



# SPEC<sup>®</sup> CINT2006 Result

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## NEC Corporation

Express5800/i110Rh-1  
(Intel Xeon processor 3040)

SPECint<sup>®</sup>2006 = 14.3

SPECint\_base2006 = 13.1

CPU2006 license: 9006

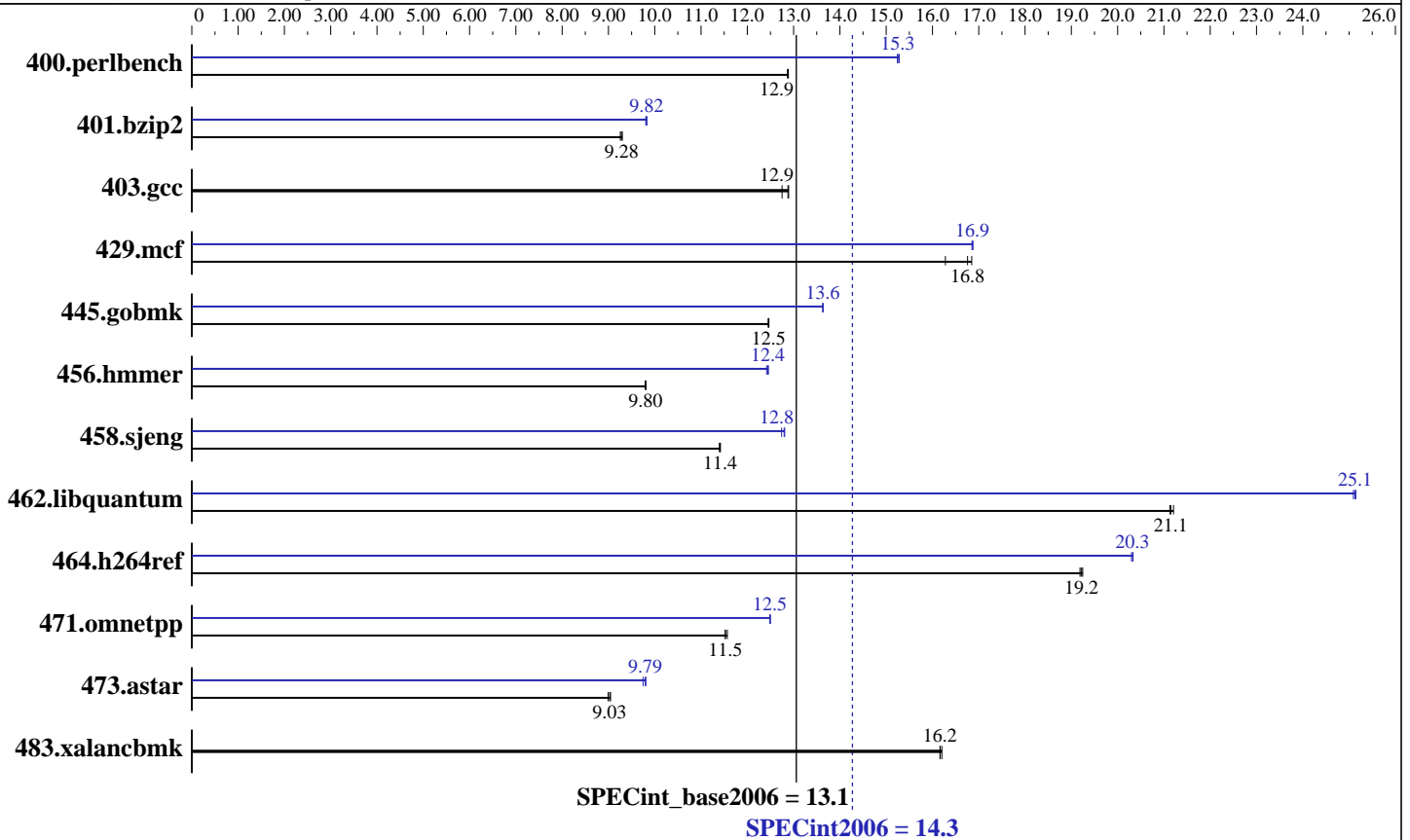
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Nov-2007

Hardware Availability: May-2007

Software Availability: Jun-2007



### Hardware

CPU Name: Intel Xeon 3040  
 CPU Characteristics: 1.86 GHz, 2 MB L2, 1066 MHz bus  
 CPU MHz: 1866  
 FPU: Integrated  
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip  
 CPU(s) orderable: 1 chip  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 2 MB I+D on chip per chip  
 L3 Cache: None  
 Other Cache: None  
 Memory: 4 GB (4x1 GB PC2-5300E, 2 rank, CL5-5-5, ECC)  
 Disk Subsystem: 1x80 GB SATAII, 7200RPM  
 Other Hardware: None

