SPEC® CINT2006 Result
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Hewlett Packard Enterprise
(Test Sponsor: HPE)

$SPECint^{®}\_rate2006 =$ Not Run

ProLiant DL380 Gen10
(2.50 GHz, Intel Xeon Platinum 8180)

$SPECint\_rate\_base2006 =$ 2630

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

Copies

Benchmark	Copies	Value
400.perlbench	112	2140
401.bzip2	112	1220
403.gcc	112	1870
429.mcf	112	3260
445.gobmk	112	1750
456.hmmer	112	3590
458.sjeng	112	1860
462.libquantum	112	44700
464.h264ref	112	3190
471.omnetpp	112	1140
473.astar	112	1380
483.xalancbmk	112	2600

SPECint_rate_base2006 = 2630

Hardware
CPU Name: Intel Xeon Platinum 8180
CPU Characteristics: Intel Turbo Boost Technology up to 3.80 GHz
CPU MHz: 2500
FPU: Integrated
CPU(s) enabled: 56 cores, 2 chips, 28 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: 38.5 MB I+D on chip per chip
Other Cache: None
Memory: 384 GB (24 x 16 GB 2Rx4 PC4-2666V-R)
Disk Subsystem: 1 x 450 GB SATA SSD, RAID 0
Other Hardware: None

Software
Operating System: SUSE Linux Enterprise Server 12 (x86_64) SP2
Kernel 4.4.21-68-default
Compiler: C/C++: Version 17.0.3.191 of Intel C/C++
Compiler for Linux
Auto Parallel: No
File System: btrfs
System State: Run level 3 (multi-user)
Base Pointers: 32-bit
Peak Pointers: 32/64-bit
Other Software: Microquill SmartHeap V10.2

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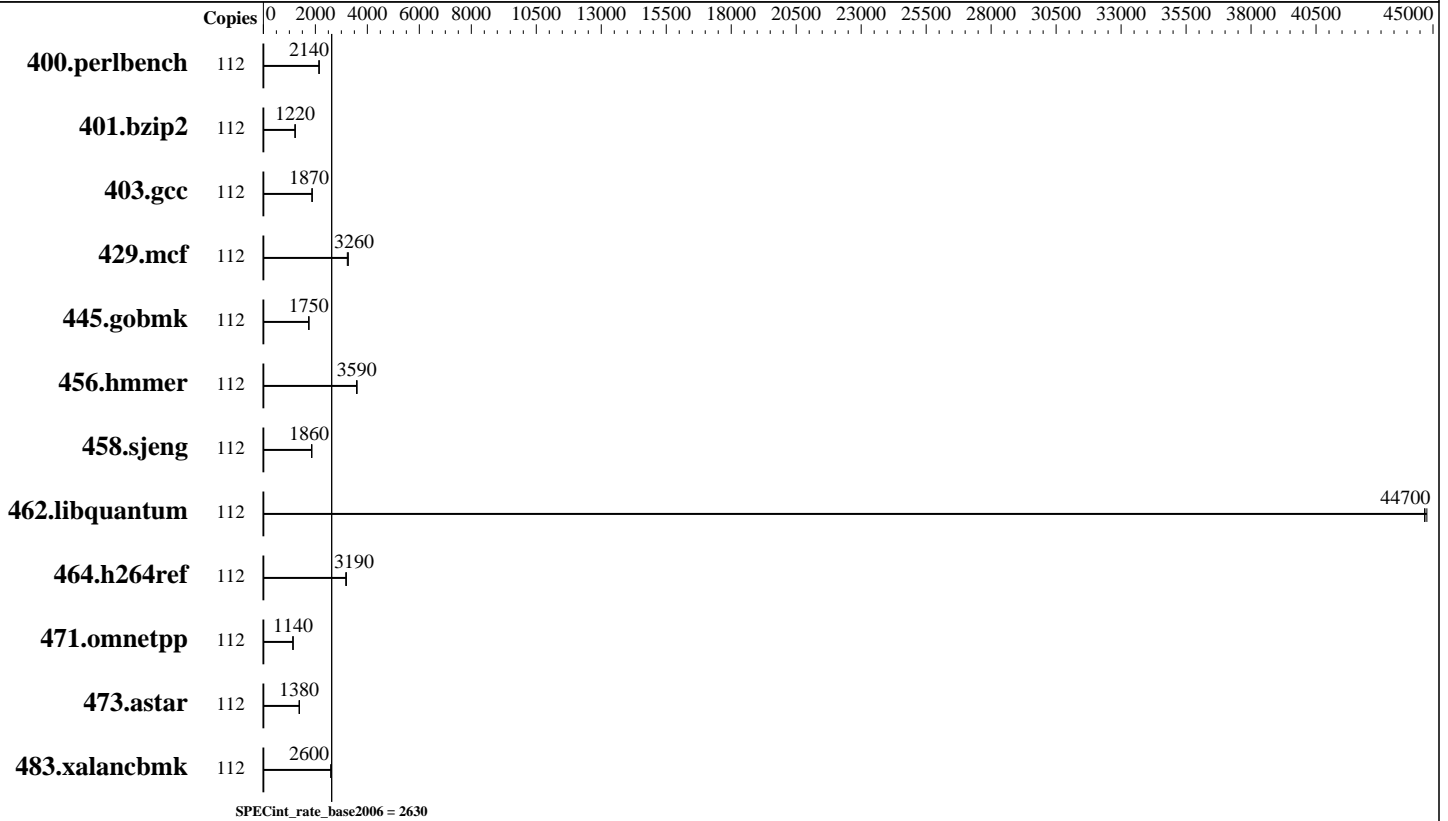SPECint_rate2006 =   Not Run

