



SPEC® CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

NEC Corporation

SPECint®2006 = 56.3

Express5800/E120f-M (Intel Xeon E5-2620 v3)

SPECint_base2006 = 54.1

CPU2006 license: 9006

Test date: Dec-2014

Test sponsor: NEC Corporation

Hardware Availability: Jan-2015

Tested by: NEC Corporation

Software Availability: Jul-2014



Hardware

CPU Name: Intel Xeon E5-2620 v3
 CPU Characteristics: Intel Turbo Boost Technology up to 3.20 GHz
 CPU MHz: 2400
 FPU: Integrated
 CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip
 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: 15 MB I+D on chip per chip
 Other Cache: None
 Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R, running at 1866 MHz)
 Disk Subsystem: 1 x 250 GB SATA, 7200 RPM
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 6.5 (Santiago)
 Kernel 2.6.32-431.20.3.el6.x86_64
 Compiler: C/C++: Version 15.0.0.090 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 V8.1



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

NEC Corporation

SPECint2006 = **56.3**

Express5800/E120f-M (Intel Xeon E5-2620 v3)

SPECint_base2006 = **54.1**

CPU2006 license: 9006

Test date: Dec-2014

Test sponsor: NEC Corporation

Hardware Availability: Jan-2015

Tested by: NEC Corporation

Software Availability: Jul-2014

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	<u>259</u>	<u>37.8</u>	257	38.0	259	37.7	<u>232</u>	<u>42.1</u>	230	42.4	232	42.0
401.bzip2	413	23.3	<u>412</u>	<u>23.4</u>	410	23.5	<u>409</u>	<u>23.6</u>	409	23.6	409	23.6
403.gcc	<u>252</u>	<u>31.9</u>	252	31.9	252	31.9	252	32.0	249	32.3	<u>251</u>	<u>32.1</u>
429.mcf	159	57.4	149	61.1	<u>152</u>	<u>60.1</u>	159	57.4	149	61.1	<u>152</u>	<u>60.1</u>
445.gobmk	407	25.8	<u>407</u>	<u>25.8</u>	407	25.8	<u>395</u>	<u>26.6</u>	395	26.6	395	26.6
456.hammer	<u>147</u>	<u>63.4</u>	147	63.4	148	63.2	<u>147</u>	<u>63.4</u>	147	63.4	148	63.2
458.sjeng	389	31.1	<u>389</u>	<u>31.1</u>	388	31.2	<u>387</u>	<u>31.2</u>	387	31.2	393	30.8
462.libquantum	5.21	3980	5.92	3500	<u>5.23</u>	<u>3970</u>	5.21	3980	5.92	3500	<u>5.23</u>	<u>3970</u>
464.h264ref	517	42.8	518	42.7	<u>518</u>	<u>42.7</u>	517	42.8	518	42.7	<u>518</u>	<u>42.7</u>
471.omnetpp	<u>273</u>	<u>22.9</u>	360	17.4	273	22.9	264	23.7	197	31.7	<u>200</u>	<u>31.2</u>
473.astar	228	30.8	232	30.3	<u>228</u>	<u>30.7</u>	229	30.6	227	30.9	<u>228</u>	<u>30.9</u>
483.xalancbmk	114	60.7	113	61.1	<u>113</u>	<u>61.1</u>	114	60.7	113	61.1	<u>113</u>	<u>61.1</u>

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:
Power Management Policy: Custom
Energy Performance: Performance
Patrol Scrub: Disabled
Hyper-Threading: Disabled

General Notes

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

KMP_AFFINITY = "granularity=fine,compact"

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

OMP_NUM_THREADS = "12"

Transparent Huge Pages enabled with:

echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled

Base Compiler Invocation

C benchmarks:

icc -m64

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/

Page 2



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

NEC Corporation

SPECint2006 = 56.3

Express5800/E120f-M (Intel Xeon E5-2620 v3)

SPECint_base2006 = 54.1

CPU2006 license: 9006

Test date: Dec-2014

Test sponsor: NEC Corporation

Hardware Availability: Jan-2015

Tested by: NEC Corporation

Software Availability: Jul-2014

Base Compiler Invocation (Continued)

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 -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

445.gobmk: icc -m32

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

NEC Corporation

SPECint2006 = 56.3

Express5800/E120f-M (Intel Xeon E5-2620 v3)

SPECint_base2006 = 54.1

CPU2006 license: 9006

Test date: Dec-2014

Test sponsor: NEC Corporation

Hardware Availability: Jan-2015

Tested by: NEC Corporation

Software Availability: Jul-2014

Peak Compiler Invocation (Continued)

C++ benchmarks (except as noted below):

icpc -m64

471.omnetpp: icpc -m32

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_LP64 -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

456.hmmer: 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

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

NEC Corporation	SPECint2006 =	56.3
Express5800/E120f-M (Intel Xeon E5-2620 v3)	SPECint_base2006 =	54.1

CPU2006 license: 9006	Test date: Dec-2014
Test sponsor: NEC Corporation	Hardware Availability: Jan-2015
Tested by: NEC Corporation	Software Availability: Jul-2014

Peak Optimization Flags (Continued)

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

483.xalanbmk: basepeak = yes

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-linux64.20140128.html>
<http://www.spec.org/cpu2006/flags/NEC-Platform-Settings-V1.2-120f-RevB.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml>
<http://www.spec.org/cpu2006/flags/NEC-Platform-Settings-V1.2-120f-RevB.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 Tue Jan 27 13:28:40 2015 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 27 January 2015.