



# SPEC® CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

## Lenovo Global Technology

SPECint®\_rate2006 = 1400

ThinkSystem SR550  
(2.60 GHz, Intel Xeon Gold 6126T)

SPECint\_rate\_base2006 = 1310

CPU2006 license: 9017

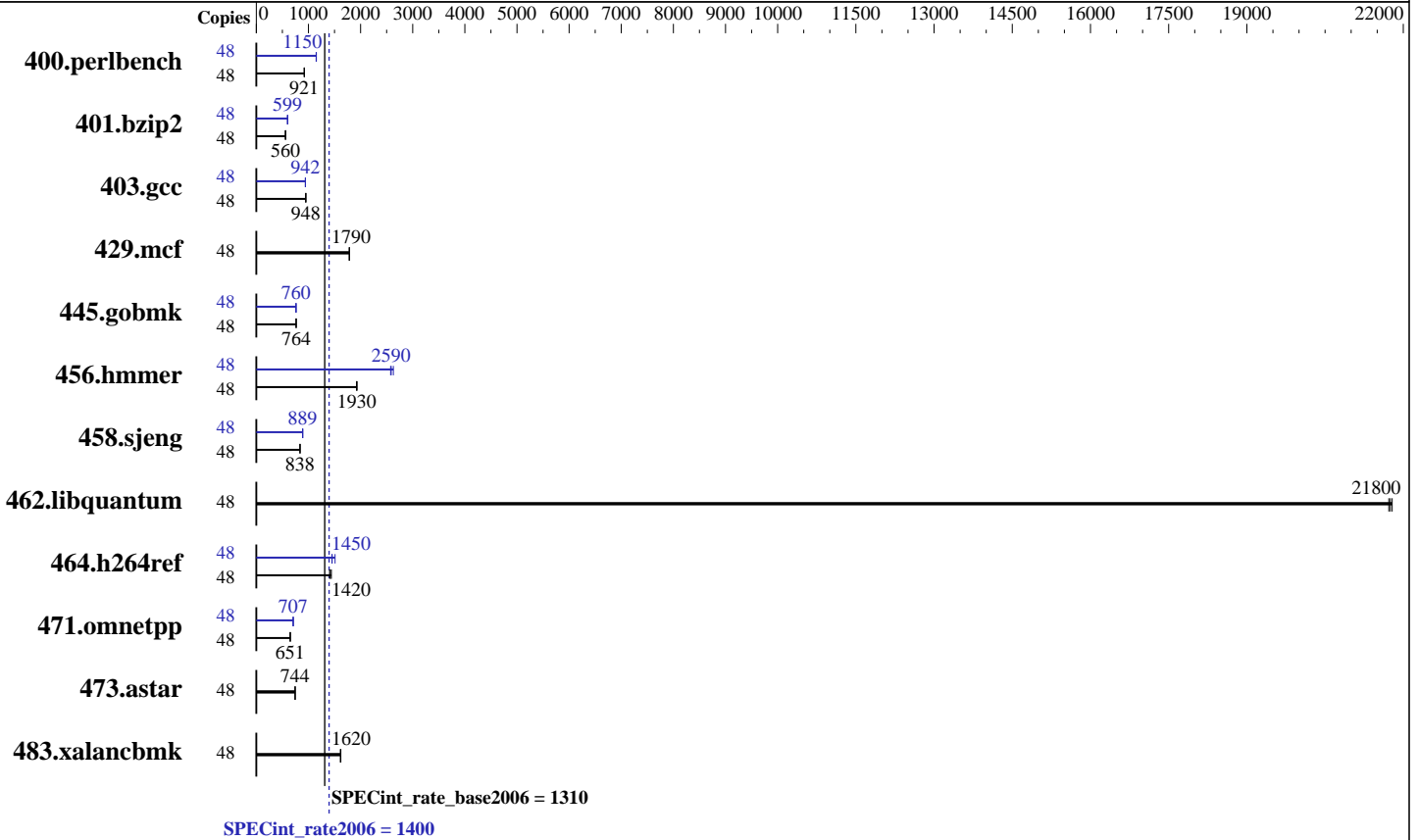
Test date: Jul-2017

Test sponsor: Lenovo Global Technology

Hardware Availability: Aug-2017

Tested by: Lenovo Global Technology

Software Availability: Nov-2016



### Hardware

CPU Name: Intel Xeon Gold 6126T  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.70 GHz  
 CPU MHz: 2600  
 FPU: Integrated  
 CPU(s) enabled: 24 cores, 2 chips, 12 cores/chip, 2 threads/core  
 CPU(s) orderable: 1,2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 1 MB I+D on chip per core  
 L3 Cache: 19.25 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 384 GB (12 x 32 GB 2Rx4 PC4-2666V-R)  
 Disk Subsystem: 1 x 800 GB SATA SSD  
 Other Hardware: None

### Software

Operating System: SUSE Linux Enterprise Server 12 SP2 (x86\_64)  
 Kernel 4.4.21-69-default  
 Compiler: C/C++: Version 17.0.1.132 of Intel C/C++ Compiler for Linux  
 Auto Parallel: No  
 File System: btrfs  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V10.2



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

## Lenovo Global Technology

SPECint\_rate2006 = 1400

ThinkSystem SR550  
(2.60 GHz, Intel Xeon Gold 6126T)

SPECint\_rate\_base2006 = 1310

CPU2006 license: 9017

Test date: Jul-2017

Test sponsor: Lenovo Global Technology

Hardware Availability: Aug-2017

Tested by: Lenovo Global Technology

Software Availability: Nov-2016

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	48	511	917	508	923	<u>509</u>	<u>921</u>	48	409	1150	<u>408</u>	<u>1150</u>	407	1150
