



# SPEC® CINT2006 Result

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## NEC Corporation

**SPECint®\_rate2006 = 1370**

### Express5800/A1080a-E (Intel Xeon X7560)

**SPECint\_rate\_base2006 = 1290**

CPU2006 license: 9006

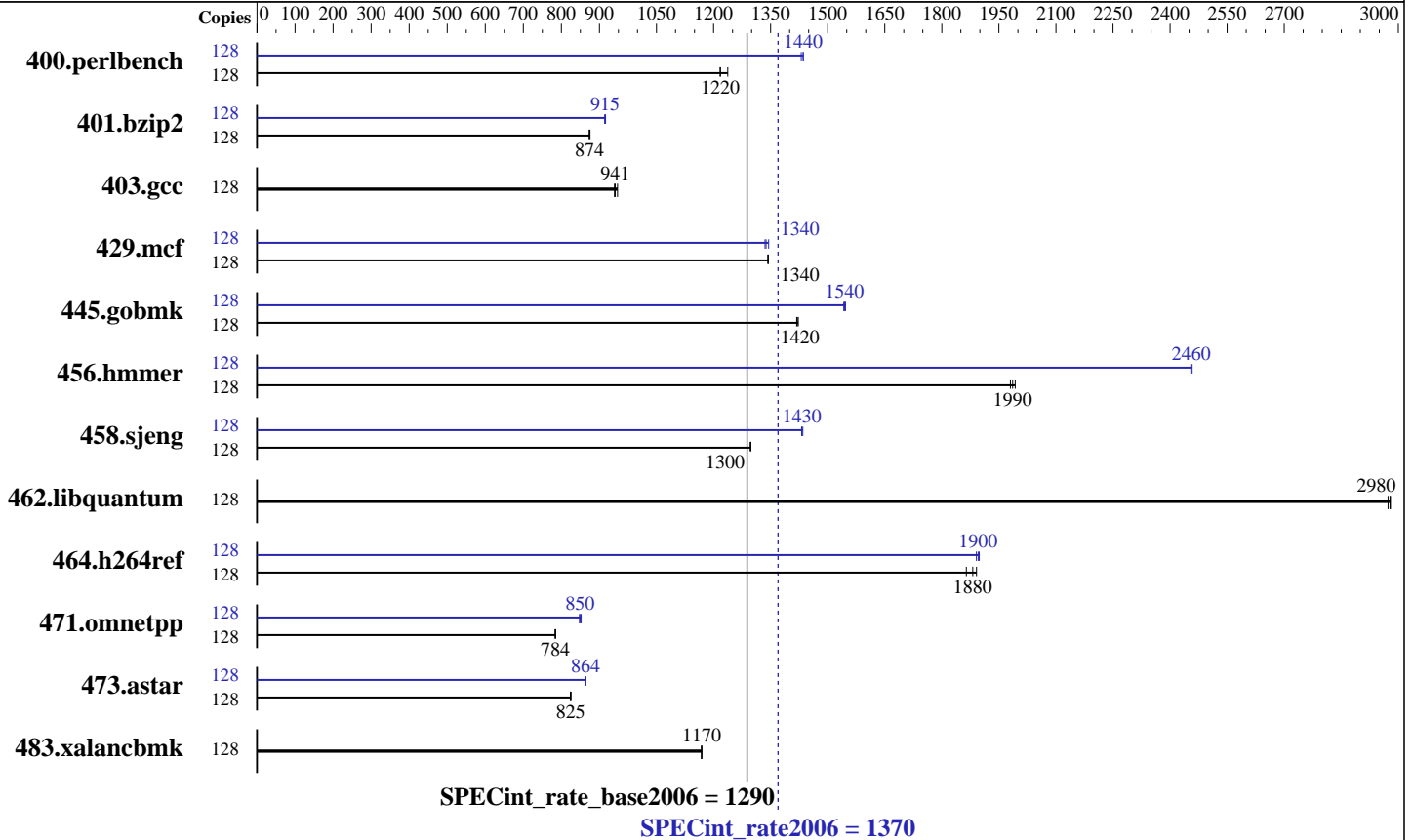
Test date: Jun-2010

Test sponsor: NEC Corporation

Hardware Availability: Jul-2010

Tested by: NEC Corporation

Software Availability: Mar-2010



### Hardware

CPU Name: Intel Xeon X7560  
 CPU Characteristics: Intel Turbo Boost Technology up to 2.67 GHz  
 CPU MHz: 2267  
 FPU: Integrated  
 CPU(s) enabled: 64 cores, 8 chips, 8 cores/chip, 2 threads/core  
 CPU(s) orderable: 8 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: 24 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 512 GB (128 x 4 GB PC3-8500R, 2 rank, CL7, ECC)  
 Disk Subsystem: 1x300 GB SAS, 10000 RPM  
 Other Hardware: None

