SPEC® CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

SuperServer 6028R-TR
(X10DRi , Intel Xeon E5-2643 v4)

$SPECint^{®}\_rate2006 =$ 732

$SPECint\_rate\_base2006 =$ 697

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Mar-2016

Hardware Availability: Mar-2016

Software Availability: Sep-2015

Copies

Benchmark		
400.perlbench	24	609
	24	500
401.bzip2	24	347
	24	336
403.gcc	24	511
	24	510
429.mcf	24	889
445.gobmk	24	465
	24	457
456.hmmer	24	1320
	24	1080
458.sjeng	24	500
	24	470
462.libquantum	24	7090
464.h264ref	24	880
	24	867
471.omnetpp	24	352
	24	329
473.astar	24	420
483.xalancbmk	24	875

SPECint_rate_base2006 = 697

SPECint_rate2006 = 732

Hardware

CPU Name:	Intel Xeon E5-2643 v4
CPU Characteristics:	Intel Turbo Boost Technology up to 3.70 GHz
CPU MHz:	3400
FPU:	Integrated
CPU(s) enabled:	12 cores, 2 chips, 6 cores/chip, 2 threads/core
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:	20 MB I+D on chip per chip
Other Cache:	None
Memory:	256 GB (16 x 16 GB 2Rx4 PC4-2400P-R)
Disk Subsystem:	1 x 1000 GB SATA III, 7200 RPM
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 12 SP1, Kernel 3.12.49-11-default
Compiler:	C/C++: Version 16.0.0.101 of Intel C++ Studio XE for Linux
Auto Parallel:	No
File System:	ext4
System State:	Run level 3 (multi-user)
Base Pointers:	32-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-TR
(X10DRi , Intel Xeon E5-2643 v4)

SPECint_rate2006 =   732
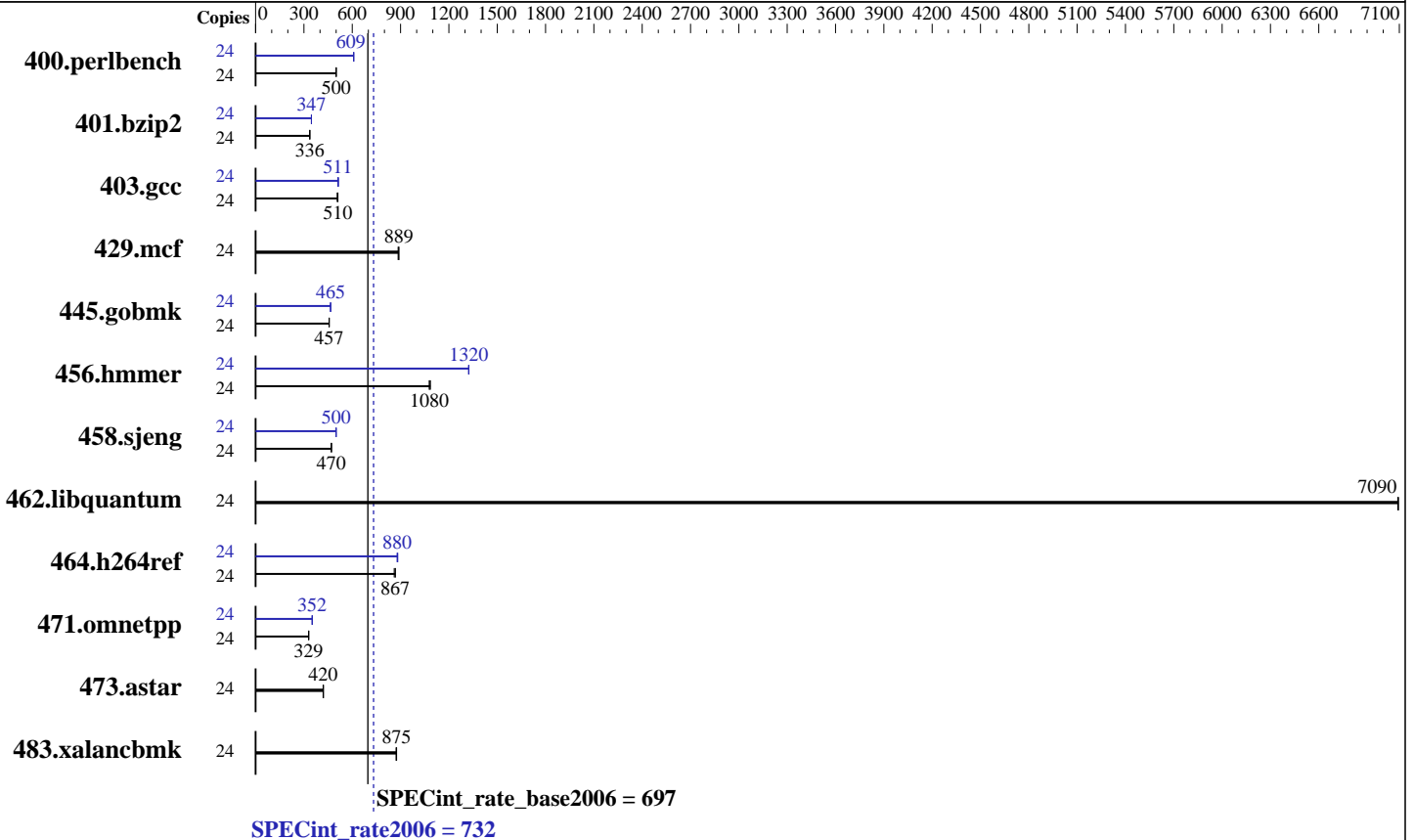
SPECint_rate_base2006 = 697