401.bzip2	48	825	561	<u>827</u>	<u>560</u>	830	558	48	<u>773</u>	<u>599</u>	774	599	769	602
403.gcc	48	406	952	<u>408</u>	<u>948</u>	408	947	48	411	940	<u>410</u>	<u>942</u>	410	942
429.mcf	48	245	1790	246	1780	<u>245</u>	<u>1790</u>	48	245	1790	246	1780	<u>245</u>	<u>1790</u>
445.gobmk	48	659	764	660	763	<u>659</u>	<u>764</u>	48	<u>662</u>	<u>760</u>	660	763	662	760
456.hammer	48	232	1930	233	1920	<u>232</u>	<u>1930</u>	48	<u>173</u>	<u>2590</u>	170	2630	174	2580
458.sjeng	48	<u>693</u>	<u>838</u>	693	838	693	839	48	653	890	653	889	<u>653</u>	<u>889</u>
462.libquantum	48	45.6	21800	45.8	21700	<u>45.7</u>	<u>21800</u>	48	45.6	21800	45.8	21700	<u>45.7</u>	<u>21800</u>
464.h264ref	48	<u>748</u>	<u>1420</u>	756	1410	738	1440	48	703	1510	<u>730</u>	<u>1450</u>	732	1450
471.omnetpp	48	462	649	<u>461</u>	<u>651</u>	460	652	48	424	708	425	707	<u>424</u>	<u>707</u>
473.astar	48	453	744	453	744	<u>453</u>	<u>744</u>	48	453	744	453	744	<u>453</u>	<u>744</u>
483.xalancbmk	48	205	1610	204	1620	<u>205</u>	<u>1620</u>	48	205	1610	204	1620	<u>205</u>	<u>1620</u>

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:  
 Operating Mode set to Maximum Performance  
 SNC set to Enable  
 DCU Streamer Prefetcher set to Disable  
 Adjacent Cache Prefetch set to Disable  
 UPI Prefetcher set to Disable  
 Stale AtoS set to Enable  
 LLC dead line alloc set to Disable  
 Sysinfo program /home/cpu2006-1.2-ic17.0u1/config/sysinfo.rev6993  
 Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)  
 running on linux-yyst Wed Jul 26 00:17:06 2017

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

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

## Lenovo Global Technology

**SPECint\_rate2006 = 1400**

ThinkSystem SR550  
(2.60 GHz, Intel Xeon Gold 6126T)

