SPEC® CINT2006 Result
Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

SuperServer 2028R-TXR
(X10DRX , Intel Xeon E5-2603 v4)

$SPECint^{®}2006 =$ 35.9

$SPECint\_base2006 =$ 34.7

CPU2006 license: 001176	**Test date:** Sep-2016
Test sponsor: Supermicro	**Hardware Availability:** Mar-2016
Tested by: Supermicro	**Software Availability:** Sep-2015

Results graph with scale 0 100 200 300 400 500 600 700 800 900 1000 1150 1300 1450 1600 1750 1900 2050 2200 2350 2500 2650 2800:

- 400.perlbench: 22.2 / 20.5
- 401.bzip2: 13.3 / 13.0
- 403.gcc: 21.1 / 21.0
- 429.mcf: 41.2 / 40.4
- 445.gobmk: 14.7 / 14.6
- 456.hmmer: 42.1
- 458.sjeng: 17.7 / 17.5
- 462.libquantum: 2760
- 464.h264ref: 30.1
- 471.omnetpp: 24.6 / 19.5
- 473.astar: 18.8 / 18.8
- 483.xalancbmk: 43.0 / 40.7

SPECint_base2006 = 34.7
SPECint2006 = 35.9

Hardware

CPU Name:	Intel Xeon E5-2603 v4
CPU Characteristics:	
CPU MHz:	1700
FPU:	Integrated
CPU(s) enabled:	12 cores, 2 chips, 6 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:	15 MB I+D on chip per chip
Other Cache:	None
Memory:	128 GB (16 x 8 GB 1Rx4 PC4-2133P-R, running at 1866 MHz)
Disk Subsystem:	1 x 512 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 2028R-TXR
(X10DRX , Intel Xeon E5-2603 v4)

SPECint2006 =   35.9

SPECint_base2006 =   34.7
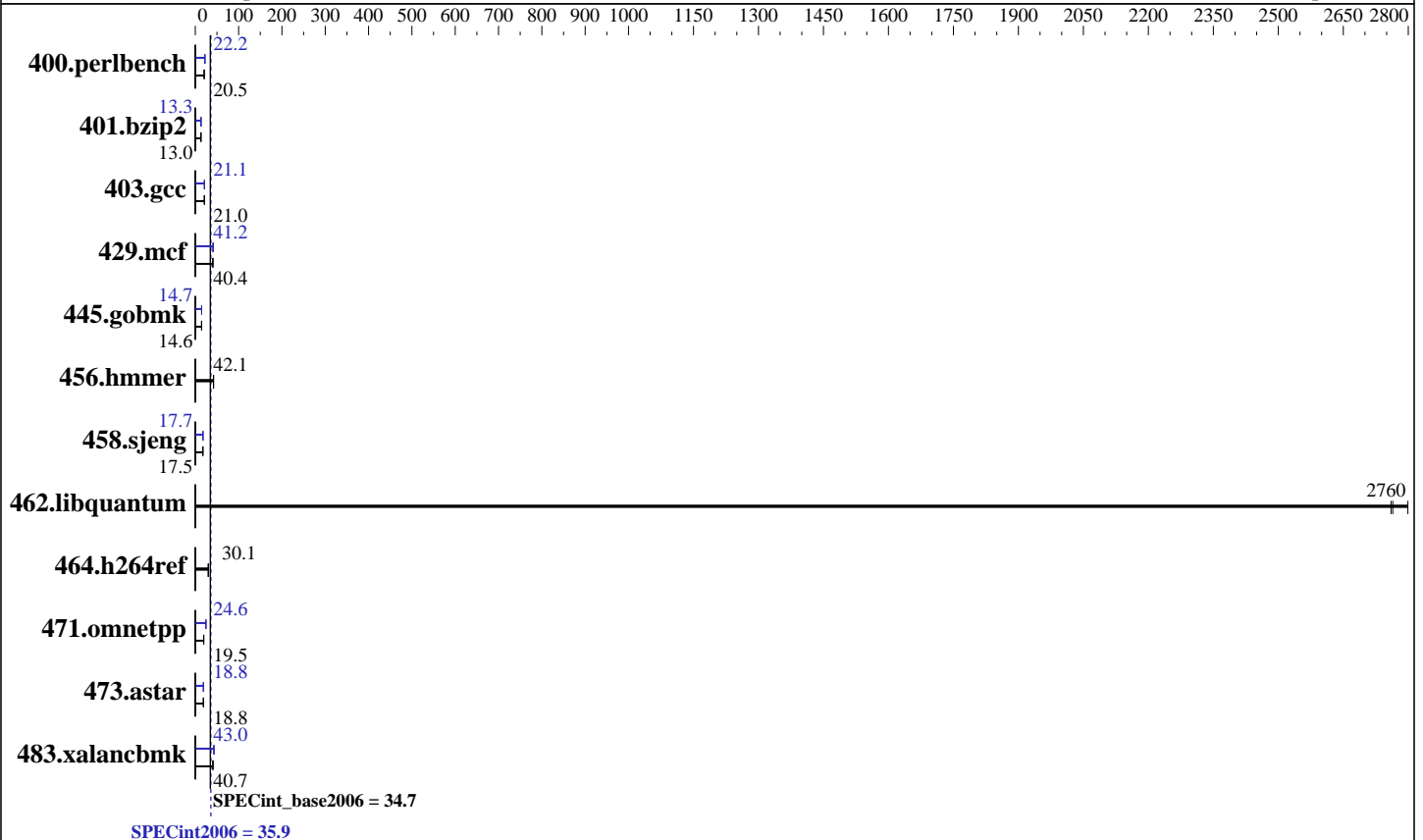
CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

