SPEC® CINT2006 Result

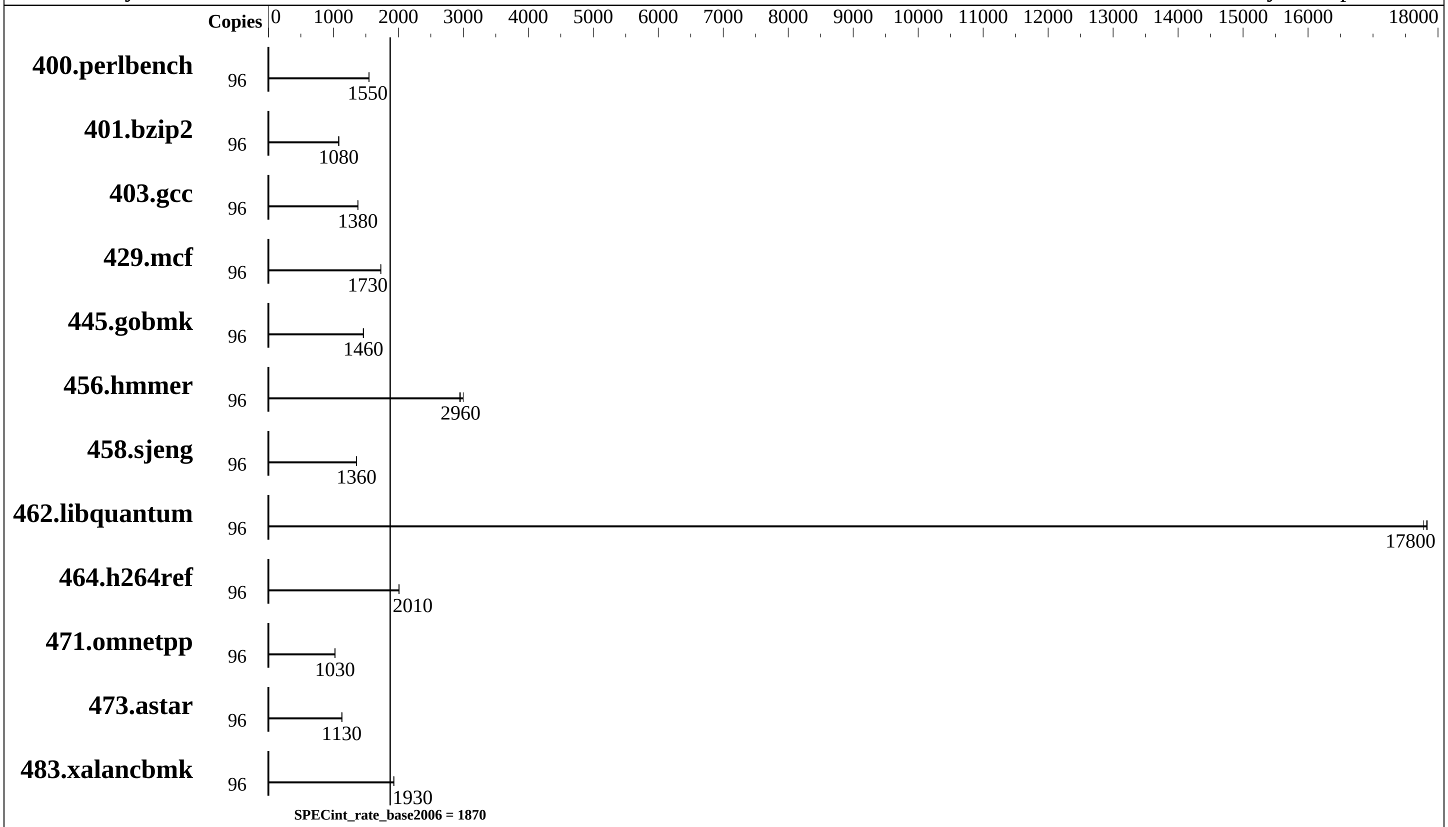
Hewlett Packard Enterprise
(Test Sponsor: HPE)

ProLiant DL385 Gen10
(2.30 GHz, AMD EPYC 7451)

