



# SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## NEC Corporation

SPECint®\_rate2006 = 195

### Express5800/A1020a (Intel Xeon E5-2643)

SPECint\_rate\_base2006 = 186

CPU2006 license: 9006

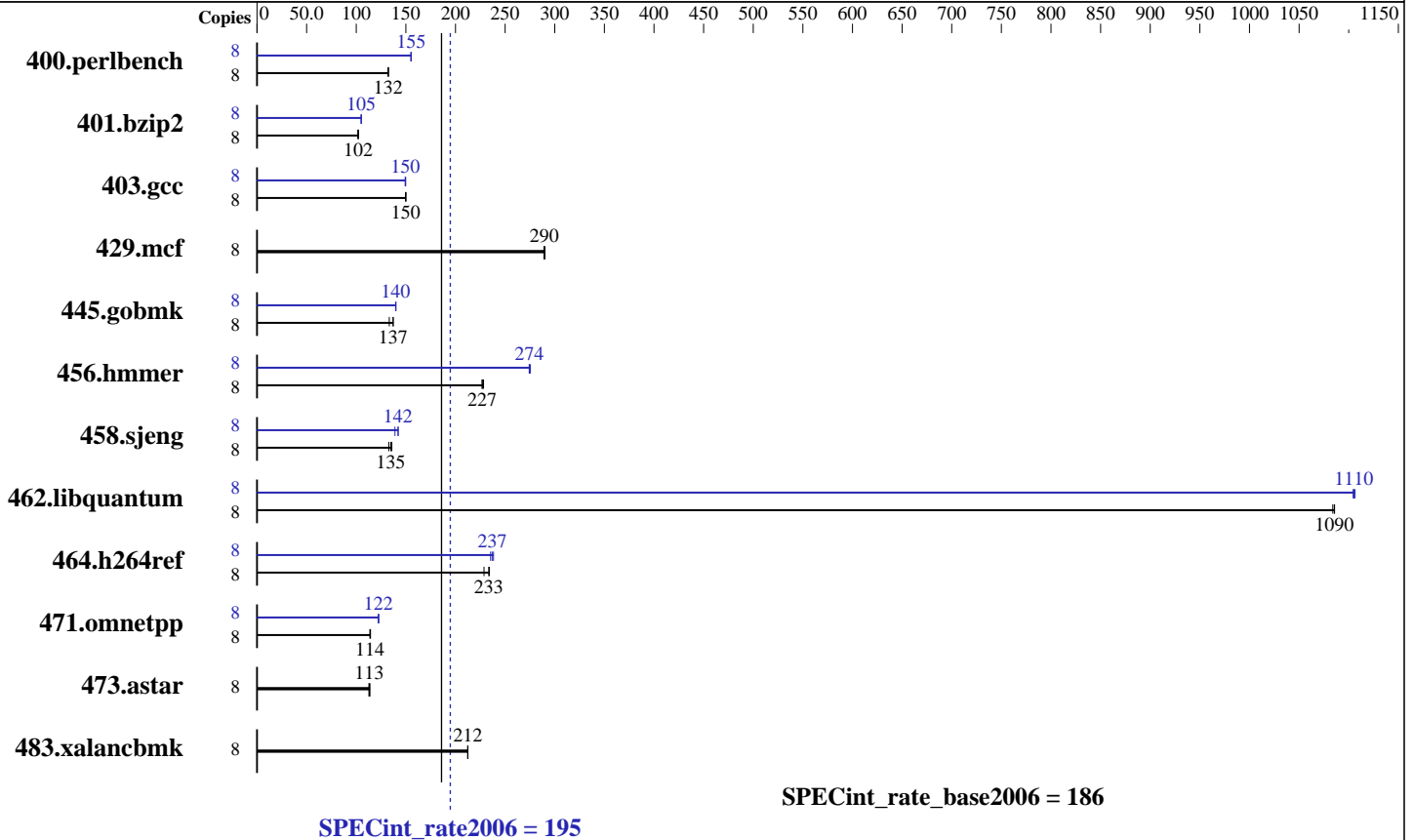
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Apr-2013

Hardware Availability: Mar-2013

Software Availability: Feb-2012



### Hardware

CPU Name: Intel Xeon E5-2643  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz  
 CPU MHz: 3300  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip, 2 threads/core  
 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: 10 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 64 GB (8 x 8 GB 2Rx4 PC3L-12800R-11, ECC)  
 Disk Subsystem: 1 x 300 GB SAS, 15000 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: 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 = 195

