Supermicro SuperWorkstation 5029A-iL (X11SAE, Intel Xeon E3-1225 v5)

**SPECint**\(_{\text{rate2006}} = 206\)
**SPECint\_rate\_base2006 = 200**

| CPU2006 license: | 001176 |
| Test date: | Dec-2015 |
| Test sponsor: | Supermicro |
| Hardware Availability: | Oct-2015 |
| Tested by: | Supermicro |
| Software Availability: | Sep-2015 |

### Hardware

| CPU Name: | Intel Xeon E3-1225 v5 |
| CPU Characteristics: | Intel Turbo Boost Technology up to 3.70 GHz |
| CPU MHz: | 3300 |
| FPU: | Integrated |
| CPU(s) enabled: | 4 cores, 1 chip, 4 cores/chip |
| 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: | 64 GB (4 x 16 GB 2Rx8 PC4-2133P-E) |
| Disk Subsystem: | 1 x 1000 GB SATA III, 7200 RPM |

### Software

| Operating System: | Red Hat Enterprise Linux Server release 7.1, Kernel 3.10.0-229.el7.x86_64 |
| Compiler: | C/C++: Version 16.0.0.101 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 V10.2 |
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Results Table

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<td>462.libquantum</td>
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<td>471.omnetpp</td>
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<td>268</td>
<td>103</td>
<td>267</td>
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</table>

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 /home/cpu2006/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fb8667b5a285932ceab81e28219e1
running on localhost.localdomain Thu Dec 3 20:55:49 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 E3-1225 v5 @ 3.30GHz
  1 "physical id"s (chips)
  4 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The
following excerpts from /proc/cpuinfo might not be reliable. Use with
cautions.)
cpu cores : 4
siblings : 4

Continued on next page
Supermicro
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Platform Notes (Continued)

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

From /proc/meminfo
  MemTotal: 65581704 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)

  uname -a:
    Linux localhost.localdomain 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 Dec 4 14:55

  SPEC is set to: /home/cpu2006
  Filesystem Type Size Used Avail Use% Mounted on
  /dev/mapper/rhel-home xfs 850G 3.4G 846G 1% /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. 1.0 11/09/2015
    Memory:
      4x Samsung M391A2K43BB1-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/cpu2006/libs/32:/home/cpu2006/libs/64:/home/cpu2006/sh"

Binaries compiled on a system with 1x Intel Core i5-4670K CPU + 32GB
memory using RedHat EL 7.1

Continued on next page
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General Notes (Continued)
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/transparent_hugepage/enabled

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
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
Supermicro
SuperWorkstation 5029A-iL
(X11SAE, Intel Xeon E3-1225 v5)

**SPEC CINT2006 Result**

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### Peak Compiler Invocation

C benchmarks (except as noted below):

```plaintext
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:

```plaintext
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`

---

### Peak Optimization Flags

C benchmarks:

```plaintext
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
```

```plaintext
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
```

```plaintext
403.gcc: -xCORE-AVX2 -ipo -O3 -no-prec-div
```

429.mcf: basepeak = yes

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Continued on next page
**SPEC CINT2006 Result**

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### Peak Optimization Flags (Continued)

- **445.gobmk:**  
  -xCORE-AVX2  
  -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  
  -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  
  -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

- **471.omnetpp:**  
  -xDNS=threadsafe  
  -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

---

### Peak Other Flags

**C benchmarks:**

- **403.gcc:**  
  -Dalloca=_alloca

---

The flags files that were used to format this result can be browsed at:


You can also download the XML flags sources by saving the following links:

### SPEC CINT2006 Result

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