Dell Inc.

PowerEdge R740 (Intel Xeon Gold 5119T, 1.90 GHz)

**SPECfp\_rate2006** = Not Run

**SPECfp\_rate_base2006** = 1000

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>SPECfp_rate2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>410.bwaves</td>
<td>56</td>
<td>929</td>
</tr>
<tr>
<td>416.gamess</td>
<td>56</td>
<td>929</td>
</tr>
<tr>
<td>433.milc</td>
<td>56</td>
<td>908</td>
</tr>
<tr>
<td>434.zeusmp</td>
<td>56</td>
<td></td>
</tr>
<tr>
<td>435.gromacs</td>
<td>56</td>
<td></td>
</tr>
<tr>
<td>436.cactusADM</td>
<td>56</td>
<td>1250</td>
</tr>
<tr>
<td>437.leslie3d</td>
<td>56</td>
<td>1110</td>
</tr>
<tr>
<td>444.namd</td>
<td>56</td>
<td>776</td>
</tr>
<tr>
<td>447.dealII</td>
<td>56</td>
<td>1370</td>
</tr>
<tr>
<td>450.soplex</td>
<td>56</td>
<td>665</td>
</tr>
<tr>
<td>453.povray</td>
<td>56</td>
<td>1350</td>
</tr>
<tr>
<td>454.calculix</td>
<td>56</td>
<td>1440</td>
</tr>
<tr>
<td>459.GemsFDTD</td>
<td>56</td>
<td>600</td>
</tr>
<tr>
<td>465.tonto</td>
<td>56</td>
<td></td>
</tr>
<tr>
<td>470.lbm</td>
<td>56</td>
<td>1010</td>
</tr>
<tr>
<td>481.wrf</td>
<td>56</td>
<td>1080</td>
</tr>
<tr>
<td>482.sphinx3</td>
<td>56</td>
<td>940</td>
</tr>
</tbody>
</table>

**Hardware**

- **CPU Name:** Intel Xeon Gold 5119T
- **CPU Characteristics:** Intel Turbo Boost Technology up to 3.20 GHz
- **CPU MHZ:** 1900
- **FPU:** Integrated
- **CPU(s) enabled:** 28 cores, 2 chips, 14 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:** 1 MB I+D on chip per core

**Software**

- **Operating System:** SUSE Linux Enterprise Server 12 SP2
- **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)
Dell Inc.

PowerEdge R740 (Intel Xeon Gold 5119T, 1.90 GHz)

SPEC CFP2006 Result

SPECfp_rate2006 = Not Run

SPECfp_rate_base2006 = 1000

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

L3 Cache: 19.25 MB I+D on chip per chip
Other Cache: None
Memory: 384 GB (24 x 16 GB 2Rx8 PC4-2666V-R, running at 2400 MHz)
Disk Subsystem: 1 x 960 GB SATA SSD
Other Hardware: None

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>410.bwaves</td>
<td>56</td>
<td>820</td>
<td>929</td>
<td>819</td>
<td>929</td>
<td>820</td>
<td>928</td>
</tr>
<tr>
<td>416.gamess</td>
<td>56</td>
<td>1180</td>
<td>929</td>
<td>1180</td>
<td>929</td>
<td>1178</td>
<td>930</td>
</tr>
<tr>
<td>433.milc</td>
<td>56</td>
<td>566</td>
<td>908</td>
<td>566</td>
<td>909</td>
<td>566</td>
<td>908</td>
</tr>
<tr>
<td>434.zeusmp</td>
<td>56</td>
<td>409</td>
<td>1240</td>
<td>409</td>
<td>1250</td>
<td>407</td>
<td>1250</td>
</tr>
<tr>
<td>435.gromacs</td>
<td>56</td>
<td>360</td>
<td>1110</td>
<td>366</td>
<td>1090</td>
<td>362</td>
<td>1110</td>
</tr>
<tr>
<td>436.cactusADM</td>
<td>56</td>
<td>490</td>
<td>1370</td>
<td>488</td>
<td>1370</td>
<td>488</td>
<td>1370</td>
</tr>
<tr>
<td>437.leslie3d</td>
<td>56</td>
<td>822</td>
<td>640</td>
<td>831</td>
<td>633</td>
<td>832</td>
<td>632</td>
</tr>
<tr>
<td>444.namd</td>
<td>56</td>
<td>582</td>
<td>772</td>
<td>579</td>
<td>776</td>
<td>577</td>
<td>778</td>
</tr>
<tr>
<td>447.dealII</td>
<td>56</td>
<td>409</td>
<td>1570</td>
<td>406</td>
<td>1580</td>
<td>409</td>
<td>1570</td>
</tr>
<tr>
<td>450.soplex</td>
<td>56</td>
<td>702</td>
<td>665</td>
<td>702</td>
<td>665</td>
<td>701</td>
<td>666</td>
</tr>
<tr>
<td>453.povray</td>
<td>56</td>
<td>222</td>
<td>1340</td>
<td>221</td>
<td>1350</td>
<td>218</td>
<td>1370</td>
</tr>
<tr>
<td>454.calculix</td>
<td>56</td>
<td>323</td>
<td>1430</td>
<td>322</td>
<td>1440</td>
<td>320</td>
<td>1440</td>
</tr>
<tr>
<td>459.GemsFDTD</td>
<td>56</td>
<td>990</td>
<td>600</td>
<td>990</td>
<td>600</td>
<td>989</td>
<td>601</td>
</tr>
<tr>
<td>465.tonto</td>
<td>56</td>
<td>543</td>
<td>1020</td>
<td>545</td>
<td>1010</td>
<td>543</td>
<td>1010</td>
</tr>
<tr>
<td>470.lbm</td>
<td>56</td>
<td>645</td>
<td>1190</td>
<td>645</td>
<td>1190</td>
<td>645</td>
<td>1190</td>
</tr>
<tr>
<td>481.wrf</td>
<td>56</td>
<td>579</td>
<td>1080</td>
<td>585</td>
<td>1070</td>
<td>577</td>
<td>1080</td>
</tr>
<tr>
<td>482.sphinx3</td>
<td>56</td>
<td>1161</td>
<td>940</td>
<td>1162</td>
<td>939</td>
<td>1161</td>
<td>940</td>
</tr>
</tbody>
</table>

