



# SPEC<sup>®</sup> CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## NEC Corporation

**SPECint<sup>®</sup>2006 = 39.8**

Express5800/R110e-1E (Intel Pentium G2020)

**SPECint\_base2006 = 37.7**

CPU2006 license: 9006

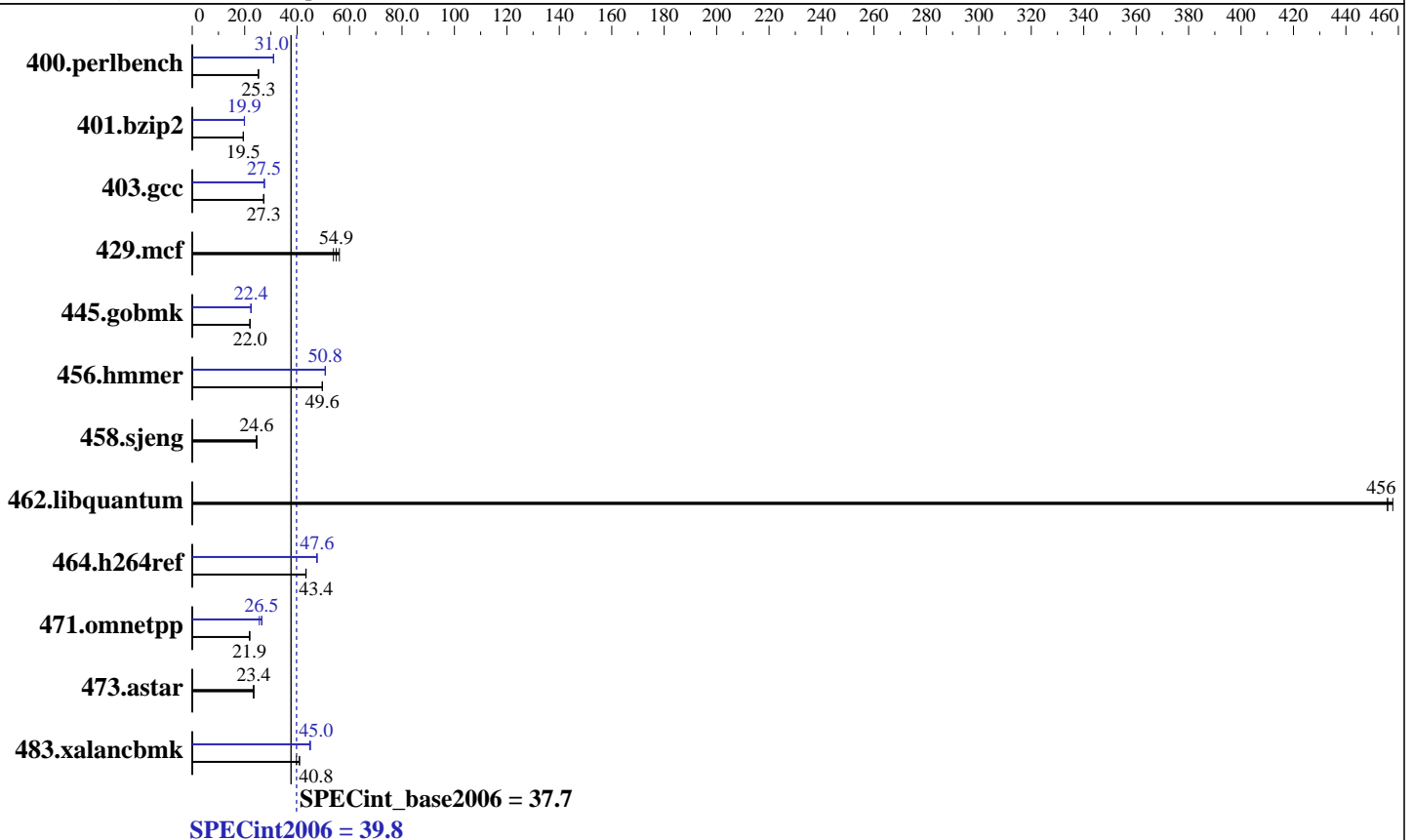
Test date: May-2013

Test sponsor: NEC Corporation

Hardware Availability: Apr-2013

Tested by: NEC Corporation

Software Availability: Feb-2012



### Hardware

CPU Name: Intel Pentium G2020  
 CPU Characteristics:  
 CPU MHz: 2900  
 FPU: Integrated  
 CPU(s) enabled: 2 cores, 1 chip, 2 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: 3 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 16 GB (2 x 8 GB 2Rx8 PC3L-12800E-11, ECC, running at 1333 MHz and CL9)  
 Disk Subsystem: 1 x 500 GB SATA, 7200 RPM  
 Other Hardware: None

