Dell Inc.  
PowerEdge T620 (Intel Xeon E5-2603, 1.80 GHz)  

**SPECfp®2006 = 47.4**  
**SPECfp_base2006 = 45.5**

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

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<td>482.sphinx3</td>
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</table>

**Hardware**

- **CPU Name:** Intel Xeon E5-2603  
- **CPU Characteristics:**  
  - CPU MHz: 1800  
  - FPU: Integrated  
  - CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip  
  - 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)

Continued on next page

Standard Performance Evaluation Corporation  
info@spec.org  
http://www.spec.org/
SPEC CFP2006 Result

Dell Inc.

PowerEdge T620 (Intel Xeon E5-2603, 1.80 GHz)

SPECf2006 = 47.4
SPECfp_base2006 = 45.5

CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.
L3 Cache: 10 MB I+D on chip per chip
Other Cache: None
Memory: 128 GB (16 x 8 GB 2Rx4 PC3-12800R-11, ECC, running at 1066 MHz)
Disk Subsystem: 1 x 1 TB 7200 RPM SATA
Other Hardware: None
Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: None

Results Table

<table>
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<tr>
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</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

System Profile set to Custom
CPU Power Management set to Maximum Performance
Memory Frequency set to Maximum Performance
C States/C1E set to Enabled
Sysinfo program /root/CPU2006-1.2/config/sysinfo.rev6800
$Rev: 6800 $ $Date:: 2011-10-11 $$ 6f2ebdff5032aa42e583f96b07f99d3
running on linux-Sandy Tue Feb 14 05:52:08 2012

This section contains SUT (System Under Test) info as seen by
Continued on next page
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 E5-2603 0 @ 1.80GHz
  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 : 4
    siblings : 4
    physical 0: cores 0 1 2 3
    physical 1: cores 0 1 2 3
    cache size : 10240 KB

From /proc/meminfo
  MemTotal: 132122692 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 linux-Sandy 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 Feb 13 19:01 last=5

SPEC is set to: /root/CPU2006-1.2

Filesystem Type Size Used Avail Use% Mounted on
/dev/sda2 ext3 197G 68G 120G 37% /

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 = "8"
The Dell PowerEdge T620 and
SPEC CFP2006 Result

Dell Inc.
PowerEdge T620 (Intel Xeon E5-2603, 1.80 GHz)

SPECfp2006 = 47.4
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CPU2006 license: 55
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General Notes (Continued)

the Bull NovaScale T840 F3 models are electronically equivalent.
The results have been measured on a Dell PowerEdge T620 model
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
Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RHEL5.5

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
453.povray: -DSPEC_CPU_LP64 -nofor_main
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 -O3 -no-prec-div -static -parallel -opt-prefetch
   -ansi-alias
Continued on next page
SPEC CFP2006 Result

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Base Optimization Flags (Continued)

C++ benchmarks:
-xAVX -ipo -03 -no-prec-div -static -opt-prefetch -ansi-alias

Fortran benchmarks:
-xAVX -ipo -03 -no-prec-div -static -parallel -opt-prefetch

Benchmarks using both Fortran and C:
-xAVX -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: -xAVX(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: -xAVX -ipo -03 -no-prec-div -unroll2 -ansi-alias
-parallel

Continued on next page
Dell Inc.

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Software Availability: Feb-2012

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) -unroll14 -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
### SPEC CFP2006 Result

**Dell Inc.**

PowerEdge T620 (Intel Xeon E5-2603, 1.80 GHz)

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**CPU2006 license:** 55  
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You can also download the XML flags sources by saving the following links:


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For questions about this result, please contact the tester. For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.2.  
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