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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	112	510	2140	511	2140	**510**	**2140**							
401.bzip2	112	**886**	**1220**	886	1220	883	1220							
403.gcc	112	480	1880	481	1870	**481**	**1870**							
429.mcf	112	316	3230	313	3260	**313**	**3260**							
445.gobmk	112	**672**	**1750**	671	1750	673	1750							
456.hmmer	112	291	3590	**291**	**3590**	290	3600							
458.sjeng	112	**729**	**1860**	729	1860	729	1860							
462.libquantum	112	**51.9**	**44700**	51.9	44700	51.8	44800							
464.h264ref	112	781	3170	777	3190	**778**	**3190**							
471.omnetpp	112	615	1140	614	1140	**614**	**1140**							
473.astar	112	569	1380	568	1380	**569**	**1380**							
483.xalancbmk	112	296	2610	**297**	**2600**	298	2600							

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>

Platform Notes

  BIOS Configuration:
   Thermal Configuration set to Maximum Cooling
   LLC Dead Line Allocation set to Disabled
   Workload Profile set to General Throughput Compute
   Sysinfo program /spec_cpu/cpu2006/config/sysinfo.rev6993
   Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
   running on local Wed Jan 3 22:54:39 2001

   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

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Platform Notes (Continued)

```
From /proc/cpuinfo
   model name : Intel(R) Xeon(R) Platinum 8180 CPU @ 2.50GHz
      2 "physical id"s (chips)
      112 "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 : 28
      siblings  : 56
      physical 0: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24
      25 26 27 28 29 30
      physical 1: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24
      25 26 27 28 29 30
   cache size : 39424 KB

From /proc/meminfo
   MemTotal:       395708488 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 local 4.4.21-68-default #1 SMP Tue Oct 18 18:19:37 UTC 2016 (63cf368)
   x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Jan 3 22:50

SPEC is set to: /spec_cpu/cpu2006
   Filesystem      Type   Size  Used Avail Use% Mounted on
   /dev/sda3       btrfs  445G  212G  231G  48% /
Additional information from dmidecode:

   Warning: Use caution when you interpret this section. The 'dmidecode' program
```

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Platform Notes (Continued)

    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 U30 08/18/2017
     Memory:
     24x UNKNOWN NOT AVAILABLE 16 GB 2 rank 2666 MHz

    (End of data from sysinfo program)

General Notes

    Environment variables set by runspec before the start of the run:
    LD_LIBRARY_PATH = "/spec_cpu/cpu2006/lib/ia32:/spec_cpu/cpu2006/lib/intel64:/spec_cpu/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
          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-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
      -qopt-mem-layout-trans=3

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Base Optimization Flags (Continued)

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
http://www.spec.org/cpu2006/flags/HPE-Platform-Flags-Intel-V1.2-SKX-revB.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-SKX-revB.xml

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

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