



SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

HITACHI

SPECint®2006 = 55.7

Compute Blade 2000 (Intel Xeon E5-2650 v2)

SPECint_base2006 = 51.8

CPU2006 license: 35

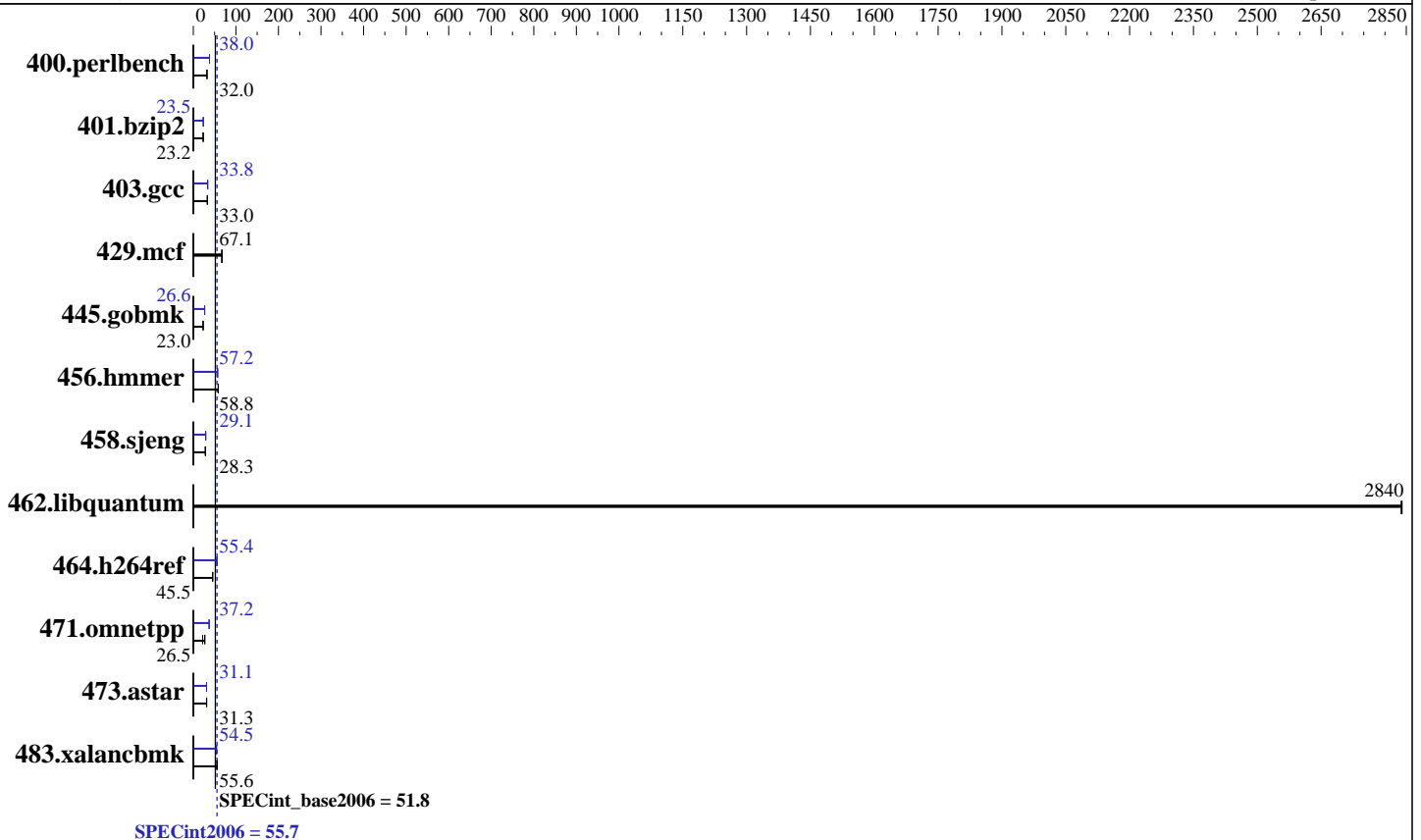
Test date: Mar-2014

Test sponsor: HITACHI

Hardware Availability: Nov-2013

Tested by: HITACHI

Software Availability: Sep-2013



Hardware

CPU Name: Intel Xeon E5-2650 v2
 CPU Characteristics: Intel Turbo Boost Technology up to 3.40 GHz
 CPU MHz: 2600
 FPU: Integrated
 CPU(s) enabled: 16 cores, 2 chips, 8 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: 20 MB I+D on chip per chip
 Other Cache: None
 Memory: 128 GB (8 x 16 GB 2Rx4 PC3-14900R-13, ECC)

Disk Subsystem: 1 x 146 GB SAS, 15000 RPM
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 6.4 (Santiago)
 2.6.32-358.23.2.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 2006-2014 Standard Performance Evaluation Corporation

HITACHI

SPECint2006 = **55.7**

Compute Blade 2000 (Intel Xeon E5-2650 v2)

SPECint_base2006 = **51.8**

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

Test date: Mar-2014
Hardware Availability: Nov-2013
Software Availability: Sep-2013

