



# SPEC® CINT2006 Result

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## NEC Corporation

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

**SPECint\_rate2006 = 85.0**

**SPECint\_rate\_base2006 = 81.5**

CPU2006 license: 9006

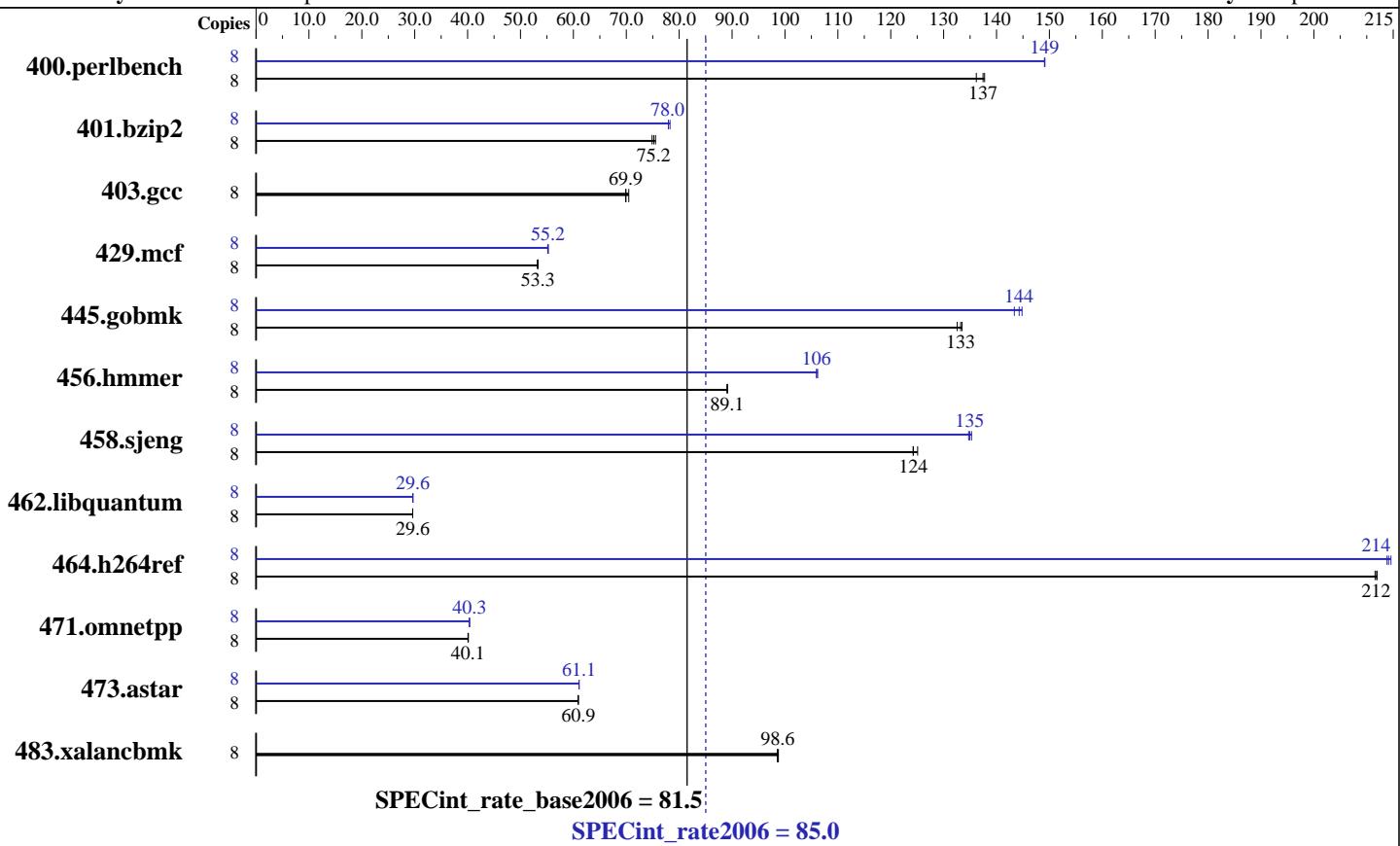
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Jun-2007

Hardware Availability: Jan-2007

Software Availability: Apr-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 on an x86\_64  
Compiler: Intel C++ Compiler for IA32/EM64T application, Version 9.1 - Build 20070320, Package-ID: l\_cc\_c\_9.1.049  
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



