SPEC® CINT2006 Result

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NEC Corporation

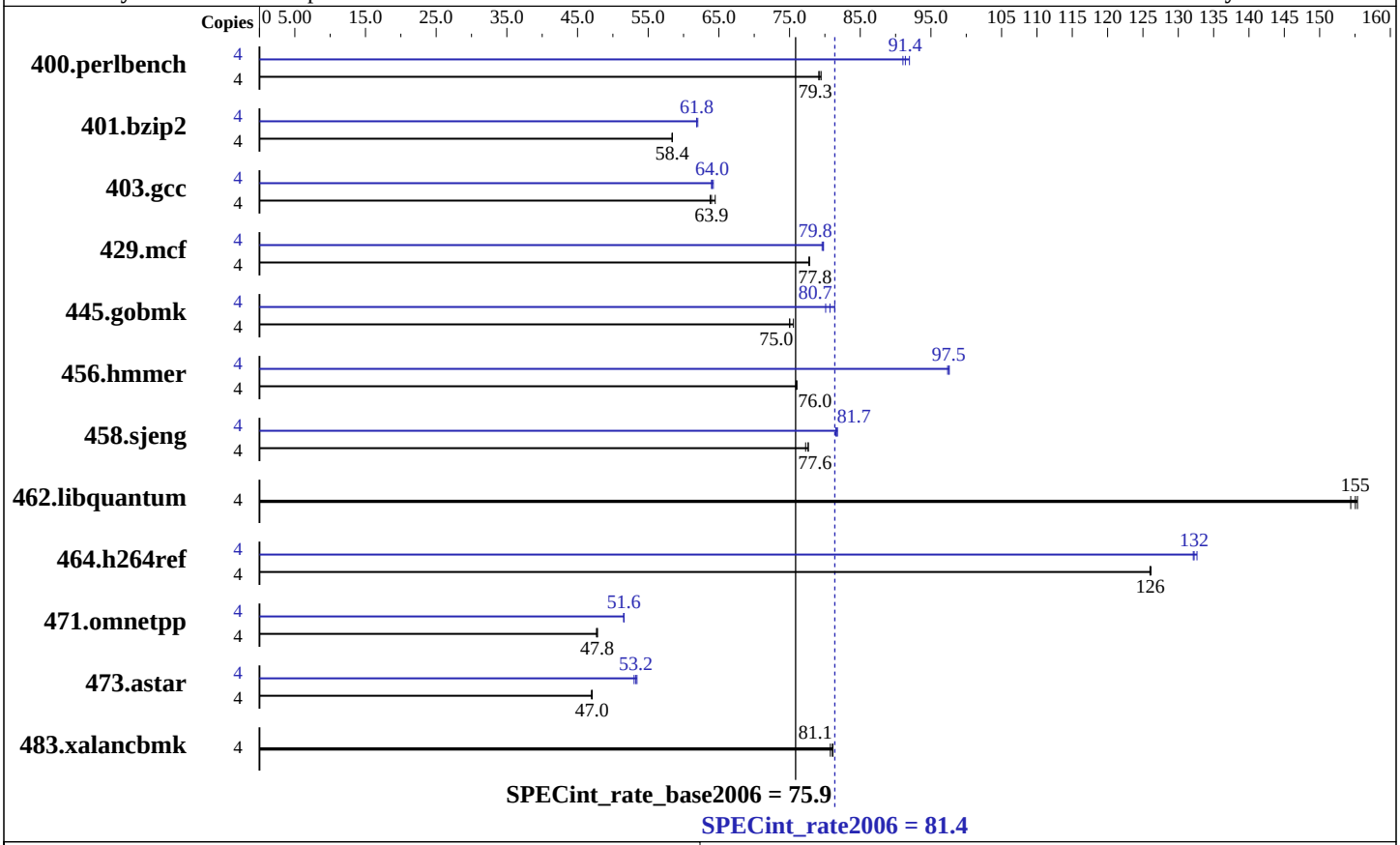
Express5800/R110a-1
(Intel Xeon X3360)

SPECint®_rate2006 = 81.4

SPECint_rate_base2006 = 75.9

CPU2006 license: 9006
Test sponsor: NEC Corporation
Tested by: NEC Corporation

Test date: Jul-2009
Hardware Availability: May-2009
Software Availability: Nov-2008



