# SPEC® CFP2006 Result

## Huawei

### Huawei CH225 V3 (Intel Xeon E5-2670 v3)

**SPECfp®_rate2006** = **Not Run**

**SPECfp_rate_base2006** = **762**

<table>
<thead>
<tr>
<th>Test sponsor:</th>
<th>Huawei</th>
<th>Test date:</th>
<th>Feb-2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tested by:</td>
<td>Huawei</td>
<td>Hardware Availability:</td>
<td>Dec-2015</td>
</tr>
<tr>
<td>CPU2006 license:</td>
<td>3175</td>
<td>Software Availability:</td>
<td>Sep-2014</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Test</th>
<th>Copied</th>
<th>Benchmark</th>
<th>SPECfp_rate_base2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>410.bwaves</td>
<td>48</td>
<td>605</td>
<td></td>
</tr>
<tr>
<td>416.gamess</td>
<td>48</td>
<td>837</td>
<td></td>
</tr>
<tr>
<td>433.milc</td>
<td>48</td>
<td>578</td>
<td></td>
</tr>
<tr>
<td>434.zeusmp</td>
<td>48</td>
<td>889</td>
<td></td>
</tr>
<tr>
<td>435.gromacs</td>
<td>48</td>
<td>1030</td>
<td></td>
</tr>
<tr>
<td>436.cactusADM</td>
<td>48</td>
<td>1040</td>
<td></td>
</tr>
<tr>
<td>437.leslie3d</td>
<td>48</td>
<td>425</td>
<td></td>
</tr>
<tr>
<td>444.namd</td>
<td>48</td>
<td>669</td>
<td></td>
</tr>
<tr>
<td>447.dealII</td>
<td>48</td>
<td>1350</td>
<td></td>
</tr>
<tr>
<td>450.soplex</td>
<td>48</td>
<td>441</td>
<td></td>
</tr>
<tr>
<td>453.povray</td>
<td>48</td>
<td>1110</td>
<td></td>
</tr>
<tr>
<td>454.calcui</td>
<td>48</td>
<td>1270</td>
<td></td>
</tr>
<tr>
<td>459.GemsFD</td>
<td>48</td>
<td>407</td>
<td></td>
</tr>
<tr>
<td>465.tonto</td>
<td>48</td>
<td>841</td>
<td></td>
</tr>
<tr>
<td>470.lbm</td>
<td>48</td>
<td>812</td>
<td></td>
</tr>
<tr>
<td>481.wrf</td>
<td>48</td>
<td>711</td>
<td></td>
</tr>
<tr>
<td>482.sphinx3</td>
<td>48</td>
<td>744</td>
<td></td>
</tr>
</tbody>
</table>

---

**Hardware**

- **CPU Name:** Intel Xeon E5-2670 v3
- **CPU Characteristics:** Intel Turbo Boost Technology up to 3.10 GHz
- **CPU MHz:** 2300
- **FPU:** Integrated
- **CPU(s) enabled:** 24 cores, 2 chips, 12 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

**Software**

- **Operating System:** Red Hat Enterprise Linux Server release 7.0 (Maipo) 3.10.0-123.el7.x86_64
- **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
- **Auto Parallel:** No
- **File System:** xfs

---

Continued on next page
Spec CFP2006 Result

Huawei

Huawei CH225 V3 (Intel Xeon E5-2670 v3)

SPECfp_rate2006 = Not Run

SPECfp_rate_base2006 = 762

CPU2006 license: 3175
Test sponsor: Huawei
Tested by: Huawei

Test date: Feb-2016
Hardware Availability: Dec-2015
Software Availability: Sep-2014

L3 Cache: 30 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 500 GB SATA, 7200 RPM
Other Hardware: None

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

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>410.bwaves</td>
<td>48</td>
<td>1077</td>
<td>606</td>
<td>1078</td>
<td>605</td>
<td>1078</td>
<td>605</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>416.gamess</td>
<td>48</td>
<td>1123</td>
<td>837</td>
<td>1109</td>
<td>847</td>
<td>1138</td>
<td>826</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>433.milc</td>
<td>48</td>
<td>763</td>
<td>577</td>
<td>763</td>
<td>578</td>
<td>763</td>
<td>578</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>434.zeusmp</td>
<td>48</td>
<td>491</td>
<td>889</td>
<td>492</td>
<td>889</td>
<td>495</td>
<td>882</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>435.gromacs</td>
<td>48</td>
<td>335</td>
<td>1020</td>
<td>331</td>
<td>1030</td>
<td>332</td>
<td>1030</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>436.cactusADM</td>
<td>48</td>
<td>552</td>
<td>1040</td>
<td>552</td>
<td>1040</td>
<td>554</td>
<td>1040</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>437.leslie3d</td>
<td>48</td>
<td>1063</td>
<td>424</td>
<td>1063</td>
<td>425</td>
<td>1062</td>
<td>425</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>444.namd</td>
<td>48</td>
<td>572</td>
<td>672</td>
<td>576</td>
<td>668</td>
<td>575</td>
<td>669</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>447.dealII</td>
<td>48</td>
<td>413</td>
<td>1330</td>
<td>400</td>
<td>1370</td>
<td>408</td>
<td>1350</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>450.soplex</td>
<td>48</td>
<td>908</td>
<td>441</td>
<td>905</td>
<td>442</td>
<td>909</td>
<td>440</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>453.povray</td>
<td>48</td>
<td>230</td>
<td>1110</td>
<td>232</td>
<td>1100</td>
<td>230</td>
<td>1110</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>454.calculix</td>
<td>48</td>
<td>313</td>
<td>1270</td>
<td>309</td>
<td>1280</td>
<td>312</td>
<td>1270</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>459.GemsFDTD</td>
<td>48</td>
<td>1250</td>
<td>407</td>
<td>1249</td>
<td>408</td>
<td>1250</td>
<td>407</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>465.tonto</td>
<td>48</td>
<td>562</td>
<td>841</td>
<td>565</td>
<td>836</td>
<td>561</td>
<td>842</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>470.lbm</td>
<td>48</td>
<td>812</td>
<td>812</td>
<td>812</td>
<td>812</td>
<td>814</td>
<td>810</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>481.wrf</td>
<td>48</td>
<td>759</td>
<td>707</td>
<td>754</td>
<td>711</td>
<td>754</td>
<td>711</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>482.sphinx3</td>
<td>48</td>
<td>1249</td>
<td>749</td>
<td>1258</td>
<td>744</td>
<td>1257</td>
<td>744</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

