



SPEC® CINT2006 Result

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Supermicro

Motherboard X10SLM+-F
(Intel Xeon E3-1231 v3)

SPECint®_rate2006 = 218

SPECint_rate_base2006 = 209

CPU2006 license: 001176

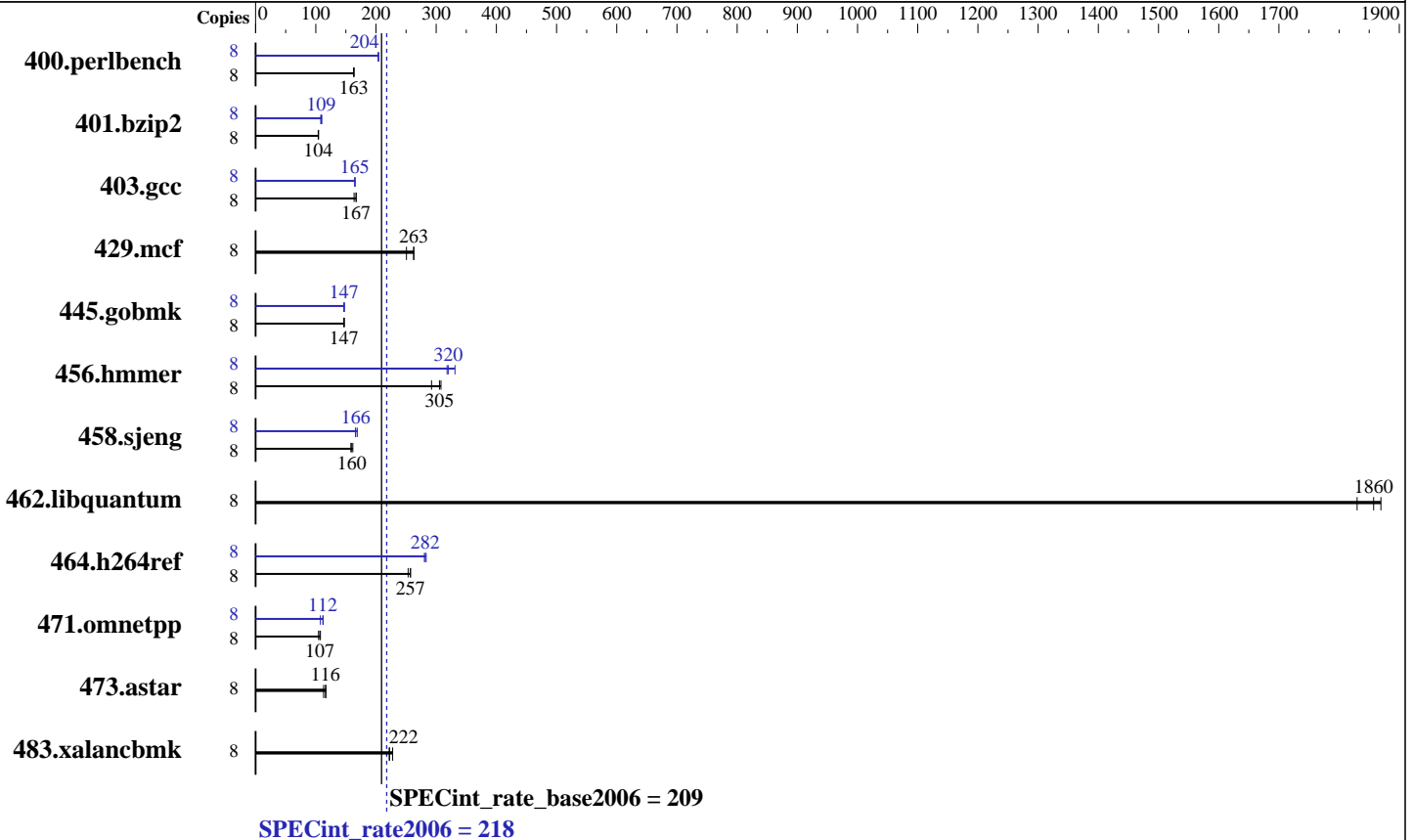
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jan-2015

