1.1M 成功，但中间未知步骤耗时约两小时

Mar 26 15:56:38.157 INFO hasher: pedersen, target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:539 zigzag

Mar 26 15:56:38.158 INFO data size: 1 MB, target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:180 zigzag

Mar 26 15:56:38.159 INFO m: 5, target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:181 zigzag

Mar 26 15:56:38.159 INFO expansion\_degree: 8, target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:182 zigzag

Mar 26 15:56:38.160 INFO sloth: 0, target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:183 zigzag

Mar 26 15:56:38.160 INFO layer\_challenges: Fixed { layers: 10, count: 1 }, target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:184 zigzag

Mar 26 15:56:38.161 INFO all\_challenges: [1, 1, 1, 1, 1, 1, 1, 1, 1, 1], target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:185 zigzag

Mar 26 15:56:38.161 INFO total\_challenges: 10, target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:186 zigzag

Mar 26 15:56:38.161 INFO layers: 10, target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:187 zigzag

Mar 26 15:56:38.162 INFO partitions: 1, target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:188 zigzag

Mar 26 15:56:38.162 INFO circuit: false, target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:189 zigzag

Mar 26 15:56:38.163 INFO groth: true, target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:190 zigzag

Mar 26 15:56:38.163 INFO bench: true, target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:191 zigzag

Mar 26 15:56:38.163 INFO running setup, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:207 zigzag

Mar 26 15:56:38.164 INFO setup complete, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:210 zigzag

Mar 26 15:56:38.164 INFO generating zeroed data, target: status, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:128 zigzag

Mar 26 15:56:38.165 INFO running replicate, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:224 zigzag

Mar 26 15:56:38.196 INFO encoding, layer {}: 0, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:440 storage\_proofs::layered\_drgporep

Mar 26 15:56:38.786 INFO encoding, layer {}: 1, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:440 storage\_proofs::layered\_drgporep

Mar 26 15:56:39.386 INFO encoding, layer {}: 2, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:440 storage\_proofs::layered\_drgporep

Mar 26 15:56:40.080 INFO encoding, layer {}: 3, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:440 storage\_proofs::layered\_drgporep

Mar 26 15:56:40.805 INFO encoding, layer {}: 4, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:440 storage\_proofs::layered\_drgporep

Mar 26 15:56:41.453 INFO encoding, layer {}: 5, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:440 storage\_proofs::layered\_drgporep

Mar 26 15:56:42.145 INFO encoding, layer {}: 6, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:440 storage\_proofs::layered\_drgporep

Mar 26 15:56:42.957 INFO encoding, layer {}: 7, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:440 storage\_proofs::layered\_drgporep

Mar 26 15:56:43.704 INFO encoding, layer {}: 8, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:440 storage\_proofs::layered\_drgporep

Mar 26 15:56:44.420 INFO encoding, layer {}: 9, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:440 storage\_proofs::layered\_drgporep

Mar 26 15:56:53.715 INFO returning tree, layer: 9, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:433 storage\_proofs::layered\_drgporep

Mar 26 15:56:55.370 INFO returning tree, layer: 6, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:433 storage\_proofs::layered\_drgporep

Mar 26 15:56:57.254 INFO returning tree, layer: 7, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:433 storage\_proofs::layered\_drgporep

Mar 26 15:56:57.294 INFO returning tree, layer: 10, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:433 storage\_proofs::layered\_drgporep

Mar 26 15:56:57.415 INFO returning tree, layer: 4, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:433 storage\_proofs::layered\_drgporep

Mar 26 15:57:00.032 INFO returning tree, layer: 5, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:433 storage\_proofs::layered\_drgporep

Mar 26 15:57:00.391 INFO returning tree, layer: 8, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:433 storage\_proofs::layered\_drgporep

Mar 26 15:57:02.019 INFO returning tree, layer: 2, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:433 storage\_proofs::layered\_drgporep

Mar 26 15:57:02.298 INFO returning tree, layer: 0, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:433 storage\_proofs::layered\_drgporep

Mar 26 15:57:02.658 INFO returning tree, layer: 3, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:433 storage\_proofs::layered\_drgporep

Mar 26 15:57:02.793 INFO returning tree, layer: 1, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:433 storage\_proofs::layered\_drgporep

Mar 26 15:57:02.831 INFO setting tau/aux, layer: 0, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:469 storage\_proofs::layered\_drgporep

Mar 26 15:57:02.832 INFO setting tau/aux, layer: 1, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:469 storage\_proofs::layered\_drgporep

Mar 26 15:57:02.833 INFO setting tau/aux, layer: 2, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:469 storage\_proofs::layered\_drgporep

Mar 26 15:57:02.834 INFO setting tau/aux, layer: 3, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:469 storage\_proofs::layered\_drgporep

Mar 26 15:57:02.835 INFO setting tau/aux, layer: 4, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:469 storage\_proofs::layered\_drgporep

Mar 26 15:57:02.836 INFO setting tau/aux, layer: 5, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:469 storage\_proofs::layered\_drgporep

Mar 26 15:57:02.836 INFO setting tau/aux, layer: 6, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:469 storage\_proofs::layered\_drgporep

Mar 26 15:57:02.837 INFO setting tau/aux, layer: 7, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:469 storage\_proofs::layered\_drgporep

Mar 26 15:57:02.837 INFO setting tau/aux, layer: 8, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:469 storage\_proofs::layered\_drgporep

