



# SPEC® CINT2006 Result

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## Supermicro

SPECint®2006 = 42.1

SuperServer 1017C-TF (X9SCL-F, Intel i3-2120)

SPECint\_base2006 = 40.1

CPU2006 license: 001176

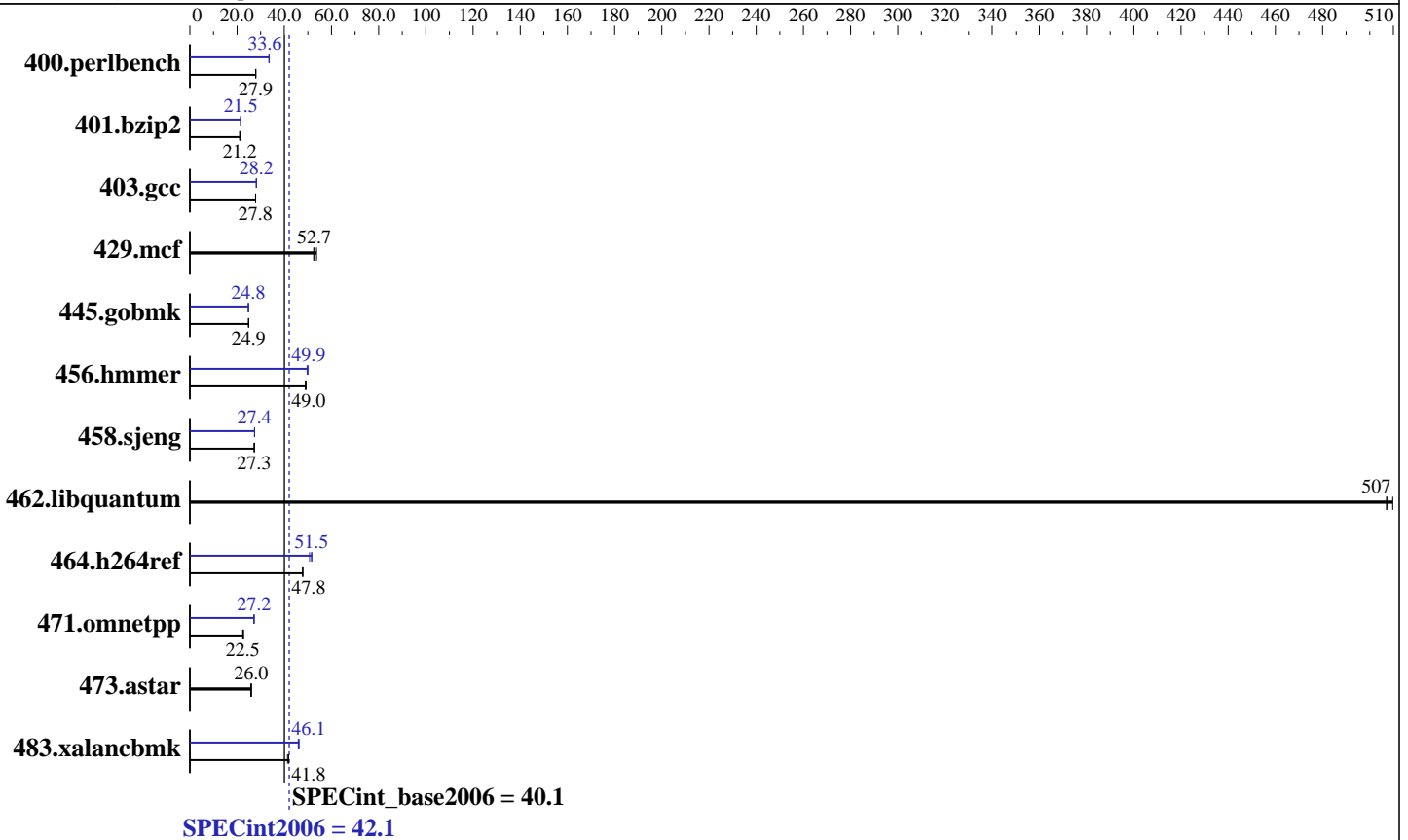
Test date: Mar-2012

Test sponsor: Supermicro

Hardware Availability: Apr-2011

Tested by: Supermicro

Software Availability: Oct-2011



### Hardware

CPU Name: Intel Core i3-2120  
 CPU Characteristics:  
 CPU MHz: 3300  
 FPU: Integrated  
 CPU(s) enabled: 2 cores, 1 chip, 2 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: 3 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 8 GB (2 x 4 GB 2Rx8 PC3-10600E-9, ECC)  
 Disk Subsystem: 1 x 500 GB SATA II, 7200 RPM  
 Other Hardware: None

