



# SPEC® CINT2006 Result

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## Supermicro

SuperWorkstation 7047GR-TRF (X9DRG-QF, Intel Xeon E5-2620)

**SPECint\_rate2006 = 390**

**SPECint\_rate\_base2006 = 372**

CPU2006 license: 001176

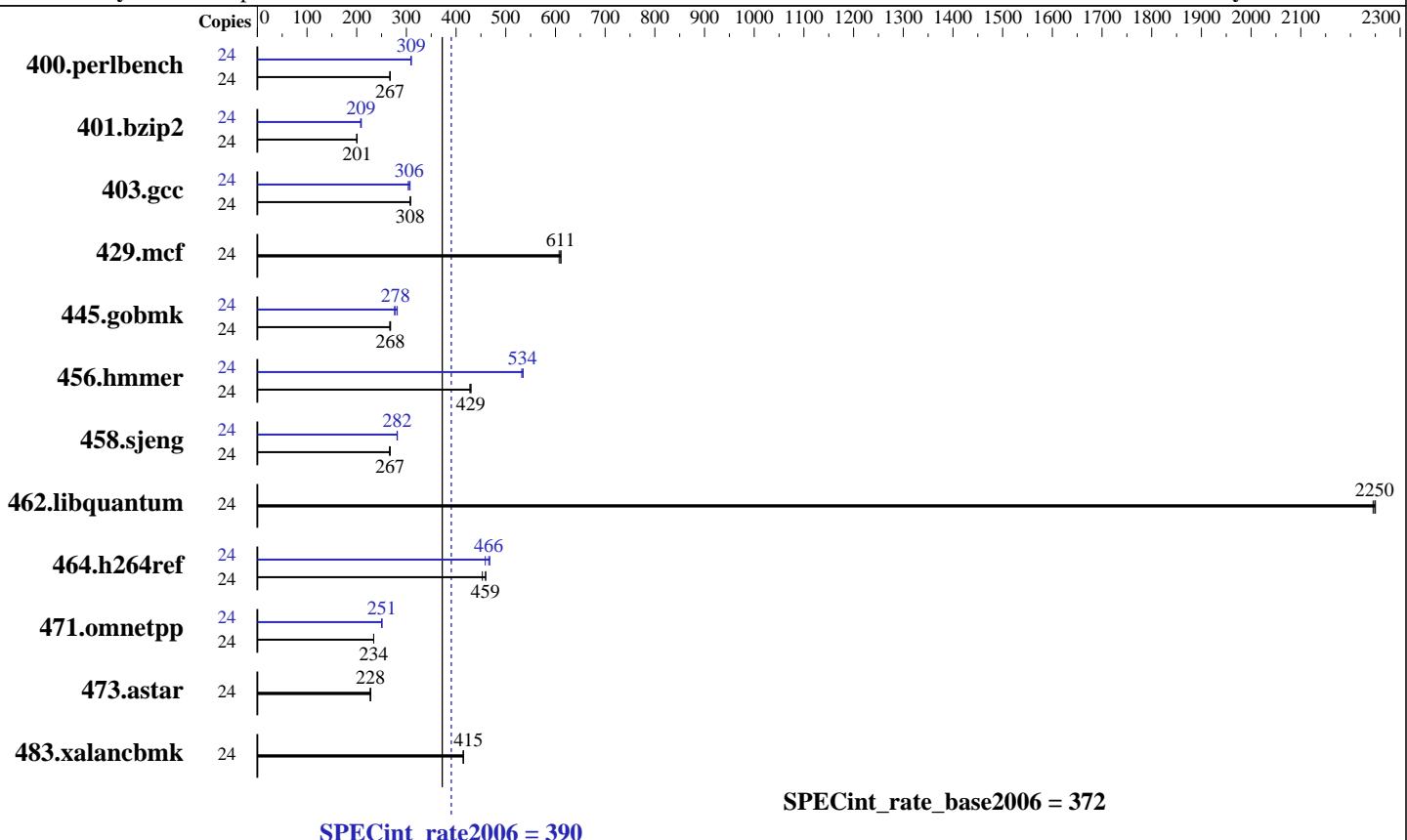
Test sponsor: Supermicro

Tested by: Supermicro

**Test date:** May-2012

**Hardware Availability:** Mar-2012

**Software Availability:** Dec-2011



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### Hardware

CPU Name:	Intel Xeon E5-2620
CPU Characteristics:	Intel Turbo Boost Technology up to 2.50 GHz
CPU MHz:	2000
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:	128 GB (16 x 8 GB 2Rx4 PC3-12800R-11, ECC)
Disk Subsystem:	1 x 1 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:	ext4
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	877	267	879	267	<b>878</b>	<b>267</b>	24	756	310	759	309	<b>758</b>	<b>309</b>
401.bzip2	24	1153	201	<b>1155</b>	<b>201</b>	1159	200	24	<b>1110</b>	<b>209</b>	1114	208	1106	209
403.gcc	24	628	308	<b>627</b>	<b>308</b>	627	308	24	629	307	636	304	<b>632</b>	<b>306</b>
429.mcf	24	360	607	358	611	<b>359</b>	<b>611</b>	24	360	607	358	611	<b>359</b>	<b>611</b>
445.gobmk	24	945	266	939	268	<b>941</b>	<b>268</b>	24	<b>905</b>	<b>278</b>	912	276	894	282
456.hmmer	24	<b>521</b>	<b>429</b>	521	430	524	428	24	419	535	421	532	<b>419</b>	<b>534</b>
458.sjeng	24	1092	266	<b>1088</b>	<b>267</b>	1087	267	24	1033	281	<b>1031</b>	<b>282</b>	1031	282
462.libquantum	24	221	2250	<b>221</b>	<b>2250</b>	221	2250	24	221	2250	<b>221</b>	<b>2250</b>	221	2250
464.h264ref	24	1156	460	<b>1156</b>	<b>459</b>	1173	453	24	<b>1140</b>	<b>466</b>	1158	459	1135	468
471.omnetpp	24	<b>640</b>	<b>234</b>	641	234	640	234	24	598	251	<b>598</b>	<b>251</b>	600	250
473.astar	24	<b>739</b>	<b>228</b>	739	228	742	227	24	<b>739</b>	<b>228</b>	739	228	742	227
483.xalancbmk	24	<b>399</b>	<b>415</b>	399	415	400	414	24	<b>399</b>	<b>415</b>	399	415	400	414

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 = "/home/cpu2006/libs/32:/home/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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