



SPEC® CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Huawei

SPECint®2006 = **72.8**

Huawei CH121 V3 (Intel Xeon E5-2667 v4)

SPECint_base2006 = **69.2**

CPU2006 license: 3175

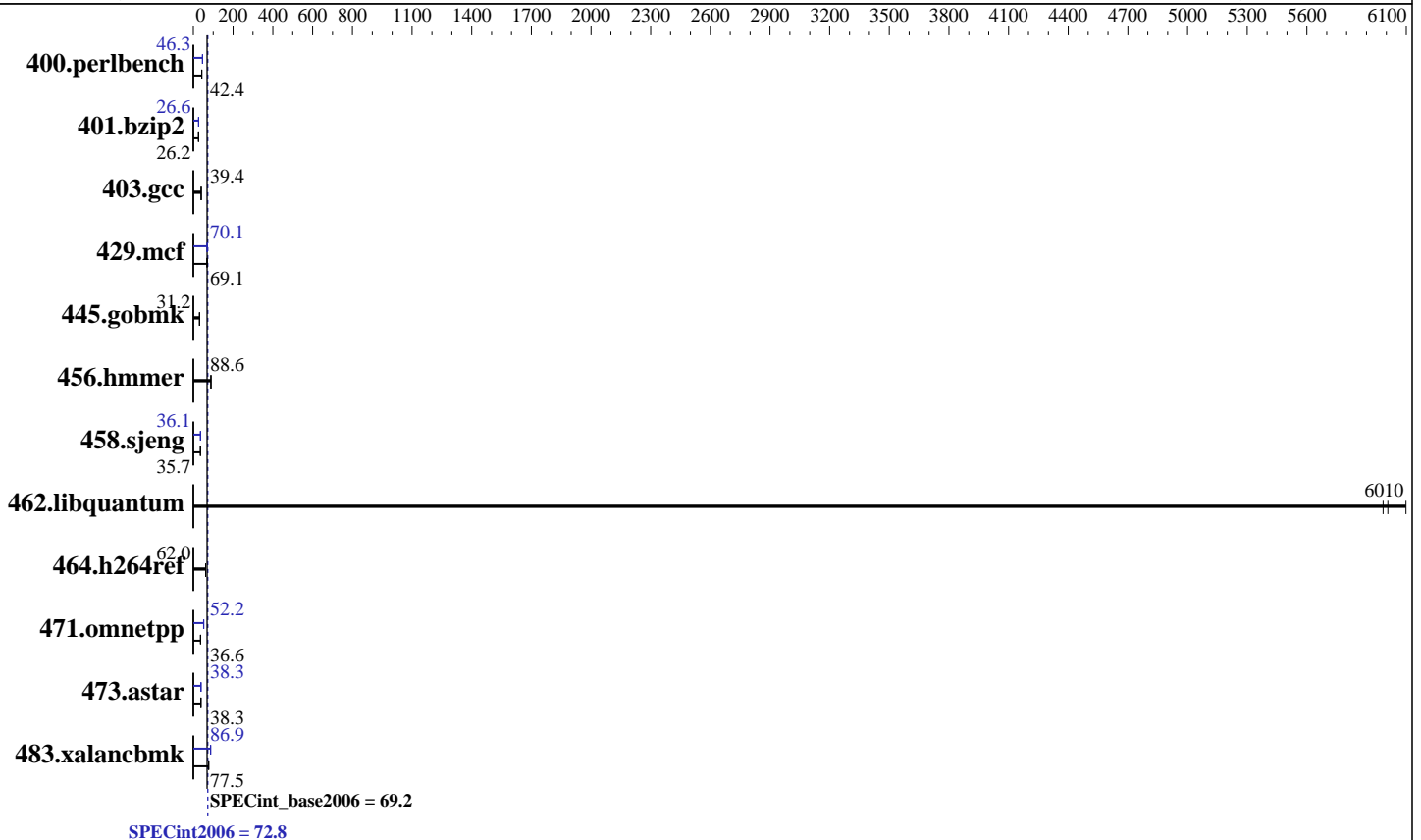
Test sponsor: Huawei

Tested by: Huawei

Test date: Nov-2016

Hardware Availability: Mar-2016

Software Availability: Dec-2015



Hardware

CPU Name: Intel Xeon E5-2667 v4
 CPU Characteristics: Intel Turbo Boost Technology up to 3.60 GHz
 CPU MHz: 3200
 FPU: Integrated
 CPU(s) enabled: 16 cores, 2 chips, 8 cores/chip
 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
 L3 Cache: 25 MB I+D on chip per chip
 Other Cache: None
 Memory: 512 GB (16 x 32 GB 2Rx4 PC4-2400T-R)
 Disk Subsystem: 1 x 1000 GB SATA, 7200 RPM
 Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 12 SP1
 3.12.49-11-default
 Compiler: C/C++: Version 16.0.0.101 of Intel C++ Studio XE for Linux
 Auto Parallel: Yes
 File System: xfs
 System State: Run level 3 (multi-user)
 Base Pointers: 32/64-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V10.2



SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Huawei

SPECint2006 = **72.8**

Huawei CH121 V3 (Intel Xeon E5-2667 v4)

SPECint_base2006 = **69.2**

CPU2006 license: 3175
Test sponsor: Huawei
Tested by: Huawei

Test date: Nov-2016
Hardware Availability: Mar-2016
Software Availability: Dec-2015

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	230	42.6	230	42.4	<u>230</u>	<u>42.4</u>	<u>211</u>	<u>46.3</u>	211	46.2	211	46.4
401.bzip2	369	26.2	<u>368</u>	<u>26.2</u>	368	26.2	362	26.7	<u>363</u>	<u>26.6</u>	363	26.6
403.gcc	204	39.4	204	39.4	<u>204</u>	<u>39.4</u>	204	39.4	204	39.4	<u>204</u>	<u>39.4</u>
429.mcf	133	68.8	<u>132</u>	<u>69.1</u>	131	69.7	129	70.6	<u>130</u>	<u>70.1</u>	132	69.0
445.gobmk	336	31.2	337	31.2	<u>336</u>	<u>31.2</u>	336	31.2	337	31.2	<u>336</u>	<u>31.2</u>
456.hammer	105	88.8	<u>105</u>	<u>88.6</u>	105	88.6	105	88.8	<u>105</u>	<u>88.6</u>	105	88.6
458.sjeng	339	35.7	<u>339</u>	<u>35.7</u>	339	35.7	<u>335</u>	<u>36.1</u>	335	36.1	335	36.1
462.libquantum	3.40	6100	<u>3.45</u>	<u>6010</u>	3.46	5980	3.40	6100	<u>3.45</u>	<u>6010</u>	3.46	5980
464.h264ref	356	62.1	<u>357</u>	<u>62.0</u>	359	61.7	356	62.1	<u>357</u>	<u>62.0</u>	359	61.7
471.omnetpp	169	36.9	176	35.6	<u>171</u>	<u>36.6</u>	121	51.6	<u>120</u>	<u>52.2</u>	119	52.6
473.astar	185	38.0	<u>183</u>	<u>38.3</u>	183	38.4	183	38.3	<u>183</u>	<u>38.3</u>	183	38.3
483.xalancbmk	<u>89.1</u>	<u>77.5</u>	88.8	77.7	90.0	76.7	<u>79.5</u>	86.8	<u>79.4</u>	<u>86.9</u>	79.2	87.2

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

Submit Notes

The config file option 'submit' was used.

Operating System Notes

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

Platform Notes

```

BIOS configuration:
Set Power Efficiency Mode to Performance
Set Snoop Mode to ES mode
Set Patrol Scrub to Disable
Set Hyper-Threading to Disable
Baseboard Management Controller used to adjust the fan speed to 100%
Sysinfo program /spec16/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
running on linux-4m6y Mon Nov 7 18:00:26 2016

```

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 E5-2667 v4 @ 3.20GHz
2 "physical id"s (chips)
16 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The

```

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Huawei

SPECint2006 = 72.8

Huawei CH121 V3 (Intel Xeon E5-2667 v4)

SPECint_base2006 = 69.2

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Nov-2016

Hardware Availability: Mar-2016

Software Availability: Dec-2015

Platform Notes (Continued)

following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)

```
cpu cores : 8
siblings  : 8
physical 0: cores 0 2 3 4 8 10 11 12
physical 1: cores 0 2 3 4 8 10 11 12
cache size : 25600 KB
```

From /proc/meminfo

```
MemTotal:      528829580 kB
HugePages_Total:    0
Hugepagesize:    2048 kB
```

/usr/bin/lsb_release -d

```
SUSE Linux Enterprise Server 12 SP1
```

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

```
SuSE-release:
SUSE Linux Enterprise Server 12 (x86_64)
VERSION = 12
PATCHLEVEL = 1
# 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-SP1"
VERSION_ID="12.1"
PRETTY_NAME="SUSE Linux Enterprise Server 12 SP1"
ID="sles"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:12:sp1"
```

uname -a:

```
Linux linux-4m6y 3.12.49-11-default #1 SMP Wed Nov 11 20:52:43 UTC 2015
(8d714a0) x86_64 x86_64 x86_64 GNU/Linux
```

run-level 3 Nov 7 13:20 last=5

SPEC is set to: /spec16

```
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda2        xfs   456G  113G  344G  25% /
```

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 Insyde Corp. 3.32 09/14/2016

Memory:

```
8x NO DIMM NO DIMM
```

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Huawei	SPECint2006 =	72.8
Huawei CH121 V3 (Intel Xeon E5-2667 v4)	SPECint_base2006 =	69.2

CPU2006 license: 3175	Test date: Nov-2016
Test sponsor: Huawei	Hardware Availability: Mar-2016
Tested by: Huawei	Software Availability: Dec-2015

Platform Notes (Continued)

16x Samsung M393A4K40BB1-CRC 32 GB 2 rank 2400 MHz

(End of data from sysinfo program)

General Notes

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

```
KMP_AFFINITY = "granularity=fine,compact,1,0"
LD_LIBRARY_PATH = "/spec16/libs/32:/spec16/libs/64:/spec16/sh"
OMP_NUM_THREADS = "16"
```

Binaries compiled on a system with 1x Intel Core i5-4670K CPU + 32GB memory using RedHat EL 7.1

Transparent Huge Pages enabled with:

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

runspec command invoked through numactl i.e.:

```
numactl --interleave=all runspec <etc>
```

The Huawei CH121 V3 and Huawei CH222 V3

are electronically equivalent.

The results have been measured on a Huawei CH121 V3 model

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
```



SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Huawei

SPECint2006 = 72.8

Huawei CH121 V3 (Intel Xeon E5-2667 v4)

SPECint_base2006 = 69.2

CPU2006 license: 3175
Test sponsor: Huawei
Tested by: Huawei

Test date: Nov-2016
Hardware Availability: Mar-2016
Software Availability: Dec-2015

Base Optimization Flags

C benchmarks:

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

C++ benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-Wl,-z,muldefs -L/sh -lsmartheap64

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m64

400.perlbench: icc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin

C++ benchmarks (except as noted below):

icpc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin

473.astar: icpc -m64

Peak Portability Flags

400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX_IA32
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: -D_FILE_OFFSET_BITS=64
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX



SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Huawei

SPECint2006 = 72.8

Huawei CH121 V3 (Intel Xeon E5-2667 v4)

SPECint_base2006 = 69.2

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Nov-2016

Hardware Availability: Mar-2016

Software Availability: Dec-2015

Peak Optimization Flags

C benchmarks:

400.perlbench: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
-par-num-threads=1(pass 1) -prof-use(pass 2) -opt-prefetch
-ansi-alias

401.bzip2: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
-ipo(pass 2) -O3(pass 2) -no-prec-div
-par-num-threads=1(pass 1) -prof-use(pass 2) -auto-ilp32
-opt-prefetch -ansi-alias

403.gcc: basepeak = yes

429.mcf: -xCORE-AVX2 -ipo -O3 -no-prec-div -parallel
-opt-prefetch -auto-p32

445.gobmk: basepeak = yes

456.hmmer: basepeak = yes

458.sjeng: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
-par-num-threads=1(pass 1) -prof-use(pass 2) -unroll4

462.libquantum: basepeak = yes

464.h264ref: basepeak = yes

C++ benchmarks:

471.omnetpp: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
-par-num-threads=1(pass 1) -prof-use(pass 2)
-opt-ra-region-strategy=block -ansi-alias
-Wl,-z,muldefs -L/sh -lsmarheap

473.astar: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
-auto-p32 -Wl,-z,muldefs -L/sh -lsmarheap64

483.xalancbmk: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
-ansi-alias -Wl,-z,muldefs -L/sh -lsmarheap

Peak Other Flags

C benchmarks:

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Huawei	SPECint2006 =	72.8
Huawei CH121 V3 (Intel Xeon E5-2667 v4)	SPECint_base2006 =	69.2

CPU2006 license: 3175
Test sponsor: Huawei
Tested by: Huawei

Test date: Nov-2016
Hardware Availability: Mar-2016
Software Availability: Dec-2015

Peak Other Flags (Continued)

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-ic16.0-official-linux64.html>
<http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-BDW-V1.0.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.xml>
<http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-BDW-V1.0.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.

Tested with SPEC CPU2006 v1.2.
Report generated on Wed Nov 30 10:46:33 2016 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 29 November 2016.