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	304	32.1	<u>305</u>	<u>32.0</u>	306	32.0	<u>257</u>	<u>38.0</u>	256	38.1	257	38.0
401.bzip2	416	23.2	<u>416</u>	<u>23.2</u>	416	23.2	<u>411</u>	<u>23.5</u>	411	23.5	411	23.5
403.gcc	<u>244</u>	<u>33.0</u>	244	33.0	244	33.1	238	33.8	<u>238</u>	<u>33.8</u>	238	33.8
429.mcf	134	68.0	137	66.6	<u>136</u>	<u>67.1</u>	134	68.0	137	66.6	<u>136</u>	<u>67.1</u>
445.gobmk	455	23.1	456	23.0	<u>456</u>	<u>23.0</u>	394	26.7	<u>394</u>	<u>26.6</u>	394	26.6
456.hammer	158	58.9	<u>159</u>	<u>58.8</u>	160	58.2	163	57.3	<u>163</u>	<u>57.2</u>	165	56.6
458.sjeng	427	28.3	<u>427</u>	<u>28.3</u>	427	28.3	416	29.1	<u>416</u>	<u>29.1</u>	416	29.1
462.libquantum	<u>7.30</u>	<u>2840</u>	7.30	2840	7.30	2840	<u>7.30</u>	<u>2840</u>	7.30	2840	7.30	2840
464.h264ref	488	45.4	<u>487</u>	<u>45.5</u>	487	45.5	399	55.5	<u>399</u>	<u>55.4</u>	400	55.3
471.omnetpp	285	21.9	<u>236</u>	<u>26.5</u>	228	27.4	<u>168</u>	<u>37.2</u>	167	37.4	168	37.2
473.astar	223	31.4	<u>224</u>	<u>31.3</u>	226	31.0	226	31.1	226	31.1	<u>226</u>	<u>31.1</u>
483.xalancbmk	<u>124</u>	<u>55.6</u>	124	55.7	124	55.6	126	54.6	127	54.5	<u>127</u>	<u>54.5</u>

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

Sysinfo program /home/cpu2006/config/sysinfo.rev6818
\$Rev: 6818 \$ \$Date:: 2012-07-17 #\$ e86d102572650a6e4d596a3cee98f191
running on DPx4-SPECCPU Mon Mar 17 11:22:11 2014

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 E5-2650 v2 @ 2.60GHz
 2 "physical id"s (chips)
 32 "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 : 8
siblings : 16
physical 0: cores 0 1 2 3 4 5 6 7
physical 1: cores 0 1 2 3 4 5 6 7
```

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

HITACHI

SPECint2006 = 55.7

Compute Blade 2000 (Intel Xeon E5-2650 v2)

SPECint_base2006 = 51.8

CPU2006 license: 35

Test sponsor: HITACHI

Tested by: HITACHI

Test date: Mar-2014

Hardware Availability: Nov-2013

Software Availability: Sep-2013

Platform Notes (Continued)

cache size : 20480 KB

From /proc/meminfo

MemTotal: 132194352 kB

HugePages_Total: 0

Hugepagesize: 2048 kB

/usr/bin/lsb_release -d

Red Hat Enterprise Linux Server release 6.4 (Santiago)

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

redhat-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)

system-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)

system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

uname -a:

Linux DPx4-SPECCPU 2.6.32-358.23.2.el6.x86_64 #1 SMP Sat Sep 14 05:32:37 EDT 2013 x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Mar 17 11:12

SPEC is set to: /home/cpu2006

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/mapper/vg_dp4speccpu-lv_home	ext4	81G	5.3G	72G	7%	/home

Additional information from dmidecode:

BIOS American Megatrends Inc. 4.6.5 11/28/2013

Memory:

16x None None

8x Sams M393 16 GB 1866 MHz 1 rank

(End of data from sysinfo program)

General Notes

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

KMP_AFFINITY="granularity=fine,scatter"

LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64:/home/cpu2006/sh"

OMP_NUM_THREADS = "16"

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 BS2000 and Hitachi Compute Blade 2000 are electronically equivalent.

The results have been measured on a BladeSymphony BS2000



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

HITACHI

SPECint2006 = 55.7

Compute Blade 2000 (Intel Xeon E5-2650 v2)

SPECint_base2006 = 51.8

CPU2006 license: 35

Test sponsor: HITACHI

Tested by: HITACHI

Test date: Mar-2014

Hardware Availability: Nov-2013

Software Availability: Sep-2013

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:

-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32

C++ benchmarks:

-xAVX -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

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

HITACHI

SPECint2006 = 55.7

Compute Blade 2000 (Intel Xeon E5-2650 v2)

SPECint_base2006 = 51.8

CPU2006 license: 35

Test date: Mar-2014

Test sponsor: HITACHI

Hardware Availability: Nov-2013

Tested by: HITACHI

Software Availability: Sep-2013

Peak Compiler Invocation (Continued)

400.perlbench: `icc -m32`

445.gobmk: `icc -m32`

464.h264ref: `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`

473.astar: `-DSPEC_CPU_LP64`

483.xalancbmk: `-DSPEC_CPU_LINUX`

Peak Optimization Flags

C benchmarks:

400.perlbench: `-xAVX(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: `-xAVX(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: `-xAVX -ipo -O3 -no-prec-div -inline-calloc
-opt-malloc-options=3 -auto-ilp32`

429.mcf: `basepeak = yes`

445.gobmk: `-xAVX(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias`

456.hmmer: `-xAVX -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
-ansi-alias`

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

HITACHI

SPECint2006 = **55.7**

Compute Blade 2000 (Intel Xeon E5-2650 v2)

SPECint_base2006 = **51.8**

CPU2006 license: 35

Test sponsor: HITACHI

Tested by: HITACHI

Test date: Mar-2014

Hardware Availability: Nov-2013

Software Availability: Sep-2013

Peak Optimization Flags (Continued)

458.sjeng: -xAVX(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: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -unroll2
-ansi-alias

C++ benchmarks:

471.omnetpp: -xAVX(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: -xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-Wl,-z,muldefs -L/sh -lsmartheap64

483.xalancbmk: -xAVX -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.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.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 Thu Jul 24 22:32:10 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 3 June 2014.

Standard Performance Evaluation Corporation

info@spec.org

<http://www.spec.org/>

Page 6