



# SPEC® CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

## HITACHI

**SPECint®2006 = 59.5**

Compute Blade 520H (Intel Xeon E5-2660 v3)

**SPECint\_base2006 = 56.0**

CPU2006 license: 35

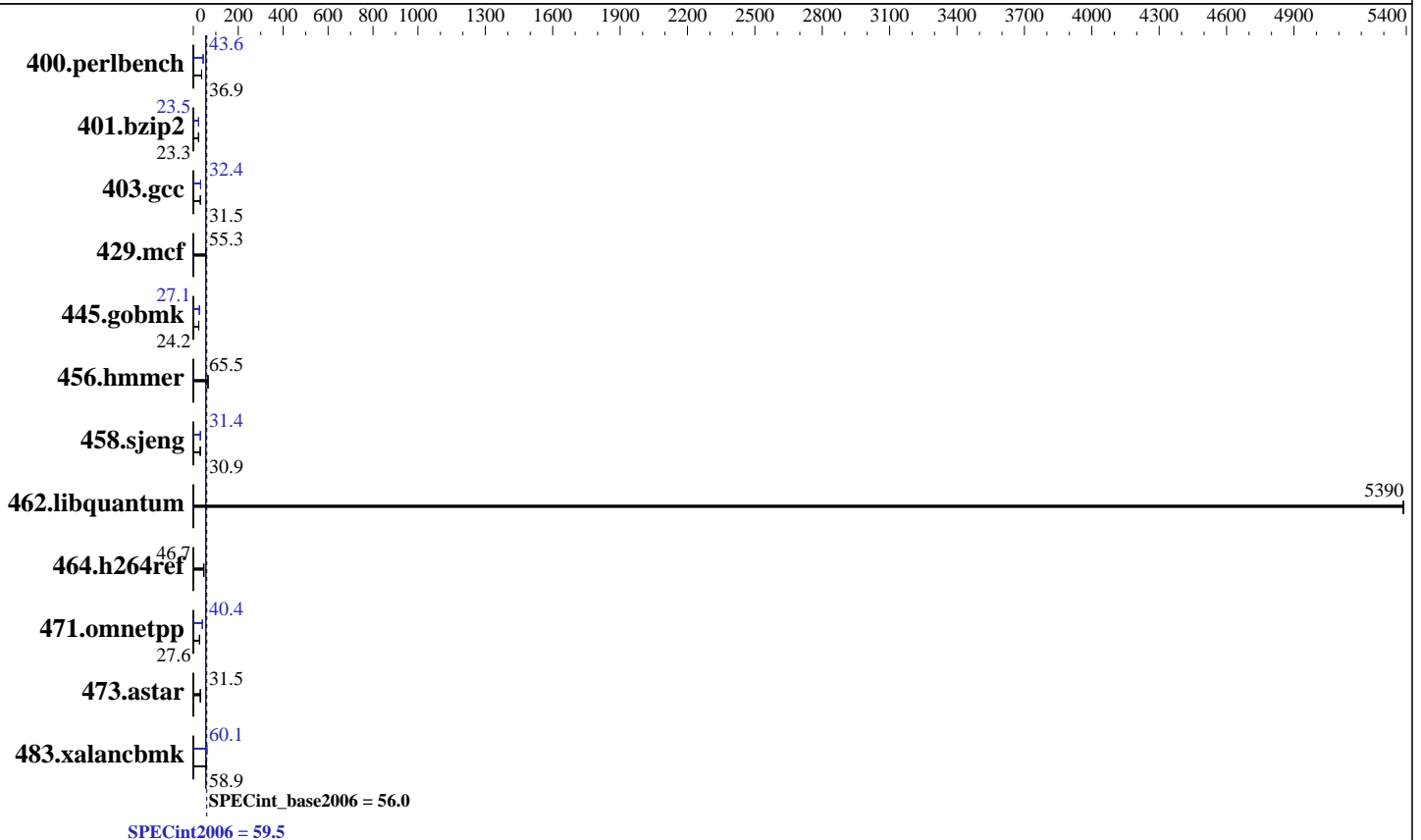
Test date: Jan-2015

Test sponsor: HITACHI

Hardware Availability: Sep-2014

Tested by: HITACHI

Software Availability: Nov-2013



### Hardware

CPU Name: Intel Xeon E5-2660 v3  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.30 GHz  
 CPU MHz: 2600  
 FPU: Integrated  
 CPU(s) enabled: 20 cores, 2 chips, 10 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: 256 KB I+D on chip per core  
 L3 Cache: 25 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R)  
 Disk Subsystem: 2 x 600 GB SAS, 10000 RPM, RAID1  
 Other Hardware: None

