



SPEC® CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

Supermicro X11SAT-F motherboard
(X11SAT-F, Intel Core i5-6600K)

SPECint®2006 = 71.9

SPECint_base2006 = 69.9

CPU2006 license: 001176

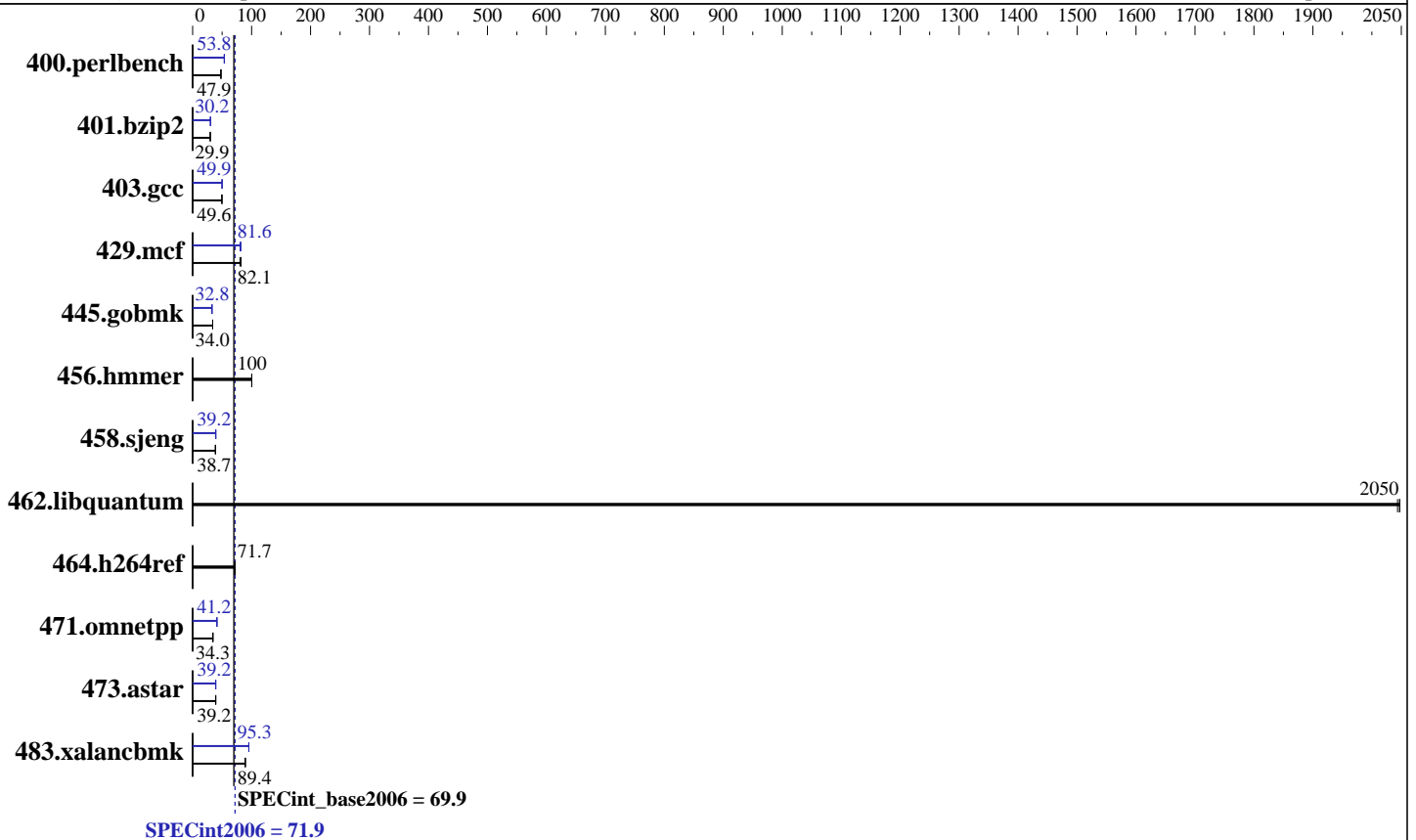
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jan-2016

Hardware Availability: Aug-2015

Software Availability: Sep-2015



Hardware

CPU Name: Intel Core i5-6600K
 CPU Characteristics: Intel Turbo Boost Technology up to 3.90 GHz
 CPU MHz: 3500
 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 1Rx8 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 16.0.0.101 of Intel C++ Studio XE for Linux
 Auto Parallel: Yes
 File System: xfs
 System State: Run level 3 (multi-user)
 Base Pointers: 32/64-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V10.2



SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

Supermicro X11SAT-F motherboard
(X11SAT-F, Intel Core i5-6600K)

SPECint2006 = 71.9

SPECint_base2006 = 69.9

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

Test date: Jan-2016
Hardware Availability: Aug-2015
Software Availability: Sep-2015

