



# SPEC® CINT2006 Result

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## Supermicro

Supermicro Processor Blade SBI-7227R-T2  
(B9DRT, Intel Xeon E5-2660 v2)

SPECint®\_rate2006 = 733

SPECint\_rate\_base2006 = 709

CPU2006 license: 001176

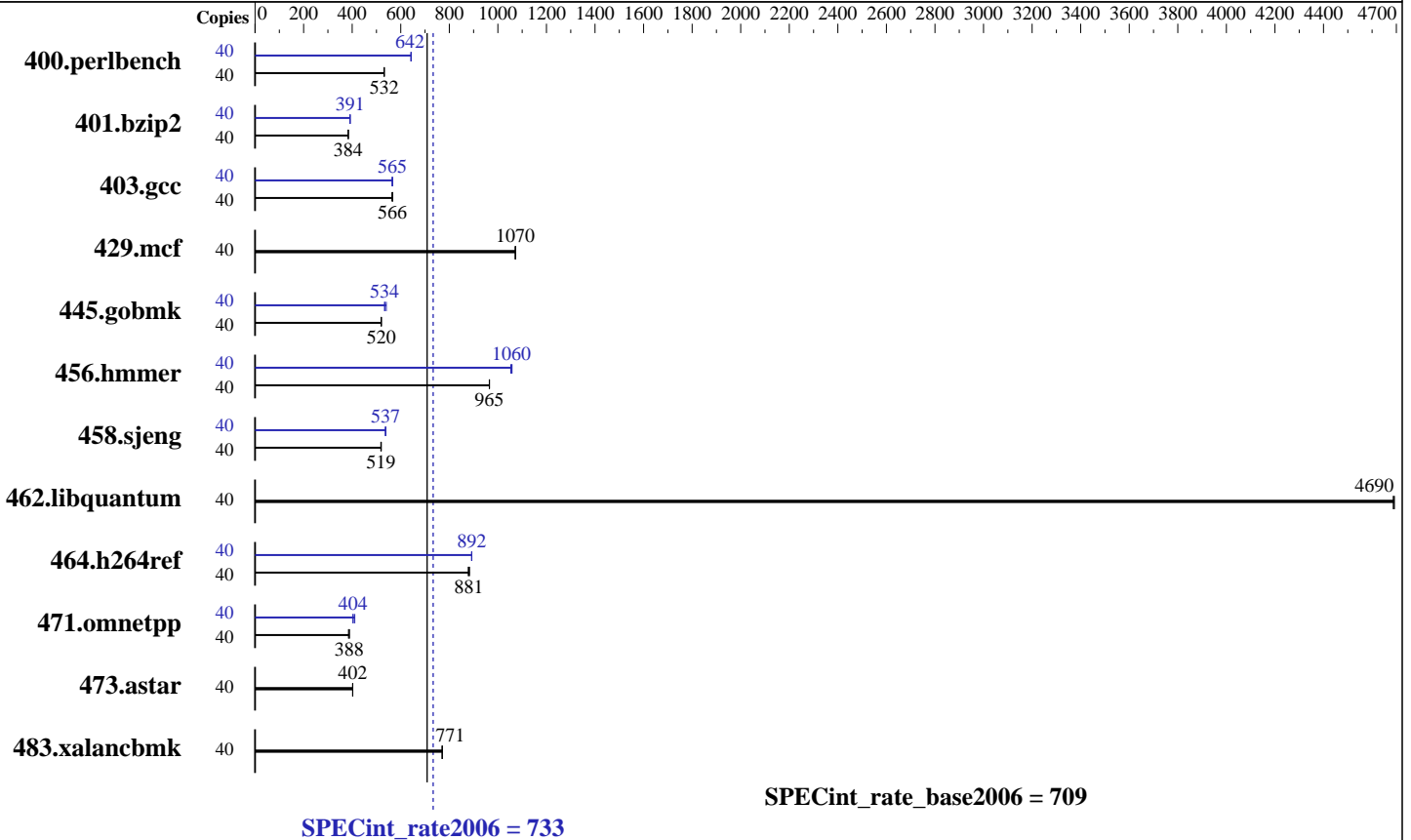
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jan-2014