### Software

Operating System: Red Hat Enterprise Linux Server release 6.5 (Santiago)  
 2.6.32-431.el6.x86\_64  
 Compiler: C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux  
 Auto Parallel: Yes  
 File System: ext4  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32/64-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V10.0



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

## HITACHI

SPECint2006 = **59.5**

Compute Blade 520H (Intel Xeon E5-2660 v3)

SPECint\_base2006 = **56.0**

CPU2006 license: 35  
Test sponsor: HITACHI  
Tested by: HITACHI

Test date: Jan-2015  
Hardware Availability: Sep-2014  
Software Availability: Nov-2013

## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	264	37.0	<b>265</b>	<b>36.9</b>	265	36.9	<b>224</b>	<b>43.6</b>	225	43.5	224	43.7
401.bzip2	413	23.4	415	23.3	<b>414</b>	<b>23.3</b>	<b>411</b>	<b>23.5</b>	411	23.5	411	23.5
403.gcc	255	31.6	<b>256</b>	<b>31.5</b>	256	31.5	248	32.4	<b>248</b>	<b>32.4</b>	247	32.6
429.mcf	<b>165</b>	<b>55.3</b>	165	55.3	162	56.1	<b>165</b>	<b>55.3</b>	165	55.3	162	56.1
445.gobmk	<b>433</b>	<b>24.2</b>	434	24.2	433	24.2	387	27.1	<b>387</b>	<b>27.1</b>	387	27.1
456.hmmer	142	65.5	<b>142</b>	<b>65.5</b>	143	65.2	142	65.5	<b>142</b>	<b>65.5</b>	143	65.2
458.sjeng	391	30.9	<b>392</b>	<b>30.9</b>	393	30.8	385	31.4	<b>385</b>	<b>31.4</b>	386	31.4
462.libquantum	3.85	5390	3.84	5390	<b>3.85</b>	<b>5390</b>	3.85	5390	3.84	5390	<b>3.85</b>	<b>5390</b>
464.h264ref	473	46.8	<b>474</b>	<b>46.7</b>	477	46.4	473	46.8	<b>474</b>	<b>46.7</b>	477	46.4
471.omnetpp	230	27.2	223	28.0	<b>226</b>	<b>27.6</b>	154	40.6	155	40.3	<b>155</b>	<b>40.4</b>
473.astar	222	31.6	<b>223</b>	<b>31.5</b>	225	31.2	222	31.6	<b>223</b>	<b>31.5</b>	225	31.2
483.xalancbmk	118	58.6	117	59.0	<b>117</b>	<b>58.9</b>	<b>115</b>	<b>60.1</b>	114	60.5	115	59.9

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:

Patrol Scrub = Disable  
Per Core P-state = Disable

Sysinfo program /home/speccpu2006/cpu2006/config/sysinfo.rev6818  
\$Rev: 6818 \$ \$Date:: 2012-07-17 #\$ e86d102572650a6e4d596a3cee98f191  
running on 520Hx36564 Sun Jan 25 17:55:46 2015

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 E5-2660 v3 @ 2.60GHz
 2 "physical id"s (chips)
 40 "processors"
```

cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

## HITACHI

**SPECint2006 = 59.5**

Compute Blade 520H (Intel Xeon E5-2660 v3)

**SPECint\_base2006 = 56.0**

CPU2006 license: 35

Test sponsor: HITACHI

Tested by: HITACHI

Test date: Jan-2015

Hardware Availability: Sep-2014

Software Availability: Nov-2013

### Platform Notes (Continued)

```

cpu cores : 10
siblings  : 20
physical 0: cores 0 1 2 3 4 8 9 10 11 12
physical 1: cores 0 1 2 3 4 8 9 10 11 12
cache size : 25600 KB

```

From /proc/meminfo

