## SPEC® CFP2006 Result

### Dell Inc.

**PowerEdge R610 (Intel Xeon X5690, 3.46 GHz)**

- **SPECfp®2006 =** 65.1
- **SPECfp_base2006 =** 62.6

#### Hardware

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>410.bwaves</td>
<td>162</td>
</tr>
<tr>
<td>416.gamess</td>
<td>31.8</td>
</tr>
<tr>
<td>433.milc</td>
<td>58.0</td>
</tr>
<tr>
<td>434.zeusmp</td>
<td>134</td>
</tr>
<tr>
<td>435.gromacs</td>
<td>28.2</td>
</tr>
<tr>
<td>436.cactusADM</td>
<td>303</td>
</tr>
<tr>
<td>437.leslie3d</td>
<td>99.7</td>
</tr>
<tr>
<td>444.namd</td>
<td>22.2</td>
</tr>
<tr>
<td>447.dealII</td>
<td>47.0</td>
</tr>
<tr>
<td>450.soplex</td>
<td>37.1</td>
</tr>
<tr>
<td>453.povray</td>
<td>41.6</td>
</tr>
<tr>
<td>454.calculix</td>
<td>34.9</td>
</tr>
<tr>
<td>459.GemsFDTD</td>
<td>107</td>
</tr>
<tr>
<td>465.tonto</td>
<td>37.1</td>
</tr>
<tr>
<td>470.lbm</td>
<td>31.6</td>
</tr>
<tr>
<td>481.wrf</td>
<td>53.0</td>
</tr>
<tr>
<td>482.sphinx3</td>
<td>36.3</td>
</tr>
</tbody>
</table>

#### Software

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>410.bwaves</td>
<td>162</td>
</tr>
<tr>
<td>416.gamess</td>
<td>31.8</td>
</tr>
<tr>
<td>433.milc</td>
<td>58.0</td>
</tr>
<tr>
<td>434.zeusmp</td>
<td>134</td>
</tr>
<tr>
<td>435.gromacs</td>
<td>28.2</td>
</tr>
<tr>
<td>436.cactusADM</td>
<td>303</td>
</tr>
<tr>
<td>437.leslie3d</td>
<td>99.7</td>
</tr>
<tr>
<td>444.namd</td>
<td>22.2</td>
</tr>
<tr>
<td>447.dealII</td>
<td>47.0</td>
</tr>
<tr>
<td>450.soplex</td>
<td>37.1</td>
</tr>
<tr>
<td>453.povray</td>
<td>41.6</td>
</tr>
<tr>
<td>454.calculix</td>
<td>34.9</td>
</tr>
<tr>
<td>459.GemsFDTD</td>
<td>107</td>
</tr>
<tr>
<td>465.tonto</td>
<td>37.1</td>
</tr>
<tr>
<td>470.lbm</td>
<td>31.6</td>
</tr>
<tr>
<td>481.wrf</td>
<td>53.0</td>
</tr>
<tr>
<td>482.sphinx3</td>
<td>36.3</td>
</tr>
</tbody>
</table>

---

Copyright 2006-2014 Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/
SPEC CFP2006 Result

Dell Inc.

PowerEdge R610 (Intel Xeon X5690, 3.46 GHz)

SPECfp2006 = 65.1
SPECfp_base2006 = 62.6

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

L3 Cache: 12 MB I+D on chip per chip
Other Cache: None
Memory: 96 GB (12 x 8 GB 2Rx4 PC3-10600R-9, ECC)
Disk Subsystem: 1 x 146 GB 15000 RPM SAS
Other Hardware: None

System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: None

Test date: Dec-2011
Hardware Availability: Feb-2011
Software Availability: Oct-2011