**SPECint\_rate\_base2006 = 1310**

**CPU2006 license:** 9017

**Test date:** Jul-2017

**Test sponsor:** Lenovo Global Technology

**Hardware Availability:** Aug-2017

**Tested by:** Lenovo Global Technology

**Software Availability:** Nov-2016

### Platform Notes (Continued)

```

model name : Intel(R) Xeon(R) Gold 6126T CPU @ 2.60GHz
 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
caution.)
  cpu cores : 12
  siblings  : 24
  physical 0: cores 0 1 3 4 5 6 8 9 10 11 12 13
  physical 1: cores 0 1 3 4 5 6 8 9 10 11 12 13
cache size : 19712 KB

```

```

From /proc/meminfo
MemTotal:      395882416 kB
HugePages_Total:    0
Hugepagesize:   2048 kB

```

```

From /etc/*release* /etc/*version*
SuSE-release:
  SUSE Linux Enterprise Server 12 (x86_64)
  VERSION = 12
  PATCHLEVEL = 2
  # This file is deprecated and will be removed in a future service pack or
  # release.
  # Please check /etc/os-release for details about this release.
os-release:
  NAME="SLES"
  VERSION="12-SP2"
  VERSION_ID="12.2"
  PRETTY_NAME="SUSE Linux Enterprise Server 12 SP2"
  ID="sles"
  ANSI_COLOR="0;32"
  CPE_NAME="cpe:/o:suse:sles:12:sp2"

```

```

uname -a:
Linux linux-yyst 4.4.21-69-default #1 SMP Tue Oct 25 10:58:20 UTC 2016
(9464f67) x86_64 x86_64 x86_64 GNU/Linux

```

run-level 3 Jul 26 00:14

```

SPEC is set to: /home/cpu2006-1.2-ic17.0u1
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda2       btrfs 744G  246G  496G  34% /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.

BIOS Lenovo -[TEE105Z-1.00]- 04/27/2017

Memory:

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Lenovo Global Technology

SPECint\_rate2006 = 1400

ThinkSystem SR550  
(2.60 GHz, Intel Xeon Gold 6126T)

SPECint\_rate\_base2006 = 1310

CPU2006 license: 9017

Test date: Jul-2017

Test sponsor: Lenovo Global Technology

Hardware Availability: Aug-2017

Tested by: Lenovo Global Technology

Software Availability: Nov-2016

## Platform Notes (Continued)

12x Hynix HMA84GR7AFR4N-VK 32 GB 2 rank 2666 MHz

(End of data from sysinfo program)

## General Notes

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

LD\_LIBRARY\_PATH = "/home/cpu2006-1.2-ic17.0ul/lib/ia32:/home/cpu2006-1.2-ic17.0ul/lib/intel64:/home/cpu2006-1.2-ic17.0ul/sh10.2"

Binaries compiled on a system with 1x Intel Core i7-4790 CPU + 32GB RAM  
memory using Redhat Enterprise Linux 7.2

Transparent Huge Pages enabled by default

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 -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32
```

C++ benchmarks:

```
icpc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32
```

## Base Portability Flags

400.perlbench: -D\_FILE\_OFFSET\_BITS=64 -DSPEC\_CPU\_LINUX\_IA32

401.bzip2: -D\_FILE\_OFFSET\_BITS=64

403.gcc: -D\_FILE\_OFFSET\_BITS=64

429.mcf: -D\_FILE\_OFFSET\_BITS=64

445.gobmk: -D\_FILE\_OFFSET\_BITS=64

456.hmmer: -D\_FILE\_OFFSET\_BITS=64

458.sjeng: -D\_FILE\_OFFSET\_BITS=64

462.libquantum: -D\_FILE\_OFFSET\_BITS=64 -DSPEC\_CPU\_LINUX

464.h264ref: -D\_FILE\_OFFSET\_BITS=64

471.omnetpp: -D\_FILE\_OFFSET\_BITS=64

473.astar: -D\_FILE\_OFFSET\_BITS=64

483.xalancbmk: -D\_FILE\_OFFSET\_BITS=64 -DSPEC\_CPU\_LINUX

## Base Optimization Flags

C benchmarks:

```
-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
```

```
-qopt-mem-layout-trans=3
```

