



SPEC[®] CINT2006 Result

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NEC Corporation

Express5800/120Rg-1
(Intel Xeon processor 5160)

SPECint[®]_rate2006 = 58.0

SPECint_rate_base2006 = 55.4

CPU2006 license: 9006

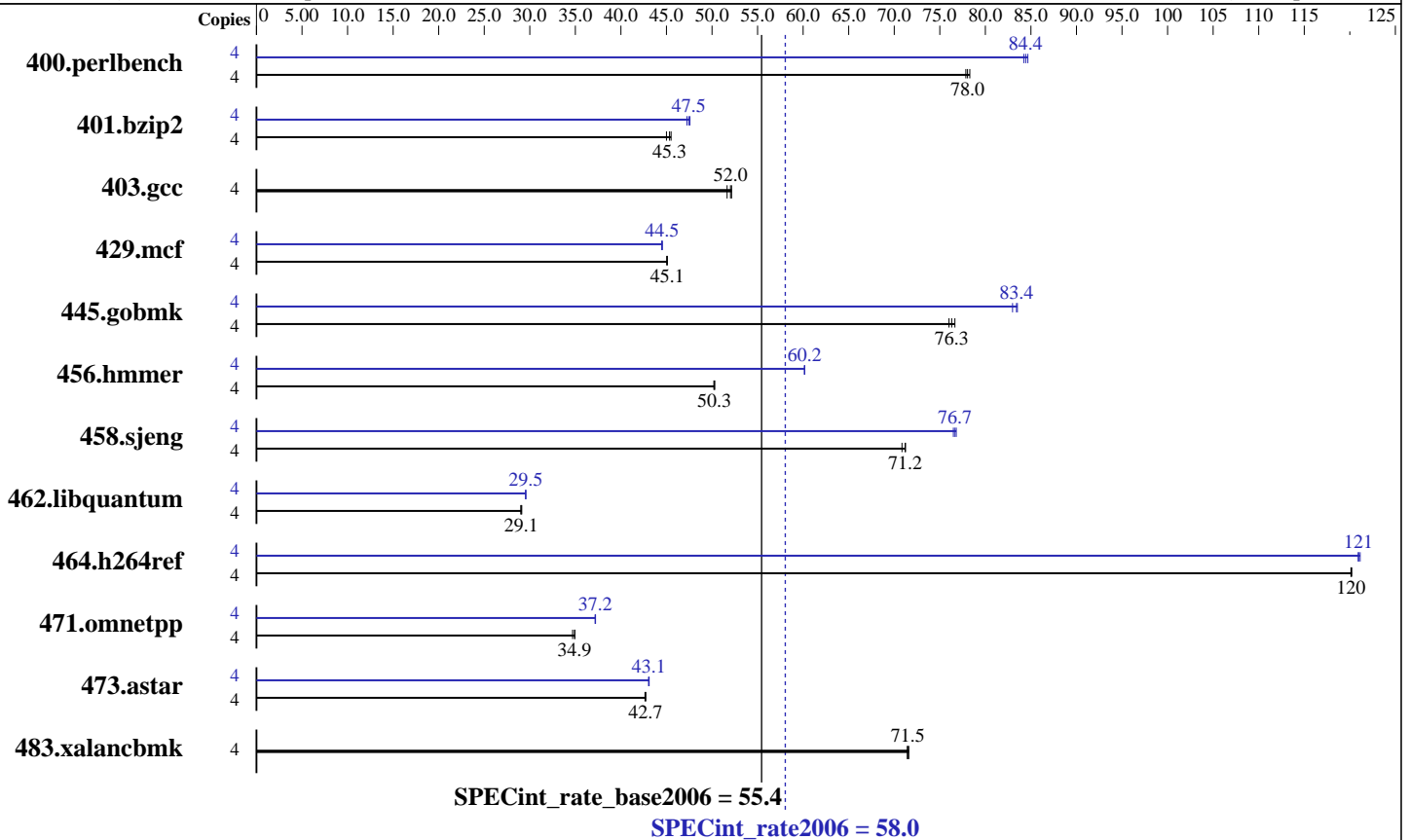
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: May-2007

