



SPEC[®] CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

SPECint[®]_rate2006 = 175

Express5800/T110f-E (Intel Xeon E3-1220 v3)

SPECint_rate_base2006 = 168

CPU2006 license: 9006

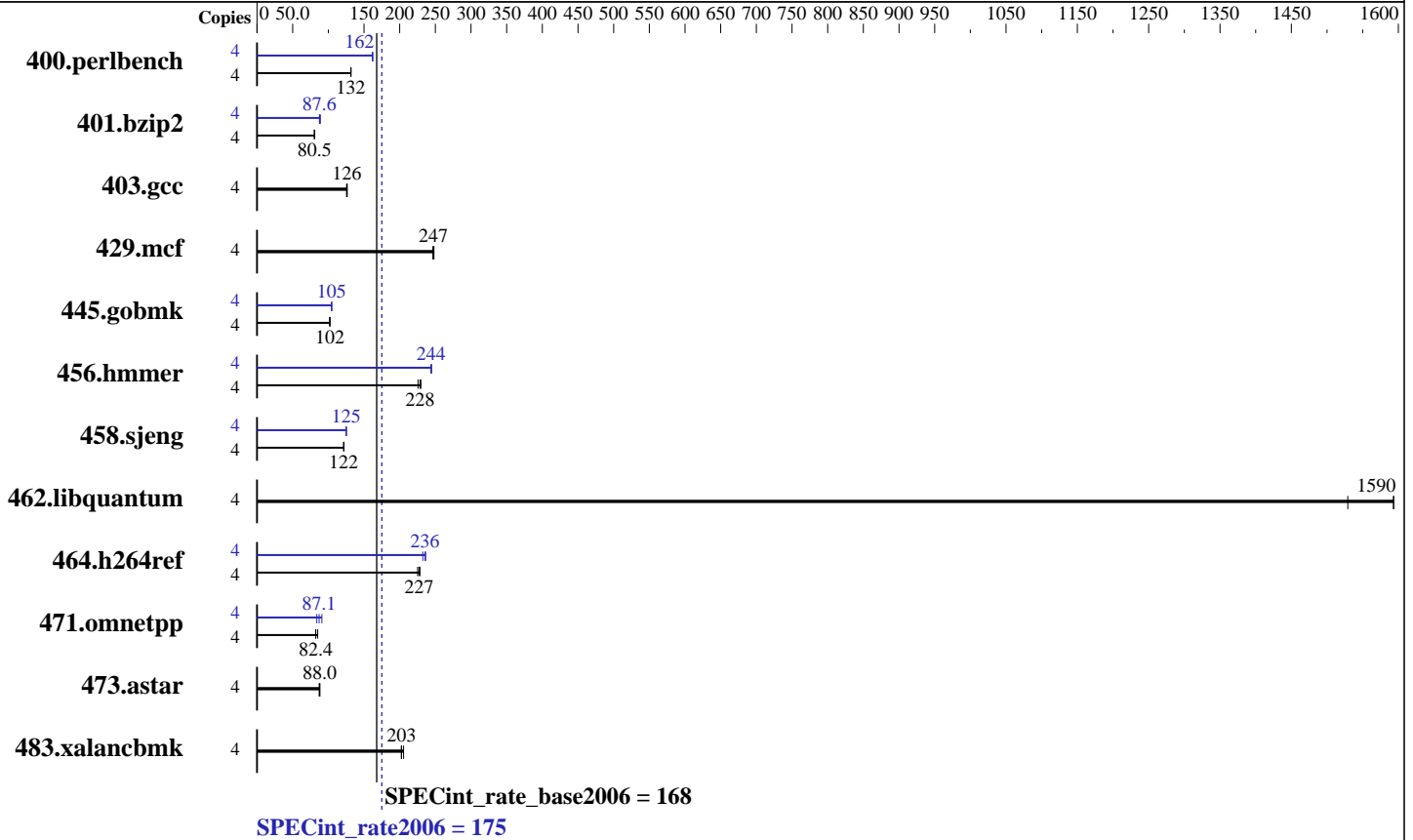
Test date: Oct-2013

Test sponsor: NEC Corporation

Hardware Availability: Oct-2013

Tested by: NEC Corporation

Software Availability: Mar-2013



Hardware

CPU Name: Intel Xeon E3-1220 v3
 CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz
 CPU MHz: 3100
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip
 CPU(s) orderable: 1 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: 8 MB I+D on chip per chip
 Other Cache: None
 Memory: 16 GB (2 x 8 GB 2Rx8 PC3L-12800E-11, ECC)
 Disk Subsystem: 1 x 250 GB SATA, 7200 RPM
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 6.4 (Santiago)
 Kernel 2.6.32-358.el6.x86_64
 Compiler: C/C++: Version 13.1.1.163 of Intel C++ Studio XE for Linux
 Auto Parallel: No
 File System: ext4
 System State: Run level 3 (multi-user)
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V8.1



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

SPECint_rate2006 = 175

Express5800/T110f-E (Intel Xeon E3-1220 v3)

