



# SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## NEC Corporation

Express5800/R120a-1  
(Intel Xeon E5540)

**SPECint®2006 = 29.4**

**SPECint\_base2006 = 26.5**

CPU2006 license: 9006

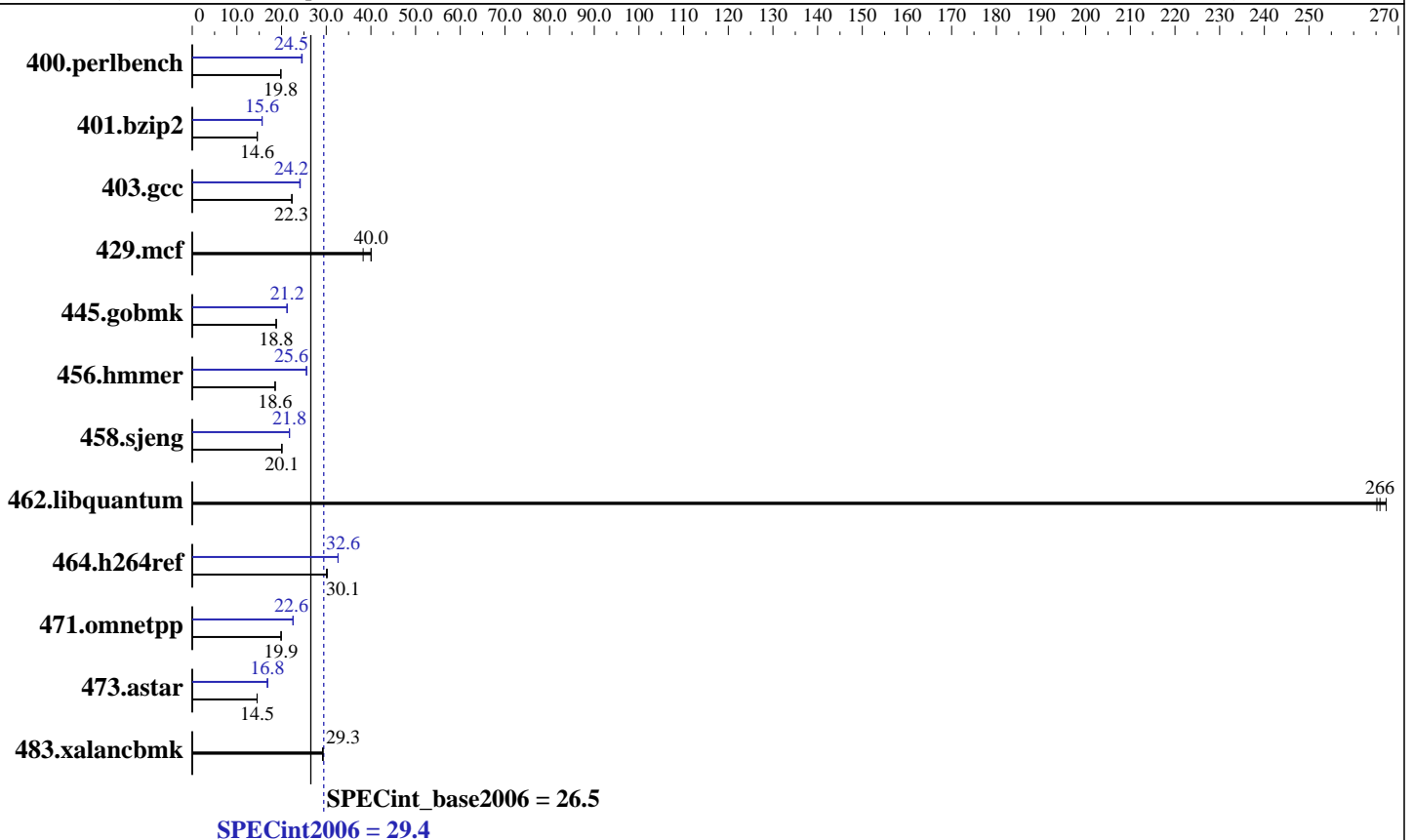
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Apr-2009

Hardware Availability: Apr-2009

Software Availability: Feb-2009



### Hardware

CPU Name: Intel Xeon E5540  
 CPU Characteristics: Intel Turbo Boost Technology up to 2.80 GHz  
 CPU MHz: 2533  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 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: 8 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 48 GB (12 X 4 GB PC3-8500R, 2 rank, CL7, ECC)  
 Disk Subsystem: 1x146.5 GB SAS, 15000 RPM  
 Other Hardware: None

### Software

Operating System: SUSE Linux Enterprise Server 10 (x86\_64) SP2, Kernel 2.6.16.60-0.34-smp  
 Compiler: Intel C++ Compiler Professional 11.0 for Linux Build 20090131 Package ID: l\_cproc\_p\_11.0.081  
 Auto Parallel: Yes  
 File System: ReiserFS  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V8.1 Binutils 2.18.50.0.7.20080502



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## NEC Corporation

Express5800/R120a-1  
(Intel Xeon E5540)

