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.
**SPEC CFP2006 Result**

**Huawei**

**Huawei BH620, Intel Xeon X5660**

<table>
<thead>
<tr>
<th>CPU2006 license:</th>
<th>3175</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test sponsor:</td>
<td>Huawei</td>
</tr>
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<td>Tested by:</td>
<td>Huawei</td>
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**SPECfp2006 = NC**

**SPECfp_base2006 = NC**

**CPU2006 license:** 3175  
**Test date:** May-2011  
**Hardware Availability:** May-2011  
**Software Availability:** Jan-2011

---

**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.**

### Hardware

<table>
<thead>
<tr>
<th>Item</th>
<th>Specification</th>
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</thead>
<tbody>
<tr>
<td>CPU Name</td>
<td>Intel Xeon X5660</td>
</tr>
<tr>
<td>CPU Characteristics</td>
<td>Intel Turbo Boost Technology up to 3.20 GHz</td>
</tr>
<tr>
<td>CPU MHz</td>
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</tr>
<tr>
<td>FPU</td>
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</tr>
<tr>
<td>CPU(s) enabled</td>
<td>12 cores, 2 chips, 6 cores/chip</td>
</tr>
<tr>
<td>CPU(s) orderable</td>
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<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>
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<tr>
<td>Other Cache</td>
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<tr>
<td>Memory</td>
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<td>Other Hardware</td>
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### Software

<table>
<thead>
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<tbody>
<tr>
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<td>SUSE Linux Enterprise Server 11 SP1 (x86_64), Kernels 6.32.12-0.7 default</td>
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<tr>
<td>Compiler</td>
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<td>Auto Parallel</td>
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<td>System State</td>
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</table>
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.

Results Table:

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</tbody>
</table>

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 900 > /proc/sys/vm/nr_hugepages'
export HUGETLB_MORECORE=yes
export LD_PRELOAD=/usr/lib64/libhugetlbfs.so
## SPEC CFP2006 Result

**Huawei**

Huawei BH620, Intel Xeon X5660

<table>
<thead>
<tr>
<th>SPECfp2006</th>
<th>SPECfp_base2006</th>
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CPU2006 license: 3175  
Test sponsor: Huawei  
Tested by: Huawei  
Test date: May-2011  
Hardware Availability: May-2011  
Software Availability: Jan-2011

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.

### Platform Notes

Data Reuse Optimization disabled in BIOS Setup.
Intel HT technology Disabled in BIOS Setup.

### General Notes

Binaries compiled on RHEL5.5
OMP_NUM_THREADS set to number of CPU cores

### 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

- 416.gamess: `-DSPEC_CPU_LP64`
- 433.milc: `-DSPEC_CPU_LP64`
- 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` `-nofor_main`
- 447.dealII: `-DSPEC_CPU_LP64`
- 450.soplex: `-DSPEC_CPU_LP64`
- 453.povray: `-DSPEC_CPU_LP64`

Continued on next page
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### Base Portability Flags (Continued)

<table>
<thead>
<tr>
<th>Benchmarks</th>
<th>Flags</th>
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</thead>
<tbody>
<tr>
<td>454.calculix</td>
<td>-DSPEC_CPU_LP64 -nofor_main</td>
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<tr>
<td>459.GemsFDTD</td>
<td>-DSPEC_CPU_LP64</td>
</tr>
<tr>
<td>465.tonto</td>
<td>-DSPEC_CPU_LP64</td>
</tr>
<tr>
<td>470.lbm</td>
<td>-DSPEC_CPU_LP64</td>
</tr>
<tr>
<td>481.wrf</td>
<td>-DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX</td>
</tr>
<tr>
<td>482.sphinx3</td>
<td>-DSPEC_CPU_LP64</td>
</tr>
</tbody>
</table>

### Base Optimization Flags

**C benchmarks**:
- xsSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch -ansi-alias

**C++ benchmarks**:
- xsSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch -ansi-alias

**Fortran benchmarks**:
- xsSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

**Benchmarks using both Fortran and C**:
- xsSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch -ansi-alias

### 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
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.

Peak Portability Flags
Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:
433.milc: -xsse4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -static -auto-ilp32 -ansi-alias
470.lbm: basepeak = yes
482.sphinx3: -xsse4.2 -ipo -3 -no-prec-div -unroll2 -ansi-alias -parallel

C++ benchmarks:
444.namd: -xsse4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -fno-alias -auto-ilp32
47.dealII: basepeak = yes
450.soplex: basepeak = yes
462.povray: -xsse4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -ansi-alias -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

Fortran benchmarks:
410.bwaves: basepeak = yes
416.gamess: -xsse4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll2 -inline-level=0 -scalar-rep- -static

Continued on next page
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.

Peak Optimization Flags (Continued)

434.zeusmp: basepeak = yes
437.leslie3d: basepeak = yes
459.GemsFDTD: -xsSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
         -no-prec-div(pass 2) -prof-use(pass 2) -unroll2
         -inline-level=0 -ipo-prefix -parallel
        -B/usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT
465.tonto: -xsSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
         -no-prec-div(pass 2) -prof-use(pass 2) -inline-calloc
         -opt-malloc-options=3 -auto -unroll4
        -B/usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

Benchmarks using both Fortran and C:

435.gromacs: -xsSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
        -no-prec-div(pass 2) -prof-use(pass 2) -static -auto-ilp32
        -ansi-alias
436.cactusADM: basepeak = yes
454.calculix: -xsSE4.2 -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias
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-ic12.0-linux64-revB.html
http://www.spec.org/cpu2006/flags/HUAWEI-platform-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-revB.xml
Huawei

Huawei BH620, Intel Xeon X5660

SPECfp2006 = NC
SPECfp_base2006 = NC

CPU2006 license: 3175
Test sponsor: Huawei
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Test date: May-2011
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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 v1.1.
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