



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

Superdome Flex 280

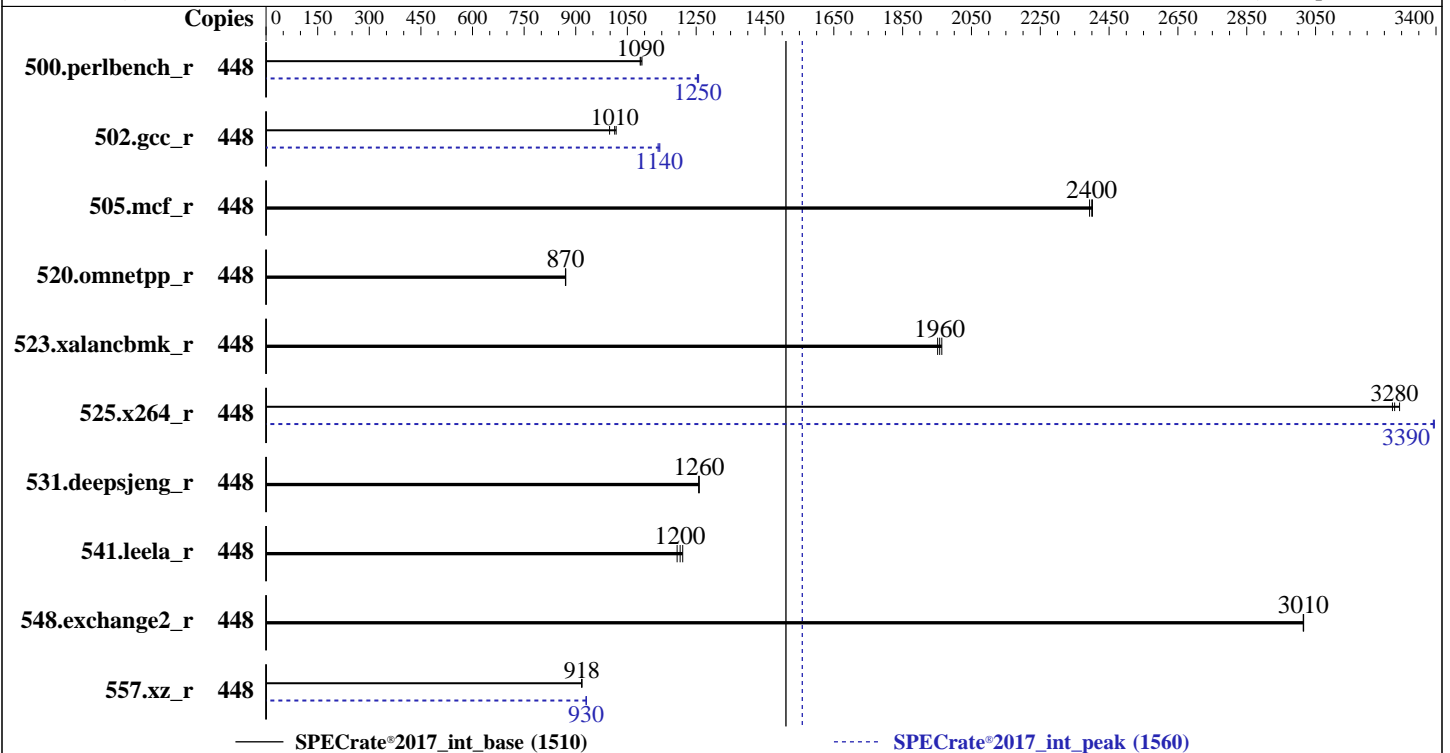
(2.90 GHz, Intel Xeon Platinum 8380H)

SPECrate®2017_int_base = 1510

SPECrate®2017_int_peak = 1560

CPU2017 License: 3
Test Sponsor: HPE
Tested by: HPE

Test Date: Oct-2020
Hardware Availability: Oct-2020
Software Availability: Apr-2020



