



# SPEC<sup>®</sup> CINT2006 Result

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## NEC Corporation

Express5800/120Ri-2  
(Intel Xeon processor E5345)

SPECint<sup>®</sup>\_rate2006 = 88.7

SPECint\_rate\_base2006 = 83.1

CPU2006 license: 9006

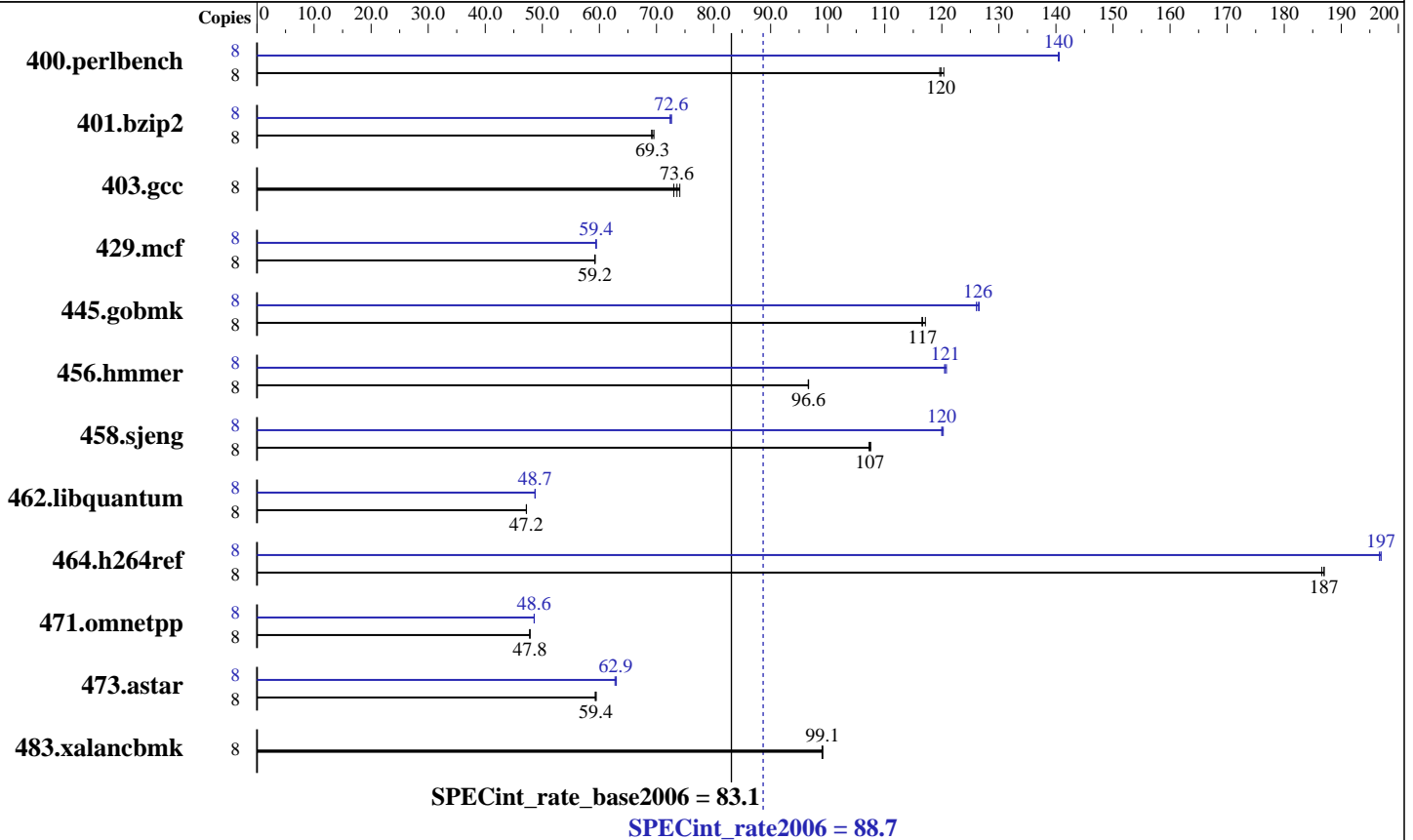
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Jun-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 DDR2 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>652</b>	<b>120</b>	653	120	649	120	8	556	141	557	140	<b>556</b>	<b>140</b>
401.bzip2	8	<b>1114</b>	<b>69.3</b>	1117	69.1	1110	69.6	8	<b>1064</b>	<b>72.6</b>	1067	72.4	1063	72.6
403.gcc	8	869	74.1	882	73.0	<b>875</b>	<b>73.6</b>	8	869	74.1	882	73.0	<b>875</b>	<b>73.6</b>
429.mcf	8	1231	59.3	<b>1232</b>	<b>59.2</b>	1233	59.2	8	1227	59.5	1229	59.4	<b>1228</b>	<b>59.4</b>
445.gobmk	8	720	117	717	117	<b>720</b>	<b>117</b>	8	666	126	<b>664</b>	<b>126</b>	663	127
456.hmmmer	8	772	96.7	773	96.6	<b>772</b>	<b>96.6</b>	8	618	121	<b>619</b>	<b>121</b>	620	120
458.sjeng	8	900	108	903	107	<b>901</b>	<b>107</b>	8	805	120	<b>807</b>	<b>120</b>	807	120
462.libquantum	8	3510	47.2	<b>3512</b>	<b>47.2</b>	3512	47.2	8	<b>3401</b>	<b>48.7</b>	3401	48.7	3402	48.7
464.h264ref	8	949	187	<b>947</b>	<b>187</b>	947	187	8	899	197	<b>899</b>	<b>197</b>	900	197
471.omnetpp	8	<b>1046</b>	<b>47.8</b>	1045	47.8	1046	47.8	8	<b>1029</b>	<b>48.6</b>	1029	48.6	1030	48.6
473.astar	8	948	59.3	945	59.4	<b>945</b>	<b>59.4</b>	8	892	63.0	895	62.7	<b>893</b>	<b>62.9</b>
483.xalancbmk	8	557	99.1	558	99.0	<b>557</b>	<b>99.1</b>	8	557	99.1	558	99.0	<b>557</b>	<b>99.1</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  
'/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

The Express5800/120Rg-1(Intel Xeon processor E5345) and the Express5800/120Ri-2(Intel Xeon processor E5345) models are electronically equivalent. The results have been measured on a Express5800/120Ri-2(Intel Xeon processor E5345) model.

## 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

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



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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.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.xml>

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

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