# SPEC® CFP2006 Result

## Dell Inc.

**PowerEdge R620 (Intel Xeon E5-2637, 3.00 GHz)**

<table>
<thead>
<tr>
<th>SPECfp®2006</th>
<th>67.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECfp_base2006</td>
<td>65.4</td>
</tr>
</tbody>
</table>

### CPU2006 license

- Dell Inc.

### Test date

- Mar-2012

### Hardware

- **CPU Name:** Intel Xeon E5-2637
- **CPU Characteristics:** Intel Turbo Boost Technology up to 3.50 GHz
- **CPU MHz:** 3000
- **FPU:** Integrated
- **CPU(s) enabled:** 4 cores, 2 chips, 2 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

### Software

- **Operating System:** SUSE Linux Enterprise Server 11 SP2 (x86_64) 3.0.13-0.9-default
- **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:** Yes
- **File System:** ext3
- **System State:** Run level 3 (multi-user)

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Continued on next page
Dell Inc.

PowerEdge R620 (Intel Xeon E5-2637, 3.00 GHz)

SPEC CFP2006 Result

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Dell Inc.

PowerEdge R620 (Intel Xeon E5-2637, 3.00 GHz)

SPECfp2006 = 67.3

SPECfp_base2006 = 65.4

CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.
L3 Cache: 5 MB I+D on chip per chip
Other Cache: None
Memory: 128 GB (16 x 8 GB 2Rx4 PC3-12800R-11, ECC)
Disk Subsystem: 2 x 146 GB 15000 RPM SAS, RAID 0
Other Hardware: None
Base Pointers: 64-bit
Peak Pointers: 32/64-bit

Operating System Notes
Stack size set to unlimited using "ulimit -s unlimited"

Platform Notes
System Profile set to Custom
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 $ $Date:: 2011-10-11 #$ 6f2ebd75032aaa42e583f96b07f99d3
running on unsvr Mon Mar 12 15:42:58 2012

This section contains SUT (System Under Test) info as seen by
Continued on next page

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Base Seconds</th>
<th>Ratio</th>
<th>Base Seconds</th>
<th>Ratio</th>
<th>Base Seconds</th>
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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
System Profile set to Custom
CPU Power Management set to Maximum Performance
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Dell Inc.

PowerEdge R620 (Intel Xeon E5-2637, 3.00 GHz)

| SPECfp2006 | 67.3 |
| SPECfp_base2006 | 65.4 |

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

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 E5-2637 0 @ 3.00GHz
   2 "physical id"s (chips)
   8 "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 : 2
   siblings : 4
   physical 0: cores 0 1
   physical 1: cores 0 1
   cache size : 5120 KB

From /proc/meminfo
   MemTotal:  132089856 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 unsvr 3.0.13-0.9-default #1 SMP Mon Jan 16 17:33:03 UTC 2012 (54ddfaf)
   x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Mar 12 09:24 last=S

SPEC is set to: /root/CPU2006-1.2
   Filesystem Type Size Used Avail Use% Mounted on
   /dev/sda1   ext3  265G  68G  183G  28% /

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 = "4"

Continued on next page
## SPEC CFP2006 Result

### Dell Inc.  
**PowerEdge R620** (Intel Xeon E5-2637, 3.00 GHz)  

| SPECfp2006       | 67.3 |
|--------------------------------------------------|
| SPECfp_base2006  | 65.4 |

**CPU2006 license:** 55  
**Test sponsor:** Dell Inc.  
**Tested by:** Dell Inc.  
**Test date:** Mar-2012  
**Hardware Availability:** Mar-2012  
**Software Availability:** Feb-2012

### 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  
The Dell PowerEdge R620 and the Bull NovaScale R440 F3 models are electronically equivalent.  
The results have been measured on a Dell PowerEdge R620 model.

### Base Compiler Invocation

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

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

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

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

### Base Portability Flags

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SPECfp_base2006 = 65.4

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

Test date: Mar-2012
Hardware Availability: Mar-2012
Software Availability: Feb-2012

Base Optimization Flags

C benchmarks:
-xAVX -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
-anli-alias

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
-anli-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: basepeak = yes

Continued on next page
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: -xAVX -ipo -O3 -no-prec-div -opt-prefetch -parallel
   -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: 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
Dell Inc.

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CPU2006 license: 55
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Hardware Availability: Mar-2012
Software Availability: Feb-2012

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 other inquiries, please contact webmaster@spec.org.

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