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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	567	138	<b>569</b>	<b>137</b>	574	136	8	<b>524</b>	<b>149</b>	524	149	524	149
401.bzip2	8	1022	75.5	1031	74.9	<b>1027</b>	<b>75.2</b>	8	986	78.3	<b>990</b>	<b>78.0</b>	990	78.0
403.gcc	8	914	70.5	921	69.9	<b>921</b>	<b>69.9</b>	8	914	70.5	921	69.9	<b>921</b>	<b>69.9</b>
429.mcf	8	<b>1369</b>	<b>53.3</b>	1369	53.3	1372	53.2	8	1320	55.3	<b>1322</b>	<b>55.2</b>	1323	55.1
445.gobmk	8	633	133	<b>630</b>	<b>133</b>	629	133	8	579	145	585	143	<b>582</b>	<b>144</b>
456.hammer	8	<b>838</b>	<b>89.1</b>	837	89.1	838	89.1	8	<b>704</b>	<b>106</b>	704	106	703	106
458.sjeng	8	<b>779</b>	<b>124</b>	774	125	779	124	8	718	135	<b>717</b>	<b>135</b>	716	135
462.libquantum	8	5598	29.6	<b>5596</b>	<b>29.6</b>	5596	29.6	8	<b>5591</b>	<b>29.6</b>	5592	29.6	5590	29.7
464.h264ref	8	<b>836</b>	<b>212</b>	835	212	837	212	8	825	215	828	214	<b>827</b>	<b>214</b>
471.omnetpp	8	<b>1247</b>	<b>40.1</b>	1248	40.1	1245	40.1	8	1239	40.3	<b>1239</b>	<b>40.3</b>	1239	40.4
473.astar	8	<b>922</b>	<b>60.9</b>	923	60.9	922	60.9	8	920	61.1	<b>920</b>	<b>61.1</b>	920	61.1
483.xalancbmk	8	<b>560</b>	<b>98.6</b>	560	98.6	559	98.8	8	<b>560</b>	<b>98.6</b>	560	98.6	559	98.8

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

The system bus runs at 1333 MHz  
All binaries were built with 32-bit Intel compiler except:  
401.bzip2, 456.hammer and 462.libquantum in peak were built with  
64-bit Intel compiler by changing the path for include and library files.

The Express5800/120Rg-1 and the Express5800/120Ri-2 models are  
electronically equivalent.

The results have been measured on a Express5800/120Ri-2 model.

## Base Compiler Invocation

C benchmarks:  
icc

C++ benchmarks:  
icpc



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## Base Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_X64  
462.libquantum: -DSPEC\_CPU\_LINUX  
483.xalancbmk: -DSPEC\_CPU\_LINUX

## Base Optimization Flags

C benchmarks:  
-fast

C++ benchmarks:  
-xP -O3 -ipo -no-prec-div -L/opt/SmartHeap\_8.1/lib -lsmartheap

## Peak Compiler Invocation

C benchmarks (except as noted below):  
icc

401.bzip2: /opt/intel/cce/9.1.049/bin/icc  
-I/opt/intel/cce/9.1.049/include  
-L/opt/intel/cce/9.1.049/lib

456.hmmr: /opt/intel/cce/9.1.049/bin/icc  
-I/opt/intel/cce/9.1.049/include  
-L/opt/intel/cce/9.1.049/lib

462.libquantum: /opt/intel/cce/9.1.049/bin/icc  
-I/opt/intel/cce/9.1.049/include  
-L/opt/intel/cce/9.1.049/lib

C++ benchmarks:  
icpc

## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_X64  
401.bzip2: -DSPEC\_CPU\_LP64  
456.hmmr: -DSPEC\_CPU\_LP64  
462.libquantum: -DSPEC\_CPU\_LP64 -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

401.bzip2: -fast

403.gcc: basepeak = yes

429.mcf: -prof\_gen(pass 1) -prof\_use(pass 2) -fast  
-L/opt/SmartHeap\_8.1/lib -lsmartheap

445.gobmk: Same as 429.mcf

456.hmmer: Same as 400.perlbench

458.sjeng: Same as 429.mcf

462.libquantum: Same as 400.perlbench

464.h264ref: Same as 429.mcf

C++ benchmarks:

471.omnetpp: -prof\_gen(pass 1) -prof\_use(pass 2) -xP -O3 -ipo  
-no-prec-div -L/opt/SmartHeap\_8.1/lib -lsmartheap

473.astar: -prof\_gen(pass 1) -prof\_use(pass 2) -fast  
-L/opt/SmartHeap\_8.1/lib -lsmartheap

483.xalancbmk: basepeak = yes

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/NEC-ic91-linux-flags.20090714.html>

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

<http://www.spec.org/cpu2006/flags/NEC-ic91-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.

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