



# SPEC® CINT2006 Result

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## NEC Corporation

Express5800/110Ri-1  
(Intel Xeon 3065)

**SPECint®2006 = 19.9**

**SPECint\_base2006 = 17.2**

CPU2006 license: 9006

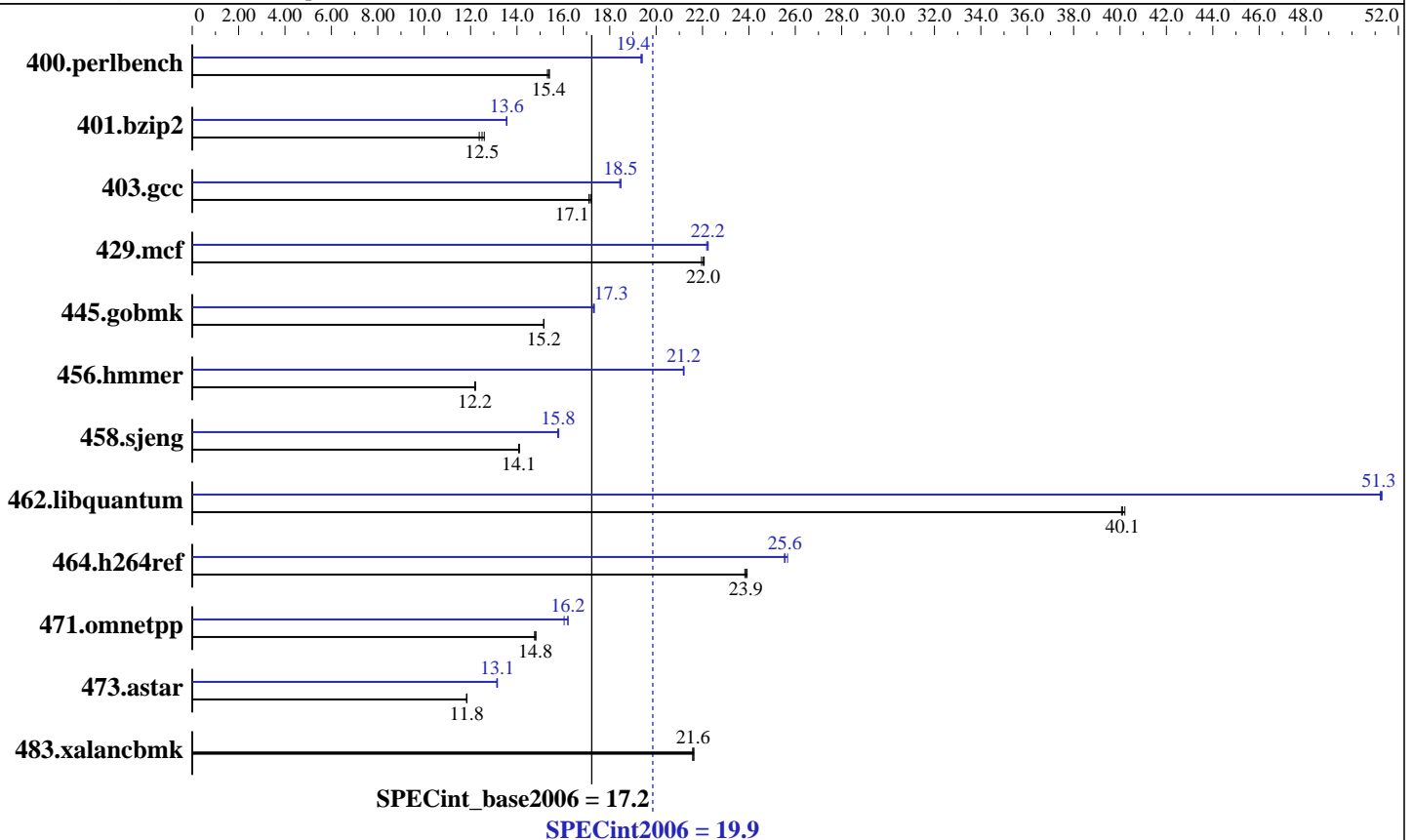
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Jun-2008

Hardware Availability: Apr-2008

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon 3065  
 CPU Characteristics: 2.33 GHz, 4 MB L2, 1333 MHz bus  
 CPU MHz: 2333  
 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: 4 MB I+D on chip per chip  
 L3 Cache: None  
 Other Cache: None  
 Memory: 8 GB (4x2 GB PC2-6400E, 2 rank, CL6-6-6, ECC)  
 Disk Subsystem: 1x80.0 GB SATAII, 7200RPM  
 Other Hardware: None

