### SPEC® CFP2006 Result

**Dell Inc.**

**PowerEdge M420 (Intel Xeon E5-2430L, 2.00 GHz)**

| SPECfp®2006 = | 60.0 |
| SPECfp_base2006 = | 57.5 |

**CPU2006 license:** 55

**Test sponsor:** Dell Inc.

**Test date:** Mar-2012

**Tested by:** Dell Inc.

**Hardware Availability:** May-2012

**Software Availability:** Feb-2012

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**CPU Name:** Intel Xeon E5-2430L

**CPU Characteristics:** Intel Turbo Boost Technology up to 2.50 GHz

**CPU MHz:** 2000

**FPU:** Integrated

**CPU(s) enabled:** 12 cores, 2 chips, 6 cores/chip, 2 threads/core

**CPU(s) orderable:** 1, 2 chip

**Primary Cache:** 32 KB I + 32 KB D on chip per core

**Secondary Cache:** 256 KB I+D on chip per core

---

**Operating System:** SUSE Linux Enterprise Server 11 SP2 (x86_64)

**Compiler:** C/C++: Version 12.1.0.225 of Intel C++ Studio XE for Linux;

**Auto Parallel:** Yes

**File System:** ext3

**System State:** Run level 3 (add definition here)

---

**Software**

**Operating System:** SUSE Linux Enterprise Server 11 SP2 (x86_64)

**Compiler:** C/C++: Version 12.1.0.225 of Intel C++ Studio XE for Linux;

**Auto Parallel:** Yes

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**SPECfp®2006 = 60.0**

**SPECfp_base2006 = 57.5**

### Specmark Results

<table>
<thead>
<tr>
<th>Specmark</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>410.bwaves</td>
<td>25.8</td>
</tr>
<tr>
<td>416.gamess</td>
<td>46.7</td>
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<tr>
<td>433.milc</td>
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<tr>
<td>434.zeusmp</td>
<td>107</td>
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<tr>
<td>435.gromacs</td>
<td>24.1</td>
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<tr>
<td>436.cactusADM</td>
<td>274</td>
</tr>
<tr>
<td>437.leslie3d</td>
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<td>444.namd</td>
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<td>447.dealII</td>
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<td>482.sphinx3</td>
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Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/
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Test sponsor: Dell Inc.
Tested by: Dell Inc.
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 50 GB SATA SSD, RAID 0
Other Hardware: None
Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: None

Results Table

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<tr>
<th>Benchmark</th>
<th>Seconds</th>
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<th>Seconds</th>
<th>Ratio</th>
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<td>369</td>
<td>52.9</td>
</tr>
</tbody>
</table>

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

CPU Power Management set to Maximum Performance
Memory Frequency set to Maximum Performance
Turbo Boost set to Enabled
C States/C1E set to Enabled
Sysinfo program /root/CPU2006-1.2/config/sysinfo.rev6800
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
running on Config01 Tue Mar 27 23:13:38 2012

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

Continued on next page
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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 0 @ 2.00GHz
  2 "physical id"s (chips)
  24 "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
  physical 1: cores 0 1 2 3 4 5
  cache size : 15360 KB

From /proc/meminfo
  MemTotal: 49348648 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 = 2

uname -a:
  Linux Config01 3.0.13-0.27-default #1 SMP Wed Feb 15 13:33:49 UTC 2012
  (d73692b) x86_64 x86_64 x86_64 GNU/Linux

run-level 3
Mar 27 15:14 last=S

SPEC is set to: /root/CPU2006-1.2

<table>
<thead>
<tr>
<th>Filesystem</th>
<th>Type</th>
<th>Size</th>
<th>Used</th>
<th>Avail</th>
<th>Use%</th>
<th>Mounted on</th>
</tr>
</thead>
<tbody>
<tr>
<td>/dev/sda2</td>
<td>ext3</td>
<td>87G</td>
<td>9.3G</td>
<td>74G</td>
<td>12%</td>
<td>/</td>
</tr>
</tbody>
</table>

Additional information from dmidecode:
(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:
  KMP_AFFINITY = "granularity=fine,scatter"
  LD_LIBRARY_PATH = "/root/CPU2006-1.2/libs/32:/root/CPU2006-1.2/libs/64"
  OMP_NUM_THREADS = "12"

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General Notes (Continued)

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RHEL5.5
Transparent Huge Pages disabled with:
echo never > /sys/kernel/mm/transparent_hugepage/enabled
Filesystem page cache cleared with:
echo 1> /proc/sys/vm/drop_caches

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.gamest: -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 -03 -no-prec-div -static -parallel -opt-prefetch
- ansi-alias

Continued on next page
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Base Optimization Flags (Continued)

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

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

Benchmarks using both Fortran and C:
- -xAVX -ipo -O3 -no-prec-div -static -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) -static -auto-ilp32
  -ansi-alias

470.lbm: basepeak = yes

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

C++ benchmarks:

Continued on next page
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Peak Optimization Flags (Continued)

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 -static
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-ic12.1-official-linux64.20111122.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-ic12.1-official-linux64.20111122.xml
http://www.spec.org/cpu2006/flags/Dell-Platform-Settings-V1.2-revA.20120410.00.xml
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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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