SPEC® CINT2006 Result

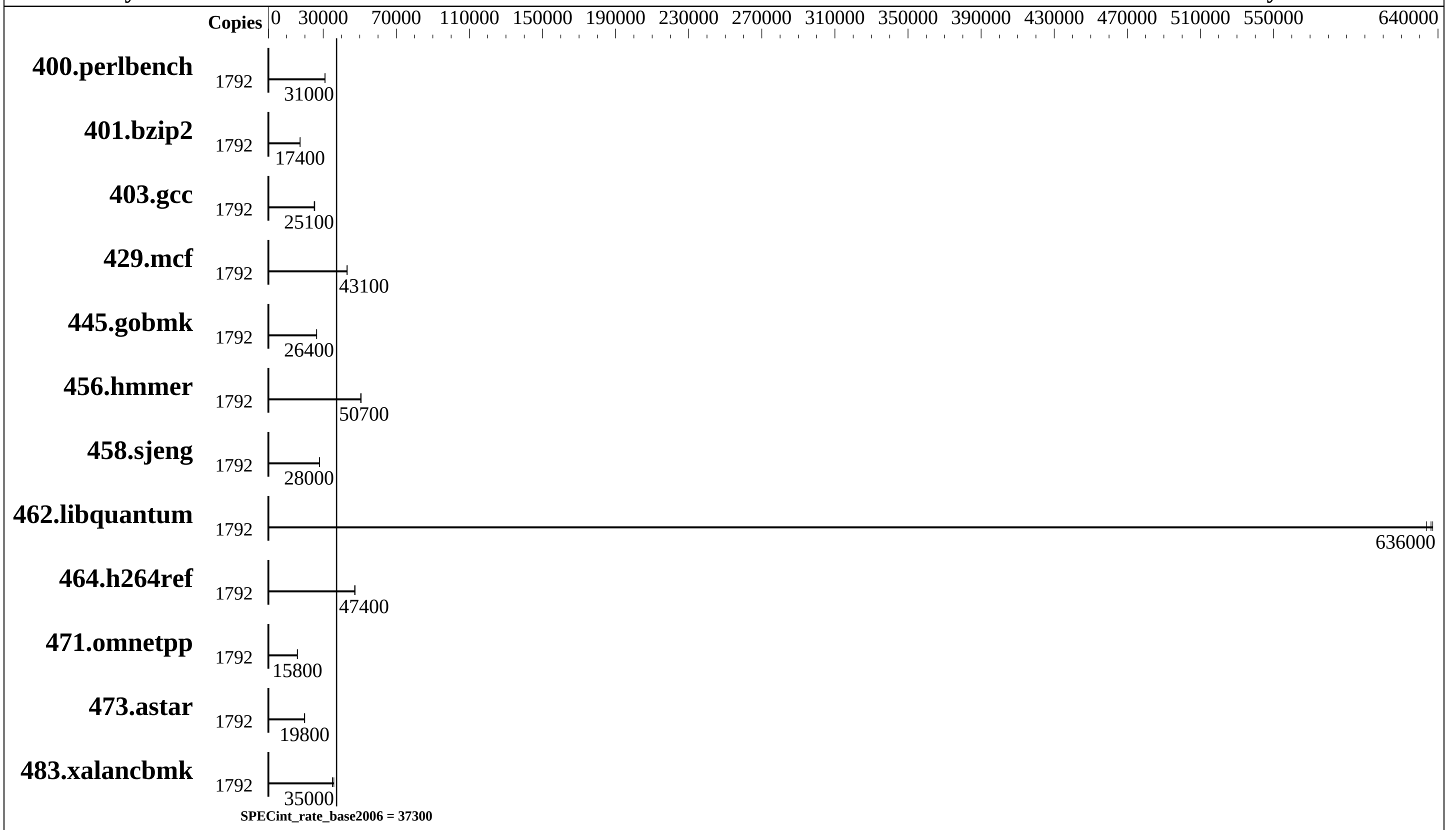
Hewlett Packard Enterprise
(Test Sponsor: HPE)

Superdome Flex
(2.50 GHz, Intel Xeon Platinum 8180)

SPECint®_rate2006 = Not Run

SPECint_rate_base2006 = 37300

CPU2006 license: 3		**Test date:**	Dec-2017
Test sponsor:	HPE	**Hardware Availability:**	Mar-2018
Tested by:	HPE	**Software Availability:**	Mar-2018



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:	896 cores, 32 chips, 28 cores/chip, 2 threads/core
CPU(s) orderable:	4 to 32 chips
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:	24 TB (384 x 64 GB 4Rx4 PC4-2666V-L)
Disk Subsystem:	24 TB tmpfs
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 12 (x86_64) SP3, Kernel 4.4.92-6.18-default
Compiler:	C/C++: Version 17.0.3.191 of Intel C/C++ Compiler for Linux
Auto Parallel:	No
File System:	tmpfs
System State:	Run level 3 (multi-user)
Base Pointers:	32-bit
Peak Pointers:	Not Applicable
Other Software:	Microquill SmartHeap V10.2 HPE Foundation Software 1.0, Build 717a130.sles12sp3-1710052000

