



# SPEC® CINT2006 Result

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M Computers s.r.o.

SPECint®2006 = Not Run

HPC S2600WF (Intel Xeon Silver 4112, 2.60 GHz)

SPECint\_base2006 = 55.7

CPU2006 license: 4204

Test date: Aug-2017

Test sponsor: M Computers s.r.o.

Hardware Availability: Jul-2017

Tested by: M Computers s.r.o.

Software Availability: Apr-2017



## Hardware

CPU Name: Intel Xeon Silver 4112  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.00 GHz  
 CPU MHz: 2600  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip  
 CPU(s) orderable: 1,2 chip  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 1 MB I+D on chip per core  
 L3 Cache: 8.25 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 384 GB (24 x 16 GB 2Rx8 PC4-2400V-R, running at 2400 MT/s)  
 Disk Subsystem: 1 x 1600 GB SATA SSD  
 Other Hardware: None

## Software

Operating System: SUSE Linux Enterprise Server 12 SP2 4.4.21-69-default  
 Compiler: C/C++: Version 17.0.4.196 of Intel C/C++ Compiler for Linux  
 Auto Parallel: Yes  
 File System: xfs  
 System State: Run level 3  
 Base Pointers: 32/64-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V11.2



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## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	263	37.1	<b><u>262</u></b>	<b><u>37.3</u></b>	261	37.4						
401.bzip2	414	23.3	<b><u>414</u></b>	<b><u>23.3</u></b>	414	23.3						
403.gcc	<b><u>252</u></b>	<b><u>31.9</u></b>	252	31.9	253	31.9						
429.mcf	140	65.1	137	66.5	<b><u>139</u></b>	<b><u>65.7</u></b>						
445.gobmk	393	26.7	<b><u>393</u></b>	<b><u>26.7</u></b>	394	26.7						
456.hammer	118	79.3	117	79.4	<b><u>118</u></b>	<b><u>79.3</u></b>						
458.sjeng	400	30.2	400	30.3	<b><u>400</u></b>	<b><u>30.2</u></b>						
462.libquantum	<b><u>6.31</u></b>	<b><u>3280</u></b>	6.48	3200	6.03	3440						
464.h264ref	380	58.3	<b><u>380</u></b>	<b><u>58.3</u></b>	380	58.2						
471.omnetpp	277	22.6	274	22.8	<b><u>275</u></b>	<b><u>22.8</u></b>						
473.astar	<b><u>238</u></b>	<b><u>29.4</u></b>	238	29.5	239	29.3						
483.xalancbmk	<b><u>115</u></b>	<b><u>60.0</u></b>	114	60.3	115	59.9						

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

## Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

## Platform Notes

BIOS settings:

Intel(R) Hyper-Threading Tech=Disabled

Patrol Scrub=Disabled

CPU and Power Performance Policy=Performance

Set Fan Profile=Performance

Sysinfo program /spec/config/sysinfo.rev6993

Revision 6993 of 2015-11-06 (300de342723409e6453f54e8c50448c3)

running on kvasir Tue Aug 22 15:35:37 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

model name : Intel(R) Xeon(R) Silver 4112 CPU @ 2.60GHz

2 "physical id"s (chips)

8 "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 : 4

siblings : 4

physical 0: cores 1 2 4 5

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## Platform Notes (Continued)

physical 1: cores 1 2 4 5  
cache size : 8448 KB

```
From /proc/meminfo
MemTotal:      394667280 kB
HugePages_Total:    0
Hugepagesize:    2048 kB
```

```
/usr/bin/lsb_release -d
SUSE Linux Enterprise Server 12 SP2
```

```
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 kvasir 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 Aug 22 10:57
```

```
SPEC is set to: /spec
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sdal        xfs   650G   68G  582G  11% /
```

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 Intel Corporation SE5C620.86B.0X.01.0007.060920171037 06/09/2017

Memory:

1x Hynix HMA42GR7AFR4N-UH 16 GB 2 rank 2400 MHz  
23x Samsung M393A2G40EB1-CRC 16 GB 2 rank 2400 MHz

(End of data from sysinfo program)



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## General Notes

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

KMP\_AFFINITY = "granularity=fine,scatter"

LD\_LIBRARY\_PATH = "/spec/lib/ia32:/spec/lib/intel64:/spec/sh11.2"

OMP\_NUM\_THREADS = "8"

Binaries compiled on a system with 2x Intel Xeon-SP 4112 CPU + 192GB RAM memory using Redhat Enterprise Linux 7.3

Transparent Huge Pages enabled by default.

Filesystem page cache cleared with:

echo 1 > /proc/sys/vm/drop\_caches

## Base Compiler Invocation

C benchmarks:

icc -m64

C++ benchmarks:

icpc -m64

## Base Portability Flags

400.perlbench: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_LINUX\_X64  
401.bzip2: -DSPEC\_CPU\_LP64  
403.gcc: -DSPEC\_CPU\_LP64  
429.mcf: -DSPEC\_CPU\_LP64  
445.gobmk: -DSPEC\_CPU\_LP64  
456.hmmer: -DSPEC\_CPU\_LP64  
458.sjeng: -DSPEC\_CPU\_LP64  
462.libquantum: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_LINUX  
464.h264ref: -DSPEC\_CPU\_LP64  
471.omnetpp: -DSPEC\_CPU\_LP64  
473.astar: -DSPEC\_CPU\_LP64  
483.xalancbmk: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_LINUX

## Base Optimization Flags

C benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -qopt-prefetch  
-auto-p32

C++ benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -auto-p32  
-Wl,-z,muldefs -L/sh11.2 -lsmartheap64



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## Base 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-revF.html>

<http://www.spec.org/cpu2006/flags/MComputers-Platform-Settings-V1.2-revB.20170920.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-revF.xml>

<http://www.spec.org/cpu2006/flags/MComputers-Platform-Settings-V1.2-revB.20170920.xml>

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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 Wed Sep 20 11:01:36 2017 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 19 September 2017.