



SPEC[®] CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp[®]_rate2006 = Not Run

PowerEdge R320 (Intel Xeon E5-2430, 2.20 GHz)

SPECfp_rate_base2006 = 159

CPU2006 license: 55

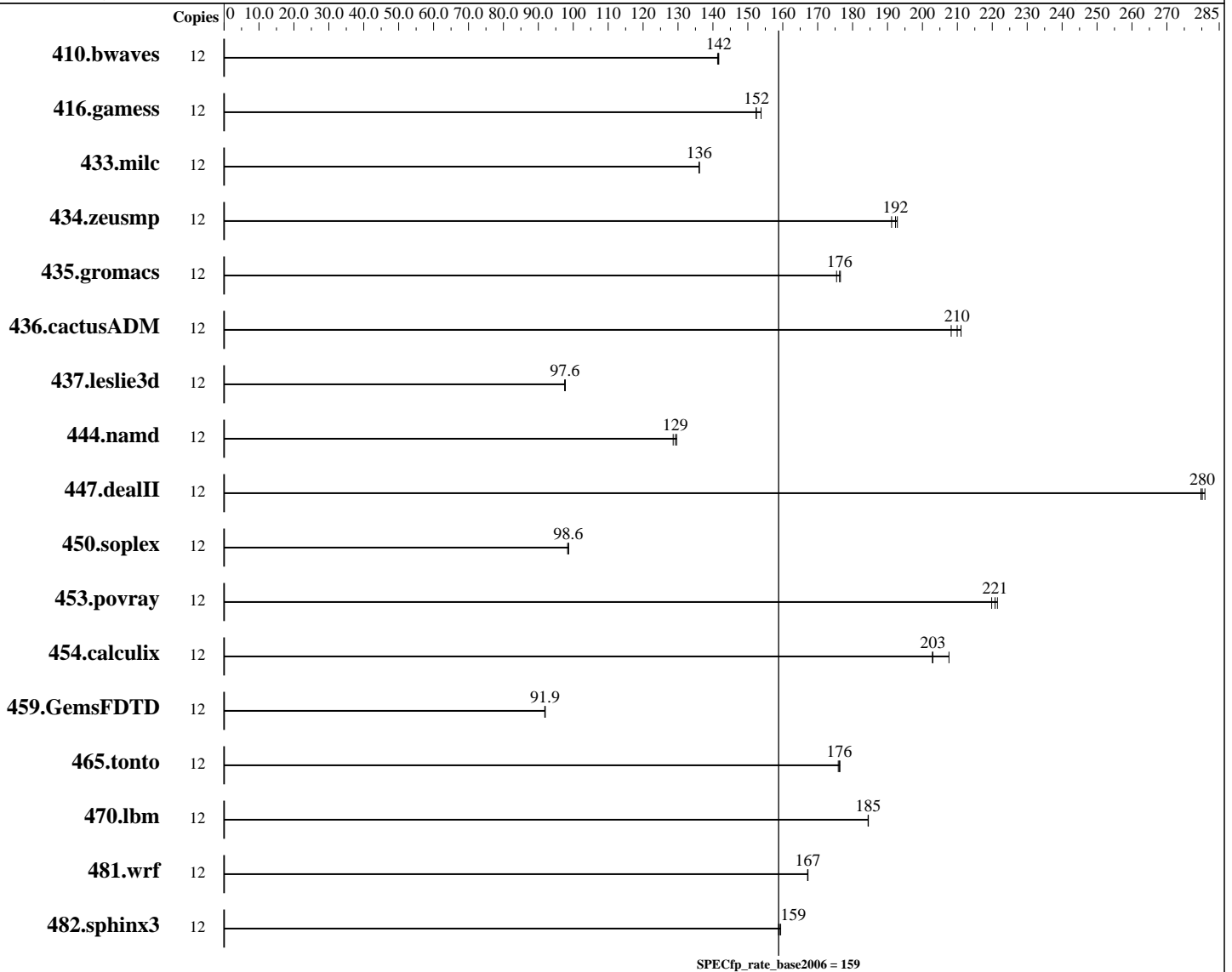
Test date: Apr-2013

Test sponsor: Dell Inc.

Hardware Availability: Mar-2013

Tested by: Dell Inc.

Software Availability: Dec-2012



Hardware

CPU Name: Intel Xeon E5-2430
 CPU Characteristics: Intel Turbo Boost Technology up to 2.70 GHz
 CPU MHz: 2200
 FPU: Integrated
 CPU(s) enabled: 6 cores, 1 chip, 6 cores/chip, 2 threads/core
 CPU(s) orderable: 1 chip
 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 6.3 (Santiago)
 2.6.32-279.el6.x86_64
 Compiler: C/C++: Version 13.0.0.133 of Intel C++ Studio XE for Linux;
 Fortran: Version 13.0.0.133 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

Dell Inc.

SPECfp_rate2006 = Not Run

PowerEdge R320 (Intel Xeon E5-2430, 2.20 GHz)

SPECfp_rate_base2006 = 159

CPU2006 license: 55

Test date: Apr-2013

Test sponsor: Dell Inc.

Hardware Availability: Mar-2013

Tested by: Dell Inc.

