SPEC® CINT2006 Result
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Supermicro

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

SPECint®_rate2006 =   218

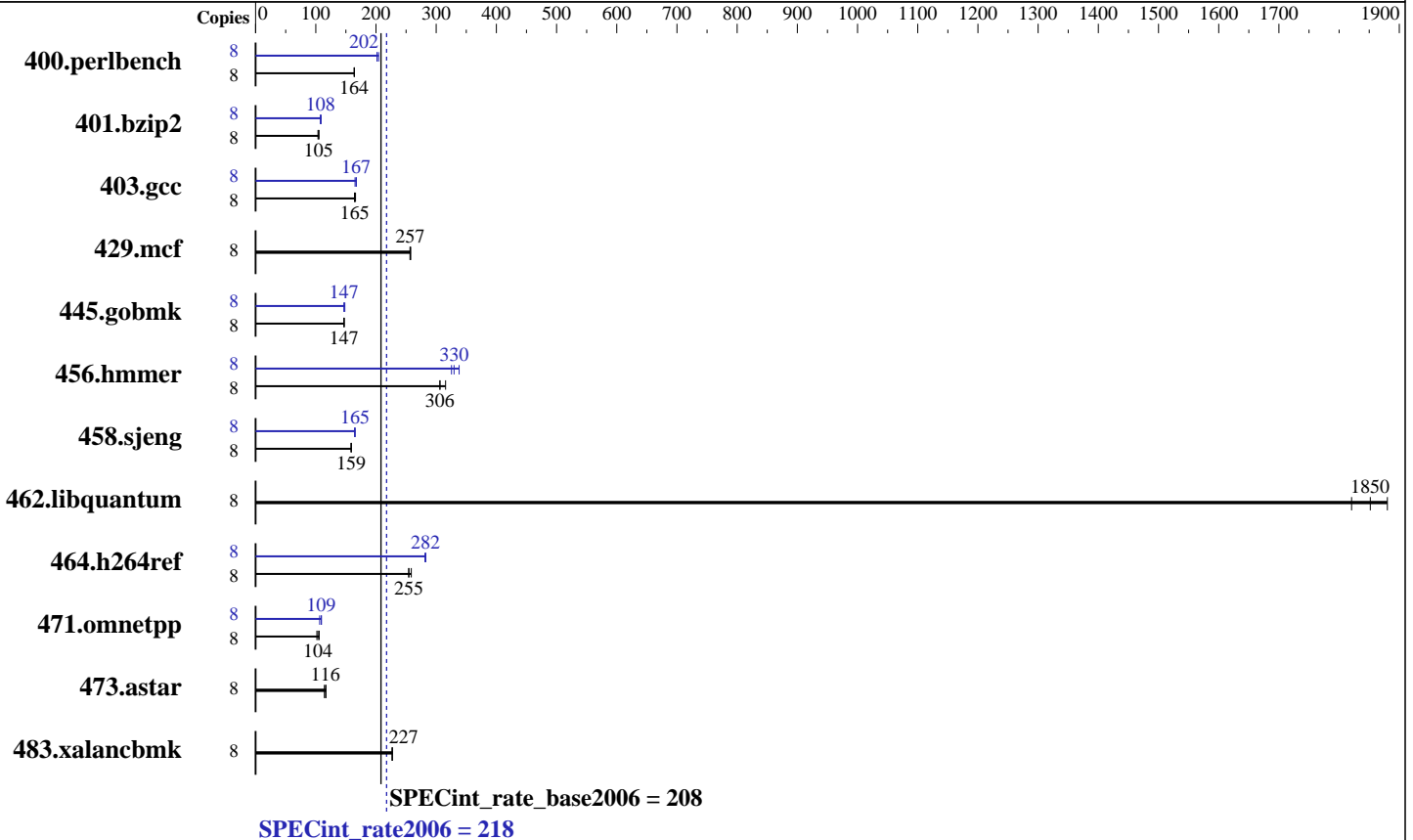SPECint_rate_base2006 =   208

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

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

Copies

Benchmark	Copies	Value (blue)	Value (black)
400.perlbench	8 / 8	202	164
401.bzip2	8 / 8	108	105
403.gcc	8 / 8	167	165
429.mcf	8		257
445.gobmk	8 / 8	147	147
456.hmmer	8 / 8	330	306
458.sjeng	8 / 8	165	159
462.libquantum	8		1850
464.h264ref	8 / 8	282	255
471.omnetpp	8 / 8	109	104
473.astar	8		116
483.xalancbmk	8		227

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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	Base						Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	8	477	164	**477**	**164**	476	164	8	**387**	**202**	382	204	387	202
401.bzip2	8	745	104	733	105	**738**	**105**	8	717	108	709	109	**715**	**108**
403.gcc	8	388	166	**391**	**165**	392	164	8	385	167	**386**	**167**	390	165
429.mcf	8	283	258	**284**	**257**	284	257	8	283	258	**284**	**257**	284	257
445.gobmk	8	572	147	**571**	**147**	570	147	8	566	148	**571**	**147**	571	147
456.hmmer	8	**244**	**306**	236	316	244	306	8	229	325	**226**	**330**	221	338
458.sjeng	8	610	159	608	159	**610**	**159**	8	585	165	**586**	**165**	589	164
462.libquantum	8	88.2	1880	**89.5**	**1850**	91.0	1820	8	88.2	1880	**89.5**	**1850**	91.0	1820
464.h264ref	8	685	259	**695**	**255**	696	254	8	**627**	**282**	629	281	626	283
471.omnetpp	8	491	102	473	106	**483**	**104**	8	458	109	**458**	**109**	470	106
473.astar	8	480	117	491	114	**483**	**116**	8	480	117	491	114	**483**	**116**
483.xalancbmk	8	**243**	**227**	243	227	243	227	8	**243**	**227**	243	227	243	227

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-MTRF Fri Sep 18 18:05:51 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:       16392952 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-MTRF 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 18 18:03

  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

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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