



# SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## NEC Corporation

Express5800/R140a-4  
(Intel Xeon E7440)

SPECint®\_rate2006 = 114

SPECint\_rate\_base2006 = 106

CPU2006 license: 9006

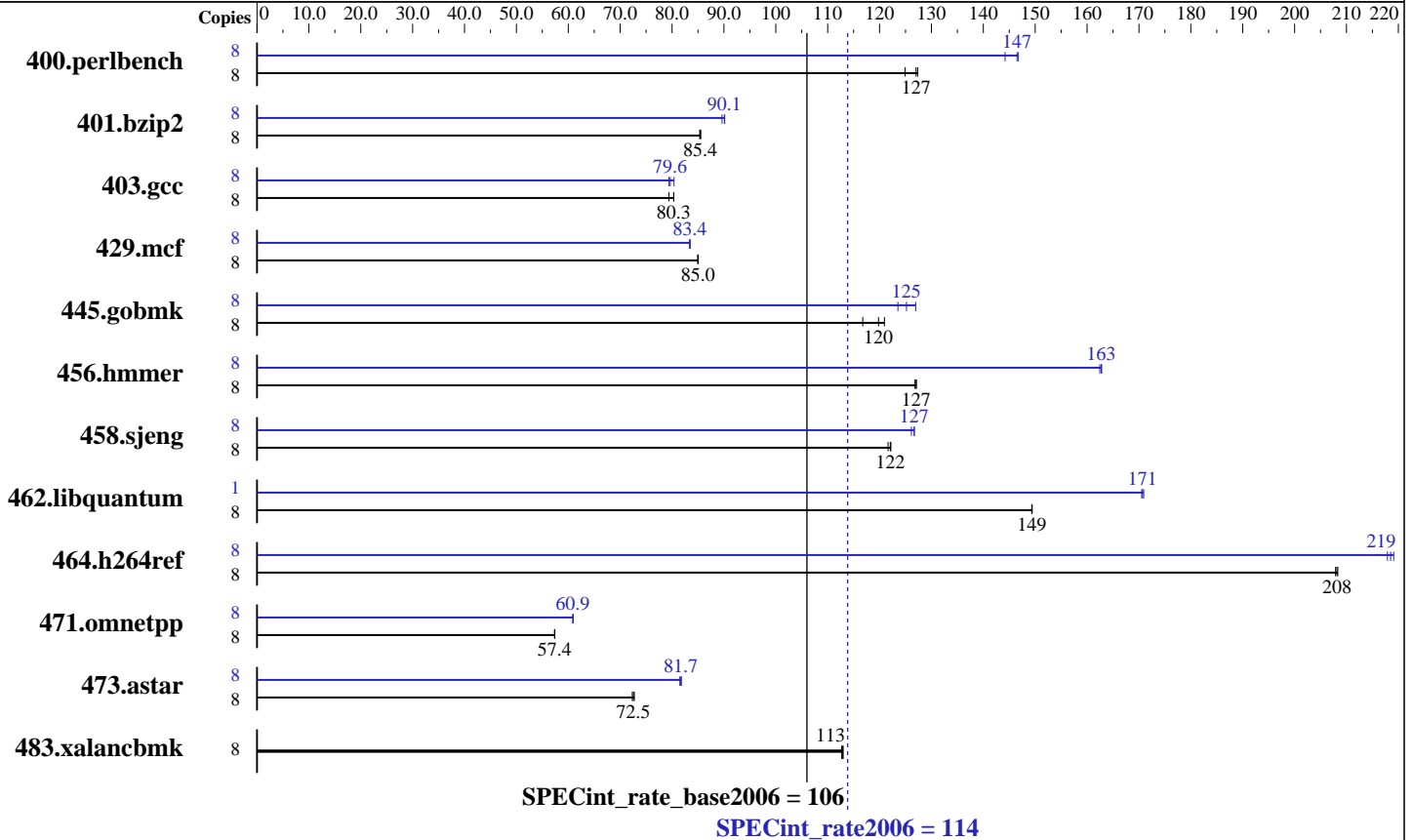
Test sponsor: NEC Corporation

Tested by: Bull SAS

Test date: Jan-2009

Hardware Availability: Nov-2008

Software Availability: Nov-2008



### Hardware

CPU Name: Intel Xeon E7440  
 CPU Characteristics: 1066 MHz system bus  
 CPU MHz: 2400  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip  
 CPU(s) orderable: 1,2,3,4 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 6 MB I+D on chip per chip, 3 MB shared / 2 cores  
 L3 Cache: 16 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 32 GB (16 x 2GB DDR2-667 FBDIMM)  
 Disk Subsystem: 1x146 GB SAS, 10000 RPM  
 Other Hardware: None

### Software

Operating System: SUSE Linux Enterprise Server 10 (x86\_64) SP2, Kernel 2.6.16.60-0.21-smp  
 Compiler: Intel C++ Compiler 11.0 for Linux Build 20080730 Package ID: l\_cproc\_b\_11.0.042  
 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/R140a-4  
(Intel Xeon E7440)