SPECint_rate_base2006 = 168

CPU2006 license: 9006

Test date: Oct-2013

Test sponsor: NEC Corporation

Hardware Availability: Oct-2013

Tested by: NEC Corporation

Software Availability: Mar-2013

Results Table

| Benchmark | Base | | | | | | | Peak | | | | | | |
|----------------|--------|-------------|-------------|------------|-------------|------------|-------------|--------|-------------|-------------|------------|-------------|------------|------------|
| | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 400.perlbench | 4 | <u>297</u> | <u>132</u> | 297 | 132 | 297 | 132 | 4 | 241 | 162 | <u>241</u> | <u>162</u> | 242 | 162 |
| 401.bzip2 | 4 | 477 | 80.9 | <u>479</u> | <u>80.5</u> | 481 | 80.3 | 4 | 441 | 87.6 | <u>440</u> | <u>87.6</u> | 434 | 88.8 |
| 403.gcc | 4 | 255 | 126 | <u>256</u> | <u>126</u> | 256 | 126 | 4 | 255 | 126 | <u>256</u> | <u>126</u> | 256 | 126 |
| 429.mcf | 4 | 147 | 248 | <u>147</u> | <u>247</u> | 148 | 247 | 4 | 147 | 248 | <u>147</u> | <u>247</u> | 148 | 247 |
| 445.gobmk | 4 | <u>411</u> | <u>102</u> | 411 | 102 | 411 | 102 | 4 | 401 | 105 | 402 | 104 | <u>401</u> | <u>105</u> |
| 456.hammer | 4 | <u>163</u> | <u>228</u> | 162 | 230 | 165 | 226 | 4 | 153 | 244 | 153 | 245 | <u>153</u> | <u>244</u> |
| 458.sjeng | 4 | <u>398</u> | <u>122</u> | 398 | 122 | 398 | 122 | 4 | <u>387</u> | <u>125</u> | 387 | 125 | 387 | 125 |
| 462.libquantum | 4 | <u>52.0</u> | <u>1590</u> | 54.2 | 1530 | 52.0 | 1590 | 4 | <u>52.0</u> | <u>1590</u> | 54.2 | 1530 | 52.0 | 1590 |
| 464.h264ref | 4 | 387 | 228 | 393 | 225 | <u>390</u> | <u>227</u> | 4 | <u>376</u> | <u>236</u> | 374 | 236 | 381 | 232 |
| 471.omnetpp | 4 | 304 | 82.3 | 294 | 85.1 | <u>304</u> | <u>82.4</u> | 4 | <u>287</u> | <u>87.1</u> | 298 | 83.9 | 275 | 91.0 |
| 473.astar | 4 | <u>319</u> | <u>88.0</u> | 322 | 87.1 | 319 | 88.0 | 4 | <u>319</u> | <u>88.0</u> | 322 | 87.1 | 319 | 88.0 |
| 483.xalancbmk | 4 | <u>136</u> | <u>203</u> | 136 | 202 | 134 | 205 | 4 | <u>136</u> | <u>203</u> | 136 | 202 | 134 | 205 |

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

Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

Operating System Notes

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

Platform Notes

BIOS Settings:
Energy Performance: Performance

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64:/home/cpu2006/sh"

Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
Filesystem page cache cleared with:
echo 1 > /proc/sys/vm/drop_caches
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

SPECint_rate2006 = 175

Express5800/T110f-E (Intel Xeon E3-1220 v3)

SPECint_rate_base2006 = 168

CPU2006 license: 9006

Test date: Oct-2013

Test sponsor: NEC Corporation

Hardware Availability: Oct-2013

Tested by: NEC Corporation

Software Availability: Mar-2013

Base Compiler Invocation

C benchmarks:

icc -m32

C++ benchmarks:

icpc -m32

Base Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
-opt-mem-layout-trans=3

C++ benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
-opt-mem-layout-trans=3 -Wl,-z,muldefs -L/sh -lsmartheap

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m32

400.perlbench: icc -m64

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

SPECint_rate2006 = 175

Express5800/T110f-E (Intel Xeon E3-1220 v3)

SPECint_rate_base2006 = 168

CPU2006 license: 9006

Test date: Oct-2013

Test sponsor: NEC Corporation

Hardware Availability: Oct-2013

Tested by: NEC Corporation

Software Availability: Mar-2013

Peak Compiler Invocation (Continued)

C++ benchmarks:
icpc -m32

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX
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)
-auto-ilp32
401.bzip2: -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 -auto-ilp32 -ansi-alias
403.gcc: basepeak = yes
429.mcf: basepeak = yes
445.gobmk: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias -opt-mem-layout-trans=3
456.hmmer: -xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
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 -auto-ilp32
462.libquantum: basepeak = yes
464.h264ref: -xCORE-AVX2(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:

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

SPECint_rate2006 = 175

Express5800/T110f-E (Intel Xeon E3-1220 v3)

SPECint_rate_base2006 = 168

CPU2006 license: 9006

Test date: Oct-2013

Test sponsor: NEC Corporation

Hardware Availability: Oct-2013

Tested by: NEC Corporation

Software Availability: Mar-2013

Peak Optimization Flags (Continued)

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)
-ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs
-L/sh -lsmartheap

473.aster: basepeak = yes

483.xalancbmk: 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-ic13-official-linux64.20130702.html>

<http://www.spec.org/cpu2006/flags/NEC-Platform-Settings-V1.2-R120d-RevA.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic13-official-linux64.20130702.xml>

<http://www.spec.org/cpu2006/flags/NEC-Platform-Settings-V1.2-R120d-RevA.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 17:48:33 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 19 November 2013.