Hardware

CPU Name: Intel Xeon Platinum 8380H
 Max MHz: 4300
 Nominal: 2900
 Enabled: 224 cores, 8 chips, 2 threads/core
 Orderable: 2, 4, 8 chip(s)
 Cache L1: 32 KB I + 32 KB D on chip per core
 L2: 1 MB I+D on chip per core
 L3: 38.5 MB I+D on chip per chip
 Other: None
 Memory: 6 TB (48 x 128 GB 4Rx4 PC4-3200AA-L)
 Storage: 2 x 480 GB SSD SATA
 Other: None

Software

OS: Red Hat Enterprise Linux release 8.2 (Ootpa)
 Kernel 4.18.0-193.el8.x86_64
 Compiler: C/C++: Version 19.1.1.217 of Intel C/C++ Compiler Build 20200306 for Linux;
 Fortran: Version 19.1.1.217 of Intel Fortran Compiler Build 20200306 for Linux;
 Parallel: No
 Firmware: HPE Firmware Bundle Version 1.0.140 released Oct-2020
 File System: xfs
 System State: Run level 3 (multi-user)
 Base Pointers: 64-bit
 Peak Pointers: 32/64-bit
 Other: jemalloc memory allocator V5.0.1;
 HPE Foundation Software 2.4,
 Build 734.0820.200723T0100.a.rhel82hpe-200723T0100
 Power Management: BIOS set to prefer performance at the cost of additional power usage



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

Superdome Flex 280

(2.90 GHz, Intel Xeon Platinum 8380H)

SPECrate®2017_int_base = 1510

SPECrate®2017_int_peak = 1560

CPU2017 License: 3
Test Sponsor: HPE
Tested by: HPE

Test Date: Oct-2020
Hardware Availability: Oct-2020
Software Availability: Apr-2020

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
500.perlbench_r	448	656	1090	653	1090	655	1090	448	567	1260	569	1250	568	1250
502.gcc_r	448	635	998	626	1010	624	1020	448	555	1140	557	1140	554	1140
505.mcf_r	448	303	2390	301	2400	302	2400	448	303	2390	301	2400	302	2400
520.omnetpp_r	448	675	871	676	870	675	870	448	675	871	676	870	675	870
523.xalancbmk_r	448	241	1960	242	1950	242	1960	448	241	1960	242	1950	242	1960
525.x264_r	448	238	3290	239	3280	240	3270	448	231	3390	231	3400	231	3390
531.deepsjeng_r	448	408	1260	408	1260	408	1260	448	408	1260	408	1260	408	1260
541.leela_r	448	617	1200	613	1210	621	1190	448	617	1200	613	1210	621	1190
548.exchange2_r	448	389	3010	389	3010	389	3020	448	389	3010	389	3010	389	3020
557.xz_r	448	527	918	527	917	527	918	448	520	931	520	930	520	930

SPECrate®2017_int_base = 1510

SPECrate®2017_int_peak = 1560

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

Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"
Transparent Huge Pages enabled by default
Prior to runcpu invocation
Filesystem page cache synced and cleared with:
sync; echo 3> /proc/sys/vm/drop_caches
runcpu command invoked through numactl i.e.:
numactl --interleave=all runcpu <etc>
Tuned-adm profile was set to Throughput-Performance using "tuned-adm profile throughput-performance"

Environment Variables Notes

Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH =
"/home/cpu2017/lib/intel64:/home/cpu2017/lib/ia32:/home/cpu2017/je5.0.1-32"
MALLOC_CONF = "retain:true"



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

Superdome Flex 280

(2.90 GHz, Intel Xeon Platinum 8380H)

SPECrate®2017_int_base = 1510

SPECrate®2017_int_peak = 1560

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Oct-2020

Hardware Availability: Oct-2020

Software Availability: Apr-2020

General Notes

Binaries compiled on a system with 1x Intel Core i9-7980XE CPU + 64GB RAM memory using Redhat Enterprise Linux 8.0

NA: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown) is mitigated in the system as tested and documented.
Yes: The test sponsor attests, as of date of publication, that CVE-2017-5753 (Spectre variant 1) is mitigated in the system as tested and documented.
Yes: The test sponsor attests, as of date of publication, that CVE-2017-5715 (Spectre variant 2) is mitigated in the system as tested and documented.
jemalloc, a general purpose malloc implementation built with the RedHat Enterprise 7.5, and the system compiler gcc 4.8.5 sources available from jemalloc.net or <https://github.com/jemalloc/jemalloc/releases>

