



SPEC® CINT2006 Result

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NEC Corporation

Express5800/i120Ra-e1
(Intel Xeon L5410)

SPECint®_rate2006 = 58.4

SPECint_rate_base2006 = 50.9

CPU2006 license: 9006

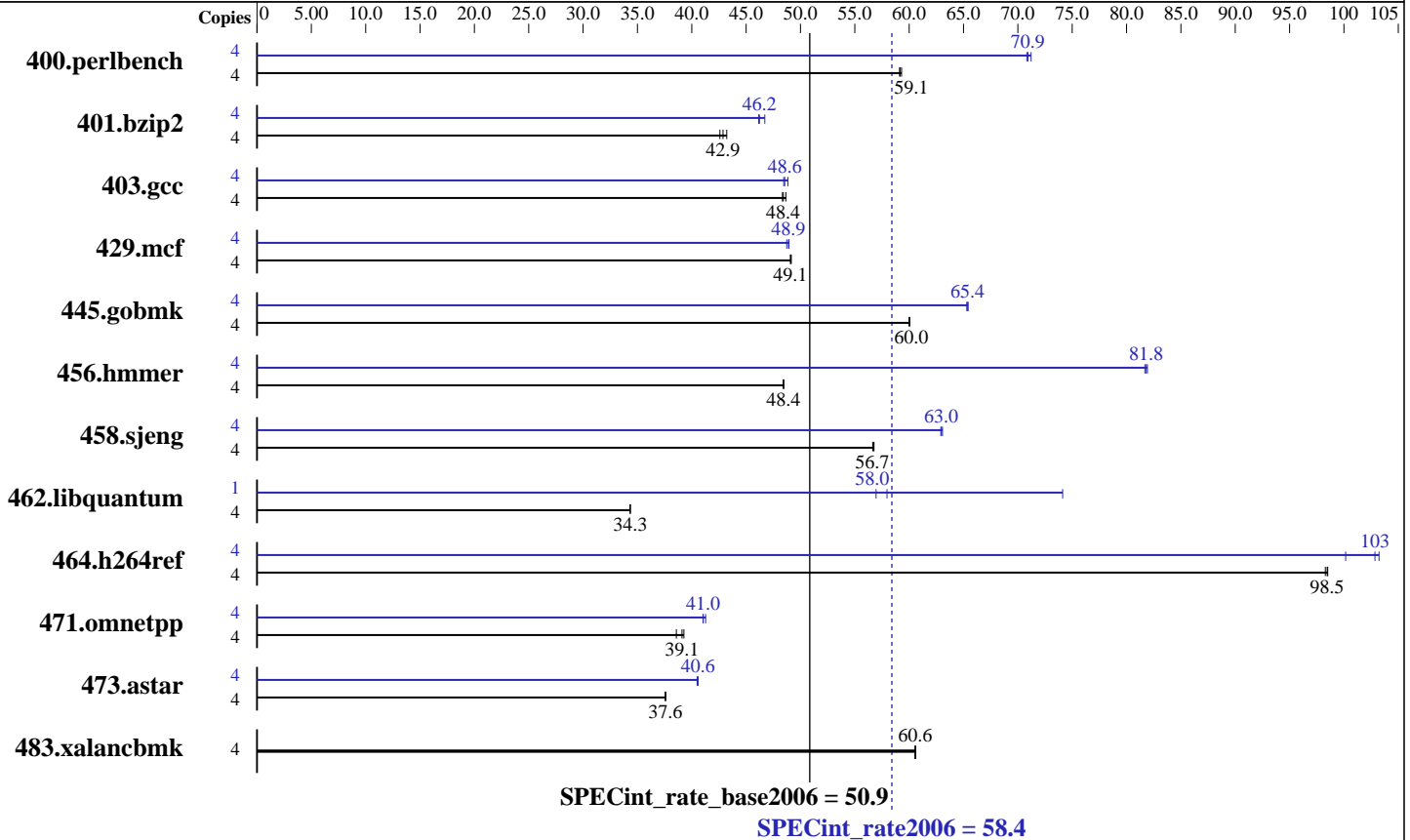
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Jun-2008

