



# SPEC<sup>®</sup> CINT2006 Result

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## NEC Corporation

Express5800/120Li  
(Intel Xeon processor E5345)

SPECint<sup>®</sup>\_rate2006 = 89.0

SPECint\_rate\_base2006 = 83.4

CPU2006 license: 9006

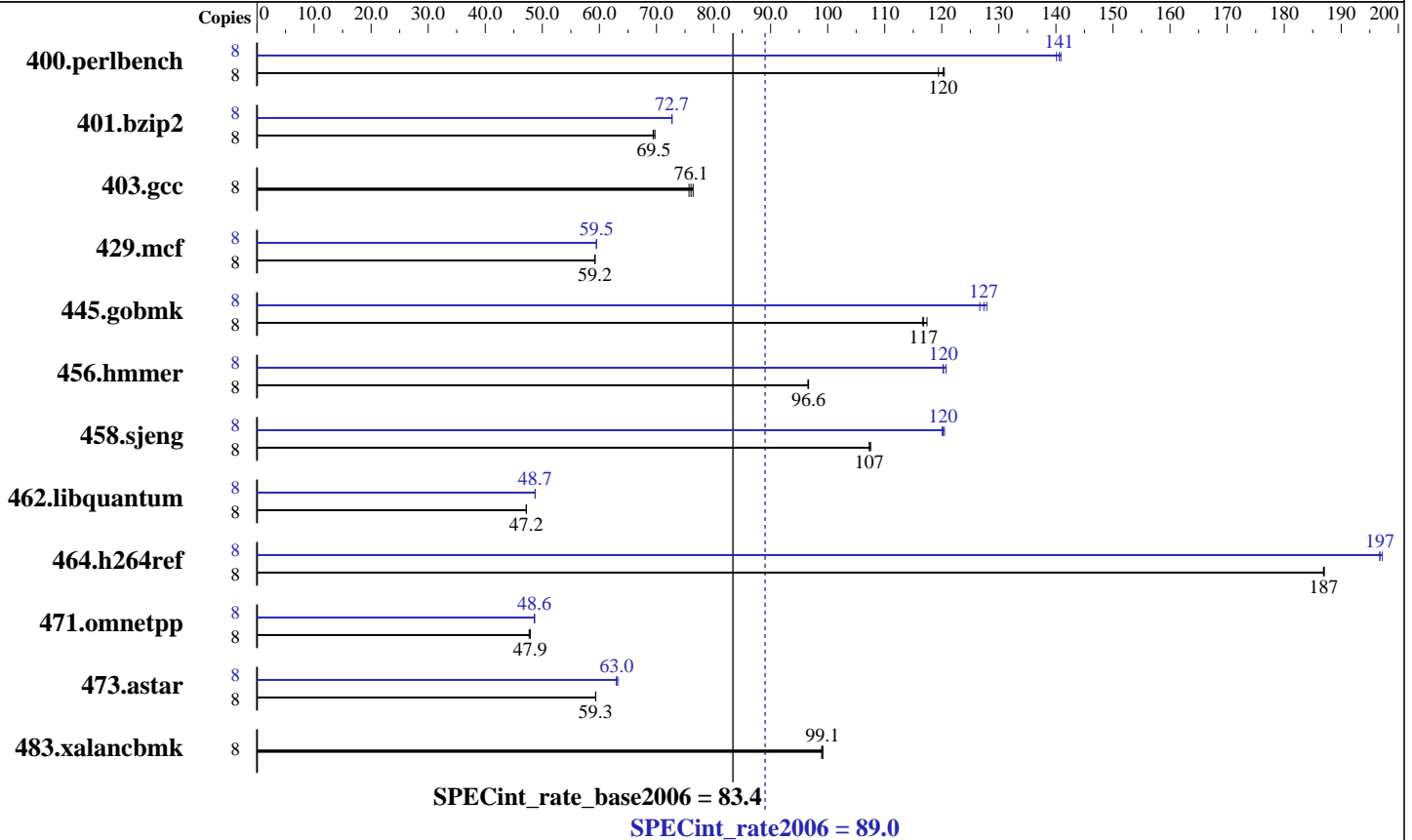
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Oct-2007

Hardware Availability: Jan-2007

Software Availability: Jun-2007



### Hardware

CPU Name: Intel Xeon E5345  
 CPU Characteristics: 2.33 GHz, 2x4 MB L2 shared, 1333 MHz bus  
 CPU MHz: 2333  
 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 (8x2 GB PC2-5300F, 2 rank, CL5-5-5, ECC)  
 Disk Subsystem: 1x73.2 GB SAS, 15000RPM  
 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>650</b>	<b>120</b>	655	119	649	120	8	555	141	558	140	<b>556</b>	<b>141</b>
401.bzip2	8	1112	69.4	<b>1111</b>	<b>69.5</b>	1107	69.7	8	1062	72.7	<b>1062</b>	<b>72.7</b>	1061	72.7
403.gcc	8	851	75.7	843	76.4	<b>847</b>	<b>76.1</b>	8	851	75.7	843	76.4	<b>847</b>	<b>76.1</b>
429.mcf	8	1233	59.2	1231	59.3	<b>1232</b>	<b>59.2</b>	8	1226	59.5	<b>1226</b>	<b>59.5</b>	1227	59.5
445.gobmk	8	719	117	<b>718</b>	<b>117</b>	715	117	8	663	127	656	128	<b>659</b>	<b>127</b>
456.hmmmer	8	773	96.5	<b>772</b>	<b>96.6</b>	772	96.7	8	<b>620</b>	<b>120</b>	621	120	618	121
458.sjeng	8	<b>902</b>	<b>107</b>	902	107	900	108	8	<b>805</b>	<b>120</b>	804	120	806	120
462.libquantum	8	3513	47.2	<b>3513</b>	<b>47.2</b>	3511	47.2	8	<b>3401</b>	<b>48.7</b>	3399	48.8	3401	48.7
464.h264ref	8	947	187	947	187	<b>947</b>	<b>187</b>	8	898	197	<b>900</b>	<b>197</b>	900	197
471.omnetpp	8	1045	47.9	<b>1045</b>	<b>47.9</b>	1049	47.7	8	1029	48.6	<b>1028</b>	<b>48.6</b>	1028	48.6
473.astar	8	946	59.4	<b>946</b>	<b>59.3</b>	946	59.3	8	892	62.9	888	63.2	<b>891</b>	<b>63.0</b>
483.xalancbmk	8	<b>557</b>	<b>99.1</b>	558	98.9	557	99.1	8	<b>557</b>	<b>99.1</b>	558	98.9	557	99.1

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

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## Base Portability Flags (Continued)

483.xalanbmk: -DSPEC\_CPU\_LINUX

## 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.xalanbmk: -DSPEC\_CPU\_LINUX



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## 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

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 -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-linux-flags.20090714.html>



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

<http://www.spec.org/cpu2006/flags/NEC-ic10-linux-flags.20090714.xml>

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

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