Platform Notes

BIOS Configuration:

Workload Profile set to HPC
Workload Profile set to Custom
Minimum Processor Idle Power Core C-State set to C6 State
Sub-NUMA Clustering set to Enabled
DCU Stream Prefetcher set to Disabled

Sysinfo program /home/cpu2017/bin/sysinfo
Rev: r6365 of 2019-08-21 295195f888a3d7edble6e46a485a0011
running on ch-622.fchst.rdlabs.hpccorp.net Mon Oct 12 14:58:04 2020

SUT (System Under Test) info as seen by some common utilities.
For more information on this section, see
<https://www.spec.org/cpu2017/Docs/config.html#sysinfo>

From /proc/cpuinfo

```
model name : Intel(R) Xeon(R) Platinum 8380H CPU @ 2.90GHZ
 8 "physical id"s (chips)
448 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The following
excerpts from /proc/cpuinfo might not be reliable. Use with caution.)
cpu cores : 28
siblings : 56
physical 0: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24 25 26 27
28 29 30
physical 1: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24 25 26 27
28 29 30
physical 2: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24 25 26 27
28 29 30
physical 3: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24 25 26 27
28 29 30
physical 4: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24 25 26 27
```

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

Superdome Flex 280

(2.90 GHz, Intel Xeon Platinum 8380H)

SPECrate®2017_int_base = 1510

SPECrate®2017_int_peak = 1560

CPU2017 License: 3
Test Sponsor: HPE
Tested by: HPE

Test Date: Oct-2020
Hardware Availability: Oct-2020
Software Availability: Apr-2020

Platform Notes (Continued)

```
28 29 30
physical 5: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24 25 26 27
28 29 30
physical 6: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24 25 26 27
28 29 30
physical 7: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24 25 26 27
28 29 30
```

From lscpu:

```
Architecture:          x86_64
CPU op-mode(s):        32-bit, 64-bit
Byte Order:            Little Endian
CPU(s):                448
On-line CPU(s) list:  0-447
Thread(s) per core:    2
Core(s) per socket:    28
Socket(s):             8
NUMA node(s):         16
Vendor ID:             GenuineIntel
CPU family:            6
Model:                 85
Model name:            Intel(R) Xeon(R) Platinum 8380H CPU @ 2.90GHz
Stepping:              11
CPU MHz:               4086.980
CPU max MHz:           4300.0000
CPU min MHz:           1000.0000
BogoMIPS:              5799.81
Virtualization:        VT-x
L1d cache:             32K
L1i cache:             32K
L2 cache:              1024K
L3 cache:              39424K
NUMA node0 CPU(s):    0-3,7-9,14-17,21-23,224-227,231-233,238-241,245-247
NUMA node1 CPU(s):    4-6,10-13,18-20,24-27,228-230,234-237,242-244,248-251
NUMA node2 CPU(s):    28-31,35-37,42-45,49-51,252-255,259-261,266-269,273-275
NUMA node3 CPU(s):    32-34,38-41,46-48,52-55,256-258,262-265,270-272,276-279
NUMA node4 CPU(s):    56-59,63-65,70-73,77-79,280-283,287-289,294-297,301-303
NUMA node5 CPU(s):    60-62,66-69,74-76,80-83,284-286,290-293,298-300,304-307
NUMA node6 CPU(s):    84-87,91-93,98-101,105-107,308-311,315-317,322-325,329-331
NUMA node7 CPU(s):    88-90,94-97,102-104,108-111,312-314,318-321,326-328,332-335
NUMA node8 CPU(s):    112-115,119-121,126-129,133-135,336-339,343-345,350-353,357-359
NUMA node9 CPU(s):    116-118,122-125,130-132,136-139,340-342,346-349,354-356,360-363
NUMA node10 CPU(s):   140-143,147-149,154-157,161-163,364-367,371-373,378-381,385-387
NUMA node11 CPU(s):   144-146,150-153,158-160,164-167,368-370,374-377,382-384,388-391
NUMA node12 CPU(s):   168-171,175-177,182-185,189-191,392-395,399-401,406-409,413-415
NUMA node13 CPU(s):   172-174,178-181,186-188,192-195,396-398,402-405,410-412,416-419
NUMA node14 CPU(s):   196-199,203-205,210-213,217-219,420-423,427-429,434-437,441-443
```

