



SPEC[®] CFP2006 Result

Copyright 2006-2018 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL385 Gen10
(2.00 GHz, AMD EPYC 7501)

SPECfp[®]_rate2006 = Not Run

SPECfp_rate_base2006 = 1750

CPU2006 license: 3

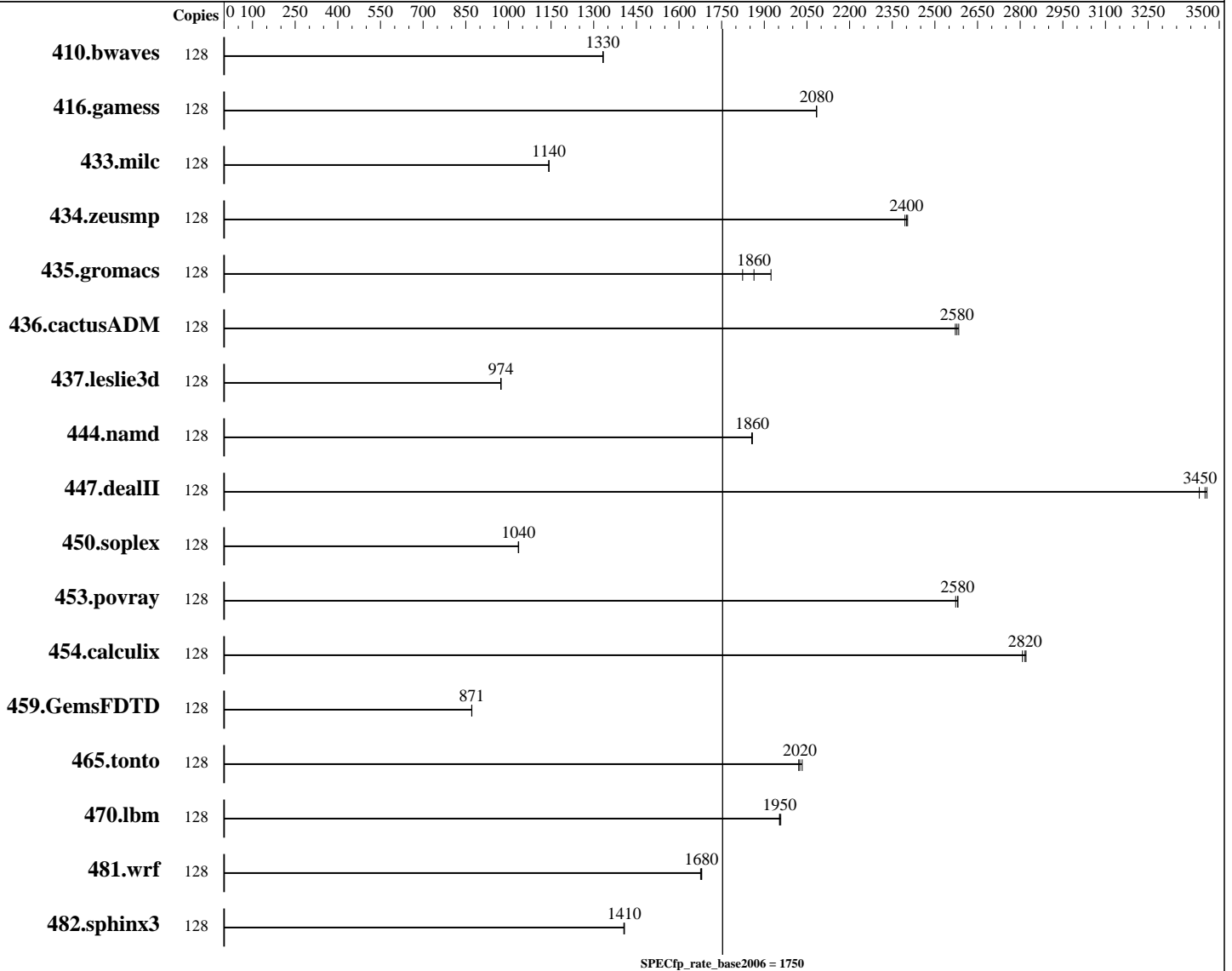
Test sponsor: HPE

Tested by: HPE

Test date: Dec-2017

Hardware Availability: Nov-2017

Software Availability: Sep-2017



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

Continued on next page

Software

Operating System: SUSE Linux Enterprise Server 12 (x86_64) SP3
 Kernel 4.4.73-5-default
 Compiler: C/C++/Fortran: 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: 64-bit
 Peak Pointers: Not Applicable

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2018 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL385 Gen10
(2.00 GHz, AMD EPYC 7501)

