SPEC® CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

ASUSTeK Computer Inc.

ASUS RS720-E7(Z9PE-D16) Server System
(Intel Xeon E5-2690)

$SPECfp®_rate2006 = $ 506

SPECfp_rate_base2006 = 491

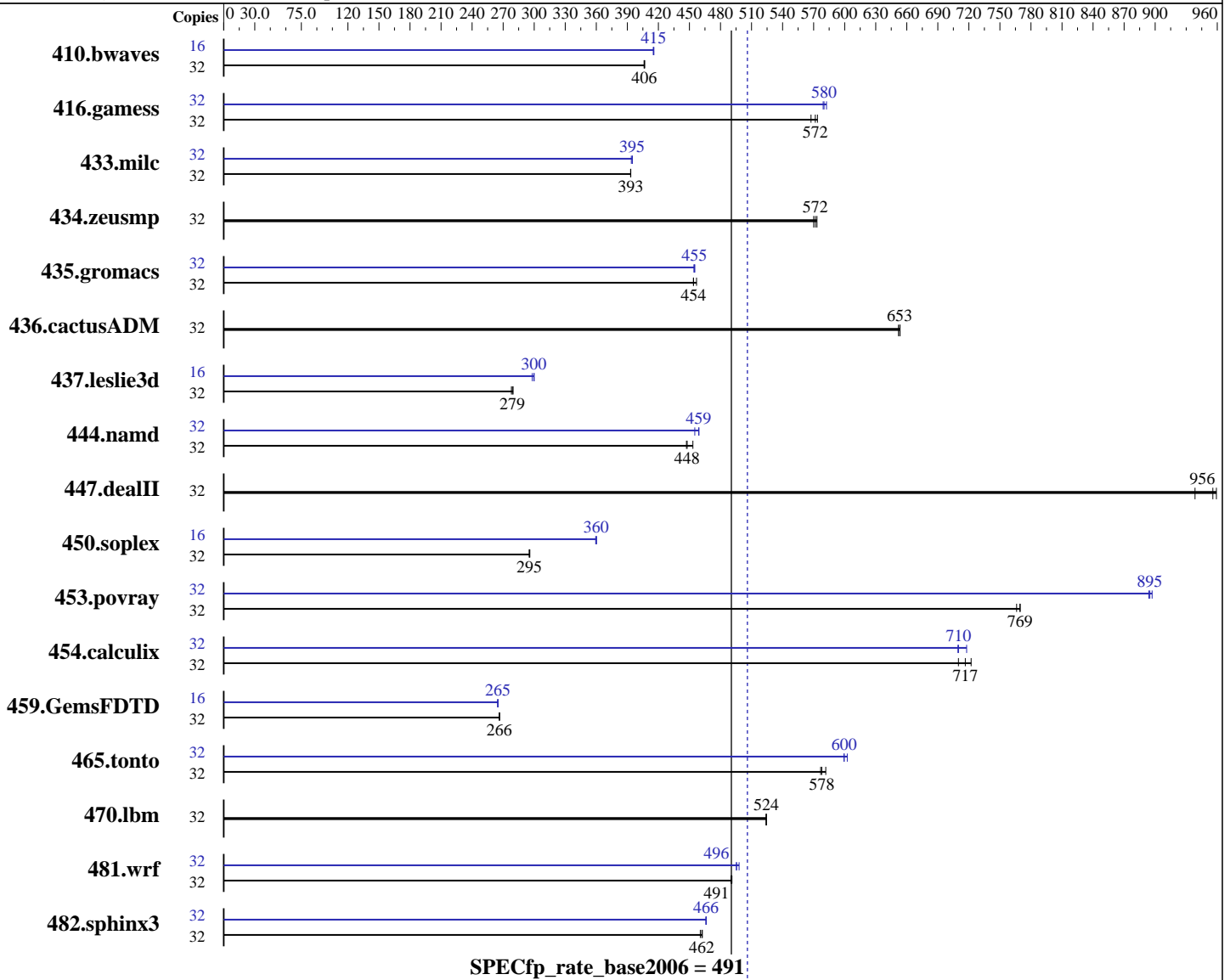|	
CPU2006 license: 9016	**Test date:** Apr-2012
Test sponsor: ASUSTeK Computer Inc.	**Hardware Availability:** Mar-2012
Tested by: ASUSTeK Computer Inc.	**Software Availability:** Dec-2011

Copies 0 30.0 75.0 120 150 180 210 240 270 300 330 360 390 420 450 480 510 540 570 600 630 660 690 720 750 780 810 840 870 900 960