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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	24	**469**	**500**	469	500	469	500	24	**385**	**609**	385	609	385	609
401.bzip2	24	689	336	688	337	**689**	**336**	24	668	347	669	346	**668**	**347**
403.gcc	24	382	506	378	511	**379**	**510**	24	379	510	**378**	**511**	375	515
429.mcf	24	247	885	246	889	**246**	**889**	24	247	885	246	889	**246**	**889**
445.gobmk	24	551	457	**551**	**457**	551	457	24	540	466	**541**	**465**	541	465
456.hmmer	24	206	1090	208	1080	**207**	**1080**	24	**169**	**1320**	169	1320	169	1320
458.sjeng	24	617	470	617	471	**617**	**470**	24	**581**	**500**	581	500	582	499
462.libquantum	24	**70.1**	**7090**	70.1	7090	70.1	7090	24	**70.1**	**7090**	70.1	7090	70.1	7090
464.h264ref	24	617	860	**613**	**867**	613	867	24	602	883	604	879	**604**	**880**
471.omnetpp	24	**455**	**329**	456	329	455	330	24	**427**	**352**	427	351	426	352
473.astar	24	**401**	**420**	400	422	402	419	24	**401**	**420**	400	422	402	419
483.xalancbmk	24	189	875	190	872	**189**	**875**	24	189	875	190	872	**189**	**875**

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

Submit Notes

   The numactl mechanism was used to bind copies to processors. The config file option 'submit'
was used to generate numactl 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

       BIOS Settings:
       Early Snoop = Disable
       Home Dir Snoop with IVT- Style OSB = Disable
       Enforce POR = Disabled
       Sysinfo program /home/SPEC2K6/SPEC2006-V12/config/sysinfo.rev6914
       $Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
       running on 160-223 Wed Mar 30 17:00:17 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 E5-2643 v4 @ 3.40GHz
             2 "physical id"s (chips)
             24 "processors"
          cores, siblings (Caution: counting these is hw and system dependent. The

Supermicro

SuperServer 6028R-TR
(X10DRi , Intel Xeon E5-2643 v4)

SPECint_rate2006 =   732

SPECint_rate_base2006 =   697

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

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

Platform Notes (Continued)

```
    following excerpts from /proc/cpuinfo might not be reliable.  Use with
    caution.)
       cpu cores : 6
       siblings  : 12
       physical 0: cores 0 1 2 3 6 7
       physical 1: cores 0 1 2 3 6 7
    cache size : 20480 KB

 From /proc/meminfo
    MemTotal:       264568432 kB
    HugePages_Total:        0
    Hugepagesize:        2048 kB

 /usr/bin/lsb_release -d
    SUSE Linux Enterprise Server 12 SP1

 From /etc/*release* /etc/*version*
    SuSE-release:
       SUSE Linux Enterprise Server 12 (x86_64)
       VERSION = 12
       PATCHLEVEL = 1
       # This file is deprecated and will be removed in a future service pack or
       release.
       # Please check /etc/os-release for details about this release.
    os-release:
       NAME="SLES"
       VERSION="12-SP1"
       VERSION_ID="12.1"
       PRETTY_NAME="SUSE Linux Enterprise Server 12 SP1"
       ID="sles"
       ANSI_COLOR="0;32"
       CPE_NAME="cpe:/o:suse:sles:12:sp1"

 uname -a:
    Linux 160-223 3.12.49-11-default #1 SMP Wed Nov 11 20:52:43 UTC 2015
    (8d714a0) x86_64 x86_64 x86_64 GNU/Linux

 run-level 5 Mar 30 16:54

 SPEC is set to: /home/SPEC2K6/SPEC2006-V12
    Filesystem      Type  Size  Used Avail Use% Mounted on
    /dev/sda3       ext4  905G   21G  884G   3% /home
 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 12/28/2015
  Memory:
    16x Samsung M393A2G40DB1-CRC 16 GB 2 rank 2400 MHz
```
Continued on next page

