



# SPEC® CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

## NEC Corporation

**SPECint®2006 = 30.6**

Express5800/R120f-1M (Intel Xeon E5-2603 v3)

**SPECint\_base2006 = 29.5**

CPU2006 license: 9006

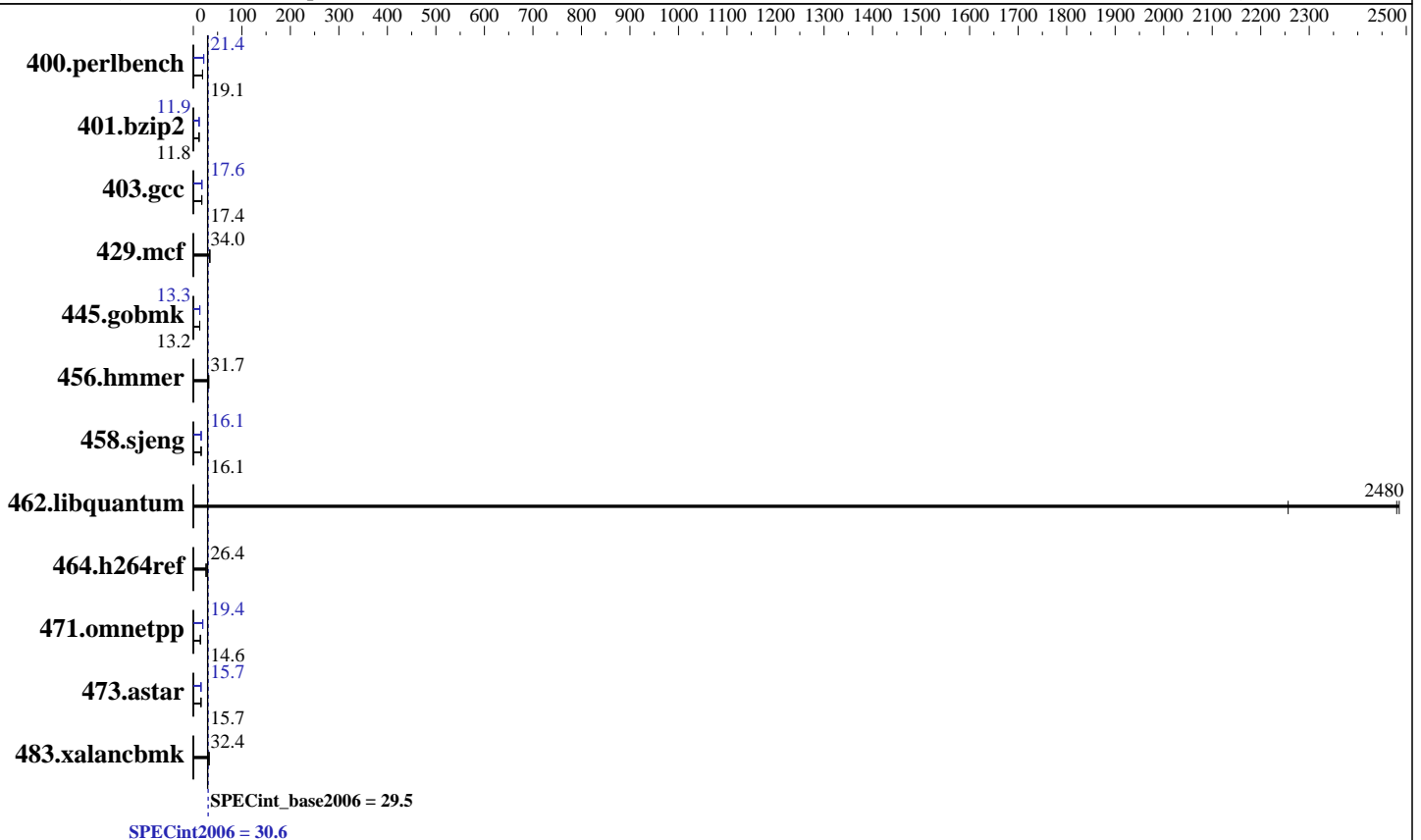
Test date: Feb-2015

Test sponsor: NEC Corporation

Hardware Availability: Feb-2015

Tested by: NEC Corporation

Software Availability: Jul-2014



### Hardware

CPU Name: Intel Xeon E5-2603 v3  
 CPU Characteristics: 1600  
 CPU MHz: Integrated  
 FPU: 12 cores, 2 chips, 6 cores/chip  
 CPU(s) enabled: 1,2 chips  
 CPU(s) orderable: 32 KB I + 32 KB D on chip per core  
 Primary Cache: 256 KB I+D on chip per core  
 Secondary Cache: 15 MB I+D on chip per chip  
 L3 Cache: None  
 Other Cache: None  
 Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R, running at 1600 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 2.6.32-431.17.1.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 = **30.6**

