## Dell Inc.

**PowerEdge R540 (Intel Xeon Bronze 3106, 1.70 GHz)**

### SPECfp®_rate2006 = Not Run

<table>
<thead>
<tr>
<th>SPECf_rate_base2006 = 464</th>
</tr>
</thead>
</table>

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### Hardware

- **CPU Name:** Intel Xeon Bronze 3106  
- **CPU Characteristics:**  
  - **CPU MHz:** 1700  
  - **FPU:** Integrated  
  - **CPU(s) enabled:** 16 cores, 2 chips, 8 cores/chip  
  - **CPU(s) orderable:** 1.2 chip  
  - **Primary Cache:** 32 KB I + 32 KB D on chip per core  
  - **Secondary Cache:** 1 MB I+D on chip per core

### Software

- **Operating System:** SUSE Linux Enterprise Server 12 SP2  
  4.4.21-69-default  
- **Compiler:** C/C++: Version 17.0.3.191 of Intel C/C++ Compiler for Linux;  
  Fortran: Version 17.0.3.191 of Intel Fortran Compiler for Linux  
- **Auto Parallel:** No  
- **File System:** xfs  
- **System State:** Run level 3 (multi-user)

---

### Test Details

- **CPU2006 license:** 55  
- **Test sponsor:** Dell Inc.  
- **Tested by:** Dell Inc.  
- **Test date:** Sep-2017  
- **Hardware Availability:** Sep-2017  
- **Software Availability:** Apr-2017

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### Test Cases

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<thead>
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<th>Test Case</th>
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**SPECfp_rate_base2006 = 464**

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**Continued on next page**
Dell Inc.  
PowerEdge R540 (Intel Xeon Bronze 3106, 1.70 GHz)  

SPECfp_rate2006 = Not Run  
SPECfp_rate_base2006 = 464

CPU2006 license: 55  
Test sponsor: Dell Inc.  
Tested by: Dell Inc.  
Test date: Sep-2017  
Hardware Availability: Sep-2017  
Software Availability: Apr-2017

L3 Cache: 11 MB I+D on chip per chip  
Other Cache: None  
Memory: 192 GB (12 x 16 GB 2Rx8 PC4-2666V-R, running at 2133 MT/s)  
Disk Subsystem: 1 x 1 TB SATA 7200 RPM  
Other Hardware: None  
Base Pointers: 32/64-bit  
Peak Pointers: 32/64-bit  
Other Software: None

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**Results Table**

<table>
<thead>
<tr>
<th>Benchmark</th>
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<td>881</td>
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</tr>
</tbody>
</table>

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

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**Submit Notes**

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

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**Operating System Notes**

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

---

**Platform Notes**

BIOS settings:
Virtualization Technology disabled
System Profile set to Custom

Continued on next page
SPEC CFP2006 Result

Dell Inc.

PowerEdge R540 (Intel Xeon Bronze 3106, 1.70 GHz)

SPECfp_rate2006 = Not Run
SPECfp_rate_base2006 = 464

CPU2006 license: 55
Test sponsor: Dell Inc.
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Test date: Sep-2017
Hardware Availability: Sep-2017
Software Availability: Apr-2017

Platform Notes (Continued)

CPU Performance set to Maximum Performance
C States set to autonomous
C1E disabled
Uncore Frequency set to Dynamic
Energy Efficiency Policy set to Performance
Memory Patrol Scrub disabled
CPU Interconnect Bus Link Power Management disabled
PCI ASPM L1 Link Power Management disabled
Sysinfo program /root/cpu2006-1.2_ic17u3/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
runtime on linux-28u4 Fri Sep 1 03:51:49 2017

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) Bronze 3106 CPU @ 1.70GHz
- 2 "physical id"s (chips)
- 16 "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 : 8
  - siblings : 8
- physical 0: cores 0 1 2 3 4 5 6 7
- physical 1: cores 0 1 2 3 4 5 6 7
- cache size : 11264 KB

From /proc/meminfo
- MemTotal: 196687620 kB
- HugePages_Total: 0
- Hugepagesize: 2048 kB

/usr/bin/lsb_release -d
- SUSE Linux Enterprise Server 12 SP2

From /etc/*release* /etc/*version*
- SuSE-release:
  - NAME="SLES"
  - VERSION="12–SP2"
  - VERSION_ID="12.2"
  - PRETTY_NAME="SUSE Linux Enterprise Server 12 SP2"
  - ID="sles"
  - ANSI_COLOR="0;32"

Continued on next page
SPEC CFP2006 Result

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Platform Notes (Continued)

CPE_NAME="cpe:/o:suse:sles:12:sp2"

uname -a:
(9464f67) x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Aug 31 23:04

SPEC is set to: /root/cpu2006-1.2_ic17u3
Filesystem Type Size Used Avail Use% Mounted on
/dev/sda2 xfs 927G 9.1G 918G 1% /

Additional information from dmidecode:

Warning: Use caution when you interpret this section. The 'dmidecode' program reads system data which is "intended to allow hardware to be accurately determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

BIOS Dell Inc. 1.0.0 08/10/2017
Memory:
8x 002C00B3002C 18ASF2G72PDZ-2G6D1 16 GB 2 rank 2666 MHz, configured at 2133 MHz
4x 002C0632002C 18ASF2G72PDZ-2G6D1 16 GB 2 rank 2666 MHz, configured at 2133 MHz
4x Not Specified Not Specified

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/root/cpu2006-1.2_ic17u3/lib/ia32:/root/cpu2006-1.2_ic17u3/lib/intel64:/root/cpu2006-1.2_ic17u3/sh10.2"

Binaries compiled on a system with 1x Intel Core i7-4790 CPU + 32GB RAM
memory using Redhat Enterprise Linux 7.2
Transparent Huge Pages enabled by default
Filesystem page cache cleared with:
shell invocation of 'sync; echo 3 > /proc/sys/vm/drop_caches' prior to run
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>

Base Compiler Invocation

C benchmarks:
   icc -m64

C++ benchmarks:
   icpc -m64

Continued on next page
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Base Compiler Invocation (Continued)

Fortran benchmarks:
  ifort -m64

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

Base Portability Flags

410.bwaves: -DSPEC_CPU_LP64
416.game55: -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:
  -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -auto-p32
  -qopt-mem-layout-trans=3

C++ benchmarks:
  -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -auto-p32
  -qopt-mem-layout-trans=3

Fortran benchmarks:
  -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch

Benchmarks using both Fortran and C:
  -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -auto-p32
  -qopt-mem-layout-trans=3
# SPEC CFP2006 Result

**Dell Inc.**

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The flags files that were used to format this result can be browsed at:

- [Intel-ic17.0-official-linux64-revF.html](http://www.spec.org/cpu2006/flags/Intel-ic17.0-official-linux64-revF.html)

You can also download the XML flags sources by saving the following links:

- [Intel-ic17.0-official-linux64-revF.xml](http://www.spec.org/cpu2006/flags/Intel-ic17.0-official-linux64-revF.xml)
- [Dell-Platform-Flags-PowerEdge14G-revC.xml](http://www.spec.org/cpu2006/flags/Dell-Platform-Flags-PowerEdge14G-revC.xml)

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For other inquiries, please contact webmaster@spec.org.

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