Hardware

CPU Name:	Intel Xeon X3360
CPU Characteristics:	1333 MHz system bus
CPU MHz:	2833
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:	12 MB I+D on chip per chip, 6 MB shared / 2 cores
L3 Cache:	None
Other Cache:	None
Memory:	8 GB (4x2 GB PC2-6400E, 2 rank, CL6-6-6, ECC)
Disk Subsystem:	1x160 GB SATA2, 7200 RPM
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 10 (x86_64) SP2, Kernel 2.6.16.60-0.21-smp
Compiler:	Intel C++ Compiler Professional 11.0 for Linux Build 20080930 Package ID: l_cproc_p_11.0.069
Auto Parallel:	No
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 2.18.50.0.7.20080502

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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	494	79.1	492	79.5	**493**	**79.3**	4	425	92.0	**428**	**91.4**	429	91.0
401.bzip2	4	661	58.4	**661**	**58.4**	661	58.4	4	**624**	**61.8**	624	61.8	622	62.0
403.gcc	4	**504**	**63.9**	499	64.5	505	63.8	4	501	64.2	504	64.0	**503**	**64.0**
429.mcf	4	469	77.7	**469**	**77.8**	469	77.8	4	**457**	**79.8**	457	79.8	458	79.6
445.gobmk	4	**559**	**75.0**	555	75.5	559	75.0	4	516	81.4	**520**	**80.7**	524	80.1
456.hmmer	4	491	76.0	492	75.9	**491**	**76.0**	4	**383**	**97.5**	382	97.6	383	97.4
458.sjeng	4	626	77.3	**624**	**77.6**	623	77.7	4	593	81.6	592	81.8	**593**	**81.7**
462.libquantum	4	533	155	**535**	**155**	537	154	4	533	155	**535**	**155**	537	154
464.h264ref	4	**702**	**126**	702	126	703	126	4	**669**	**132**	667	133	670	132
471.omnetpp	4	523	47.8	524	47.7	**523**	**47.8**	4	**485**	**51.6**	485	51.6	485	51.5
473.astar	4	598	47.0	**597**	**47.0**	596	47.1	4	526	53.4	530	53.0	**527**	**53.2**
483.xalancbmk	4	**340**	**81.1**	342	80.8	340	81.1	4	**340**	**81.1**	342	80.8	340	81.1

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.
 taskset was used to bind processes to cores
```

Operating System Notes

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

Platform Notes

```
Bios settings:
Hardware Prefetcher:            Disabled
Adjacent Cache Line Prefetch:   Disabled
```

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Base Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-xSSE4.1 -ipo -O3 -no-prec-div -static -inline-calloc
-opt-malloc-options=3 -opt-prefetch

C++ benchmarks:
-xSSE4.1 -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

401.bzip2: /opt/intel/Compiler/11.0/069/bin/intel64/icc
-L/opt/intel/Compiler/11.0/069/ipp/em64t/lib
-I/opt/intel/Compiler/11.0/069/ipp/em64t/include

456.hmmer: /opt/intel/Compiler/11.0/069/bin/intel64/icc
-L/opt/intel/Compiler/11.0/069/ipp/em64t/lib
-I/opt/intel/Compiler/11.0/069/ipp/em64t/include

C++ benchmarks:
icpc

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64

Continued on next page

Peak Portability Flags (Continued)

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

Peak Optimization Flags

C benchmarks:

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

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

403.gcc: -xSSE4.1 -ipo -O3 -no-prec-div -static -inline-calloc -opt-malloc-options=3

429.mcf: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch

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

456.hmmer: -xSSE4.1 -ipo -O3 -no-prec-div -static -unroll2 -ansi-alias

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

462.libquantum: basepeak = yes

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

C++ benchmarks:

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

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

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

403.gcc: `-Dalloca=_alloca`

The flags files that were used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revG.html`
`http://www.spec.org/cpu2006/flags/NEC-Intel-Linux-Settings-flags-revE.html`

You can also download the XML flags sources by saving the following links:
`http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revG.xml`
`http://www.spec.org/cpu2006/flags/NEC-Intel-Linux-Settings-flags-revE.xml`

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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