SPEC® CINT2006 Result

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IBM Corporation

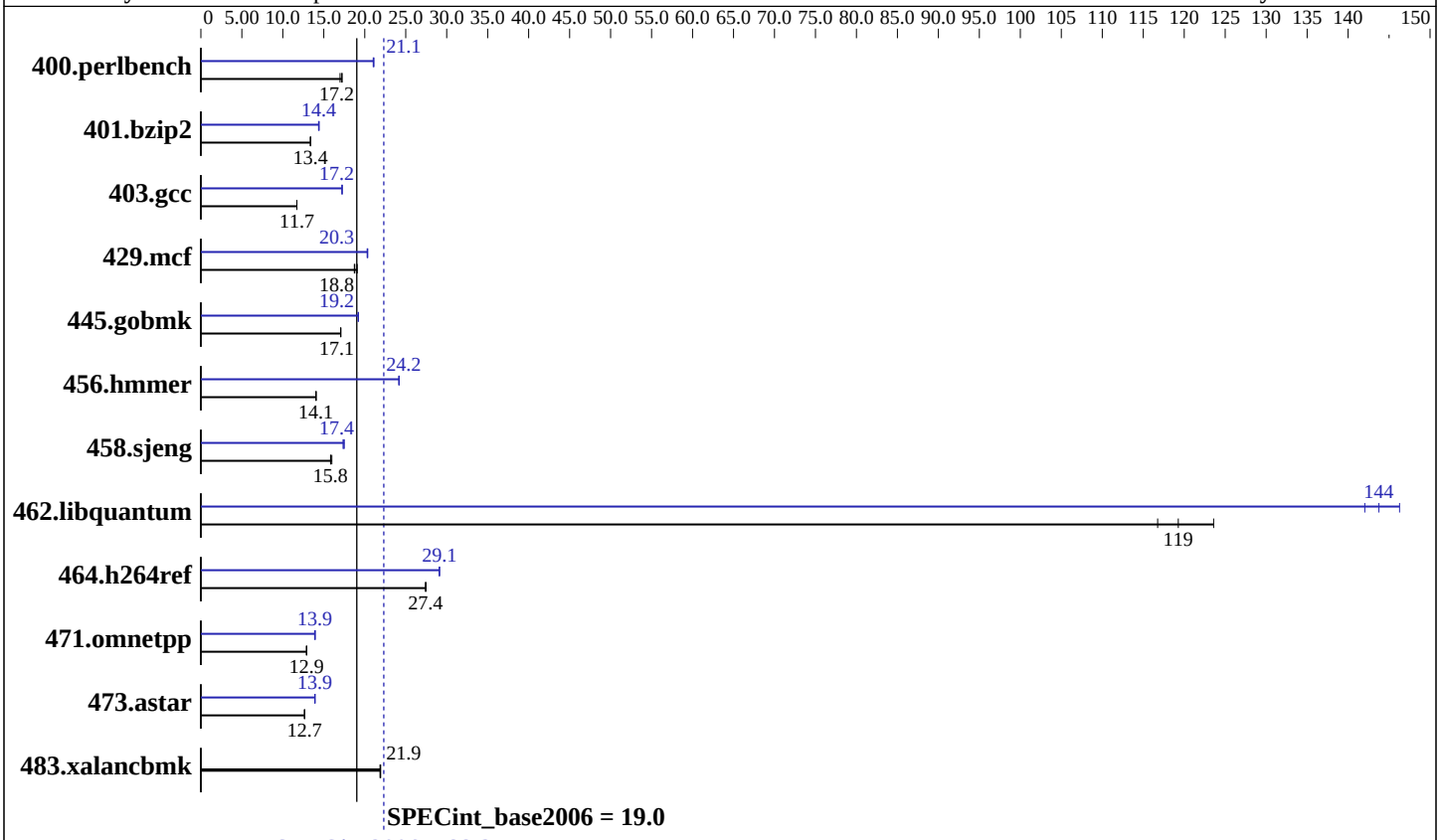
IBM System x3550 (Intel Xeon X5355)