Set Power Efficiency Mode to Performance
Set Snoop Mode to COD
Set Hyper-Threading to enabled

Continued on next page
Huawei

Huawei CH225 V3 (Intel Xeon E5-2670 v3)

**SPEC CFP2006 Result**

**SPECfp_rate2006 = Not Run**

**SPECfp_rate_base2006 = 762**

<table>
<thead>
<tr>
<th>CPU2006 license:</th>
<th>3175</th>
<th>Test date:</th>
<th>Feb-2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test sponsor:</td>
<td>Huawei</td>
<td>Hardware Availability:</td>
<td>Dec-2015</td>
</tr>
<tr>
<td>Tested by:</td>
<td>Huawei</td>
<td>Software Availability:</td>
<td>Sep-2014</td>
</tr>
</tbody>
</table>

**Platform Notes (Continued)**

Baseboard Management Controller used to adjust the fan speed to 100%
Sysinfo program /spec16/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
running on localhost.localdomain Tue Feb 2 07:13:25 2016

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 E5-2670 v3 @ 2.30GHz
  2 "physical id"s (chips)
  48 "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 : 6
    siblings : 12
    physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 13
    physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 13
    cache size : 15360 KB

From /proc/meminfo
  MemTotal:       263575152 kB
  HugePages_Total:       0
  Hugepagesize:       2048 kB

From /etc/*release* /etc/*version*
  os-release:
    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

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 Feb 2 01:08

SPEC is set to: /spec16
  Filesystem Type Size Used Avail Use% Mounted on
  /dev/sda2 xfs 449G 33G 417G 8% /

Additional information from dmidecode:

Continued on next page
Huawei

Huawei CH225 V3 (Intel Xeon E5-2670 v3)  

**SPECfp_rate2006 = Not Run**  
**SPECfp_rate_base2006 = 762**

CPU2006 license: 3175  
Test date: Feb-2016  
Test sponsor: Huawei  
Hardware Availability: Dec-2015  
Tested by: Huawei  
Software Availability: Sep-2014

**Platform Notes (Continued)**

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. 1.69 10/31/2015  
Memory:  
8x Micron 36ASF2G72PZ-2G1A2 16 GB 1 rank 2133 MHz  
8x Micron 36ASF2G72PZ-2G1A2 16 GB 2 rank 2133 MHz  
8x NO DIMM NO DIMM 3 rank

(End of data from sysinfo program)

**General Notes**

Environment variables set by runspec before the start of the run:  
LD_LIBRARY_PATH = "/spec16/libs/32:/spec16/libs/64:/spec16/sh"

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

Transparent Huge Pages enabled with:  
echo always > /sys/kernel/mm/transparent_hugepage(enabled
Filesystm 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  
433.milc: -DSPEC_CPU_LP64

Continued on next page
SPEC CFP2006 Result

Huawei

Huawei CH225 V3 (Intel Xeon E5-2670 v3)  SPECfp_rate2006 = Not Run
SPECfp_rate_base2006 = 762

CPU2006 license: 3175
Test sponsor: Huawei
Tested by: Huawei

SpecPortability Flags (Continued)

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

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-HASWELL-V1.4.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-HASWELL-V1.4.xml
<table>
<thead>
<tr>
<th>Huawei CH225 V3 (Intel Xeon E5-2670 v3)</th>
<th>SPECfp_rate2006 = Not Run</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SPECfp_rate_base2006 = 762</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CPU2006 license: 3175</th>
<th>Test date: Feb-2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test sponsor: Huawei</td>
<td>Hardware Availability: Dec-2015</td>
</tr>
<tr>
<td>Tested by: Huawei</td>
<td>Software Availability: Sep-2014</td>
</tr>
</tbody>
</table>

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.