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

Superdome Flex 280

(2.90 GHz, Intel Xeon Platinum 8380H)

SPECrate®2017_int_base = 1510

SPECrate®2017_int_peak = 1560

CPU2017 License: 3
Test Sponsor: HPE
Tested by: HPE

Test Date: Oct-2020
Hardware Availability: Oct-2020
Software Availability: Apr-2020

Platform Notes (Continued)

NUMA node15 CPU(s): 200-202,206-209,214-216,220-223,424-426,430-433,438-440,444-447
Flags: fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx pdpe1gb rdtscp lm constant_tsc art arch_perfmon pebs bts rep_good nopl xtopology nonstop_tsc cpuid aperfperf pni pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 sdbg fma cx16 xtpr pdcm pcid dca sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave avx f16c rdrand lahf_lm abm 3dnowprefetch cpuid_fault epb cat_l3 cdp_l3 invpcid_single intel_ppin ssbd mba ibrs ibpb stibp ibrs_enhanced tpr_shadow vnmi flexpriority ept vpid fsgsbase tsc_adjust bmi2 hle avx2 smep bmi2 erms invpcid rtm cqm mpx rdt_a avx512f avx512dq rdseed adx smap clflushopt clwb intel_pt avx512cd avx512bw avx512vl xsaveopt xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total cqm_mbm_local avx512_bf16 dtherm ida arat pln pts pku ospke avx512_vnni md_clear flush_lld arch_capabilities

```
/proc/cpuinfo cache data
cache size : 39424 KB
```

```
From numactl --hardware WARNING: a numactl 'node' might or might not correspond to a
physical chip.
available: 16 nodes (0-15)
node 0 cpus: 0 1 2 3 7 8 9 14 15 16 17 21 22 23 224 225 226 227 231 232 233 238 239 240
241 245 246 247
node 0 size: 385506 MB
node 0 free: 385119 MB
node 1 cpus: 4 5 6 10 11 12 13 18 19 20 24 25 26 27 228 229 230 234 235 236 237 242 243
244 248 249 250 251
node 1 size: 387065 MB
node 1 free: 386920 MB
node 2 cpus: 28 29 30 31 35 36 37 42 43 44 45 49 50 51 252 253 254 255 259 260 261 266
267 268 269 273 274 275
node 2 size: 387065 MB
node 2 free: 386942 MB
node 3 cpus: 32 33 34 38 39 40 41 46 47 48 52 53 54 55 256 257 258 262 263 264 265 270
271 272 276 277 278 279
node 3 size: 387065 MB
node 3 free: 386957 MB
node 4 cpus: 56 57 58 59 63 64 65 70 71 72 73 77 78 79 280 281 282 283 287 288 289 294
295 296 297 301 302 303
node 4 size: 387065 MB
node 4 free: 386952 MB
node 5 cpus: 60 61 62 66 67 68 69 74 75 76 80 81 82 83 284 285 286 290 291 292 293 298
299 300 304 305 306 307
node 5 size: 387065 MB
node 5 free: 386964 MB
node 6 cpus: 84 85 86 87 91 92 93 98 99 100 101 105 106 107 308 309 310 311 315 316 317
322 323 324 325 329 330 331
node 6 size: 387038 MB
```

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

Superdome Flex 280

(2.90 GHz, Intel Xeon Platinum 8380H)

SPECrate®2017_int_base = 1510

SPECrate®2017_int_peak = 1560

CPU2017 License: 3
Test Sponsor: HPE
Tested by: HPE

Test Date: Oct-2020
Hardware Availability: Oct-2020
Software Availability: Apr-2020

