



# SPEC® CINT2006 Result

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## Supermicro

SuperServer 5019S-M2  
(X11SSZ-QF, Intel Core i7-6700)

SPECint®\_rate2006 = 252

SPECint\_rate\_base2006 = 243

CPU2006 license: 001176

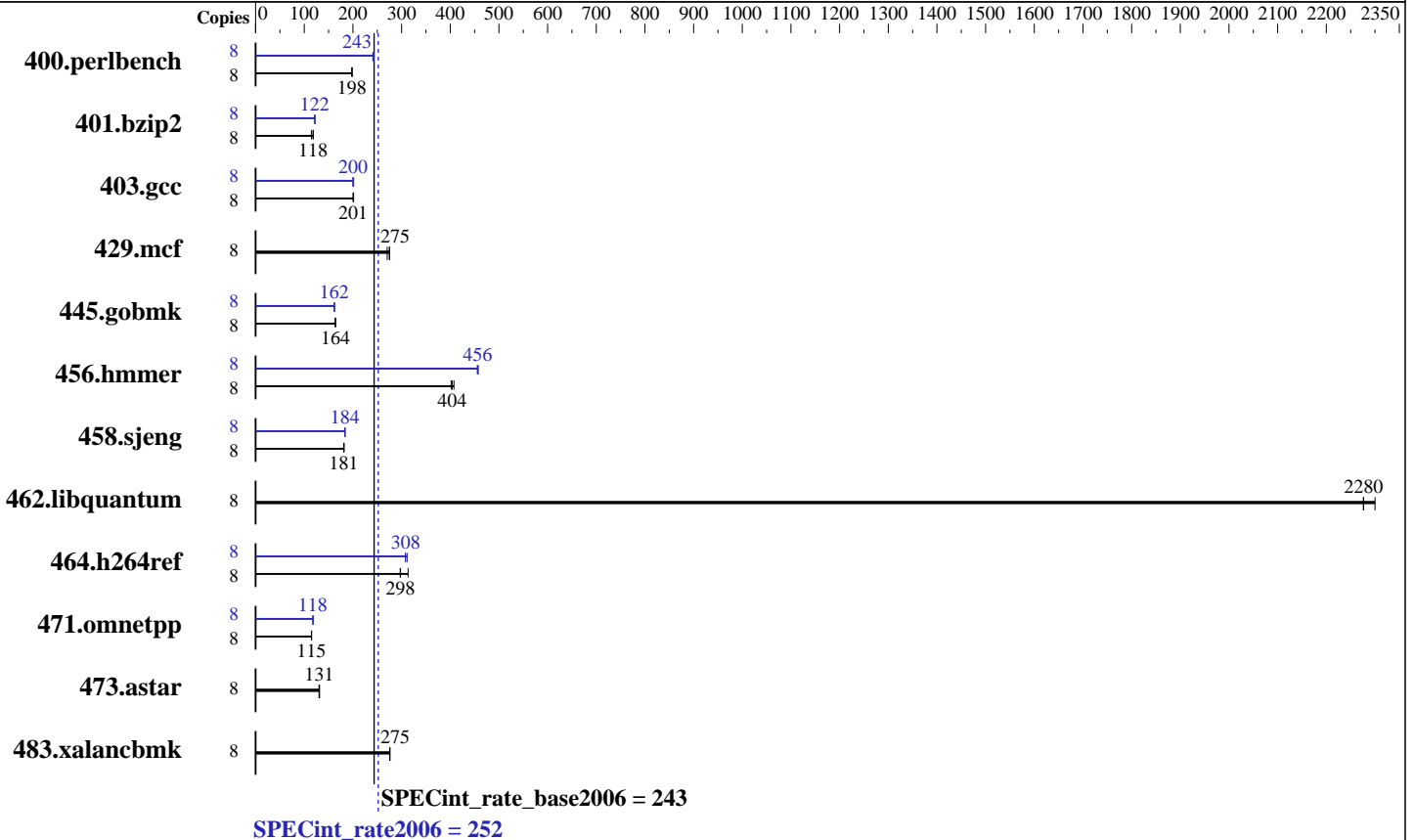
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Nov-2015

