SPEClnt\textsuperscript{\textregistered}\_rate2006 = Not Run

SPEClnt\textsuperscript{\textregistered}\_rate\_base2006 = 215

Hardware

\begin{itemize}
\item \textbf{CPU Name:} Intel Xeon Silver 4112
\item \textbf{CPU Characteristics:} Intel Turbo Boost Technology up to 3.00 GHz
\item \textbf{CPU MHz:} 2600
\item \textbf{FPU:} Integrated
\item \textbf{CPU(s) enabled:} 4 cores, 1 chip, 4 cores/chip, 2 threads/core
\item \textbf{CPU(s) orderable:} 1, 2 chip(s)
\item \textbf{Primary Cache:} 32 KB I + 32 KB D on chip per core
\item \textbf{Secondary Cache:} 1 MB I+D on chip per core
\item \textbf{L3 Cache:} 8.25 MB I+D on chip per chip
\item \textbf{Other Cache:} None
\item \textbf{Memory:} 192 GB (12 x 16 GB 2Rx8 PC4-2666V-R, running at 2400)
\item \textbf{Disk Subsystem:} 1 x 960 GB SATA SSD, RAID 0
\item \textbf{Other Hardware:} None
\end{itemize}

Software

\begin{itemize}
\item \textbf{Operating System:} SUSE Linux Enterprise Server 12 (x86_64) SP2 Kernel 4.4.21-69-default
\item \textbf{Compiler:} C/C++: Version 17.0.3.191 of Intel C/C++ Compiler for Linux
\item \textbf{Auto Parallel:} No
\item \textbf{File System:} xfs
\item \textbf{System State:} Run level 3 (multi-user)
\item \textbf{Base Pointers:} 32-bit
\item \textbf{Peak Pointers:} Not Applicable
\item \textbf{Other Software:} Microquill SmartHeap V10.2
\end{itemize}
## RESULTS TABLE

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<th>Ratio</th>
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</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"
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>
irqbalance disabled with "service irqbalance stop"
tuned profile set with "tuned-adm profile throughput-performance"
VM Dirty ratio was set to 40 using "echo 40 > /proc/sys/vm/dirty_ratio"
Numa balancing was disabled using "echo 0 > /proc/sys/kernel/numa_balancing"

## PLATFORM NOTES

BIOS Configuration:
Thermal Configuration set to Maximum Cooling
LLC Prefetch set to Enabled
LLC Dead Line Allocation set to Disabled
Memory Patrol Scrubbing set to Disabled
Workload Profile set to General Throughput Compute
   Minimum Processor Idle Power Core C-State set to C1E State
Workload Profile set to Custom

Continued on next page
**Platform Notes (Continued)**

Sub-NUMA Cluster set to Disabled
Sysinfo program /home/cpu2006/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e04eb51ed28d7f98696cbe290c1)
running on linux-vjuj Thu Dec 7 16:26:30 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) Silver 4112 CPU @ 2.60GHz
  1 "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
cautions.)
  cpu cores : 4
  siblings : 8
  physical 0: cores 1 2 4 5
  cache size : 8448 KB

From /proc/meminfo
MemTotal: 197753052 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"
  CPE_NAME="cpe:/o:suse:sles:12:sp2"

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

run-level 3 Dec 7 16:20

(SPECint_rate2006 = Not Run)
SPECint_rate_base2006 = 215
SPEC CINT2006 Result

Hewlett Packard Enterprise
(Test Sponsor: HPE)
Synergy 480 Gen10
(2.60 GHz, Intel Xeon Silver 4112)

SPECint_rate2006 = Not Run
SPECint_rate_base2006 = 215

CPU2006 license: 3
Test sponsor: HPE
Tested by: HPE

Platform Notes (Continued)

SPEC is set to: /home/cpu2006
Filesystem     Type  Size  Used Avail Use% Mounted on
/dev/sda4      xfs   852G   18G  835G   3% /home
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 HPE I42 09/27/2017
Memory:
12x UNKNOWN NOT AVAILABLE
12x UNKNOWN NOT AVAILABLE 16 GB 2 rank 2666 MHz, configured at 2400 MHz

(End of data from sysinfo program)
Regarding the sysinfo display about the memory installed, the correct amount of
memory is 192 GB and the dmidecode description should have one line reading as:
12x UNKNOWN NOT AVAILABLE 16 GB 2 rank 2666 MHz, configured at 2400 MHz

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "~/home/cpu2006/lib/ia32:/home/cpu2006/lib/intel64:/home/cpu2006/sh10.2"

Binaries compiled on a system with 1x Intel Core i7-4790 CPU + 32GB RAM
memory using Redhat Enterprise Linux 7.2

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

Continued on next page
Hewlett Packard Enterprise
(Test Sponsor: HPE)
Synergy 480 Gen10
(2.60 GHz, Intel Xeon Silver 4112)

SPECint_rate2006 = Not Run
SPECint_rate_base2006 = 215

CPU2006 license: 3
Test sponsor: HPE
Tested by: HPE
Test date: Dec-2017
Hardware Availability: Oct-2017
Software Availability: Apr-2017

Base Portability Flags (Continued)

464.h264ref: -D_FILE_OFFSET_BITS=64
471.omnetpp: -D_FILE_OFFSET_BITS=64
473.astar: -D_FILE_OFFSET_BITS=64
483.xalancbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-xCORE-AVX2 -ipo -03 -no-prec-div -qopt-prefetch
-qopt-mem-layout-trans=3

C++ benchmarks:
-xCORE-AVX2 -ipo -03 -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
http://www.spec.org/cpu2006/flags/HPE-Platform-Flags-Intel-V1.2-SKK-revG.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/HPE-Platform-Flags-Intel-V1.2-SKK-revG.xml

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

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