Hardware Availability: Sep-2013

Software Availability: Sep-2013



### Hardware

CPU Name: Intel Xeon E5-2660 v2  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.00 GHz  
 CPU MHz: 2200  
 FPU: Integrated  
 CPU(s) enabled: 20 cores, 2 chips, 10 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 (8 x 16 GB 2Rx4 PC3-14900R-13, ECC)  
 Disk Subsystem: 1 x 400 GB SSD  
 Other Hardware: None

### Software

Operating System: Red Hat Enterprise Linux Server release 6.4 (Santiago)  
 2.6.32-358.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-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	40	<b><u>735</u></b>	<b><u>532</u></b>	735	532	734	532	40	609	642	608	643	<b><u>608</u></b>	<b><u>642</u></b>
401.bzip2	40	1005	384	<b><u>1006</u></b>	<b><u>384</u></b>	1006	384	40	987	391	<b><u>986</u></b>	<b><u>391</u></b>	986	392
403.gcc	40	<b><u>569</u></b>	<b><u>566</u></b>	571	564	568	567	40	571	564	568	567	<b><u>570</u></b>	<b><u>565</u></b>
429.mcf	40	340	1070	<b><u>340</u></b>	<b><u>1070</u></b>	341	1070	40	340	1070	<b><u>340</u></b>	<b><u>1070</u></b>	341	1070
445.gobmk	40	<b><u>808</u></b>	<b><u>520</u></b>	806	521	808	519	40	<b><u>786</u></b>	<b><u>534</u></b>	776	541	786	534
456.hammer	40	387	965	<b><u>387</u></b>	<b><u>965</u></b>	387	965	40	353	1060	354	1050	<b><u>353</u></b>	<b><u>1060</u></b>
458.sjeng	40	934	518	<b><u>932</u></b>	<b><u>519</u></b>	931	520	40	898	539	902	536	<b><u>901</u></b>	<b><u>537</u></b>
462.libquantum	40	177	4690	<b><u>177</u></b>	<b><u>4690</u></b>	177	4690	40	177	4690	<b><u>177</u></b>	<b><u>4690</u></b>	177	4690
464.h264ref	40	1008	878	<b><u>1005</u></b>	<b><u>881</u></b>	1002	883	40	992	893	993	892	<b><u>992</u></b>	<b><u>892</u></b>
471.omnetpp	40	650	385	643	389	<b><u>645</u></b>	<b><u>388</u></b>	40	609	411	620	403	<b><u>619</u></b>	<b><u>404</u></b>
473.astar	40	698	402	699	402	<b><u>698</u></b>	<b><u>402</u></b>	40	698	402	699	402	<b><u>698</u></b>	<b><u>402</u></b>
483.xalancbmk	40	<b><u>358</u></b>	<b><u>771</u></b>	358	771	358	771	40	<b><u>358</u></b>	<b><u>771</u></b>	358	771	358	771

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/spec/config/sysinfo.rev6818  
\$Rev: 6818 \$ \$Date:: 2012-07-17 #\$ e86d102572650a6e4d596a3cee98f191  
running on 200-193.inet Wed Jan 15 19:05:24 2014

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 E5-2660 v2 @ 2.20GHz
 2 "physical id"s (chips)
 40 "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 : 10
siblings : 20
```

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### Platform Notes (Continued)

```
physical 0: cores 0 1 2 3 4 8 9 10 11 12
physical 1: cores 0 1 2 3 4 8 9 10 11 12
cache size : 25600 KB
```

```
From /proc/meminfo
MemTotal:      132123860 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 200-193.inet 2.6.32-358.el6.x86_64 #1 SMP Tue Jan 29 11:47:41 EST 2013
x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 3 Jan 15 19:03
```

```
SPEC is set to: /home/spec
Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/mapper/vg_200193-lv_home
                ext4      314G   89G   210G   30% /home
```

```
Additional information from dmidecode:
BIOS American Megatrends Inc. 3.0b 01/06/2014
Memory:
8x 16 GB
8x Samsung M393B2G70QH0- 16 GB 1866 MHz 1 rank
```

(End of data from sysinfo program)

### General Notes

Environment variables set by runspec before the start of the run:  
LD\_LIBRARY\_PATH = "/home/spec/libs/32:/home/spec/libs/64:/home/spec/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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