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

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.

Operating System Notes

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

Platform Notes

BIOS settings:
Sub NUMA Cluster enabled
Virtualization Technology disabled

Continued on next page
Dell Inc.  

PowerEdge R740 (Intel Xeon Gold 5119T, 1.90 GHz)  

**SPEC CFP2006 Result**

<table>
<thead>
<tr>
<th>SPECfp_rate2006</th>
<th>Not Run</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECfp_rate_base2006</td>
<td>1000</td>
</tr>
</tbody>
</table>

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

**Test date:** Sep-2017  
**Hardware Availability:** Sep-2017  
**Software Availability:** Nov-2016

---

**Platform Notes (Continued)**

- System Profile set to Custom
- 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
- Logical Processor enabled
- 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)
- running on linux-wwko Thu Sep 14 16:37:42 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) Gold 5119T CPU @ 1.90GHz
- 2 "physical id"s (chips)
- 56 "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 : 14
  - siblings : 28
  - physical 0: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
  - physical 1: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
- cache size : 19712 KB

From /proc/meminfo

- MemTotal: 394867840 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:
  - SUSE Linux Enterprise Server 12 (x86_64)
  - VERSION = 12
  - PATCHLEVEL = 2
  - # This file is deprecated and will be removed in a future service pack or release.
  - # Please check /etc/os-release for details about this release.

- os-release:
  - NAME="SLES"
  - VERSION="12-SP2"
  - VERSION_ID="12.2"
  - PRETTY_NAME="SUSE Linux Enterprise Server 12 SP2"

Continued on next page
Dell Inc.
PowerEdge R740 (Intel Xeon Gold 5119T, 1.90 GHz)

SPECfp_rate2006 = Not Run
SPECfp_rate_base2006 = 1000

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

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.:
umactl --interleave=all runspec <etc>

Base Compiler Invocation
C benchmarks:
icc -m64
C++ benchmarks:
icpc -m64

Continued on next page
Dell Inc.

PowerEdge R740 (Intel Xeon Gold 5119T, 1.90 GHz)

SPEC CFP2006 Result

SPECfp_rate2006 = Not Run
SPECfp_rate_base2006 = 1000

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

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.gamess: -DSPEC_CPU_LP64
433.milc: -DSPEC_CPU_LP64
435.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.

**PowerEdge R740 (Intel Xeon Gold 5119T, 1.90 GHz)**

<table>
<thead>
<tr>
<th>SPECfp_rate2006</th>
<th>Not Run</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECfp_rate_base2006</td>
<td>1000</td>
</tr>
</tbody>
</table>

- **CPU2006 license**: 55
- **Test sponsor**: Dell Inc.
- **Tested by**: Dell Inc.
- **Test date**: Sep-2017
- **Hardware Availability**: Sep-2017
- **Software Availability**: Nov-2016

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


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


---

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.


Originally published on 3 October 2017.