SPEC® CINT2006 Result

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FORMAT

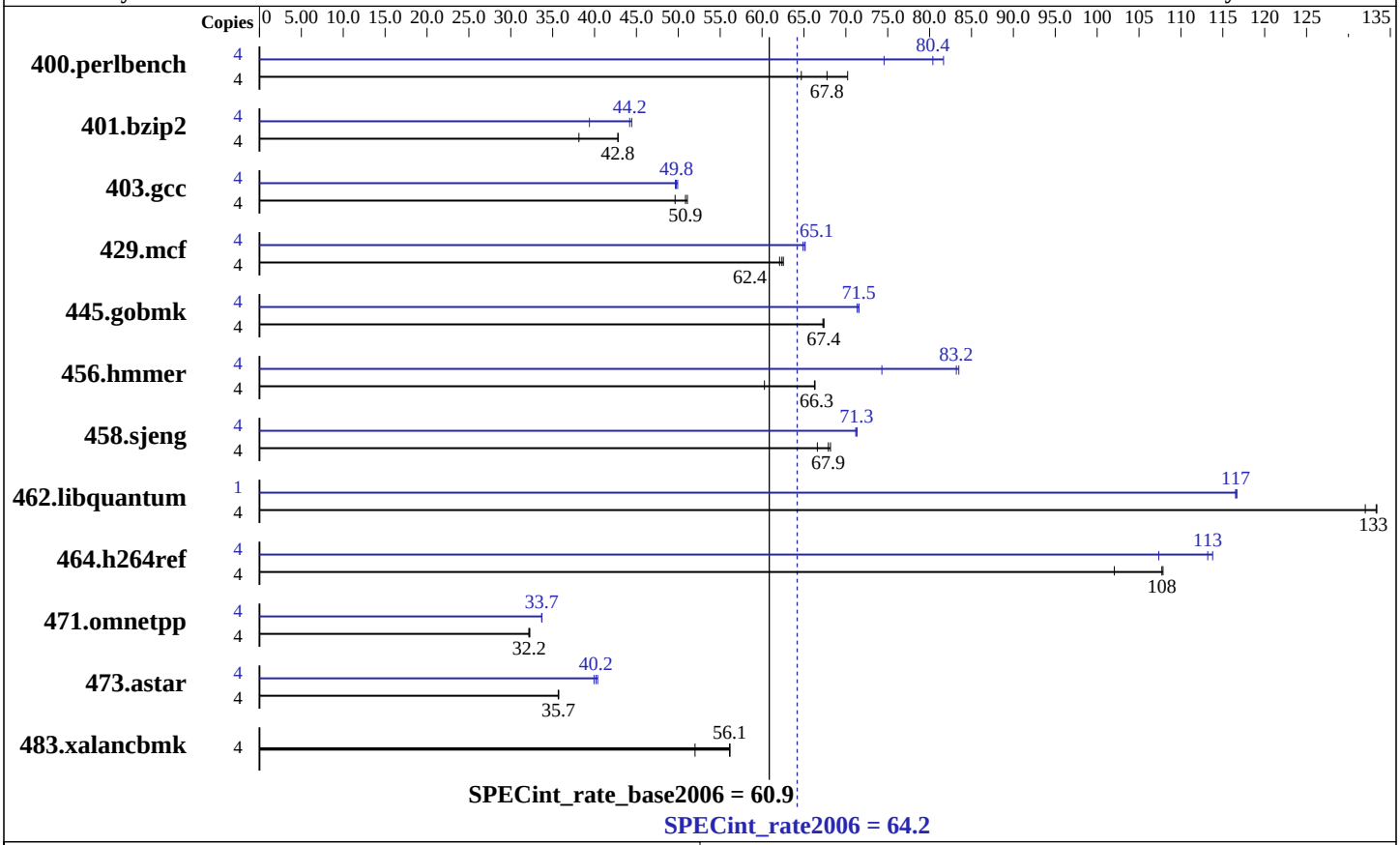
FORMAT R1520ML (2.5 GHz Intel Xeon X3320)