SPECfp_rate2006 = Not Run

SPECfp_rate_base2006 = 1750

CPU2006 license: 3

Test sponsor: HPE

Tested by: HPE

Test date: Dec-2017

Hardware Availability: Nov-2017

Software Availability: Sep-2017

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

Other Software: None

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	128	1304	1330	<u>1306</u>	<u>1330</u>	1306	1330							
416.gamess	128	1203	2080	<u>1203</u>	<u>2080</u>	1203	2080							
433.milc	128	1028	1140	1029	1140	<u>1029</u>	<u>1140</u>							
434.zeusmp	128	<u>485</u>	<u>2400</u>	486	2390	485	2400							
435.gromacs	128	475	1920	501	1820	<u>490</u>	<u>1860</u>							
436.cactusADM	128	<u>593</u>	<u>2580</u>	592	2580	595	2570							
437.leslie3d	128	1235	974	<u>1236</u>	<u>974</u>	1237	973							
444.namd	128	553	1860	553	1860	<u>553</u>	<u>1860</u>							
447.dealII	128	<u>424</u>	<u>3450</u>	427	3430	424	3460							
450.soplex	128	1031	1030	<u>1031</u>	<u>1040</u>	1030	1040							
453.povray	128	<u>264</u>	<u>2580</u>	265	2570	264	2580							
454.calculix	128	376	2810	374	2820	<u>375</u>	<u>2820</u>							
459.GemsFDTD	128	1558	871	1559	871	<u>1559</u>	<u>871</u>							
465.tonto	128	<u>622</u>	<u>2020</u>	623	2020	619	2030							
470.lbm	128	<u>900</u>	<u>1950</u>	900	1950	898	1960							
481.wrf	128	853	1680	<u>851</u>	<u>1680</u>	851	1680							
482.sphinx3	128	<u>1773</u>	<u>1410</u>	1774	1410	1772	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



SPEC CFP2006 Result

Copyright 2006-2018 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL385 Gen10
(2.00 GHz, AMD EPYC 7501)

SPECfp_rate2006 = Not Run

SPECfp_rate_base2006 = 1750

CPU2006 license: 3

Test sponsor: HPE

Tested by: HPE

Test date: Dec-2017

Hardware Availability: Nov-2017

Software Availability: Sep-2017

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"

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

Fortran benchmarks:
openf95

Benchmarks using both Fortran and C:
opencc openf95

Base Portability Flags

410.bwaves: -DSPEC_CPU_LP64
416.gamess: -DSPEC_CPU_LP64
433.milc: -DSPEC_CPU_LP64
434.zeusmp: -DSPEC_CPU_LP64
435.gromacs: -DSPEC_CPU_LP64
436.cactusADM: -DSPEC_CPU_LP64 -fno-second-underscore
437.leslie3d: -DSPEC_CPU_LP64
444.namd: -DSPEC_CPU_LP64
447.dealII: -DSPEC_CPU_LP64
450.soplex: -DSPEC_CPU_LP64
453.povray: -DSPEC_CPU_LP64

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2018 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL385 Gen10
(2.00 GHz, AMD EPYC 7501)

SPECfp_rate2006 = Not Run

SPECfp_rate_base2006 = 1750

CPU2006 license: 3

Test sponsor: HPE

Tested by: HPE

Test date: Dec-2017

Hardware Availability: Nov-2017

Software Availability: Sep-2017

Base Portability Flags (Continued)

454.calculix: -DSPEC_CPU_LP64
 459.GemsFDTD: -DSPEC_CPU_LP64
 465.tonto: -DSPEC_CPU_LP64
 470.lbm: -DSPEC_CPU_LP64
 481.wrf: -DSPEC_CPU_LINUX -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LP64
 -fno-second-underscore
 482.sphinx3: -DSPEC_CPU_LP64

Base Optimization Flags

C benchmarks:

```
-Ofast -OPT:malloc_alg=1 -HP:bd=2m:heap=2m -IPA:plimit=8000
-IPA:small_pu=100 -mso -march=bdver1 -mno-fma4 -mno-xop -mno-tbm
-WB, -Wl, -z,muldefs
```

C++ benchmarks:

```
-Ofast -static -CG:load_exe=0 -OPT:malloc_alg=1 -INLINE:aggressive=on
-HP:bd=2m:heap=2m -D__OPEN64_FAST_SET -march=bdver2 -mno-fma4
-mno-xop -mno-tbm -WB, -Wl, -z,muldefs
```

Fortran benchmarks:

```
-Ofast -LNO:blocking=off -LNO:simd_peel_align=on -OPT:rsqrt=2
-OPT:unroll_size=256 -HP:bd=2m:heap=2m -mso -march=bdver1 -mno-fma4
-mno-xop -mno-tbm -WB, -Wl, -z,muldefs
```

Benchmarks using both Fortran and C:

```
-Ofast -OPT:malloc_alg=1 -HP:bd=2m:heap=2m -IPA:plimit=8000
-IPA:small_pu=100 -mso -march=bdver1 -mno-fma4 -mno-xop -mno-tbm
-WB, -Wl, -z,muldefs -LNO:blocking=off -LNO:simd_peel_align=on
-OPT:rsqrt=2 -OPT:unroll_size=256
```

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>



SPEC CFP2006 Result

Copyright 2006-2018 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL385 Gen10
(2.00 GHz, AMD EPYC 7501)

SPECfp_rate2006 = Not Run

SPECfp_rate_base2006 = 1750

CPU2006 license: 3

Test sponsor: HPE

Tested by: HPE

Test date: Dec-2017

Hardware Availability: Nov-2017

Software Availability: Sep-2017

SPEC and SPECfp are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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 12:10:00 2018 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 14 January 2018.