Hewlett Packard Enterprise  
(Test Sponsor: HPE)  
ProLiant BL460c Gen10  
(2.40 GHz, Intel Xeon Gold 5115)  

**SPECint®_rate2006 = Not Run**  
**SPECint_rate_base2006 = 913**

|-----------|-----------|------------------------|-----------|------------------------|-----------|

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<table>
<thead>
<tr>
<th>Benchmark</th>
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<tr>
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</tr>
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**Hardware**
- CPU Name: Intel Xeon Gold 5115
- CPU Characteristics: Intel Turbo Boost Technology up to 3.20 GHz
- CPU MHz: 2400
- FPU: Integrated
- CPU(s) enabled: 20 cores, 2 chips, 10 cores/chip, 2 threads/core
- CPU(s) orderable: 1, 2 chip(s)
- Primary Cache: 32 KB I + 32 KB D on chip per core
- Secondary Cache: 1 MB I+D on chip per core
- L3 Cache: 13.75 MB I+D on chip per chip
- Other Cache: None
- Memory: 256 GB (16 x 16 GB 2Rx8 PC4-2666V-R, running at 2400)
- Disk Subsystem: 1 x 480 GB SATA SSD, RAID 0
- Other Hardware: None

**Software**
- Operating System: SUSE Linux Enterprise Server 12 (x86_64) SP2
  Kernel 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: Not Applicable
- Other Software: Microquill SmartHeap V10.2
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CPU2006 license: 3
Test sponsor: HPE
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Results Table

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<td>1090</td>
<td>255</td>
<td>1080</td>
</tr>
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</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
  Sysinfo program /home/cpu2006/config/sysinfo.rev6993

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Platform Notes (Continued)

Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)  
running on linux-h3xn Mon Nov 20 09:12:47 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 5115 CPU @ 2.40GHz
  2 "physical id"s (chips)
  40 "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: 10
  siblings: 20
  physical 0: cores 0 1 2 3 4 8 9 10 11 12
  physical 1: cores 0 1 2 3 4 8 9 10 11 12
  cache size: 14080 KB

From /proc/meminfo
  MemTotal: 263806960 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:
  Linux linux-h3xn 4.4.21-69-default #1 SMP Tue Oct 25 10:58:20 UTC 2016
  (9464f67) x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Nov 20 09:03

SPEC is set to: /home/cpu2006

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Platform Notes (Continued)

Filesystem Type Size Used Avail Use% Mounted on
/dev/sda4 xfs 405G 32G 374G 8% /home

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 I41 09/29/2017
Memory:
16x UNKNOWN NOT AVAILABLE 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/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
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**CPU2006 license:** 3  
**Test date:** Nov-2017

**Test sponsor:** HPE  
**Hardware Availability:** Oct-2017

**Tested by:** HPE  
**Software Availability:** Apr-2017

### 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

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

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