



SPEC[®] CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Sugon

SPECfp[®]_rate2006 = 584

I620-G10 (Intel Xeon E5-2660 v2, 2.20 GHz)

SPECfp_rate_base2006 = 572

CPU2006 license: 9046

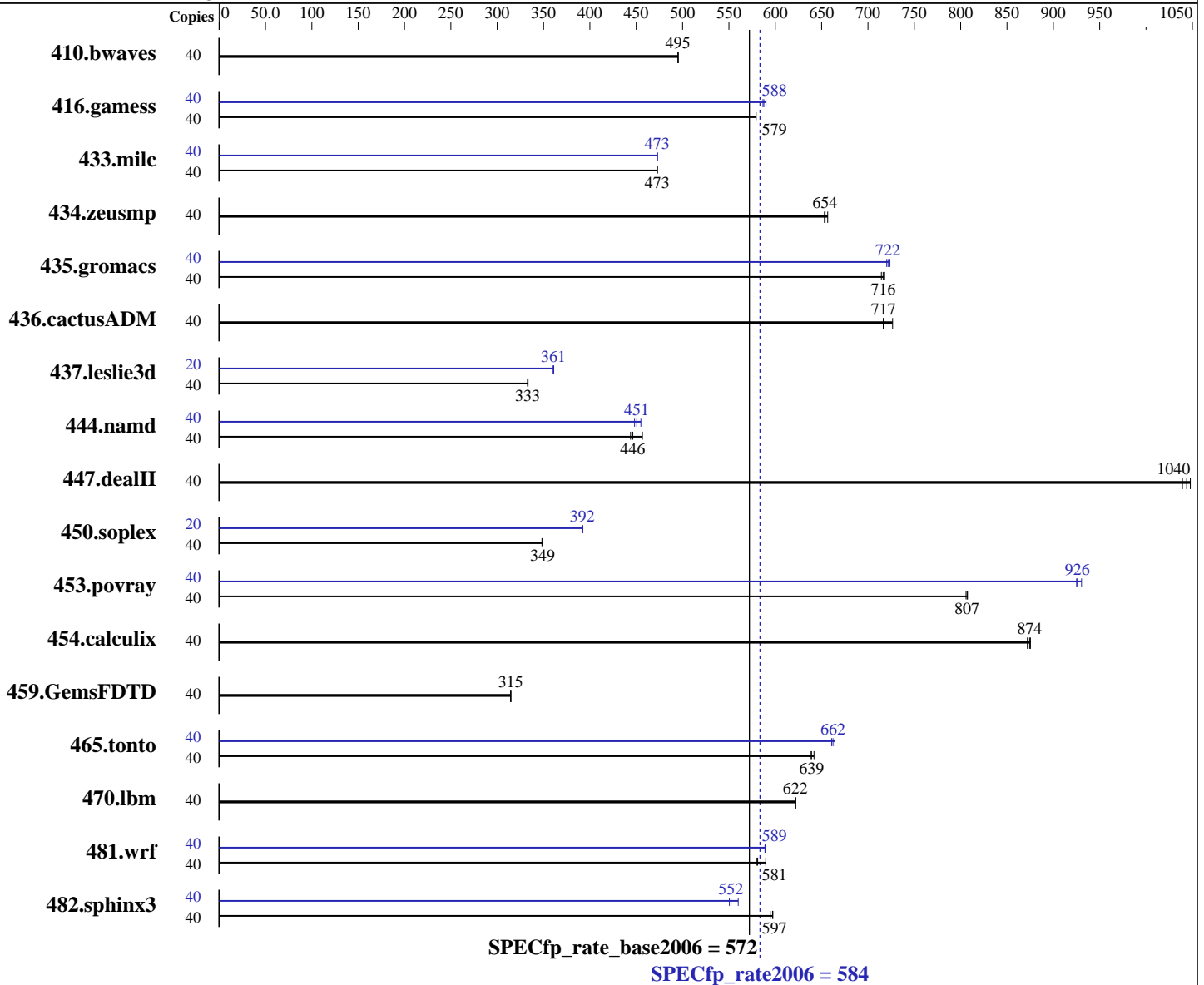
Test sponsor: Sugon

Tested by: Sugon

Test date: Nov-2013

Hardware Availability: Nov-2013

Software Availability: Nov-2013



Hardware

CPU Name: Intel Xeon E5-2660 v2
 CPU Characteristics: Intel Turbo Boost Technology up to 3.00 GHz
 CPU MHz: 2200
 FPU: Integrated
 CPU(s) enabled: 20 cores, 2 chips, 10 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: SUSE Linux Enterprise Server 11 SP3 (x86_64) 3.0.76-0.11-default
 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: ext3
 System State: Run level 3 (Full multiuser with network)