Results Table

	Base							Peak						
Benchmark	**Copies**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Copies**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**
400.perlbench	1792	566	31000	564	31100	**564**	**31000**							
401.bzip2	1792	995	17400	**995**	**17400**	993	17400							
403.gcc	1792	576	25000	**574**	**25100**	568	25400							
429.mcf	1792	380	43000	379	43200	**379**	**43100**							
445.gobmk	1792	711	26500	**711**	**26400**	711	26400							
456.hmmer	1792	**329**	**50700**	329	50800	331	50500							
458.sjeng	1792	775	28000	**775**	**28000**	773	28100							
462.libquantum	1792	58.3	637000	**58.4**	**636000**	58.6	634000							
464.h264ref	1792	841	47200	836	47400	**836**	**47400**							
471.omnetpp	1792	**707**	**15800**	709	15800	705	15900							
473.astar	1792	631	19900	**635**	**19800**	637	19700							
483.xalancbmk	1792	353	35000	**353**	**35000**	345	35800							

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 with:
echo always > /sys/kernel/mm/transparent_hugepage/enabled
Filesystem page cache cleared with:
shell invocation of 'sync; echo 3 > /proc/sys/vm/drop_caches' prior to run
The tmpfs filesystem was set up with:
  mkdir -p /dev/shm/cpu2006-32S
  mount -t tmpfs -o size=24576G,rw tmpfs /dev/shm/cpu2006-32S
```

Platform Notes

```
Rack Management Controller setting:
   modify npar pnum=0 ras=hpc

Sysinfo program /dev/shm/cpu2006-32S/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
running on uv4test33-sys Sun Dec 17 20:21:46 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
```

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Platform Notes (Continued)

```
From /proc/cpuinfo
   model name : Intel(R) Xeon(R) Platinum 8180 CPU @ 2.50GHz
      32 "physical id"s (chips)
      1792 "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
      physical 2: 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 3: 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 4: 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 5: 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 6: 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 7: 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 8: 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 9: 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 10: 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 11: 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 12: 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 13: 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 14: 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 15: 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 16: 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 17: 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 18: 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 19: 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 20: 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
```

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(Test Sponsor: HPE)
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(2.50 GHz, Intel Xeon Platinum 8180)

SPECint_rate2006 = Not Run
SPECint_rate_base2006 = 37300

CPU2006 license: 3
Test sponsor: HPE
Tested by: HPE
Test date: Dec-2017
Hardware Availability: Mar-2018
Software Availability: Mar-2018

Platform Notes (Continued)

```
        physical 21: 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 22: 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 23: 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 24: 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 25: 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 26: 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 27: 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 28: 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 29: 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 30: 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 31: 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:       24592336740 kB
     HugePages_Total:       0
     Hugepagesize:       2048 kB

  /usr/bin/lsb_release -d
     SUSE Linux Enterprise Server 12 SP3

  From /etc/*release* /etc/*version*
     SuSE-release:
        SUSE Linux Enterprise Server 12 (x86_64)
        VERSION = 12
        PATCHLEVEL = 3
        # 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.
     hpe-foundation-release: HPE Foundation Software 1.0, Build
     717a130.sles12sp3-1710052000
     os-release:
        NAME="SLES"
        VERSION="12-SP3"
        VERSION_ID="12.3"
        PRETTY_NAME="SUSE Linux Enterprise Server 12 SP3"
        ID="sles"
        ANSI_COLOR="0;32"
        CPE_NAME="cpe:/o:suse:sles:12:sp3"

  uname -a:
```

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Platform Notes (Continued)

```
    Linux uv4test33-sys 4.4.92-6.18-default #1 SMP Fri Oct 20 18:58:48 UTC 2017
    (a69df70) x86_64 x86_64 x86_64 GNU/Linux

 run-level 3 Dec 17 19:05

 SPEC is set to: /dev/shm/cpu2006-32S
    Filesystem     Type   Size  Used Avail Use% Mounted on
    tmpfs          tmpfs   24T  2.1G   24T   1% /dev/shm/cpu2006-32S
 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 IP147.006.000.143.000.1712051837 12/05/2017
   Memory:
    384x Samsung M386A8K40BM2-CTD 64 GB 4 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 = "/dev/shm/cpu2006-32S/lib/ia32:/dev/shm/cpu2006-32S/lib/intel64:/dev/shm/cpu2006-32S/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

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Base Portability Flags (Continued)

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

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-Superdome_Flex-RevA.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-Superdome_Flex-RevA.xml

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

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