Hardware Availability: May-2014

Software Availability: Sep-2014



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: 32 GB (4 x 8 GB 2Rx8 PC3-14900E-13, ECC, running at 1600 MHz)
 Disk Subsystem: 1 x 512 GB SATA III, SSD
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 7.0, Kernel 3.10.0-123.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	480	163	478	163	<u>479</u>	<u>163</u>	8	<u>383</u>	<u>204</u>	383	204	384	204
401.bzip2	8	738	105	742	104	<u>741</u>	<u>104</u>	8	701	110	<u>708</u>	<u>109</u>	713	108
403.gcc	8	385	167	394	164	<u>386</u>	<u>167</u>	8	390	165	390	165	<u>390</u>	<u>165</u>
429.mcf	8	<u>278</u>	<u>263</u>	278	263	291	251	8	<u>278</u>	<u>263</u>	278	263	291	251
445.gobmk	8	572	147	570	147	<u>571</u>	<u>147</u>	8	569	147	<u>571</u>	<u>147</u>	572	147
456.hammer	8	242	308	255	292	<u>244</u>	<u>305</u>	8	235	318	<u>233</u>	<u>320</u>	225	331
458.sjeng	8	<u>606</u>	<u>160</u>	612	158	599	162	8	<u>583</u>	<u>166</u>	573	169	583	166
462.libquantum	8	<u>89.2</u>	<u>1860</u>	90.6	1830	88.7	1870	8	<u>89.2</u>	<u>1860</u>	90.6	1830	88.7	1870
464.h264ref	8	699	253	<u>688</u>	<u>257</u>	688	257	8	631	280	<u>628</u>	<u>282</u>	625	283
471.omnetpp	8	<u>469</u>	<u>107</u>	464	108	478	105	8	445	112	465	108	<u>448</u>	<u>112</u>
473.astar	8	481	117	497	113	<u>483</u>	<u>116</u>	8	481	117	497	113	<u>483</u>	<u>116</u>
483.xalancbmk	8	<u>248</u>	<u>222</u>	249	222	242	228	8	<u>248</u>	<u>222</u>	249	222	242	228

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

As tested, the system used a Supermicro SuperChassis 113MTQ-330CB and SNK-P0046P heatsink. Sysinfo program /home/cpu2006/config/sysinfo.rev6914 \$Rev: 6914 \$ \$Date:: 2014-06-25 #\$ e3fbb8667b5a285932ceab81e28219e1 running on 21-45.hnet Fri Jan 23 21:00:04 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.)

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Platform Notes (Continued)

```
cpu cores : 4
siblings  : 8
physical 0: cores 0 1 2 3
cache size : 8192 KB
```

```
From /proc/meminfo
MemTotal:      32742812 kB
HugePages_Total: 0
Hugepagesize:  2048 kB
```

```
From /etc/*release* /etc/*version*
os-release:
NAME="Red Hat Enterprise Linux Server"
VERSION="7.0 (Maipo)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="7.0"
PRETTY_NAME="Red Hat Enterprise Linux Server 7.0 (Maipo)"
ANSI_COLOR="0;31"
CPE_NAME="cpe:/o:redhat:enterprise_linux:7.0:GA:server"
redhat-release: Red Hat Enterprise Linux Server release 7.0 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.0 (Maipo)
system-release-cpe: cpe:/o:redhat:enterprise_linux:7.0:ga:server
```

```
uname -a:
Linux 21-45.hnet 3.10.0-123.el7.x86_64 #1 SMP Mon May 5 11:16:57 EDT 2014
x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 3 Jan 23 20:43
```

```
SPEC is set to: /home/cpu2006
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/mapper/rhel_21--45-home xfs  423G   78G  345G  19% /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. 2.00 04/24/2014
Memory:
4x Samsung M391B1G73QH0-CMA 8 GB 2 rank 1333 MHz, configured at 1600 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"

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General Notes (Continued)

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

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

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

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

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

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Peak Optimization Flags (Continued)

471.omnetpp (continued):
-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-revH.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-revH.xml>

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

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