SPECint2006 = 29.4

SPECint\_base2006 = 26.5

CPU2006 license: 9006

Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Apr-2009

Hardware Availability: Apr-2009

Software Availability: Feb-2009

## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	492	19.9	<b>493</b>	<b>19.8</b>	493	19.8	<b>398</b>	<b>24.5</b>	397	24.6	399	24.5
401.bzip2	664	14.5	662	14.6	<b>663</b>	<b>14.6</b>	<b>617</b>	<b>15.6</b>	617	15.6	617	15.6
403.gcc	<b>361</b>	<b>22.3</b>	361	22.3	360	22.3	<b>333</b>	<b>24.2</b>	333	24.2	334	24.1
429.mcf	238	38.3	228	40.0	<b>228</b>	<b>40.0</b>	238	38.3	228	40.0	<b>228</b>	<b>40.0</b>
445.gobmk	558	18.8	<b>558</b>	<b>18.8</b>	558	18.8	493	21.3	494	21.2	<b>494</b>	<b>21.2</b>
456.hammer	503	18.6	<b>503</b>	<b>18.6</b>	503	18.6	365	25.6	<b>365</b>	<b>25.6</b>	364	25.6
458.sjeng	605	20.0	602	20.1	<b>603</b>	<b>20.1</b>	556	21.8	<b>556</b>	<b>21.8</b>	556	21.8
462.libquantum	<b>77.9</b>	<b>266</b>	78.1	265	77.5	267	<b>77.9</b>	<b>266</b>	78.1	265	77.5	267
464.h264ref	<b>734</b>	<b>30.1</b>	736	30.1	732	30.2	<b>678</b>	<b>32.6</b>	678	32.6	678	32.7
471.omnetpp	<b>314</b>	<b>19.9</b>	314	19.9	314	19.9	277	22.6	<b>277</b>	<b>22.6</b>	277	22.6
473.astar	484	14.5	<b>483</b>	<b>14.5</b>	483	14.5	<b>417</b>	<b>16.8</b>	416	16.9	417	16.8
483.xalancbmk	237	29.2	236	29.3	<b>236</b>	<b>29.3</b>	237	29.2	236	29.3	<b>236</b>	<b>29.3</b>

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

## Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run  
OMP\_NUM\_THREADS set to number of cores  
KMP\_AFFINITY set to granularity=fine,scatter

## Platform Notes

BIOS setting:  
NUMA configuration : Enabled

## General Notes

The NEC Express5800/R120a-1(Intel Xeon E5540),  
the NEC Express5800/R120a-2(Intel Xeon E5540),  
the Bull NovaScale R440 E2 (Intel Xeon E5540, 2.53 GHz) and  
the Bull NovaScale R460 E2 (Intel Xeon E5540, 2.53 GHz) models are electronically equivalent.  
The results have been measured on a NEC Express5800/R120a-1(Intel Xeon E5540) model.

## Base Compiler Invocation

C benchmarks:  
icc

C++ benchmarks:  
icpc



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**NEC Corporation**

Express5800/R120a-1  
(Intel Xeon E5540)

**SPECint2006 = 29.4**

**SPECint\_base2006 = 26.5**

**CPU2006 license:** 9006

**Test sponsor:** NEC Corporation

**Tested by:** NEC Corporation

**Test date:** Apr-2009

**Hardware Availability:** Apr-2009

**Software Availability:** Feb-2009

## 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 -static -parallel  
-par-runtime-control -opt-prefetch

C++ benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -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

401.bzip2: /opt/intel/Compiler/11.0/081/bin/intel64/icc

456.hmmer: /opt/intel/Compiler/11.0/081/bin/intel64/icc

458.sjeng: /opt/intel/Compiler/11.0/081/bin/intel64/icc

C++ benchmarks (except as noted below):

icpc

473.astar: /opt/intel/Compiler/11.0/081/bin/intel64/icpc

## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
401.bzip2: -DSPEC\_CPU\_LP64  
456.hmmer: -DSPEC\_CPU\_LP64

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**NEC Corporation**

Express5800/R120a-1  
(Intel Xeon E5540)

**SPECint2006 = 29.4**

**SPECint\_base2006 = 26.5**

**CPU2006 license:** 9006

**Test sponsor:** NEC Corporation

**Tested by:** NEC Corporation

**Test date:** Apr-2009

**Hardware Availability:** Apr-2009

**Software Availability:** Feb-2009

## Peak Portability Flags (Continued)

458.sjeng: -DSPEC\_CPU\_LP64  
462.libquantum: -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) -static(pass 2)  
-prof-use(pass 2) -ansi-alias -opt-prefetch

401.bzp2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)  
-prof-use(pass 2) -auto-ilp32 -opt-prefetch -ansi-alias

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -static -inline-calloc  
-opt-malloc-options=3

429.mcf: basepeak = yes

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -O2  
-ipo -no-prec-div -ansi-alias

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

458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)  
-prof-use(pass 2) -unroll4 -auto-ilp32

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) -static(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: -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=routine -auto-ilp32  
-Wl,-z,muldefs -L/opt/SmartHeap\_8.1/lib64 -lsmarheap64

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**NEC Corporation**

Express5800/R120a-1  
(Intel Xeon E5540)

**SPECint2006 = 29.4**

**SPECint\_base2006 = 26.5**

**CPU2006 license:** 9006

**Test sponsor:** NEC Corporation

**Tested by:** NEC Corporation

**Test date:** Apr-2009

**Hardware Availability:** Apr-2009

**Software Availability:** Feb-2009

## Peak Optimization Flags (Continued)

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-ic11.0-int-linux64-revF.html>

<http://www.spec.org/cpu2006/flags/NEC-Intel-Linux-Settings-flags-revD.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revF.xml>

<http://www.spec.org/cpu2006/flags/NEC-Intel-Linux-Settings-flags-revD.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 v1.1.

Report generated on Tue Jul 22 23:46:42 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 12 May 2009.