SPEC® CINT2006 Result
Copyright 2006-2015 Standard Performance Evaluation Corporation

Supermicro

SuperServer 2048U-RTR4
(X10QRH+ , Intel Xeon E5-4667 v3)

SPECint®_rate2006 =   2280

SPECint_rate_base2006 = 2200

CPU2006 license: 001176	**Test date:** Jun-2015
Test sponsor: Supermicro	**Hardware Availability:** Jun-2015
Tested by: Supermicro	**Software Availability:** Oct-2014

Copies

- 400.perlbench: 128 / 2060, 128 / 1650
- 401.bzip2: 128 / 1150, 128 / 1100
- 403.gcc: 128 / 1700, 128 / 1690
- 429.mcf: 128 / 2960
- 445.gobmk: 128 / 1540, 128 / 1530
- 456.hmmer: 128 / 3390, 128 / 3100
- 458.sjeng: 128 / 1690, 128 / 1620
- 462.libquantum: 128 / 21100
- 464.h264ref: 128 / 2730, 128 / 2640
- 471.omnetpp: 128 / 1240, 128 / 1200
- 473.astar: 128 / 1200
- 483.xalancbmk: 128 / 2240

SPECint_rate_base2006 = 2200

SPECint_rate2006 = 2280

Hardware

CPU Name:	Intel Xeon E5-4667 v3
CPU Characteristics:	Intel Turbo Boost Technology up to 2.90 GHz
CPU MHz:	2000
FPU:	Integrated
CPU(s) enabled:	64 cores, 4 chips, 16 cores/chip, 2 threads/core
CPU(s) orderable:	1,2,4 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:	40 MB I+D on chip per chip
Other Cache:	None
Memory:	512 GB (32 x 16 GB 2Rx4 PC4-2133P-R)
Disk Subsystem:	1 x 600 GB SATA II, SSD
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 12, Kernel 3.12.28-4-default
Compiler:	C/C++: Version 15.0.0.090 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 V10.0

SPEC CINT2006 Result
Copyright 2006-2015 Standard Performance Evaluation Corporation

Supermicro

SuperServer 2048U-RTR4
(X10QRH+ , Intel Xeon E5-4667 v3)