Platform Notes (Continued)

```

node 6 free: 386934 MB
node 7 cpus: 88 89 90 94 95 96 97 102 103 104 108 109 110 111 312 313 314 318 319 320
321 326 327 328 332 333 334 335
node 7 size: 387065 MB
node 7 free: 386912 MB
node 8 cpus: 112 113 114 115 119 120 121 126 127 128 129 133 134 135 336 337 338 339
343 344 345 350 351 352 353 357 358 359
node 8 size: 387065 MB
node 8 free: 386029 MB
node 9 cpus: 116 117 118 122 123 124 125 130 131 132 136 137 138 139 340 341 342 346
347 348 349 354 355 356 360 361 362 363
node 9 size: 387065 MB
node 9 free: 386905 MB
node 10 cpus: 140 141 142 143 147 148 149 154 155 156 157 161 162 163 364 365 366 367
371 372 373 378 379 380 381 385 386 387
node 10 size: 387065 MB
node 10 free: 386963 MB
node 11 cpus: 144 145 146 150 151 152 153 158 159 160 164 165 166 167 368 369 370 374
375 376 377 382 383 384 388 389 390 391
node 11 size: 387065 MB
node 11 free: 386964 MB
node 12 cpus: 168 169 170 171 175 176 177 182 183 184 185 189 190 191 392 393 394 395
399 400 401 406 407 408 409 413 414 415
node 12 size: 387065 MB
node 12 free: 386957 MB
node 13 cpus: 172 173 174 178 179 180 181 186 187 188 192 193 194 195 396 397 398 402
403 404 405 410 411 412 416 417 418 419
node 13 size: 387065 MB
node 13 free: 386964 MB
node 14 cpus: 196 197 198 199 203 204 205 210 211 212 213 217 218 219 420 421 422 423
427 428 429 434 435 436 437 441 442 443
node 14 size: 387065 MB
node 14 free: 386953 MB
node 15 cpus: 200 201 202 206 207 208 209 214 215 216 220 221 222 223 424 425 426 430
431 432 433 438 439 440 444 445 446 447
node 15 size: 386033 MB
node 15 free: 385926 MB
node distances:
node  0  1  2  3  4  5  6  7  8  9 10 11 12 13 14 15
  0: 10 13 16 16 16 16 24 24 16 16 16 16 16 16 16 16
  1: 13 10 16 16 16 16 24 24 16 16 16 16 16 16 16 16
  2: 16 16 10 13 24 24 16 16 16 16 16 16 16 16 16 16
  3: 16 16 13 10 24 24 16 16 16 16 16 16 16 16 16 16
  4: 16 16 24 24 10 13 16 16 16 16 16 16 16 16 16 16
  5: 16 16 24 24 13 10 16 16 16 16 16 16 16 16 16 16
  6: 24 24 16 16 16 16 10 13 16 16 16 16 16 16 16 16
  7: 24 24 16 16 16 16 13 10 16 16 16 16 16 16 16 16

```

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

Superdome Flex 280

(2.90 GHz, Intel Xeon Platinum 8380H)

SPECrate®2017_int_base = 1510

SPECrate®2017_int_peak = 1560

CPU2017 License: 3
Test Sponsor: HPE
Tested by: HPE

Test Date: Oct-2020
Hardware Availability: Oct-2020
Software Availability: Apr-2020

Platform Notes (Continued)

8:	16	16	16	16	16	16	16	16	16	10	13	16	16	16	16	24	24
9:	16	16	16	16	16	16	16	16	16	13	10	16	16	16	16	24	24
10:	16	16	16	16	16	16	16	16	16	16	16	10	13	24	24	16	16
11:	16	16	16	16	16	16	16	16	16	16	13	10	24	24	16	16	
12:	16	16	16	16	16	16	16	16	16	16	24	24	10	13	16	16	
13:	16	16	16	16	16	16	16	16	16	16	24	24	13	10	16	16	
14:	16	16	16	16	16	16	16	16	24	24	16	16	16	16	10	13	
15:	16	16	16	16	16	16	16	16	24	24	16	16	16	16	13	10	