```

MemTotal:      263989936 kB
HugePages_Total:    0
Hugepagesize:    2048 kB

```

/usr/bin/lsb\_release -d

Red Hat Enterprise Linux Server release 6.5 (Santiago)

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

```

redhat-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)
system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

```

uname -a:

```

Linux 520Hx36564 2.6.32-431.el6.x86_64 #1 SMP Sun Nov 10 22:19:54 EST 2013
x86_64 x86_64 x86_64 GNU/Linux

```

run-level 3 Jan 25 17:49

SPEC is set to: /home/speccpu2006/cpu2006

```

Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/mapper/vg_520hx36564-lv_home ext4    485G   5.5G  455G   2% /home

```

Additional information from dmidecode:

```

BIOS HITACHI 08-20 01/06/2015
Memory:
 8x NO DIMM Unknown
16x Samsung M393A2G40DB0-CPB 16 GB 2133 MHz 2 rank

```

(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 = "/home/speccpu2006/cpu2006/libs/32:/home/speccpu2006/cpu2006/libs/64:/home/speccpu2006/cpu2006/sh"
OMP_NUM_THREADS = "20"

```

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RedHat EL 6.4

Transparent Huge Pages enabled with:

echo always > /sys/kernel/mm/redhat\_transparent\_hugepage/enabled

runspec command invoked through numactl i.e.:

numactl --interleave=all runspec <etc>

BladeSymphony BS520H, Hitachi Compute Blade 520H and BladeSymphony BS2500 HC0A1 are electronically equivalent.

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

**HITACHI**

**SPECint2006 = 59.5**

**Compute Blade 520H (Intel Xeon E5-2660 v3)**

**SPECint\_base2006 = 56.0**

**CPU2006 license:** 35  
**Test sponsor:** HITACHI  
**Tested by:** HITACHI

**Test date:** Jan-2015  
**Hardware Availability:** Sep-2014  
**Software Availability:** Nov-2013

## General Notes (Continued)

The results have been measured on a Hitachi Compute Blade 520H.

## 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.xalanbmk: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_LINUX

## 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



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

**HITACHI**

**SPECint2006 = 59.5**

**Compute Blade 520H (Intel Xeon E5-2660 v3)**

**SPECint\_base2006 = 56.0**

**CPU2006 license:** 35

**Test sponsor:** HITACHI

**Tested by:** HITACHI

**Test date:** Jan-2015

**Hardware Availability:** Sep-2014

**Software Availability:** Nov-2013

## Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m64

400.perlbench: icc -m32

445.gobmk: icc -m32

C++ benchmarks (except as noted below):

icpc -m32

473.astar: icpc -m64

## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
401.bzip2: -DSPEC\_CPU\_LP64  
403.gcc: -DSPEC\_CPU\_LP64  
429.mcf: -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  
473.astar: -DSPEC\_CPU\_LP64  
483.xalancbmk: -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

C benchmarks:

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

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

403.gcc: -xCORE-AVX2 -ipo -O3 -no-prec-div -inline-calloc  
-opt-malloc-options=3 -auto-ilp32

429.mcf: basepeak = yes

445.gobmk: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)  
-ansi-alias

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

## HITACHI

**SPECint2006 = 59.5**

Compute Blade 520H (Intel Xeon E5-2660 v3)

**SPECint\_base2006 = 56.0**

CPU2006 license: 35

Test sponsor: HITACHI

Tested by: HITACHI

Test date: Jan-2015

Hardware Availability: Sep-2014

Software Availability: Nov-2013

## Peak Optimization Flags (Continued)

456.hmmr: basepeak = yes

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

462.libquantum: basepeak = yes

464.h264ref: basepeak = yes

C++ benchmarks:

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

473.astar: basepeak = yes

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

## 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-ic14.0-official-linux64-revC.html>

<http://www.spec.org/cpu2006/flags/PlatformHitachi-V1.2.20150127.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64-revC.xml>

<http://www.spec.org/cpu2006/flags/PlatformHitachi-V1.2.20150127.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 Feb 25 11:31:48 2015 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 24 February 2015.