



SPEC® CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

NEC Corporation

SPECint®2006 = 63.5

Express5800/E120g-M (Intel Xeon E5-2630 v4)

SPECint_base2006 = 60.3

CPU2006 license: 9006

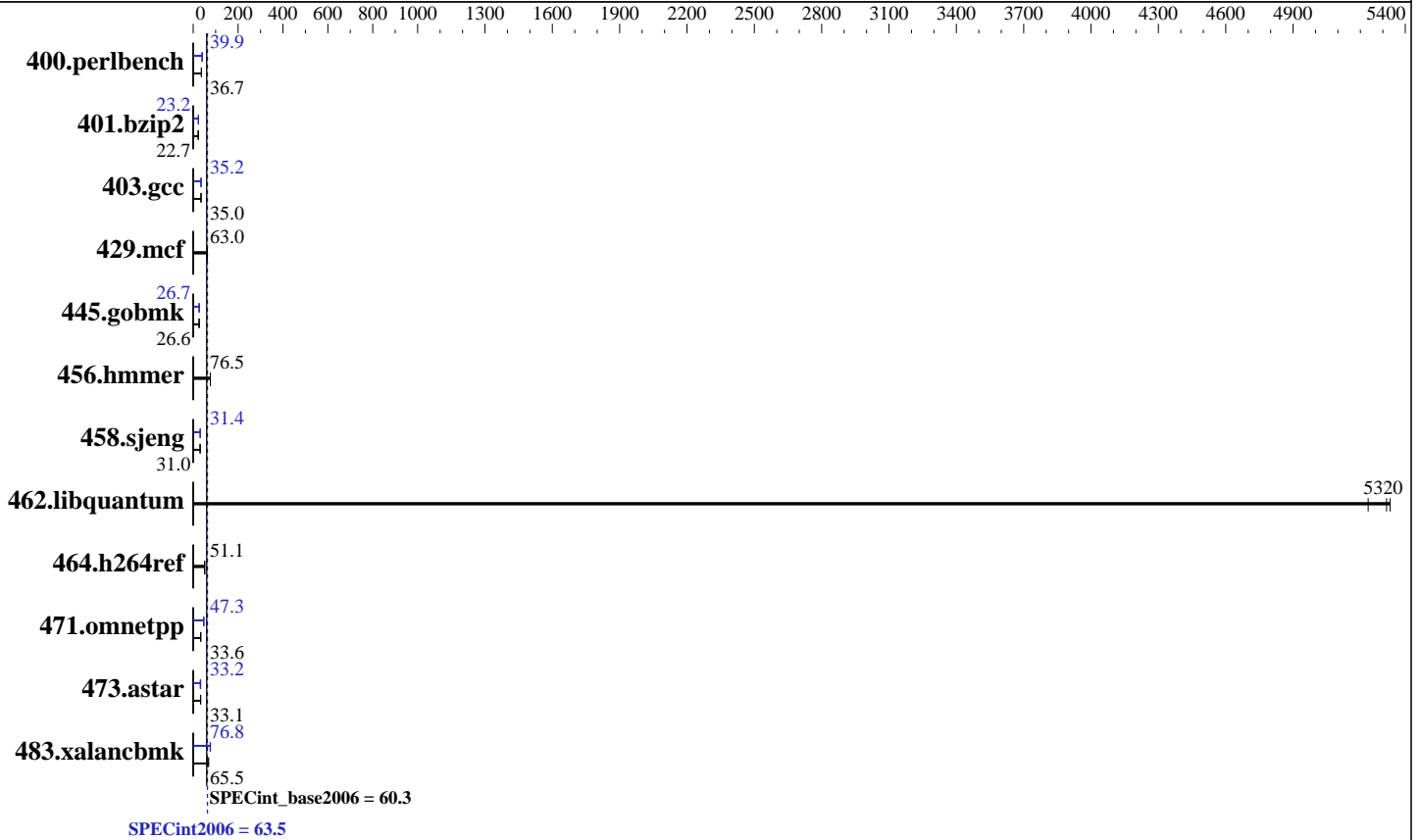
Test date: Mar-2016

Test sponsor: NEC Corporation

Hardware Availability: Apr-2016

Tested by: NEC Corporation

Software Availability: Nov-2015



Hardware

CPU Name: Intel Xeon E5-2630 v4
 CPU Characteristics: Intel Turbo Boost Technology up to 3.10 GHz
 CPU MHz: 2200
 FPU: Integrated
 CPU(s) enabled: 20 cores, 2 chips, 10 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: 25 MB I+D on chip per chip
 Other Cache: None
 Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2400T-R, running at 2133 MHz)
 Disk Subsystem: 1 x 1 TB SATA, 7200 RPM
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 7.2 (Maipo)
 Kernel 3.10.0-327.el7.x86_64
 Compiler: C/C++: Version 16.0.0.101 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 V10.2



SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

NEC Corporation

SPECint2006 = **63.5**

Express5800/E120g-M (Intel Xeon E5-2630 v4)

SPECint_base2006 = **60.3**

CPU2006 license: 9006

Test date: Mar-2016

Test sponsor: NEC Corporation

Hardware Availability: Apr-2016

Tested by: NEC Corporation

Software Availability: Nov-2015

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	266	36.8	267	36.6	<u>266</u>	<u>36.7</u>	<u>245</u>	<u>39.9</u>	245	39.9	245	39.9
401.bzip2	425	22.7	426	22.7	<u>425</u>	<u>22.7</u>	415	23.2	<u>416</u>	<u>23.2</u>	416	23.2
403.gcc	230	35.0	230	35.0	<u>230</u>	<u>35.0</u>	230	35.0	228	35.3	<u>228</u>	<u>35.2</u>
429.mcf	145	63.1	147	62.1	<u>145</u>	<u>63.0</u>	145	63.1	147	62.1	<u>145</u>	<u>63.0</u>
445.gobmk	395	26.6	<u>394</u>	<u>26.6</u>	394	26.6	393	26.7	393	26.7	<u>393</u>	<u>26.7</u>
456.hammer	122	76.5	122	76.5	<u>122</u>	<u>76.5</u>	122	76.5	122	76.5	<u>122</u>	<u>76.5</u>
458.sjeng	391	31.0	391	31.0	<u>391</u>	<u>31.0</u>	385	31.4	386	31.4	<u>386</u>	<u>31.4</u>
462.libquantum	<u>3.90</u>	<u>5320</u>	3.89	5330	3.96	5230	<u>3.90</u>	<u>5320</u>	3.89	5330	3.96	5230
464.h264ref	434	51.0	<u>433</u>	<u>51.1</u>	432	51.2	434	51.0	<u>433</u>	<u>51.1</u>	432	51.2
471.omnetpp	186	33.6	187	33.5	<u>186</u>	<u>33.6</u>	133	47.1	<u>132</u>	<u>47.3</u>	132	47.3
473.astar	211	33.3	<u>212</u>	<u>33.1</u>	212	33.1	226	31.1	<u>212</u>	<u>33.2</u>	211	33.2
483.xalancbmk	107	64.5	<u>105</u>	<u>65.5</u>	99.7	69.2	<u>91.3</u>	<u>75.5</u>	<u>89.9</u>	<u>76.8</u>	89.8	76.9

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 Settings:

Power Management Policy: Custom
Energy Performance: Performance
Patrol Scrub: Disabled
Snoop Mode: Home Snoop with Directory
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 = "20"

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



SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

NEC Corporation

SPECint2006 = 63.5

Express5800/E120g-M (Intel Xeon E5-2630 v4)

SPECint_base2006 = 60.3

CPU2006 license: 9006

Test date: Mar-2016

Test sponsor: NEC Corporation

Hardware Availability: Apr-2016

Tested by: NEC Corporation

Software Availability: Nov-2015

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 -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

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

NEC Corporation

SPECint2006 = 63.5

Express5800/E120g-M (Intel Xeon E5-2630 v4)

SPECint_base2006 = 60.3

CPU2006 license: 9006

Test date: Mar-2016

Test sponsor: NEC Corporation

Hardware Availability: Apr-2016

Tested by: NEC Corporation

Software Availability: Nov-2015

Peak Compiler Invocation (Continued)

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

445.gobmk: 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: -D_FILE_OFFSET_BITS=64

456.hmmmer: -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

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: -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:threadsafe(pass 1)
-prof-use(pass 2) -par-num-threads=1(pass 1) -ansi-alias

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

NEC Corporation

SPECint2006 = 63.5

Express5800/E120g-M (Intel Xeon E5-2630 v4)

SPECint_base2006 = 60.3

CPU2006 license: 9006

Test date: Mar-2016

Test sponsor: NEC Corporation

Hardware Availability: Apr-2016

Tested by: NEC Corporation

Software Availability: Nov-2015

Peak Optimization Flags (Continued)

456.hmmcr: 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 -lsmartheap

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

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-ic16.0-official-linux64.html>

<http://www.spec.org/cpu2006/flags/NEC-Platform-Settings-V1.2-120g-RevB.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/NEC-Platform-Settings-V1.2-120g-RevB.xml>



SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

NEC Corporation

SPECint2006 = 63.5

Express5800/E120g-M (Intel Xeon E5-2630 v4)

SPECint_base2006 = 60.3

CPU2006 license: 9006

Test date: Mar-2016

Test sponsor: NEC Corporation

Hardware Availability: Apr-2016

Tested by: NEC Corporation

Software Availability: Nov-2015

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 Jun 30 13:12:23 2016 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 19 April 2016.