



# SPEC® CINT2006 Result

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## Supermicro

SuperServer F627G2-FT+  
(X9DRFF-iG+ , Intel Xeon E5-2667 v2)

SPECint®\_rate2006 = 809

SPECint\_rate\_base2006 = 778

CPU2006 license: 001176

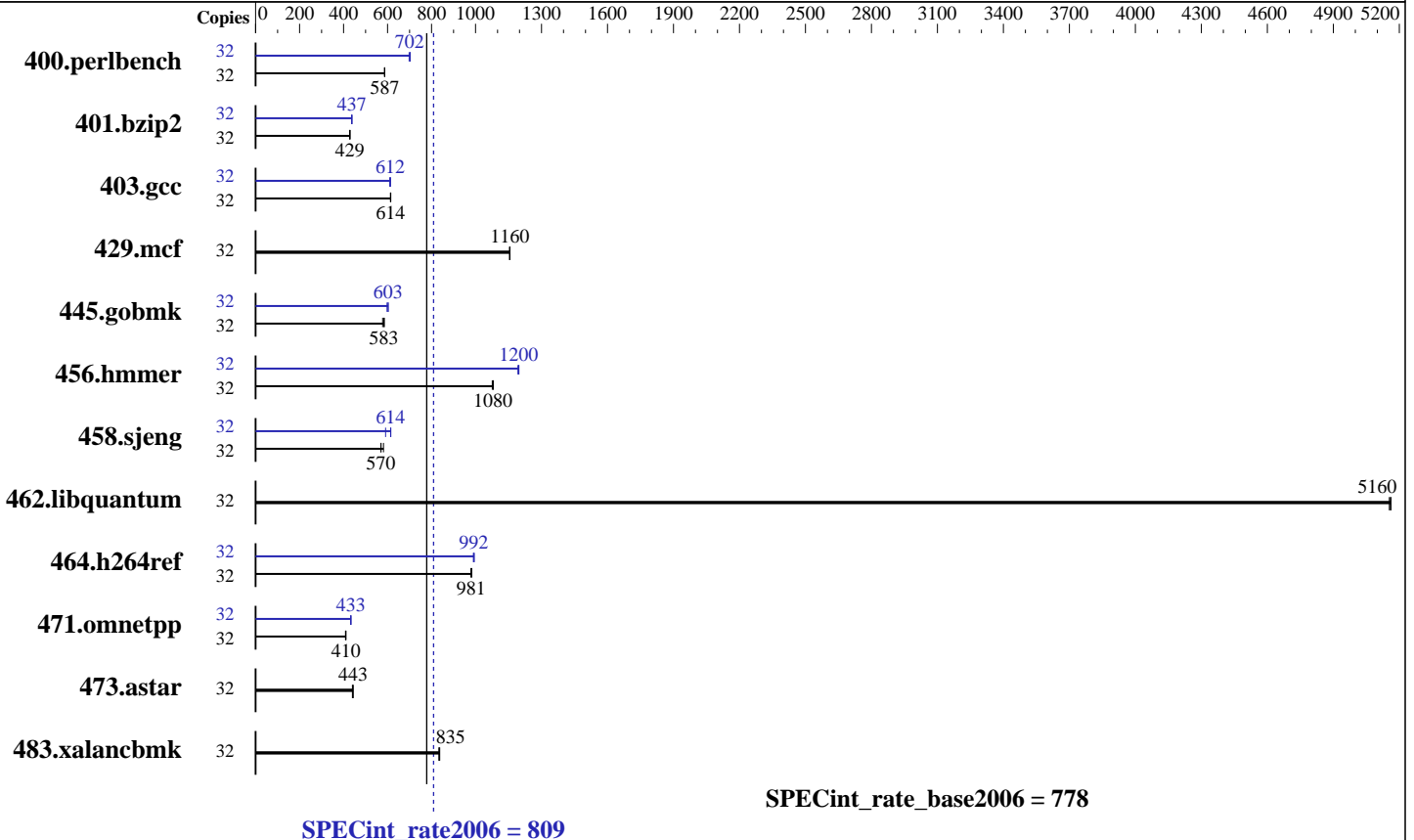
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Oct-2013

Hardware Availability: Sep-2013

Software Availability: Oct-2013



### Hardware

CPU Name: Intel Xeon E5-2667 v2  
 CPU Characteristics: Intel Turbo Boost Technology up to 4.00 GHz  
 CPU MHz: 3300  
 FPU: Integrated  
 CPU(s) enabled: 16 cores, 2 chips, 8 cores/chip, 2 threads/core  
 CPU(s) orderable: 1,2 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: 25 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 128 GB (16 x 8 GB 2Rx4 PC3-14900R-13, ECC)  
 Disk Subsystem: 1 x 512 GB SATA III, SSD  
 Other Hardware: None

