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.
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<table>
<thead>
<tr>
<th>Hardware</th>
<th>Software</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CPU Name:</strong> Intel Xeon X5660</td>
<td><strong>Operating System:</strong> SUSE Linux Enterprise Server 11 SP1 (x86_64), Kernels 2.6.32.12-0.7-default</td>
</tr>
<tr>
<td><strong>CPU Characteristics:</strong> Intel Turbo Boost Technology up to 3.20 GHz</td>
<td><strong>Compiler:</strong> Intel C++ and Fortran Intel 64 Compiler XE for applications running on Intel 64 Version 12.0 Update 3</td>
</tr>
<tr>
<td><strong>CPU MHz:</strong> 2850</td>
<td><strong>Auto Parallel:</strong> Yes</td>
</tr>
<tr>
<td><strong>FPU:</strong> Integrated</td>
<td><strong>System:</strong> ext3</td>
</tr>
<tr>
<td><strong>CPU(s) enabled:</strong> 12 cores, 2 chips, 6 cores/chip</td>
<td><strong>System State:</strong> Run level 3 (multi-user)</td>
</tr>
<tr>
<td><strong>CPU(s) orderable:</strong> 1.2 chip</td>
<td><strong>Base Pointers:</strong> 64-bit</td>
</tr>
<tr>
<td><strong>Primary Cache:</strong> 32 KB I + 32 KB D on chip per core</td>
<td><strong>Peak Pointers:</strong> 32/64-bit</td>
</tr>
<tr>
<td><strong>Secondary Cache:</strong> 256 KB I+D on chip per core</td>
<td><strong>Other Software:</strong> None</td>
</tr>
<tr>
<td><strong>L3 Cache:</strong> 12 MB I+D on chip per chip</td>
<td></td>
</tr>
<tr>
<td><strong>Other Cache:</strong> None</td>
<td></td>
</tr>
<tr>
<td><strong>Memory:</strong> 48 GB (12 x 4 GB 2Rx4 PC3-10600R-9, ECC)</td>
<td></td>
</tr>
<tr>
<td><strong>Disk Subsystem:</strong> 1 x 300 GB SAS, 10K RPM</td>
<td></td>
</tr>
<tr>
<td><strong>Other Hardware:</strong> None</td>
<td></td>
</tr>
</tbody>
</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.

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'
Huawei
Huawei XH620, Intel Xeon X5660

<table>
<thead>
<tr>
<th>SPECfp2006</th>
<th>SPECfp_base2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>NC</td>
<td>NC</td>
</tr>
</tbody>
</table>

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

Test date: Jun-2011
Hardware Availability: May-2011
Software Availability: Apr-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 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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</tr>
</thead>
<tbody>
<tr>
<td>DSPEC_CPU_LP64</td>
</tr>
<tr>
<td>416.gamess: -DSPEC_CPU_LP64</td>
</tr>
<tr>
<td>433.milc: -DSPEC_CPU_LP64</td>
</tr>
<tr>
<td>434.zeusmp: -DSPEC_CPU_LP64</td>
</tr>
<tr>
<td>435.gromacs: -DSPEC_CPU_LP64 -nofor_main</td>
</tr>
<tr>
<td>436.cactusADM: -DSPEC_CPU_LP64 -nofor_main</td>
</tr>
<tr>
<td>437.leslie3d: -DSPEC_CPU_LP64</td>
</tr>
<tr>
<td>444.namd: -DSPEC_CPU_LP64</td>
</tr>
<tr>
<td>447.dealII: -DSPEC_CPU_LP64</td>
</tr>
<tr>
<td>450.soplex: -DSPEC_CPU_LP64</td>
</tr>
<tr>
<td>453.povray: -DSPEC_CPU_LP64</td>
</tr>
</tbody>
</table>

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.

### Base Portability Flags (Continued)

- 454.calculix: -DSPEC_CPU_LP64 -nofor_main
- 459.GemsFDTD: -DSPEC_CPU_LP64
- 465.tonto: -DSPEC_CPU_LP64
- 470.1bm: -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) -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 -O3 -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

47.dealII: basepeak = yes

450.soplex: basepeak = yes

463.gamess: -xSSE4.2 (pass 2) -prof-gen (pass 1) -ipo (pass 2) -O3 (pass 2) -no-prec-div (pass 2) -prof-use (pass 2) -unroll14 -ansi-alias

-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

Fortran benchmarks:

410.bwaves: -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -parallel -static

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
Huawei
Huawei XH620, Intel Xeon X5660

SPECfp2006 = NC
SPECfp_base2006 = NC

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

Test date: Jun-2011
Hardware Availability: May-2011
Software Availability: Apr-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 -pip -prefetch -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

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
Huawei
Huawei XH620, Intel Xeon X5660

SPECfp2006 = NC
SPECfp_base2006 = NC

CPU2006 license: 3175
Test sponsor: Huawei
Tested by: Huawei
Test date: Jan-2011
Hardware Availability: May-2011
Software Availability: Apr-2011

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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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