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 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
- **CPU Name:** Intel Xeon E5649
- **CPU Characteristics:** Intel Turbo Boost Technology up to 2.93 GHz
- **CPU MHz:** 2533
- **FPU:** Integrated
- **CPU(s) enabled:** 12 cores, 2 chips, 6 cores/chip
- **CPU(s) orderable:** 1.2 chip
- **Primary Cache:** 32 KB I + 32 KB D on chip per core
- **Secondary Cache:** 256 KB I+D on chip per core
- **L3 Cache:** 12 MB I+D on chip per chip
- **Other Cache:** None
- **Memory:** 48 GB (12 x 4 GB 2Rx4 PC3-10600R-9, ECC)
- **Disk Subsystem:** 1 x 300 GB SAS, 15K RPM
- **Other Hardware:** None

### Software
- **Operating System:** SUSE Linux Enterprise Server 11 SP1 (x86_64), Kernel 2.6.32.12-0.7-default
- **Compiler:** Intel C++ and Fortran Intel 64 Compiler XE for applications running on Intel 64 Version 12 Alpha Build 20110105
- **Auto Parallel:** Yes
- **File System:** ext3
- **System State:** Run level 3 (multi-user)
- **Base Pointers:** 64-bit
- **Peak Pointers:** 32/64-bit
- **Other Software:** None

---

**Non-Compliant**
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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</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'

---

Non-Compliant
Huawei
Huawei BH620, Intel Xeon E5649

<table>
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<th>SPECfp2006</th>
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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.

### 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
<table>
<thead>
<tr>
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<td>416.gameess</td>
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</table>

Continued on next page
**SPEC CFP2006 Result**

Huawei

Huawei BH620, Intel Xeon E5649

SPECfp2006 = NC

SPECfp_base2006 = NC

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

Test date: Apr-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.

### Base Portability Flags (Continued)

454.calculix: -DSPEC_CPU_LP64 -nofor_main
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
482.sphinx3: -DSPEC_CPU_LP64

### 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), -03 (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, -03, -no-prec-div, -unroll2, -ansi-alias
-parallel

C++ benchmarks:

444.namd: -xSSE4.2 (pass 2), -prof-gen (pass 1), -ipo (pass 2), -03 (pass 2),
-no-prec-div (pass 2), -prof-use (pass 2), -fno-alias
-ansi-alias

47.dealII: basepeak = yes

450.soplex: basepeak = yes

463.povray: -xSSE4.2 (pass 2), -prof-gen (pass 1), -ipo (pass 2), -03 (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: -xSSE4.2, -ipo, -03, -no-prec-div, -opt-prefetch, -parallel
-static

416.gamess: -xSSE4.2 (pass 2), -prof-gen (pass 1), -ipo (pass 2), -03 (pass 2),
-no-prec-div (pass 2), -prof-use (pass 2), -unroll2
-inline-level=0, -scalar-rep, -static

Continued on next page
Huawei
Huawei BH620, Intel Xeon E5649

SPECfp2006 = NC
SPECfp_base2006 = NC

CPU2006 license: 3175
Test sponsor: Huawei
Test date: Apr-2011
Tested by: Huawei
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.

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 -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
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