Express5800/R120f-1M (Intel Xeon E5-2603 v3)

SPECint\_base2006 = **29.5**

CPU2006 license: 9006

Test date: Feb-2015

Test sponsor: NEC Corporation

Hardware Availability: Feb-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	514	19.0	511	19.1	<b><u>512</u></b>	<b><u>19.1</u></b>	456	21.4	456	21.4	<b><u>456</u></b>	<b><u>21.4</u></b>
401.bzip2	817	11.8	819	11.8	<b><u>818</u></b>	<b><u>11.8</u></b>	811	11.9	811	11.9	<b><u>811</u></b>	<b><u>11.9</u></b>
403.gcc	462	17.4	<b><u>462</u></b>	<b><u>17.4</u></b>	464	17.4	457	17.6	456	17.6	<b><u>457</u></b>	<b><u>17.6</u></b>
429.mcf	<b><u>269</u></b>	<b><u>34.0</u></b>	271	33.6	266	34.2	<b><u>269</u></b>	<b><u>34.0</u></b>	271	33.6	266	34.2
445.gobmk	794	13.2	795	13.2	<b><u>794</u></b>	<b><u>13.2</u></b>	786	13.4	<b><u>787</u></b>	<b><u>13.3</u></b>	787	13.3
456.hammer	<b><u>294</u></b>	<b><u>31.7</u></b>	295	31.6	294	31.7	<b><u>294</u></b>	<b><u>31.7</u></b>	295	31.6	294	31.7
458.sjeng	752	16.1	753	16.1	<b><u>753</u></b>	<b><u>16.1</u></b>	750	16.1	<b><u>750</u></b>	<b><u>16.1</u></b>	750	16.1
462.libquantum	<b><u>8.35</u></b>	<b><u>2480</u></b>	9.18	2260	8.34	2490	<b><u>8.35</u></b>	<b><u>2480</u></b>	9.18	2260	8.34	2490
464.h264ref	<b><u>837</u></b>	<b><u>26.4</u></b>	837	26.4	839	26.4	<b><u>837</u></b>	<b><u>26.4</u></b>	837	26.4	839	26.4
471.omnetpp	425	14.7	429	14.6	<b><u>428</u></b>	<b><u>14.6</u></b>	<b><u>321</u></b>	<b><u>19.4</u></b>	322	19.4	321	19.5
473.astar	<b><u>446</u></b>	<b><u>15.7</u></b>	445	15.8	446	15.7	445	15.8	<b><u>446</u></b>	<b><u>15.7</u></b>	446	15.7
483.xalancbmk	<b><u>213</u></b>	<b><u>32.4</u></b>	213	32.3	213	32.4	<b><u>213</u></b>	<b><u>32.4</u></b>	213	32.3	213	32.4

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

## 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"
```

The Express5800/R120f-1M (Intel Xeon E5-2603 v3) and the Express5800/R120f-2M (Intel Xeon E5-2603 v3) models are electronically equivalent. The results have been measured on the Express5800/R120f-2M (Intel Xeon E5-2603 v3) model.

Transparent Huge Pages enabled with:  
echo always > /sys/kernel/mm/redhat\_transparent\_hugepage/enabled



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

NEC Corporation

SPECint2006 = 30.6

Express5800/R120f-1M (Intel Xeon E5-2603 v3)

SPECint\_base2006 = 29.5

CPU2006 license: 9006

Test date: Feb-2015

Test sponsor: NEC Corporation

Hardware Availability: Feb-2015

Tested by: NEC Corporation

Software Availability: Jul-2014

## 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 2006-2015 Standard Performance Evaluation Corporation

NEC Corporation

SPECint2006 = 30.6

Express5800/R120f-1M (Intel Xeon E5-2603 v3)

SPECint\_base2006 = 29.5

CPU2006 license: 9006

Test date: Feb-2015

Test sponsor: NEC Corporation

Hardware Availability: Feb-2015

Tested by: NEC Corporation

Software Availability: Jul-2014

## Peak Compiler Invocation (Continued)

400.perlbench: `icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32`

445.gobmk: `icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32`

C++ benchmarks (except as noted below):

`icpc -m64`

471.omnetpp: `icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32`

## 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.hmmmer: `-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.hmmmer: `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`

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

NEC Corporation

SPECint2006 = 30.6

Express5800/R120f-1M (Intel Xeon E5-2603 v3)

SPECint\_base2006 = 29.5

CPU2006 license: 9006

Test date: Feb-2015

Test sponsor: NEC Corporation

Hardware Availability: Feb-2015

Tested by: NEC Corporation

Software Availability: Jul-2014

## Peak Optimization Flags (Continued)

462.libquantum: basepeak = yes

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.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-ic15.0-official-linux64.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-ic15.0-official-linux64.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](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.2.

Report generated on Tue Mar 10 16:02:24 2015 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 10 March 2015.