Hardware Availability: May-2007

Software Availability: Apr-2007



Hardware

CPU Name: Intel Xeon 5160
 CPU Characteristics: 3.00 GHz, 4MB L2, 1333MHz bus
 CPU MHz: 3000
 FPU: Integrated
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip
 CPU(s) orderable: 1,2 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 4 MB I+D on chip per chip
 L3 Cache: None
 Other Cache: None
 Memory: 8 GB (4x2 GB DDR2 5300F, 2 rank, CL5-5-5, ECC)
 Disk Subsystem: 1x146.5 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: I_cc_c_9.1.049
 Auto Parallel: No
 File System: ReiserFS
 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 | 4 | 502 | 77.9 | 499 | 78.3 | <u>501</u> | <u>78.0</u> | 4 | <u>463</u> | <u>84.4</u> | 462 | 84.7 | 464 | 84.2 |
| 401.bzip2 | 4 | 858 | 45.0 | 848 | 45.5 | <u>851</u> | <u>45.3</u> | 4 | 811 | 47.6 | 817 | 47.3 | <u>813</u> | <u>47.5</u> |
| 403.gcc | 4 | 623 | 51.7 | <u>619</u> | <u>52.0</u> | 617 | 52.1 | 4 | 623 | 51.7 | <u>619</u> | <u>52.0</u> | 617 | 52.1 |
| 429.mcf | 4 | 810 | 45.0 | 809 | 45.1 | <u>809</u> | <u>45.1</u> | 4 | 819 | 44.5 | 820 | 44.5 | <u>820</u> | <u>44.5</u> |
| 445.gobmk | 4 | 547 | 76.7 | 552 | 76.0 | <u>550</u> | <u>76.3</u> | 4 | <u>503</u> | <u>83.4</u> | 506 | 83.0 | 502 | 83.5 |
| 456.hmmmer | 4 | 743 | 50.2 | <u>742</u> | <u>50.3</u> | 742 | 50.3 | 4 | 620 | 60.2 | 621 | 60.1 | <u>620</u> | <u>60.2</u> |
| 458.sjeng | 4 | 683 | 70.8 | <u>680</u> | <u>71.2</u> | 679 | 71.2 | 4 | 633 | 76.5 | <u>631</u> | <u>76.7</u> | 630 | 76.8 |
| 462.libquantum | 4 | 2846 | 29.1 | 2857 | 29.0 | <u>2853</u> | <u>29.1</u> | 4 | <u>2805</u> | <u>29.5</u> | 2804 | 29.6 | 2805 | 29.5 |
| 464.h264ref | 4 | 737 | 120 | <u>737</u> | <u>120</u> | 736 | 120 | 4 | <u>732</u> | <u>121</u> | 731 | 121 | 732 | 121 |
| 471.omnetpp | 4 | <u>716</u> | <u>34.9</u> | 715 | 34.9 | 720 | 34.7 | 4 | 672 | 37.2 | <u>672</u> | <u>37.2</u> | 672 | 37.2 |
| 473.astar | 4 | 659 | 42.6 | <u>657</u> | <u>42.7</u> | 657 | 42.7 | 4 | 652 | 43.1 | 652 | 43.0 | <u>652</u> | <u>43.1</u> |
| 483.xalancbmk | 4 | 385 | 71.6 | <u>386</u> | <u>71.5</u> | 386 | 71.4 | 4 | 385 | 71.6 | <u>386</u> | <u>71.5</u> | 386 | 71.4 |

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.hmmmer 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.hmmer: /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.hmmer: -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 -lsmarheap

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 -lsmarheap

473.astar: -prof_gen(pass 1) -prof_use(pass 2) -fast
-L/opt/SmartHeap_8.1/lib -lsmarheap

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.

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