SPECint_rate2006 =   2280
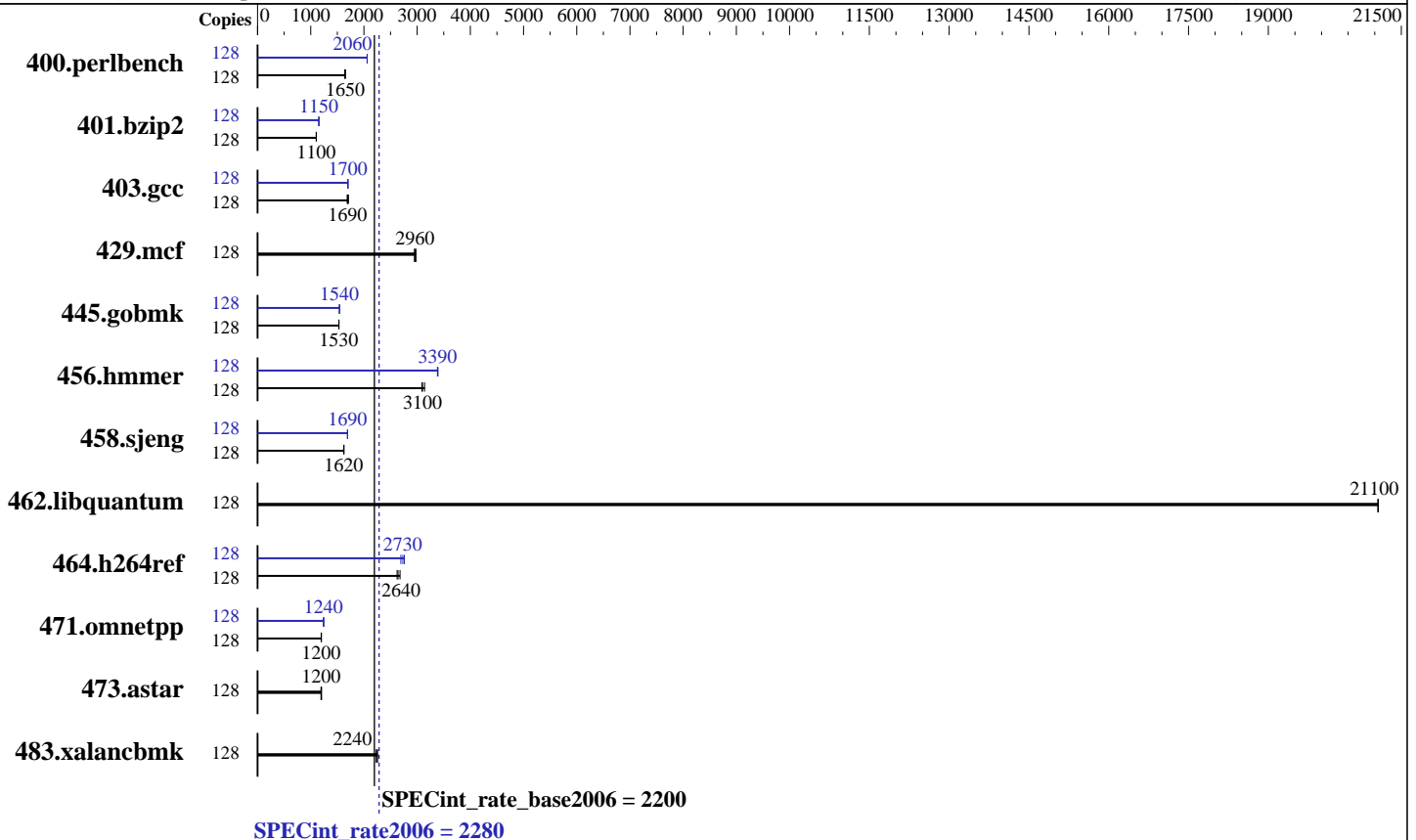
SPECint_rate_base2006 = 2200

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jun-2015

Hardware Availability: Jun-2015

Software Availability: Oct-2014

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	128	758	1650	**759**	**1650**	762	1640	128	607	2060	607	2060	**607**	**2060**
401.bzip2	128	1118	1100	1120	1100	**1119**	**1100**	128	1072	1150	1073	1150	**1072**	**1150**
403.gcc	128	603	1710	**609**	**1690**	612	1680	128	607	1700	606	1700	**607**	**1700**
429.mcf	128	392	2980	**394**	**2960**	396	2950	128	392	2980	**394**	**2960**	396	2950
445.gobmk	128	877	1530	879	1530	**878**	**1530**	128	871	1540	**872**	**1540**	872	1540
456.hmmer	128	**385**	**3100**	387	3090	380	3140	128	353	3380	352	3390	**353**	**3390**
458.sjeng	128	956	1620	**955**	**1620**	954	1620	128	915	1690	**916**	**1690**	916	1690
462.libquantum	128	**126**	**21100**	126	21100	126	21100	128	**126**	**21100**	126	21100	126	21100
464.h264ref	128	**1073**	**2640**	1058	2680	1080	2620	128	**1037**	**2730**	1027	2760	1051	2690
471.omnetpp	128	667	1200	**667**	**1200**	669	1200	128	642	1250	647	1240	**644**	**1240**
473.astar	128	754	1190	747	1200	**750**	**1200**	128	754	1190	747	1200	**750**	**1200**
483.xalancbmk	128	391	2260	396	2230	**395**	**2240**	128	391	2260	396	2230	**395**	**2240**

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:
    COD Enable = Enable
    Early Snoop = Disable
    Enforce POR = Disabled
    Sysinfo program /home/SPEC2K6/SPEC2006-V12/config/sysinfo.rev6914
    $Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
    running on 18-216 Tue Jun 16 12:47:48 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) Xeon(R) CPU E5-4667 v3 @ 2.00GHz
          4 "physical id"s (chips)
          128 "processors"
       cores, siblings (Caution: counting these is hw and system dependent. The

Supermicro

SuperServer 2048U-RTR4
(X10QRH+ , Intel Xeon E5-4667 v3)