SPECint®_rate2006 = Not Run

SPECint_rate_base2006 = 1870

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



Hardware

CPU Name:	AMD EPYC 7451
CPU Characteristics:	AMD Turbo CORE technology up to 3.20 GHz
CPU MHz:	2300
FPU:	Integrated
CPU(s) enabled:	48 cores, 2 chips, 24 cores/chip, 2 threads/core
CPU(s) orderable:	1, 2 chip(s)
Primary Cache:	64 KB I + 32 KB D on chip per core
Secondary Cache:	512 KB I+D on chip per core
L3 Cache:	64 MB I+D on chip per chip, 8 MB shared / 3 cores
Other Cache:	None
Memory:	1 TB (16 x 64 GB 4Rx4 PC4-2666V-L)
Disk Subsystem:	1 x 300 GB 15 K RPM SAS, RAID 0
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 12 (x86_64) SP3 Kernel 4.4.73-5-default
Compiler:	C/C++: Version 4.5.2.1 of x86 Open64 Compiler Suite (from AMD)
Auto Parallel:	No
File System:	xfs
System State:	Run level 3 (multi-user)
Base Pointers:	32/64-bit
Peak Pointers:	Not Applicable
Other Software:	MicroQuill SmartHeap 10.0 32-bit Library for Linux

Results Table

	Base							Peak						
Benchmark	**Copies**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Copies**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**
400.perlbench	96	606	1550	605	1550	**605**	**1550**							
401.bzip2	96	858	1080	853	1090	**856**	**1080**							
403.gcc	96	**561**	**1380**	562	1380	560	1380							
429.mcf	96	506	1730	506	1730	**506**	**1730**							
445.gobmk	96	**688**	**1460**	688	1460	690	1460							
456.hmmer	96	**303**	**2960**	299	3000	304	2950							
458.sjeng	96	855	1360	**856**	**1360**	857	1360							
462.libquantum	96	112	17800	112	17800	**112**	**17800**							
464.h264ref	96	1055	2010	1058	2010	**1058**	**2010**							
471.omnetpp	96	587	1020	584	1030	**585**	**1030**							
473.astar	96	594	1130	**596**	**1130**	597	1130							
483.xalancbmk	96	343	1930	343	1930	**343**	**1930**							

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Submit Notes

```
The config file option 'submit' was used.
'numactl' was used to bind copies to the cores.
See the configuration file for details.
```

Operating System Notes

```
Set vm/nr_hugepages=86016 in /etc/sysctl.conf
mount -t hugetlbfs nodev /mnt/hugepages
```

Platform Notes

```
 BIOS Configuration:
  Thermal Configuration set to Maximum Cooling
  Performance Determinism set to Power Deterministic
  Memory Patrol Scrubbing set to Disabled
  Workload Profile set to General Throughput Compute
  Minimum Processor Idle Power Core C-State set to C6 State
  Processor Power and Utilization Monitoring set to Disabled
```

General Notes

```
Environment variables set by runspec before the start of the run:
HUGETLB_LIMIT = "896"
LD_LIBRARY_PATH = "/home/cpu2006/amd1603-rate-libs-revB/32:/home/cpu2006/amd1603-rate-libs-revB/64"
```

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General Notes (Continued)

```
The binaries were built with the x86 Open64 Compiler Suite,
which is only available from (and supported by) AMD at
http://developer.amd.com/tools-and-sdks/cpu-development/x86-open64-compiler-suite/
```

Base Compiler Invocation

C benchmarks:
`opencc`

C++ benchmarks:
`openCC`

Base Portability Flags

400.perlbench:	-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2:	-DSPEC_CPU_LP64
403.gcc:	-DSPEC_CPU_LP64
429.mcf:	-DSPEC_CPU_LP64
445.gobmk:	-DSPEC_CPU_LP64
456.hmmer:	-DSPEC_CPU_LP64
458.sjeng:	-DSPEC_CPU_LP64
462.libquantum:	-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref:	-DSPEC_CPU_LP64
483.xalancbmk:	-DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
```
-Ofast -CG:local_sched_alg=1 -INLINE:aggressive=ON -IPA:plimit=8000
-IPA:small_pu=100 -HP:bd=2m:heap=2m -mso -LNO:prefetch=2
-march=bdver1 -mno-fma4 -mno-xop -mno-tbm
```

C++ benchmarks:
```
-Ofast -m32 -INLINE:aggressive=on -CG:cmp_peep=on -D__OPEN64_FAST_SET
-march=bdver1 -mno-fma4 -mno-xop -mno-tbm
-L/root/work/libraries/SmartHeap-10/lib -lsmartheap
```

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/x86-openflags-rate-revA-I.html
http://www.spec.org/cpu2006/flags/HPE-Platform-Flags-AMD-V1.2-EPYC-revD.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/x86-openflags-rate-revA-I.xml
http://www.spec.org/cpu2006/flags/HPE-Platform-Flags-AMD-V1.2-EPYC-revD.xml

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

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