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	203	48.2	204	47.8	204	47.9	182	53.8	182	53.6	182	53.8
401.bzip2	323	29.9	323	29.9	324	29.8	319	30.2	319	30.3	319	30.2
403.gcc	162	49.7	162	49.6	162	49.6	161	50.0	162	49.7	161	49.9
429.mcf	114	80.2	111	82.1	111	82.1	112	81.6	112	81.6	113	80.5
445.gobmk	308	34.0	309	34.0	309	34.0	320	32.8	320	32.8	320	32.8
456.hammer	93.1	100	93.0	100	93.1	100	93.1	100	93.0	100	93.1	100
458.sjeng	313	38.7	313	38.7	313	38.7	309	39.2	309	39.2	309	39.2
462.libquantum	10.1	2040	10.1	2050	10.1	2050	10.1	2040	10.1	2050	10.1	2050
464.h264ref	309	71.5	308	71.8	309	71.7	309	71.5	308	71.8	309	71.7
471.omnetpp	182	34.4	182	34.3	182	34.3	152	41.1	152	41.2	152	41.2
473.astar	179	39.2	180	39.0	179	39.3	180	38.9	179	39.2	179	39.3
483.xalancbmk	77.2	89.4	77.5	89.1	77.2	89.4	72.4	95.3	72.4	95.3	72.3	95.4

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.

Operating System Notes

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

Platform Notes

As tested, the system used a Supermicro CSE-732D4-903B chassis. The chassis is configured with a PWS-903-PQ power supply, 1 SNK-P0046A4 heatsink, as well as 1 FAN-0124L4 chassis fan.
Sysinfo program /usr/cpu2006/config/sysinfo.rev6914
\$Rev: 6914 \$ \$Date:: 2014-06-25 #\$ e3fbb8667b5a285932ceab81e28219e1
running on X11SAT-01 Fri Jan 8 23:36:28 2016

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) i5-6600K CPU @ 3.50GHz
1 "physical id"s (chips)
4 "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

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

Supermicro X11SAT-F motherboard
(X11SAT-F, Intel Core i5-6600K)

SPECint2006 = 71.9

SPECint_base2006 = 69.9

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jan-2016

Hardware Availability: Aug-2015

Software Availability: Sep-2015

Platform Notes (Continued)

```
siblings : 4
physical 0: cores 0 1 2 3
cache size : 6144 KB
```

```
From /proc/meminfo
MemTotal:      16248396 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 X11SAT-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 Jan 8 23:26
```

```
SPEC is set to: /usr/cpu2006
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda2       xfs   183G  45G  139G  25% /
```

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. 1.0 12/18/2015
Memory:
4x Micron 8ATF51264AZ-2G1A2 4 GB 1 rank 2133 MHz
```

(End of data from sysinfo program)

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:/usr/cpu2006/sh"
OMP_NUM_THREADS = "4"
```

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

Supermicro X11SAT-F motherboard
(X11SAT-F , Intel Core i5-6600K)

SPECint2006 = 71.9

SPECint_base2006 = 69.9

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

Test date: Jan-2016
Hardware Availability: Aug-2015
Software Availability: Sep-2015

General Notes (Continued)

Binaries compiled on a system with 1x Intel Core i5-4670K CPU + 32GB memory using RedHat EL 7.1
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/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:
-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



SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

Supermicro X11SAT-F motherboard
(X11SAT-F, Intel Core i5-6600K)

SPECint2006 = 71.9

SPECint_base2006 = 69.9

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jan-2016

Hardware Availability: Aug-2015

Software Availability: Sep-2015

Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m64

400.perlbench: icc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin

445.gobmk: icc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin

C++ benchmarks (except as noted below):

icpc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin

473.astar: icpc -m64

Peak Portability Flags

400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX_IA32

401.bzip2: -DSPEC_CPU_LP64

403.gcc: -DSPEC_CPU_LP64

429.mcf: -DSPEC_CPU_LP64

445.gobmk: -D_FILE_OFFSET_BITS=64

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: -D_FILE_OFFSET_BITS=64

473.astar: -DSPEC_CPU_LP64

483.xalancbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
-par-num-threads=1(pass 1) -prof-use(pass 2) -opt-prefetch
-ansi-alias

401.bzip2: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
-ipo(pass 2) -O3(pass 2) -no-prec-div
-par-num-threads=1(pass 1) -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: -xCORE-AVX2 -ipo -O3 -no-prec-div -parallel
-opt-prefetch -auto-p32

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

Supermicro X11SAT-F motherboard
(X11SAT-F , Intel Core i5-6600K)

SPECint2006 = 71.9

SPECint_base2006 = 69.9

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jan-2016

Hardware Availability: Aug-2015

Software Availability: Sep-2015

Peak Optimization Flags (Continued)

445.gobmk: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
-prof-use(pass 2) -par-num-threads=1(pass 1) -ansi-alias

456.hmmer: basepeak = yes

458.sjeng: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
-par-num-threads=1(pass 1) -prof-use(pass 2) -unroll4

462.libquantum: basepeak = yes

464.h264ref: basepeak = yes

C++ benchmarks:

471.omnetpp: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
-par-num-threads=1(pass 1) -prof-use(pass 2)
-opt-ra-region-strategy=block -ansi-alias
-Wl,-z,muldefs -L/sh -lsmartheap

473.astar: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
-auto-p32 -Wl,-z,muldefs -L/sh -lsmartheap64

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/Intel-ic16.0-official-linux64.html>

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

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

<http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.xml>

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



SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

Supermicro X11SAT-F motherboard
(X11SAT-F , Intel Core i5-6600K)

SPECint2006 = 71.9

SPECint_base2006 = 69.9

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jan-2016

Hardware Availability: Aug-2015

Software Availability: Sep-2015

SPEC and SPECint are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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 Tue Jan 26 15:12:04 2016 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 26 January 2016.