

SupraSeal C2 benchmarks

This page is collecting number of running SupraSeal C2 on a 32GiB sector, the runtime is in seconds. It depends on the hardware, hence there's always a comparison between using CUDA and using SupraSeal. Most important part is the GPU that is used, hence it's mentioned which one it is.

User	GPU	Speedup	CUDA (sec)	SupraSeal (sec)	Source
vmx	Quadro RTX 6000	4.86	1104	227	
vmx	RTX 4090	3.05	397	130	
Reiers	RTX 4090	3.67	525	143	
Reiers	TITAN RTX			183	
TippyFlits	A4000	2.03	1091	538	
Stuberman	RTX 3090			127	
zcfil	RTX 3090	3.88	535	138	

Benchmarks for Non-interactive PoRep

Quadro RTX 6000

10 PoReps (this is what interactive PoRep does) with CUDA:

- synthesis time: 82.938055025s
- prover time: 1020.361815339s
- total time including other overhead (from first synthesis to before next proof): 1105s = 18:25min

10 PoReps (this is what interactive PoRep does) with SupraSeal:

- synthesis time: 87.836821965s
- prover time: 149.925715356s
- total time including other overhead (from first synthesis to last proof finished): 245s = 4:05min

126 PoReps (this is what non-interactive PoRep does) with Supraseal:

- synthesis time:
 $87.836821965 + 84.757182069 + 84.737105604 + 84.750190676 + 84.705759966 + 84.63558107 + 84.759582445 + 84.838175901 + 84.571978607 + 84.803744137 + 84.589651577 + 84.500893984 + 81.972020394 = 1101.4586884 = 18:21min$
- prover time: $149.925715356 + 94.218907837 + 121.449434091 + 118.061023323 + 120.269586734 +$

121.15618083 + 124.251977965 + 94.169493368 + 92.452175002 +
 93.070175029 + 84.141457732 + 84.439310483 + 55.074800451 = 1352.6802382 =
 22:32min

- total time including other overhead (from first synthesis to last proof finished): 2546s = 42:26min

Conclusion:

- SupraSeal for interactive PoRep is 1105s/245s = 4.51x faster than with CUDA
- Non-interactive PoRep with SupraSeal takes 2546s/245s = 10.39x more time than interactive PoRep with SupraSeal (please note that the first prover time was exceptionally slow, which makes the slowdown lower. When you take the average of all proving times that proof 10 PoReps each (108.133786479s), then the slowdown is 2546s/204s = 12.48x, which is similar to the one observed with the RTX 4090 and also matches the theory of having about 12.6x the proofs (hence work) to be done.

GeForce RTX 4090

10 PoReps (this is what interactive PoRep does) with CUDA:

- synthesis time: 71.392558801s
- prover time: 309.334484528s
- total time including other overhead (from first synthesis to before next proof): 383s = 6:23min

10 PoReps (this is what interactive PoRep does) with SupraSeal:

- synthesis time: 72.639470306s
- prover time: 28.487659739s
- total time including other overhead (from first synthesis to before next proof): 111s = 1:51min

126 PoReps (this is what non-interactive PoRep does) with Supraseal:

- synthesis time:
 72.639470306 + 73.041238158 + 72.838940053 + 72.731144873 + 72.609314587 +
 72.494576263 + 72.990890459 + 73.027431186 + 72.632112202 +
 72.968372254 + 72.441869485 + 73.24096133 + 70.855532487 =
 944.511853643s = 15:44min
- prover time: 28.487659739 + 28.177986132 + 28.152116659 + 28.306312547 +
 28.284816782 + 28.23880916 + 28.314787096 + 28.387716803 + 28.231438445 +
 28.404598204 +
 28.168923683 + 28.254500522 + 17.579693374 = 356.989359146s = 5:45min
- total time including other overhead (from first synthesis to last proof finished): 1433s = 23:53min

Conclusion:

- SupraSeal for interactive PoRep is $383s/111s = 3.45x$ faster than with CUDA.
- Non-interactive PoRep with SupraSeal takes $1433s/111s = 12.91x$ more time than interactive PoRep with SupraSeal.