Hardware Availability: May-2008

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon L5410
 CPU Characteristics: 2.33 GHz, 2x6 MB L2 shared, 1333 MHz bus
 CPU MHz: 2333
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip
 CPU(s) orderable: 1,2 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 12 MB I+D on chip per chip, 6 MB shared / 2 cores
 L3 Cache: None
 Other Cache: None
 Memory: 16 GB (4x4 GB PC2-5300P, 2 rank, CL5-5-5, ECC)
 Disk Subsystem: 1x80.0 GB SATAII, 7200RPM
 Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 10 (x86_64) SP1, Kernel 2.6.16.46-0.12-smp
 Compiler: Intel C++ Compiler 10.1 for Linux Build 20070913 Package ID: l_cc_p_10.1.008
 Auto Parallel: Yes
 File System: ReiserFS
 System State: Run level 3 (multi-user)
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: MicroQuill SmartHeap library 8.1 binutils 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	4	661	59.1	<u>661</u>	<u>59.1</u>	659	59.3	4	552	70.8	549	71.2	<u>551</u>	<u>70.9</u>
401.bzip2	4	893	43.2	<u>900</u>	<u>42.9</u>	906	42.6	4	<u>835</u>	<u>46.2</u>	826	46.7	836	46.2
403.gcc	4	666	48.3	<u>665</u>	<u>48.4</u>	662	48.7	4	664	48.5	659	48.8	<u>663</u>	<u>48.6</u>
429.mcf	4	743	49.1	<u>743</u>	<u>49.1</u>	742	49.2	4	<u>746</u>	<u>48.9</u>	749	48.7	745	48.9
445.gobmk	4	<u>699</u>	<u>60.0</u>	699	60.1	699	60.0	4	<u>642</u>	<u>65.4</u>	643	65.3	641	65.4
456.hmmer	4	770	48.5	771	48.4	<u>771</u>	<u>48.4</u>	4	<u>456</u>	<u>81.8</u>	457	81.7	456	81.9
458.sjeng	4	<u>853</u>	<u>56.7</u>	854	56.6	853	56.8	4	769	62.9	767	63.1	<u>769</u>	<u>63.0</u>
462.libquantum	4	<u>2414</u>	<u>34.3</u>	2414	34.3	2414	34.3	1	280	74.1	364	57.0	<u>357</u>	<u>58.0</u>
464.h264ref	4	<u>899</u>	<u>98.5</u>	901	98.3	899	98.5	4	<u>861</u>	<u>103</u>	858	103	884	100
471.omnetpp	4	<u>639</u>	<u>39.1</u>	637	39.3	648	38.6	4	<u>609</u>	<u>41.0</u>	609	41.0	606	41.3
473.astar	4	748	37.6	747	37.6	<u>747</u>	<u>37.6</u>	4	693	40.5	692	40.6	<u>692</u>	<u>40.6</u>
483.xalancbmk	4	456	60.5	<u>456</u>	<u>60.6</u>	455	60.6	4	456	60.5	<u>456</u>	<u>60.6</u>	455	60.6

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
OMP_NUM_THREADS set to number of cores

Platform Notes

Bios settings:
Hardware Prefetcher: Disabled
Adjacent Cache Line Prefetch: Disabled
Intel SpeedStep Technology: Disabled

General Notes

All benchmarks compiled in 32-bit mode except 401.bzip2,
456.hmmer, for peak, are compiled in 64-bit mode

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 -inline-calloc -opt-malloc-options=3

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/10.1.008/bin/icc
-L/opt/intel/cce/10.1.008/lib
-I/opt/intel/cce/10.1.008/include

456.hmmmer: /opt/intel/cce/10.1.008/bin/icc
-L/opt/intel/cce/10.1.008/lib
-I/opt/intel/cce/10.1.008/include

C++ benchmarks:
icpc

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
456.hmmmer: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX

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Peak Portability Flags (Continued)

483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -fast -ansi-alias
-prefetch

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch

403.gcc: -fast -inline-calloc -opt-malloc-options=3

429.mcf: -fast -prefetch

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xT -O2 -ipo
-no-prec-div -ansi-alias

456.hmmer: -fast -unroll2 -ansi-alias -opt-multi-version-aggressive

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4

462.libquantum: -fast -unroll4 -Ob0 -prefetch
-opt-streaming-stores always -vec-guard-write
-opt-malloc-options=3 -parallel -par-runtime-control

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 -opt-ra-region-strategy=block
-Wl,-z,muldefs -L/opt/SmartHeap_8.1/lib -lsmarheap

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo
-no-prec-div -ansi-alias -opt-ra-region-strategy=routine
-Wl,-z,muldefs -L/opt/SmartHeap_8.1/lib -lsmarheap

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

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Peak Other Flags (Continued)

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-Intel-ic10.1-INT-ia32-linux-flags.html>

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

<http://www.spec.org/cpu2006/flags/NEC-Intel-ic10.1-INT-ia32-linux-flags.xml>

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For other inquiries, please contact webmaster@spec.org.

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