



# SPEC<sup>®</sup> CINT2006 Result

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## NEC Corporation

Express5800/120Gd  
(Intel Xeon E5205)

SPECint<sup>®</sup>2006 = 16.1

SPECint\_base2006 = 13.5

CPU2006 license: 9006

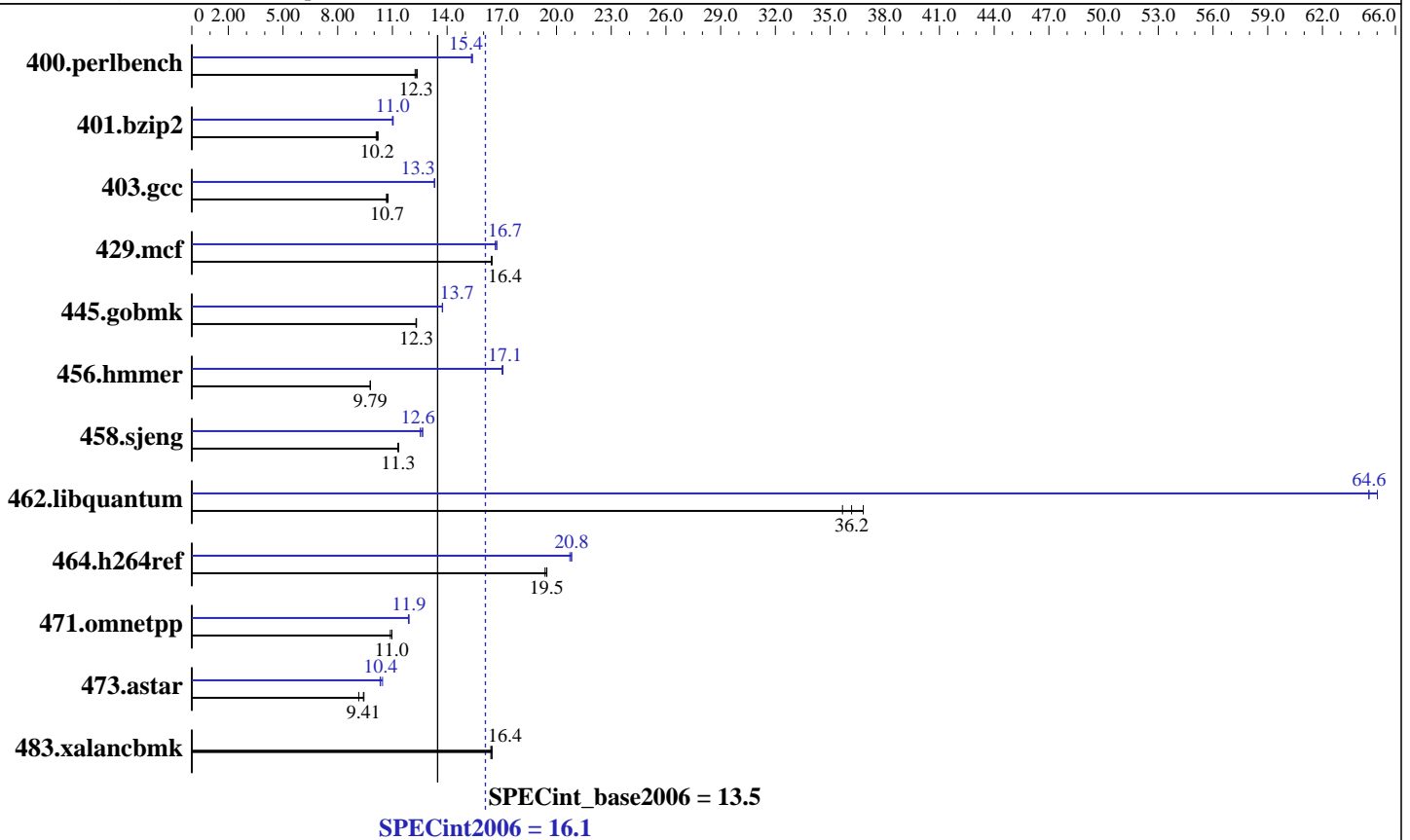
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: May-2008

