



# SPEC<sup>®</sup> CINT2006 Result

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## ASUSTeK Computer Inc.

SPECint<sup>®</sup>2006 = **35.5**

ASUS RS300-E6 (P7F-E) server system  
(Intel Xeon X3470)

SPECint\_base2006 = **31.0**

CPU2006 license: 9016

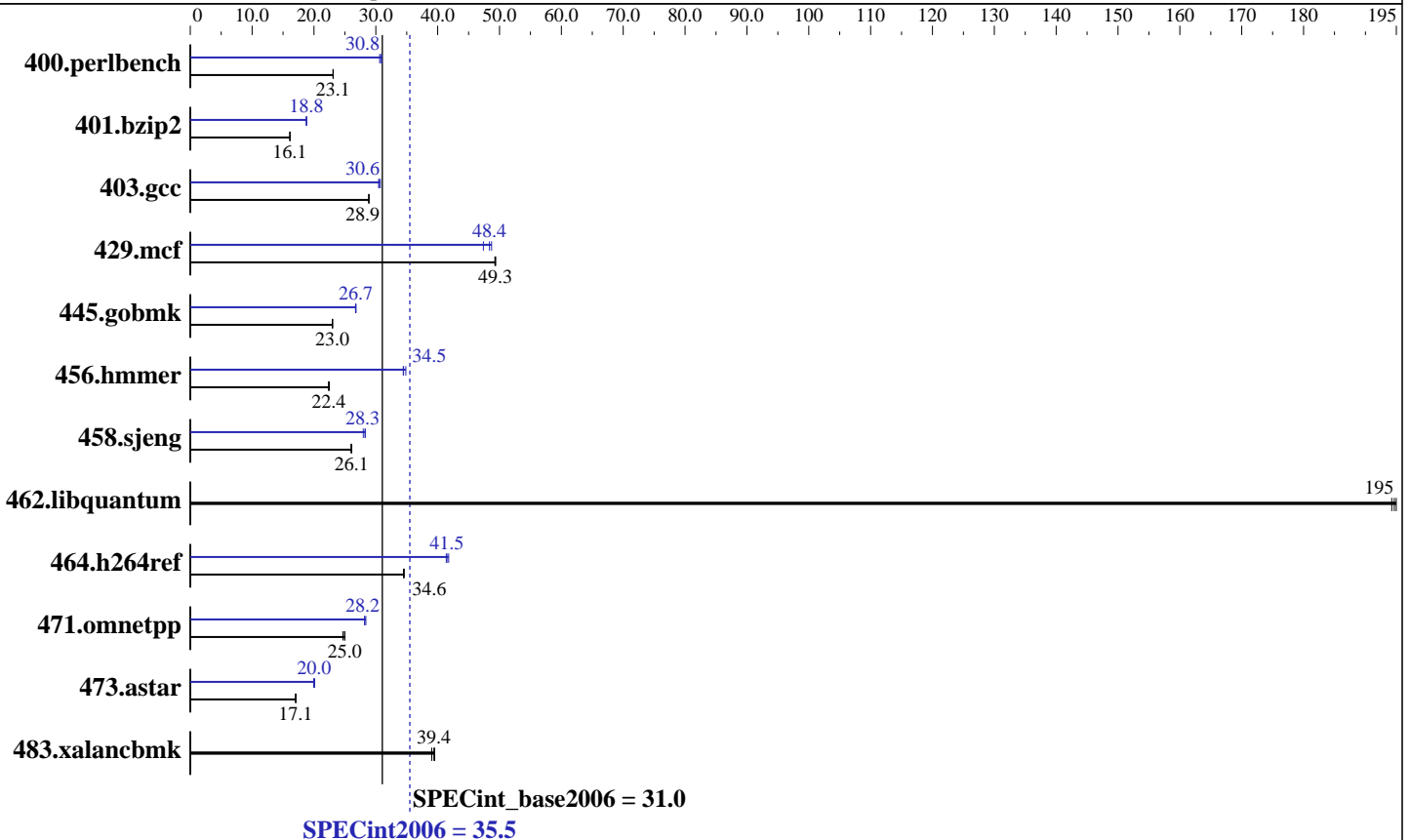
Test date: Oct-2009

Test sponsor: ASUSTeK Computer Inc.

Hardware Availability: Sep-2009

Tested by: ASUSTeK Computer Inc.

