SPEC® CFP2006 Result
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ASUSTeK Computer Inc.

ASUS RS700-E6 server system (Intel Xeon X5680)

$SPECfp®_rate2006 = $ 255

SPECfp_rate_base2006 = 247

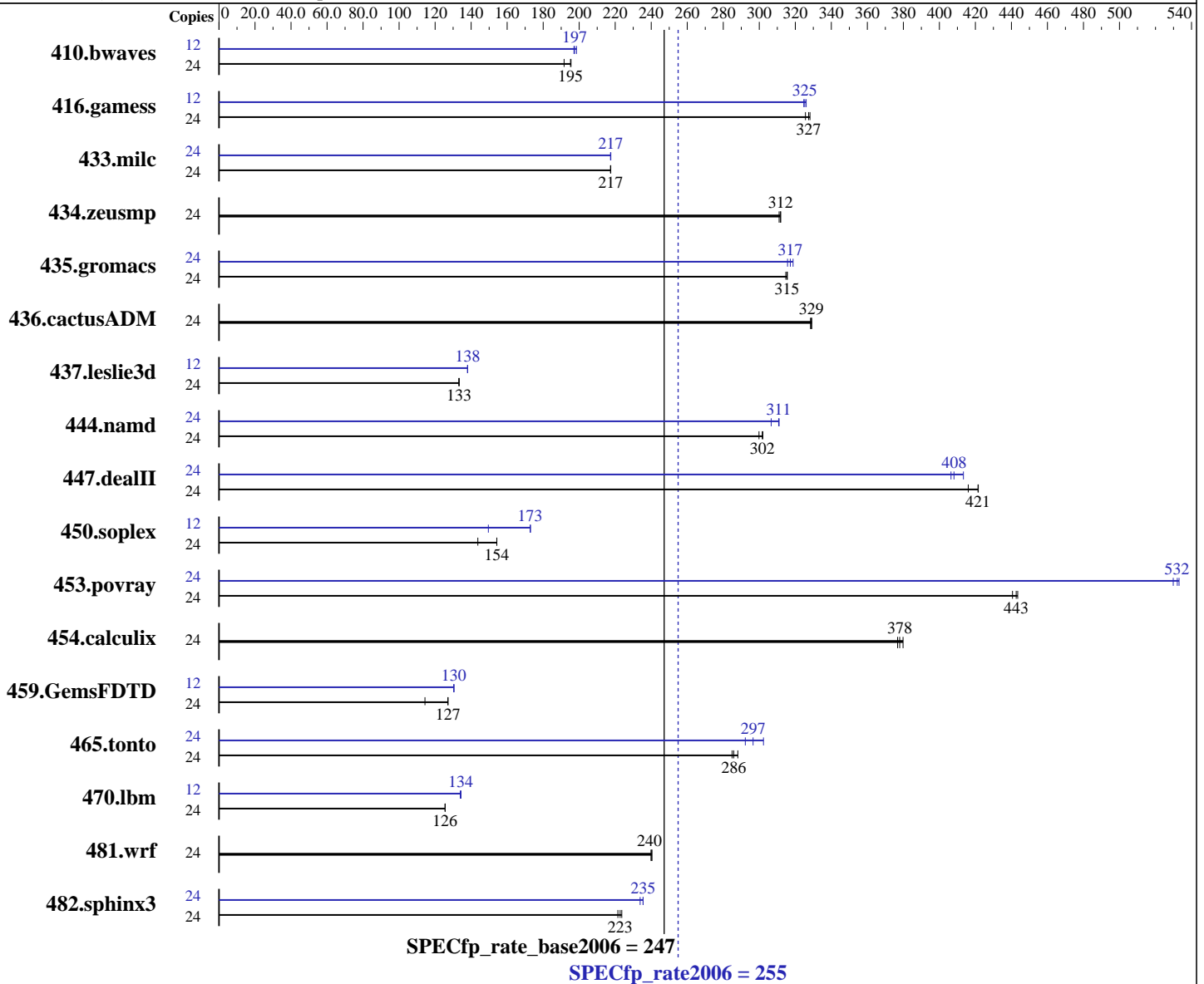|	
CPU2006 license: 9016	**Test date:** May-2010
Test sponsor: ASUSTeK Computer Inc.	**Hardware Availability:** Mar-2010
Tested by: ASUSTeK Computer Inc.	**Software Availability:** Jan-2010

Copies scale: 0 20.0 40.0 60.0 80.0 100 120 140 160 180 200 220 240 260 280 300 320 340 360 380 400 420 440 460 480 500 540

Benchmark	Copies	Result
410.bwaves	12	197
	24	195
416.gamess	12	325
	24	327
433.milc	24	217
	24	217
434.zeusmp	24	312
435.gromacs	24	317
	24	315
436.cactusADM	24	329
437.leslie3d	12	138
	24	133
444.namd	24	311
	24	302
447.dealII	24	408
	24	421
450.soplex	12	173
	24	154
453.povray	24	532
	24	443
454.calculix	24	378
459.GemsFDTD	12	130
	24	127
465.tonto	24	297
	24	286
470.lbm	12	134
	24	126
481.wrf	24	240
482.sphinx3	24	235
	24	223

SPECfp_rate_base2006 = 247

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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

Continued on next page

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)

Continued on next page

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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:	HITACHI HDP725050GLA380 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	1702	192	1669	195	**1671**	**195**	12	827	197	821	199	**826**	**197**
416.gamess	24	1443	326	1432	328	**1435**	**327**	12	724	325	**722**	**325**	721	326
433.milc	24	1013	218	**1013**	**217**	1013	217	24	1013	218	1013	217	**1013**	**217**
434.zeusmp	24	702	311	**700**	**312**	700	312	24	702	311	**700**	**312**	700	312
435.gromacs	24	**543**	**315**	545	315	543	316	24	**540**	**317**	543	316	538	319
436.cactusADM	24	**872**	**329**	873	328	871	329	24	**872**	**329**	873	328	871	329
437.leslie3d	24	1692	133	**1693**	**133**	1694	133	12	**817**	**138**	817	138	817	138
444.namd	24	642	300	637	302	**638**	**302**	24	628	307	**619**	**311**	619	311
447.dealII	24	**651**	**421**	660	416	651	422	24	664	413	**673**	**408**	676	406
450.soplex	24	1393	144	1297	154	**1298**	**154**	12	669	150	**579**	**173**	578	173
453.povray	24	**288**	**443**	288	443	290	441	24	240	533	**240**	**532**	241	530
454.calculix	24	525	377	521	380	**524**	**378**	24	525	377	521	380	**524**	**378**
459.GemsFDTD	24	2227	114	2002	127	**2003**	**127**	12	**976**	**130**	976	130	976	130
465.tonto	24	**826**	**286**	829	285	820	288	24	808	292	781	302	**796**	**297**
470.lbm	24	**2627**	**126**	2625	126	2627	126	12	1227	134	**1229**	**134**	1231	134
481.wrf	24	1118	240	**1116**	**240**	1115	240	24	1118	240	**1116**	**240**	1115	240
482.sphinx3	24	2112	221	2091	224	**2100**	**223**	24	2000	234	**1986**	**235**	1986	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
```

Base Compiler Invocation

```
    C benchmarks:
        icc   -m64
```

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Base Compiler Invocation (Continued)

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-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

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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