Hardware Availability: Apr-2008

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon E5205  
 CPU Characteristics: 1.86 GHz, 6 MB L2, 1066 MHz bus  
 CPU MHz: 1867  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip  
 CPU(s) orderable: 1,2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 6 MB I+D on chip per chip  
 L3 Cache: None  
 Other Cache: None  
 Memory: 8 GB (8x1 GB PC2-5300F, 2 rank, CL5-5-5, ECC)  
 Disk Subsystem: 1x250 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 for Linux32 and Linux64 version 10.1 Build 20070913 Package ID: I\_cc\_p\_10.1.008  
 Auto Parallel: Yes  
 File System: ext2  
 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.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	790	12.4	798	12.2	<b><u>794</u></b>	<b><u>12.3</u></b>	635	15.4	<b><u>635</u></b>	<b><u>15.4</u></b>	637	15.3
401.bzip2	954	10.1	<b><u>949</u></b>	<b><u>10.2</u></b>	945	10.2	<b><u>876</u></b>	<b><u>11.0</u></b>	877	11.0	874	11.0
403.gcc	754	10.7	<b><u>752</u></b>	<b><u>10.7</u></b>	748	10.8	<b><u>605</u></b>	<b><u>13.3</u></b>	604	13.3	605	13.3
429.mcf	<b><u>555</u></b>	<b><u>16.4</u></b>	554	16.5	555	16.4	545	16.7	<b><u>546</u></b>	<b><u>16.7</u></b>	548	16.6
445.gobmk	853	12.3	<b><u>852</u></b>	<b><u>12.3</u></b>	851	12.3	763	13.8	<b><u>763</u></b>	<b><u>13.7</u></b>	764	13.7
456.hmmer	953	9.79	953	9.79	<b><u>953</u></b>	<b><u>9.79</u></b>	548	17.0	547	17.1	<b><u>547</u></b>	<b><u>17.1</u></b>
458.sjeng	1071	11.3	<b><u>1068</u></b>	<b><u>11.3</u></b>	1067	11.3	<b><u>960</u></b>	<b><u>12.6</u></b>	966	12.5	955	12.7
462.libquantum	581	35.7	563	36.8	<b><u>573</u></b>	<b><u>36.2</u></b>	<b><u>321</u></b>	<b><u>64.6</u></b>	321	64.5	319	65.0
464.h264ref	<b><u>1138</u></b>	<b><u>19.5</u></b>	1137	19.5	1143	19.4	<b><u>1063</u></b>	<b><u>20.8</u></b>	1068	20.7	1063	20.8
471.omnetpp	570	11.0	<b><u>570</u></b>	<b><u>11.0</u></b>	574	10.9	<b><u>525</u></b>	<b><u>11.9</u></b>	525	11.9	526	11.9
473.astar	<b><u>746</u></b>	<b><u>9.41</u></b>	744	9.44	767	9.16	671	10.5	680	10.3	<b><u>678</u></b>	<b><u>10.4</u></b>
483.xalancbmk	<b><u>420</u></b>	<b><u>16.4</u></b>	421	16.4	419	16.5	<b><u>420</u></b>	<b><u>16.4</u></b>	421	16.4	419	16.5

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

## Compiler Invocation Notes

OMP\_NUM\_THREADS set to number of cores

## Operating System Notes

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

## 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

Continued on next page



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## Base Compiler Invocation (Continued)

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:  
-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 -lsmarheap

## 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.hmmer: /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



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## 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) -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.hmmer: -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

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-Intel-ic10.1-INT-ia32-linux-flags.20090714.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.20090714.xml>

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

Tested with SPEC CPU2006 v1.0.  
Report generated on Tue Jul 22 17:05:46 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 27 May 2008.