410.bwaves 16 : 415 / 32 : 406

416.gamess 32 : 580 / 32 : 572

433.milc 32 : 395 / 32 : 393

434.zeusmp 32 : 572

435.gromacs 32 : 455 / 32 : 454

436.cactusADM 32 : 653

437.leslie3d 16 : 300 / 32 : 279

444.namd 32 : 459 / 32 : 448

447.dealII 32 : 956

450.soplex 16 : 360 / 32 : 295

453.povray 32 : 895 / 32 : 769

454.calculix 32 : 710 / 32 : 717

459.GemsFDTD 16 : 265 / 32 : 266

465.tonto 32 : 600 / 32 : 578

470.lbm 32 : 524

481.wrf 32 : 496 / 32 : 491

482.sphinx3 32 : 466 / 32 : 462

SPECfp_rate_base2006 = 491

SPECfp_rate2006 = 506

Hardware

CPU Name:	Intel Xeon E5-2690
CPU Characteristics:	Intel Turbo Boost Technology up to 3.80 GHz
CPU MHz:	2900
FPU:	Integrated
CPU(s) enabled:	16 cores, 2 chips, 8 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:	Red Hat Enterprise Linux Server release 6.2 (Santiago) 2.6.32-220.el6.x86_64
Compiler:	C/C++: Version 12.1.0.225 of Intel C++ Studio XE for Linux; Fortran: Version 12.1.0.225 of Intel Fortran Studio XE for Linux
Auto Parallel:	No
File System:	ext4

Continued on next page

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

ASUSTeK Computer Inc.

ASUS RS720-E7(Z9PE-D16) Server System
(Intel Xeon E5-2690)

SPECfp_rate2006 = 506

SPECfp_rate_base2006 = 491

L3 Cache:	20 MB I+D on chip per chip
Other Cache:	None
Memory:	128 GB (16 x 8 GB 2Rx4 PC3-12800R-11, ECC)
Disk Subsystem:	Seagate ST3500320AS 1 x 500 GB SATA, 7200 RPM
Other Hardware:	None
System State:	Run level 3 (multi-user)
Base Pointers:	32/64-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	32	1071	406	**1070**	**406**	1069	407	16	524	415	**523**	**415**	523	416
416.gamess	32	1104	567	1092	574	**1096**	**572**	32	1082	579	1076	582	**1080**	**580**
433.milc	32	747	393	747	393	**747**	**393**	32	746	394	**744**	**395**	744	395
434.zeusmp	32	508	573	**509**	**572**	511	570	32	508	573	**509**	**572**	511	570
435.gromacs	32	503	454	**503**	**454**	500	457	32	503	454	502	455	**502**	**455**
436.cactusADM	32	**585**	**653**	585	653	587	652	32	**585**	**653**	585	653	587	652
437.leslie3d	32	**1078**	**279**	1082	278	1076	280	16	505	298	**502**	**300**	501	300
444.namd	32	**573**	**448**	574	447	566	453	32	564	455	**559**	**459**	559	459
447.dealII	32	382	959	390	939	**383**	**956**	32	382	959	390	939	**383**	**956**
450.soplex	32	904	295	902	296	**903**	**295**	16	371	359	**371**	**360**	370	360
453.povray	32	222	766	**221**	**769**	221	770	32	190	897	190	894	**190**	**895**
454.calculix	32	**368**	**717**	366	722	372	710	32	**372**	**710**	372	709	368	718
459.GemsFDTD	32	1275	266	1273	267	**1275**	**266**	16	642	265	640	265	**641**	**265**
465.tonto	32	**545**	**578**	546	577	541	582	32	**525**	**600**	523	602	525	599
470.lbm	32	**839**	**524**	839	524	838	524	32	**839**	**524**	839	524	838	524
481.wrf	32	729	490	728	491	**728**	**491**	32	718	498	**721**	**496**	722	495
482.sphinx3	32	**1350**	**462**	1354	460	1349	462	32	**1338**	**466**	1337	466	1339	466

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

Platform Notes

Sysinfo program /cpu2006/config/sysinfo.rev6800
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
running on localhost Thu Apr 19 10:26:42 2012

Continued on next page

ASUSTeK Computer Inc.

ASUS RS720-E7(Z9PE-D16) Server System
(Intel Xeon E5-2690)

SPECfp_rate2006 =   506

SPECfp_rate_base2006 =   491

CPU2006 license: 9016

Test sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test date: Apr-2012

Hardware Availability: Mar-2012

Software Availability: Dec-2011

Platform Notes (Continued)

```
This section contains SUT (System Under Test) info as seen by
some common utilities.  To remove or add to this section, see:
http://www.spec.org/cpu2006/Docs/config.html#sysinfo

From /proc/cpuinfo
model name : Intel(R) Xeon(R) CPU E5-2690 @ 2.90GHz
2 "physical id"s (chips)
32 "processors"
cores, siblings (Caution: counting these is hw and system dependent.  The
following excerpts from /proc/cpuinfo might not be reliable.  Use with
caution.)
cpu cores : 8
siblings  : 16
physical 0: cores 0 1 2 3 4 5 6 7
physical 1: cores 0 1 2 3 4 5 6 7
cache size : 20480 KB

From /proc/meminfo
MemTotal:       132144492 kB
HugePages_Total:        0
Hugepagesize:       2048 kB

/usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.2 (Santiago)

From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.2 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.2 (Santiago)
system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

uname -a:
Linux localhost 2.6.32-220.el6.x86_64 #1 SMP Wed Nov 9 08:03:13 EST 2011
x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Apr 19 05:46

SPEC is set to: /cpu2006
Filesystem      Type     Size  Used Avail Use% Mounted on
/dev/sda1       ext4     459G   64G  372G  15% /

Additional information from dmidecode:

(End of data from sysinfo program)
```

General Notes

```
Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/cpu2006/libs/32:/cpu2006/libs/64"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
```

Continued on next page

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

ASUSTeK Computer Inc.