Hardware Availability: Sep-2015

Software Availability: Sep-2014



### Hardware

CPU Name: Intel Core i7-6700  
 CPU Characteristics: Intel Turbo Boost Technology up to 4.00 GHz  
 CPU MHz: 3400  
 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: 32 GB (4 x 8 GB 2Rx4 PC4-2133P-U)  
 Disk Subsystem: 1 x 200 GB SATA III SSD  
 Other Hardware: None

### Software

Operating System: Red Hat Enterprise Linux Server release 7.1, Kernel 3.10.0-229.el7.x86\_64  
 Compiler: C/C++: Version 15.0.0.090 of Intel C++ Studio XE for Linux  
 Auto Parallel: No  
 File System: xfs  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V10.0



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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	8	394	198	<b><u>395</u></b>	<b><u>198</u></b>	395	198	8	325	241	322	243	<b><u>322</u></b>	<b><u>243</u></b>
401.bzip2	8	673	115	651	119	<b><u>654</u></b>	<b><u>118</u></b>	8	633	122	635	121	<b><u>635</u></b>	<b><u>122</u></b>
403.gcc	8	321	201	320	201	<b><u>321</u></b>	<b><u>201</u></b>	8	319	202	322	200	<b><u>322</u></b>	<b><u>200</u></b>
429.mcf	8	<b><u>266</u></b>	<b><u>275</u></b>	270	270	265	275	8	<b><u>266</u></b>	<b><u>275</u></b>	270	270	265	275
445.gobmk	8	512	164	<b><u>512</u></b>	<b><u>164</u></b>	511	164	8	518	162	519	162	<b><u>519</u></b>	<b><u>162</u></b>
456.hammer	8	<b><u>185</u></b>	<b><u>404</u></b>	183	408	186	402	8	<b><u>164</u></b>	<b><u>456</u></b>	163	458	164	456
458.sjeng	8	535	181	532	182	<b><u>534</u></b>	<b><u>181</u></b>	8	527	184	<b><u>527</u></b>	<b><u>184</u></b>	527	184
462.libquantum	8	72.8	2280	<b><u>72.8</u></b>	<b><u>2280</u></b>	72.1	2300	8	72.8	2280	<b><u>72.8</u></b>	<b><u>2280</u></b>	72.1	2300
464.h264ref	8	596	297	<b><u>595</u></b>	<b><u>298</u></b>	565	313	8	575	308	568	311	<b><u>574</u></b>	<b><u>308</u></b>
471.omnetpp	8	435	115	<b><u>435</u></b>	<b><u>115</u></b>	436	115	8	423	118	425	118	<b><u>425</u></b>	<b><u>118</u></b>
473.astar	8	<b><u>429</u></b>	<b><u>131</u></b>	431	130	428	131	8	<b><u>429</u></b>	<b><u>131</u></b>	431	130	428	131
483.xalancbmk	8	200	275	200	276	<b><u>200</u></b>	<b><u>275</u></b>	8	200	275	200	276	<b><u>200</u></b>	<b><u>275</u></b>

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

## Submit Notes

The taskset mechanism was used to bind copies to processors. The config file option 'submit' was used to generate taskset commands to bind each copy to a specific processor. For details, please see the config file.

## Operating System Notes

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

## Platform Notes

Sysinfo program /usr/cpu2006/config/sysinfo.rev6914  
\$Rev: 6914 \$ \$Date:: 2014-06-25 #\$ e3fbb8667b5a285932ceab81e28219e1  
running on X11SSZ-01 Thu Nov 5 19:32:01 2015

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see:  
<http://www.spec.org/cpu2006/Docs/config.html#sysinfo>

```
From /proc/cpuinfo
model name : Intel(R) Core(TM) i7-6700 CPU @ 3.40GHz
1 "physical id"s (chips)
8 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The
following excerpts from /proc/cpuinfo might not be reliable. Use with
caution.)
cpu cores : 4
siblings : 8
```

