



# SPEC® CINT2006 Result

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## Supermicro

SuperServer 7047R-TXRF (X9DRX+-F, Intel Xeon E5-2630)

**SPECint®\_rate2006 = 429**

**SPECint\_rate\_base2006 = 410**

CPU2006 license: 001176

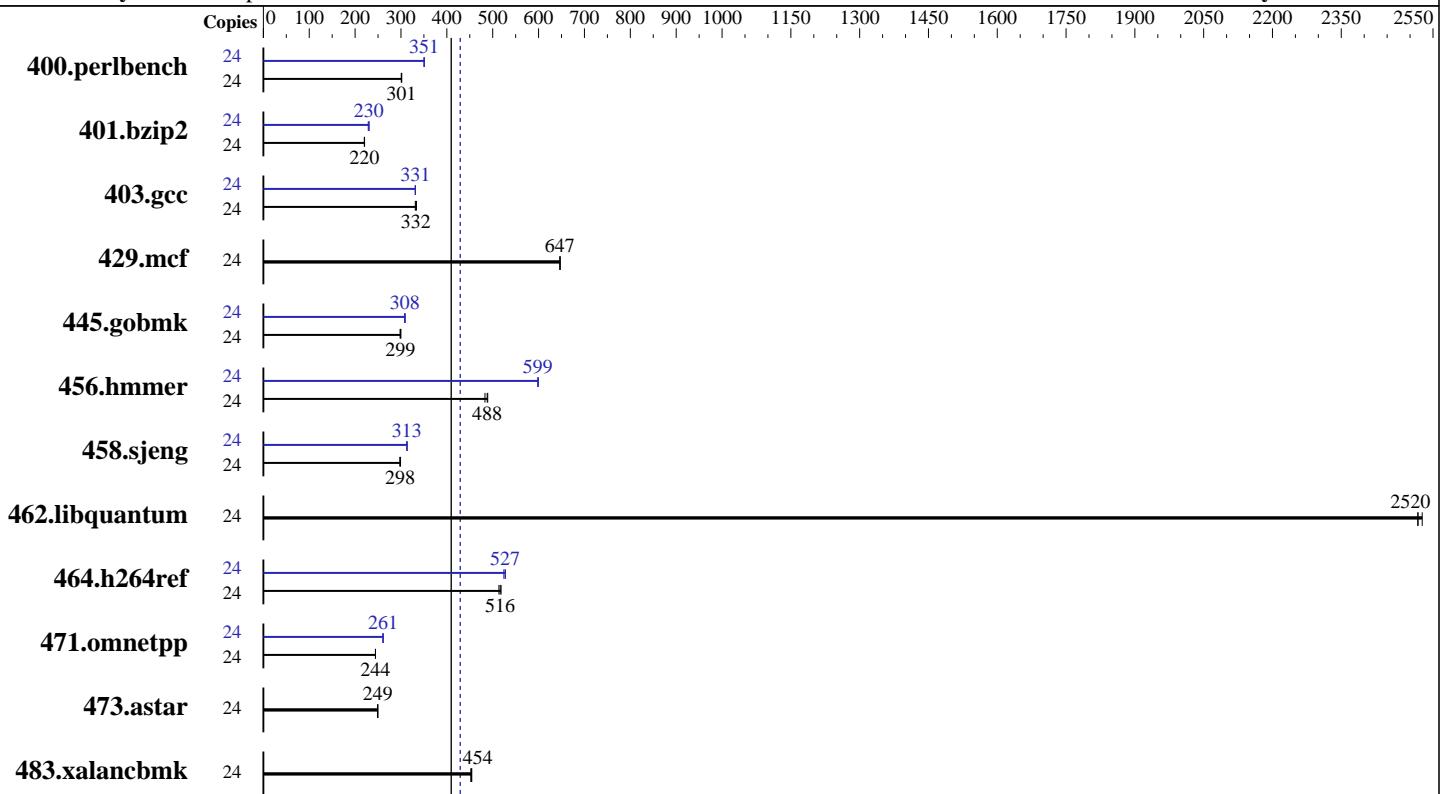
Test sponsor: Supermicro

Tested by: Supermicro

**Test date:** Apr-2012

**Hardware Availability:** Mar-2012

**Software Availability:** Dec-2011



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### Hardware

CPU Name: Intel Xeon E5-2630  
CPU Characteristics: Intel Turbo Boost Technology up to 2.80 GHz  
CPU MHz: 2300  
FPU: Integrated  
CPU(s) enabled: 12 cores, 2 chips, 6 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: 15 MB I+D on chip per chip  
Other Cache: None  
Memory: 256 GB (16 x 16 GB 2Rx4 PC3-12800R-11, ECC)  
Disk Subsystem: 1 x 2 TB SATA II, 7200 RPM  
Other Hardware: None

### Software

Operating System: Red Hat Enterprise Linux Server Release 6.2, Kernel 2.6.32-220.el6.x86\_64  
Compiler: C/C++: Version 12.1.0.225 of Intel C++ Studio XE for Linux  
Auto Parallel: No  
File System: ext3  
System State: Run level 3 (multi-user)  
Base Pointers: 32-bit  
Peak Pointers: 32/64-bit  
Other Software: Microquill SmartHeap V9.01



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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	24	777	302	<b>778</b>	<b>301</b>	780	301	24	<b>669</b>	<b>351</b>	670	350	668	351
401.bzip2	24	<b>1051</b>	<b>220</b>	1050	221	1052	220	24	1005	230	1013	229	<b>1007</b>	<b>230</b>
403.gcc	24	579	334	583	331	<b>581</b>	<b>332</b>	24	<b>583</b>	<b>331</b>	583	331	583	331
429.mcf	24	338	647	339	647	<b>338</b>	<b>647</b>	24	338	647	339	647	<b>338</b>	<b>647</b>
445.gobmk	24	840	300	<b>842</b>	<b>299</b>	845	298	24	814	309	<b>817</b>	<b>308</b>	817	308
456.hammer	24	458	489	<b>459</b>	<b>488</b>	463	483	24	<b>374</b>	<b>599</b>	374	599	374	598
458.sjeng	24	<b>975</b>	<b>298</b>	971	299	975	298	24	928	313	927	313	<b>928</b>	<b>313</b>
462.libquantum	24	198	2520	197	2530	<b>198</b>	<b>2520</b>	24	198	2520	197	2530	<b>198</b>	<b>2520</b>
464.h264ref	24	1025	518	<b>1029</b>	<b>516</b>	1034	514	24	1013	524	<b>1008</b>	<b>527</b>	1007	528
471.omnetpp	24	614	244	614	244	<b>614</b>	<b>244</b>	24	574	261	<b>575</b>	<b>261</b>	576	261
473.astar	24	677	249	<b>676</b>	<b>249</b>	675	250	24	677	249	<b>676</b>	<b>249</b>	675	250
483.xalancbmk	24	<b>365</b>	<b>454</b>	366	452	364	454	24	<b>365</b>	<b>454</b>	366	452	364	454

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 = "/usr/cpu2006/libs/32:/usr/cpu2006/libs/64"

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

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/smartheap -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/smartheap -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/Intel-ic12.1-official-linux64.20111122.html>  
<http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-revA.html>

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

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

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

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