



# SPEC<sup>®</sup> CINT2006 Result

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## NEC Corporation

Express5800/120Bb-6  
(Intel Xeon processor X5355)

SPECint<sup>®</sup>\_rate2006 = 86.6

SPECint\_rate\_base2006 = 81.9

CPU2006 license: 9006

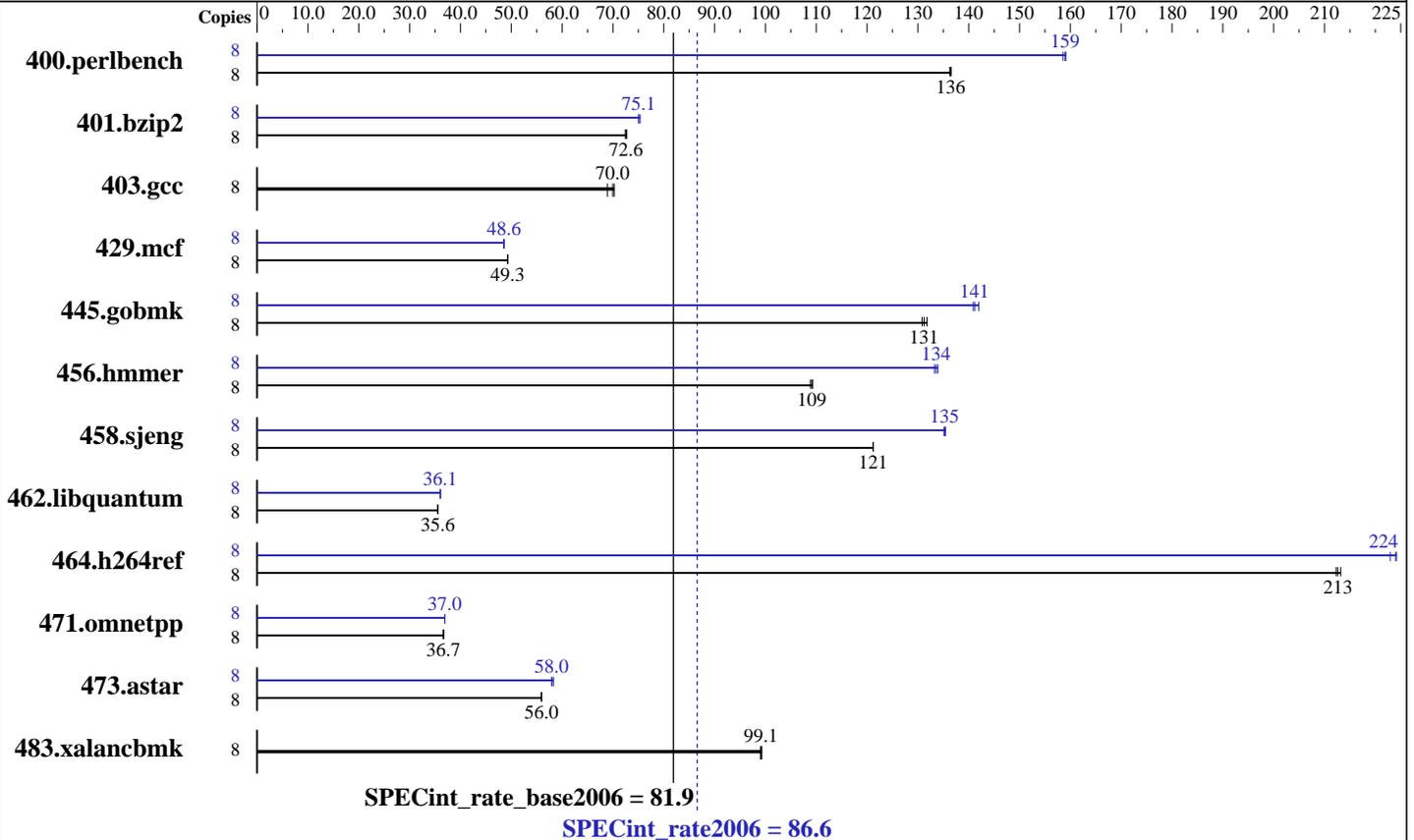
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Jul-2007

