Supermicro
SuperServer F618R2-FC0
(X10DRFF-C, Intel Xeon E5-2603 v4)

SPECint®2006 = 35.1
SPECint_base2006 = 33.9

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro
Test date: May-2016
Hardware Availability: Mar-2016
Software Availability: Sep-2015

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<thead>
<tr>
<th>SPECint2006</th>
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<tr>
<td>400.perlbench</td>
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<td>429.mcf</td>
<td>13.0</td>
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<td>18.6</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>18.6</td>
</tr>
</tbody>
</table>

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: Yes
File System: xfs
System State: Run level 3 (multi-user)
Base Pointers: 32/64-bit
Peak Pointers: 32/64-bit
Other Software: Microquill SmartHeap V10.2

Hardware
CPU Name: Intel Xeon E5-2603 v4
CPU Characteristics:
CPU MHz: 1700
FPU: Integrated
CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip
CPU(s) orderable: 12 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: 15 MB I+D on chip per chip
Other Cache: None
Memory: 256 GB (8 x 32 GB 2Rx4 PC4-2400T-R, running at 1866 MHz)
Disk Subsystem: 1 x 200 GB SATA III SSD
Other Hardware: None
## SPEC CINT2006 Result

Supermicro  
SuperServer F618R2-FC0  
(X10DRFF-C , Intel Xeon E5-2603 v4)

<table>
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<tr>
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<th>Seconds</th>
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<td>163</td>
<td>42.3</td>
<td>164</td>
<td>42.2</td>
</tr>
</tbody>
</table>

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

### Submit Notes

The config file option 'submit' was used.

### Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

### Platform Notes

BIOS Settings:
- Early Snoop = Disable
- Sysinfo program /home/cpu2006/config/sysinfo.rev6914

$Rev: 6914 $ $Date:: 2014-06-25 $ $e3fbb8667b5a285932ceab81e28219e1$
runtime on X10DRFF-02 Wed May 18 10:57:16 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 E5-2603 v4@ 1.70GHz
- 2 "physical id"s (chips)
- 12 "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 : 6
- siblings : 6

Continued on next page
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Platform Notes (Continued)

   physical 0: cores 0 1 2 3 4 5
   physical 1: cores 0 1 2 3 4 5
   cache size : 15360 KB

From /proc/meminfo
   MemTotal: 264567284 kB
   HugePages_Total: 0
   Hugepagesize: 2048 kB

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 X10DRFF-02 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 3 May 18 10:11

SPEC is set to: /home/cpu2006
   Filesystem   Type Size Used Avail Use% Mounted on
   /dev/sda3    xfs  141G  3.4G 138G  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 01/11/2016
   Memory:
      8x Micron 36ASF4G72PZ-2G3A1 32 GB 2 rank 2400 MHz, configured at 1866 MHz

(End of data from sysinfo program)
SPEC CINT2006 Result

Supermicro
SuperServer F618R2-FC0
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General Notes

Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,scatter"
LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64:/home/cpu2006/sh"
OMP_NUM_THREADS = "12"

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

Base Compiler Invocation

C benchmarks:
icc -m64

C++ benchmarks:
icpc -m64

Base Portability Flags

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

Base Optimization Flags

C benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32

C++ benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-Wl,-z,muldefs -L/sh -lsmartheap64
Supermicro
SuperServer F618R2-FC0
(X10DRFF-C, Intel Xeon E5-2603 v4)

<table>
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<tr>
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</table>

**Base Other Flags**

C benchmarks:
- 403.gcc: -Dalloca=_alloca

**Peak Compiler Invocation**

C benchmarks (except as noted below):
- icc -m64
  - 400.perlbench: icc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin

C++ benchmarks (except as noted below):
- icpc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin
  - 473.astar: icpc -m64

**Peak Portability Flags**

- 400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX_IA32
- 401.bzip2: -DSPEC_CPU_LP64
- 403.gcc: -DSPEC_CPU_LP64
- 429.mcf: -DSPEC_CPU_LP64
- 445.gobmk: -D_FILE_OFFSET_BITS=64
- 456.hmmer: -DSPEC_CPU_LP64
- 458.sjeng: -DSPEC_CPU_LP64
- 462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
- 464.h264ref: -DSPEC_CPU_LP64
- 471.omnetpp: -D_FILE_OFFSET_BITS=64
- 473.astar: -DSPEC_CPU_LP64
- 483.xalancbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX

**Peak Optimization Flags**

C benchmarks:
- 400.perlbench: -xCORE-AVX2(pass 2) -prof-gen:threadsafepass 1
  - ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
  - par-num-threads=1(pass 1) -prof-use(pass 2) -opt-prefetch
  - ansi-alias

- 401.bzip2: -xCORE-AVX2(pass 2) -prof-gen:threadsafepass 1
  - ipo(pass 2) -O3(pass 2) -no-prec-div
  - par-num-threads=1(pass 1) -prof-use(pass 2) -auto-ilp32

Continued on next page
Peak Optimization Flags (Continued)

- 401.bzip2 (continued):
  - -opt-prefetch -ansi-alias

- 403.gcc:
  - -xCORE-AVX2 -ipo -O3 -no-prec-div -inline-calloc
  - -opt-malloc-options=3 -auto-ilp32

- 429.mcf:
  - -xCORE-AVX2 -ipo -O3 -no-prec-div -parallel
  - -opt-prefetch -auto-p32

- 445.gobmk:
  - -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
  - -prof-use(pass 2) -par-num-threads=1(pass 1) -ansi-alias

- 456.hmmer:
  - basepeak = yes

- 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

- 462.libquantum:
  - basepeak = yes

- 464.h264ref:
  - basepeak = yes

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

- 473.astar:
  - -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
  - -auto-p32 -Wl,-z,muldefs -L/sh -lsmartheap64

- 483.xalancbmk:
  - -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
  - -ansi-alias -Wl,-z,muldefs -L/sh -lsmartheap

Peak Other Flags

- 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
**Supermicro**

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


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For other inquiries, please contact webmaster@spec.org.

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