SPEC® CINT2006 Result

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Supermicro

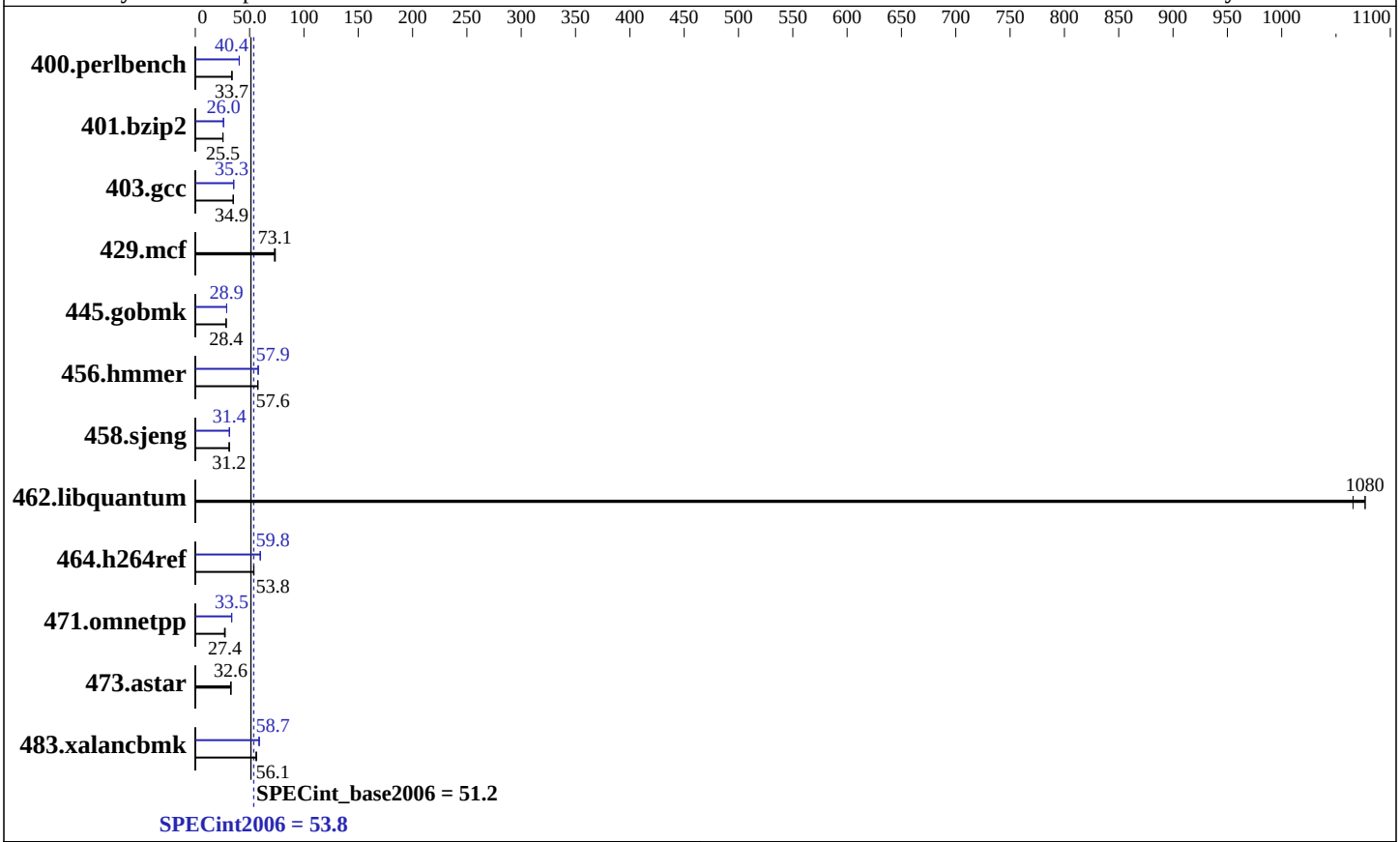
SuperServer 5017R-MF (X9SRi-F, Intel Xeon E5-1620)

SPECint®2006 = 53.8

SPECint_base2006 = 51.2

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

Test date: Apr-2012
Hardware Availability: Mar-2011
Software Availability: Dec-2011



