**Sugon**

I620-G10 (Intel Xeon E5-2697 v2, 2.70 GHz)

| SPECfp®_rate2006 | 697 |
| SPECfp_rate_base2006 | 678 |

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

**Hardware**

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**Test date:** Nov-2013  
**Hardware Availability:** Nov-2013  
**Software Availability:** Nov-2013
**SPEC CFP2006 Result**

**Sugon**

I620-G10 (Intel Xeon E5-2697 v2, 2.70 GHz)

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

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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
Platform Notes (Continued)

Turbo boost set to enabled
DDR Speed set to force 1866
Sysinfo program /home/cpu2006/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on linux-tn7k Tue Nov 5 00:59:13 2013

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 E5-2697 v2 @ 2.70GHz
  2 "physical id"s (chips)
  48 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The
following excerpts from /proc/cpuinfo might not be reliable. Use with
cautions.)
cpu cores : 12
siblings : 24
physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 13
cache size : 30720 KB

From /proc/meminfo
MemTotal: 264516048 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

/usr/bin/lsb_release -d
SUSE Linux Enterprise Server 11 (x86_64)

From /etc/*release* /etc/*version*
SuSE-release:
  SUSE Linux Enterprise Server 11 (x86_64)
  VERSION = 11
  PATCHLEVEL = 3

uname -a:
Linux linux-tn7k 3.0.76-0.11-default #1 SMP Fri Jun 14 08:21:43 UTC 2013
  (ccab990) x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Nov 5 00:56 last=S

SPEC is set to: /home/cpu2006
  Filesystem Type Size Used Avail Use% Mounted on
  /dev/md126p2 ext3 99G 16G 79G 17% /

Additional information from dmidecode:
  BIOS American Megatrends Inc. 3.0a 10/10/2013
  Memory:
    16x 16 GB
    16x Hynix Semiconducto HMT42GR7AFR4C 16 GB 1866 MHz

Continued on next page
Sugon
I620-G10 (Intel Xeon E5-2697 v2, 2.70 GHz)

SPECfp_rate2006 = 697
SPECfp_rate_base2006 = 678

CPU2006 license: 9046
Test sponsor: Sugon
Tested by: Sugon
Test date: Nov-2013

Platform Notes (Continued)

(End of data from sysinfo program)
There is a error in sysinfo output. There are only 16 DIMMs in this system. The cause of this error is the sysinfo itself. The sysinfo of revision 6818 can't identify the correct memory information. The memory information should be:
Memory:
16x Hynix Semiconductor HMT42GR7AFR4C 16 GB 1866 MHz

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
SPEC CFP2006 Result

Sugon
I620-G10 (Intel Xeon E5-2697 v2, 2.70 GHz)

SPECfp_rate2006 = 697
SPECfp_rate_base2006 = 678

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

Test date: Nov-2013
Hardware Availability: Nov-2013
Software Availability: Nov-2013

Base Portability Flags (Continued)

444.namd: -DSPEC_CPU_LP64
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:
-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
Sugon

I620-G10 (Intel Xeon E5-2697 v2, 2.70 GHz)

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**CPU2006 license**: 9046  
**Test date**: Nov-2013  
**Test sponsor**: Sugon  
**Hardware Availability**: Nov-2013  
**Tested by**: Sugon  
**Software Availability**: Nov-2013

### Peak Portability Flags

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### Peak Optimization Flags

**C benchmarks**:

- 433.milc: -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

- 470.lbm: basepeak = yes

- 482.sphinx3: -xAVX -ipo -O3 -no-prec-div -opt-mem-layout-trans=3  
  -unroll2

**C++ benchmarks**:

- 444.namd: -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

- 447.dealII: basepeak = yes

- 450.soplex: -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

- 453.povray: -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) -unroll4 -ansi-alias

**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) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -unroll2
-inline-level=0 -scalar-rep-

434. zeusmp: basepeak = yes

437. leslie3d: -xAVX -ipo -O3 -no-prec-div -opt-prefetch

459. GemsFDTD: basepeak = yes

465. tonto: -xAVX(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

Benchmarks using both Fortran and C:

435. gromacs: -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-prefetch -auto-ilp32

436. cactusADM: basepeak = yes

454. calculix: basepeak = yes

481. wrf: -xAVX -ipo -O3 -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