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

Dell Inc.

PowerEdge M520 (Intel Xeon E5-2430L v2, 2.40 GHz)

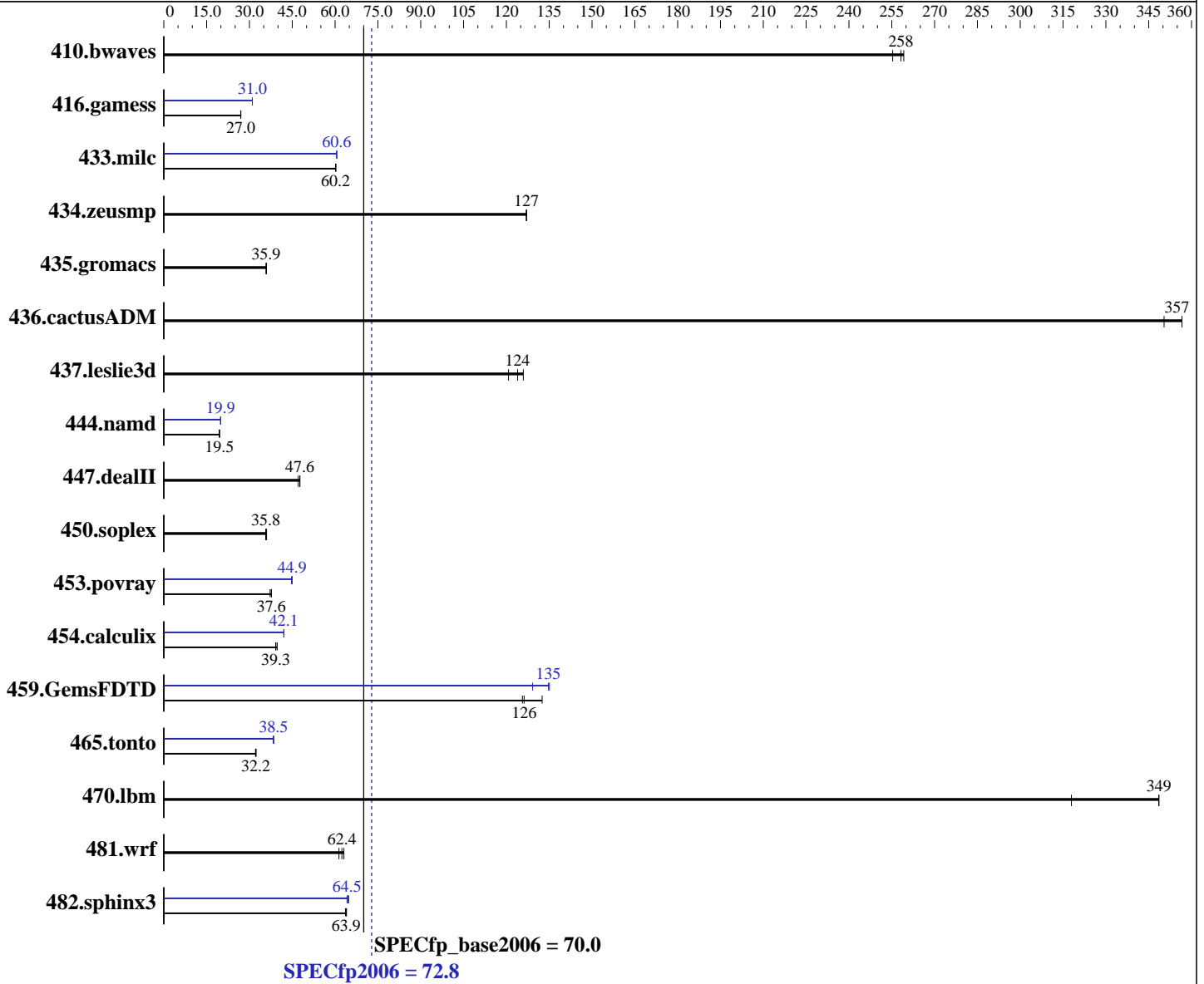$SPECfp^{®}2006 = $ 72.8

$SPECfp_base2006 = $ 70.0

CPU2006 license: 55		**Test date:**	Nov-2013
Test sponsor:	Dell Inc.	**Hardware Availability:**	Jan-2014
Tested by:	Dell Inc.	**Software Availability:**	Sep-2013

