**Inspur Corporation**

**Inspur NF5180M4 (Intel Xeon E5-2620 v4)**

**SPECint\textsuperscript{2006} = 63.7**  
**SPECint\textsubscript{base2006} = 60.3**

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<thead>
<tr>
<th>Test sponsor</th>
<th>Inspur Corporation</th>
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<tr>
<td>Tested by</td>
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<td>CPU2006 license</td>
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<td>Aug-2017</td>
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<tr>
<td>Hardware Availability</td>
<td>Apr-2016</td>
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<td>Software Availability</td>
<td>Apr-2017</td>
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<table>
<thead>
<tr>
<th>CPU Name</th>
<th>Intel Xeon E5-2620 v4</th>
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<tbody>
<tr>
<td>CPU Characteristics</td>
<td>Intel Turbo Boost Technology up to 3.00 GHz</td>
</tr>
<tr>
<td>CPU MHz</td>
<td>2100</td>
</tr>
<tr>
<td>FPU</td>
<td>Integrated</td>
</tr>
<tr>
<td>CPU(s) enabled</td>
<td>16 cores, 2 chips, 8 cores/chip</td>
</tr>
<tr>
<td>CPU(s) orderable</td>
<td>1.2 chips</td>
</tr>
<tr>
<td>Primary Cache</td>
<td>32 KB I + 32 KB D on chip per core</td>
</tr>
<tr>
<td>Secondary Cache</td>
<td>256 KB I+D on chip per core</td>
</tr>
<tr>
<td>L3 Cache</td>
<td>20 MB I+D on chip per chip</td>
</tr>
<tr>
<td>Other Cache</td>
<td>None</td>
</tr>
<tr>
<td>Memory</td>
<td>256 GB (16 x 16 GB 2Rx4 PC4-2400T-R, running at 2133 MHz)</td>
</tr>
<tr>
<td>Disk Subsystem</td>
<td>1 x 900 GB SATA SSD</td>
</tr>
<tr>
<td>Other Hardware</td>
<td>None</td>
</tr>
</tbody>
</table>

| 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 |
| Auto Parallel            | Yes                  |
| File System              | xfs                  |
| System State             | Run level 5 (multi-user) |
| Base Pointers            | 32/64-bit            |
| Peak Pointers            | 32/64-bit            |
| Other Software           | Microquill SmartHeap V10.2 |

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For more information, visit [www.spec.org](http://www.spec.org)
Inspur Corporation

Inspur NF5180M4 (Intel Xeon E5-2620 v4)

**SPECint2006** = 63.7

**SPECint_base2006** = 60.3

---

**Results Table**

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
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<th>Ratio</th>
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<tbody>
<tr>
<td>400.perlbench</td>
<td>264</td>
<td>37.0</td>
<td>264</td>
<td>36.9</td>
<td>264</td>
<td>37.0</td>
<td>229</td>
<td>42.7</td>
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<tr>
<td>401.bzip2</td>
<td>407</td>
<td>23.7</td>
<td>407</td>
<td>23.7</td>
<td>408</td>
<td>23.6</td>
<td>400</td>
<td>24.1</td>
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<td>403.gcc</td>
<td>227</td>
<td>35.4</td>
<td>228</td>
<td>35.4</td>
<td>228</td>
<td>35.3</td>
<td>230</td>
<td>35.0</td>
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<tr>
<td>429.mcf</td>
<td>136</td>
<td>67.1</td>
<td>138</td>
<td>66.3</td>
<td>134</td>
<td>68.0</td>
<td>135</td>
<td>67.4</td>
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<tr>
<td>445.gobmk</td>
<td>375</td>
<td>28.0</td>
<td>375</td>
<td>27.9</td>
<td>374</td>
<td>28.0</td>
<td>366</td>
<td>28.7</td>
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<tr>
<td>456.hmmer</td>
<td>119</td>
<td>78.3</td>
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<tr>
<td>458.sjeng</td>
<td>385</td>
<td>31.5</td>
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<td>31.4</td>
<td>385</td>
<td>31.4</td>
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<td>462.libquantum</td>
<td>4.60</td>
<td>4500</td>
<td>4.59</td>
<td>4510</td>
<td>4.66</td>
<td>4540</td>
<td>4.60</td>
<td>4500</td>
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<tr>
<td>464.h264ref</td>
<td>405</td>
<td>54.7</td>
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<td>54.7</td>
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<td>54.7</td>
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<tr>
<td>471.omnetpp</td>
<td>212</td>
<td>29.5</td>
<td>212</td>
<td>29.5</td>
<td>212</td>
<td>29.4</td>
<td>150</td>
<td>41.6</td>
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<tr>
<td>473.astar</td>
<td>214</td>
<td>32.9</td>
<td>215</td>
<td>32.6</td>
<td>217</td>
<td>32.4</td>
<td>214</td>
<td>32.8</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>100</td>
<td>68.8</td>
<td>101</td>
<td>68.6</td>
<td>100</td>
<td>68.7</td>
<td>91.3</td>
<td>75.6</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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**Submit Notes**

