



# SPEC® CINT2006 Result

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## ASUSTeK Computer Inc.

### SPECint®\_rate2006 = 124

ASUS TS100-E6 (P7F-X) server system (Intel Xeon X3470)

### SPECint\_rate\_base2006 = 114

CPU2006 license: 9016

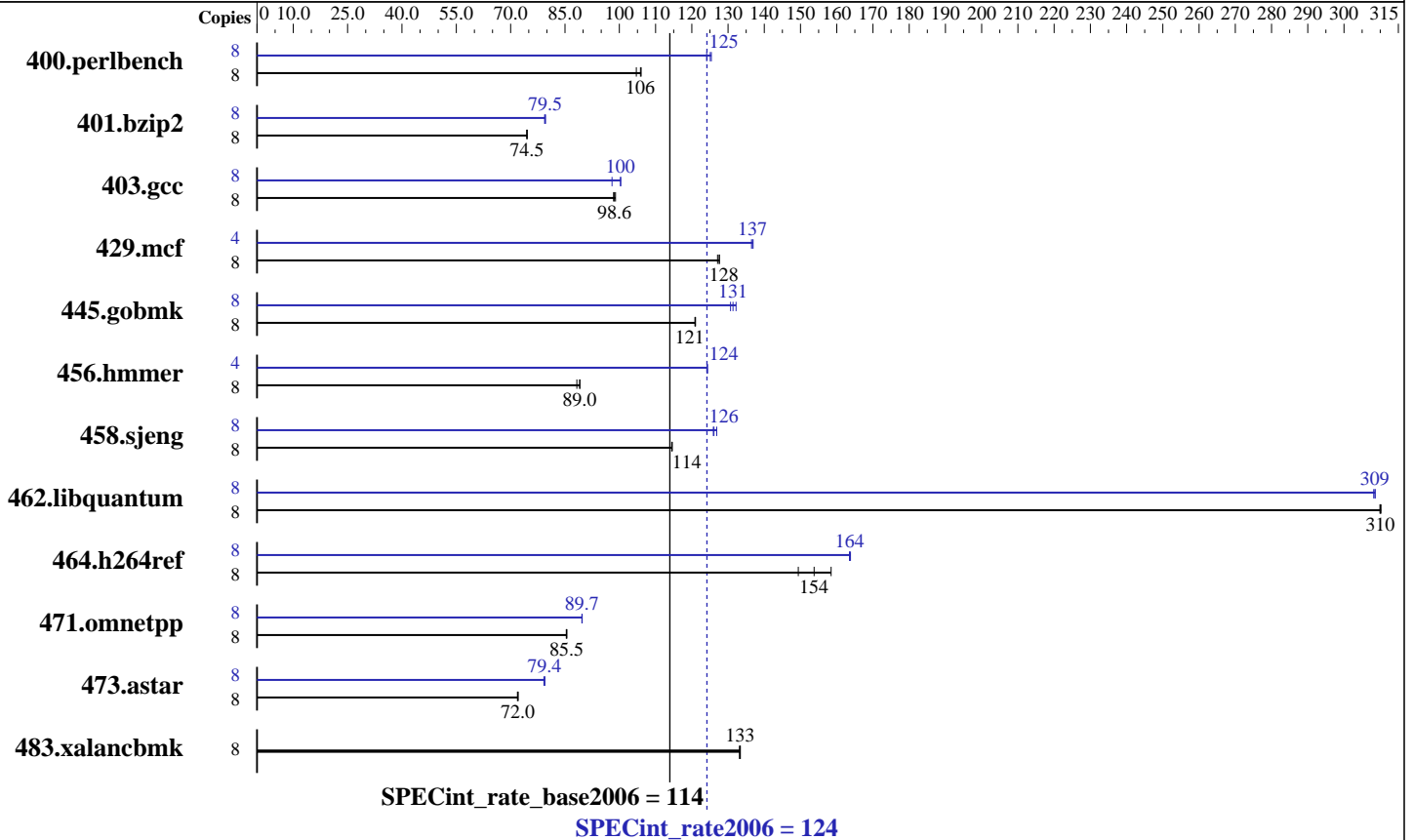
Test date: Dec-2009

Test sponsor: ASUSTeK Computer Inc.

Hardware Availability: Oct-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: 1 x 250 GB SATAII, 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: 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 Binutils 2.18.50.0.7.20080502



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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	737	106	747	105	<u>739</u>	<u>106</u>	8	<u>625</u>	<u>125</u>	630	124	623	125
401.bzip2	8	1035	74.6	1037	74.4	<u>1036</u>	<u>74.5</u>	8	<u>971</u>	<u>79.5</u>	973	79.4	970	79.6
403.gcc	8	<u>653</u>	<u>98.6</u>	651	98.9	654	98.4	8	<u>642</u>	<u>100</u>	641	100	657	98.0
429.mcf	8	<u>572</u>	<u>128</u>	572	128	574	127	4	266	137	267	136	<u>267</u>	<u>137</u>
445.gobmk	8	<u>694</u>	<u>121</u>	694	121	693	121	8	<u>639</u>	<u>131</u>	642	131	635	132
456.hammer	8	838	89.1	846	88.3	<u>838</u>	<u>89.0</u>	4	<u>300</u>	<u>124</u>	301	124	300	124
458.sjeng	8	<u>845</u>	<u>114</u>	845	115	846	114	8	763	127	<u>768</u>	<u>126</u>	769	126
462.libquantum	8	<u>535</u>	<u>310</u>	534	310	535	310	8	538	308	537	309	<u>537</u>	<u>309</u>
464.h264ref	8	1185	149	1117	158	<u>1151</u>	<u>154</u>	8	1083	164	1081	164	<u>1082</u>	<u>164</u>
471.omnetpp	8	586	85.4	585	85.5	<u>585</u>	<u>85.5</u>	8	<u>557</u>	<u>89.7</u>	557	89.8	558	89.7
473.astar	8	779	72.1	<u>780</u>	<u>72.0</u>	781	71.9	8	709	79.2	707	79.4	<u>707</u>	<u>79.4</u>
483.xalanbmk	8	415	133	414	133	<u>414</u>	<u>133</u>	8	415	133	414	133	<u>414</u>	<u>133</u>

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

## Component Notes

Tested system case compliance with ATX spec  
300W PS2 80 Plus Power Supply  
System was configured with XGI Volari Z9s VGA (on board VGA)

## 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.xalanbmk: -DSPEC\_CPU\_LINUX



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## 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
```

```
458.sjeng: -DSPEC_CPU_LP64
```

```
462.libquantum: -DSPEC_CPU_LINUX
```

```
473.astar: -DSPEC_CPU_LP64
```

```
483.xalancbmk: -DSPEC_CPU_LINUX
```



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## 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

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



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## 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.20100105.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.20100105.xml>

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

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