically, the memory was not
a href="http://spec.org/cpu2006/Docs/runrules.html#rule_1.3.2">SPEC CPU run
up policy on gener

| | Copies |
|---------------|--------|
| 410.bwaves | |
| 416.gamess | |
| 433.milc | |
| 434.zeusmp | |
| 435.gromacs | |
| 436.cactusADM | |
| 437.leslie3d | |
| 444.namd | |
| 447.dealII | |
| 450.soplex | |
| 453.povray | |
| 454.calculix | |
| 459.GemsFDTD | |
| 465.tonto | |
| 471.lbm | |
| 481.wrf | |
| 482.sphinx3 | |

Non-Compliant



SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Huawei

SPECfp_rate2006 = **NC**

Huawei CH222 V3 (Intel Xeon E5-2695 v4)

SPECfp_rate_base2006 = **NC**

CPU2006 license: 3175

Test date: Feb-2016

Test sponsor: Huawei

Hardware Availability: Mar-2016

Tested by: Huawei

Software Availability: Mar-2016

SPEC has determined that this result is not in compliance with the SPEC CPU2006 run and reporting rules. Specifically, the memory was not
up policy on http://spec.org/cpu2006/Docs/runrules.html#rule_1.3.2 **SPEC CPU run**
up policy on <https://www.spec.org/osg/policy.html#AppendixC> **gener**

Hardware

CPU Name: Intel Xeon E5-2695 v4
 CPU Characteristics: Intel Turbo Boost Technology up to 3.30 GHz
 CPU MHz: 2100
 FPU: Integrated
 CPU(s) enabled: 36 cores, 2 chips, 18 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
 L3 Cache: 45 MB I+D on chip per chip
 Other Cache: None
 Memory: 256 GB (16 x 16 GB 2Rx4 PC3 2400T-
 Disk Subsystem: 1 x 600GB SAS, 10000 RPM
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 7.0
 Compiler: C/C++ version 16.0.0.101 of Intel C++ Studio XE for Linux;
 Fortran: Version 16.0.0.101 of Intel Fortran Studio XE for Linux
 Attached Parallel File System: No
 File System: xfs
 System State: Run level 3 (multi-user)
 Base Pointers: 32/64-bit
 Peak Pointers: 32/64-bit
 Other Software: None

Non-Compliant



SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Huawei

SPECfp_rate2006 = **NC**

Huawei CH222 V3 (Intel Xeon E5-2695 v4)

SPECfp_rate_base2006 = **NC**

CPU2006 license: 3175

Test date: Feb-2016

Test sponsor: Huawei

Hardware Availability: Mar-2016

Tested by: Huawei

Software Availability: Mar-2016

SPEC has determined that this result is not in compliance with the SPEC CPU2006 run and reporting rules. Specifically, the memory was not http://spec.org/cpu2006/Docs/runrules.html#rule_1.3.2 SPEC CPU run up policy on <https://www.spec.org/osg/policy.html#AppendixC> gener

Results Table

| Benchmark | Base | | | | | | | | Peak | | | | | | | |
|---------------|--------|---------|-------|---------|-------|---------|-------|--------|---------|-------|---------|-------|---------|-------|--|--|
| | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | | |
| 410.bwaves | 72 | NC | NC | NC | NC | NC | NC | 72 | NC | NC | NC | NC | NC | NC | | |
| 416.gamess | 72 | NC | NC | NC | NC | NC | NC | 72 | NC | NC | NC | NC | NC | NC | | |
| 433.milc | 72 | NC | NC | NC | NC | NC | NC | 72 | NC | NC | NC | NC | NC | NC | | |
| 434.zeusmp | 72 | NC | NC | NC | NC | NC | NC | 72 | NC | NC | NC | NC | NC | NC | | |
| 435.gromacs | 72 | NC | NC | NC | NC | NC | NC | 72 | NC | NC | NC | NC | NC | NC | | |
| 436.cactusADM | 72 | NC | NC | NC | NC | NC | NC | 72 | NC | NC | NC | NC | NC | NC | | |
| 437.leslie3d | 72 | NC | NC | NC | NC | NC | NC | 72 | NC | NC | NC | NC | NC | NC | | |
| 444.namd | 72 | NC | NC | NC | NC | NC | NC | 72 | NC | NC | NC | NC | NC | NC | | |
| 447.dealII | 72 | NC | NC | NC | NC | NC | NC | 72 | NC | NC | NC | NC | NC | NC | | |
| 450.soplex | 72 | NC | NC | NC | NC | NC | NC | 36 | NC | NC | NC | NC | NC | NC | | |
| 453.povray | 72 | NC | NC | NC | NC | NC | NC | 72 | NC | NC | NC | NC | NC | NC | | |
| 454.calculix | 72 | NC | NC | NC | NC | NC | NC | 72 | NC | NC | NC | NC | NC | NC | | |
| 459.GemsFDTD | 72 | NC | NC | NC | NC | NC | NC | 72 | NC | NC | NC | NC | NC | NC | | |
| 465.tonto | 72 | NC | NC | NC | NC | NC | NC | 72 | NC | NC | NC | NC | NC | NC | | |
| 470.lbm | 72 | NC | NC | NC | NC | NC | NC | 72 | NC | NC | NC | NC | NC | NC | | |
| 481.wrf | 72 | NC | NC | NC | NC | NC | NC | 72 | NC | NC | NC | NC | NC | NC | | |
| 482.sphinx3 | 72 | NC | NC | NC | NC | NC | NC | 72 | NC | NC | NC | NC | NC | NC | | |