SPECint®_rate2006 = 64.2

SPECint_rate_base2006 = 60.9

CPU2006 license: 9015
Test sponsor: FORMAT
Tested by: FORMAT

Test date: Oct-2008
Hardware Availability: Aug-2008
Software Availability: Nov-2008



Hardware

CPU Name:	Intel Xeon X3320
CPU Characteristics:	1333 MHz system bus
CPU MHz:	2500
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:	6 MB I+D on chip per chip, 3 MB shared / 2 cores
L3 Cache:	None
Other Cache:	None
Memory:	8 GB (4 x 2 GB ECC DDR2 SDRAM)
Disk Subsystem:	1 x 160 GB SATA, 5400 RPM
Other Hardware:	None

Software

Operating System:	Scientific Linux 5.2 2.6.18-92.1.13.el5
Compiler:	Intel C++ Compiler 11.0 for Linux Build 20080730 Package ID: l_cproc_b_11.0.0422
Auto Parallel:	Yes
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 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	604	64.7	**577**	**67.8**	557	70.2	4	524	74.6	479	81.7	**486**	**80.4**
401.bzip2	4	1012	38.1	**902**	**42.8**	901	42.8	4	980	39.4	**874**	**44.2**	869	44.4
403.gcc	4	**633**	**50.9**	630	51.1	649	49.6	4	**647**	**49.8**	645	49.9	649	49.6
429.mcf	4	588	62.1	**585**	**62.4**	583	62.5	4	562	64.9	560	65.1	**560**	**65.1**
445.gobmk	4	624	67.3	**623**	**67.4**	623	67.4	4	588	71.4	**586**	**71.5**	586	71.6
456.hmmer	4	619	60.3	**563**	**66.3**	563	66.3	4	502	74.3	447	83.5	**449**	**83.2**
458.sjeng	4	**713**	**67.9**	727	66.6	710	68.2	4	**679**	**71.3**	680	71.2	679	71.3
462.libquantum	4	621	133	628	132	**622**	**133**	1	**178**	**117**	178	117	178	117
464.h264ref	4	867	102	**822**	**108**	821	108	4	825	107	**782**	**113**	778	114
471.omnetpp	4	775	32.3	**776**	**32.2**	777	32.2	4	741	33.7	**742**	**33.7**	742	33.7
473.astar	4	**787**	**35.7**	787	35.7	786	35.7	4	703	39.9	**699**	**40.2**	696	40.4
483.xalancbmk	4	531	52.0	**492**	**56.1**	491	56.2	4	531	52.0	**492**	**56.1**	491	56.2

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.
```

General Notes

```
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
taskset was used to bind processes to cores except
for 462.libquantum peak
OMP_NUM_THREADS set to number of processors
KMP_AFFINITY set to "physical,0"
KMP_STACKSIZE set to 64M
```

Base Compiler Invocation

C benchmarks:
`icc`

C++ benchmarks:
`icpc`

Base Portability Flags

400.perlbench: `-DSPEC_CPU_LINUX_IA32`

Continued on next page

Base Portability Flags (Continued)

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/spec/cpu2006.1.1/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/11.0/042/bin/intel64/icc
-L/opt/intel/Compiler/11.0/042/ipp/em64t/lib
-I/opt/intel/Compiler/11.0/042/ipp/em64t/include

456.hmmer: /opt/intel/Compiler/11.0/042/bin/intel64/icc
-L/opt/intel/Compiler/11.0/042/ipp/em64t/lib
-I/opt/intel/Compiler/11.0/042/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
462.libquantum: -DSPEC_CPU_LINUX

Continued on next page

Peak Portability Flags (Continued)

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: -xSSE4.1 -ipo -O3 -no-prec-div -static -opt-malloc-options=3 -parallel -par-runtime-control -opt-prefetch

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/spec/cpu2006.1.1/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/spec/cpu2006.1.1/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-revA.20090713.01.html`
`http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.00.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-revA.20090713.01.xml`
`http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.00.xml`

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