Dell Inc.

PowerEdge R740 (Intel Xeon Silver 4112, 2.60 GHz)

<table>
<thead>
<tr>
<th>SPECint_rate2006 = Not Run</th>
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<tr>
<td>SPECint_rate_base2006 = 352</td>
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<th>55</th>
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<td>Dell Inc.</td>
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<td>Tested by:</td>
<td>Dell Inc.</td>
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<tr>
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<td>Jun-2017</td>
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<td>Jul-2017</td>
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<tr>
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<th>Dell Inc.</th>
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<tbody>
<tr>
<td>Operating System:</td>
<td>SUSE Linux Enterprise Server 12 SP2 4.4.21-69-default</td>
</tr>
<tr>
<td>Compiler:</td>
<td>C/C++: Version 17.0.3.191 of Intel C/C++ Compiler for Linux</td>
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<tr>
<td>Auto Parallel:</td>
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</tr>
<tr>
<td>File System:</td>
<td>xfs</td>
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<tr>
<td>System State:</td>
<td>Run level 3 (multi-user)</td>
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<tr>
<td>Base Pointers:</td>
<td>32-bit</td>
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<tr>
<td>Peak Pointers:</td>
<td>32/64-bit</td>
</tr>
<tr>
<td>Other Software:</td>
<td>Microquill SmartHeap V10.2</td>
</tr>
</tbody>
</table>

**Hardware**

- CPU Name: Intel Xeon Silver 4112
- CPU Characteristics: Intel Turbo Boost Technology up to 3.00 GHz
- CPU MHz: 2600
- FPU: Integrated
- CPU(s) enabled: 8 cores, 2 chips, 4 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
- L3 Cache: 8.25 MB I+D on chip per chip
- Other Cache: None
- Memory: 384 GB (24 x 16 GB 2Rx8 PC4-2666V-R, running at 2400 MT/s)
- Disk Subsystem: 1 x 960 GB SATA SSD
- Other Hardware: None

**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
- Auto Parallel: No
- File System: xfs
- System State: Run level 3 (multi-user)
- Base Pointers: 32-bit
- Peak Pointers: 32/64-bit
- Other Software: Microquill SmartHeap V10.2
SPEC CINT2006 Result

Dell Inc.

PowerEdge R740 (Intel Xeon Silver 4112, 2.60 GHz)

**SPECint_rate2006 = Not Run**

**SPECint_rate_base2006 = 352**

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

Test date: Jun-2017  
Hardware Availability: Jul-2017  
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---

### Benchmark Results Table

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<th>Seconds</th>
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</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:  
- Virtualization Technology disabled  
- 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 /home/cpu2006-1.2_ic17u3/config/sysinfo.rev6993  
- Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f8696cbe290c1)  
- running on linux-bgfp Mon Jun 5 17:26:45 2017

This section contains SUT (System Under Test) info as seen by...
Dell Inc. PowerEdge R740 (Intel Xeon Silver 4112, 2.60 GHz)  

SPECint_rate2006 = Not Run  
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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) Silver 4112 CPU @ 2.60GHz  
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 : 4  
siblings : 8  
physical 0: cores 1 2 4 5  
physical 1: cores 1 2 4 5  
cache size : 8448 KB

From /proc/meminfo
MemTotal: 395699196 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"  
ID=sles  
ANSI_COLOR="0;32"  
CPE_NAME="cpe:/o:suse:sles:12:sp2"

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

run-level 3 Jun 5 17:26

SPEC is set to: /home/cpu2006-1.2_ic17u3  
Filesystem Type Size Used Avail Use% Mounted on  
/dev/sda4 xfs 405G 8.8G 396G 3 % /home  
Additional information from dmidecode:

Continued on next page
SPEC CINT2006 Result

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Platform Notes (Continued)

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. 1.0.3 05/30/2017  
Memory:  
24x 00AD00B300AD HMA82GR7AFR8N-VK 16 GB 2 rank 2666 MHz, configured at 2400 MHz

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:  
LD_LIBRARY_PATH = "/home/cpu2006-1.2_ic17u3/lib/ia32:/home/cpu2006-1.2_ic17u3/lib/intel64:/home/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  
runcspec command invoked through numactl i.e.:  
numactl --interleave=all runspec <etc>

Base Compiler Invocation

C benchmarks:  
icc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32

C++ benchmarks:  
icpc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32

Base Portability Flags

400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX_IA32  
401.bzip2: -D_FILE_OFFSET_BITS=64  
403.gcc: -D_FILE_OFFSET_BITS=64  
429.mcf: -D_FILE_OFFSET_BITS=64  
445.gobmk: -D_FILE_OFFSET_BITS=64  
456.hmmer: -D_FILE_OFFSET_BITS=64  
458.sjeng: -D_FILE_OFFSET_BITS=64  
462.libquantum: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX  
464.h264ref: -D_FILE_OFFSET_BITS=64  
471.omnetpp: -D_FILE_OFFSET_BITS=64  
473.astar: -D_FILE_OFFSET_BITS=64

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Base Portability Flags (Continued)

483.xalancbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-qopt-mem-layout-trans=3

C++ benchmarks:
-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-qopt-mem-layout-trans=3 -Wl,-z,muldefs -L/sh10.2 -lsmartheap

Base Other Flags

C benchmarks:
403.gcc: -Dalloca=_alloca

The flags files that were used to format this result can be browsed at
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:
http://www.spec.org/cpu2006/flags/Intel-ic17.0-official-linux64-revF.xml
http://www.spec.org/cpu2006/flags/Dell-Platform-Flags-PowerEdge14G-revB.xml

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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.