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Sugon

SPECfp_rate2006 = **584**

I620-G10 (Intel Xeon E5-2660 v2, 2.20 GHz)

SPECfp_rate_base2006 = **572**

CPU2006 license: 9046

Test date: Nov-2013

Test sponsor: Sugon

Hardware Availability: Nov-2013

Tested by: Sugon

Software Availability: Nov-2013

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: 4 x 450 GB SAS 10K RPM, RAID0
 Other Hardware: None

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	40	1098	495	1098	495	1098	495	40	1098	495	1098	495	1098	495
416.gamess	40	1352	579	1352	579	1352	579	40	1327	590	1333	588	1335	587
433.milc	40	777	472	777	473	777	473	40	777	473	777	473	777	473
434.zeusmp	40	554	657	557	654	557	653	40	554	657	557	654	557	653
435.gromacs	40	399	716	400	714	398	718	40	397	720	395	724	396	722
436.cactusADM	40	658	727	667	717	667	717	40	658	727	667	717	667	717
437.leslie3d	40	1129	333	1128	333	1130	333	20	522	360	521	361	521	361
444.namd	40	723	444	702	457	719	446	40	716	448	705	455	712	451
447.dealII	40	440	1040	438	1040	437	1050	40	440	1040	438	1040	437	1050
450.soplex	40	956	349	958	348	956	349	20	425	392	426	391	426	392
453.povray	40	264	806	264	807	264	807	40	229	930	230	925	230	926
454.calculix	40	377	875	378	872	377	874	40	377	875	378	872	377	874
459.GemsFDTD	40	1349	315	1349	315	1348	315	40	1349	315	1349	315	1348	315
465.tonto	40	616	639	617	638	613	642	40	594	662	592	664	596	661
470.lbm	40	884	622	884	621	883	622	40	884	622	884	621	883	622
481.wrf	40	769	581	758	590	770	580	40	758	589	759	589	759	589
482.sphinx3	40	1305	597	1311	595	1306	597	40	1412	552	1416	550	1392	560

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 = 584

I620-G10 (Intel Xeon E5-2660 v2, 2.20 GHz)

SPECfp_rate_base2006 = 572

CPU2006 license: 9046

Test sponsor: Sugon

Tested by: Sugon

Test date: Nov-2013

Hardware Availability: Nov-2013

Software Availability: Nov-2013

Platform Notes (Continued)

```
Turbo boost set to enabled
DDR Speed set to force 1866
Sysinfo program /home/spec/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on linux-tn7k Tue Nov 19 10:15:42 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 E5-2660 v2 @ 2.20GHz
 2 "physical id"s (chips)
 40 "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 : 10
  siblings  : 20
  physical 0: cores 0 1 2 3 4 8 9 10 11 12
  physical 1: cores 0 1 2 3 4 8 9 10 11 12
cache size : 25600 KB
```

```
From /proc/meminfo
MemTotal:      264516912 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 18 21:09 last=S

```
SPEC is set to: /home/spec
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/md124p1    ext3  784G   77G  668G  11% /home/spec
```

```
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



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Sugon

SPECfp_rate2006 = 584

I620-G10 (Intel Xeon E5-2660 v2, 2.20 GHz)

SPECfp_rate_base2006 = 572

CPU2006 license: 9046

Test sponsor: Sugon

Tested by: Sugon

Test date: Nov-2013

Hardware Availability: Nov-2013

Software Availability: 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 revsion 6818 can't identify the correct memory information. The memory information should be:
 Memory:
 16x Hynix Semiconducto HMT42GR7AFR4C 16 GB 1866 MHz

General Notes

Environment variables set by runspec before the start of the run:
 LD_LIBRARY_PATH = "/home/spec/libs/32:/home/spec/libs/64:/home/spec/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

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Sugon

SPECfp_rate2006 = 584

I620-G10 (Intel Xeon E5-2660 v2, 2.20 GHz)

SPECfp_rate_base2006 = 572

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

```



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Sugon

SPECfp_rate2006 = 584

I620-G10 (Intel Xeon E5-2660 v2, 2.20 GHz)

SPECfp_rate_base2006 = 572

CPU2006 license: 9046

Test sponsor: Sugon

Tested by: Sugon

Test date: Nov-2013

Hardware Availability: Nov-2013

Software Availability: Nov-2013

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 = 584

I620-G10 (Intel Xeon E5-2660 v2, 2.20 GHz)

SPECfp_rate_base2006 = 572

CPU2006 license: 9046

Test sponsor: Sugon

Tested by: Sugon

Test date: Nov-2013

Hardware Availability: Nov-2013

Software Availability: Nov-2013

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.

Tested with SPEC CPU2006 v1.2.

Report generated on Thu Jul 24 19:44:33 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 17 December 2013.