Inspur Corporation

Inspur NF5270M4 (Intel Xeon E5-2630 v4)

**SPECfp®2006 = 112**

**SPECfp_base2006 = 108**

CPU2006 license: 3358
Test sponsor: Inspur Corporation
Tested by: Inspur Corporation

**Test date:** Jul-2017
**Hardware Availability:** Apr-2016
**Software Availability:** Apr-2017

**CPU Name:** Intel Xeon E5-2630 v4
**CPU Characteristics:** Intel Turbo Boost Technology up to 3.10 GHz
**CPU MHz:** 2200
**FPU:** Integrated
**CPU(s) enabled:** 20 cores, 2 chips, 10 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

**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

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
470.lbm
481.wrf
482.sphinx3

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info@spec.org
http://www.spec.org/
Inspur Corporation

Inspur NF5270M4 (Intel Xeon E5-2630 v4)

**SPEC CFP2006 Result**

**SPECfp2006 =** 112

**SPECfp_base2006 =** 108

**CPU2006 license:** 3358

**Test date:** Jul-2017

**Test sponsor:** Inspur Corporation

**Hardware Availability:** Apr-2016

**Tested by:** Inspur Corporation

**Software Availability:** Apr-2017

**System State:** Run level 5 (multi-user)

**Base Pointers:** 64-bit

**Peak Pointers:** 32/64-bit

**Other Software:** None

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Results Table

<table>
<thead>
<tr>
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<th>Seconds</th>
<th>Ratio</th>
<th>Base Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
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<td>282</td>
<td>69.2</td>
</tr>
</tbody>
</table>

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

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**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 Fri Jul 21 12:48:31 2017

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Inspur Corporation

Inspur NF5270M4 (Intel Xeon E5-2630 v4)  SPECfp2006 = 112
SPECfp_base2006 = 108

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 E5-2630 v4 @ 2.20GHz
2 "physical id"s (chips)
20 "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 : 10
siblings : 10
physical 0: cores 0 1 2 3 4 8 9 10 11 12
physical 1: cores 0 1 2 3 4 8 9 10 11 12
cache size : 25600 KB

From /proc/meminfo

MemTotal:       263853716 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)

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 19 10:37

SPEC is set to: /home/CPU2006

Filesystem        Type      Size  Used  Avail Use% Mounted on
/dev/mapper/rhel-home xfs   392G   151G  242G  39%  /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.

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INSPIR CORPORATION

INSPIR NF5270M4 (Intel Xeon E5-2630 v4)

SPECfp2006 = 112
SPECfp_base2006 = 108

CPU2006 license: 3358
Test sponsor: INSPIR CORPORATION
Tested by: INSPIR CORPORATION

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 = "20"

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 -nofor_main
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
Inspur Corporation
Inspur NF5270M4 (Intel Xeon E5-2630 v4)

SPECfp2006 = 112
SPECfp_base2006 = 108

CPU2006 license: 3358
Test date: Jul-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
Inspur Corporation

Inspur NF5270M4 (Intel Xeon E5-2630 v4)

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CPU2006 license: 3358  Test date: Jul-2017
Test sponsor: Inspur Corporation  Hardware Availability: Apr-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)
-parallel 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)
-parallel 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)
-parallel 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)
-parallel threads=1(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -unroll2 -inline-level=0 -opt-prefetch -parallel
465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)
-parallel threads=1(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -inline-callloc -opt-malloc-options=3
-auto -unroll4

Benchmarks using both Fortran and C:
435.gromacs: basepeak = yes
436.cactusADM: basepeak = yes

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Inspur Corporation

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Peak Optimization Flags (Continued)

454.calculix: -xCORE-AVX2 -ipo -O3 -no-prec-div -auto-ipl32

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

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For other inquiries, please contact webmaster@spec.org.

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