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"



SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Huawei

SPECfp_rate2006 = **NC**

Huawei CH222 V3 (Intel Xeon E5-2695 v4)

SPECfp_rate_base2006 = **NC**

CPU2006 license: 3175

Test date: Feb-2016

Test sponsor: Huawei

Hardware Availability: Mar-2016

Tested by: Huawei

Software Availability: Mar-2016

SPEC has determined that this result is not in compliance with the SPEC CPU2006 run and reporting rules. Specifically, the memory was not
a href="http://spec.org/cpu2006/Docs/runrules.html#rule_1.3.2">SPEC CPU run
up policy on gener

Platform Notes

BIOS configuration:

Set Power Efficiency Mode to Performance

Set Snoop Mode to COD mode

Set Patrol Scrub to Disable

Sysinfo program /spec/spec16/config/sysinfo rev691

\$Rev: 6914 \$ \$Date:: 2014-06-25 # \$ e3fbb86675fa285932ceab81e28219e1

running on localhost.localdomain Tue Nov 11 12:10:10 2014

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 E5-2695 v4 @ 2.10GHz

2 "physical id"s (chips)

72 "processors"

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

cpu cores : 9

siblings : 1

physical 0: cores 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27

physical 1: cores 0 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27

cache size : 2304 KB

From /proc/meminfo

MemTotal: 63564176 kB

HugePages_Total: 0

HugePages_Small: 2048 kB

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

NAME="Red Hat Enterprise Linux Server"

VERSION="7.0 (Maipo)"

ID="rhel"

ID_LIKE="fedora"

VERSION_ID="7.0"

PRETTY_NAME="Red Hat Enterprise Linux Server 7.0 (Maipo)"

ANSI_COLOR="0;31"

CPE_NAME="cpe:/o:redhat:enterprise_linux:7.0:GA:server"

redhat-release: Red Hat Enterprise Linux Server release 7.0 (Maipo)

system-release: Red Hat Enterprise Linux Server release 7.0 (Maipo)

system-release-cpe: cpe:/o:redhat:enterprise_linux:7.0:ga:server

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

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

Page 4



SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Huawei

SPECfp_rate2006 = **NC**

Huawei CH222 V3 (Intel Xeon E5-2695 v4)

SPECfp_rate_base2006 = **NC**

CPU2006 license: 3175

Test date: Feb-2016

Test sponsor: Huawei

Hardware Availability: Mar-2016

Tested by: Huawei

Software Availability: Mar-2016

SPEC has determined that this result is not in compliance with the SPEC CPU2006 run and reporting rules. Specifically, the memory was not
up policy on http://spec.org/cpu2006/Docs/runrules.html#rule_1.3.2 **SPEC CPU run**
up policy on <https://www.spec.org/osg/policy.html#AppendixC> **gener**

Platform Notes (Continued)

```
uname -a:
Linux localhost.localdomain 3.10.0-123.el7.x86_64 #1 SMP Mon May 5 11:16:57
EDT 2014 x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 3 Nov 9 09:59
```

```
SPEC is set to: /spec/spec16
```

```
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda2        xfs   549G  135G  415G  25% /
```

```
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 Insyde Corp. 3.09 02/20/2014
```

```
Memory:
```

```
8x NO DIMM NO DIMM 3 rank
8x Samsung M393A2G40EB1-CRC 16 GB 1 rank 2400 MHz
8x Samsung M393A2G40EB1-CRC 16 GB 2 rank 2400 MHz
```

```
(End of data from dmidecode program)
```

General Notes

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

```
LD_LIBRARY_PATH = "/spec/spec16/libs/32:/spec/spec16/libs/64:/spec/spec16/sh"
```