### Software

Operating System: Red Hat Enterprise Linux Server release 5.5, Kernel 2.6.18-194.el5 on an x86\_64  
 Compiler: Intel C++ Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091130 Package ID: 1\_cproc\_p\_11.1.064  
 Auto Parallel: No  
 File System: ext2  
 System State: Run level 5 (multi-user mode, with display manager as well as console logins)  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V8.1 Binutils 2.18.50.0.7.20080502



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## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	128	1011	1240	<u>1027</u>	<u>1220</u>	1027	1220	128	<u>871</u>	<u>1440</u>	874	1430	871	1440
401.bzip2	128	1411	875	<u>1414</u>	<u>874</u>	1414	873	128	<u>1350</u>	<u>915</u>	1352	914	1348	916
403.gcc	128	1097	940	<u>1094</u>	<u>941</u>	1087	948	128	1097	940	<u>1094</u>	<u>941</u>	1087	948
429.mcf	128	869	1340	869	1340	<u>869</u>	<u>1340</u>	128	<u>872</u>	<u>1340</u>	868	1340	874	1340
445.gobmk	128	944	1420	<u>945</u>	<u>1420</u>	947	1420	128	<u>869</u>	<u>1540</u>	868	1550	871	1540
456.hammer	128	<u>601</u>	<u>1990</u>	599	1990	603	1980	128	<u>486</u>	<u>2460</u>	486	2460	487	2450
458.sjeng	128	1193	1300	<u>1194</u>	<u>1300</u>	1194	1300	128	1082	1430	1080	1430	<u>1081</u>	<u>1430</u>
462.libquantum	128	892	2970	890	2980	<u>891</u>	<u>2980</u>	128	892	2970	890	2980	<u>891</u>	<u>2980</u>
464.h264ref	128	1519	1860	1498	1890	<u>1506</u>	<u>1880</u>	128	<u>1494</u>	<u>1900</u>	1492	1900	1498	1890
471.omnetpp	128	<u>1020</u>	<u>784</u>	1021	783	1019	785	128	<u>942</u>	<u>850</u>	939	852	944	847
473.astar	128	<u>1089</u>	<u>825</u>	1089	825	1091	824	128	<u>1040</u>	<u>864</u>	1040	864	1040	864
483.xalancbmk	128	756	1170	<u>756</u>	<u>1170</u>	756	1170	128	756	1170	<u>756</u>	<u>1170</u>	756	1170

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.  
numactl was used to bind copies to the cores

## Operating System Notes

'ulimit -s unlimited' was used to set the stack size to unlimited prior to run

## Platform Notes

Power Technology set to Custom in BIOS  
Patrol Scrubbing set to disabled in Maintenance Console

## Base Compiler Invocation

C benchmarks:  
icc -m32

C++ benchmarks:  
icpc -m32



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## 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 -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 -m32

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

C++ benchmarks (except as noted below):  
icpc -m32

473.astar: icpc -m64

## Peak Portability Flags

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

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## Peak Portability Flags (Continued)

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

401.bzip2: -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) -opt-prefetch -ansi-alias -auto-ilp32

403.gcc: basepeak = yes

429.mcf: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

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 -Wl,-z,muldefs  
-L/opt/SmartHeap\_8.1/lib -lsmartheap

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 -Wl,-z,muldefs  
-L/opt/SmartHeap\_8.1/lib64 -lsmartheap64

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## Peak Optimization Flags (Continued)

483.xalancbmk: basepeak = yes

## Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/NEC.Express5800.A1080a-E.Intel-ic11.1-linux64-revE.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/NEC.Express5800.A1080a-E.Intel-ic11.1-linux64-revE.xml>

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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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