SPEC® CFP2006 Result
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ASUSTeK Computer Inc.

ASUS TS700-E6 (Z8PE-D12X) server system (Intel Xeon X5680)

$SPECfp®\_rate2006 =$ **256**

SPECfp_rate_base2006 = **248**

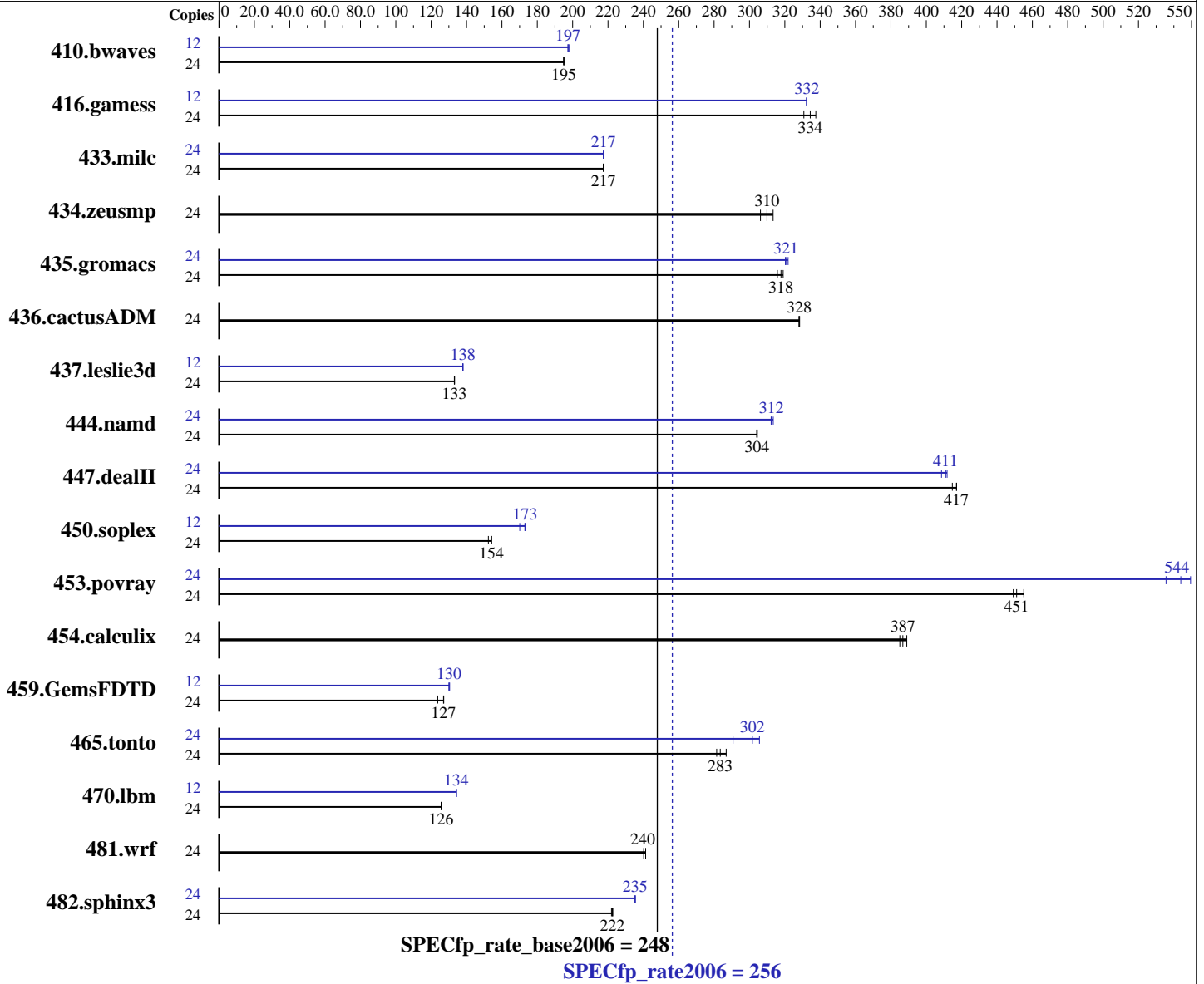|	
CPU2006 license: 9016	**Test date:** Mar-2010
Test sponsor: ASUSTeK Computer Inc.	**Hardware Availability:** Mar-2010
Tested by: ASUSTeK Computer Inc.	**Software Availability:** Jan-2010

SPECfp_rate_base2006 = 248

SPECfp_rate2006 = 256

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

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Software

Operating System:	SUSE Linux Enterprise Server 11 (x86_64), Kernel 2.6.27.19-5-default
Compiler:	Intel C++ and Fortran Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091130 Package ID: l_cproc_p_11.1.064, l_cprof_p_11.1.064
Auto Parallel:	No
File System:	ReiserFS
System State:	Run level 3 (multi-user)

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L3 Cache:	12 MB I+D on chip per chip	Base Pointers:	64-bit
Other Cache:	None	Peak Pointers:	32/64-bit
Memory:	48 GB (12 x 4 GB PC3-10600R, CL=9)	Other Software:	Binutils 2.18.50.0.7.20080502
Disk Subsystem:	1 x 500 GB SATAII, 7200RPM		
Other Hardware:	None		