### Software

Operating System: Red Hat Enterprise Linux Server release 6.2 (Santiago)  
 Kernel 2.6.32-220.el6.x86\_64  
 Compiler: C/C++: Version 12.1.3.293 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 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

SPECint2006 = 39.8

Express5800/R110e-1E (Intel Pentium G2020)

SPECint\_base2006 = 37.7

CPU2006 license: 9006

Test date: May-2013

Test sponsor: NEC Corporation

Hardware Availability: Apr-2013

Tested by: NEC Corporation

Software Availability: Feb-2012

## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	<b>387</b>	<b>25.3</b>	388	25.2	387	25.3	<b>315</b>	<b>31.0</b>	315	31.0	315	31.0
401.bzip2	<b>494</b>	<b>19.5</b>	494	19.5	497	19.4	<b>485</b>	<b>19.9</b>	486	19.9	484	19.9
403.gcc	295	27.3	<b>295</b>	<b>27.3</b>	295	27.3	293	27.5	293	27.5	<b>293</b>	<b>27.5</b>
429.mcf	<b>166</b>	<b>54.9</b>	169	53.9	162	56.1	<b>166</b>	<b>54.9</b>	169	53.9	162	56.1
445.gobmk	476	22.0	<b>476</b>	<b>22.0</b>	476	22.0	468	22.4	<b>468</b>	<b>22.4</b>	468	22.4
456.hmmer	188	49.7	188	49.6	<b>188</b>	<b>49.6</b>	<b>184</b>	<b>50.8</b>	184	50.8	184	50.7
458.sjeng	492	24.6	493	24.6	<b>492</b>	<b>24.6</b>	492	24.6	493	24.6	<b>492</b>	<b>24.6</b>
462.libquantum	45.3	458	45.5	456	<b>45.4</b>	<b>456</b>	45.3	458	45.5	456	<b>45.4</b>	<b>456</b>
464.h264ref	510	43.4	511	43.3	<b>510</b>	<b>43.4</b>	465	47.6	465	47.6	<b>465</b>	<b>47.6</b>
471.omnetpp	284	22.0	287	21.8	<b>286</b>	<b>21.9</b>	<b>236</b>	<b>26.5</b>	244	25.6	236	26.5
473.astar	298	23.5	<b>300</b>	<b>23.4</b>	301	23.3	298	23.5	<b>300</b>	<b>23.4</b>	301	23.3
483.xalancbmk	174	39.7	<b>169</b>	<b>40.8</b>	168	41.0	<b>153</b>	<b>45.0</b>	153	45.1	154	44.8

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

Default BIOS settings were used.

## 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"

OMP\_NUM\_THREADS = "2"

Transparent Huge Pages enabled with:

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

## Base Compiler Invocation

C benchmarks:

icc -m64

C++ benchmarks:

icpc -m64



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

SPECint2006 = 39.8

Express5800/R110e-1E (Intel Pentium G2020)

SPECint\_base2006 = 37.7

CPU2006 license: 9006

Test date: May-2013

Test sponsor: NEC Corporation

Hardware Availability: Apr-2013

Tested by: NEC Corporation

Software Availability: Feb-2012

## 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:

-xSSE4.2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32

C++ benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32  
-Wl,-z,muldefs -L/opt/SmartHeap\_8.1/lib64 -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

464.h264ref: icc -m32

C++ benchmarks (except as noted below):

icpc -m32

473.astar: icpc -m64



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

SPECint2006 = 39.8

Express5800/R110e-1E (Intel Pentium G2020)

SPECint\_base2006 = 37.7

CPU2006 license: 9006

Test date: May-2013

Test sponsor: NEC Corporation

Hardware Availability: Apr-2013

Tested by: NEC Corporation

Software Availability: Feb-2012

## 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: -xSSE4.2(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: -xSSE4.2(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: -xSSE4.2 -ipo -O3 -no-prec-div -inline-calloc
          -opt-malloc-options=3 -auto-ilp32

429.mcf: basepeak = yes

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
            -ansi-alias

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
            -ansi-alias

458.sjeng: basepeak = yes

462.libquantum: basepeak = yes

464.h264ref: -xSSE4.2(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: -xSSE4.2(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/opt/SmartHeap_8.1/lib -lsmartheap

```

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

SPECint2006 = 39.8

Express5800/R110e-1E (Intel Pentium G2020)

SPECint\_base2006 = 37.7

CPU2006 license: 9006

Test date: May-2013

Test sponsor: NEC Corporation

Hardware Availability: Apr-2013

Tested by: NEC Corporation

Software Availability: Feb-2012

## Peak Optimization Flags (Continued)

473.astar: basepeak = yes

483.xalancbmk: -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias  
-Wl,-z,muldefs -L/opt/SmartHeap\_8.1/lib -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-ic12.1-official-linux64.20120425.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-ic12.1-official-linux64.20120425.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](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.2.

Report generated on Thu Jul 24 15:51:39 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 18 June 2013.