Hardware

CPU Name:	Intel Xeon E5-1620
CPU Characteristics:	Intel Turbo Boost Technology up to 3.80 GHz
CPU MHz:	3600
FPU:	Integrated
CPU(s) enabled:	4 cores, 1 chip, 4 cores/chip, 2 threads/core
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:	10 MB I+D on chip per chip
Other Cache:	None
Memory:	32 GB (4 x 8 GB 2Rx4 PC3-12800R-11-11-E2, ECC)
Disk Subsystem:	1 x 2 TB SATA II, 7200 RPM
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server Release 6.2, Kernel 2.6.32-220.el6.x86_64
Compiler:	C/C++: Version 12.1.0.225 of Intel C++ Studio XE for Linux
Auto Parallel:	Yes
File System:	ext4
System State:	Run level 3 (multi-user)
Base Pointers:	32/64-bit
Peak Pointers:	32/64-bit
Other Software:	Microquill SmartHeap V9.01

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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	**290**	**33.7**	290	33.7	290	33.7	242	40.4	**242**	**40.4**	242	40.4
401.bzip2	380	25.4	**379**	**25.5**	379	25.5	371	26.0	371	26.0	**371**	**26.0**
403.gcc	**230**	**34.9**	230	35.0	231	34.9	**228**	**35.3**	228	35.3	227	35.4
429.mcf	**125**	**73.1**	125	73.0	124	73.7	**125**	**73.1**	125	73.0	124	73.7
445.gobmk	369	28.4	370	28.3	**370**	**28.4**	**363**	**28.9**	363	28.9	363	28.9
456.hmmer	162	57.5	**162**	**57.6**	162	57.6	**161**	**57.9**	161	57.9	161	57.9
458.sjeng	**388**	**31.2**	387	31.2	388	31.2	**386**	**31.4**	386	31.4	385	31.4
462.libquantum	19.4	1070	19.2	1080	**19.2**	**1080**	19.4	1070	19.2	1080	**19.2**	**1080**
464.h264ref	**411**	**53.8**	410	54.0	412	53.7	370	59.8	**370**	**59.8**	370	59.9
471.omnetpp	**228**	**27.4**	233	26.9	228	27.4	**187**	**33.5**	187	33.5	187	33.5
473.astar	**215**	**32.6**	213	33.0	215	32.6	**215**	**32.6**	213	33.0	215	32.6
483.xalancbmk	**123**	**56.1**	123	56.0	123	56.2	117	58.7	117	58.9	**117**	**58.7**

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

Operating System Notes

```
Stack size set to unlimited using "ulimit -s unlimited"
```

General Notes

```
Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,scatter"
LD_LIBRARY_PATH = "/usr/cpu2006/libs/32:/usr/cpu2006/libs/64"
OMP_NUM_THREADS = "4"

 Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
 memory using RHEL5.5
 Transparent Huge Pages enabled with:
 echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
```

Base Compiler Invocation

C benchmarks:

```
icc  -m64
```

C++ benchmarks:

```
icpc -m64
```

Base Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
471.omnetpp: -DSPEC_CPU_LP64
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32

C++ benchmarks:
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -Wl,-z,muldefs
-L/smartheap -lsmartheap64

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
icc -m64

400.perlbench: icc -m32

445.gobmk: icc -m32

464.h264ref: icc -m32

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
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
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: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -opt-prefetch -ansi-alias

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

403.gcc: -xAVX -ipo -O3 -no-prec-div -inline-calloc -opt-malloc-options=3 -auto-ilp32

429.mcf: basepeak = yes

445.gobmk: -xAVX(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -ansi-alias

456.hmmer: -xAVX -ipo -O3 -no-prec-div -unroll2 -auto-ilp32 -ansi-alias

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

462.libquantum: basepeak = yes

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

C++ benchmarks:

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

Continued on next page

Peak Optimization Flags (Continued)

473.astar: `basepeak = yes`

483.xalancbmk: `-xAVX -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias -Wl,-z,muldefs -L/smartheap -lsmartheap`

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-ic12.1-official-linux64.20111122.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml`

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Tested with SPEC CPU2006 v1.2.
Report generated on Thu Jul 24 05:14:53 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 9 May 2012.