Binaries compiled on a system with 1x Intel Core i5-4670K CPU + 32GB
RedHat EL 7.1

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>
```

The Huawei CH121 V3 and Huawei CH222 V3

are electronically equivalent.

The results have been measured on a Huawei CH121 V3 model



SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Huawei

SPECfp_rate2006 = **NC**

Huawei CH222 V3 (Intel Xeon E5-2695 v4)

SPECfp_rate_base2006 = **NC**

CPU2006 license: 3175

Test date: Feb-2016

Test sponsor: Huawei

Hardware Availability: Mar-2016

Tested by: Huawei

Software Availability: Mar-2016

SPEC has determined that this result is not in compliance with the SPEC CPU2006 run and reporting rules. Specifically, the memory was not
a href="http://spec.org/cpu2006/Docs/runrules.html#rule_1.3.2">SPEC CPU run
up policy on gener

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.tomcat: -DSPEC_CPU_LP64
470.lbm: -DSPEC_CPU_LP64
481.wt: -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

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Huawei

SPECfp_rate2006 = **NC**

Huawei CH222 V3 (Intel Xeon E5-2695 v4)

SPECfp_rate_base2006 = **NC**

CPU2006 license: 3175

Test date: Feb-2016

Test sponsor: Huawei

Hardware Availability: Mar-2016

Tested by: Huawei

Software Availability: Mar-2016

SPEC has determined that this result is not in compliance with the SPEC CPU2006 run and reporting rules. Specifically, the memory was not
a href="http://spec.org/cpu2006/Docs/runrules.html#rule_1.3.2">SPEC CPU run
up policy on gener

Base Optimization Flags (Continued)

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 -x32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin

Fortran benchmarks:

ifort -m64

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

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Huawei

SPECfp_rate2006 = **NC**

Huawei CH222 V3 (Intel Xeon E5-2695 v4)

SPECfp_rate_base2006 = **NC**

CPU2006 license: 3175

Test date: Feb-2016

Test sponsor: Huawei

Hardware Availability: Mar-2016

Tested by: Huawei

Software Availability: Mar-2016

SPEC has determined that this result is not in compliance with the SPEC CPU2006 run and reporting rules. Specifically, the memory was not http://spec.org/cpu2006/Docs/runrules.html#rule_1.3.2 SPEC CPU run up policy on <https://www.spec.org/osg/policy.html#AppendixC> gener

Peak Portability Flags (Continued)

450.soplex: -D_FILE_OFFSET_BITS=64
 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_USE_FLAGS -DSPEC_CPU_LINUX
 482.sphinx3: -DSPEC_CPU_LP64

Peak Optimization Flags

C benchmarks:

433.milc: basepeak = yes
 470.lbm: basepeak = yes
 482.sphinx3: basepeak = yes

C++ benchmarks:

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

447.cgalII: basepeak = yes

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

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

Fortran benchmarks:

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Huawei

SPECfp_rate2006 = **NC**

Huawei CH222 V3 (Intel Xeon E5-2695 v4)

SPECfp_rate_base2006 = **NC**

CPU2006 license: 3175

Test date: Feb-2016

Test sponsor: Huawei

Hardware Availability: Mar-2016

Tested by: Huawei

Software Availability: Mar-2016

SPEC has determined that this result is not in compliance with the SPEC CPU2006 run and reporting rules. Specifically, the memory was not
a href="http://spec.org/cpu2006/Docs/runrules.html#rule_1.3.2">SPEC CPU run
up policy on gener

Peak Optimization Flags (Continued)

410.bwaves: basepeak = yes

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

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
-par-num-threads=1(pass 1) -prof-use(pass 2) -unroll14 -auto
-inline-alloc -opt-alloc-options=3

Benchmarks using both Fortran and C:

435.gromacs: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
-par-num-threads=1(pass 1) -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: basepeak = yes

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

<http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.html>

<http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-BDW-V1.0.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.xml>

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



SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Huawei

SPECfp_rate2006 = NC

Huawei CH222 V3 (Intel Xeon E5-2695 v4)

SPECfp_rate_base2006 = NC

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Feb-2016

Hardware Availability: Mar-2016

Software Availability: Mar-2016

SPEC has determined that this result is not in compliance with the SPEC CPU2006 run and reporting rules. Specifically, the memory was not

compliant with the [SPEC CPU run and reporting rules](http://spec.org/cpu2006/Docs/runrules.html#rule_1.3.2) and [general reporting policy](https://www.spec.org/osg/policy.html#AppendixC).

Non-Compliant

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 Fri Oct 21 15:52:27 2016 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 7 April 2016.