



# SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Sugon

SPECfp®\_rate2006 = 585

I620-G10 (Intel Xeon E5-2667 v2, 3.30 GHz)

SPECfp\_rate\_base2006 = 574

CPU2006 license: 9046

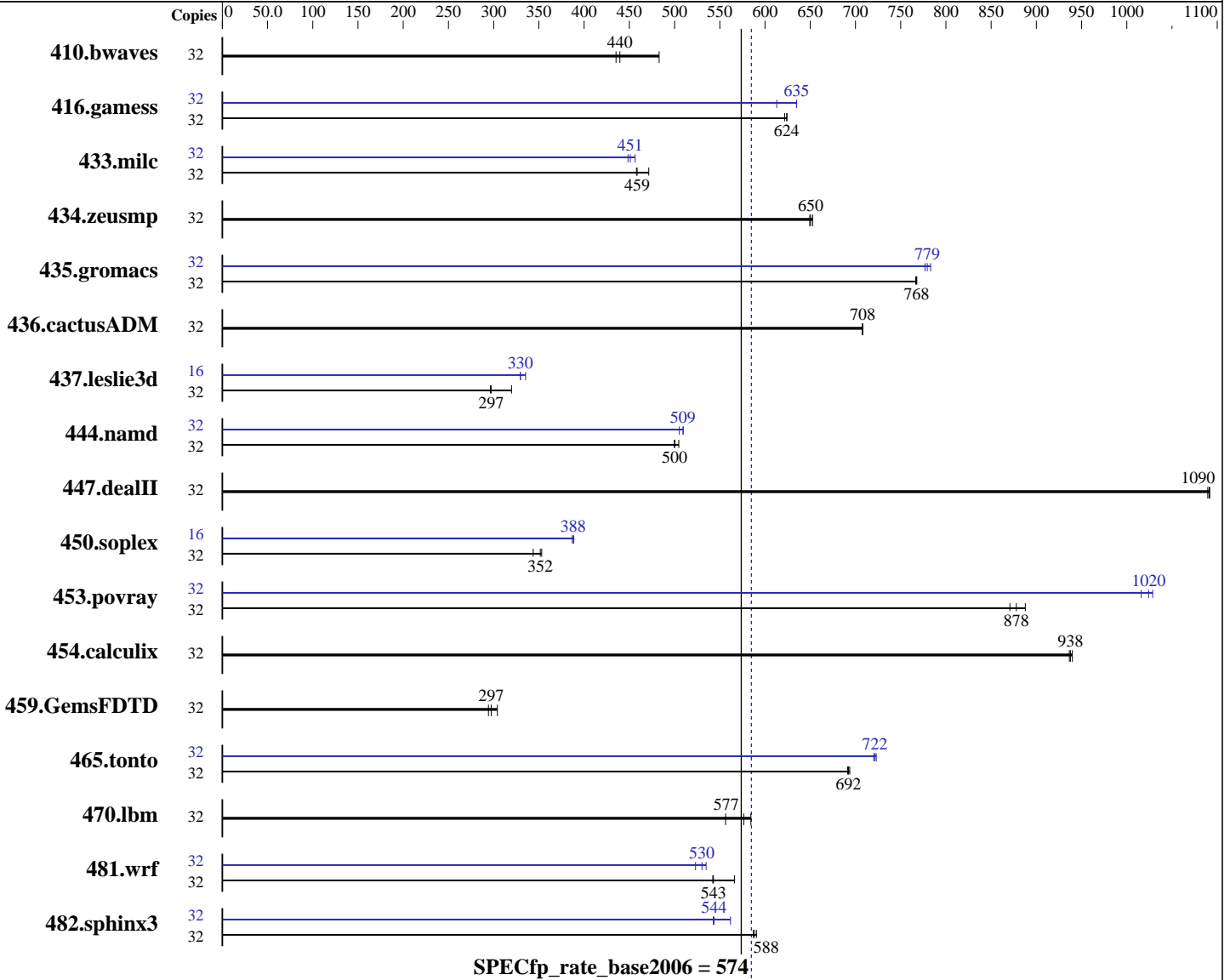
Test sponsor: Sugon

Tested by: Sugon

Test date: Dec-2013

Hardware Availability: Jan-2014

Software Availability: Jan-2014



### Hardware

CPU Name: Intel Xeon E5-2667 v2  
 CPU Characteristics: Intel Turbo Boost Technology up to 4.00 GHz  
 CPU MHz: 3300  
 FPU: Integrated  
 CPU(s) enabled: 16 cores, 2 chips, 8 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

Continued on next page

### 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

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Sugon

SPECfp\_rate2006 = **585**

I620-G10 (Intel Xeon E5-2667 v2, 3.30 GHz)

SPECfp\_rate\_base2006 = **574**

CPU2006 license: 9046

Test date: Dec-2013

Test sponsor: Sugon

Hardware Availability: Jan-2014

Tested by: Sugon

Software Availability: Jan-2014

L3 Cache: 25 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 256 GB (16 x 16 GB 2Rx4 PC3-14900R-13, ECC)  
 Disk Subsystem: 1 X 2 TB SATA 7200 RPM, RAID 0  
 Other Hardware: None

System State: Run level 3 (Full multiuser with network)  
 Base Pointers: 32/64-bit  
 Peak Pointers: 32/64-bit  
 Other Software: None