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### Platform Notes (Continued)

physical 0: cores 0 1 2 3  
cache size : 8192 KB

From /proc/meminfo  
MemTotal: 32887596 kB  
HugePages\_Total: 0  
Hugepagesize: 2048 kB

From /etc/\*release\* /etc/\*version\*  
os-release:  
NAME="Red Hat Enterprise Linux Server"  
VERSION="7.1 (Maipo)"  
ID="rhel"  
ID\_LIKE="fedora"  
VERSION\_ID="7.1"  
PRETTY\_NAME="Red Hat Enterprise Linux Server 7.1 (Maipo)"  
ANSI\_COLOR="0;31"  
CPE\_NAME="cpe:/o:redhat:enterprise\_linux:7.1:GA:server"  
redhat-release: Red Hat Enterprise Linux Server release 7.1 (Maipo)  
system-release: Red Hat Enterprise Linux Server release 7.1 (Maipo)  
system-release-cpe: cpe:/o:redhat:enterprise\_linux:7.1:ga:server

uname -a:  
Linux X11SSZ-01 3.10.0-229.el7.x86\_64 #1 SMP Thu Jan 29 18:37:38 EST 2015  
x86\_64 x86\_64 x86\_64 GNU/Linux

run-level 3 Nov 5 19:15

SPEC is set to: /usr/cpu2006  
Filesystem Type Size Used Avail Use% Mounted on  
/dev/sda2 xfs 183G 24G 159G 14% /

Additional information from dmidecode:

Warning: Use caution when you interpret this section. The 'dmidecode' program reads system data which is "intended to allow hardware to be accurately determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

BIOS American Megatrends Inc. 1.0a 10/30/2015  
Memory:  
4x Micron 18ASF1G72AZ-2G1A1 8 GB 2 rank 2133 MHz

(End of data from sysinfo program)

### 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"

Binaries compiled on a system with 1x Core i5-4670K CPU + 16GB memory using RedHat EL 7.0

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## General Notes (Continued)

Transparent Huge Pages enabled with:  
echo always > /sys/kernel/mm/transparent\_hugepage/enabled

## Base Compiler Invocation

C benchmarks:  
icc -m32 -L/opt/intel/composer\_xe\_2015/lib/ia32  
C++ benchmarks:  
icpc -m32 -L/opt/intel/composer\_xe\_2015/lib/ia32

## Base Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
462.libquantum: -DSPEC\_CPU\_LINUX  
483.xalancbmk: -DSPEC\_CPU\_LINUX

## Base Optimization Flags

C benchmarks:  
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch  
C++ benchmarks:  
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs  
-L/sh -lsmartheap

## Base Other Flags

C benchmarks:  
403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):  
icc -m32 -L/opt/intel/composer\_xe\_2015/lib/ia32  
400.perlbench: icc -m64  
401.bzip2: icc -m64

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## Peak Compiler Invocation (Continued)

456.hmmr: icc -m64

458.sjeng: icc -m64

C++ benchmarks:

icpc -m32 -L/opt/intel/composer\_xe\_2015/lib/ia32

## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_LINUX\_X64  
401.bzip2: -DSPEC\_CPU\_LP64  
456.hmmr: -DSPEC\_CPU\_LP64  
458.sjeng: -DSPEC\_CPU\_LP64  
462.libquantum: -DSPEC\_CPU\_LINUX  
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)  
-auto-ilp32

401.bzip2: -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 -auto-ilp32 -ansi-alias

403.gcc: -xCORE-AVX2 -ipo -O3 -no-prec-div

429.mcf: basepeak = yes

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

456.hmmr: -xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32

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 -auto-ilp32

462.libquantum: basepeak = yes

464.h264ref: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)  
-unroll2 -ansi-alias

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## Peak Optimization Flags (Continued)

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)  
-ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs  
-L/sh -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: basepeak = yes

## 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-ic15.0-official-linux64.html>

<http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revG.20141230.00.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.xml>

<http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revG.20141230.00.xml>

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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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