



# SPEC® CINT2006 Result

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## ASUSTeK Computer Inc.

### SPECint®\_rate2006 = 381

ASUS RS500-E6 (Z8NR-D12) server system  
(Intel Xeon X5680)

### SPECint\_rate\_base2006 = 356

CPU2006 license: 9016

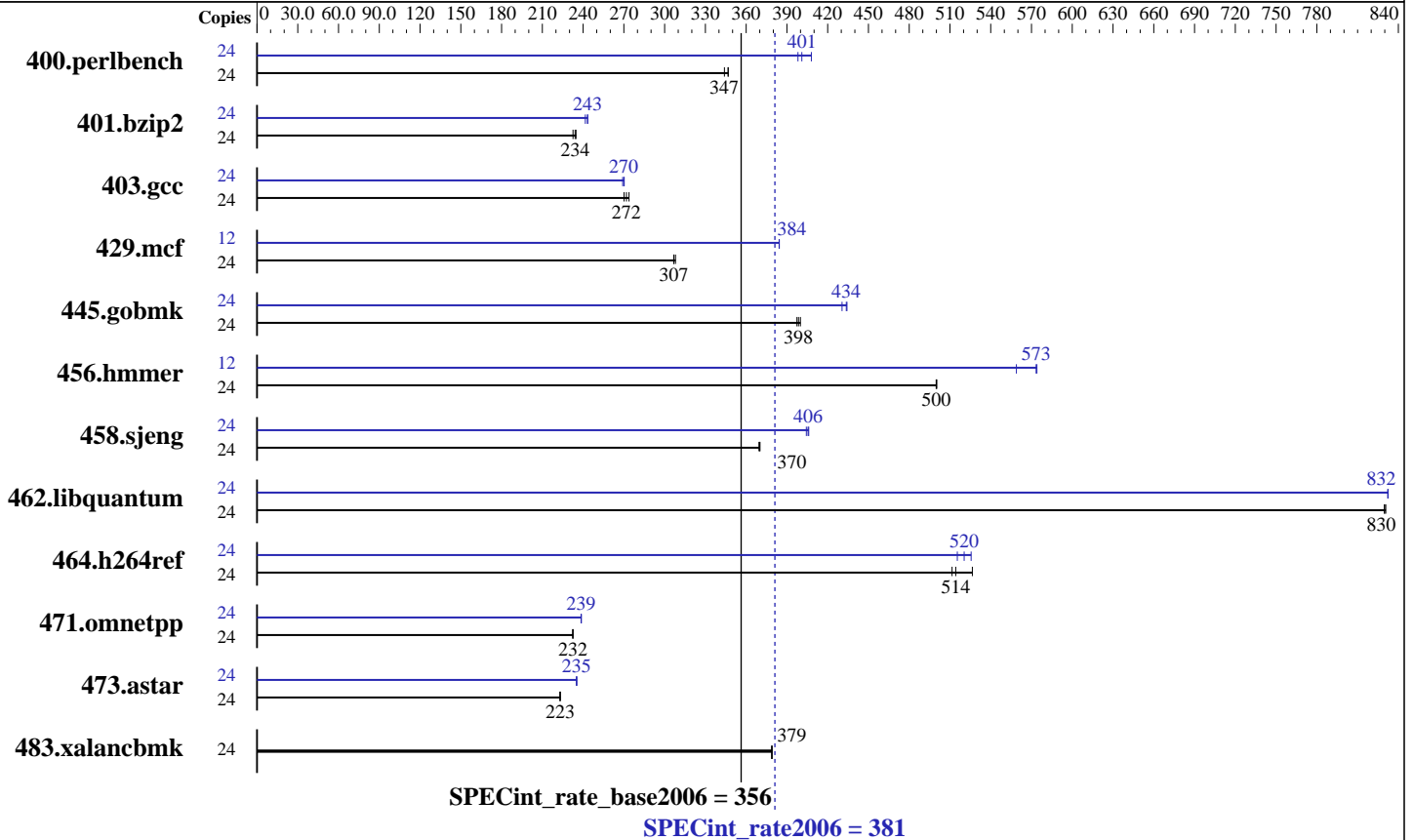
Test date: Jun-2010

Test sponsor: ASUSTeK Computer Inc.

Hardware Availability: Mar-2010

Tested by: ASUSTeK Computer Inc.

Software Availability: Jan-2010



### Hardware

CPU Name: Intel Xeon X5680  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.60 GHz  
 CPU MHz: 3333  
 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: 12 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 48 GB (12 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	24	676	347	682	344	<b>676</b>	<b>347</b>	24	589	398	<b>585</b>	<b>401</b>	575	408		
401.bzip2	24	996	233	<b>989</b>	<b>234</b>	986	235	24	959	242	<b>952</b>	<b>243</b>	952	243		
403.gcc	24	706	274	715	270	<b>711</b>	<b>272</b>	24	<b>716</b>	<b>270</b>	715	270	718	269		
429.mcf	24	<b>713</b>	<b>307</b>	711	308	714	307	12	285	384	285	384	<b>285</b>	<b>384</b>		
445.gobmk	24	630	400	634	397	<b>632</b>	<b>398</b>	24	<b>581</b>	<b>434</b>	580	434	585	431		
456.hammer	24	448	500	448	500	<b>448</b>	<b>500</b>	12	195	574	200	559	<b>195</b>	<b>573</b>		
458.sjeng	24	<b>785</b>	<b>370</b>	786	369	785	370	24	<b>716</b>	<b>406</b>	715	406	718	404		
462.libquantum	24	599	831	599	830	<b>599</b>	<b>830</b>	24	<b>597</b>	<b>832</b>	597	832	597	832		
464.h264ref	24	1009	526	1038	512	<b>1033</b>	<b>514</b>	24	1011	526	<b>1021</b>	<b>520</b>	1030	515		
471.omnetpp	24	<b>645</b>	<b>232</b>	645	232	645	233	24	629	239	629	238	<b>629</b>	<b>239</b>		
473.astar	24	755	223	756	223	<b>755</b>	<b>223</b>	24	717	235	716	235	<b>716</b>	<b>235</b>		
483.xalancbmk	24	437	379	<b>437</b>	<b>379</b>	437	379	24	437	379	<b>437</b>	<b>379</b>	437	379		

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  
The ASUS RS500-E6 (Intel Xeon X5680, 3.33 GHz) and  
the ASUS RS520-E6 (Intel Xeon X5680, 3.33 GHz) models are electronically equivalent.  
The results have been measured on a ASUS RS520-E6 (Intel Xeon X5680, 3.33 GHz) model.

## Base Compiler Invocation

C benchmarks:  
icc -m32

Continued on next page



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## Base Compiler Invocation (Continued)

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:  
-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

C++ benchmarks:  
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs  
-L/home/cmplr/usr3/alrahate/cpu2006.1.1.icl1.1/libicl1.1-32bit -lsmarheap

## 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

462.libquantum: icc -m64

C++ benchmarks (except as noted below):  
icpc -m32

473.astar: icpc -m64



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## 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_LP64 -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

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 -ansi-alias -auto-ilp32

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -static

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.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 -auto-ilp32
                -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/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-32bit -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 -Wl,-z,muldefs
           -L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-64bit -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).

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