SPEC® CINT2006 Result

Huawei

Huawei XH620, Intel Xeon E5606

| SPECint®_rate2006 | NC |
| SPECint_rate_base2006 | NC |

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

SPEC has determined that this result is not in compliance with the SPEC CPU2006 run and reporting rules. Specifically, the submitter has notified SPEC that the system was customized in a manner that did not meet SPEC's requirements for documented and supported systems.

<table>
<thead>
<tr>
<th>硬件</th>
<th>软件</th>
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<tbody>
<tr>
<td>CPU Name:</td>
<td>Intel Xeon E5606</td>
</tr>
<tr>
<td>CPU Characteristics:</td>
<td>Intel Xeon E5606</td>
</tr>
<tr>
<td>CPU MHz:</td>
<td>2133</td>
</tr>
<tr>
<td>FPU:</td>
<td>Integrated</td>
</tr>
<tr>
<td>CPU(s) enabled:</td>
<td>8 cores, 2 chips, 4 cores/chip</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>
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<tr>
<td>Secondary Cache:</td>
<td>256 KB I+D on chip per core</td>
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<tr>
<td>L3 Cache:</td>
<td>8 MB I+D on chip per chip</td>
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<tr>
<td>Other Cache:</td>
<td>None</td>
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</table>

|Operating System:| SUSE Linux Enterprise Server 11 SP1 (x86_64), Kernel 2.6.32.12-0.7-default |
|Compiler:| Intel C++ Compiler XE for applications running on IA-32, Version 12.0.1.116 Build 20101116 |
|Auto Parallel:| No |
|File System:| ext3 |
|System State:| Run level 3 (multi-user) |
|Base Pointers:| 32-bit |
|Peak Pointers:| 32/64-bit |

Continued on next page
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**Test date:** Jun-2011  
**Hardware Availability:** May-2011  
**Software Availability:** Jan-2011

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**Memory:** 48 GB (12 x 4 GB 2Rx4 PC3-10600R-9, ECC, running at 1066 MHz)

**Disk Subsystem:** 1 x 300 GB SAS, 15K RPM

**Other Hardware:** None

**Other Software:** Microquill SmartHeap V9.01

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### Results Table

<table>
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<tr>
<th>Benchmark</th>
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<th>Seconds</th>
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</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.
  - numactl was used to bind copies to the cores

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**Operating System Notes**

- 'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
- 'mount -t hugetlbfs nodev /mnt/hugepages' was used to enable large pages
- echo 7200 > /proc/sys/vm/nr_hugepages
- export HUGETLB_MORECORE=yes
- export LD_PRELOAD=/usr/lib64/libhugetlbfs.so

---

Non-Compliant
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Platform Notes
Data Reuse Optimization disabled in BIOS Setup.

General Notes
Binaries compiled on RHEL 5.5

Base Compiler Invocation

C benchmarks:
  icc -m32

C++ benchmarks:
  icpc -m32

Base Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

  -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch
  -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

C++ benchmarks:
  -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
  -L/smartheap -lsmartheap
  -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT
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### Base Other Flags

**C benchmarks:**

403.gcc: -Dalloca=_alloca

### Peak Compiler Invocation

**C benchmarks (except as noted below):**

- icc -m32
- 400.perlbench: icc -m64
- 401.bzip2: icc -m64
- 456.hmmer: icc -m64
- 458.sjeng: icc -m64

**C++ benchmarks:**

- icpc -m32

### 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:**

Continued on next page

Non-Compliant
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Peak Optimization Flags (Continued)

```
400.perlbench: -xsse4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
    -o3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
    -B /usr/share/libhugetlbfs/ -Wl,melf_x86_64 -Wl,-hugetlbfs-link=BDT

401.bzip2: -xsse4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
    -o3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
    -opt-prefetch -ansi-alias
    -B /usr/share/libhugetlbfs/ -Wl,melf_x86_64 -Wl,-hugetlbfs-link=BDT

403.gcc: basepeak = yes

429.mcf: -xsse4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
    -o3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
    -ansi-alias -auto-ilp32

445.gobmk: -xsse4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
    -ansi-alias -auto-ilp32

456.hmmer: -xsse4.2 -opt-ra-region-strategy=block
    -o3 -no-prec-div -unroll2 -auto-ilp32
    -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

458.sjeng: -xsse4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
    -o3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
    -unroll4 -auto-ilp32
    -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

462.libquantum: basepeak = yes

471.omnetpp: -xsse4.2(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/smartheap -lsmartheap
```

C++ benchmarks:

```
464.h264ref: -xsse4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
    -o3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
    -ansi-alias -auto-ilp32
```

Continued on next page
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Peak Optimization Flags (Continued)

473.astar: basepeak = yes
483.xalancbmk: basepeak = yes

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-ic12.0-linux64-revB.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.xml
http://www.spec.org/cpu2006/flags/HUAWEI-platform-linux64-revC.xml

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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