SPEC® CINT2006 Result

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FORMAT

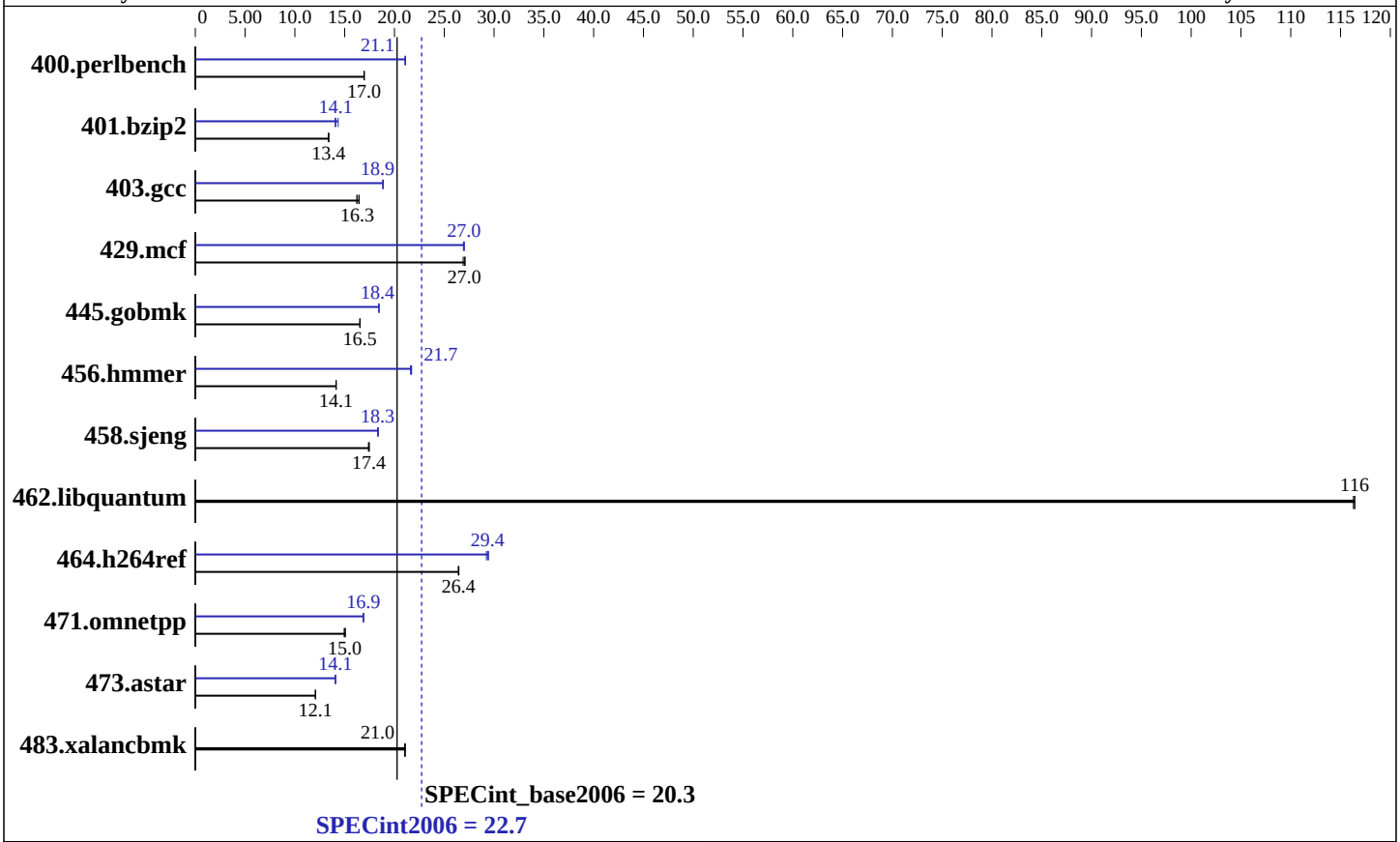
FORMAT R1520ML (2.5 GHz Intel Xeon X3320)

SPECint®2006 = 22.7

SPECint_base2006 = 20.3

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_11.0.042
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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	577	16.9	575	17.0	**576**	**17.0**	**463**	**21.1**	463	21.1	464	21.1
401.bzip2	721	13.4	**721**	**13.4**	720	13.4	**684**	**14.1**	687	14.0	673	14.3
403.gcc	489	16.5	**494**	**16.3**	496	16.2	**427**	**18.9**	427	18.9	428	18.8
429.mcf	339	26.9	337	27.1	**337**	**27.0**	338	27.0	339	26.9	**338**	**27.0**
445.gobmk	**635**	**16.5**	635	16.5	634	16.5	569	18.4	569	18.4	**569**	**18.4**
456.hmmer	660	14.1	**660**	**14.1**	660	14.1	432	21.6	430	21.7	**430**	**21.7**
458.sjeng	696	17.4	**694**	**17.4**	693	17.5	658	18.4	**660**	**18.3**	660	18.3
462.libquantum	178	116	178	116	**178**	**116**	178	116	178	116	**178**	**116**
464.h264ref	**837**	**26.4**	838	26.4	836	26.5	**754**	**29.4**	752	29.4	757	29.2
471.omnetpp	415	15.1	**416**	**15.0**	418	15.0	371	16.9	370	16.9	**370**	**16.9**
473.astar	**582**	**12.1**	583	12.1	581	12.1	**499**	**14.1**	499	14.1	499	14.1
483.xalancbmk	327	21.1	**328**	**21.0**	328	21.0	327	21.1	**328**	**21.0**	328	21.0

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

General Notes

```
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
OMP_NUM_THREADS set to number of processors
KMP_AFFINITY set to "physical,0"
```

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 -parallel -par-runtime-control -opt-prefetch`

Continued on next page

Base Optimization Flags (Continued)

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`
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`

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Peak Optimization Flags (Continued)

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

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

429.mcf: -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 -auto-ilp32

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/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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