Test date: Sep-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	476	20.5	**476**	**20.5**	476	20.5	**440**	**22.2**	440	22.2	440	22.2
401.bzip2	**740**	**13.0**	740	13.0	741	13.0	728	13.3	**728**	**13.3**	728	13.3
403.gcc	383	21.0	**383**	**21.0**	383	21.0	**382**	**21.1**	383	21.0	382	21.1
429.mcf	**226**	**40.4**	223	40.9	226	40.4	225	40.5	**221**	**41.2**	219	41.6
445.gobmk	**720**	**14.6**	720	14.6	720	14.6	716	14.7	**715**	**14.7**	715	14.7
456.hmmer	221	42.1	222	42.1	**222**	**42.1**	221	42.1	222	42.1	**222**	**42.1**
458.sjeng	691	17.5	691	17.5	**691**	**17.5**	683	17.7	683	17.7	**683**	**17.7**
462.libquantum	7.51	2760	**7.50**	**2760**	7.40	2800	7.51	2760	**7.50**	**2760**	7.40	2800
464.h264ref	737	30.0	**736**	**30.1**	733	30.2	737	30.0	**736**	**30.1**	733	30.2
471.omnetpp	322	19.4	**321**	**19.5**	320	19.5	254	24.6	**254**	**24.6**	257	24.4
473.astar	**374**	**18.8**	373	18.8	375	18.7	376	18.7	**374**	**18.8**	374	18.8
483.xalancbmk	169	40.7	**170**	**40.7**	170	40.7	161	42.9	160	43.1	**161**	**43.0**

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 = Disabled
    Enforce POR = Disabled
    Memory Frequency = 1866
    Sysinfo program /usr/cpu2006/config/sysinfo.rev6914
    $Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
    running on localhost.localdomain Mon Sep 19 15:01:13 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 E5-2603 v4@ 1.70GHz
          2 "physical id"s (chips)
          12 "processors"
       cores, siblings (Caution: counting these is hw and system dependent.  The
       following excerpts from /proc/cpuinfo might not be reliable.  Use with
       caution.)
```

Continued on next page

Supermicro

SuperServer 2028R-TXR
(X10DRX , Intel Xeon E5-2603 v4)

$SPECint2006 = $ 35.9

$SPECint_base2006 = $ 34.7

CPU2006 license: 001176		**Test date:**	Sep-2016
Test sponsor:	Supermicro	**Hardware Availability:**	Mar-2016
Tested by:	Supermicro	**Software Availability:**	Sep-2015

Platform Notes (Continued)

```
      cpu cores : 6
      siblings  : 6
      physical 0: cores 0 1 2 3 4 5
      physical 1: cores 0 1 2 3 4 5
   cache size : 15360 KB

From /proc/meminfo
   MemTotal:       131750552 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 localhost.localdomain 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 Sep 19 14:47

SPEC is set to: /usr/cpu2006
   Filesystem            Type  Size  Used Avail Use% Mounted on
   /dev/mapper/rhel-root xfs    50G  7.0G   44G  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. 2.0 12/17/2015
  Memory:
  16x Hynix Semiconductor HMA41GR7MFR4N-TF 8 GB 1 rank 2133 MHz, configured at
  1866 MHz

(End of data from sysinfo program)
```

SPEC CINT2006 Result
Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

SuperServer 2028R-TXR
(X10DRX , Intel Xeon E5-2603 v4)

SPECint2006 =   35.9

SPECint_base2006 =   34.7

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

Test date: Sep-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 = "12"

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

SPEC CINT2006 Result
Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

SuperServer 2028R-TXR
(X10DRX , Intel Xeon E5-2603 v4)

$SPECint2006 = $ 35.9

$SPECint_base2006 = $ 34.7

CPU2006 license: 001176	**Test date:**	Sep-2016
Test sponsor: Supermicro	**Hardware Availability:**	Mar-2016
Tested by: Supermicro	**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.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

Supermicro

SuperServer 2028R-TXR
(X10DRX , Intel Xeon E5-2603 v4)

$SPECint2006 =$ 35.9

$SPECint\_base2006 =$ 34.7

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

Test date: Sep-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.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

SPEC CINT2006 Result
Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

SuperServer 2028R-TXR
(X10DRX , Intel Xeon E5-2603 v4)

SPECint2006 = 35.9

SPECint_base2006 = 34.7

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
```

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 Wed Oct 19 10:28:58 2016 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 18 October 2016.