



# SPEC® CINT2006 Result

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## NEC Corporation

Express5800/120Ri-2  
(Intel Xeon processor X5355)

SPECint®\_rate2006 = 91.5

SPECint\_rate\_base2006 = 86.1

CPU2006 license: 9006

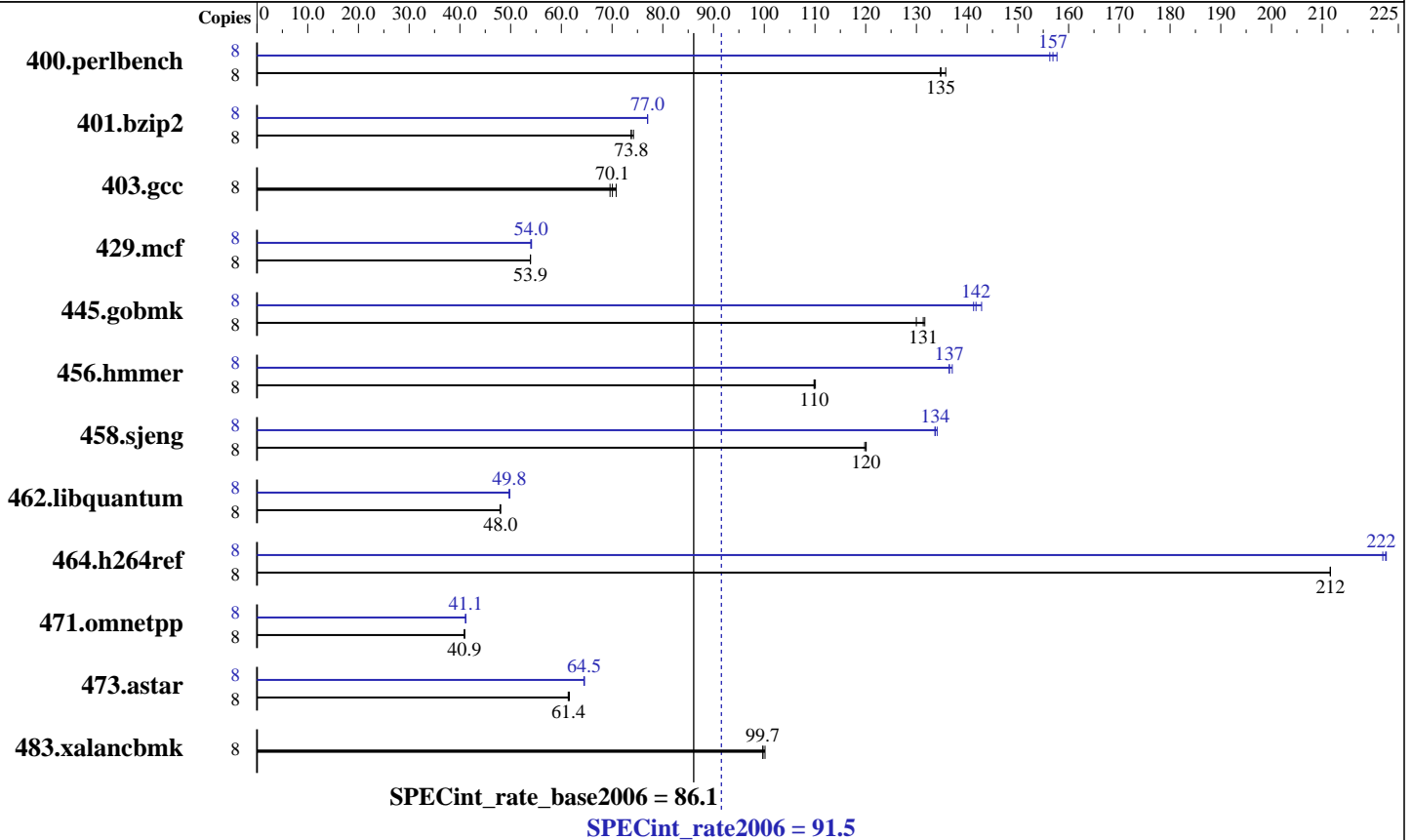
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Jun-2007

Hardware Availability: Jan-2007

Software Availability: Jun-2007



**Hardware**

CPU Name: Intel Xeon 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 (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>580</b>	<b>135</b>	580	135	576	136	8	500	156	496	158	<b>498</b>	<b>157</b>
401.bzip2	8	<b>1046</b>	<b>73.8</b>	1046	73.8	1040	74.2	8	1002	77.0	<b>1003</b>	<b>77.0</b>	1003	77.0
403.gcc	8	910	70.8	925	69.6	<b>919</b>	<b>70.1</b>	8	910	70.8	925	69.6	<b>919</b>	<b>70.1</b>
429.mcf	8	<b>1354</b>	<b>53.9</b>	1354	53.9	1353	53.9	8	1348	54.1	<b>1350</b>	<b>54.0</b>	1351	54.0
445.gobmk	8	<b>639</b>	<b>131</b>	646	130	637	132	8	587	143	594	141	<b>592</b>	<b>142</b>
456.hmmmer	8	678	110	680	110	<b>680</b>	<b>110</b>	8	545	137	547	136	<b>547</b>	<b>137</b>
458.sjeng	8	806	120	<b>806</b>	<b>120</b>	808	120	8	724	134	722	134	<b>724</b>	<b>134</b>
462.libquantum	8	3452	48.0	3460	47.9	<b>3454</b>	<b>48.0</b>	8	3328	49.8	<b>3330</b>	<b>49.8</b>	3335	49.7
464.h264ref	8	837	212	837	212	<b>837</b>	<b>212</b>	8	795	223	798	222	<b>796</b>	<b>222</b>
471.omnetpp	8	1222	40.9	1223	40.9	<b>1222</b>	<b>40.9</b>	8	1215	41.1	1216	41.1	<b>1215</b>	<b>41.1</b>
473.astar	8	<b>914</b>	<b>61.4</b>	912	61.6	915	61.4	8	<b>871</b>	<b>64.5</b>	871	64.4	870	64.6
483.xalancbmk	8	551	100	553	99.7	<b>553</b>	<b>99.7</b>	8	551	100	553	99.7	<b>553</b>	<b>99.7</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 X5355) and the Express5800/120Ri-2(Intel Xeon processor X5355) models are electronically equivalent. The results have been measured on a Express5800/120Ri-2(Intel Xeon processor X5355) 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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