## SPEC® CFP2006 Result

### Sugon

**I620-G15 (Intel Xeon E5-2643 v2, 3.50 GHz)**

<table>
<thead>
<tr>
<th>SPECfp®_rate2006</th>
<th>SPECfp_rate_base2006</th>
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<tr>
<td>526</td>
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<tr>
<th>CPU2006 license: 9046</th>
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<tr>
<td>Test sponsor: Sugon</td>
<td>Hardware Availability: Jan-2014</td>
</tr>
<tr>
<td>Tested by: Sugon</td>
<td>Software Availability: Jan-2014</td>
</tr>
</tbody>
</table>

#### Hardware

- **CPU Name:** Intel Xeon E5-2643 v2
- **CPU Characteristics:** Intel Turbo Boost Technology up to 3.80 GHz
- **CPU MHz:** 3500
- **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

#### Software

- **Operating System:** Red Hat Enterprise Linux Server release 6.4 (Santiago)
  2.6.32-358.el6.x86_64
- **Compiler:** C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux;
  Fortran: Version 14.0.0.080 of Intel Fortran Studio XE for Linux
- **Auto Parallel:** No
- **File System:** ext4

### Performance Results

<table>
<thead>
<tr>
<th>Benchmark</th>
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<td>482.sphinx3</td>
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**Copy right:** 2006-2014 Standard Performance Evaluation Corporation

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**Sugon**

I620-G15 (Intel Xeon E5-2643 v2, 3.50 GHz)

**SPEC CFP2006 Result**

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</table>

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

**Submit Notes**

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

**Operating System Notes**

Stack size set to unlimited using "ulimit -s unlimited"

**Platform Notes**

BIOS Configuration:
- Intel Virtualization technology set to disabled
- Power Technology set to performance

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SPEC CFP2006 Result

Sugon

I620-G15 (Intel Xeon E5-2643 v2, 3.50 GHz)

SPECfp_rate2006 = 526
SPECfp_rate_base2006 = 518

CPU2006 license: 9046
Test sponsor: Sugon
Tested by: Sugon

Turbo boost set to enabled
DDR Speed set to force 1866
Sysinfo program /home/cpu2006/config/sysinfo.rev6874
$Rev: 6874 $ $Date:: 2013-11-20 #$ 654bd3fcf53b06faef0efe54ed011998
running on cpu2006 Tue Jan 14 03:13:34 2014

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see:
http://www.spec.org/cpu2006/Docs/config.html#sysinfo

From /proc/cpuinfo
model name : Intel(R) Xeon(R) CPU E5-2643 v2 @ 3.50GHz
  2 "physical id"s (chips)
  24 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)
cpu cores : 6
siblings : 12
physical 0: cores 2 3 4 8 9 10
physical 1: cores 2 3 4 8 9 10
cache size : 25600 KB

From /proc/meminfo
MemTotal: 264503572 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

/usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.4 (Santiago)

From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
uname -a:
Linux cpu2006 2.6.32-358.el6.x86_64 #1 SMP Tue Jan 29 11:47:41 EST 2013
x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Jan 13 18:05

SPEC is set to: /home/cpu2006
Filesystem Type Size Used Avail Use% Mounted on
/dev/mapper/vg_cpu2006-lv_home
  ext4 1.8T 107G 1.6T 7% /home

Additional information from dmidecode:

Warning: Use caution when you interpret this section. The 'dmidecode' program reads system data which is "intended to allow hardware to be accurately determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

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# SPEC CFP2006 Result

## Sugon

### I620-G15 (Intel Xeon E5-2643 v2, 3.50 GHz)

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### CPU2006 license: 9046

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<td>Software Availability:</td>
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</tbody>
</table>

## Platform Notes (Continued)

- BIOS American Megatrends Inc. V8.100A 10/31/2013
- Memory: 16x Hynix Semiconductor HMT42GR7AFR4C-RD 16 GB 1 rank 1866 MHz

(End of data from sysinfo program)

## General Notes

Environment variables set by runspec before the start of the run:

- `LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64:/home/cpu2006/sh"`

- Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RedHat EL 6.4
- Transparent Huge Pages enabled with:
  - `echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled`
- Filesystem page cache cleared with:
  - `echo 1>       /proc/sys/vm/drop_caches`
- `runspec` command invoked through `numactl` i.e.:
  - `numactl --interleave=all runspec <etc>`

## 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` `-nofor_main`
- 447.dealII: `-DSPEC_CPU_LP64`

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SPEC CFP2006 Result

Sugon
I620-G15 (Intel Xeon E5-2643 v2, 3.50 GHz)

SPECfp_rate2006 = 526
SPECfp_rate_base2006 = 518

Base Portability Flags (Continued)

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:
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -ansi-alias
-opt-mem-layout-trans=3

C++ benchmarks:
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -ansi-alias
-opt-mem-layout-trans=3

Fortran benchmarks:
-xAVX -ipo -O3 -no-prec-div -opt-prefetch

Benchmarks using both Fortran and C:
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -ansi-alias
-opt-mem-layout-trans=3

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

Fortran benchmarks:
ifort -m64

Benchmarks using both Fortran and C:
icc -m64 ifort -m64
### SPEC CFP2006 Result

**Sugon**

I620-G15 (Intel Xeon E5-2643 v2, 3.50 GHz)

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**CPU2006 license:** 9046  
**Test sponsor:** Sugon  
**Tested by:** Sugon  
**Test date:** Jan-2014  
**Hardware Availability:** Jan-2014  
**Software Availability:** Jan-2014

### Peak Portability Flags

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### Peak Optimization Flags

**C benchmarks:**

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<td>-xAVX (pass 2) -prof-gen (pass 1) -ipo (pass 2) -O3 (pass 2) -no-prec-div (pass 2) -opt-mem-layout-trans=3 (pass 2) -prof-use (pass 2) -auto-ilp32</td>
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<td>470.lbm</td>
<td>basepeak = yes</td>
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<tr>
<td>482.sphinx3</td>
<td>-xAVX -ipo -O3 -no-prec-div -opt-mem-layout-trans=3 -unroll2</td>
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**C++ benchmarks:**

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<td>-xAVX (pass 2) -prof-gen (pass 1) -ipo (pass 2) -O3 (pass 2) -no-prec-div (pass 2) -opt-mem-layout-trans=3 (pass 2) -prof-use (pass 2) -fno-alias -auto-ilp32</td>
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<td>447.dealII</td>
<td>basepeak = yes</td>
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<td>450.soplex</td>
<td>-xAVX (pass 2) -prof-gen (pass 1) -ipo (pass 2) -O3 (pass 2) -no-prec-div (pass 2) -opt-mem-layout-trans=3 (pass 2) -prof-use (pass 2) -opt-malloc-options=3</td>
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<td>453.povray</td>
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**Fortran benchmarks:**

Continued on next page
Peak Optimization Flags (Continued)

410.bwaves: basepeak = yes
416.gamess: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -03(pass 2)
-0prec-div(pass 2) -prof-use(pass 2) -unroll2
-inline-level=0 -scalar-rep-
434.zeusmp: basepeak = yes
437.leslie3d: -xAVX -ipo -03 -no-prec-div -opt-prefetch
459.GemsFDTD: basepeak = yes
465.tonto: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -03(pass 2)
-0prec-div(pass 2) -prof-use(pass 2) -unroll4 -auto
-inline-calloc -opt-malloc-options=3

Benchmarks using both Fortran and C:
435.gromacs: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -03(pass 2)
-0prec-div(pass 2) -opt-mem-layout-trans=3(pass 2)
-prof-use(pass 2) -opt-prefetch -auto-ilp32
436.cactusADM: basepeak = yes
454.calculix: basepeak = yes
481.wrf: -xAVX -ipo -03 -no-prec-div -auto-ilp32

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.html
http://www.spec.org/cpu2006/flags/Sugon-Platform-Settings-V1.2-IVB.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml
http://www.spec.org/cpu2006/flags/Sugon-Platform-Settings-V1.2-IVB.xml

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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 v1.2.
Originally published on 28 January 2014.