SPECint_rate2006 =   2280

SPECint_rate_base2006 = 2200

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

Test date: Jun-2015
Hardware Availability: Jun-2015
Software Availability: Oct-2014

Platform Notes (Continued)

```
    following excerpts from /proc/cpuinfo might not be reliable.  Use with
    caution.)
       cpu cores : 16
       siblings  : 32
       physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
       physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
       physical 2: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
       physical 3: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
    cache size : 40960 KB

 From /proc/meminfo
    MemTotal:       529326312 kB
    HugePages_Total:        0
    Hugepagesize:        2048 kB

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

 From /etc/*release* /etc/*version*
    SuSE-release:
       SUSE Linux Enterprise Server 12 (x86_64)
       VERSION = 12
       PATCHLEVEL = 0
       # 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"
       VERSION_ID="12"
       PRETTY_NAME="SUSE Linux Enterprise Server 12"
       ID="sles"
       ANSI_COLOR="0;32"
       CPE_NAME="cpe:/o:suse:sles:12"

 uname -a:
    Linux 18-216 3.12.28-4-default #1 SMP Thu Sep 25 17:02:34 UTC 2014 (9879bd4)
    x86_64 x86_64 x86_64 GNU/Linux

 run-level 5 Jun 16 12:43

 SPEC is set to: /home/SPEC2K6/SPEC2006-V12
    Filesystem      Type  Size  Used Avail Use% Mounted on
    /dev/sda3       ext4  529G  7.5G  520G   2% /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. 1.00 05/28/2015
```

Continued on next page

Supermicro

SuperServer 2048U-RTR4
(X10QRH+ , Intel Xeon E5-4667 v3)

SPECint_rate2006 =   2280

SPECint_rate_base2006 = 2200

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jun-2015

Hardware Availability: Jun-2015

Software Availability: Oct-2014

Platform Notes (Continued)

```
     Memory:
      16x NO DIMM NO DIMM
      7x Samsung(data:13/51) M393A2G40DB0-CPB 16 GB 2 rank 2133 MHz
      3x Samsung(data:14/16) M393A2G40DB0-CPB 16 GB 2 rank 2133 MHz
      8x Samsung(data:14/17) M393A2G40DB0-CPB 16 GB 2 rank 2133 MHz
      6x Samsung(data:14/25) M393A2G40DB0-CPB 16 GB 2 rank 2133 MHz
      8x Samsung(data:14/26) M393A2G40DB0-CPB 16 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 = "/home/SPEC2K6/SPEC2006-V12/libs/32:/home/SPEC2K6/SPEC2006-V12/libs/64:/home/SPEC2K6/SPEC2006-V12/sh"

  Binaries compiled on a system with 1x Core i5-4670K CPU + 16GB
  memory using RedHat EL 7.0
  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/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
    -opt-mem-layout-trans=3
```

SPEC CINT2006 Result
Copyright 2006-2015 Standard Performance Evaluation Corporation

Supermicro

SuperServer 2048U-RTR4
(X10QRH+ , Intel Xeon E5-4667 v3)

SPECint_rate2006 =   2280

SPECint_rate_base2006 = 2200

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jun-2015

Hardware Availability: Jun-2015

Software Availability: Oct-2014

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/composer_xe_2015/lib/ia32
```

    400.perlbench: `icc -m64`

      401.bzip2: `icc -m64`

     456.hmmer: `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.hmmer: `-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`

Continued on next page

Supermicro

SuperServer 2048U-RTR4
(X10QRH+ , Intel Xeon E5-4667 v3)

SPECint_rate2006 =   2280

SPECint_rate_base2006 =   2200

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jun-2015

Hardware Availability: Jun-2015

Software Availability: Oct-2014

Peak Optimization Flags (Continued)

    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 -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(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

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

SPEC CINT2006 Result
Copyright 2006-2015 Standard Performance Evaluation Corporation

Supermicro

SuperServer 2048U-RTR4
(X10QRH+ , Intel Xeon E5-4667 v3)

SPECint_rate2006 = 2280

SPECint_rate_base2006 = 2200

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 Aug 6 13:25:45 2015 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 6 August 2015.