SPEC® CINT2006 Result
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Supermicro

SuperServer 5038AD-T (C7Z87-OCE, Intel Core i5-4670K, 3.40 GHz)

SPECint®2006 =   60.6

SPECint_base2006 =   58.2

CPU2006 license: 001176	**Test date:** Jun-2013
Test sponsor: Supermicro	**Hardware Availability:** Jun-2013
Tested by: Supermicro	**Software Availability:** May-2013

0 50.0 100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000   1100   1200   1300   1450

400.perlbench — 49.1 / 42.3
401.bzip2 — 29.2 / 28.7
403.gcc — 39.4 / 38.4
429.mcf — 77.4
445.gobmk — 31.0 / 28.6
456.hmmer — 72.2 / 74.0
458.sjeng — 36.2 / 36.6
462.libquantum — 1440
464.h264ref — 58.4
471.omnetpp — 34.0 / 28.9
473.astar — 34.7
483.xalancbmk — 70.5 / 64.8

SPECint_base2006 = 58.2

SPECint2006 = 60.6

Hardware

CPU Name:	Intel Core i5-4670K
CPU Characteristics:	Intel Turbo Boost Technology up to 3.80 GHz
CPU MHz:	3400
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:	256 KB I+D on chip per core
L3 Cache:	6 MB I+D on chip per chip
Other Cache:	None
Memory:	16 GB (4 x 4 GB 2Rx4 PC3-12800U-11)
Disk Subsystem:	1 x 300 GB SATA II, 10000 RPM
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server release 6.4, Kernel 2.6.32-358.el6.x86_64
Compiler:	C/C++: Version 13.1.1.163 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 V10.0

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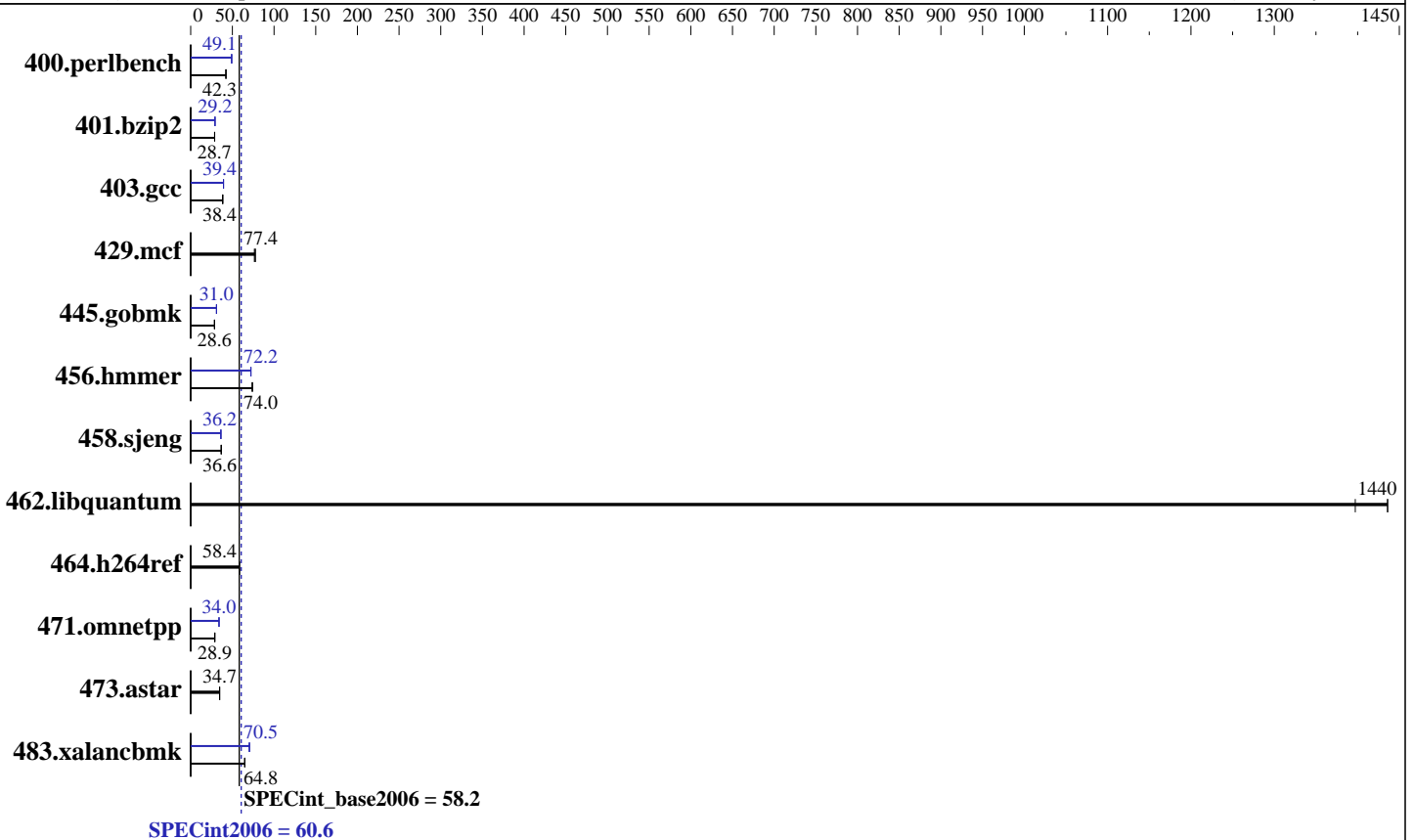
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Results Table