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Lenovo Global Technology

SPECint\_rate2006 = 1400

ThinkSystem SR550  
(2.60 GHz, Intel Xeon Gold 6126T)

SPECint\_rate\_base2006 = 1310

CPU2006 license: 9017

Test date: Jul-2017

Test sponsor: Lenovo Global Technology

Hardware Availability: Aug-2017

Tested by: Lenovo Global Technology

Software Availability: Nov-2016

## Base Optimization Flags (Continued)

C++ benchmarks:

```
-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-qopt-mem-layout-trans=3 -Wl,-z,muldefs -L/sh10.2 -lsmartheap
```

## Base Other Flags

C benchmarks:

```
403.gcc: -Dalloca=_alloca
```

## Peak Compiler Invocation

C benchmarks (except as noted below):

```
icc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32
```

```
400.perlbench: icc -m64
```

```
401.bzip2: icc -m64
```

```
456.hmmer: icc -m64
```

```
458.sjeng: icc -m64
```

C++ benchmarks:

```
icpc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32
```

## Peak Portability Flags

```
400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
```

```
401.bzip2: -DSPEC_CPU_LP64
```

```
403.gcc: -D_FILE_OFFSET_BITS=64
```

```
429.mcf: -D_FILE_OFFSET_BITS=64
```

```
445.gobmk: -D_FILE_OFFSET_BITS=64
```

```
456.hmmer: -DSPEC_CPU_LP64
```

```
458.sjeng: -DSPEC_CPU_LP64
```

```
462.libquantum: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX
```

```
464.h264ref: -D_FILE_OFFSET_BITS=64
```

```
471.omnetpp: -D_FILE_OFFSET_BITS=64
```

```
473.astar: -D_FILE_OFFSET_BITS=64
```

```
483.xalancbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX
```



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Lenovo Global Technology

SPECint\_rate2006 = 1400

ThinkSystem SR550  
(2.60 GHz, Intel Xeon Gold 6126T)

SPECint\_rate\_base2006 = 1310

CPU2006 license: 9017

Test date: Jul-2017

Test sponsor: Lenovo Global Technology

Hardware Availability: Aug-2017

Tested by: Lenovo Global Technology

Software Availability: Nov-2016

## Peak Optimization Flags

C benchmarks:

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX512(pass 2)  
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -auto-ilp32 -qopt-mem-layout-trans=3

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX512(pass 2)  
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -qopt-prefetch -auto-ilp32  
-qopt-mem-layout-trans=3

403.gcc: -xCORE-AVX512 -ipo -O3 -no-prec-div  
-qopt-mem-layout-trans=3

429.mcf: basepeak = yes

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX512(pass 2)  
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -qopt-mem-layout-trans=3

456.hmmer: -xCORE-AVX512 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32  
-qopt-mem-layout-trans=3

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX512(pass 2)  
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -unroll4 -auto-ilp32  
-qopt-mem-layout-trans=3

462.libquantum: basepeak = yes

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX512(pass 2)  
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -unroll2 -qopt-mem-layout-trans=3

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX512(pass 2)  
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2)  
-qopt-ra-region-strategy=block  
-qopt-mem-layout-trans=3 -Wl,-z,muldefs  
-L/sh10.2 -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: basepeak = yes



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

**Lenovo Global Technology**

**SPECint\_rate2006 = 1400**

ThinkSystem SR550  
(2.60 GHz, Intel Xeon Gold 6126T)

**SPECint\_rate\_base2006 = 1310**

**CPU2006 license:** 9017

**Test date:** Jul-2017

**Test sponsor:** Lenovo Global Technology

**Hardware Availability:** Aug-2017

**Tested by:** Lenovo Global Technology

**Software Availability:** Nov-2016

## 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/Intel-ic17.0-official-linux64-revD.html>  
<http://www.spec.org/cpu2006/flags/Lenovo-Platform-Flags-V1.2-SKL-C.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic17.0-official-linux64-revD.xml>  
<http://www.spec.org/cpu2006/flags/Lenovo-Platform-Flags-V1.2-SKL-C.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 Wed Sep 20 11:05:53 2017 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 19 September 2017.