### Software

Operating System: Red Hat Enterprise Linux Server release 6.1 (Santiago)  
 2.6.32-131.0.15.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	350	27.9	<b>350</b>	<b>27.9</b>	350	27.9	<u>291</u>	<u>33.6</u>	291	33.6	291	33.5
401.bzip2	<b>455</b>	<b>21.2</b>	456	21.1	455	21.2	<b>448</b>	<b>21.5</b>	448	21.6	448	21.5
403.gcc	<b>289</b>	<b>27.8</b>	289	27.9	289	27.8	286	28.2	<b>286</b>	<b>28.2</b>	286	28.2
429.mcf	<b>173</b>	<b>52.7</b>	174	52.5	170	53.7	<b>173</b>	<b>52.7</b>	174	52.5	170	53.7
445.gobmk	422	24.9	<b>422</b>	<b>24.9</b>	421	24.9	423	24.8	<b>423</b>	<b>24.8</b>	423	24.8
456.hammer	190	49.0	<b>190</b>	<b>49.0</b>	189	49.2	187	50.0	188	49.7	<b>187</b>	<b>49.9</b>
458.sjeng	<b>444</b>	<b>27.3</b>	444	27.3	443	27.3	<b>442</b>	<b>27.4</b>	441	27.4	442	27.4
462.libquantum	<b>40.9</b>	<b>507</b>	40.6	510	40.9	507	<b>40.9</b>	<b>507</b>	40.6	510	40.9	507
464.h264ref	<b>463</b>	<b>47.8</b>	463	47.8	462	47.9	428	51.7	436	50.7	<b>429</b>	<b>51.5</b>
471.omnetpp	<b>278</b>	<b>22.5</b>	279	22.4	274	22.8	<b>230</b>	<b>27.2</b>	230	27.2	230	27.1
473.astar	272	25.8	<b>270</b>	<b>26.0</b>	269	26.1	272	25.8	<b>270</b>	<b>26.0</b>	269	26.1
483.xalancbmk	165	41.9	167	41.4	<b>165</b>	<b>41.8</b>	149	46.3	150	45.9	<b>150</b>	<b>46.1</b>

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 /home/usr/cpu2006/config/sysinfo.rev6800
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
running on localhost.localdomain Sat Mar 31 23:16:39 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) Core(TM) i3-2120 CPU @ 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
caution.)
cpu cores : 2
siblings : 4
physical 0: cores 0 1
cache size : 3072 KB
```

```
From /proc/meminfo
MemTotal: 8040476 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 6.1 (Santiago)

From /etc/*release* /etc/*version*
  redhat-release: Red Hat Enterprise Linux Server release 6.1 (Santiago)
  system-release: Red Hat Enterprise Linux Server release 6.1 (Santiago)
  system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

uname -a:
  Linux localhost.localdomain 2.6.32-131.0.15.el6.x86_64 #1 SMP Tue May 10
  15:42:40 EDT 2011 x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Mar 30 20:44

SPEC is set to: /home/usr/cpu2006
  Filesystem      Type      Size  Used Avail Use% Mounted on
  /dev/mapper/VolGroup-lv_home
  ext4           392G    22G  351G   6% /home

Additional information from dmidecode:
Memory:
  2x Hynix Semiconduc HMT351U7BFR8C-H9 4 GB 1333 MHz 2 rank

(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 = "/home/usr/cpu2006/libs/32:/home/usr/cpu2006/libs/64"
OMP_NUM_THREADS = "2"

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

```



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## 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:

`-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/smartheap -lsmartheap64`

## 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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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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