Hardware Availability: Jan-2007

Software Availability: Jun-2007



### Hardware

CPU Name: Intel Xeon X5355  
 CPU Characteristics: 2.66 GHz, 2x4 MB L2 shared, 1333 MHz bus  
 CPU MHz: 2666  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip  
 CPU(s) orderable: 1,2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 8 MB I+D on chip per chip, 4 MB shared / 2 cores  
 L3 Cache: None  
 Other Cache: None  
 Memory: 16 GB (4x4 GB DDR2 5300F, 2 rank, CL5-5-5, ECC)  
 Disk Subsystem: 1x146.5 GB SAS, 10000RPM  
 Other Hardware: None

### Software

Operating System: 64-Bit SUSE LINUX Enterprise Server 10, Kernel 2.6.16.21-0.8-smp for x86\_64  
 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							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	8	<b>573</b>	<b>136</b>	574	136	572	137	8	<b>492</b>	<b>159</b>	493	159	491	159
401.bzip2	8	1066	72.4	<b>1064</b>	<b>72.6</b>	1062	72.7	8	1028	75.1	<b>1028</b>	<b>75.1</b>	1024	75.4
403.gcc	8	934	68.9	916	70.3	<b>920</b>	<b>70.0</b>	8	934	68.9	916	70.3	<b>920</b>	<b>70.0</b>
429.mcf	8	1479	49.3	1481	49.3	<b>1480</b>	<b>49.3</b>	8	<b>1502</b>	<b>48.6</b>	1501	48.6	1504	48.5
445.gobmk	8	<b>640</b>	<b>131</b>	637	132	641	131	8	591	142	<b>594</b>	<b>141</b>	596	141
456.hmmmer	8	683	109	686	109	<b>684</b>	<b>109</b>	8	<b>559</b>	<b>134</b>	557	134	560	133
458.sjeng	8	798	121	<b>798</b>	<b>121</b>	799	121	8	716	135	<b>716</b>	<b>135</b>	715	135
462.libquantum	8	4662	35.6	<b>4660</b>	<b>35.6</b>	4659	35.6	8	<b>4597</b>	<b>36.1</b>	4597	36.1	4596	36.1
464.h264ref	8	834	212	<b>833</b>	<b>213</b>	830	213	8	790	224	<b>790</b>	<b>224</b>	794	223
471.omnetpp	8	<b>1363</b>	<b>36.7</b>	1363	36.7	1363	36.7	8	1354	36.9	1353	37.0	<b>1353</b>	<b>37.0</b>
473.astar	8	<b>1004</b>	<b>56.0</b>	1003	56.0	1004	55.9	8	<b>968</b>	<b>58.0</b>	969	58.0	962	58.3
483.xalanbmk	8	557	99.0	<b>557</b>	<b>99.1</b>	556	99.3	8	557	99.0	<b>557</b>	<b>99.1</b>	556	99.3

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  
'/usr/bin/taskset' used to bind processes to CPUs

## General Notes

All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmmer, 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.xalanbmk: -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

456.hmmer: /opt/intel/cce/10.0.023/bin/icc

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) -fast -ansi-alias  
-prefetch

401.bzip2: -L/opt/intel/cce/10.0.023/lib -I/opt/intel/cce/10.0.023/include  
-prof-gen(pass 1) -prof-use(pass 2) -fast

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## Peak Optimization Flags (Continued)

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: -L/opt/intel/cce/10.0.023/lib -I/opt/intel/cce/10.0.023/include  
-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: -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 -Wl,-z,muldefs  
-L/opt/SmartHeap\_8.1/lib -lsmartheap

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-linux-flags.html>

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

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



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

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