



SPEC® CINT2006 Result

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Supermicro

SuperServer 5037A-iL (X9SAE, Intel Xeon E3-1280 v2)

SPECint®2006 = 57.6

SPECint_base2006 = 54.4

CPU2006 license: 001176

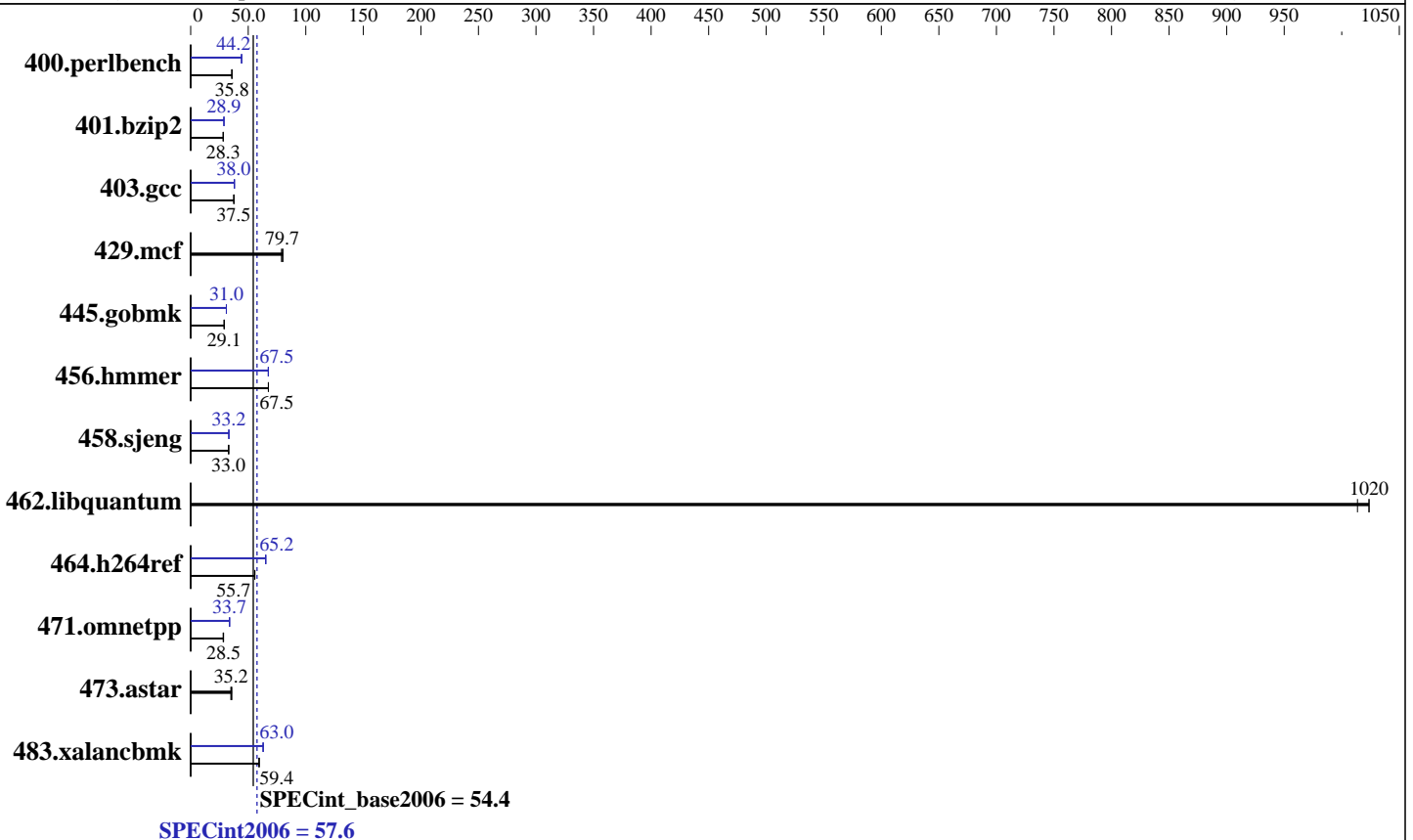
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Sep-2012

Hardware Availability: Apr-2012

Software Availability: Jun-2012



Hardware

CPU Name: Intel Xeon E3-1280 v2
 CPU Characteristics: Intel Turbo Boost Technology up to 4.00 GHz
 CPU MHz: 3600
 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 (4 x 4 GB 2Rx8 PC3-12800U-11)
 Disk Subsystem: 1 x 300 GB SATA II, 10000 RPM
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server Release 6.3, Kernel 2.6.32-279.el6.x86_64
 Compiler: C/C++; Version 12.1.0.225 of Intel C++ Studio XE for Linux
 Auto Parallel: Yes
 File System: ext4
 System State: Run level 3 (multi-user)
 Base Pointers: 32/64-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V9.01



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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	272	35.9	<u>273</u>	<u>35.8</u>	273	35.8	221	44.2	<u>221</u>	<u>44.2</u>	221	44.2
401.bzip2	<u>341</u>	<u>28.3</u>	341	28.3	341	28.3	334	28.9	333	28.9	<u>334</u>	<u>28.9</u>
403.gcc	214	37.6	<u>214</u>	<u>37.5</u>	215	37.4	212	38.0	212	37.9	<u>212</u>	<u>38.0</u>
429.mcf	<u>114</u>	<u>79.7</u>	116	78.9	114	80.1	<u>114</u>	<u>79.7</u>	116	78.9	114	80.1
445.gobmk	361	29.1	360	29.1	<u>360</u>	<u>29.1</u>	339	31.0	338	31.0	<u>338</u>	<u>31.0</u>
456.hammer	138	67.6	<u>138</u>	<u>67.5</u>	138	67.4	139	67.3	<u>138</u>	<u>67.5</u>	138	67.5
458.sjeng	366	33.0	<u>367</u>	<u>33.0</u>	367	33.0	365	33.2	<u>365</u>	<u>33.2</u>	365	33.2
462.libquantum	<u>20.2</u>	<u>1020</u>	20.4	1010	20.2	1020	<u>20.2</u>	<u>1020</u>	20.4	1010	20.2	1020
464.h264ref	<u>397</u>	<u>55.7</u>	398	55.6	397	55.8	340	65.2	339	65.2	<u>339</u>	<u>65.2</u>
471.omnetpp	219	28.6	222	28.2	<u>219</u>	<u>28.5</u>	184	33.9	<u>185</u>	<u>33.7</u>	185	33.7
473.astar	201	34.9	196	35.8	<u>200</u>	<u>35.2</u>	201	34.9	196	35.8	<u>200</u>	<u>35.2</u>
483.xalancbmk	<u>116</u>	<u>59.4</u>	116	59.6	116	59.3	<u>109</u>	<u>63.0</u>	110	62.8	109	63.1

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

Operating System Notes

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

Platform Notes

```
Sysinfo program /usr/cpu2006/Docs/sysinfo
$Rev: 6775 $ $Date:: 2011-08-16 #$ 8787f7622badcf24e01c368b1db4377c
running on localhost Thu Sep 27 19:14:13 2012
```

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 E3-1280 V2 @ 3.60GHz
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
physical 0: cores 0 1 2 3
cache size : 8192 KB
```

```
From /proc/meminfo
MemTotal: 16412704 kB
HugePages_Total: 0
```

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Platform Notes (Continued)

```

Hugepagesize:          2048 kB

/usr/bin/lsb_release -d
  Red Hat Enterprise Linux Server release 6.3 (Santiago)

From /etc/*release* /etc/*version*
  redhat-release: Red Hat Enterprise Linux Server release 6.3 (Santiago)
  system-release: Red Hat Enterprise Linux Server release 6.3 (Santiago)
  system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

uname -a:
  Linux localhost 2.6.32-279.el6.x86_64 #1 SMP Wed Jun 13 18:24:36 EDT 2012
  x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Sep 26 14:54

SPEC is set to: /usr/cpu2006
  Filesystem      Type      Size  Used Avail Use% Mounted on
  /dev/mapper/VolGroup-lv_root
    ext4         50G    36G   12G   76% /

(End of data from sysinfo program)

```

General Notes

Environment variables set by runspec before the start of the run:

```

KMP_AFFINITY = "granularity=fine,scatter"
LD_LIBRARY_PATH = "/usr/cpu2006/libs/32:/usr/cpu2006/libs/64"
OMP_NUM_THREADS = "4"

```

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RHEL5.5
Transparent Huge Pages enabled with:

```

echo always > /sys/kernel/mm/redhat_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

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Base Portability Flags (Continued)

```

401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hmmr: -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:

-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32

C++ benchmarks:

-xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -Wl,-z,muldefs -L/smarterheap -lsmarterheap64

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m64

400.perlbench: icc -m32

445.gobmk: icc -m32

464.h264ref: icc -m32

C++ benchmarks (except as noted below):

icpc -m32

473.astar: icpc -m64



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Peak Portability Flags

```

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LINUX

```

Peak Optimization Flags

C benchmarks:

```

400.perlbench: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
               -no-prec-div(pass 2) -prof-use(pass 2) -opt-prefetch
               -ansi-alias

401.bzip2: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
            -no-prec-div -prof-use(pass 2) -auto-ilp32 -opt-prefetch
            -ansi-alias

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

429.mcf: basepeak = yes

445.gobmk: -xAVX(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
           -ansi-alias

456.hmmer: -xAVX -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
           -ansi-alias

458.sjeng: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
           -no-prec-div(pass 2) -prof-use(pass 2) -unroll4

462.libquantum: basepeak = yes

464.h264ref: -xAVX(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: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
             -no-prec-div(pass 2) -prof-use(pass 2)
             -opt-ra-region-strategy=block -ansi-alias
             -Wl,-z,muldefs -L/smartheap -lsmartheap

```

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Peak Optimization Flags (Continued)

473.astar: basepeak = yes

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

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml>

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Tested with SPEC CPU2006 v1.2.
Report generated on Thu Jul 24 13:43:35 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 23 October 2012.