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>
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<tr>
<th>Test</th>
<th>Number</th>
<th>Name</th>
<th>Value</th>
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<tbody>
<tr>
<td>400</td>
<td>perlbench</td>
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<tr>
<td>401</td>
<td>bzip2</td>
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</tr>
<tr>
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<tr>
<td>462</td>
<td>libquantum</td>
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<tr>
<td>464</td>
<td>h264ref</td>
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<td>omnetpp</td>
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<td></td>
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<td>473</td>
<td>astar</td>
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<tr>
<td>483</td>
<td>xalancbmk</td>
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### Software

<table>
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<tbody>
<tr>
<td>400</td>
<td>perlbench</td>
<td>Operating System</td>
<td>SUSE Linux Enterprise Server 11 SP1 (x86_64), Kernel 2.6.32.12-0.7-default</td>
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<tr>
<td>401</td>
<td>bzip2</td>
<td>Compiler</td>
<td>Intel C++ Intel 64 Compiler XE for applications running on Intel 64 Version 12.0.1.116 Build 20101116</td>
</tr>
<tr>
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<td>gcc</td>
<td>Auto Parallel</td>
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<td>mcf</td>
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<tr>
<td>445</td>
<td>gobmk</td>
<td>System State</td>
<td>Run level 3 (multi-user)</td>
</tr>
<tr>
<td>456</td>
<td>hmmer</td>
<td>Base Pointers</td>
<td>32/64-bit</td>
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<tr>
<td>458</td>
<td>sjeng</td>
<td>Peak Pointers</td>
<td>32/64-bit</td>
</tr>
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</table>

---

Non-Compliant
SPEC CINT2006 Result

Huawei
Huawei BH620, Intel Xeon X5660

SPECint2006 = NC
SPECint_base2006 = NC

CPU2006 license: 3175
Test date: May-2011
Test sponsor: Huawei
Hardware Availability: May-2011
Tested by: Huawei
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.

Memory: 48 GB (12 x 4 GB 2Rx4 PC3-10600R-9, ECC)
Disk Subsystem: 1 x 300 GB SAS, 15K RPM
Other Hardware: None
Other Software: Microquill SmartHeap V9.01

Results Table

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<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
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</tbody>
</table>

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

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

Platform Notes

Data Reuse Optimization disabled in BIOS Setup.
Intel HT technology Disabled in BIOS Setup.
SPEC CINT2006 Result

Huawei
Huawei BH620, Intel Xeon X5660

CPU2006 license: 3175
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General Notes

Binaries compiled on RHEL 5.5
OMP_NUM_THREADS set to number of cores

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:
-xSSE4.2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/smartheap -lsmartheap64
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

Software Availability: Jan-2011
Hardware Availability: May-2011
Test date: May-2011

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Info: info@spec.org
Website: http://www.spec.org/
SPEC CINT2006 Result

Huawei
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Base Other Flags
C benchmarks:
403.gcc: -Dalloca=_alloca

Peak Compiler Invocation
C benchmarks (except as noted below):
icc  -m64
400.perlbench: icc -m32
429.mcf: icc -m32
445.gobmk: icc -m32
464.h264ref: icc -m32

C++ benchmarks (except as noted below):
icpc  -m64
471.omnetpp: icpc -m32

Peak Portability Flags
400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
436.hmmer: -DSPEC_CPU_LP64
437.sjeng: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

Non-Compliant
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Base Other Flags
C benchmarks:
403.gcc: -Dalloca=_alloca

Peak Compiler Invocation
C benchmarks (except as noted below):
icc  -m64
400.perlbench: icc -m32
429.mcf: icc -m32
445.gobmk: icc -m32
464.h264ref: icc -m32

C++ benchmarks (except as noted below):
icpc  -m64
471.omnetpp: icpc -m32

Peak Portability Flags
400.perlbench: -DSPEC_CPU_LINUX_IA32
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Peak Optimization Flags

C benchmarks:

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) -auto-ilp32
   -opt-prefetch -ansi-alias
   -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
   -O3(pass 2) -no-prec-div -prof-use(pass 2) -auto-ilp32
   -opt-prefetch -ansi-alias

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -inline-calloc
   -opt-malloc-opt-pass3 -auto-ilp32
   -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

429.mcf: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
   -O3(pass 2) -no-prec-div -prof-use(pass 2) -auto-ilp32
   -ansi-alias
   -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
   -auto-ilp32 -ansi-alias
   -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

458.sjeng: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
   -ansi-alias
   -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

456.hmmer: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
   -O3(pass 2) -no-prec-div -prof-use(pass 2) -auto-ilp32
   -ansi-alias
   -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

462.libquantum: basepeak = yes

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)
   -unroll2 -ansi-alias
   -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

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)

C++ benchmarks:

471.omnetpp: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-3(pass 2) -no-prec-div(pass 2) -prof-gen(pass 2)
-opt-ra-region-strategy=block -ansi-alias -Wl,-z,muldefs
-L/smartheap -lsmartheap
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

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

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca