

# SPEC<sup>®</sup> CINT2006 Result

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Loongson

(Test Sponsor: guee)

SPECint<sup>®</sup>2006 = Not Run

Loongson-3A5000

SPECint\_base2006 = 26.6

CPU2006 license:

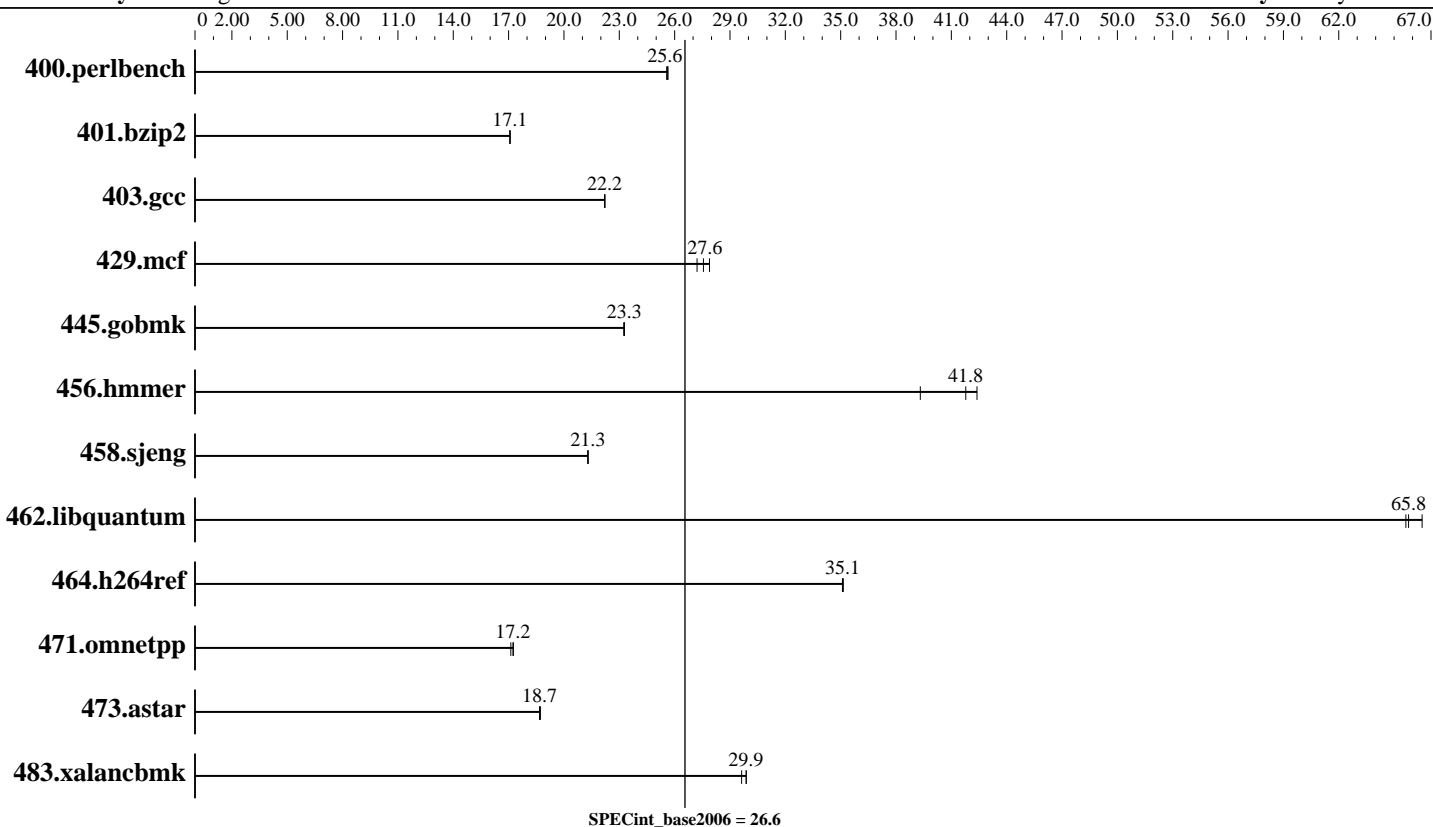
Test sponsor: guee

Tested by: guee

Test date: Aug-2021

Hardware Availability: May-2021

Software Availability: July-2021



## Hardware

CPU Name: Loongson-3A5000  
CPU Characteristics: Loongson-3A5000  
CPU MHz: 2500  
FPU: Integrated  
CPU(s) enabled: 4 cores, could not determine chips, 4 cores/chip  
CPU(s) orderable: 1  
Primary Cache: 64KB I + 64KB D on chip per core  
Secondary Cache: 256kB I+D on chip per core  
L3 Cache: 16384KB I+D on chip per chip  
Other Cache: None  
Memory: 16 GB (2 x 8GB DDR4 3200)  
15.787 GB fixme: If using DDR3, format is:  
'N GB (M x N GB nRxn PCn-nnnnnR-n, ECC)'  
Disk Subsystem: 914 GB add more disk info here  
Other Hardware: None

