SPEC® CINT2006 Result
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Supermicro

SuperServer 5018D-MTF
(X10SLM-F , Intel Xeon E3-1231 v3, 3.40 GHz)

$SPECint^{®}\_rate2006 =$ 218

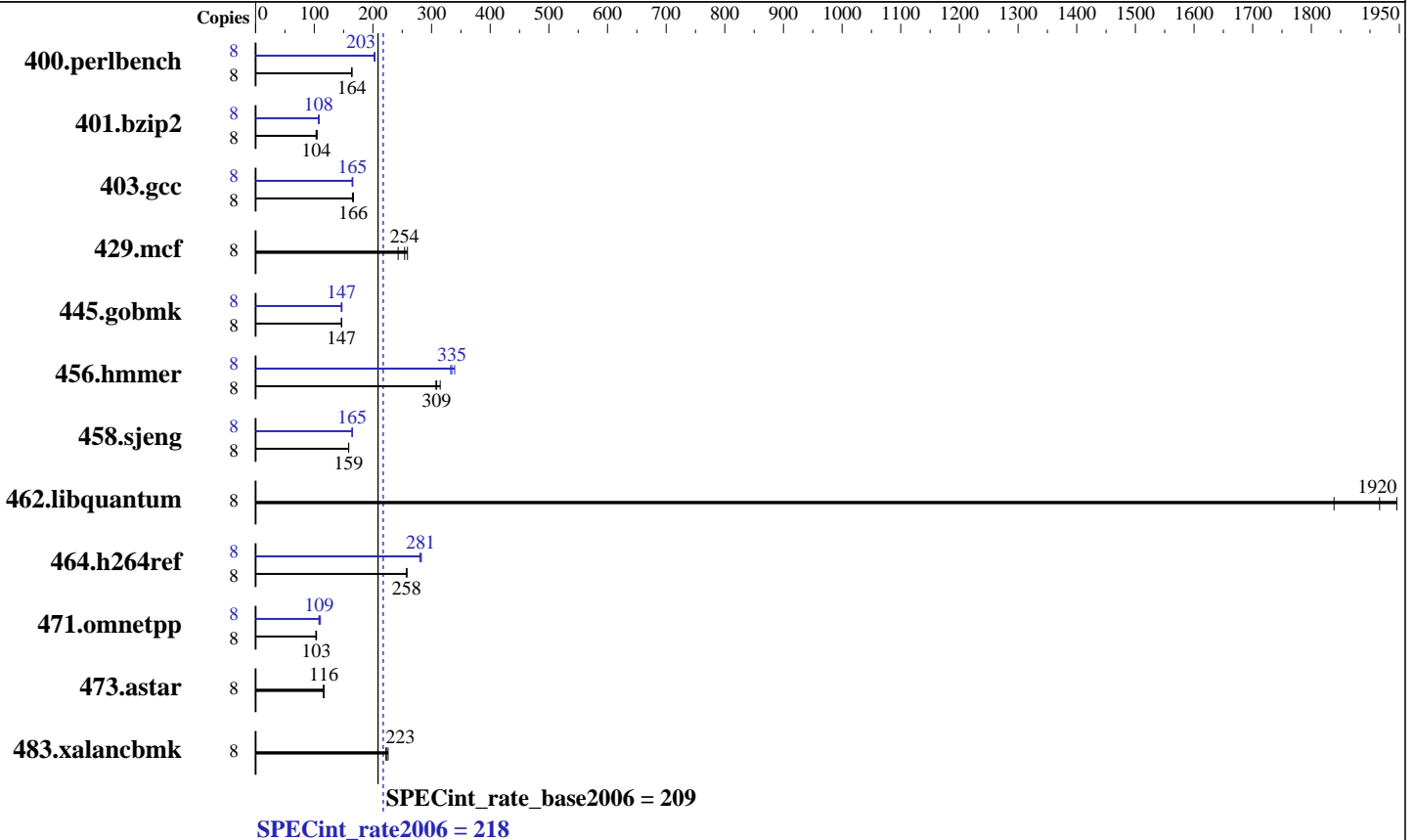$SPECint\_rate\_base2006 =$ 209

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

Test date: Sep-2015
Hardware Availability: May-2014
Software Availability: Sep-2014

