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

$SPECint^{®}\_rate2006 =$ Not Run

ProLiant DL385 Gen10
(2.00 GHz, AMD EPYC 7501)

SPECint_rate_base2006 = 2150

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

Benchmark	Copies	Result
400.perlbench	128	1850
401.bzip2	128	1220
403.gcc	128	1520
429.mcf	128	1820
445.gobmk	128	1750
456.hmmer	128	3400
458.sjeng	128	1630
462.libquantum	128	20800
464.h264ref	128	2370
471.omnetpp	128	1140
473.astar	128	1280
483.xalancbmk	128	2200

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Hardware

CPU Name:	AMD EPYC 7501
CPU Characteristics:	AMD Turbo CORE technology up to 3.00 GHz
CPU MHz:	2000
FPU:	Integrated
CPU(s) enabled:	64 cores, 2 chips, 32 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 / 4 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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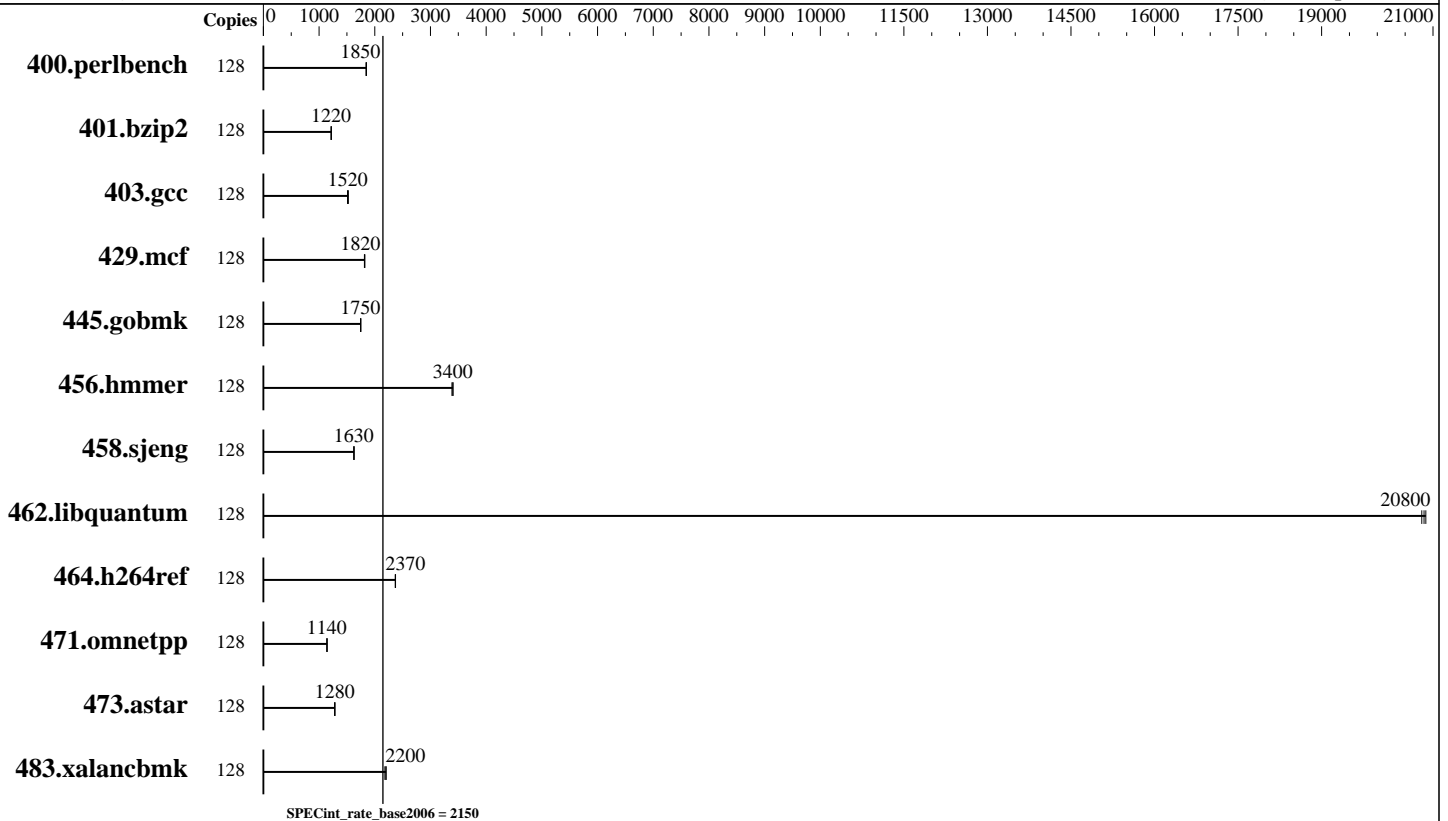SPECint_rate_base2006 = 2150

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Results Table

Benchmark	Base Copies	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Peak Copies	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio
400.perlbench	128	678	1840	676	1850	**677**	**1850**							
401.bzip2	128	1015	1220	**1014**	**1220**	1013	1220							
403.gcc	128	682	1510	676	1520	**679**	**1520**							
429.mcf	128	**642**	**1820**	644	1810	641	1820							
445.gobmk	128	768	1750	**768**	**1750**	769	1750							
456.hmmer	128	353	3390	351	3400	**351**	**3400**							
458.sjeng	128	**953**	**1630**	953	1620	951	1630							
462.libquantum	128	**127**	**20800**	128	20800	127	20900							
464.h264ref	128	1194	2370	**1195**	**2370**	1196	2370							
471.omnetpp	128	699	1140	702	1140	**701**	**1140**							
473.astar	128	702	1280	**700**	**1280**	700	1280							
483.xalancbmk	128	401	2200	405	2180	**401**	**2200**							

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

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

Tested with SPEC CPU2006 v1.2.
Report generated on Tue Jan 16 12:10:02 2018 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 14 January 2018.