



# SPEC® CINT2006 Result

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## ASUSTeK Computer Inc.

### SPECint®\_rate2006 = 109

### ASUS TS300-E6 (P7F-E) server system (Intel Xeon X3440)

### SPECint\_rate\_base2006 = 100

CPU2006 license: 9016

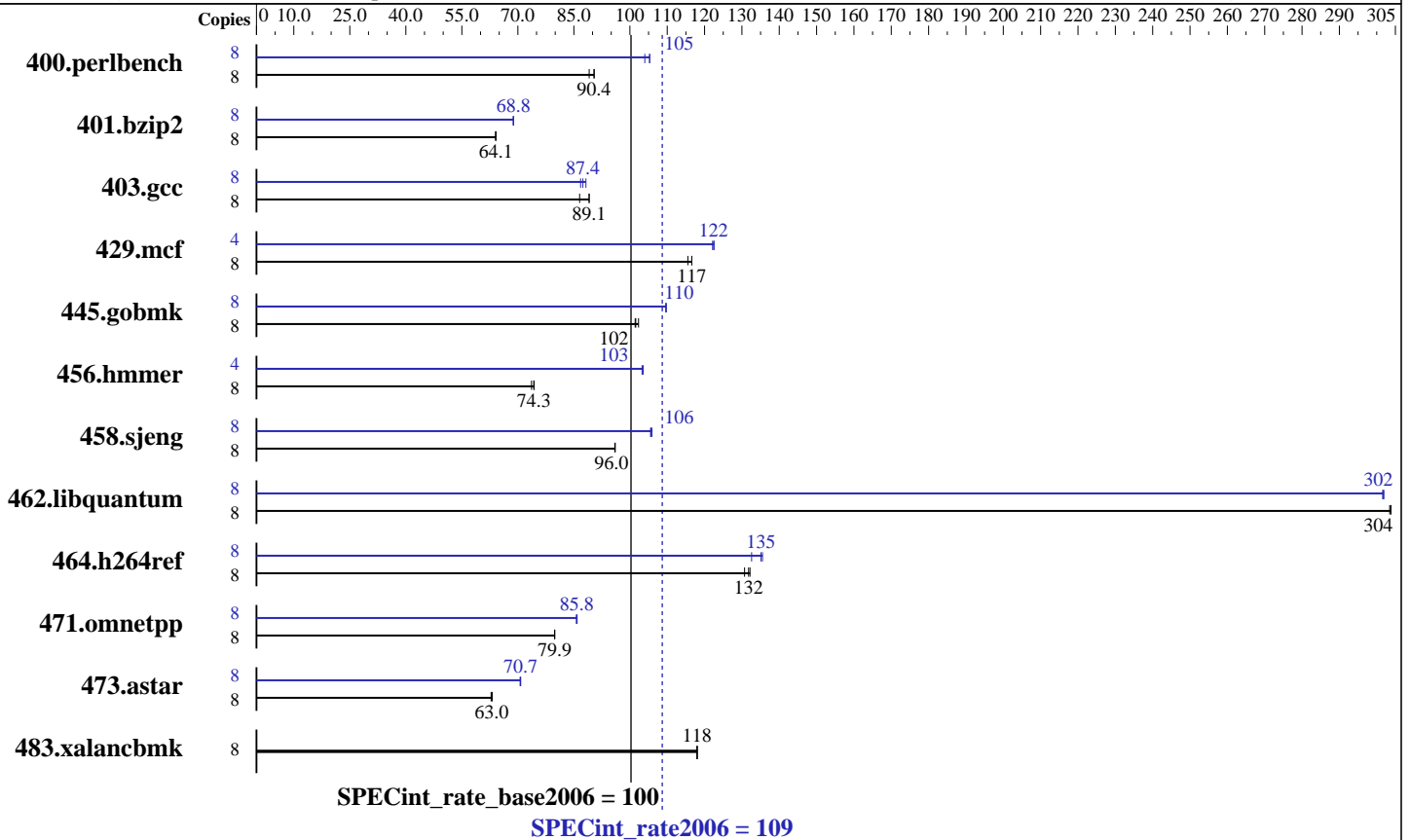
Test date: Jun-2010

Test sponsor: ASUSTeK Computer Inc.

