



# SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS520-E6 (Z8NR-D12) server system  
(Intel Xeon X5680)

**SPECfp®\_rate2006 = 256**

**SPECfp\_rate\_base2006 = 248**

CPU2006 license: 9016

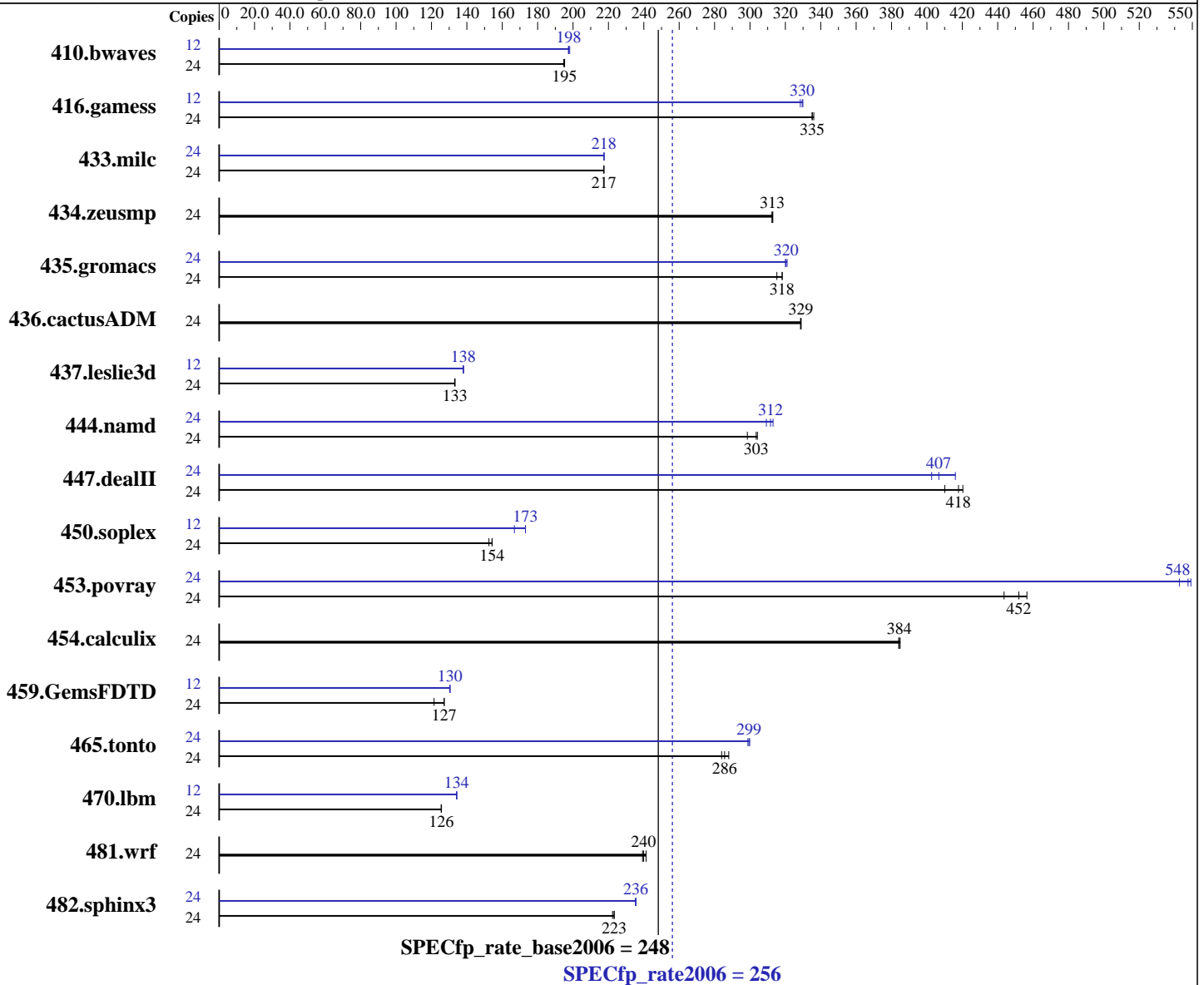
Test sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test date: Jun-2010

Hardware Availability: Mar-2010

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

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



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

SPECfp\_rate2006 = 256

ASUS RS520-E6 (Z8NR-D12) server system  
(Intel Xeon X5680)