From /proc/meminfo

MemTotal: 6338999564 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

/usr/bin/lsb_release -d

Red Hat Enterprise Linux release 8.2 (Ootpa)

From /etc/*release* /etc/*version*

hpe-foundation-release: HPE Foundation Software 2.4, Build
734.0820.200723T0100.a.rhel82hpe-200723T0100

os-release:

NAME="Red Hat Enterprise Linux"
VERSION="8.2 (Ootpa)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="8.2"
PLATFORM_ID="platform:el8"
PRETTY_NAME="Red Hat Enterprise Linux 8.2 (Ootpa)"
ANSI_COLOR="0;31"

redhat-release: Red Hat Enterprise Linux release 8.2 (Ootpa)

system-release: Red Hat Enterprise Linux release 8.2 (Ootpa)

system-release-cpe: cpe:/o:redhat:enterprise_linux:8.2:ga

uname -a:

Linux ch-622.fchst.rdlabs.hpecorp.net 4.18.0-193.el8.x86_64 #1 SMP Fri Mar 27 14:35:58
UTC 2020 x86_64 x86_64 x86_64 GNU/Linux

Kernel self-reported vulnerability status:

itlb_multihit:	Not affected
CVE-2018-3620 (L1 Terminal Fault):	Not affected
Microarchitectural Data Sampling:	Not affected
CVE-2017-5754 (Meltdown):	Not affected
CVE-2018-3639 (Speculative Store Bypass):	Mitigation: Speculative Store Bypass disabled via prctl and seccomp
CVE-2017-5753 (Spectre variant 1):	Mitigation: usercopy/swaps barriers and __user pointer sanitization

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

Superdome Flex 280

(2.90 GHz, Intel Xeon Platinum 8380H)

SPECrate®2017_int_base = 1510

SPECrate®2017_int_peak = 1560

CPU2017 License: 3
Test Sponsor: HPE
Tested by: HPE

Test Date: Oct-2020
Hardware Availability: Oct-2020
Software Availability: Apr-2020

Platform Notes (Continued)

CVE-2017-5715 (Spectre variant 2): Mitigation: Enhanced IBRS, IBPB: conditional, RSB filling
tsx_async_abort: Not affected

run-level 3 Oct 12 14:56

SPEC is set to: /home/cpu2017

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/mapper/rhel-home	xfs	392G	36G	357G	9%	/home

From /sys/devices/virtual/dmi/id

BIOS: HPE Bundle:1.0.140 SFW:008.000.188.000.2010060501 10/06/2020
Vendor: HPE
Product: Superdome Flex 280
Product Family: 1590PID02020001
Serial: 5UF0090539

Additional information from dmidecode follows. WARNING: Use caution when you interpret this section. The 'dmidecode' program reads system data which is "intended to allow hardware to be accurately determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

Memory:

48x Hynix HMABAGL7ABR4N-XN 128 GB 4 rank 3200
48x NO DIMM NO DIMM

(End of data from sysinfo program)

Compiler Version Notes

=====
C | 502.gcc_r(peak)

Intel(R) C Compiler for applications running on IA-32, Version 2021.1 NextGen
Build 20200304
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

=====
C | 500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base, peak)
| 525.x264_r(base, peak) 557.xz_r(base)

Intel(R) C Compiler for applications running on Intel(R) 64, Version 2021.1
NextGen Build 20200304
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

Superdome Flex 280

(2.90 GHz, Intel Xeon Platinum 8380H)

SPECrate®2017_int_base = 1510

SPECrate®2017_int_peak = 1560

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Oct-2020

Hardware Availability: Oct-2020

Software Availability: Apr-2020

Compiler Version Notes (Continued)

=====
C | 500.perlbench_r(peak) 557.xz_r(peak)

Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
Version 19.1.1.217 Build 20200306
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

=====
C | 502.gcc_r(peak)

Intel(R) C Compiler for applications running on IA-32, Version 2021.1 NextGen
Build 20200304
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

=====
C | 500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base, peak)
525.x264_r(base, peak) 557.xz_r(base)

