Huawei
Huawei XH620 V3 (Intel Xeon E5-2618L v3)

**SPECint\_rate2006 = 673**
SPECint\_rate\_base2006 = 645

<table>
<thead>
<tr>
<th>SPECint_rate2006</th>
<th>SPECint_rate_base2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>673</td>
<td>645</td>
</tr>
</tbody>
</table>

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

### Hardware

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Name</td>
<td>Intel Xeon E5-2618L v3</td>
</tr>
<tr>
<td>CPU Characteristics</td>
<td>Intel Turbo Boost Technology up to 3.40 GHz</td>
</tr>
<tr>
<td>CPU MHz</td>
<td>2300</td>
</tr>
<tr>
<td>FPU</td>
<td>Integrated</td>
</tr>
<tr>
<td>CPU(s) enabled</td>
<td>16 cores, 2 chips, 8 cores/chip, 2 threads/core</td>
</tr>
<tr>
<td>CPU(s) orderable</td>
<td>1,2 chip</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 PC4-2133P-R, running at 1866 MHz)</td>
</tr>
<tr>
<td>Disk Subsystem</td>
<td>1 x 500 GB SATA, 7200 RPM</td>
</tr>
</tbody>
</table>

### Software

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating System</td>
<td>Red Hat Enterprise Linux Server release 7.0 (Maipo)</td>
</tr>
<tr>
<td>Compiler</td>
<td>C/C++: Version 15.0.0.090 of Intel C++ Studio XE for Linux</td>
</tr>
<tr>
<td>Auto Parallel</td>
<td>No</td>
</tr>
<tr>
<td>File System</td>
<td>ext4</td>
</tr>
<tr>
<td>System State</td>
<td>Run level 3 (multi-user)</td>
</tr>
<tr>
<td>Base Pointers</td>
<td>32-bit</td>
</tr>
<tr>
<td>Peak Pointers</td>
<td>32/64-bit</td>
</tr>
<tr>
<td>Other Software</td>
<td>Microquill SmartHeap V10.0</td>
</tr>
</tbody>
</table>
Huawei

Huawei XH620 V3 (Intel Xeon E5-2618L v3)

SPECint_rate2006 = 673
SPECint_rate_base2006 = 645

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

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>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>32</td>
<td>694</td>
<td>451</td>
<td>694</td>
<td>451</td>
<td>695</td>
<td>450</td>
<td>32</td>
<td>549</td>
<td>569</td>
<td>546</td>
<td>572</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>32</td>
<td>988</td>
<td>313</td>
<td>988</td>
<td>313</td>
<td>984</td>
<td>314</td>
<td>32</td>
<td>941</td>
<td>328</td>
<td>940</td>
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</tr>
<tr>
<td>403.gcc</td>
<td>32</td>
<td>508</td>
<td>007</td>
<td>508</td>
<td>007</td>
<td>512</td>
<td>003</td>
<td>32</td>
<td>508</td>
<td>007</td>
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<tr>
<td>429.mcf</td>
<td>32</td>
<td>323</td>
<td>902</td>
<td>323</td>
<td>902</td>
<td>324</td>
<td>902</td>
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<td>323</td>
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<td>445.gobmk</td>
<td>32</td>
<td>800</td>
<td>420</td>
<td>799</td>
<td>420</td>
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<td>32</td>
<td>795</td>
<td>422</td>
<td>794</td>
<td>423</td>
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<td>456.hmmer</td>
<td>32</td>
<td>327</td>
<td>914</td>
<td>332</td>
<td>900</td>
<td>326</td>
<td>916</td>
<td>32</td>
<td>291</td>
<td>1030</td>
<td>288</td>
<td>1040</td>
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<tr>
<td>458.sjeng</td>
<td>32</td>
<td>875</td>
<td>443</td>
<td>860</td>
<td>450</td>
<td>860</td>
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<td>32</td>
<td>839</td>
<td>462</td>
<td>839</td>
<td>461</td>
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<tr>
<td>462.libquantum</td>
<td>32</td>
<td>101</td>
<td>6590</td>
<td>101</td>
<td>6580</td>
<td>101</td>
<td>6560</td>
<td>32</td>
<td>101</td>
<td>6590</td>
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<td>6580</td>
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<tr>
<td>464.h264ref</td>
<td>32</td>
<td>1003</td>
<td>706</td>
<td>955</td>
<td>742</td>
<td>959</td>
<td>738</td>
<td>32</td>
<td>938</td>
<td>755</td>
<td>939</td>
<td>754</td>
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<tr>
<td>471.omnetpp</td>
<td>32</td>
<td>548</td>
<td>365</td>
<td>551</td>
<td>363</td>
<td>548</td>
<td>365</td>
<td>32</td>
<td>521</td>
<td>384</td>
<td>521</td>
<td>384</td>
</tr>
<tr>
<td>473.astar</td>
<td>32</td>
<td>615</td>
<td>365</td>
<td>613</td>
<td>366</td>
<td>616</td>
<td>365</td>
<td>32</td>
<td>615</td>
<td>365</td>
<td>613</td>
<td>366</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>32</td>
<td>308</td>
<td>717</td>
<td>309</td>
<td>715</td>
<td>308</td>
<td>717</td>
<td>32</td>
<td>308</td>
<td>717</td>
<td>309</td>
<td>715</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