SPECfp\_rate\_base2006 = 248

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

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

Base Pointers: 64-bit  
Peak Pointers: 32/64-bit  
Other Software: None

## Results Table

Benchmark	Base								Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio		
410.bwaves	24	1675	195	<u>1671</u>	<u>195</u>	1670	195	12	826	197	823	198	<u>825</u>	<u>198</u>		
416.gamess	24	1398	336	<u>1402</u>	<u>335</u>	1402	335	12	715	328	<u>713</u>	<u>330</u>	712	330		
433.milc	24	1014	217	1013	217	<u>1013</u>	<u>217</u>	24	1013	218	1013	217	<u>1013</u>	<u>218</u>		
434.zeusmp	24	<u>699</u>	<u>313</u>	698	313	699	312	24	<u>699</u>	<u>313</u>	698	313	699	312		
435.gromacs	24	539	318	<u>539</u>	<u>318</u>	544	315	24	535	320	534	321	<u>535</u>	<u>320</u>		
436.cactusADM	24	873	329	<u>872</u>	<u>329</u>	872	329	24	873	329	<u>872</u>	<u>329</u>	872	329		
437.leslie3d	24	1693	133	<u>1693</u>	<u>133</u>	1695	133	12	818	138	817	138	<u>817</u>	<u>138</u>		
444.namd	24	633	304	<u>634</u>	<u>303</u>	645	299	24	622	309	<u>618</u>	<u>312</u>	615	313		
447.dealII	24	<u>657</u>	<u>418</u>	670	410	653	420	24	682	403	660	416	<u>675</u>	<u>407</u>		
450.soplex	24	1313	152	1297	154	<u>1298</u>	<u>154</u>	12	600	167	<u>578</u>	<u>173</u>	578	173		
453.povray	24	<u>283</u>	<u>452</u>	288	444	280	457	24	<u>233</u>	<u>548</u>	232	549	235	543		
454.calculix	24	<u>515</u>	<u>384</u>	516	384	514	385	24	<u>515</u>	<u>384</u>	516	384	514	385		
459.GemsFDTD	24	2096	121	2001	127	<u>2003</u>	<u>127</u>	12	976	130	976	130	<u>976</u>	<u>130</u>		
465.tonto	24	820	288	<u>827</u>	<u>286</u>	832	284	24	788	300	<u>789</u>	<u>299</u>	790	299		
470.lbm	24	2624	126	<u>2626</u>	<u>126</u>	2628	125	12	1227	134	<u>1229</u>	<u>134</u>	1229	134		
481.wrf	24	1111	241	1120	239	<u>1117</u>	<u>240</u>	24	1111	241	1120	239	<u>1117</u>	<u>240</u>		
482.sphinx3	24	2104	222	<u>2095</u>	<u>223</u>	2095	223	24	<u>1986</u>	<u>236</u>	1986	236	1988	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)



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**ASUSTeK Computer Inc.**

**SPECfp\_rate2006 = 256**

ASUS RS520-E6 (Z8NR-D12) server system  
(Intel Xeon X5680)

**SPECfp\_rate\_base2006 = 248**

**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

## 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 -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

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**ASUSTeK Computer Inc.**

**SPECfp\_rate2006 = 256**

ASUS RS520-E6 (Z8NR-D12) server system  
(Intel Xeon X5680)

**SPECfp\_rate\_base2006 = 248**

**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

## Base Optimization Flags (Continued)

Fortran benchmarks:

`-xSSE4.2 -ipo -O3 -no-prec-div -static`

Benchmarks using both Fortran and C:

`-xSSE4.2 -ipo -O3 -no-prec-div -static`

## 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`



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**ASUSTeK Computer Inc.**

**SPECfp\_rate2006 = 256**

ASUS RS520-E6 (Z8NR-D12) server system  
(Intel Xeon X5680)

**SPECfp\_rate\_base2006 = 248**

**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

## 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

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.dealIII: -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

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**ASUSTeK Computer Inc.**

**SPECfp\_rate2006 = 256**

ASUS RS520-E6 (Z8NR-D12) server system  
(Intel Xeon X5680)

**SPECfp\_rate\_base2006 = 248**

**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

## Peak Optimization Flags (Continued)

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

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>

SPEC and SPECfp are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.1.  
Report generated on Wed Jul 23 11:11:36 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 20 July 2010.