Software Availability: Jul-2009



### Hardware

CPU Name: Intel Xeon X3470  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.6 GHz  
 CPU MHz: 2933  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip, 2 threads/core  
 CPU(s) orderable: 1 chip  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 256 KB I+D on chip per core  
 L3 Cache: 8 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 16 GB (4 x 4 GB PC3-10600R, CL=9)  
 Disk Subsystem: HITACHI HDT722525DLA380 250 GB, 7200RPM  
 Other Hardware: None

### Software

Operating System: SUSE Linux Enterprise Server 11 (x86\_64), Kernel 2.6.27.19-5-default  
 Compiler: Intel C++ Professional Compiler for IA32 and Intel 64, Version 11.1  
 Build 20090511 Package ID: l\_cproc\_p\_11.1.040  
 Auto Parallel: Yes  
 File System: ReiserFS  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V8.1  
 Binutils 2.18.50.0.7.20080502



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## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	423	23.1	<b>423</b>	<b>23.1</b>	423	23.1	<b>317</b>	<b>30.8</b>	316	31.0	319	30.6
401.bzip2	598	16.1	599	16.1	<b>599</b>	<b>16.1</b>	515	18.8	513	18.8	<b>514</b>	<b>18.8</b>
403.gcc	279	28.9	279	28.9	<b>279</b>	<b>28.9</b>	264	30.5	262	30.7	<b>263</b>	<b>30.6</b>
429.mcf	185	49.3	<b>185</b>	<b>49.3</b>	185	49.4	192	47.4	187	48.7	<b>189</b>	<b>48.4</b>
445.gobmk	456	23.0	<b>456</b>	<b>23.0</b>	456	23.0	393	26.7	<b>392</b>	<b>26.7</b>	391	26.8
456.hammer	415	22.5	<b>417</b>	<b>22.4</b>	417	22.4	271	34.4	<b>271</b>	<b>34.5</b>	268	34.9
458.sjeng	466	26.0	464	26.1	<b>464</b>	<b>26.1</b>	<b>428</b>	<b>28.3</b>	428	28.3	433	28.0
462.libquantum	107	194	<b>106</b>	<b>195</b>	106	195	107	194	<b>106</b>	<b>195</b>	106	195
464.h264ref	<b>640</b>	<b>34.6</b>	642	34.5	640	34.6	530	41.8	535	41.4	<b>533</b>	<b>41.5</b>
471.omnetpp	253	24.7	<b>250</b>	<b>25.0</b>	250	25.0	222	28.2	220	28.4	<b>222</b>	<b>28.2</b>
473.astar	<b>412</b>	<b>17.1</b>	413	17.0	411	17.1	<b>351</b>	<b>20.0</b>	349	20.1	352	20.0
483.xalancbmk	177	39.0	<b>175</b>	<b>39.4</b>	175	39.5	177	39.0	<b>175</b>	<b>39.4</b>	175	39.5

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

## Operating System Notes

OMP\_NUM\_THREADS set to number of cores  
KMP\_AFFINITY set to granularity=fine,scatter

## Component Notes

Tested system case compliance with Intel ATX or SSI spec  
390W or higher ATX Power Supply, 350W or higher SSI Server Power Supply  
System was configured with ASPEED AST2050 VGA (on board VGA)

## General Notes

The ASUS TS300-E6 (Intel Xeon X3470, 2.93 GHz) and the ASUS RS300-E6 (Intel Xeon X3470, 2.93 GHz) models are electronically equivalent. The results have been measured on a ASUS RS300-E6 (Intel Xeon X3470, 2.93 GHz) model.

## Base Compiler Invocation

C benchmarks:  
icc -m32

C++ benchmarks:  
icpc -m32



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## 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 -static -parallel  
-par-runtime-control -opt-prefetch -inline-calloc  
-opt-malloc-options=3

C++ benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs  
-L/spec/cpu2006.1.1/lib -lsmartheap

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m32

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

C++ benchmarks (except as noted below):

icpc -m32

473.astar: icpc -m64

## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
401.bzip2: -DSPEC\_CPU\_LP64

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## Peak Portability Flags (Continued)

456.hmmr: -DSPEC\_CPU\_LP64  
458.sjeng: -DSPEC\_CPU\_LP64  
462.libquantum: -DSPEC\_CPU\_LINUX  
473.astar: -DSPEC\_CPU\_LP64  
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) -static(pass 2)  
-prof-use(pass 2) -ansi-alias -opt-prefetch  
401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)  
-prof-use(pass 2) -auto-ilp32 -opt-prefetch  
403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -static -inline-calloc  
-opt-malloc-options=3  
429.mcf: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch  
445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -O2  
-ipo -no-prec-div -ansi-alias  
456.hmmr: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2  
-ansi-alias -auto-ilp32  
458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -static(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) -static(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/spec/cpu2006.1.1/lib -lsmartheap  
473.astar: -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=routine -auto-ilp32

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## Peak Optimization Flags (Continued)

473.astar (continued):

`-Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap64`

483.xalancbmk: basepeak = yes

## Peak Other Flags

C benchmarks:

403.gcc: `-Dalloca=_alloca`

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revD.20091208.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revD.20091208.xml>

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

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