Intel(R) C Compiler for applications running on Intel(R) 64, Version 2021.1
NextGen Build 20200304
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

=====
C | 500.perlbench_r(peak) 557.xz_r(peak)

Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
Version 19.1.1.217 Build 20200306
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

=====
C | 502.gcc_r(peak)

Intel(R) C Compiler for applications running on IA-32, Version 2021.1 NextGen
Build 20200304
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

=====
C | 500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base, peak)
525.x264_r(base, peak) 557.xz_r(base)

Intel(R) C Compiler for applications running on Intel(R) 64, Version 2021.1
NextGen Build 20200304

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

Superdome Flex 280

(2.90 GHz, Intel Xeon Platinum 8380H)

SPECrate®2017_int_base = 1510

SPECrate®2017_int_peak = 1560

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Oct-2020

Hardware Availability: Oct-2020

Software Availability: Apr-2020

Compiler Version Notes (Continued)

Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

=====
C | 500.perlbench_r(peak) 557.xz_r(peak)
=====

Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
Version 19.1.1.217 Build 20200306

Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

=====
C++ | 520.omnetpp_r(base, peak) 523.xalancbmk_r(base, peak)
| 531.deepsjeng_r(base, peak) 541.leela_r(base, peak)
=====

Intel(R) C++ Compiler for applications running on Intel(R) 64, Version 2021.1
NextGen Build 20200304

Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

=====
Fortran | 548.exchange2_r(base, peak)
=====

Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)
64, Version 19.1.1.217 Build 20200306

Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

Base Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

Fortran benchmarks:

ifort

Base Portability Flags

500.perlbench_r: -DSPEC_LP64 -DSPEC_LINUX_X64

502.gcc_r: -DSPEC_LP64

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

Superdome Flex 280

(2.90 GHz, Intel Xeon Platinum 8380H)

SPECrate®2017_int_base = 1510

SPECrate®2017_int_peak = 1560

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Oct-2020

Hardware Availability: Oct-2020

Software Availability: Apr-2020

Base Portability Flags (Continued)

```

505.mcf_r: -DSPEC_LP64
520.omnetpp_r: -DSPEC_LP64
523.xalancbmk_r: -DSPEC_LP64 -DSPEC_LINUX
525.x264_r: -DSPEC_LP64
531.deepsjeng_r: -DSPEC_LP64
541.leela_r: -DSPEC_LP64
548.exchange2_r: -DSPEC_LP64
557.xz_r: -DSPEC_LP64

```

Base Optimization Flags

C benchmarks:

```

-m64 -qnextgen -std=c11
-Wl,-plugin-opt=-x86-branches-within-32B-boundaries -Wl,-z,muldefs
-xCORE-AVX512 -O3 -ffast-math -flto -mfpmath=sse -funroll-loops
-fuse-ld=gold -qopt-mem-layout-trans=4
-L/usr/local/IntelCompiler19/compilers_and_libraries_2020.1.217/linux/compiler/lib/intel64_lin
-lqkmallocc

```

C++ benchmarks:

```

-m64 -qnextgen -Wl,-plugin-opt=-x86-branches-within-32B-boundaries
-Wl,-z,muldefs -xCORE-AVX512 -O3 -ffast-math -flto -mfpmath=sse
-funroll-loops -fuse-ld=gold -qopt-mem-layout-trans=4
-L/usr/local/IntelCompiler19/compilers_and_libraries_2020.1.217/linux/compiler/lib/intel64_lin
-lqkmallocc

```

Fortran benchmarks:

```

-m64 -Wl,-plugin-opt=-x86-branches-within-32B-boundaries -Wl,-z,muldefs
-xCORE-AVX512 -O3 -ipo -no-prec-div -qopt-mem-layout-trans=4
-nostandard-realloc-lhs -align array32byte -auto
-mbranches-within-32B-boundaries
-L/usr/local/IntelCompiler19/compilers_and_libraries_2020.1.217/linux/compiler/lib/intel64_lin
-lqkmallocc

```

Peak Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

Superdome Flex 280

(2.90 GHz, Intel Xeon Platinum 8380H)

