SPEC® CINT2006 Result

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IBM Corporation

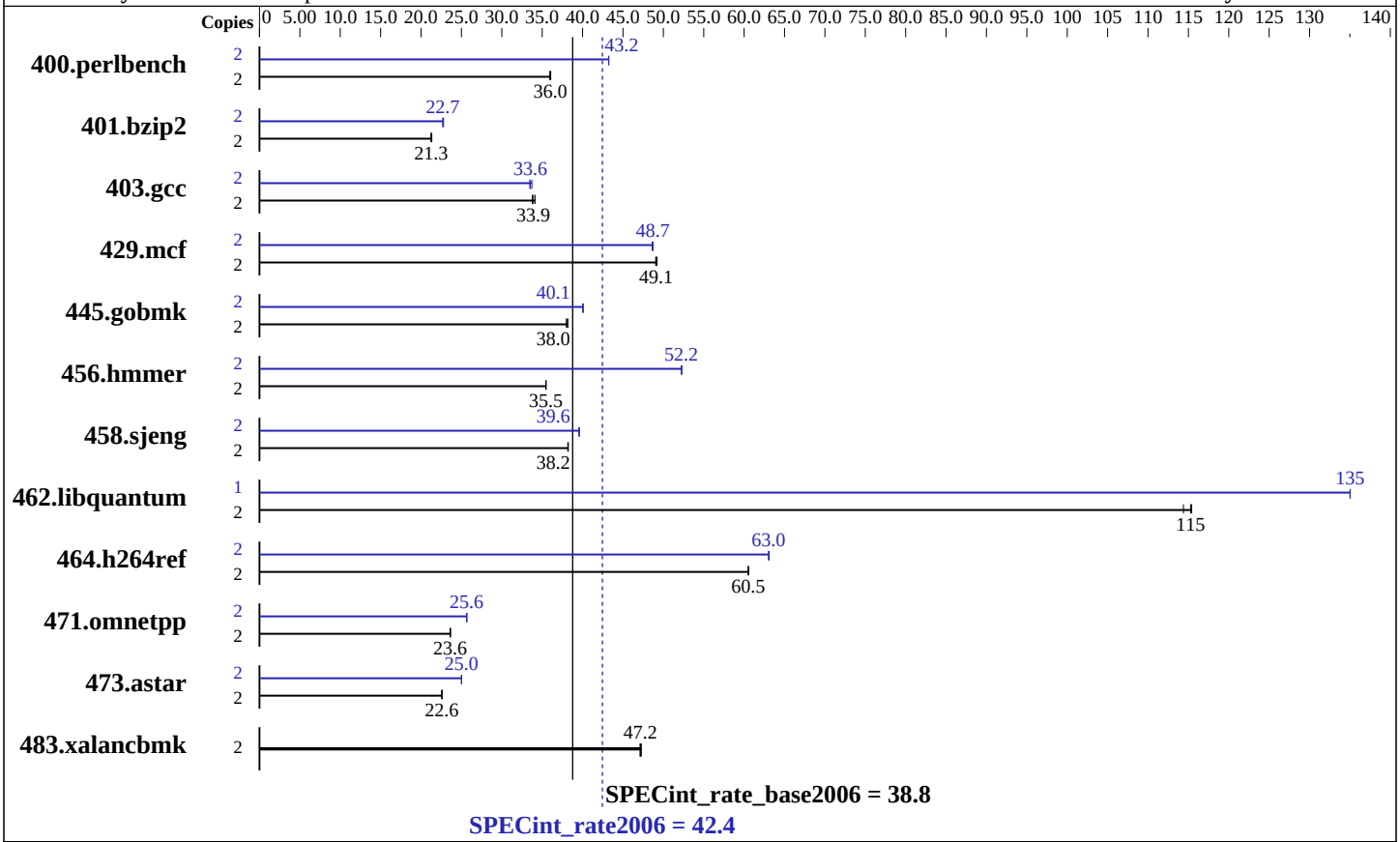
IBM System x3200 M3 (Intel Pentium G6950)

SPECint®_rate2006 = 42.4

SPECint_rate_base2006 = 38.8

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

Test date: Apr-2010
Hardware Availability: Jan-2010
Software Availability: Jan-2010



