



SPEC[®] CINT2006 Result

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NEC Corporation

Express5800/R110b-1
(Intel Xeon X3430)

SPECint[®]_rate2006 = 92.4

SPECint_rate_base2006 = 85.8

CPU2006 license: 9006

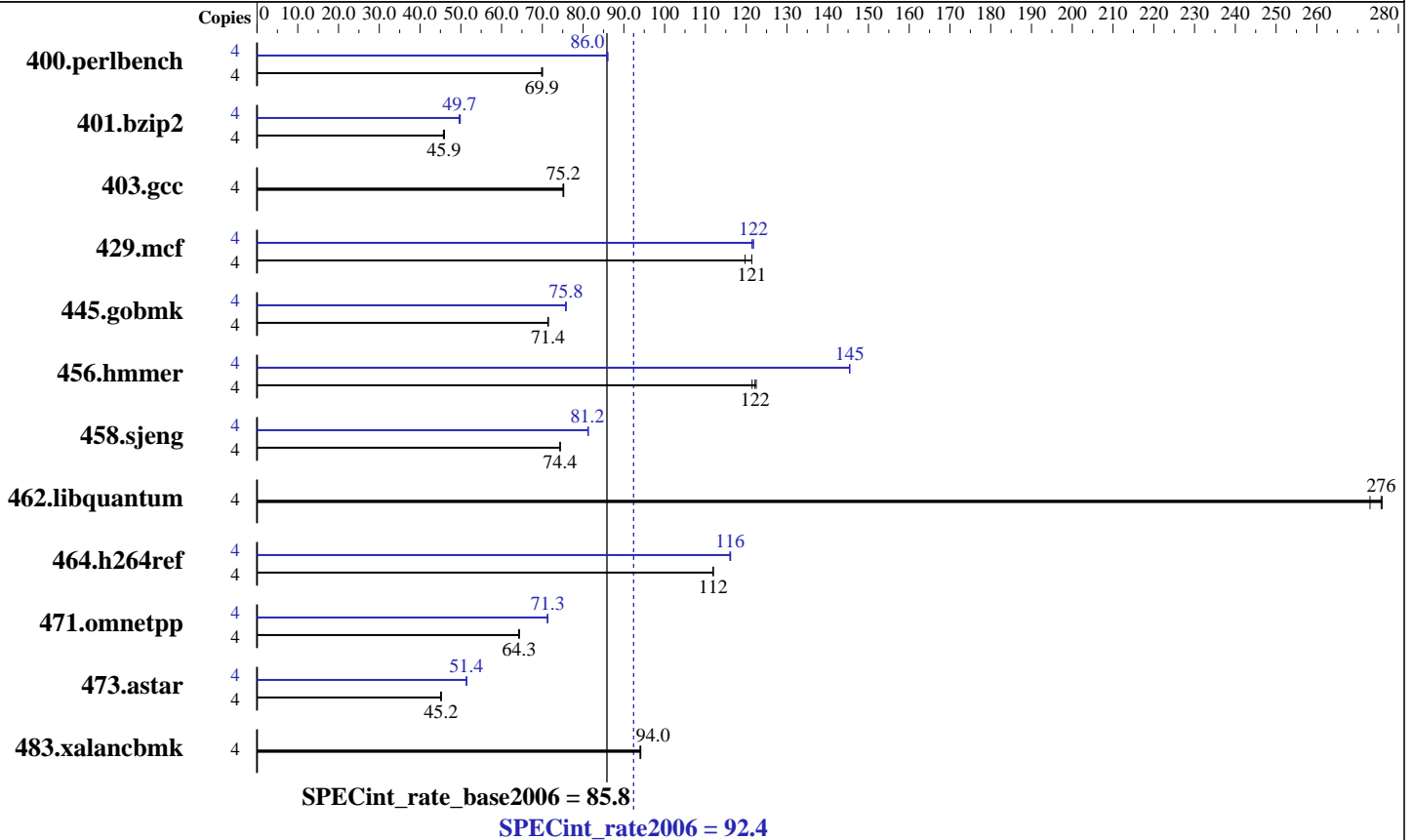
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Mar-2010