ASUS RS720-E7(Z9PE-D16) Server System
(Intel Xeon E5-2690)

$SPECfp\_rate2006 =$ 506

$SPECfp\_rate\_base2006 =$ 491

CPU2006 license: 9016		**Test date:**	Apr-2012
Test sponsor:	ASUSTeK Computer Inc.	**Hardware Availability:**	Mar-2012
Tested by:	ASUSTeK Computer Inc.	**Software Availability:**	Dec-2011

General Notes (Continued)

```
memory using RHEL5.5
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
Filesystem page cache cleared with:
echo 1>        /proc/sys/vm/drop_caches
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>
```

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:
    -xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -auto-p32
    -ansi-alias -opt-mem-layout-trans=3

Continued on next page

SPEC CFP2006 Result

ASUSTeK Computer Inc.

ASUS RS720-E7(Z9PE-D16) Server System
(Intel Xeon E5-2690)

$SPECfp\_rate2006 =$ 506

$SPECfp\_rate\_base2006 =$ 491

CPU2006 license: 9016
Test sponsor: ASUSTeK Computer Inc.
Tested by: ASUSTeK Computer Inc.

Test date: Apr-2012
Hardware Availability: Mar-2012
Software Availability: Dec-2011

Base Optimization Flags (Continued)

C++ benchmarks:
```
-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3
```

Fortran benchmarks:
```
-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch
```

Benchmarks using both Fortran and C:
```
-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3
```

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
        465.tonto: -DSPEC_CPU_LP64
```

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

ASUSTeK Computer Inc.

ASUS RS720-E7(Z9PE-D16) Server System
(Intel Xeon E5-2690)

SPECfp_rate2006 =   506

SPECfp_rate_base2006 =   491

CPU2006 license: 9016
Test sponsor: ASUSTeK Computer Inc.
Tested by: ASUSTeK Computer Inc.

Test date: Apr-2012
Hardware Availability: Mar-2012
Software Availability: Dec-2011

Peak Portability Flags (Continued)

```
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
```

Peak Optimization Flags

C benchmarks:

```
433.milc: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
          -no-prec-div(pass 2) -prof-use(pass 2) -static -auto-ilp32
          -opt-mem-layout-trans=3

470.lbm: basepeak = yes

482.sphinx3: -xAVX -ipo -O3 -no-prec-div -unroll2
```

C++ benchmarks:

```
444.namd: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
          -no-prec-div(pass 2) -prof-use(pass 2) -fno-alias
          -auto-ilp32

447.dealII: basepeak = yes

450.soplex: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
            -no-prec-div(pass 2) -prof-use(pass 2) -opt-malloc-options=3

453.povray: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
            -no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -ansi-alias
```

Fortran benchmarks:

```
410.bwaves: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
            -no-prec-div(pass 2) -prof-use(pass 2) -static

416.gamess: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
            -no-prec-div(pass 2) -prof-use(pass 2) -unroll2
            -inline-level=0 -scalar-rep- -static

434.zeusmp: basepeak = yes

437.leslie3d: -xAVX -ipo -O3 -no-prec-div -static -opt-prefetch

459.GemsFDTD: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
              -no-prec-div(pass 2) -prof-use(pass 2) -opt-malloc-options=3

465.tonto: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
           -no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -auto
           -inline-calloc -opt-malloc-options=3
```

ASUSTeK Computer Inc.

ASUS RS720-E7(Z9PE-D16) Server System
(Intel Xeon E5-2690)

SPECfp_rate2006 =   506

SPECfp_rate_base2006 =   491

CPU2006 license: 9016
Test sponsor: ASUSTeK Computer Inc.
Tested by: ASUSTeK Computer Inc.

Test date: Apr-2012
Hardware Availability: Mar-2012
Software Availability: Dec-2011

Peak Optimization Flags (Continued)

Benchmarks using both Fortran and C:

        435.gromacs: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
                -no-prec-div(pass 2) -prof-use(pass 2) -opt-prefetch
                -static -auto-ilp32 -opt-mem-layout-trans=3

     436.cactusADM: basepeak = yes

        454.calculix: -xAVX -ipo -O3 -no-prec-div -static -auto-ilp32
                -opt-mem-layout-trans=3

            481.wrf: Same as 454.calculix

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.html
http://www.spec.org/cpu2006/flags/ASUSTekPlatform.20120313.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml
http://www.spec.org/cpu2006/flags/ASUSTekPlatform.20120313.xml

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

Tested with SPEC CPU2006 v1.2.
Report generated on Thu Jul 24 09:14:09 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 1 August 2012.