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

$SPECint^{®}_rate2006 = $ Not Run

ProLiant DL385 Gen10
(2.10 GHz, AMD EPYC 7251)

SPECint_rate_base2006 = 690

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

SPECint_rate_base2006 = 690

Hardware

CPU Name: AMD EPYC 7251
CPU Characteristics: AMD Turbo CORE technology up to 2.90 GHz
CPU MHz: 2100
FPU: Integrated
CPU(s) enabled: 16 cores, 2 chips, 8 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: 32 MB I+D on chip per chip
Other Cache: None
Memory: 1 TB (16 x 64 GB 4Rx4 PC4-2666V-L, running at 2400)
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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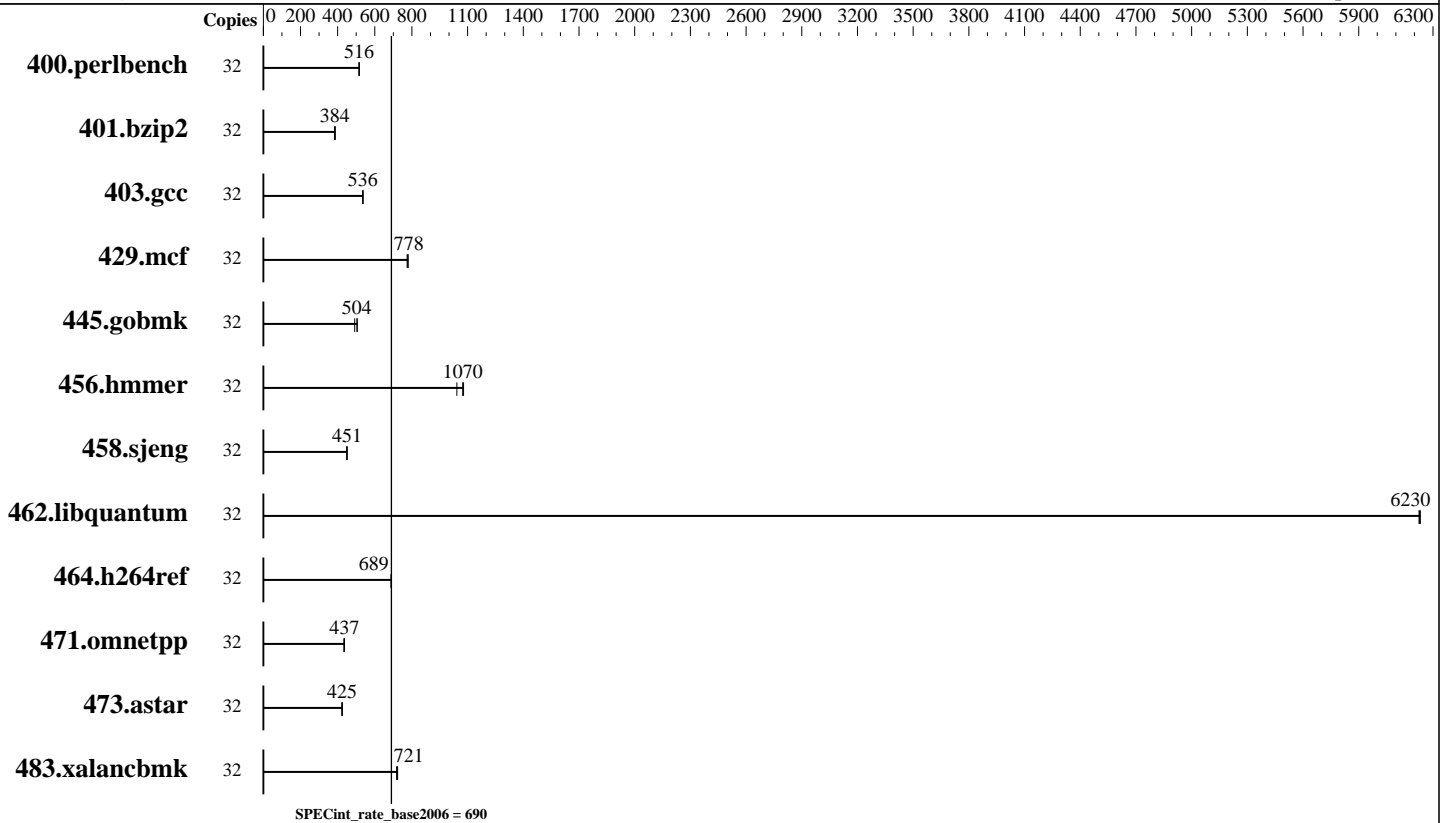SPECint_rate2006 =   Not Run

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Results Table

Benchmark	Base Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	32	606	516	606	516	**606**	**516**							
401.bzip2	32	806	383	**803**	**384**	797	388							
403.gcc	32	**481**	**536**	480	537	481	536							
429.mcf	32	377	774	374	780	**375**	**778**							
445.gobmk	32	**666**	**504**	664	506	682	492							
456.hmmer	32	**278**	**1070**	277	1080	286	1040							
458.sjeng	32	**859**	**451**	863	449	859	451							
462.libquantum	32	106	6230	107	6230	**106**	**6230**							
464.h264ref	32	**1028**	**689**	1029	688	1028	689							
471.omnetpp	32	458	437	**458**	**437**	461	433							
473.astar	32	529	425	531	423	**529**	**425**							
483.xalancbmk	32	305	723	**306**	**721**	308	718							

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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SPECint_rate_base2006 = 690

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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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SPECint_rate2006 =   Not Run

SPECint_rate_base2006 =   690

CPU2006 license: 3
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Tested by: HPE

Test date: Dec-2017
Hardware Availability: Nov-2017
Software Availability: Sep-2017

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