



# SPEC® CINT2006 Result

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## Supermicro

Supermicro SuperServer 7047R-72RFT  
(X9DRH-7TF, Intel Xeon E5-2697 v2)

**SPECint®\_rate2006 = 958**

**SPECint\_rate\_base2006 = 920**

CPU2006 license: 001176

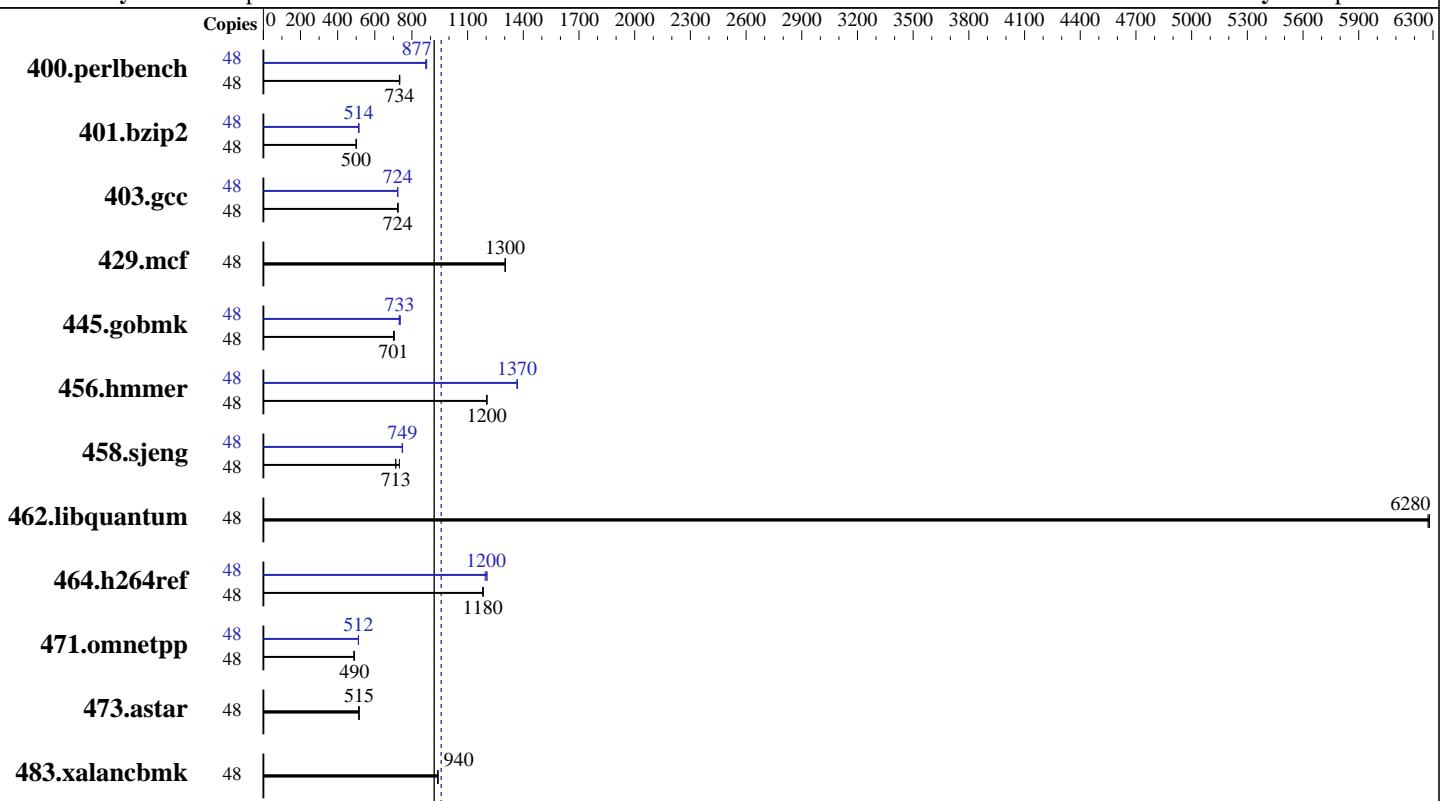
Test sponsor: Supermicro

Tested by: Supermicro

**Test date:** Oct-2013

**Hardware Availability:** Oct-2013

**Software Availability:** Sep-2013



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### Hardware

CPU Name: Intel Xeon E5-2697 v2  
CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz  
CPU MHz: 2700  
FPU: Integrated  
CPU(s) enabled: 24 cores, 2 chips, 12 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: 30 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 1000 GB SATA III, 7200 RPM  
Other Hardware: None

### Software

Operating System: Red Hat Enterprise Linux Server release 6.4, Kernel 2.6.32-358.18.1.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	48	<b>639</b>	<b>734</b>	640	732	638	735	48	<b>535</b>	<b>877</b>	533	880	536	875
401.bzip2	48	<b>926</b>	<b>500</b>	927	499	925	501	48	904	513	<b>901</b>	<b>514</b>	900	515
403.gcc	48	533	725	534	724	<b>534</b>	<b>724</b>	48	534	724	535	722	<b>534</b>	<b>724</b>
429.mcf	48	<b>336</b>	<b>1300</b>	336	1300	336	1300	48	<b>336</b>	<b>1300</b>	336	1300	336	1300
445.gobmk	48	714	706	718	701	<b>718</b>	<b>701</b>	48	<b>687</b>	<b>733</b>	683	738	688	732
456.hammer	48	372	1200	<b>372</b>	<b>1200</b>	372	1200	48	<b>328</b>	<b>1370</b>	327	1370	328	1370
458.sjeng	48	815	713	<b>814</b>	<b>713</b>	793	732	48	776	748	775	750	<b>776</b>	<b>749</b>
462.libquantum	48	159	6270	<b>158</b>	<b>6280</b>	158	6280	48	159	6270	<b>158</b>	<b>6280</b>	158	6280
464.h264ref	48	899	1180	<b>898</b>	<b>1180</b>	897	1180	48	881	1210	<b>885</b>	<b>1200</b>	889	1190
471.omnetpp	48	616	487	<b>612</b>	<b>490</b>	612	490	48	585	512	586	512	<b>586</b>	<b>512</b>
473.astar	48	656	514	653	516	<b>654</b>	<b>515</b>	48	656	514	653	516	<b>654</b>	<b>515</b>
483.xalancbmk	48	<b>352</b>	<b>940</b>	352	940	352	941	48	<b>352</b>	<b>940</b>	352	940	352	941

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"

## General Notes

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

LD\_LIBRARY\_PATH = "/root/cpu2006/libs/32:/root/cpu2006/libs/64:/root/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:

-xAVX -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3

C++ benchmarks:

-xAVX -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: -xAVX(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: -xAVX(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: -xAVX -ipo -O3 -no-prec-div  
  
429.mcf: basepeak = yes  
  
445.gobmk: -xAVX(pass 2) -prof-gen(pass 1) -prof-use(pass 2)  
-ansi-alias -opt-mem-layout-trans=3  
  
456.hmmer: -xAVX -ipo -O3 -no-prec-div -unroll12 -auto-ilp32  
  
458.sjeng: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -unroll14  
-auto-ilp32  
  
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) -unroll12  
-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) -ansi-alias  
-opt-ra-region-strategy=block -Wl,-z,muldefs  
-L/sh -lsmartheap  
  
473.astar: basepeak = yes  
  
483.xalancbmk: basepeak = yes



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

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

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

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

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