SPECint\_rate2006 = 114

SPECint\_rate\_base2006 = 106

CPU2006 license: 9006

Test sponsor: NEC Corporation

Tested by: Bull SAS

Test date: Jan-2009

Hardware Availability: Nov-2008

Software Availability: Nov-2008

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	8	614	127	<b>615</b>	<b>127</b>	626	125	8	533	147	542	144	<b>534</b>	<b>147</b>
401.bzip2	8	905	85.3	903	85.5	<b>904</b>	<b>85.4</b>	8	856	90.2	861	89.6	<b>857</b>	<b>90.1</b>
403.gcc	8	811	79.4	<b>802</b>	<b>80.3</b>	802	80.3	8	<b>809</b>	<b>79.6</b>	801	80.4	811	79.4
429.mcf	8	<b>858</b>	<b>85.0</b>	859	85.0	858	85.1	8	<b>875</b>	<b>83.4</b>	874	83.5	875	83.4
445.gobmk	8	694	121	719	117	<b>701</b>	<b>120</b>	8	661	127	<b>670</b>	<b>125</b>	679	124
456.hammer	8	<b>587</b>	<b>127</b>	587	127	589	127	8	<b>459</b>	<b>163</b>	458	163	459	162
458.sjeng	8	792	122	<b>793</b>	<b>122</b>	796	122	8	<b>764</b>	<b>127</b>	767	126	764	127
462.libquantum	8	<b>1110</b>	<b>149</b>	1110	149	1110	149	1	122	171	121	171	<b>121</b>	<b>171</b>
464.h264ref	8	852	208	<b>851</b>	<b>208</b>	850	208	8	808	219	812	218	<b>810</b>	<b>219</b>
471.omnetpp	8	872	57.4	<b>871</b>	<b>57.4</b>	871	57.4	8	<b>821</b>	<b>60.9</b>	821	60.9	821	60.9
473.astar	8	776	72.3	<b>774</b>	<b>72.5</b>	772	72.7	8	689	81.5	<b>688</b>	<b>81.7</b>	687	81.8
483.xalancbmk	8	489	113	<b>489</b>	<b>113</b>	490	113	8	489	113	<b>489</b>	<b>113</b>	490	113

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

## Submit Notes

The config file option 'submit' was used.  
taskset was used to bind processes to cores except  
for 462.libquantum peak

## 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 physical,0  
KMP\_STACKSIZE set to 64M

## Platform Notes

BIOS Settings:  
Adjacent Cache Line Prefetch = Disabled  
Hardware Prefetcher = Disabled

## General Notes

The NEC Express5800/R140a-4(Intel Xeon E7440) and  
the Bull NovaScale R480 E1(Intel Xeon E7440, 2.40 GHz) models are electronically equivalent.  
The results have been measured on a Bull NovaScale R480 E1(Intel Xeon E7440, 2.40 GHz) model.



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**NEC Corporation**

Express5800/R140a-4  
(Intel Xeon E7440)

**SPECint\_rate2006 = 114**

**SPECint\_rate\_base2006 = 106**

**CPU2006 license:** 9006

**Test sponsor:** NEC Corporation

**Tested by:** Bull SAS

**Test date:** Jan-2009

**Hardware Availability:** Nov-2008

**Software Availability:** Nov-2008

## Base Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

## Base Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
462.libquantum: -DSPEC\_CPU\_LINUX  
483.xalancbmk: -DSPEC\_CPU\_LINUX

## Base Optimization Flags

C benchmarks:

-xSSE4.1 -ipo -O3 -no-prec-div -static -inline-calloc  
-opt-malloc-options=3 -opt-prefetch

C++ benchmarks:

-xSSE4.1 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs  
-L/spec/cpu2006.1.1/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/11.0/042/bin/intel64/icc  
-L/opt/intel/Compiler/11.0/042/ipp/em64t/lib  
-I/opt/intel/Compiler/11.0/042/ipp/em64t/include

456.hmmer: /opt/intel/Compiler/11.0/042/bin/intel64/icc  
-L/opt/intel/Compiler/11.0/042/ipp/em64t/lib  
-I/opt/intel/Compiler/11.0/042/ipp/em64t/include

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**NEC Corporation**

Express5800/R140a-4  
(Intel Xeon E7440)

**SPECint\_rate2006 = 114**

**SPECint\_rate\_base2006 = 106**

**CPU2006 license:** 9006

**Test sponsor:** NEC Corporation

**Tested by:** Bull SAS

**Test date:** Jan-2009

**Hardware Availability:** Nov-2008

**Software Availability:** Nov-2008

## Peak Compiler Invocation (Continued)

C++ benchmarks:  
icpc

## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
401.bzip2: -DSPEC\_CPU\_LP64  
456.hmmer: -DSPEC\_CPU\_LP64  
462.libquantum: -DSPEC\_CPU\_LINUX  
483.xalancbmk: -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

C benchmarks:

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -ansi-alias -opt-prefetch  
401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -opt-prefetch -ansi-alias  
403.gcc: -xSSE4.1 -ipo -O3 -no-prec-div -static -inline-alloc  
-opt-malloc-options=3  
429.mcf: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -opt-prefetch  
445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -O2 -ipo  
-no-prec-div -ansi-alias  
456.hmmer: -xSSE4.1 -ipo -O3 -no-prec-div -static -unroll2  
-ansi-alias  
458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -unroll4  
462.libquantum: -xSSE4.1 -ipo -O3 -no-prec-div -static  
-opt-malloc-options=3 -parallel -par-runtime-control  
-opt-prefetch  
464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -unroll2 -ansi-alias

C++ benchmarks:

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**NEC Corporation**

Express5800/R140a-4  
(Intel Xeon E7440)

**SPECint\_rate2006 = 114**

**SPECint\_rate\_base2006 = 106**

**CPU2006 license:** 9006

**Test sponsor:** NEC Corporation

**Tested by:** Bull SAS

**Test date:** Jan-2009

**Hardware Availability:** Nov-2008

**Software Availability:** Nov-2008

## Peak Optimization Flags (Continued)

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -ansi-alias -opt-ra-region-strategy=block  
-Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -ansi-alias -opt-ra-region-strategy=routine  
-Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap

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-revA.20090713.01.html>

<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.01.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-revA.20090713.01.xml>

<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.01.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 23:00:07 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 3 March 2009.

Standard Performance Evaluation Corporation

[info@spec.org](mailto:info@spec.org)

<http://www.spec.org/>

Page 5