SPEC® CINT2006 Result
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Supermicro

SuperServer 5017C-MF (X9SCL-F, Intel E3-1240)

$SPECint^{®}2006 =$ 47.1

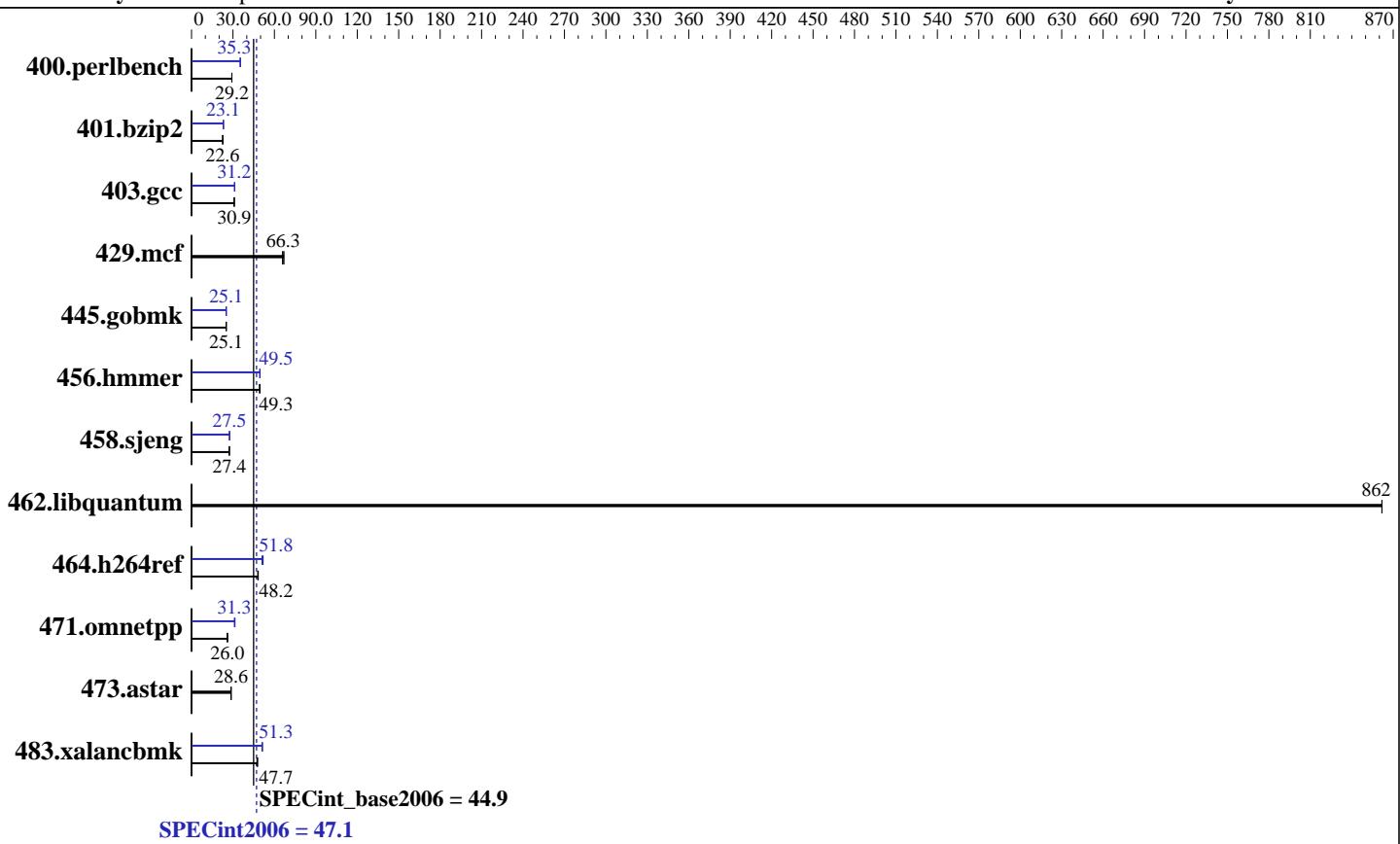$SPECint\_base2006 =$ 44.9

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

Test date: Jun-2012
Hardware Availability: Apr-2011
Software Availability: Oct-2011

Graph results:

- 400.perlbench: 35.3 / 29.2
- 401.bzip2: 23.1 / 22.6
- 403.gcc: 31.2 / 30.9
- 429.mcf: 66.3
- 445.gobmk: 25.1 / 25.1
- 456.hmmer: 49.5 / 49.3
- 458.sjeng: 27.5 / 27.4
- 462.libquantum: 862
- 464.h264ref: 51.8 / 48.2
- 471.omnetpp: 31.3 / 26.0
- 473.astar: 28.6
- 483.xalancbmk: 51.3 / 47.7

SPECint_base2006 = 44.9
SPECint2006 = 47.1

Hardware

CPU Name:	Intel Xeon E3-1240
CPU Characteristics:	Intel Turbo Boost Technology up to 3.70 GHz
CPU MHz:	3300
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:	8 MB I+D on chip per chip
Other Cache:	None
Memory:	8 GB (2 x 4 GB 2Rx8 PC3-10600E-9, ECC)
Disk Subsystem:	1 x 1 TB SATA II, 7200 RPM
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server Release 6.1, Kernel 2.6.32-131.0.15.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	334	29.3	335	29.2	**334**	**29.2**	**277**	**35.3**	276	35.4	277	35.3
401.bzip2	426	22.6	**427**	**22.6**	428	22.6	419	23.0	**418**	**23.1**	417	23.1
403.gcc	260	31.0	261	30.9	**260**	**30.9**	258	31.2	**258**	**31.2**	258	31.2
429.mcf	138	65.9	136	67.0	**137**	**66.3**	138	65.9	136	67.0	**137**	**66.3**
445.gobmk	418	25.1	417	25.1	**418**	**25.1**	**418**	**25.1**	418	25.1	417	25.1
456.hmmer	189	49.3	188	49.6	**189**	**49.3**	188	49.5	189	49.4	**188**	**49.5**
458.sjeng	442	27.4	**442**	**27.4**	442	27.4	440	27.5	**440**	**27.5**	440	27.5
462.libquantum	24.0	862	24.0	862	**24.0**	**862**	24.0	862	24.0	862	**24.0**	**862**
464.h264ref	**459**	**48.2**	462	47.9	458	48.3	434	51.0	**428**	**51.8**	427	51.8
471.omnetpp	242	25.8	239	26.2	**241**	**26.0**	201	31.0	199	31.5	**200**	**31.3**
473.astar	245	28.6	245	28.7	**245**	**28.6**	245	28.6	245	28.7	**245**	**28.6**
483.xalancbmk	146	47.3	**145**	**47.7**	144	47.8	**135**	**51.3**	135	51.0	134	51.3

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"
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
```

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
```

Base Compiler Invocation

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

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

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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
```

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Test sponsor: Supermicro	**Hardware Availability:** Apr-2011
Tested by: Supermicro	**Software Availability:** Oct-2011

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

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Test sponsor:	Supermicro	**Hardware Availability:**	Apr-2011
Tested by:	Supermicro	**Software Availability:**	Oct-2011

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 files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20120425.html
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-revA.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20120425.xml
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-revA.xml

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

Tested with SPEC CPU2006 v1.2.
Report generated on Thu Jul 24 09:42:03 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 3 July 2012.