The config file option 'submit' was used.

---

**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 Tue Aug 15 01:36:23 2017

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 E5-2620 v4 @ 2.10GHz
- 2 "physical id"s (chips)
- 16 "processors"
- cores, siblings (Caution: counting these is hw and system dependent. The
Inspur Corporation

Inspur NF5180M4 (Intel Xeon E5-2620 v4)

SPECint2006 = 63.7
SPECint_base2006 = 60.3

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

Platform Notes (Continued)

following excerpts from /proc/cpuinfo might not be reliable. Use with caution.

- cpu cores : 8
- siblings : 8
- physical 0: cores 0 1 2 3 4 5 6 7
- physical 1: cores 0 1 2 3 4 5 6 7
- cache size : 20480 KB

From /proc/meminfo

- MemTotal: 263852996 kB
- HugePages_Total: 0
- Hugepagesize: 2048 kB

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

- 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"

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 Aug 15 01:34

SPEC is set to: /home/CPU2006

Filesystem Type Size Used Avail Use% Mounted on
/dev/mapper/rhel-home xfs 877G 11G 866G 2% /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.

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)
SPEC CINT2006 Result

Inspur Corporation

Inspur NF5180M4 (Intel Xeon E5-2620 v4)

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

Test date: Aug-2017
Hardware Availability: Apr-2016
Software Availability: Apr-2017

General Notes

Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,scatter"
LD_LIBRARY_PATH = "/home/CPU2006/lib/ia32;/home/CPU2006/lib/intel64;/home/CPU2006/sh10.2"
OMP_NUM_THREADS = "16"

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

Base Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
471.omnetpp: -DSPEC_CPU_LP64
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -qopt-prefetch -auto-p32

C++ benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -auto-p32
-Wl,-z,muldefs -L/sh10.2 -lsmartheap64
SPEC CINT2006 Result

Inspur Corporation
Inspur NF5180M4 (Intel Xeon E5-2620 v4)

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CPU2006 license: !338
Test sponsor: Inspur Corporation
Tested by: Inspur Corporation

Test date: Aug-2017
Hardware Availability: Apr-2016
Software Availability: Apr-2017

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
icc -m64

400.perlbench: icc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32
445.gobmk: icc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32

C++ benchmarks (except as noted below):
icc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32
473.astar: icpc -m64

Peak Portability Flags

400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -D_FILE_OFFSET_BITS=64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
471.omnetpp: -D_FILE_OFFSET_BITS=64
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -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) -qopt-prefetch

401.bzip2: -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 -auto-ilp32 -qopt-prefetch

Continued on next page
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Peak Optimization Flags (Continued)

403.gcc: -xCORE-AVX2 -ipo -O3 -no-prec-div -inline-calloc
  -qopt-malloc-options=3 -auto-ilp32

429.mcf: -xCORE-AVX2 -ipo -O3 -no-prec-div -parallel
  -qopt-prefetch -auto-p32

445.gobmk: -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)

456.hmmer: basepeak = yes

458.sjeng: -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

462.libquantum: basepeak = yes

464.h264ref: basepeak = yes

C++ benchmarks:

471.omnetpp: -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) -qopt-ra-region-strategy=block
  -Wl,-z,muldefs -L/sh10.2 -lsmartheap64

473.astar: -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
  -auto-p32 -Wl,-z,muldefs -L/sh10.2 -lsmartheap64

483.xalancbmk: -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
  -Wl,-z,muldefs -L/sh10.2 -lsmartheap64

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

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

Standard Performance Evaluation Corporation
info@spec.org
http://www.spec.org/
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