SPEC® CFP2006 Result
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Huawei
Huawei XH620,Intel Xeon X5660

SPECfp®_rate2006 = NC

SPECfp_rate_base2006 = NC

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

Test date: Jan-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.

Copies

410.bwaves

416.gamess

433.milc

434.zeusmp

435.gromacs

436.cactusADM

437.leslie3d

444.namd

447.dealII

450.soplex

453.povray

454.calculix

459.G

465.tonto

470.lbm

481.wrf

482.sphinx3

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Hardware
CPU Name: Intel Xeon X5660
CPU Characteristics: Intel Turbo Boost Technology up to 3.20 GHz
CPU MHz: 2850
FPU: Integrated
CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip, 2 threads/core
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, 1 K 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 12.0.1.116 Build 20101116
Auto Parallel: No
File System: ext3
System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: None

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Results Table

Benchmark	Copies	Base Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Peak Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	24	NC	NC	NC	NC	NC	NC	12	NC	NC	NC	NC	NC	NC
416.gamess	24	NC	NC	NC	NC	NC	NC	24	NC	NC	NC	NC	NC	NC
433.milc	24	NC	NC	NC	NC	NC	NC	24	NC	NC	NC	NC	NC	NC
434.zeusmp	24	NC	NC	NC	NC	NC	NC	24	NC	NC	NC	NC	NC	NC
435.gromacs	24	NC	NC	NC	NC	NC	NC	24	NC	NC	NC	NC	NC	NC
436.cactusADM	24	NC	NC	NC	NC	NC	NC	24	NC	NC	NC	NC	NC	NC
437.leslie3d	24	NC	NC	NC	NC	NC	NC	12	NC	NC	NC	NC	NC	NC
444.namd	24	NC	NC	NC	NC	NC	NC	24	NC	NC	NC	NC	NC	NC
447.dealII	24	NC	NC	NC	NC	NC	NC	24	NC	NC	NC	NC	NC	NC
450.soplex	24	NC	NC	NC	NC	NC	NC	12	NC	NC	NC	NC	NC	NC
453.povray	24	NC	NC	NC	NC	NC	NC	24	NC	NC	NC	NC	NC	NC
454.calculix	24	NC	NC	NC	NC	NC	NC	24	NC	NC	NC	NC	NC	NC
459.GemsFDTD	24	NC	NC	NC	NC	NC	NC	24	NC	NC	NC	NC	NC	NC
465.tonto	24	NC	NC	NC	NC	NC	NC	24	NC	NC	NC	NC	NC	NC
470.lbm	24	NC	NC	NC	NC	NC	NC	12	NC	NC	NC	NC	NC	NC
481.wrf	24	NC	NC	NC	NC	NC	NC	24	NC	NC	NC	NC	NC	NC
482.sphinx3	24	NC	NC	NC	NC	NC	NC	24	NC	NC	NC	NC	NC	NC

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

Submit Notes

```
    The config file option 'submit' was used.
     numactl was used to bind copies to the cores
```

Operating System Notes

```
    'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
    echo 1 >/proc/sys/vm/zone_reclaim_mode
    'mount -t hugetlbfs nodev /mnt/hugepages' was used to enable large pages
    echo 7200 > /proc/sys/vm/nr_hugepages
```

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Operating System Notes (Continued)

```
export HUGETLB_MORECORE=yes
export LD_PRELOAD=/usr/lib64/libhugetlbfs.
```

Platform Notes

```
Data Reuse Optimization disabled in BIOS Setup.
```

General Notes

```
Binaries compiled on RHEL 5.5
```

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

```
410.bwaves: -DSPEC_CPU_LP64
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
```

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Base Portability Flags (Continued)

```
    447.dealII: -DSPEC_CPU_LP64
    450.soplex: -DSPEC_CPU_LP64
    453.povray: -DSPEC_CPU_LP64
   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 -ansi-alias
```

C++ benchmarks:
```
    -xSSE4.2 -ipo -O3 -no-prec-div -static -ansi-alias
```

Fortran benchmarks:
```
    -xSSE4.2 -ipo -O3 -no-prec-div -static
```

Benchmarks using both Fortran and C:
```
    -xSSE4.2 -ipo -O3 -no-prec-div -static -ansi-alias
```

Peak Compiler Invocation

C benchmarks (except as noted below):
```
    icc -m64
```
```
    482.sphinx3: icc -m32
```

C++ benchmarks (except as noted below):
```
    icpc -m64
```
```
    450.soplex: icpc -m32
```

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CPU2006 license: 3175   **Test date:** Jun-2011
Test sponsor: Huawei   **Hardware Availability:** May-2011
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Peak Compiler Invocation (Continued)

Fortran benchmarks:
```
ifort -m64
```

Benchmarks using both Fortran and C:
```
icc   -m64 ifort -m64
```

Peak Portability Flags

```
   410.bwaves: -DSPEC_CPU_LP64
   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
   447.dealII: -DSPEC_CPU_LP64
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  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
```

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

     470.lbm: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
               -no-prec-div(pass 2) -prof-use(pass 2) -opt-malloc-options=3
               -ansi-alias -opt-prefetch -static -auto-ilp32
```

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Peak Optimization Flags (Continued)

```
482.sphinx3: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2
```

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

447.dealII: basepeak = yes

450.soplex: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
            -no-prec-div(pass 2) -prof-use(pass 2) -opt-malloc-options=3
            -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

453.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: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
            -no-prec-div(pass 2) -prof-use(pass 2) -static

416.gamess: basepeak = yes

434.zeusmp: basepeak = yes

437.leslie3d: -xSSE4.2 -ipo -O3 -no-prec-div
              -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

459.GemsFDTD: basepeak = yes

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) -unroll4 -auto
           -inline-calloc -opt-malloc-options=3
           -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT
```

Benchmarks using both Fortran and C:

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Peak Optimization Flags (Continued)

```
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) -opt-prefetch
             -static -auto-ilp32

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

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-revC.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

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

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