



# SPEC® CINT2006 Result

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## ASUSTeK Computer Inc.

### SPECint®\_rate2006 = 124

ASUS RS100-E6 (P7F-M) server system (Intel Xeon X3470)

### SPECint\_rate\_base2006 = 114

CPU2006 license: 9016

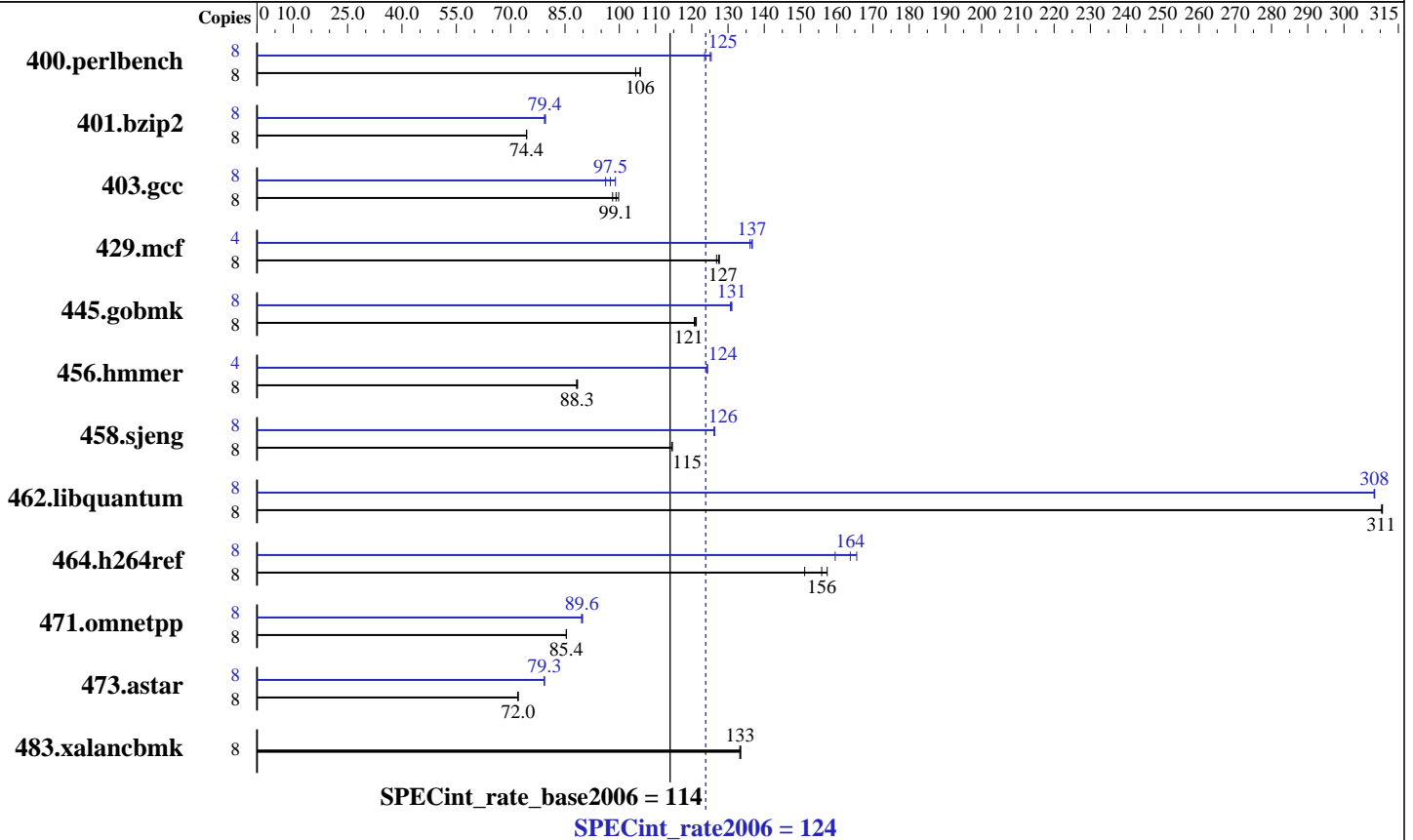
Test date: Nov-2009

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: 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	748	105	<u>739</u>	<u>106</u>	739	106	8	623	125	<u>625</u>	<u>125</u>	633	124
401.bzip2	8	1038	74.4	<u>1038</u>	<u>74.4</u>	1037	74.4	8	<u>972</u>	<u>79.4</u>	973	79.4	969	79.6
403.gcc	8	<u>650</u>	<u>99.1</u>	656	98.1	645	99.8	8	651	98.9	<u>660</u>	<u>97.5</u>	669	96.2
429.mcf	8	<u>573</u>	<u>127</u>	572	128	575	127	4	267	137	268	136	<u>267</u>	<u>137</u>
445.gobmk	8	695	121	692	121	<u>694</u>	<u>121</u>	8	641	131	642	131	<u>641</u>	<u>131</u>
456.hammer	8	846	88.2	<u>845</u>	<u>88.3</u>	844	88.5	4	<u>300</u>	<u>124</u>	300	124	300	124
458.sjeng	8	<u>845</u>	<u>115</u>	850	114	844	115	8	767	126	766	126	<u>767</u>	<u>126</u>
462.libquantum	8	<u>534</u>	<u>311</u>	534	310	534	311	8	538	308	537	308	<u>538</u>	<u>308</u>
464.h264ref	8	1171	151	1125	157	<u>1136</u>	<u>156</u>	8	1109	160	1070	166	<u>1081</u>	<u>164</u>
471.omnetpp	8	585	85.4	<u>586</u>	<u>85.4</u>	586	85.3	8	558	89.6	<u>558</u>	<u>89.6</u>	556	89.9
473.astar	8	779	72.1	<u>780</u>	<u>72.0</u>	780	72.0	8	708	79.3	<u>708</u>	<u>79.3</u>	709	79.2
483.xalanbmk	8	413	134	<u>414</u>	<u>133</u>	414	133	8	413	134	<u>414</u>	<u>133</u>	414	133

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 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)

## 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-alloc  
 -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.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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