### Software

Operating System: SUSE Linux Enterprise Server 10 (x86\_64), Kernel 2.6.16.21-0.8-smp  
 Compiler: Intel C++ Compiler for IA32/EM64T application, Version 10.0 - Build 20070426 Package ID: l\_cc\_p\_10.0.023  
 Auto Parallel: No  
 File System: ext2  
 System State: Multiuser, Runlevel 3  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: MicroQuill SmartHeap library 8.1 binutils-2.17.tar.gz, Version 2.17



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## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	758	12.9	<b><u>759</u></b>	<b><u>12.9</u></b>	759	12.9	639	15.3	641	15.2	<b><u>640</u></b>	<b><u>15.3</u></b>
401.bzip2	<b><u>1040</u></b>	<b><u>9.28</u></b>	1038	9.30	1042	9.26	984	9.81	<b><u>983</u></b>	<b><u>9.82</u></b>	982	9.83
403.gcc	<b><u>625</u></b>	<b><u>12.9</u></b>	631	12.8	624	12.9	<b><u>625</u></b>	<b><u>12.9</u></b>	631	12.8	624	12.9
429.mcf	560	16.3	<b><u>544</u></b>	<b><u>16.8</u></b>	541	16.8	541	16.9	540	16.9	<b><u>541</u></b>	<b><u>16.9</u></b>
445.gobmk	843	12.4	<b><u>842</u></b>	<b><u>12.5</u></b>	841	12.5	770	13.6	<b><u>770</u></b>	<b><u>13.6</u></b>	769	13.6
456.hmmer	<b><u>952</u></b>	<b><u>9.80</u></b>	953	9.79	951	9.81	<b><u>750</u></b>	<b><u>12.4</u></b>	751	12.4	749	12.5
458.sjeng	1060	11.4	1062	11.4	<b><u>1060</u></b>	<b><u>11.4</u></b>	950	12.7	945	12.8	<b><u>946</u></b>	<b><u>12.8</u></b>
462.libquantum	977	21.2	981	21.1	<b><u>980</u></b>	<b><u>21.1</u></b>	824	25.1	<b><u>825</u></b>	<b><u>25.1</u></b>	826	25.1
464.h264ref	1150	19.2	1153	19.2	<b><u>1151</u></b>	<b><u>19.2</u></b>	1090	20.3	1088	20.3	<b><u>1089</u></b>	<b><u>20.3</u></b>
471.omnetpp	540	11.6	<b><u>542</u></b>	<b><u>11.5</u></b>	542	11.5	500	12.5	<b><u>500</u></b>	<b><u>12.5</u></b>	500	12.5
473.astar	781	8.99	<b><u>778</u></b>	<b><u>9.03</u></b>	776	9.05	716	9.81	<b><u>717</u></b>	<b><u>9.79</u></b>	720	9.75
483.xalancbmk	426	16.2	427	16.2	<b><u>427</u></b>	<b><u>16.2</u></b>	426	16.2	427	16.2	<b><u>427</u></b>	<b><u>16.2</u></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

## General Notes

All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmer, for peak, are compiled in 64-bit mode

## 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



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## Base Optimization Flags

C benchmarks:  
-fast

C++ benchmarks:  
-xT -ipo -O3 -no-prec-div -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/cce/10.0.023/bin/icc  
-L/opt/intel/cce/10.0.023/lib  
-I/opt/intel/cce/10.0.023/include

456.hmmer: /opt/intel/cce/10.0.023/bin/icc  
-L/opt/intel/cce/10.0.023/lib  
-I/opt/intel/cce/10.0.023/include

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:

Continued on next page



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## Peak Optimization Flags (Continued)

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -fast -ansi-alias  
-prefetch

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -fast

403.gcc: basepeak = yes

429.mcf: -fast -prefetch

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xT -O2 -ipo  
-no-prec\_div -ansi-alias

456.hmmer: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2  
-ansi-alias

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4

462.libquantum: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -Ob0  
-prefetch -opt-streaming-stores always

464.h264ref: Same as 456.hmmer

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo  
-no-prec\_div -ansi-alias -Wl,-z,muldefs  
-L/opt/SmartHeap\_8.1/lib -lsmarheap

473.astar: Same as 471.omnetpp

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-ic10-INT-ia32-intel64-linux-flags.html>

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

<http://www.spec.org/cpu2006/flags/NEC-ic10-INT-ia32-intel64-linux-flags.xml>



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

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