Hardware Availability: Jan-2010

Software Availability: Nov-2009



Hardware

CPU Name: Intel Xeon X3430
 CPU Characteristics: Intel Turbo Boost Technology up to 2.80 GHz
 CPU MHz: 2400
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip
 CPU(s) orderable: 1 chip
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core
 L3 Cache: 8 MB I+D on chip per chip
 Other Cache: None
 Memory: 16 GB (4 x 4 GB PC3-10600R, 2 rank, CL9, ECC)
 Disk Subsystem: 1x160 GB SATA, 7200 RPM
 Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 11 (x86_64), Kernel 2.6.27.19-5-default
 Compiler: Intel C++ Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091012 Package ID: l_cproc_p_11.1.059
 Auto Parallel: No
 File System: ext3
 System State: Run level 3 (multi-user)
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V8.1



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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	<u>559</u>	<u>69.9</u>	558	70.1	559	69.9	4	<u>454</u>	<u>86.0</u>	454	86.1	455	85.8
401.bzip2	4	<u>841</u>	<u>45.9</u>	844	45.7	839	46.0	4	779	49.6	774	49.9	<u>776</u>	<u>49.7</u>
403.gcc	4	<u>428</u>	<u>75.2</u>	429	75.1	428	75.3	4	<u>428</u>	<u>75.2</u>	429	75.1	428	75.3
429.mcf	4	305	120	<u>301</u>	<u>121</u>	301	121	4	300	121	<u>300</u>	<u>122</u>	300	122
445.gobmk	4	587	71.5	588	71.3	<u>588</u>	<u>71.4</u>	4	<u>554</u>	<u>75.8</u>	554	75.7	553	75.8
456.hammer	4	307	121	<u>305</u>	<u>122</u>	305	122	4	257	145	257	145	<u>257</u>	<u>145</u>
458.sjeng	4	651	74.4	<u>651</u>	<u>74.4</u>	651	74.3	4	<u>596</u>	<u>81.2</u>	596	81.2	596	81.3
462.libquantum	4	304	273	300	276	<u>301</u>	<u>276</u>	4	304	273	300	276	<u>301</u>	<u>276</u>
464.h264ref	4	<u>791</u>	<u>112</u>	791	112	791	112	4	<u>763</u>	<u>116</u>	762	116	763	116
471.omnetpp	4	388	64.4	390	64.2	<u>389</u>	<u>64.3</u>	4	<u>351</u>	<u>71.3</u>	351	71.2	350	71.3
473.astar	4	621	45.2	<u>622</u>	<u>45.2</u>	623	45.1	4	546	51.4	<u>546</u>	<u>51.4</u>	546	51.4
483.xalancbmk	4	293	94.2	<u>294</u>	<u>94.0</u>	294	94.0	4	293	94.2	<u>294</u>	<u>94.0</u>	294	94.0

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Submit Notes

The config file option 'submit' was used.
numactl was used to bind copies to the cores

Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run

Platform Notes

Default BIOS settings were used.

Base Compiler Invocation

C benchmarks:
icc -m32

C++ benchmarks:
icpc -m32

Base Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32

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Base Portability Flags (Continued)

462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

C++ benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -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 -m32

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

C++ benchmarks (except as noted below):

icpc -m32

473.astar: icpc -m64

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX

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Peak Portability Flags (Continued)

473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
-prof-use(pass 2) -ansi-alias

401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
-prof-use(pass 2) -opt-prefetch -ansi-alias -auto-ilp32

403.gcc: basepeak = yes

429.mcf: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -O2
-ipo -no-prec-div -ansi-alias

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2
-ansi-alias -auto-ilp32

458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
-prof-use(pass 2) -unroll4 -auto-ilp32

462.libquantum: basepeak = yes

464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
-prof-use(pass 2) -unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs
-L/opt/SmartHeap_8.1/lib -lsmarheap

473.astar: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-ansi-alias -opt-ra-region-strategy=routine -Wl,-z,muldefs
-L/opt/SmartHeap_8.1/lib64 -lsmarheap64

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Peak Optimization Flags (Continued)

483.xalanbmk: 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/Intel-ic11.1-int-linux64-revE.20100302.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-int-linux64-revE.20100302.xml>

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

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