



SPEC® CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

SuperServer 6028R-WTR
(X10DRW-i, Intel Xeon E5-2697 v4)

SPECint®2006 = 73.1

SPECint_base2006 = 70.6

CPU2006 license: 001176

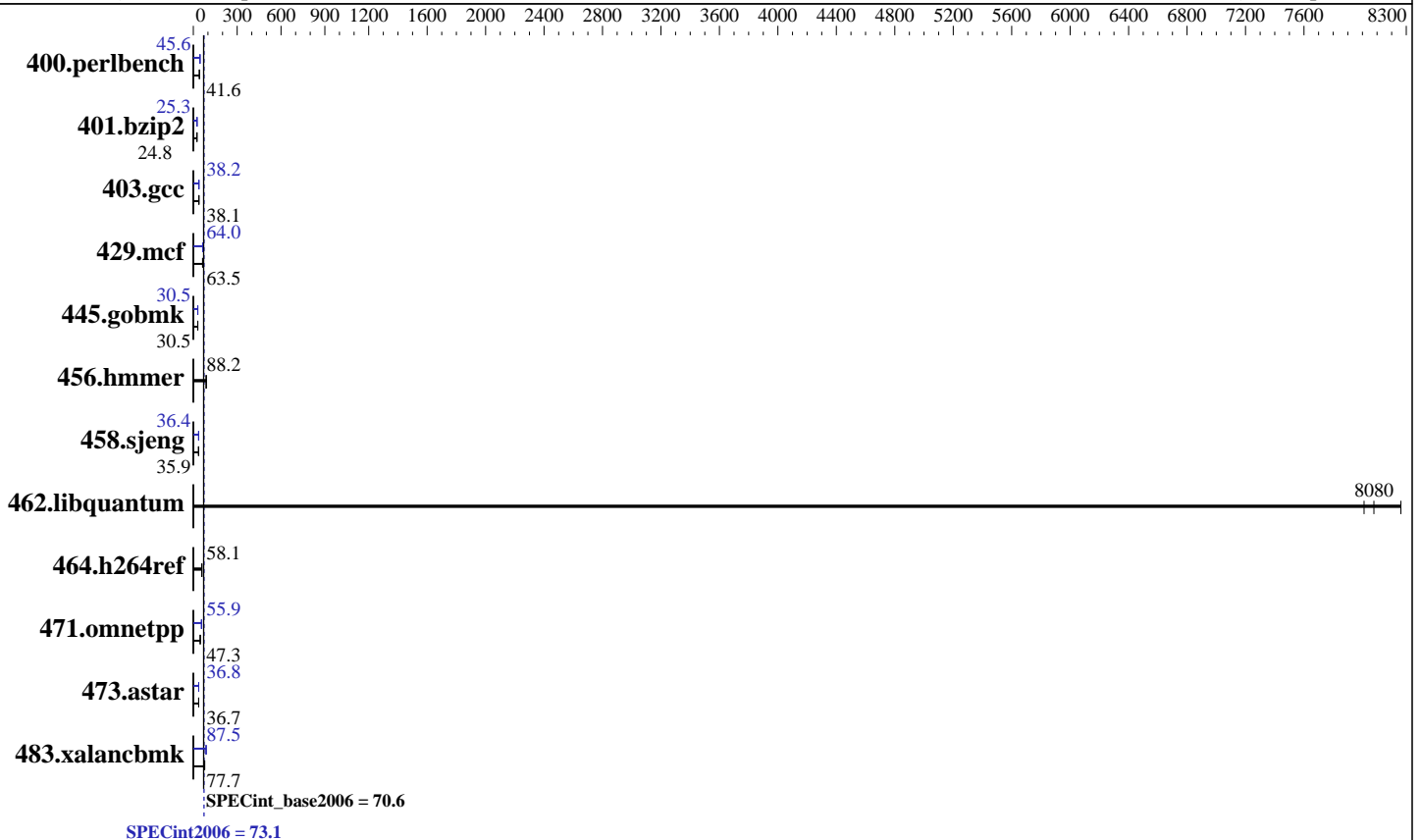
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Mar-2016

Hardware Availability: Mar-2016

Software Availability: Sep-2015



Hardware

CPU Name: Intel Xeon E5-2697 v4
 CPU Characteristics: Intel Turbo Boost Technology up to 3.60 GHz
 CPU MHz: 2300
 FPU: Integrated
 CPU(s) enabled: 36 cores, 2 chips, 18 cores/chip
 CPU(s) orderable: 1,2 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core
 L3 Cache: 45 MB I+D on chip per chip
 Other Cache: None
 Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2400T-R)
 Disk Subsystem: 1 x 200 GB SATA III SSD
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 7.2, Kernel 3.10.0-327.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

SuperServer 6028R-WTR
(X10DRW-i, Intel Xeon E5-2697 v4)

SPECint2006 = **73.1**

SPECint_base2006 = **70.6**

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

Test date: Mar-2016
Hardware Availability: Mar-2016
Software Availability: Sep-2015