Results Table

Benchmark	Base						Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	24	1670	195	**1672**	**195**	1674	195	12	826	197	824	198	**826**	**197**
416.gamess	24	**1405**	**334**	1392	338	1421	331	12	707	332	707	332	**707**	**332**
433.milc	24	**1013**	**217**	1013	217	1014	217	24	1013	217	1013	218	**1013**	**217**
434.zeusmp	24	697	313	**705**	**310**	713	306	24	697	313	**705**	**310**	713	306
435.gromacs	24	**539**	**318**	543	316	537	319	24	**534**	**321**	535	320	532	322
436.cactusADM	24	**874**	**328**	873	328	874	328	24	**874**	**328**	873	328	874	328
437.leslie3d	24	1693	133	1695	133	**1694**	**133**	12	**818**	**138**	818	138	817	138
444.namd	24	**632**	**304**	633	304	632	304	24	616	312	614	313	**616**	**312**
447.dealII	24	658	417	662	415	**658**	**417**	24	667	412	672	409	**668**	**411**
450.soplex	24	1314	152	1299	154	**1299**	**154**	12	588	170	578	173	**578**	**173**
453.povray	24	281	455	**283**	**451**	284	449	24	232	549	238	536	**235**	**544**
454.calculix	24	509	389	**512**	**387**	514	385	24	509	389	**512**	**387**	514	385
459.GemsFDTD	24	2058	124	2003	127	**2006**	**127**	12	**978**	**130**	979	130	976	130
465.tonto	24	839	281	**833**	**283**	823	287	24	812	291	**783**	**302**	773	306
470.lbm	24	2623	126	**2625**	**126**	2625	126	12	1228	134	**1229**	**134**	1229	134
481.wrf	24	1111	241	**1115**	**240**	1116	240	24	1111	241	**1115**	**240**	1116	240
482.sphinx3	24	2107	222	2100	223	**2103**	**222**	24	1987	235	**1987**	**235**	1989	235

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)
```

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Base Compiler Invocation

C benchmarks:
    icc -m64

C++ benchmarks:
    icpc -m64

Fortran benchmarks:
    ifort -m64

Benchmarks using both Fortran and C:
    icc -m64 ifort -m64

Base Portability Flags

        410.bwaves: -DSPEC_CPU_LP64
        416.gamess: -DSPEC_CPU_LP64
         433.milc: -DSPEC_CPU_LP64
        434.zeusmp: -DSPEC_CPU_LP64
       435.gromacs: -DSPEC_CPU_LP64 -nofor_main
      436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
       437.leslie3d: -DSPEC_CPU_LP64
         444.namd: -DSPEC_CPU_LP64
         447.dealII: -DSPEC_CPU_LP64
        450.soplex: -DSPEC_CPU_LP64
        453.povray: -DSPEC_CPU_LP64
       454.calculix: -DSPEC_CPU_LP64 -nofor_main
      459.GemsFDTD: -DSPEC_CPU_LP64
         465.tonto: -DSPEC_CPU_LP64
          470.lbm: -DSPEC_CPU_LP64
          481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
       482.sphinx3: -DSPEC_CPU_LP64

Base Optimization Flags

C benchmarks:
    -xSSE4.2 -ipo -O3 -no-prec-div -static

C++ benchmarks:
    -xSSE4.2 -ipo -O3 -no-prec-div -static

Fortran benchmarks:
    -xSSE4.2 -ipo -O3 -no-prec-div -static

Benchmarks using both Fortran and C:
    -xSSE4.2 -ipo -O3 -no-prec-div -static

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Peak Compiler Invocation

C benchmarks (except as noted below):
```
icc    -m64
```

```
482.sphinx3: icc -m32
```

C++ benchmarks (except as noted below):
```
icpc   -m64
```

```
450.soplex: icpc -m32
```

Fortran benchmarks:
```
ifort -m64
```

Benchmarks using both Fortran and C:
```
icc    -m64 ifort -m64
```

Peak Portability Flags

```
      410.bwaves: -DSPEC_CPU_LP64
      416.gamess: -DSPEC_CPU_LP64
        433.milc: -DSPEC_CPU_LP64
      434.zeusmp: -DSPEC_CPU_LP64
     435.gromacs: -DSPEC_CPU_LP64 -nofor_main
   436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
     437.leslie3d: -DSPEC_CPU_LP64
        444.namd: -DSPEC_CPU_LP64
       447.dealII: -DSPEC_CPU_LP64
      453.povray: -DSPEC_CPU_LP64
     454.calculix: -DSPEC_CPU_LP64 -nofor_main
    459.GemsFDTD: -DSPEC_CPU_LP64
        465.tonto: -DSPEC_CPU_LP64
         470.lbm: -DSPEC_CPU_LP64
         481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
```

Peak Optimization Flags

C benchmarks:

```
        433.milc: -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)
                  -fno-alias -opt-prefetch

         470.lbm: -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-malloc-options=3 -ansi-alias -auto-ilp32
```

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Peak Optimization Flags (Continued)

   482.sphinx3: `-xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2`

C++ benchmarks:

   444.namd: `-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)`
      `-fno-alias -auto-ilp32`

   447.dealII: `-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 -scalar-rep-`

   450.soplex: `-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-malloc-options=3`

   453.povray: `-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 -ansi-alias`

Fortran benchmarks:

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

   416.gamess: `-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 -Ob0 -ansi-alias -scalar-rep-`

   434.zeusmp: `basepeak = yes`

   437.leslie3d: `-xSSE4.2 -ipo -O3 -no-prec-div -static`

   459.GemsFDTD: `-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 -Ob0`

   465.tonto: `-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 -inline-calloc -opt-malloc-options=3`

Benchmarks using both Fortran and C:

   435.gromacs: `-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`

   436.cactusADM: `basepeak = yes`

   454.calculix: `basepeak = yes`

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Peak Optimization Flags (Continued)

481.wrf: basepeak = yes

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100316.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100316.xml

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