



# SPEC® CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

## SGI

SPECint®\_rate2006 = 18600

SGI UV 300 (Intel Xeon E7-8890 v2, 2.8 GHz)

SPECint\_rate\_base2006 = 18000

CPU2006 license: 4

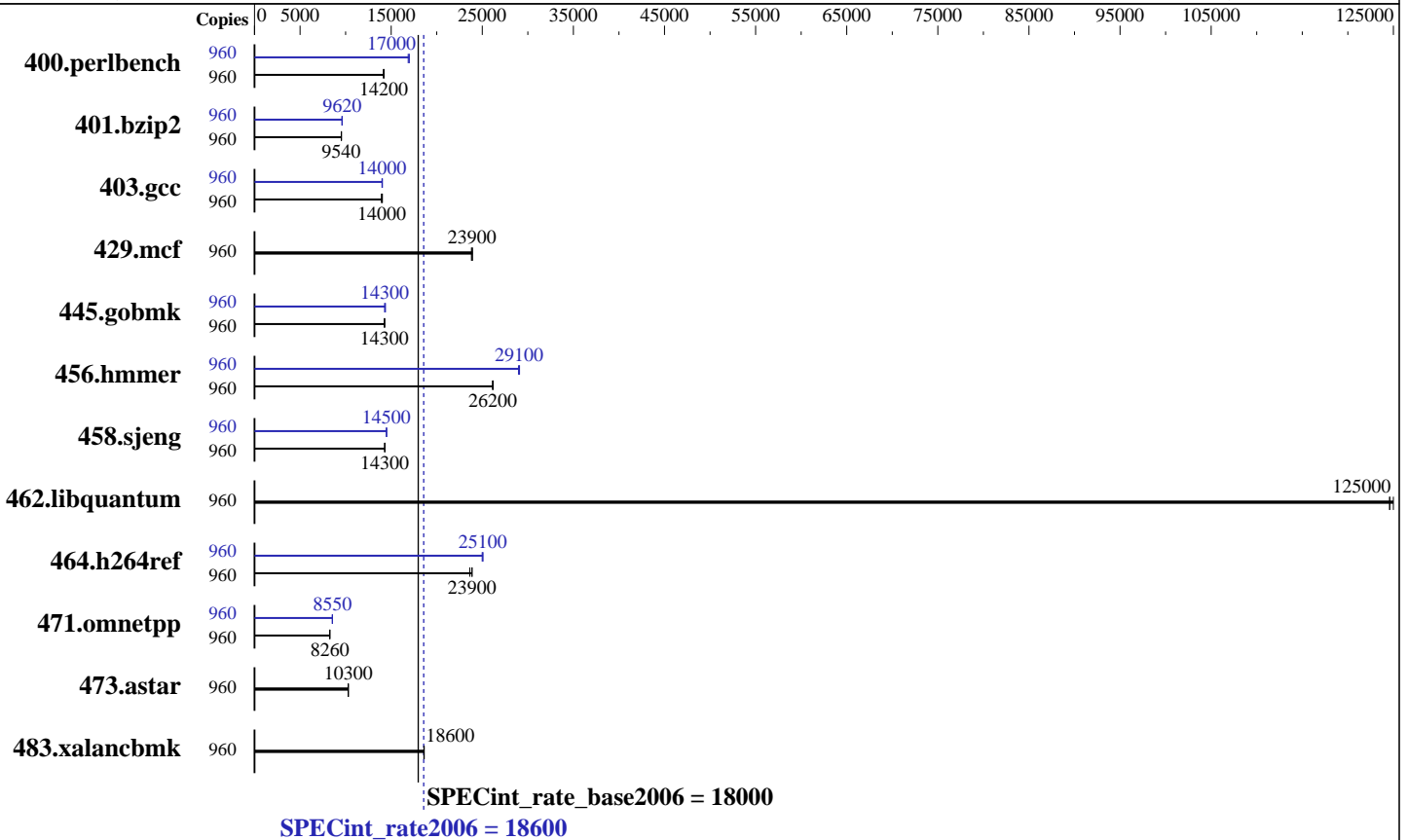
Test sponsor: SGI

Tested by: SGI

Test date: Dec-2014

Hardware Availability: Dec-2014

Software Availability: Nov-2014



### Hardware

CPU Name: Intel Xeon E7-8890 v2  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.40 GHz  
 CPU MHz: 2800  
 FPU: Integrated  
 CPU(s) enabled: 480 cores, 32 chips, 15 cores/chip, 2 threads/core  
 CPU(s) orderable: 4-32 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 256 KB I+D on chip per core  
 L3 Cache: 37.5 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 4 TB (256 x 16 GB 2Rx4 PC3-14900R-13, ECC, running at 1333 MHz)  
 Disk Subsystem: 4 TB tmpfs  
 Other Hardware: None

### Software

Operating System: SUSE Linux Enterprise Server 11 (x86\_64) SP3, Kernel 3.0.101-0.46-default  
 Compiler: C/C++; Version 15.0.0.090 of Intel C++ Studio XE for Linux  
 Auto Parallel: No  
 File System: tmpfs  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V10.0, SGI Foundation Software 2.11, Build 711rp42.sles11sp3-1412152100



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

## SGI

SPECint\_rate2006 = 18600

SGI UV 300 (Intel Xeon E7-8890 v2, 2.8 GHz)

SPECint\_rate\_base2006 = 18000

CPU2006 license: 4

Test sponsor: SGI

Tested by: SGI

Test date: Dec-2014

Hardware Availability: Dec-2014