### Software

Operating System: SUSE Linux Enterprise Server 10 (x86\_64) SP1, Kernel 2.6.16.46-0.12-smp  
 Compiler: Intel C++ Compiler 10.1 for Linux Build 20070913 Package ID: l\_cc\_p\_10.1.008  
 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 library 8.1 binutils 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	638	15.3	<b><u>636</u></b>	<b><u>15.4</u></b>	634	15.4	<b><u>504</u></b>	<b><u>19.4</u></b>	504	19.4	505	19.3
401.bzip2	780	12.4	766	12.6	<b><u>772</u></b>	<b><u>12.5</u></b>	712	13.6	712	13.6	<b><u>712</u></b>	<b><u>13.6</u></b>
403.gcc	469	17.2	<b><u>470</u></b>	<b><u>17.1</u></b>	471	17.1	437	18.4	<b><u>436</u></b>	<b><u>18.5</u></b>	436	18.5
429.mcf	<b><u>414</u></b>	<b><u>22.0</u></b>	415	22.0	413	22.1	<b><u>410</u></b>	<b><u>22.2</u></b>	411	22.2	410	22.2
445.gobmk	692	15.2	692	15.2	<b><u>692</u></b>	<b><u>15.2</u></b>	605	17.3	606	17.3	<b><u>606</u></b>	<b><u>17.3</u></b>
456.hmmer	765	12.2	<b><u>765</u></b>	<b><u>12.2</u></b>	764	12.2	441	21.2	440	21.2	<b><u>440</u></b>	<b><u>21.2</u></b>
458.sjeng	<b><u>859</u></b>	<b><u>14.1</u></b>	860	14.1	858	14.1	768	15.8	766	15.8	<b><u>767</u></b>	<b><u>15.8</u></b>
462.libquantum	517	40.1	515	40.2	<b><u>517</u></b>	<b><u>40.1</u></b>	<b><u>404</u></b>	<b><u>51.3</u></b>	405	51.2	404	51.3
464.h264ref	929	23.8	925	23.9	<b><u>927</u></b>	<b><u>23.9</u></b>	867	25.5	862	25.7	<b><u>866</u></b>	<b><u>25.6</u></b>
471.omnetpp	422	14.8	<b><u>422</u></b>	<b><u>14.8</u></b>	423	14.8	390	16.0	386	16.2	<b><u>386</u></b>	<b><u>16.2</u></b>
473.astar	<b><u>593</u></b>	<b><u>11.8</u></b>	593	11.8	593	11.8	534	13.2	<b><u>534</u></b>	<b><u>13.1</u></b>	535	13.1
483.xalancbmk	319	21.6	320	21.6	<b><u>320</u></b>	<b><u>21.6</u></b>	319	21.6	320	21.6	<b><u>320</u></b>	<b><u>21.6</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  
OMP\_NUM\_THREADS set to number of cores

## Platform Notes

Bios settings:  
Hardware Prefetcher: Enabled  
Adjacent Cache Line Prefetch: Enabled  
Intel SpeedStep Technology: Disabled

## 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



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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:  
-fast -vec-guard-write -parallel -par-runtime-control

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/10.1.008/bin/icc  
-L/opt/intel/cce/10.1.008/lib  
-I/opt/intel/cce/10.1.008/include

456.hmmmer: /opt/intel/cce/10.1.008/bin/icc  
-L/opt/intel/cce/10.1.008/lib  
-I/opt/intel/cce/10.1.008/include

C++ benchmarks:  
icpc

## Peak Portability Flags

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

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## Peak Portability Flags (Continued)

483.xalancbmk: -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

C benchmarks:

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 -prefetch  
-auto-ilp32

403.gcc: -fast -inline-calloc -opt-malloc-options=3

429.mcf: -fast -prefetch

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

456.hmmmer: -fast -unroll2 -ansi-alias -opt-multi-version-aggressive  
-auto-ilp32

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

462.libquantum: -fast -unroll4 -Ob0 -prefetch  
-opt-streaming-stores always -vec-guard-write  
-opt-malloc-options=3 -parallel -par-runtime-control

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2  
-ansi-alias

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo  
-no-prec-div -ansi-alias -opt-ra-region-strategy=block  
-Wl,-z,muldefs -L/opt/SmartHeap\_8.1/lib -lsmartheap

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo  
-no-prec-div -ansi-alias -opt-ra-region-strategy=routine  
-Wl,-z,muldefs -L/opt/SmartHeap\_8.1/lib -lsmartheap

483.xalancbmk: basepeak = yes



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## Peak Other Flags

Same as Base Other Flags

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

<http://www.spec.org/cpu2006/flags/NEC-Intel-ic10.1-INT-ia32-linux-flags.20080611.html>

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

<http://www.spec.org/cpu2006/flags/NEC-Intel-ic10.1-INT-ia32-linux-flags.20080611.xml>

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

Tested with SPEC CPU2006 v1.0.  
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