SPECint®2006 = 22.3

SPECint_base2006 = 19.0

CPU2006 license: 11
Test sponsor: IBM Corporation
Tested by: IBM Corporation

Test date: Sep-2007
Hardware Availability: Apr-2007
Software Availability: Nov-2007



Hardware

CPU Name:	Intel Xeon X5355
CPU Characteristics:	1333MHz system bus
CPU MHz:	2667
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 cores/chip
CPU(s) orderable:	1,2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	8 MB I+D on chip per chip, 4 MB shared / 2 cores
L3 Cache:	None
Other Cache:	None
Memory:	16 GB (8 x 2GB DRR2-5300F ECC)
Disk Subsystem:	1 x 36 GB SAS, 15000 RPM
Other Hardware:	None

Software

Operating System:	SLES 10 (x86_64), 2.6.16.21-0.8-smp
Compiler:	Intel C++ Compiler for Linux version 10.1 Build 20070824
Auto Parallel:	Yes
File System:	ReiserFS
System State:	Multi-user, run level 3
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	MicroQuill SmartHeap 8.1

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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	575	17.0	567	17.2	**568**	**17.2**	465	21.0	463	21.1	**464**	**21.1**
401.bzip2	720	13.4	723	13.3	**721**	**13.4**	669	14.4	672	14.4	**670**	**14.4**
403.gcc	**687**	**11.7**	687	11.7	687	11.7	467	17.2	**467**	**17.2**	467	17.2
429.mcf	478	19.1	487	18.7	**486**	**18.8**	449	20.3	448	20.4	**448**	**20.3**
445.gobmk	615	17.1	615	17.1	**615**	**17.1**	**546**	**19.2**	546	19.2	546	19.2
456.hmmer	664	14.1	**664**	**14.1**	664	14.0	**386**	**24.2**	386	24.2	386	24.2
458.sjeng	757	16.0	**764**	**15.8**	764	15.8	**696**	**17.4**	691	17.5	697	17.4
462.libquantum	177	117	**174**	**119**	168	124	**144**	**144**	146	142	142	146
464.h264ref	806	27.5	808	27.4	**807**	**27.4**	760	29.1	761	29.1	**760**	**29.1**
471.omnetpp	484	12.9	**485**	**12.9**	485	12.9	450	13.9	**449**	**13.9**	448	14.0
473.astar	556	12.6	**555**	**12.7**	554	12.7	505	13.9	504	13.9	**504**	**13.9**
483.xalancbmk	315	21.9	**315**	**21.9**	316	21.9	315	21.9	**315**	**21.9**	316	21.9

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

General Notes

```
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to physical,0
KMP_STACKSIZE set to 32M
```

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:
`-fast -vec-guard-write -opt-malloc-options=3 -parallel -par-runtime-control`

Continued on next page

Base Optimization Flags (Continued)

C++ benchmarks:
`-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs`
`-L/home/cmplr/usr3/alrahate/cpu2006.1.0/lib -lsmartheap`

Base Other Flags

C benchmarks:

403.gcc: `-Dalloca=_alloca`

Peak Compiler Invocation

C benchmarks (except as noted below):
`icc`

401.bzip2: `/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux64/bin/icc`
`-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux64/lib`
`-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux64/include`

456.hmmer: `/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux64/bin/icc`
`-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux64/lib`
`-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux64/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) `-fast -ansi-alias`
`-prefetch`

Continued on next page

Peak Optimization Flags (Continued)

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch -auto-ilp32

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 -auto-ilp32

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/home/cmplr/usr3/alrahate/cpu2006.1.0/lib -lsmartheap

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/home/cmplr/usr3/alrahate/cpu2006.1.0/lib -lsmartheap

483.xalancbmk: 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-ic10-ia32-intel64-linux-flags.20090714.28.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.28.xml

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