Software Availability: Nov-2014

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	960	<b>662</b>	<b>14200</b>	663	14200	660	14200	960	<b>553</b>	<b>17000</b>	556	16900	552	17000
401.bzip2	960	971	9540	<b>971</b>	<b>9540</b>	973	9520	960	966	9590	962	9630	<b>963</b>	<b>9620</b>
403.gcc	960	551	14000	555	13900	<b>552</b>	<b>14000</b>	960	552	14000	<b>551</b>	<b>14000</b>	551	14000
429.mcf	960	366	23900	<b>367</b>	<b>23900</b>	368	23800	960	366	23900	<b>367</b>	<b>23900</b>	368	23800
445.gobmk	960	<b>706</b>	<b>14300</b>	704	14300	707	14200	960	704	14300	701	14400	<b>704</b>	<b>14300</b>
456.hammer	960	342	26200	<b>342</b>	<b>26200</b>	343	26100	960	308	29100	309	29000	<b>308</b>	<b>29100</b>
458.sjeng	960	812	14300	<b>812</b>	<b>14300</b>	812	14300	960	802	14500	801	14500	<b>802</b>	<b>14500</b>
462.libquantum	960	<b>160</b>	<b>125000</b>	160	125000	159	125000	960	<b>160</b>	<b>125000</b>	160	125000	159	125000
464.h264ref	960	890	23900	<b>890</b>	<b>23900</b>	899	23600	960	848	25100	850	25000	<b>848</b>	<b>25100</b>
471.omnetpp	960	726	8270	726	8260	<b>726</b>	<b>8260</b>	960	<b>701</b>	<b>8550</b>	701	8560	703	8540
473.astar	960	656	10300	<b>655</b>	<b>10300</b>	654	10300	960	656	10300	<b>655</b>	<b>10300</b>	654	10300
483.xalancbmk	960	356	18600	356	18600	<b>356</b>	<b>18600</b>	960	356	18600	356	18600	<b>356</b>	<b>18600</b>

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"

Tmpfs filesystem set up with:

```
mkdir -p /mnt/shm
mount -t tmpfs -o size=4096g,rw tmpfs /mnt/shm/
```

