SPEC® CINT2006 Result

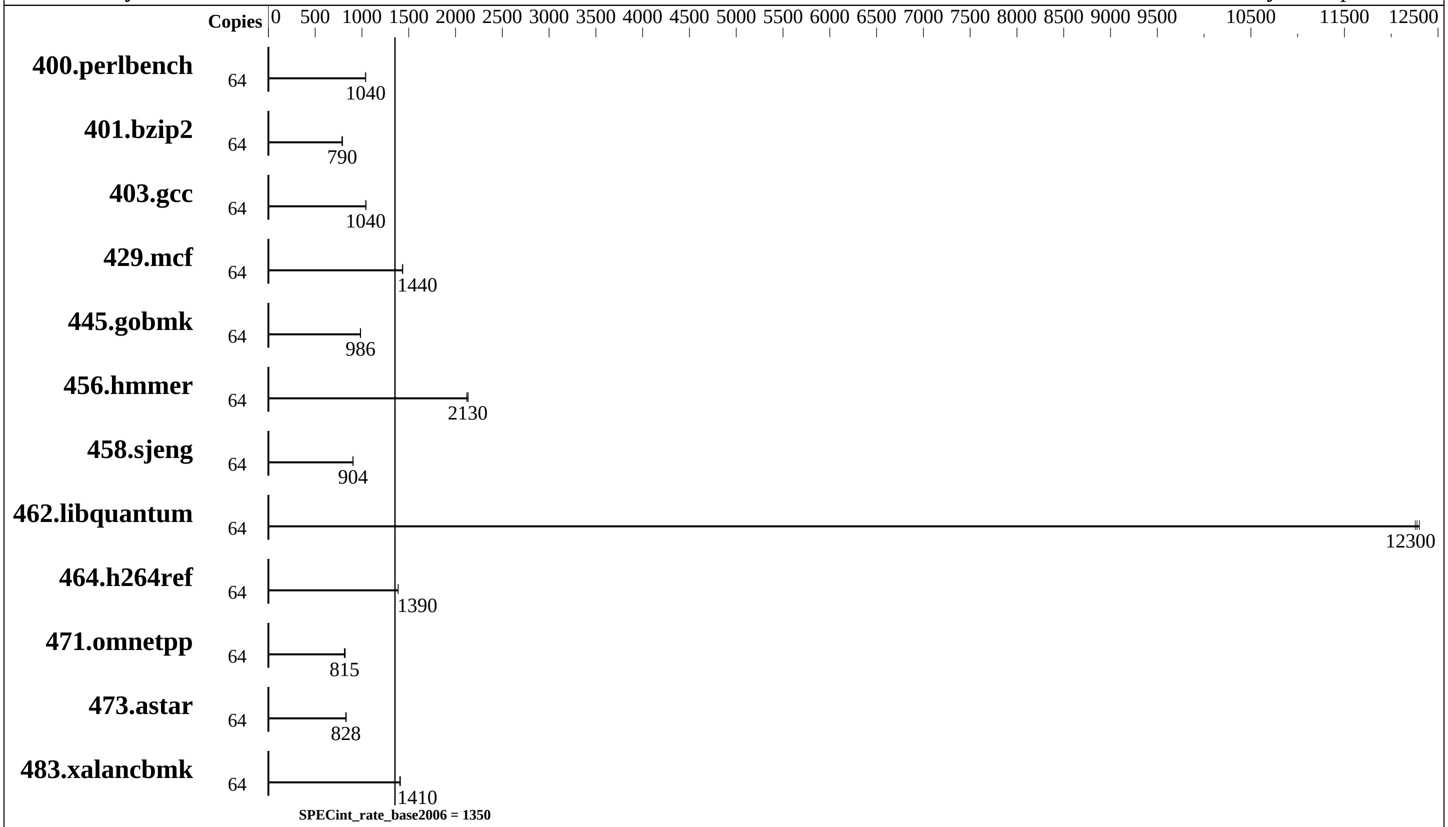
Hewlett Packard Enterprise
(Test Sponsor: HPE)

ProLiant DL385 Gen10
(2.40 GHz, AMD EPYC 7351)

SPECint®_rate2006 = Not Run

SPECint_rate_base2006 = 1350

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



Hardware

CPU Name:	AMD EPYC 7351
CPU Characteristics:	AMD Turbo CORE technology up to 2.90 GHz
CPU MHz:	2400
FPU:	Integrated
CPU(s) enabled:	32 cores, 2 chips, 16 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 / 2 cores
Other Cache:	None
Memory:	1 TB (16 x 64 GB 4Rx4 PC4-2666V-L)
Disk Subsystem:	1 x 400 GB SAS SSD, 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

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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	64	**601**	**1040**	601	1040	603	1040							
401.bzip2	64	779	792	**782**	**790**	786	786							
403.gcc	64	**495**	**1040**	495	1040	493	1040							
429.mcf	64	**407**	**1440**	408	1430	406	1440							
445.gobmk	64	684	982	**681**	**986**	681	986							
456.hmmer	64	280	2130	**280**	**2130**	282	2120							
458.sjeng	64	857	904	855	906	**856**	**904**							
462.libquantum	64	108	12300	**108**	**12300**	108	12300							
464.h264ref	64	1020	1390	**1021**	**1390**	1021	1390							
471.omnetpp	64	487	822	493	811	**491**	**815**							
473.astar	64	**543**	**828**	544	826	540	832							
483.xalancbmk	64	313	1410	315	1400	**314**	**1410**							

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"
```

Continued on next page

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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