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Base</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Peak</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>410.bwaves</td>
<td>84.5</td>
<td>161</td>
<td>84.1</td>
<td>162</td>
<td>83.1</td>
<td>164</td>
<td>84.5</td>
<td>161</td>
<td>84.1</td>
<td>162</td>
</tr>
<tr>
<td>416.gamess</td>
<td>709</td>
<td>27.6</td>
<td>708</td>
<td>27.6</td>
<td>709</td>
<td>27.6</td>
<td>616</td>
<td>31.8</td>
<td>615</td>
<td>31.8</td>
</tr>
<tr>
<td>433.milc</td>
<td>161</td>
<td>56.9</td>
<td>161</td>
<td>57.0</td>
<td>161</td>
<td>56.9</td>
<td>158</td>
<td>58.0</td>
<td>158</td>
<td>58.0</td>
</tr>
<tr>
<td>434.zeusmp</td>
<td>67.9</td>
<td>134</td>
<td>67.9</td>
<td>134</td>
<td>67.7</td>
<td>135</td>
<td>67.9</td>
<td>134</td>
<td>67.9</td>
<td>134</td>
</tr>
<tr>
<td>436.cactusADM</td>
<td>39.3</td>
<td>304</td>
<td>40.1</td>
<td>298</td>
<td>39.5</td>
<td>303</td>
<td>39.3</td>
<td>304</td>
<td>40.1</td>
<td>298</td>
</tr>
<tr>
<td>437.leslie3d</td>
<td>98.5</td>
<td>95.4</td>
<td>94.3</td>
<td>99.7</td>
<td>91.5</td>
<td>103</td>
<td>98.5</td>
<td>95.4</td>
<td>94.3</td>
<td>99.7</td>
</tr>
<tr>
<td>444.namd</td>
<td>371</td>
<td>21.6</td>
<td>371</td>
<td>21.6</td>
<td>371</td>
<td>21.6</td>
<td>364</td>
<td>22.0</td>
<td>361</td>
<td>22.2</td>
</tr>
<tr>
<td>447.dealII</td>
<td>243</td>
<td>47.0</td>
<td>243</td>
<td>47.0</td>
<td>243</td>
<td>47.0</td>
<td>243</td>
<td>47.0</td>
<td>243</td>
<td>47.0</td>
</tr>
<tr>
<td>450.soplex</td>
<td>226</td>
<td>37.0</td>
<td>224</td>
<td>37.2</td>
<td>225</td>
<td>37.1</td>
<td>226</td>
<td>37.0</td>
<td>224</td>
<td>37.2</td>
</tr>
<tr>
<td>453.povray</td>
<td>153</td>
<td>34.7</td>
<td>157</td>
<td>33.9</td>
<td>155</td>
<td>34.2</td>
<td>129</td>
<td>41.3</td>
<td>128</td>
<td>41.6</td>
</tr>
<tr>
<td>454.calculix</td>
<td>236</td>
<td>34.9</td>
<td>236</td>
<td>35.0</td>
<td>237</td>
<td>34.8</td>
<td>227</td>
<td>36.3</td>
<td>227</td>
<td>36.3</td>
</tr>
<tr>
<td>459.GemsFDTD</td>
<td>107</td>
<td>99.5</td>
<td>106</td>
<td>99.6</td>
<td>106</td>
<td>99.6</td>
<td>98.6</td>
<td>108</td>
<td>99.0</td>
<td>107</td>
</tr>
<tr>
<td>465.tonto</td>
<td>311</td>
<td>31.6</td>
<td>288</td>
<td>34.2</td>
<td>311</td>
<td>31.6</td>
<td>265</td>
<td>37.1</td>
<td>265</td>
<td>37.1</td>
</tr>
<tr>
<td>470.lbm</td>
<td>56.5</td>
<td>243</td>
<td>55.9</td>
<td>246</td>
<td>55.9</td>
<td>246</td>
<td>56.5</td>
<td>243</td>
<td>55.9</td>
<td>246</td>
</tr>
<tr>
<td>481.wrf</td>
<td>211</td>
<td>53.0</td>
<td>210</td>
<td>53.2</td>
<td>211</td>
<td>52.9</td>
<td>211</td>
<td>53.0</td>
<td>210</td>
<td>53.2</td>
</tr>
<tr>
<td>482.sphinx3</td>
<td>304</td>
<td>64.2</td>
<td>303</td>
<td>64.3</td>
<td>303</td>
<td>64.3</td>
<td>295</td>
<td>66.1</td>
<td>294</td>
<td>66.3</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