BIOS configuration:
Set Power Efficiency Mode to Performance
Set Snoop Mode to ES mode
Sysinfo program /spec15/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
running on localhost.localdomain Mon May 25 07:00:52 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 E5-2618L v3 @ 2.30GHz
  2 "physical id"s (chips)
  32 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with
Continued on next page
Huawei XH620 V3 (Intel Xeon E5-2618L v3)

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

Huawei

SPECint_rate2006 = 673
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Platform Notes (Continued)

```
cpu cores : 8
siblings : 16
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: 263577516 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 May 25 06:52
```

SPEC is set to: /spec15

```
Filesystem Type Size Used Avail Use% Mounted on
/dev/sda2 ext4 448G 149G 277G 35% /
```

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. 1.26 12/22/2014
Memory:
8x Micron 36ASF2G72PZ-2G1A2 16 GB 1 rank 2133 MHz, configured at 1867 MHz
8x Micron 36ASF2G72PZ-2G1A2 16 GB 2 rank 2133 MHz, configured at 1867 MHz
```

(End of data from sysinfo program)
## SPEC CINT2006 Result

### Huawei

**Huawei XH620 V3 (Intel Xeon E5-2618L v3)**

<table>
<thead>
<tr>
<th>Spec Rate 2006</th>
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<td>673</td>
<td>645</td>
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</table>

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

### General Notes

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

```
LD_LIBRARY_PATH = "/spec15/libs/32:/spec15/libs/64:/spec15/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 -m32 -L/opt/intel/composer_xe_2015/lib/ia32
```

**C++ benchmarks:**  
```
icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32
```

### Base Portability Flags

```
400.perlbmk: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX
```

### Base Optimization Flags

**C benchmarks:**  
```
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
-opt-mem-layout-trans=3
```

**C++ benchmarks:**  
```
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
-opt-mem-layout-trans=3 -Wl,-z,muldefs -L/sh -lsmartheap
```

### Base Other Flags

**C benchmarks:**  
```
403.gcc: -Dalloca=_alloca
```
Huawei

Huawei XH620 V3 (Intel Xeon E5-2618L v3)

SPECint_rate2006 = 673
SPECint_rate_base2006 = 645

CPU2006 license: 3175
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Test date: May-2015
Hardware Availability: Sep-2014
Software Availability: Sep-2014

Peak Compiler Invocation

C benchmarks (except as noted below):
icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32

400.perlbench: icc -m64
401.bzip2: icc -m64
456.hmmer: icc -m64
458.sjeng: icc -m64

C++ benchmarks:
icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-auto-ilp32

401.bzip2: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-opt-prefetch -auto-ilp32 -ansi-alias

403.gcc: basepeak = yes
429.mcf: basepeak = yes
445.gobmk: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias -opt-mem-layout-trans=3

456.hmmer: -xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32

458.sjeng: -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-ilp32

Continued on next page
Huawei XH620 V3 (Intel Xeon E5-2618L v3)

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**SPECint_rate_base2006 = 645**

**Huawei**

**CPU2006 license:** 3175

**Test sponsor:** Huawei

**Test date:** May-2015

**Hardware Availability:** Sep-2014

**Tested by:** Huawei

**Software Availability:** Sep-2014

---

**Peak Optimization Flags (Continued)**

```plaintext
462.libquantum: basepeak = yes

464.h264ref:
-DCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp:
-DCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs
-L/sh -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: basepeak = yes
```

---

**Peak Other Flags**

```plaintext
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-ic15.0-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-ic15.0-official-linux64.xml

http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-HASWELL-V1.4.xml

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For questions about this result, please contact the tester.

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

Tested with SPEC CPU2006 v1.2.


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