Software Availability: Dec-2012

L3 Cache: 15 MB I+D on chip per chip
 Other Cache: None
 Memory: 48 GB (6 x 8 GB 2Rx4 PC3-12800R-11, ECC, running at 1333 MHz)
 Disk Subsystem: 2 x 300 GB 10000 RPM SAS, RAID 0
 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	12	<u>1151</u>	<u>142</u>	1154	141	1151	142									
416.gamess	12	<u>1541</u>	<u>152</u>	1542	152	1528	154									
433.milc	12	<u>810</u>	<u>136</u>	809	136	810	136									
434.zeusmp	12	<u>568</u>	<u>192</u>	566	193	571	191									
435.gromacs	12	488	175	<u>486</u>	<u>176</u>	485	177									
436.cactusADM	12	689	208	679	211	<u>683</u>	<u>210</u>									
437.leslie3d	12	1154	97.7	<u>1155</u>	<u>97.6</u>	1157	97.5									
444.namd	12	742	130	<u>745</u>	<u>129</u>	748	129									
447.dealII	12	489	281	<u>490</u>	<u>280</u>	491	280									
450.soplex	12	1017	98.4	<u>1015</u>	<u>98.6</u>	1014	98.7									
453.povray	12	288	221	290	220	<u>289</u>	<u>221</u>									
454.calculix	12	477	208	488	203	<u>488</u>	<u>203</u>									
459.GemsFDTD	12	<u>1385</u>	<u>91.9</u>	1386	91.8	1385	92.0									
465.tonto	12	<u>670</u>	<u>176</u>	669	176	671	176									
470.lbm	12	<u>894</u>	<u>185</u>	894	185	894	184									
481.wrf	12	<u>802</u>	<u>167</u>	802	167	802	167									
482.sphinx3	12	1467	159	<u>1469</u>	<u>159</u>	1473	159									

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"



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp_rate2006 = Not Run

PowerEdge R320 (Intel Xeon E5-2430, 2.20 GHz)

SPECfp_rate_base2006 = 159

CPU2006 license: 55

Test sponsor: Dell Inc.

Tested by: Dell Inc.

Test date: Apr-2013

Hardware Availability: Mar-2013

Software Availability: Dec-2012

Platform Notes

Sysinfo program /root/cpu2006-1.2/config/sysinfo.rev6818
\$Rev: 6818 \$ \$Date:: 2012-07-17 # \$ e86d102572650a6e4d596a3cee98f191
running on R320 Fri Apr 5 20:27:21 2013

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 E5-2430 0 @ 2.20GHz
 1 "physical id"s (chips)
 12 "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 : 6
siblings  : 12
physical 0: cores 0 1 2 3 4 5
cache size : 15360 KB
```

From /proc/meminfo

```
MemTotal: 49380516 kB
HugePages_Total: 0
Hugepagesize: 2048 kB
```

/usr/bin/lsb_release -d

```
Red Hat Enterprise Linux Server release 6.3 (Santiago)
```

From /etc/*release* /etc/*version*

```
redhat-release: Red Hat Enterprise Linux Server release 6.3 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.3 (Santiago)
system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server
```

uname -a:

```
Linux R320 2.6.32-279.el6.x86_64 #1 SMP Wed Jun 13 18:24:36 EDT 2012 x86_64
x86_64 x86_64 GNU/Linux
```

run-level 3 Apr 5 13:37

SPEC is set to: /root/cpu2006-1.2

```
Filesystem Type Size Used Avail Use% Mounted on
/dev/sda2 ext4 546G 17G 501G 4% /
```

Additional information from dmidecode:

BIOS Dell Inc. 1.5.2 03/11/2013

Memory:

```
2x 00AD00B300AD HMT31GR7BFR4C-PB 8 GB 1333 MHz 2 rank
4x 00AD04B300AD HMT31GR7BFR4C-PB 8 GB 1333 MHz 2 rank
```

(End of data from sysinfo program)



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp_rate2006 = Not Run

PowerEdge R320 (Intel Xeon E5-2430, 2.20 GHz)

SPECfp_rate_base2006 = 159

CPU2006 license: 55

Test date: Apr-2013

Test sponsor: Dell Inc.

Hardware Availability: Mar-2013

Tested by: Dell Inc.

Software Availability: Dec-2012

General Notes

Environment variables set by runspec before the start of the run:

LD_LIBRARY_PATH = "/root/cpu2006-1.2/libs/32:/root/cpu2006-1.2/libs/64:/root/cpu2006-1.2/sh"

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



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp_rate2006 = Not Run

PowerEdge R320 (Intel Xeon E5-2430, 2.20 GHz)

SPECfp_rate_base2006 = 159

CPU2006 license: 55

Test date: Apr-2013

Test sponsor: Dell Inc.

Hardware Availability: Mar-2013

Tested by: Dell Inc.

Software Availability: Dec-2012

Base Optimization Flags

C benchmarks:

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

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

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic13-official-linux64.html>

<http://www.spec.org/cpu2006/flags/Dell-Platform-Settings-V1.2-revA.20120410.00.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic13-official-linux64.xml>

<http://www.spec.org/cpu2006/flags/Dell-Platform-Settings-V1.2-revA.20120410.00.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.

Tested with SPEC CPU2006 v1.2.

Report generated on Thu Jul 24 15:28:49 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 23 April 2013.

Standard Performance Evaluation Corporation

info@spec.org

<http://www.spec.org/>

Page 5