SPEC CINT2006 Result

Supermicro

SuperServer 6028R-TR
(X10DRi , Intel Xeon E5-2643 v4)

SPECint_rate2006 =   732

SPECint_rate_base2006 = 697

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

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

Platform Notes (Continued)

```
(End of data from sysinfo program)
```

General Notes

```
Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/home/SPEC2K6/SPEC2006-V12/libs/32:/home/SPEC2K6/SPEC2006-V12/libs/64:/home/SPEC2K6/SPEC2006-V12/sh"

 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
 Filesystem page cache cleared with:
 echo 1>         /proc/sys/vm/drop_caches
 runspec command invoked through numactl i.e.:
 numactl --interleave=all runspec <etc>
```

Base Compiler Invocation

C benchmarks:
```
     icc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin
```

C++ benchmarks:
```
     icpc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin
```

Base Portability Flags

```
      400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX_IA32
         401.bzip2: -D_FILE_OFFSET_BITS=64
           403.gcc: -D_FILE_OFFSET_BITS=64
           429.mcf: -D_FILE_OFFSET_BITS=64
         445.gobmk: -D_FILE_OFFSET_BITS=64
        456.hmmer: -D_FILE_OFFSET_BITS=64
         458.sjeng: -D_FILE_OFFSET_BITS=64
     462.libquantum: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX
       464.h264ref: -D_FILE_OFFSET_BITS=64
       471.omnetpp: -D_FILE_OFFSET_BITS=64
          473.astar: -D_FILE_OFFSET_BITS=64
     483.xalancbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX
```

Base Optimization Flags

C benchmarks:
```
     -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
     -opt-mem-layout-trans=3
```

Continued on next page

Supermicro

SuperServer 6028R-TR
(X10DRi , Intel Xeon E5-2643 v4)

SPECint_rate2006 =   732

SPECint_rate_base2006 = 697

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

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

Base Optimization Flags (Continued)

C++ benchmarks:
```
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
-opt-mem-layout-trans=3 -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/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin
```

400.perlbench: `icc -m64`

401.bzip2: `icc -m64`

456.hmmer: `icc -m64`

458.sjeng: `icc -m64`

C++ benchmarks:
```
icpc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin
```

Peak Portability Flags

```
400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LP64
403.gcc: -D_FILE_OFFSET_BITS=64
429.mcf: -D_FILE_OFFSET_BITS=64
445.gobmk: -D_FILE_OFFSET_BITS=64
456.hmmer: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LP64
458.sjeng: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LP64
462.libquantum: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX
464.h264ref: -D_FILE_OFFSET_BITS=64
471.omnetpp: -D_FILE_OFFSET_BITS=64
473.astar: -D_FILE_OFFSET_BITS=64
483.xalancbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX
```

SPEC CINT2006 Result
Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

SuperServer 6028R-TR
(X10DRi , Intel Xeon E5-2643 v4)

SPECint_rate2006 =   732

SPECint_rate_base2006 =   697

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Mar-2016

Hardware Availability: Mar-2016

Software Availability: Sep-2015

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) `-auto-ilp32`

401.bzip2: `-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`
`-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:threadsafe`(pass 1)
`-prof-use`(pass 2) `-par-num-threads=1`(pass 1) `-ansi-alias`
`-opt-mem-layout-trans=3`

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

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`
`-auto-ilp32`

462.libquantum: `basepeak = yes`

464.h264ref: `-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) `-unroll2`
`-ansi-alias`

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

473.astar: `basepeak = yes`

483.xalancbmk: `basepeak = yes`

Supermicro

SuperServer 6028R-TR
(X10DRi , Intel Xeon E5-2643 v4)

SPECint_rate2006 =　　732

SPECint_rate_base2006 =　697

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Mar-2016

Hardware Availability: Mar-2016

Software Availability: Sep-2015

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

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 May 3 18:00:28 2016 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 3 May 2016.