Benchmark	Base						Peak					
	Seconds	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**
400.perlbench	**231**	**42.3**	231	42.3	231	42.3	**199**	**49.1**	199	49.1	198	49.3
401.bzip2	335	28.8	337	28.7	**336**	**28.7**	331	29.2	**331**	**29.2**	331	29.2
403.gcc	209	38.6	210	38.3	**210**	**38.4**	**204**	**39.4**	204	39.4	204	39.4
429.mcf	**118**	**77.4**	119	76.4	118	77.5	**118**	**77.4**	119	76.4	118	77.5
445.gobmk	367	28.6	367	28.6	**367**	**28.6**	339	31.0	338	31.0	**339**	**31.0**
456.hmmer	126	74.0	**126**	**74.0**	126	73.9	129	72.3	129	72.2	**129**	**72.2**
458.sjeng	330	36.6	330	36.7	**330**	**36.6**	334	36.2	**334**	**36.2**	334	36.2
462.libquantum	14.4	1440	14.8	1400	**14.4**	**1440**	14.4	1440	14.8	1400	**14.4**	**1440**
464.h264ref	379	58.5	**379**	**58.4**	379	58.3	379	58.5	**379**	**58.4**	379	58.3
471.omnetpp	**216**	**28.9**	216	28.9	216	28.9	184	34.0	184	34.0	**184**	**34.0**
473.astar	203	34.6	202	34.8	**202**	**34.7**	203	34.6	202	34.8	**202**	**34.7**
483.xalancbmk	106	65.0	**106**	**64.8**	106	64.8	97.7	70.6	**97.9**	**70.5**	98.2	70.2

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:
LD_LIBRARY_PATH = "/usr/cpu2006/libs/32:/usr/cpu2006/libs/64:/usr/cpu2006/sh"
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
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>
```

Base Compiler Invocation

C benchmarks:
```
icc -m64
```

C++ benchmarks:
```
icpc -m64
```

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CPU2006 license: 001176
Test sponsor: Supermicro
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Test date: Jun-2013
Hardware Availability: Jun-2013
Software Availability: May-2013

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:

```
    -xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32
```

C++ benchmarks:

```
    -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
    -Wl,-z,muldefs -L/sh -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
```

C++ benchmarks (except as noted below):
```
    icpc -m32
```

```
    473.astar: icpc -m64
```

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Tested by: Supermicro		**Software Availability:**	May-2013

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
        464.h264ref: -DSPEC_CPU_LP64
          473.astar: -DSPEC_CPU_LP64
      483.xalancbmk: -DSPEC_CPU_LINUX
```

Peak Optimization Flags

C benchmarks:

```
    400.perlbench: -xCORE-AVX2(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: -xCORE-AVX2(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: -xCORE-AVX2 -ipo -O3 -no-prec-div -inline-calloc
                   -opt-malloc-options=3 -auto-ilp32

          429.mcf: basepeak = yes

        445.gobmk: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
                   -ansi-alias

        456.hmmer: -xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
                   -ansi-alias

         458.sjeng: -xCORE-AVX2(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: basepeak = yes
```

C++ benchmarks:

```
       471.omnetpp: -xCORE-AVX2(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/sh -lsmartheap
```

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Peak Optimization Flags (Continued)

473.astar: basepeak = yes

483.xalancbmk: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
-ansi-alias -Wl,-z,muldefs -L/sh -lsmartheap

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/Supermicro-Platform-Settings-V1.2-revB.20130719.html
http://www.spec.org/cpu2006/flags/Intel-ic13-official-linux64.20130702.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revB.20130719.xml
http://www.spec.org/cpu2006/flags/Intel-ic13-official-linux64.20130702.xml

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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