SPECfp_base2006 = 70.0
SPECfp2006 = 72.8

410.bwaves	258
416.gamess	31.0 / 27.0
433.milc	60.6 / 60.2
434.zeusmp	127
435.gromacs	35.9
436.cactusADM	357
437.leslie3d	124
444.namd	19.9 / 19.5
447.dealII	47.6
450.soplex	35.8
453.povray	44.9 / 37.6
454.calculix	42.1 / 39.3
459.GemsFDTD	135 / 126
465.tonto	38.5 / 32.2
470.lbm	349
481.wrf	62.4
482.sphinx3	64.5 / 63.9

Hardware

CPU Name:	Intel Xeon E5-2430L v2
CPU Characteristics:	Intel Turbo Boost Technology up to 2.80 GHz
CPU MHz:	2400
FPU:	Integrated
CPU(s) enabled:	12 cores, 2 chips, 6 cores/chip
CPU(s) orderable:	2 chip
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core

Software

Operating System:	SUSE Linux Enterprise Server 11 (x86_64) 3.0.76-0.11-default
Compiler:	C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux; Fortran: Version 14.0.0.080 of Intel Fortran Studio XE for Linux
Auto Parallel:	Yes
File System:	ext2
System State:	Run level 3 (multi-user)

Continued on next page

SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

PowerEdge M520 (Intel Xeon E5-2430L v2, 2.40 GHz)

SPECfp2006 =	72.8
SPECfp_base2006 =	70.0

CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.

Test date: Nov-2013
Hardware Availability: Jan-2014
Software Availability: Sep-2013

L3 Cache:	15 MB I+D on chip per chip	Base Pointers:	64-bit
Other Cache:	None	Peak Pointers:	32/64-bit
Memory:	192 GB (12 x 16 GB 2Rx4 PC3L-12800R-11, ECC)	Other Software:	None
Disk Subsystem:	1 x 1 TB 7200 RPM SATA		
Other Hardware:	None		

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	53.2	255	**52.6**	**258**	52.4	259	53.2	255	**52.6**	**258**	52.4	259
416.gamess	**726**	**27.0**	727	26.9	726	27.0	631	31.0	**631**	**31.0**	631	31.0
433.milc	**152**	**60.2**	152	60.2	152	60.3	152	60.5	152	60.6	**152**	**60.6**
434.zeusmp	**71.6**	**127**	71.6	127	71.6	127	**71.6**	**127**	71.6	127	71.6	127
435.gromacs	199	35.9	199	35.9	**199**	**35.9**	199	35.9	199	35.9	**199**	**35.9**
436.cactusADM	34.1	350	**33.5**	**357**	33.5	357	34.1	350	**33.5**	**357**	33.5	357
437.leslie3d	77.8	121	**75.8**	**124**	74.6	126	77.8	121	**75.8**	**124**	74.6	126
444.namd	**411**	**19.5**	411	19.5	411	19.5	**403**	**19.9**	403	19.9	403	19.9
447.dealII	240	47.7	**240**	**47.6**	243	47.1	240	47.7	**240**	**47.6**	243	47.1
450.soplex	233	35.7	**233**	**35.8**	232	36.0	233	35.7	**233**	**35.8**	232	36.0
453.povray	143	37.2	**141**	**37.6**	141	37.7	118	45.0	**118**	**44.9**	119	44.7
454.calculix	208	39.7	211	39.2	**210**	**39.3**	196	42.1	196	42.1	**196**	**42.1**
459.GemsFDTD	**84.1**	**126**	80.1	133	84.5	126	82.1	129	**78.7**	**135**	78.5	135
465.tonto	304	32.4	**306**	**32.2**	306	32.1	257	38.3	255	38.5	**256**	**38.5**
470.lbm	**39.4**	**349**	43.2	318	39.4	349	**39.4**	**349**	43.2	318	39.4	349
481.wrf	**179**	**62.4**	182	61.4	177	63.1	**179**	**62.4**	182	61.4	177	63.1
482.sphinx3	305	64.0	**305**	**63.9**	306	63.6	**302**	**64.5**	304	64.2	301	64.8

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

Operating System Notes

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

Platform Notes

```
BIOS settings:
Virtualization Technology disabled
Execute Disable disabled
Logical Processor disabled
System Profile set to Performance
Sysinfo program /root/cpu2006-1.2/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on linux Mon Nov  4 04:09:51 2013

This section contains SUT (System Under Test) info as seen by
```

Dell Inc.