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	234	41.8	235	41.5	<u>235</u>	<u>41.6</u>	214	45.7	<u>214</u>	<u>45.6</u>	214	45.6
401.bzip2	391	24.7	<u>390</u>	<u>24.8</u>	388	24.9	381	25.4	382	25.3	<u>381</u>	<u>25.3</u>
403.gcc	211	38.1	211	38.1	<u>211</u>	<u>38.1</u>	<u>211</u>	<u>38.2</u>	211	38.2	211	38.2
429.mcf	144	63.4	143	63.7	<u>144</u>	<u>63.5</u>	<u>142</u>	<u>64.0</u>	143	63.8	142	64.4
445.gobmk	343	30.5	<u>344</u>	<u>30.5</u>	344	30.5	343	30.6	344	30.5	<u>344</u>	<u>30.5</u>
456.hammer	<u>106</u>	<u>88.2</u>	106	88.4	106	88.1	<u>106</u>	<u>88.2</u>	106	88.4	106	88.1
458.sjeng	<u>337</u>	<u>35.9</u>	337	35.9	338	35.8	<u>333</u>	<u>36.4</u>	333	36.3	333	36.4
462.libquantum	2.51	8260	<u>2.56</u>	<u>8080</u>	2.59	8010	2.51	8260	<u>2.56</u>	<u>8080</u>	2.59	8010
464.h264ref	<u>381</u>	<u>58.1</u>	380	58.2	382	58.0	<u>381</u>	<u>58.1</u>	380	58.2	382	58.0
471.omnetpp	132	47.4	<u>132</u>	<u>47.3</u>	132	47.3	111	56.2	<u>112</u>	<u>55.9</u>	112	55.9
473.astar	191	36.8	<u>191</u>	<u>36.7</u>	193	36.5	192	36.7	190	36.9	<u>191</u>	<u>36.8</u>
483.xalancbmk	89.2	77.3	88.8	77.7	<u>88.8</u>	<u>77.7</u>	78.8	87.6	<u>78.8</u>	<u>87.5</u>	79.0	87.3

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

BIOS Settings:

Early Snoop = Disable

Enforce POR = Disabled

Memory Frequency = 2400

Hyper-Threading (ALL) = Disabled

Sysinfo program /usr/cpu2006/config/sysinfo.rev6914

\$Rev: 6914 \$ \$Date:: 2014-06-25 # \$ e3fbb8667b5a285932ceab81e28219e1

running on X10DRW-01 Thu Mar 3 02:30:53 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) Xeon(R) CPU E5-2697 v4 @ 2.30GHz

2 "physical id"s (chips)

36 "processors"

cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

<http://www.spec.org/>

Page 2



SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

SuperServer 6028R-WTR
(X10DRW-i, Intel Xeon E5-2697 v4)

SPECint2006 = 73.1

SPECint_base2006 = 70.6

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Mar-2016

Hardware Availability: Mar-2016

Software Availability: Sep-2015

Platform Notes (Continued)

caution.)

cpu cores : 18

siblings : 18

physical 0: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27

physical 1: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27

cache size : 46080 KB

From /proc/meminfo

MemTotal: 264039344 kB

HugePages_Total: 0

Hugepagesize: 2048 kB

From /etc/*release* /etc/*version*

os-release:

NAME="Red Hat Enterprise Linux Server"

VERSION="7.2 (Maipo)"

ID="rhel"

ID_LIKE="fedora"

VERSION_ID="7.2"

PRETTY_NAME="Red Hat Enterprise Linux Server 7.2 (Maipo)"

ANSI_COLOR="0;31"

CPE_NAME="cpe:/o:redhat:enterprise_linux:7.2:GA:server"

redhat-release: Red Hat Enterprise Linux Server release 7.2 (Maipo)

system-release: Red Hat Enterprise Linux Server release 7.2 (Maipo)

system-release-cpe: cpe:/o:redhat:enterprise_linux:7.2:ga:server

uname -a:

Linux X10DRW-01 3.10.0-327.el7.x86_64 #1 SMP Thu Oct 29 17:29:29 EDT 2015

x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Mar 3 02:29

SPEC is set to: /usr/cpu2006

Filesystem Type Size Used Avail Use% Mounted on

/dev/sda2 xfs 183G 5.6G 177G 4% /

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. 2.0 12/17/2015

Memory:

16x Hynix Semiconductor HMA42GR7AFR4N-UH 16 GB 2 rank 2400 MHz

(End of data from sysinfo program)



SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

SuperServer 6028R-WTR
(X10DRW-i, Intel Xeon E5-2697 v4)

SPECint2006 = 73.1

SPECint_base2006 = 70.6

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Mar-2016

Hardware Availability: Mar-2016

Software Availability: Sep-2015

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 = "36"

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.hmmmer: -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



SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

SuperServer 6028R-WTR
(X10DRW-i, Intel Xeon E5-2697 v4)

SPECint2006 = 73.1

SPECint_base2006 = 70.6

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

Test date: Mar-2016
Hardware Availability: Mar-2016
Software Availability: Sep-2015

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

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.hmmmer: -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

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

SuperServer 6028R-WTR
(X10DRW-i, Intel Xeon E5-2697 v4)

SPECint2006 = 73.1

SPECint_base2006 = 70.6

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Mar-2016

Hardware Availability: Mar-2016

Software Availability: Sep-2015

Peak Optimization Flags (Continued)

401.bzip2 (continued):

`-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`

445.gobmk: `-xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)`

`-prof-use(pass 2) -par-num-threads=1(pass 1) -ansi-alias`

456.hmmcr: `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>



SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

SuperServer 6028R-WTR
(X10DRW-i , Intel Xeon E5-2697 v4)

SPECint2006 = 73.1

SPECint_base2006 = 70.6

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Mar-2016

Hardware Availability: Mar-2016

Software Availability: Sep-2015

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 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 Thu Jun 30 12:43:32 2016 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 4 April 2016.