### Express5800/A1020a (Intel Xeon E5-2643)

SPECint\_rate\_base2006 = 186

CPU2006 license: 9006

Test date: Apr-2013

Test sponsor: NEC Corporation

Hardware Availability: Mar-2013

Tested by: NEC Corporation

Software Availability: Feb-2012

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	8	591	132	<u>591</u>	<u>132</u>	590	132	8	<u>503</u>	<u>155</u>	503	155	504	155
401.bzip2	8	<u>758</u>	<u>102</u>	755	102	760	102	8	735	105	736	105	<u>735</u>	<u>105</u>
403.gcc	8	<u>430</u>	<u>150</u>	430	150	430	150	8	431	149	<u>430</u>	<u>150</u>	430	150
429.mcf	8	252	289	<u>252</u>	<u>290</u>	252	290	8	252	289	<u>252</u>	<u>290</u>	252	290
445.gobmk	8	<u>612</u>	<u>137</u>	612	137	630	133	8	600	140	<u>600</u>	<u>140</u>	600	140
456.hammer	8	<u>329</u>	<u>227</u>	329	227	327	228	8	272	274	<u>272</u>	<u>274</u>	271	275
458.sjeng	8	729	133	<u>718</u>	<u>135</u>	712	136	8	681	142	696	139	<u>681</u>	<u>142</u>
462.libquantum	8	153	1090	153	1080	<u>153</u>	<u>1090</u>	8	150	1110	150	1100	<u>150</u>	<u>1110</u>
464.h264ref	8	756	234	<u>758</u>	<u>233</u>	774	229	8	743	238	<u>747</u>	<u>237</u>	752	235
471.omnetpp	8	437	114	439	114	<u>439</u>	<u>114</u>	8	<u>408</u>	<u>122</u>	409	122	408	123
473.astar	8	<u>496</u>	<u>113</u>	498	113	494	114	8	<u>496</u>	<u>113</u>	498	113	494	114
483.xalancbmk	8	260	212	260	213	<u>260</u>	<u>212</u>	8	260	212	260	213	<u>260</u>	<u>212</u>

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  
Memory Voltage: 1.5 V

## General Notes

Environment variables set by runspec before the start of the run:  
LD\_LIBRARY\_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64"

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 = 195

Express5800/A1020a (Intel Xeon E5-2643)

SPECint\_rate\_base2006 = 186

CPU2006 license: 9006

Test date: Apr-2013

Test sponsor: NEC Corporation

Hardware Availability: Mar-2013

Tested by: NEC Corporation

Software Availability: Feb-2012

## 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:

-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3

C++ benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3  
-Wl,-z,muldefs -L/opt/SmartHeap\_8.1/lib -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

C++ benchmarks:

icpc -m32



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

SPECint\_rate2006 = 195

Express5800/A1020a (Intel Xeon E5-2643)

SPECint\_rate\_base2006 = 186

CPU2006 license: 9006

Test date: Apr-2013

Test sponsor: NEC Corporation

Hardware Availability: Mar-2013

Tested by: NEC Corporation

Software Availability: Feb-2012

## 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: -xSSE4.2(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: -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 -auto-ilp32 -ansi-alias

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div

429.mcf: basepeak = yes

445.gobmk: -xAVX(pass 2) -prof-gen(pass 1) -prof-use(pass 2)  
 -ansi-alias -opt-mem-layout-trans=3

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

458.sjeng: -xSSE4.2(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: -xAVX -ipo -O3 -no-prec-div -opt-prefetch  
 -opt-mem-layout-trans=3

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)  
 -ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs  
 -L/opt/SmartHeap\_8.1/lib -lsmarheap

473.astar: basepeak = yes

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

SPECint\_rate2006 = 195

Express5800/A1020a (Intel Xeon E5-2643)

SPECint\_rate\_base2006 = 186

CPU2006 license: 9006

Test date: Apr-2013

Test sponsor: NEC Corporation

Hardware Availability: Mar-2013

Tested by: NEC Corporation

Software Availability: Feb-2012

## Peak Optimization Flags (Continued)

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-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 15:37:02 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 21 May 2013.