## Software

Operating System: Loongnix GNU/Linux 20  
4.19.0-12-loongson-3  
Compiler: gcc/g++ 8.3  
Auto Parallel: No  
File System: xfs  
System State: Run level 5 (add definition here)  
Base Pointers: 64-bit  
Peak Pointers: 64-bit  
Other Software: --

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## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	382	25.6	381	25.6	<b><u>381</u></b>	<b><u>25.6</u></b>						
401.bzip2	565	17.1	<b><u>565</u></b>	<b><u>17.1</u></b>	565	17.1						
403.gcc	362	22.2	363	22.2	<b><u>362</u></b>	<b><u>22.2</u></b>						
429.mcf	335	27.2	327	27.9	<b><u>331</u></b>	<b><u>27.6</u></b>						
445.gobmk	451	23.3	<b><u>451</u></b>	<b><u>23.3</u></b>	451	23.2						
456.hammer	237	39.3	<b><u>223</u></b>	<b><u>41.8</u></b>	220	42.4						
458.sjeng	568	21.3	<b><u>568</u></b>	<b><u>21.3</u></b>	568	21.3						
462.libquantum	<b><u>315</u></b>	<b><u>65.8</u></b>	311	66.5	316	65.6						
464.h264ref	<b><u>630</u></b>	<b><u>35.1</u></b>	631	35.1	630	35.1						
471.omnetpp	365	17.1	362	17.3	<b><u>363</u></b>	<b><u>17.2</u></b>						
473.astar	375	18.7	376	18.7	<b><u>376</u></b>	<b><u>18.7</u></b>						
483.xalancbmk	<b><u>231</u></b>	<b><u>29.9</u></b>	231	29.9	233	29.6						

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## Platform Notes

```
Sysinfo program /home/guee/cpu2006/Docs/sysinfo
$Rev: 6775 $ $Date:: 2011-08-16 #$ 8787f7622badcf24e01c368b1db4377c
running on 3a5000 Sun Aug 8 18:29:20 2021
```

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 : Loongson-3A5000
*
* 0 "physical id" tags found. Perhaps this is an older system,
* or a virtualized system. Not attempting to guess how to
* count chips/cores for this system.
*
  4 "processors"
  cores, siblings (Caution: counting these is hw and system dependent. The
  following excerpts from /proc/cpuinfo might not be reliable. Use with
  caution.)
```

```
From /proc/meminfo
  MemTotal:      16554032 kB
  HugePages_Total:      0
  Hugepagesize:    32768 kB
```

```
/usr/bin/lsb_release -d
  Loongnix GNU/Linux 20
```

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## Platform Notes (Continued)

From /etc/\*release\* /etc/\*version\*

debian\_version: 10.4

os-release:

PRETTY\_NAME="Loongnix GNU/Linux 20"

NAME="Loongnix GNU/Linux"

VERSION\_ID="20"

VERSION="20 (DaoXiangHu)"

VERSION\_CODENAME="DaoXiangHu"

ID="Loongnix"

HOME\_URL="https://www.loongnix.org/"

SUPPORT\_URL="https://ask.loongnix.org/"

uname -a:

Linux 3a5000 4.19.0-12-loongson-3 #1 SMP Sat Jun 19 03:02:31 UTC 2021

loongarch64 loongarch64 loongarch64 GNU/Linux

run-level 5 Aug 8 16:27

SPEC is set to: /home/guee/cpu2006

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/nvme0n1p2	xfs	914G	17G	897G	2%	/

(End of data from sysinfo program)

## Base Compiler Invocation

C benchmarks:

gcc

C++ benchmarks:

g++

## Base Portability Flags

400.perlbench: -mabi=lp64(\*) -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_LINUX\_X64  
-std=gnu90  
401.bzip2: -mabi=lp64(\*) -DSPEC\_CPU\_LP64 -fno-strict-aliasing  
403.gcc: -mabi=lp64(\*) -DSPEC\_CPU\_LP64  
429.mcf: -mabi=lp64(\*) -DSPEC\_CPU\_LP64  
445.gobmk: -mabi=lp64(\*) -DSPEC\_CPU\_LP64  
456.hmmer: -mabi=lp64(\*) -DSPEC\_CPU\_LP64  
458.sjeng: -mabi=lp64(\*) -DSPEC\_CPU\_LP64  
462.libquantum: -mabi=lp64(\*) -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_LINUX  
464.h264ref: -mabi=lp64(\*) -DSPEC\_CPU\_LP64  
471.omnetpp: -mabi=lp64(\*) -DSPEC\_CPU\_LP64  
473.astar: -mabi=lp64(\*) -DSPEC\_CPU\_LP64  
483.xalancbmk: -mabi=lp64(\*) -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_LINUX -std=c++03

(\*) Indicates a portability flag that was found in a non-portability variable.

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## Base Optimization Flags

C benchmarks:

-Ofast -mlsx -mlasx -flto -march=loongarch -mtune=loongarch  
-funroll-all-loops -static

C++ benchmarks:

-Ofast -mlsx -mlasx -flto -march=loongarch -mtune=loongarch  
-funroll-all-loops -static

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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 Sun Aug 8 22:48:49 2021 by SPEC CPU2006 PS/PDF formatter v6401.