Turbo mode activated with:

```
modprobe acpi_cpufreq
cpupower frequency-set -u 3400MHz -d 3400MHz -g performance
```

## General Notes

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

```
LD_LIBRARY_PATH = "/mnt/shm/cpu2006-1.2/libs/32:/mnt/shm/cpu2006-1.2/libs/64:/mnt/shm/cpu2006-1.2/sh"
```

Transparent Huge Pages enabled with:

```
echo always > /sys/kernel/mm/transparent_hugepage/enabled
```

Filesystem page cache cleared with:

```
echo 1 > /proc/sys/vm/drop_caches
```



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

**SGI**

**SPECint\_rate2006 = 18600**

SGI UV 300 (Intel Xeon E7-8890 v2, 2.8 GHz)

**SPECint\_rate\_base2006 = 18000**

**CPU2006 license:** 4

**Test date:** Dec-2014

**Test sponsor:** SGI

**Hardware Availability:** Dec-2014

**Tested by:** SGI

**Software Availability:** Nov-2014

## Base Compiler Invocation

C benchmarks:

icc -m32 -L/sw/sdev/intel/parallel\_studio\_2015/composer\_xe\_2015/lib/ia32/

C++ benchmarks:

icpc -m32 -L/sw/sdev/intel/parallel\_studio\_2015/composer\_xe\_2015/lib/ia32/

## Base Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
462.libquantum: -DSPEC\_CPU\_LINUX  
483.xalancbmk: -DSPEC\_CPU\_LINUX

## Base Optimization Flags

C benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3

C++ benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3  
-Wl,-z,muldefs -L/sh -lsmartheap

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m32 -L/sw/sdev/intel/parallel\_studio\_2015/composer\_xe\_2015/lib/ia32/

400.perlbench: icc -m64

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

C++ benchmarks:

icpc -m32 -L/sw/sdev/intel/parallel\_studio\_2015/composer\_xe\_2015/lib/ia32/



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

**SGI**

**SPECint\_rate2006 = 18600**

SGI UV 300 (Intel Xeon E7-8890 v2, 2.8 GHz)

**SPECint\_rate\_base2006 = 18000**

**CPU2006 license:** 4

**Test sponsor:** SGI

**Tested by:** SGI

**Test date:** Dec-2014

**Hardware Availability:** Dec-2014

**Software Availability:** Nov-2014

## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_LINUX\_X64  
 401.bzip2: -DSPEC\_CPU\_LP64  
 456.hmmer: -DSPEC\_CPU\_LP64  
 458.sjeng: -DSPEC\_CPU\_LP64  
 462.libquantum: -DSPEC\_CPU\_LINUX  
 483.xalancbmk: -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

C benchmarks:

400.perlbench: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
 -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)  
 -auto-ilp32

401.bzip2: -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 -auto-ilp32 -ansi-alias

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div

429.mcf: basepeak = yes

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)  
 -ansi-alias -opt-mem-layout-trans=3

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32

458.sjeng: -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-ilp32

462.libquantum: basepeak = yes

464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
 -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)  
 -unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
 -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)  
 -ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs  
 -L/sh -lsmartheap

473.astar: basepeak = yes

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

**SGI**

**SPECint\_rate2006 = 18600**

SGI UV 300 (Intel Xeon E7-8890 v2, 2.8 GHz)

**SPECint\_rate\_base2006 = 18000**

**CPU2006 license:** 4

**Test date:** Dec-2014

**Test sponsor:** SGI

**Hardware Availability:** Dec-2014

**Tested by:** SGI

**Software Availability:** Nov-2014

## Peak Optimization Flags (Continued)

483.xalanbmk: basepeak = yes

## Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/SGI-UV300-Platform-Flags.html>

<http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/SGI-UV300-Platform-Flags.xml>

<http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.xml>

SPEC and SPECint 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 Tue Jan 27 13:29:49 2015 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 27 January 2015.