### Software

Operating System: Red Hat Enterprise Linux Server release 6.4, Kernel 2.6.32-358.23.2.el6.x86\_64  
 Compiler: C/C++; Version 14.0.0.080 of Intel C++ Studio XE for Linux  
 Auto Parallel: No  
 File System: ext4  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32/64-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  | 32     | 533        | 587         | 533        | 587         | <u>533</u> | <u>587</u>  | 32     | 445        | 703         | 448        | 698         | <u>445</u> | <u>702</u> |
| 401.bzip2      | 32     | 722        | 428         | <u>720</u> | <u>429</u>  | 719        | 429         | 32     | <u>706</u> | <u>437</u>  | 706        | 437         | 705        | 438        |
| 403.gcc        | 32     | 419        | 615         | 420        | 613         | <u>420</u> | <u>614</u>  | 32     | <u>421</u> | <u>612</u>  | 420        | 613         | 422        | 610        |
| 429.mcf        | 32     | 253        | 1150        | <u>253</u> | <u>1160</u> | 252        | 1160        | 32     | 253        | 1150        | <u>253</u> | <u>1160</u> | 252        | 1160       |
| 445.gobmk      | 32     | 581        | 578         | 574        | 585         | <u>576</u> | <u>583</u>  | 32     | 562        | 598         | <u>557</u> | <u>603</u>  | 557        | 603        |
| 456.hammer     | 32     | 277        | 1080        | 276        | 1080        | <u>276</u> | <u>1080</u> | 32     | 249        | 1200        | <u>250</u> | <u>1200</u> | 250        | 1190       |
| 458.sjeng      | 32     | 680        | 570         | 666        | 581         | <u>679</u> | <u>570</u>  | 32     | <u>630</u> | <u>614</u>  | 630        | 615         | 655        | 591        |
| 462.libquantum | 32     | <u>129</u> | <u>5160</u> | 128        | 5160        | 129        | 5150        | 32     | <u>129</u> | <u>5160</u> | 128        | 5160        | 129        | 5150       |
| 464.h264ref    | 32     | 723        | 979         | 720        | 983         | <u>722</u> | <u>981</u>  | 32     | 715        | 990         | 712        | 994         | <u>714</u> | <u>992</u> |
| 471.omnetpp    | 32     | 489        | 409         | <u>487</u> | <u>410</u>  | 487        | 411         | 32     | 463        | 432         | 461        | 434         | <u>462</u> | <u>433</u> |
| 473.astar      | 32     | 510        | 440         | 507        | 443         | <u>507</u> | <u>443</u>  | 32     | 510        | 440         | 507        | 443         | <u>507</u> | <u>443</u> |
| 483.xalancbmk  | 32     | <u>264</u> | <u>835</u>  | 265        | 833         | 264        | 837         | 32     | <u>264</u> | <u>835</u>  | 265        | 833         | 264        | 837        |

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

## Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl 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.rev6818  
\$Rev: 6818 \$ \$Date:: 2012-07-17 #\$ e86d102572650a6e4d596a3cee98f191  
running on localhost.localdomain Fri Oct 18 10:30:52 2013

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 E5-2667 v2 @ 3.30GHz  
2 "physical id"s (chips)  
32 "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 : 8  
siblings : 16

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### Platform Notes (Continued)

```
physical 0: cores 1 2 3 4 8 9 10 11
physical 1: cores 1 2 3 4 8 9 10 11
cache size : 25600 KB
```

```
From /proc/meminfo
MemTotal:      132182288 kB
HugePages_Total: 0
Hugepagesize:  2048 kB
```

```
/usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.4 (Santiago)
```

```
From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server
```

```
uname -a:
Linux localhost.localdomain 2.6.32-358.23.2.el6.x86_64 #1 SMP Sat Sep 14
05:32:37 EDT 2013 x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 3 Oct 18 10:24
```

```
SPEC is set to: /home/cpu2006
Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/mapper/VolGroup-lv_home
ext4            416G    256G  139G  65% /home
```

```
Additional information from dmidecode:
BIOS American Megatrends Inc. 3.0a.T201310011823 10/01/2013
Memory:
1x 16 MB
16x 8 GB
16x Hynix Semiconductor HMT31GR7CFR4C-RD 8 GB 1866 MHz 1 rank
1x Micron/Numonyx 25Q Series 16 MB 33 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 Core i7-860 CPU + 8GB
memory using RedHat EL 6.4
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
Filesystem page cache cleared with:
echo 1> /proc/sys/vm/drop_caches
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>
```



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## Base Compiler Invocation

C benchmarks:  
icc -m32  
  
C++ benchmarks:  
icpc -m32

## Base Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
462.libquantum: -DSPEC\_CPU\_LINUX  
483.xalancbmk: -DSPEC\_CPU\_LINUX

## Base Optimization Flags

C benchmarks:  
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3  
  
C++ benchmarks:  
-xSSE4.2 -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  
  
400.perlbench: icc -m64  
  
401.bzip2: icc -m64  
  
456.hmmer: icc -m64  
  
458.sjeng: icc -m64  
  
C++ benchmarks:  
icpc -m32



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## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_LINUX\_X64  
 401.bzip2: -DSPEC\_CPU\_LP64  
 456.hmmer: -DSPEC\_CPU\_LP64  
 458.sjeng: -DSPEC\_CPU\_LP64  
 462.libquantum: -DSPEC\_CPU\_LINUX  
 483.xalancbmk: -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

C benchmarks:

400.perlbench: -xSSE4.2(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: -xSSE4.2(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: -xSSE4.2 -ipo -O3 -no-prec-div

429.mcf: basepeak = yes

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)  
 -ansi-alias -opt-mem-layout-trans=3

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32

458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
 -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)  
 -unroll4 -auto-ilp32

462.libquantum: basepeak = yes

464.h264ref: -xSSE4.2(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: -xSSE4.2(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  
 -L/sh -lsmartheap

473.astar: basepeak = yes

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## Peak Optimization Flags (Continued)

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-ic14.0-official-linux64.20140128.html>  
<http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revB.20130719.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml>  
<http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revB.20130719.xml>

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

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