Copies

Benchmark	Copies	Peak	Base
400.perlbench	8	203	164
401.bzip2	8	108	104
403.gcc	8	165	166
429.mcf	8		254
445.gobmk	8	147	147
456.hmmer	8	335	309
458.sjeng	8	165	159
462.libquantum	8		1920
464.h264ref	8	281	258
471.omnetpp	8	109	103
473.astar	8		116
483.xalancbmk	8		223

SPECint_rate_base2006 = 209
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Hardware

CPU Name: Intel Xeon E3-1231 v3
CPU Characteristics: Intel Turbo Boost Technology up to 3.80 GHz
CPU MHz: 3400
FPU: Integrated
CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip, 2 threads/core
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: 8 MB I+D on chip per chip
Other Cache: None
Memory: 16 GB (2 x 8 GB 2Rx8 PC3-12800E-11, ECC)
Disk Subsystem: 1 x 1024 GB SATA III, 7200 RPM
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 15.0.0.090 of Intel C++ Studio XE for Linux
Auto Parallel: No
File System: xfs
System State: Run level 3 (multi-user)
Base Pointers: 32-bit
Peak Pointers: 32/64-bit
Other Software: Microquill SmartHeap V10.0

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Results Table

Benchmark	Copies	Base Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Peak Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	8	477	164	476	164	**476**	**164**	8	**385**	**203**	386	202	384	203
401.bzip2	8	**745**	**104**	735	105	749	103	8	**717**	**108**	719	107	713	108
403.gcc	8	390	165	**388**	**166**	386	167	8	**389**	**165**	391	164	389	166
429.mcf	8	300	243	282	259	**287**	**254**	8	300	243	282	259	**287**	**254**
445.gobmk	8	573	146	572	147	**572**	**147**	8	574	146	570	147	**573**	**147**
456.hmmer	8	243	307	237	315	**242**	**309**	8	224	333	**223**	**335**	220	339
458.sjeng	8	610	159	611	158	**610**	**159**	8	**588**	**165**	588	164	587	165
462.libquantum	8	**86.5**	**1920**	85.2	1950	90.2	1840	8	**86.5**	**1920**	85.2	1950	90.2	1840
464.h264ref	8	686	258	**687**	**258**	689	257	8	626	283	632	280	**630**	**281**
471.omnetpp	8	481	104	**483**	**103**	487	103	8	452	111	463	108	**460**	**109**
473.astar	8	486	116	482	116	**483**	**116**	8	486	116	482	116	**483**	**116**
483.xalancbmk	8	244	226	**247**	**223**	248	222	8	244	226	**247**	**223**	248	222

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

Submit Notes

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

    Sysinfo program /usr/cpu2006/config/sysinfo.rev6914
    $Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
    running on SYS-5018D-MTF Wed Sep 16 10:51:04 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 E3-1231 v3 @ 3.40GHz
          1 "physical id"s (chips)
          8 "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
          siblings : 8

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Platform Notes (Continued)

```
      physical 0: cores 0 1 2 3
    cache size : 8192 KB

  From /proc/meminfo
    MemTotal:       16392956 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 SYS-5018D-MTF 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 Sep 15 10:23

  SPEC is set to: /usr/cpu2006
    Filesystem      Type  Size  Used Avail Use% Mounted on
    /dev/sda2       xfs   928G   30G  898G   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 09/11/2015
    Memory:
    2x Samsung M391B1G73BH0-CK0 8 GB 2 rank 1600 MHz
    2x [Empty] [Empty]

  (End of data from sysinfo program)
```

General Notes

```
  Environment variables set by runspec before the start of the run:
  LD_LIBRARY_PATH = "/usr/cpu2006/libs/32:/usr/cpu2006/libs/64:/usr/cpu2006/sh"

    Binaries compiled on a system with 1x Core i5-4670K CPU + 16GB
```

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General Notes (Continued)

```
memory using RedHat EL 7.0
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/transparent_hugepage/enabled
```

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
```

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
```

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Peak Compiler Invocation (Continued)

    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`

    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`

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Peak Optimization Flags (Continued)

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

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