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	32	900	483	<b>989</b>	<b>440</b>	999	435	32	900	483	<b>989</b>	<b>440</b>	999	435
416.gamess	32	1008	622	1004	624	<b>1004</b>	<b>624</b>	32	987	635	1022	613	<b>987</b>	<b>635</b>
433.milc	32	623	471	<b>641</b>	<b>459</b>	642	458	32	<b>651</b>	<b>451</b>	644	456	655	449
434.zeusmp	32	<b>448</b>	<b>650</b>	446	653	448	649	32	<b>448</b>	<b>650</b>	446	653	448	649
435.gromacs	32	<b>298</b>	<b>768</b>	298	767	298	768	32	292	783	<b>293</b>	<b>779</b>	294	777
436.cactusADM	32	540	708	540	708	<b>540</b>	<b>708</b>	32	540	708	540	708	<b>540</b>	<b>708</b>
437.leslie3d	32	941	320	<b>1012</b>	<b>297</b>	1015	296	16	449	335	456	330	<b>456</b>	<b>330</b>
444.namd	32	514	500	509	505	<b>513</b>	<b>500</b>	32	504	510	<b>504</b>	<b>509</b>	508	505
447.dealII	32	335	1090	<b>336</b>	<b>1090</b>	336	1090	32	335	1090	<b>336</b>	<b>1090</b>	336	1090
450.soplex	32	756	353	<b>759</b>	<b>352</b>	777	344	16	<b>344</b>	<b>388</b>	345	387	343	389
453.povray	32	196	871	192	888	<b>194</b>	<b>878</b>	32	168	1020	165	1030	<b>166</b>	<b>1020</b>
454.calculix	32	<b>282</b>	<b>938</b>	282	937	281	940	32	<b>282</b>	<b>938</b>	282	937	281	940
459.GemsFDTD	32	1116	304	1154	294	<b>1142</b>	<b>297</b>	32	1116	304	1154	294	<b>1142</b>	<b>297</b>
465.tonto	32	454	694	455	691	<b>455</b>	<b>692</b>	32	436	723	<b>436</b>	<b>722</b>	437	720
470.lbm	32	752	584	<b>763</b>	<b>577</b>	790	556	32	752	584	<b>763</b>	<b>577</b>	790	556
481.wrf	32	631	566	659	542	<b>658</b>	<b>543</b>	32	668	535	<b>674</b>	<b>530</b>	683	523
482.sphinx3	32	<b>1060</b>	<b>588</b>	1056	591	1063	587	32	1110	562	<b>1147</b>	<b>544</b>	1149	543

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

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Sugon

SPECfp\_rate2006 = 585

I620-G10 (Intel Xeon E5-2667 v2, 3.30 GHz)

SPECfp\_rate\_base2006 = 574

CPU2006 license: 9046

Test sponsor: Sugon

Tested by: Sugon

Test date: Dec-2013

Hardware Availability: Jan-2014

Software Availability: Jan-2014

## Platform Notes (Continued)

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 Thu Dec 26 04:06:44 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 E5-2667 v2 @ 3.30GHz
 2 "physical id"s (chips)
 32 "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    : 8
  siblings     : 16
  physical 0: cores 1 2 3 4 8 9 10 11
  physical 1: cores 1 2 3 4 8 9 10 11
cache size     : 25600 KB
```

```
From /proc/meminfo
MemTotal:      264499300 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)
system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server
```

```
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 Dec 25 18:25

```
SPEC is set to: /home/cpu2006
Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/mapper/vg_cpu2006-lv_home
  ext4          1.8T    70G  1.6T   5% /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.

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Sugon

SPECfp\_rate2006 = 585

I620-G10 (Intel Xeon E5-2667 v2, 3.30 GHz)

SPECfp\_rate\_base2006 = 574

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

Test date: Dec-2013  
Hardware Availability: Jan-2014  
Software Availability: Jan-2014

## Platform Notes (Continued)

BIOS American Megatrends Inc. 3.0a 10/10/2013

Memory:

16x Hynix Semiconducto HMT42GR7AFR4C 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

447.dealII: -DSPEC\_CPU\_LP64

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Sugon

SPECfp\_rate2006 = 585

I620-G10 (Intel Xeon E5-2667 v2, 3.30 GHz)

SPECfp\_rate\_base2006 = 574

CPU2006 license: 9046

Test date: Dec-2013

Test sponsor: Sugon

Hardware Availability: Jan-2014

Tested by: Sugon

Software Availability: Jan-2014

## 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

Copyright 2006-2014 Standard Performance Evaluation Corporation

Sugon

SPECfp\_rate2006 = 585

I620-G10 (Intel Xeon E5-2667 v2, 3.30 GHz)

SPECfp\_rate\_base2006 = 574

CPU2006 license: 9046

Test sponsor: Sugon

Tested by: Sugon

Test date: Dec-2013

Hardware Availability: Jan-2014

Software Availability: Jan-2014

## 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
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

```

## 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



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Sugon

SPECfp\_rate2006 = 585

I620-G10 (Intel Xeon E5-2667 v2, 3.30 GHz)

SPECfp\_rate\_base2006 = 574

CPU2006 license: 9046

Test sponsor: Sugon

Tested by: Sugon

Test date: Dec-2013

Hardware Availability: Jan-2014

Software Availability: Jan-2014

## 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>

SPEC and SPECfp are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.2.  
Report generated on Thu Jul 24 20:50:08 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 28 January 2014.