Sysinfo program /home/CPU2006v1.2/config/sysinfo.rev6800
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdf5032aaa42e583f96b07f99d3
running on R610 Wed Dec 7 05:40:47 2011

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 X5690 @ 3.47GHz
Continued on next page
Dell Inc. PowerEdge R610 (Intel Xeon X5690, 3.46 GHz)

**SPECfp2006** = 65.1
**SPECfp_base2006** = 62.6

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

Test date: Dec-2011
Hardware Availability: Feb-2011
Software Availability: Oct-2011

---

### Platform Notes (Continued)

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 8 9 10
physical 1: cores 0 1 2 8 9 10
cache size : 12288 KB

From /proc/meminfo
MemTotal:       99059436 kB
HugePages_Total:       0
Hugepagesize:       2048 kB

/usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.1 (Santiago)

From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.1 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.1 (Santiago)

uname -a:
Linux R610 2.6.32-131.0.15.el6.x86_64 #1 SMP Tue May 10 15:42:40 EDT 2011
x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Nov 29 09:20

SPEC is set to: /home/CPU2006v1.2
filesystem Type    Size  Used Avail Use% Mounted on
/dev/mapper/vg_r610-lv_home
  ext4    56G  3.7G   49G   7% /home

Additional information from dmidecode:
Memory:
10x 00CE00B380CE M393B1K70BH1-CH9 8 GB 1333 MHz 2 rank
2x 00CE04B380CE M393B1K70BH1-CH9 8 GB 1333 MHz 2 rank

(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 = "/home/CPU2006v1.2/libs/32:/home/CPU2006v1.2/libs/64"
OMP_NUM_THREADS = "12"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RHEL5.5

Continued on next page
SPEC CFP2006 Result

Dell Inc.
PowerEdge R610 (Intel Xeon X5690, 3.46 GHz)

SPECfp2006 = 65.1
SPECfp_base2006 = 62.6

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

Test date: Dec-2011
Hardware Availability: Feb-2011
Software Availability: Oct-2011

General Notes (Continued)

Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled

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.mlcil: -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 -static -DSPEC_CPU_LINUX
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 -parallel -opt-prefetch
  -ansi-alias

C++ benchmarks:
  -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch -ansi-alias

Continued on next page
Dell Inc.
PowerEdge R610 (Intel Xeon X5690, 3.46 GHz)

SPEC CFP2006 Result

SPECfp2006 = 65.1
SPECfp_base2006 = 62.6

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

Test date: Dec-2011
Hardware Availability: Feb-2011
Software Availability: Oct-2011

Base Optimization Flags (Continued)

Fortran benchmarks:
-xSSE4.2 -ipo -03 -no-prec-div -static -parallel -opt-prefetch

Benchmarks using both Fortran and C:
-xSSE4.2 -ipo -03 -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: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -03(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -static -auto-ilp32
-ansi-alias

470.lbm: basepeak = yes

482.sphinx3: -xSSE4.2 -ipo -03 -no-prec-div -unroll2 -ansi-alias
-parallel

C++ benchmarks:
444.namd: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -03(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -fno-alias
-auto-ilp32

Continued on next page
### Peak Optimization Flags (Continued)

**Fortran benchmarks:**

447.dealII: basepeak = yes  
450.soplex: basepeak = yes  
453.povray: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll14 -ansi-alias  

**Benchmarks using both Fortran and C:**

465.tonto: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll14 -inline-calloc -opt-malloc-options=3 -auto -unroll14

---

**The flags file that was used to format this result can be browsed at**

http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.html

You can also download the XML flags source by saving the following link:

http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml
<table>
<thead>
<tr>
<th>Machine</th>
<th>SPECfp2006</th>
<th>SPECfp_base2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dell Inc.</td>
<td>65.1</td>
<td>62.6</td>
</tr>
</tbody>
</table>

PowerEdge R610 (Intel Xeon X5690, 3.46 GHz)

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

Test date: Dec-2011
Hardware Availability: Feb-2011
Software Availability: Oct-2011

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 02:08:07 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 17 January 2012.