SPECrate®2017_int_base = 1510

SPECrate®2017_int_peak = 1560

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Oct-2020

Hardware Availability: Oct-2020

Software Availability: Apr-2020

Peak Compiler Invocation (Continued)

Fortran benchmarks:

ifort

Peak Portability Flags

```
500.perlbench_r: -DSPEC_LP64 -DSPEC_LINUX_X64
502.gcc_r: -D_FILE_OFFSET_BITS=64
505.mcf_r: -DSPEC_LP64
520.omnetpp_r: -DSPEC_LP64
523.xalancbmk_r: -DSPEC_LP64 -DSPEC_LINUX
525.x264_r: -DSPEC_LP64
531.deepsjeng_r: -DSPEC_LP64
541.leela_r: -DSPEC_LP64
548.exchange2_r: -DSPEC_LP64
557.xz_r: -DSPEC_LP64
```

Peak Optimization Flags

C benchmarks:

```
500.perlbench_r: -Wl,-z,muldefs -prof-gen(pass 1) -prof-use(pass 2)
-xCORE-AVX512 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=4 -fno-strict-overflow
-mbranches-within-32B-boundaries
-L/usr/local/IntelCompiler19/compilers_and_libraries_2020.1.217/linux/compiler/lib/intel64_lin
-lqkmalloc

502.gcc_r: -m32
-L/usr/local/IntelCompiler19/compilers_and_libraries_2020.1.217/linux/compiler/lib/ia32_lin
-std=gnu89
-Wl,-plugin-opt=-x86-branches-within-32B-boundaries
-Wl,-z,muldefs -fprofile-generate(pass 1)
-fprofile-use=default.profdata(pass 2) -xCORE-AVX512 -flto
-Ofast(pass 1) -O3 -ffast-math -qnextgen -fuse-ld=gold
-qopt-mem-layout-trans=4 -L/usr/local/jemalloc32-5.0.1/lib
-ljemalloc

505.mcf_r: basepeak = yes

525.x264_r: -m64 -qnextgen -std=c11
-Wl,-plugin-opt=-x86-branches-within-32B-boundaries
-Wl,-z,muldefs -xCORE-AVX512 -flto -O3 -ffast-math
```

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

Superdome Flex 280

(2.90 GHz, Intel Xeon Platinum 8380H)

SPECrate®2017_int_base = 1510

SPECrate®2017_int_peak = 1560

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Oct-2020

Hardware Availability: Oct-2020

Software Availability: Apr-2020

Peak Optimization Flags (Continued)

525.x264_r (continued):

```
-fuse-ld=gold -qopt-mem-layout-trans=4 -fno-alias  
-L/usr/local/IntelCompiler19/compilers_and_libraries_2020.1.217/linux/compiler/lib/intel64_lin  
-lqkmalloc
```

557.xz_r: -Wl, -z, muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div

```
-qopt-mem-layout-trans=4 -mbranches-within-32B-boundaries  
-L/usr/local/IntelCompiler19/compilers_and_libraries_2020.1.217/linux/compiler/lib/intel64_lin  
-lqkmalloc
```

C++ benchmarks:

520.omnetpp_r: basepeak = yes

523.xalancbmk_r: basepeak = yes

531.deepsjeng_r: basepeak = yes

541.leela_r: basepeak = yes

Fortran benchmarks:

548.exchange2_r: basepeak = yes

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2017/flags/HPE-Platform-Flags-Intel-V1.3-CLX-revC.html>

http://www.spec.org/cpu2017/flags/Intel-ic19.1ul-official-linux64_revA.html

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2017/flags/HPE-Platform-Flags-Intel-V1.3-CLX-revC.xml>

http://www.spec.org/cpu2017/flags/Intel-ic19.1ul-official-linux64_revA.xml

SPEC CPU and SPECrate 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 info@spec.org.

Tested with SPEC CPU®2017 v1.1.0 on 2020-10-12 05:28:04-0400.

Report generated on 2020-11-03 11:57:02 by CPU2017 PDF formatter v6255.

Originally published on 2020-11-02.