PowerEdge M520 (Intel Xeon E5-2430L v2, 2.40 GHz)

$SPECfp2006 =$ 72.8

$SPECfp\_base2006 =$ 70.0

CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.

Test date: Nov-2013
Hardware Availability: Jan-2014
Software Availability: Sep-2013

Platform Notes (Continued)

```
   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 E5-2430L v2 @ 2.40GHz
         2 "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  : 6
         physical 0: cores 0 1 2 3 4 5
         physical 1: cores 0 1 2 3 4 5
      cache size : 15360 KB

   From /proc/meminfo
      MemTotal:       198410424 kB
      HugePages_Total:        0
      Hugepagesize:        2048 kB

   /usr/bin/lsb_release -d
      SUSE Linux Enterprise Server 11 (x86_64)

   From /etc/*release* /etc/*version*
      SuSE-release:
         SUSE Linux Enterprise Server 11 (x86_64)
         VERSION = 11
         PATCHLEVEL = 3

   uname -a:
      Linux linux 3.0.76-0.11-default #1 SMP Fri Jun 14 08:21:43 UTC 2013 (ccab990)
      x86_64 x86_64 x86_64 GNU/Linux

   run-level 3 Nov 3 21:18 last=S

   SPEC is set to: /root/cpu2006-1.2
      Filesystem      Type  Size  Used Avail Use% Mounted on
      /dev/sda2       ext2  910G  9.4G  899G   2% /

   Additional information from dmidecode:
     BIOS Dell Inc. 2.0.22 09/23/2013
     Memory:
     12x 00AD04B300AD HMT42GR7AFR4A-PB 16 GB 1600 MHz

   (End of data from sysinfo program)
```

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

PowerEdge M520 (Intel Xeon E5-2430L v2, 2.40 GHz)

SPECfp2006 =	72.8
SPECfp_base2006 =	70.0

CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.

Test date: Nov-2013
Hardware Availability: Jan-2014
Software Availability: Sep-2013

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"
OMP_NUM_THREADS = "12"

 Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
 memory using RedHat EL 6.4
 Transparent Huge Pages enabled with:
 echo always > /sys/kernel/mm/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
```

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

PowerEdge M520 (Intel Xeon E5-2430L v2, 2.40 GHz)

SPECfp2006 =   72.8

SPECfp_base2006 =   70.0

CPU2006 license: 55	
Test sponsor: Dell Inc.	
Tested by: Dell Inc.	

Test date:	Nov-2013
Hardware Availability:	Jan-2014
Software Availability:	Sep-2013

Base Optimization Flags

C benchmarks:
```
-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -ansi-alias
```

C++ benchmarks:
```
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias
```

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

Benchmarks using both Fortran and C:
```
-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -ansi-alias
```

Peak Compiler Invocation

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

C++ benchmarks:
```
icpc  -m64
```

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

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

Peak Portability Flags

```
Same as Base Portability Flags
```

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) -auto-ilp32
          -ansi-alias

470.lbm: basepeak = yes

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

Dell Inc.

PowerEdge M520 (Intel Xeon E5-2430L v2, 2.40 GHz)

CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.

Test date: Nov-2013
Hardware Availability: Jan-2014
Software Availability: Sep-2013

Peak Optimization Flags (Continued)

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: basepeak = yes

    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: basepeak = yes

    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-

    434.zeusmp: basepeak = yes

    437.leslie3d: basepeak = yes

    459.GemsFDTD: -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 -opt-prefetch -parallel

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

Benchmarks using both Fortran and C:

    435.gromacs: basepeak = yes

    436.cactusADM: basepeak = yes

    454.calculix: -xAVX -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias

    481.wrf: basepeak = yes

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.html
http://www.spec.org/cpu2006/flags/Dell-Platform-Settings-V1.2-revB.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml
http://www.spec.org/cpu2006/flags/Dell-Platform-Settings-V1.2-revB.xml

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

PowerEdge M520 (Intel Xeon E5-2430L v2, 2.40 GHz)

SPECfp2006 = 72.8

SPECfp_base2006 = 70.0

CPU2006 license: 55

Test sponsor: Dell Inc.

Tested by: Dell Inc.

Test date: Nov-2013

Hardware Availability: Jan-2014

Software Availability: Sep-2013

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 21:04:52 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 28 January 2014.