Hardware Availability: Mar-2010

Tested by: ASUSTeK Computer Inc.

Software Availability: Jan-2010



### Hardware

CPU Name: Intel Xeon X3440  
 CPU Characteristics: Intel Turbo Boost Technology up to 2.93 GHz  
 CPU MHz: 2533  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip, 2 threads/core  
 CPU(s) orderable: 1 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: 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 HDP725050GLA380 1 x 500 GB SATAII, 7200 RPM  
 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 20091130 Package ID: l\_cproc\_p\_11.1.064  
 Auto Parallel: No  
 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



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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	8	877	89.1	<b>865</b>	<b>90.4</b>	864	90.5	8	742	105	<b>743</b>	<b>105</b>	752	104
401.bzip2	8	1205	64.1	1204	64.1	<b>1204</b>	<b>64.1</b>	8	1121	68.9	1123	68.8	<b>1122</b>	<b>68.8</b>
403.gcc	8	744	86.5	723	89.1	<b>723</b>	<b>89.1</b>	8	<b>737</b>	<b>87.4</b>	742	86.8	730	88.2
429.mcf	8	632	116	<b>626</b>	<b>117</b>	626	117	4	<b>298</b>	<b>122</b>	298	123	299	122
445.gobmk	8	828	101	820	102	<b>826</b>	<b>102</b>	8	765	110	765	110	<b>765</b>	<b>110</b>
456.hammer	8	1004	74.4	<b>1005</b>	<b>74.3</b>	1013	73.7	4	361	103	360	104	<b>361</b>	<b>103</b>
458.sjeng	8	<b>1008</b>	<b>96.0</b>	1009	96.0	1008	96.1	8	<b>916</b>	<b>106</b>	917	106	914	106
462.libquantum	8	<b>546</b>	<b>304</b>	546	304	546	303	8	550	302	<b>549</b>	<b>302</b>	549	302
464.h264ref	8	1340	132	<b>1343</b>	<b>132</b>	1354	131	8	<b>1310</b>	<b>135</b>	1335	133	1306	136
471.omnetpp	8	626	79.9	<b>626</b>	<b>79.9</b>	626	79.8	8	582	85.9	584	85.7	<b>583</b>	<b>85.8</b>
473.astar	8	890	63.1	894	62.8	<b>891</b>	<b>63.0</b>	8	795	70.6	794	70.8	<b>794</b>	<b>70.7</b>
483.xalancbmk	8	<b>468</b>	<b>118</b>	468	118	468	118	8	<b>468</b>	<b>118</b>	468	118	468	118

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

## Submit Notes

The config file option 'submit' was used.  
numactl was used to bind copies to the cores

## Operating System Notes

'ulimit -s unlimited' was used to set the stack size to unlimited prior to run

## Component Notes

Tested system case compliance with Intel EEB 3.61 spec  
SSI Server Power Supply 650W or higher  
System was configured with ASPEED AST2050 VGA (on board VGA)

## General Notes

Binaries were compiled on SLES 10 with Binutils 2.18.50.0.7.20080502

## 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 -inline-calloc  
-opt-malloc-options=3 -opt-prefetch

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  
456.hmmer: -DSPEC\_CPU\_LP64

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## Peak Portability Flags (Continued)

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) -opt-prefetch -auto-ilp32

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -static -inline-calloc  
-opt-malloc-options=3

429.mcf: -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) -opt-prefetch

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -O2  
-ipo -no-prec-div -ansi-alias

456.hmmer: -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: -xSSE4.2 -ipo -O3 -no-prec-div -static  
-opt-malloc-options=3 -opt-prefetch

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

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## Peak Optimization Flags (Continued)

```
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
           -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-revF.20100609.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revF.20100609.xml>

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

Tested with SPEC CPU2006 v1.1.  
Report generated on Wed Jul 23 10:50:17 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 3 August 2010.