Hardware

CPU Name:	Intel Pentium G6950
CPU Characteristics:	
CPU MHz:	2800
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 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:	3 MB I+D on chip per chip
Other Cache:	None
Memory:	16 GB (4 x 4 GB PC3-10600E CL9, 2 Rank)
Disk Subsystem:	1 x 73 GB SAS, 15000 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 20091130 Package ID: l_cproc_p_11.1.064
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

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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	2	542	36.1	**543**	**36.0**	544	35.9	2	**452**	**43.2**	452	43.3	452	43.2
401.bzip2	2	908	21.2	**908**	**21.3**	905	21.3	2	**850**	**22.7**	847	22.8	851	22.7
403.gcc	2	**475**	**33.9**	472	34.1	477	33.8	2	477	33.7	**480**	**33.6**	481	33.5
429.mcf	2	372	49.1	371	49.2	**371**	**49.1**	2	375	48.6	374	48.7	**374**	**48.7**
445.gobmk	2	549	38.2	**552**	**38.0**	552	38.0	2	**524**	**40.1**	524	40.0	524	40.1
456.hmmer	2	526	35.5	526	35.5	**526**	**35.5**	2	357	52.3	357	52.2	**357**	**52.2**
458.sjeng	2	**633**	**38.2**	633	38.2	634	38.2	2	611	39.6	612	39.6	**612**	**39.6**
462.libquantum	2	362	114	359	115	**359**	**115**	1	153	135	**153**	**135**	153	135
464.h264ref	2	732	60.5	731	60.6	**731**	**60.5**	2	701	63.1	702	63.0	**702**	**63.0**
471.omnetpp	2	529	23.6	529	23.6	**529**	**23.6**	2	487	25.7	488	25.6	**487**	**25.6**
473.astar	2	621	22.6	**621**	**22.6**	622	22.6	2	**561**	**25.0**	561	25.0	561	25.0
483.xalancbmk	2	292	47.3	293	47.1	**293**	**47.2**	2	292	47.3	293	47.1	**293**	**47.2**

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.
```

Platform Notes

```
Turbo Mode Enable
Turbo Boost set to Traditional
CPU C State Enable
```

General Notes

```
Binaries were compiled on SLES 10 with Binutils 2.18.50.0.7.20080502
'ulimit -s unlimited' was used to set the stack size to unlimited prior to run
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to granularity=fine,scatter
```

Base Compiler Invocation

C benchmarks:

```
icc  -m32
```

C++ benchmarks:

```
icpc -m32
```

Base Portability Flags

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

Base Optimization Flags

C benchmarks:
`-xSSSE3 -ipo -O3 -no-prec-div -static -inline-calloc -opt-malloc-options=3 -opt-prefetch`

C++ benchmarks:
`-xSSSE3 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs -L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-32bit -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`

462.libquantum: `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`

Continued on next page

Peak Portability Flags (Continued)

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

Peak Optimization Flags

C benchmarks:

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
-no-prec-div -static -ansi-alias -opt-prefetch

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
-no-prec-div -static -opt-prefetch -ansi-alias

403.gcc: -xSSSE3 -ipo -O3 -no-prec-div -static -inline-calloc
-opt-malloc-options=3

429.mcf: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
-no-prec-div -static -opt-prefetch

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -O2 -ipo
-no-prec-div -ansi-alias

456.hmmer: -xSSSE3 -ipo -O3 -no-prec-div -static -unroll2
-ansi-alias

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
-no-prec-div -static -unroll4

462.libquantum: -xSSSE3 -ipo -O3 -no-prec-div -static
-opt-malloc-options=3 -parallel -auto-ilp32 -opt-prefetch

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
-no-prec-div -static -unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
-no-prec-div -ansi-alias -opt-ra-region-strategy=block
-Wl,-z,muldefs
-L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-32bit -lsmartheap

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -ansi-alias
-opt-ra-region-strategy=routine -Wl,-z,muldefs
-L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-64bit -lsmartheap64

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-ic11.1-linux64-revE.20100601.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100601.xml`

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