Mar 26 15:57:02.838 INFO setting tau/aux, layer: 9, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:469 storage\_proofs::layered\_drgporep

Mar 26 15:57:02.838 INFO replication\_time: 24.6529024s, target: stats, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:243 zigzag

Mar 26 15:57:02.838 INFO replication\_time/byte: 23.51µs, target: stats, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:257 zigzag

Mar 26 15:57:02.870 INFO replication\_time/GiB: 25243.67028224s, target: stats, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:262 zigzag

Mar 26 15:57:02.870 INFO generating 1 partition proofs, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:268 zigzag

Mar 26 15:57:02.871 INFO vanilla\_proving\_time: 811.8µs, target: stats, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:279 zigzag

Mar 26 15:57:02.871 INFO sampling verifying (samples: 5), root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:284 zigzag

Mar 26 15:57:04.544 INFO Verification complete, target: status, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:298 zigzag

Mar 26 15:57:04.544 INFO average\_vanilla\_verifying\_time: 0.34506188 seconds, target: stats, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:304 zigzag

Mar 26 15:57:04.689 INFO Performing circuit bench., target: status, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:317 zigzag

Mar 26 15:58:51.125 INFO circuit\_num\_inputs: 164, target: stats, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:324 zigzag

Mar 26 15:58:51.211 INFO circuit\_num\_constraints: 4652824, target: stats, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:325 zigzag

Mar 26 17:39:04.621 INFO Performing circuit groth., target: status, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:342 zigzag

Mar 26 17:39:04.735 INFO parameter set identifier for cache: layered\_drgporep::PublicParams{ graph: zigzag\_graph::ZigZagGraph{expansion\_degree: 8 base\_graph: drgraph::BucketGraph{size: 32768; degree: 5; hasher: PedersenHasher} }, sloth: 0, challenges: Fixed { layers: 10, count: 1 } }, target: params, root: storage-proofs, place: storage-proofs/src/parameter\_cache.rs:109 storage\_proofs::parameter\_cache

Mar 26 17:39:05.056 INFO checking cache\_path: "/tmp/filecoin-proof-parameters/v10-zigzag-proof-of-replication-4ea8ba9a8124525c74e9e630c5ab43fd16c26bece97097988778e90a07ae6e1e", id: zigzag-proof-of-replication-4ea8ba9a8124525c74e9e630c5ab43fd16c26bece97097988778e90a07ae6e1e, target: params, root: storage-proofs, place: storage-proofs/src/parameter\_cache.rs:138 storage\_proofs::parameter\_cache

Mar 26 17:39:06.595 INFO Actually generating groth params., id: zigzag-proof-of-replication-4ea8ba9a8124525c74e9e630c5ab43fd16c26bece97097988778e90a07ae6e1e, target: params, root: storage-proofs, place: storage-proofs/src/parameter\_cache.rs:127 storage\_proofs::parameter\_cache

Mar 26 18:34:56.096 INFO groth\_parameter\_generation\_time: 3349.1109339s, id: zigzag-proof-of-replication-4ea8ba9a8124525c74e9e630c5ab43fd16c26bece97097988778e90a07ae6e1e, target: stats, root: storage-proofs, place: storage-proofs/src/parameter\_cache.rs:131 storage\_proofs::parameter\_cache

Mar 26 18:39:38.573 INFO wrote parameters to cache LockedFile(File { fd: 3, path: "/tmp/filecoin-proof-parameters/v10-zigzag-proof-of-replication-4ea8ba9a8124525c74e9e630c5ab43fd16c26bece97097988778e90a07ae6e1e", read: true, write: true }) , id: zigzag-proof-of-replication-4ea8ba9a8124525c74e9e630c5ab43fd16c26bece97097988778e90a07ae6e1e, target: params, root: storage-proofs, place: storage-proofs/src/parameter\_cache.rs:147 storage\_proofs::parameter\_cache

Mar 26 18:39:38.576 INFO groth\_parameter\_bytes: 2403432120, id: zigzag-proof-of-replication-4ea8ba9a8124525c74e9e630c5ab43fd16c26bece97097988778e90a07ae6e1e, target: stats, root: storage-proofs, place: storage-proofs/src/parameter\_cache.rs:150 storage\_proofs::parameter\_cache

Mar 26 18:43:15.362 INFO groth\_proving\_time: 216.5150462s seconds, target: stats, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:361 zigzag

Mar 26 18:43:15.364 INFO combined\_proving\_time: 216.515858s seconds, target: stats, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:363 zigzag

Mar 26 18:43:15.365 INFO sampling groth verifying (samples: 5), root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:366 zigzag

Mar 26 18:43:15.606 INFO average\_groth\_verifying\_time: 48.70294ms seconds, target: stats, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:382 zigzag

2. 1k失败，卡在groth参数生成（懒得等手动结束

ywwuyi@DESKTOP-HNMK39  /mnt/d/go/src/github.com/filecoin-project/go-filecoin/proofs/rust-fil-proofs  ➦ 808dc88  /mnt/d/go/src/github.com/filecoin-project/go-filecoin/proofs/rust-fil-proofs/target/release/examples/zigzag --challenge

s 1 --size 1 --sloth 0 --m 5 --expansion 8 --hasher pedersen --layers 10 --partitions 1 --groth

Mar 26 19:40:37.031 INFO hasher: pedersen, target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:539 zigzag

Mar 26 19:40:37.032 INFO data size: 1 kB, target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:180 zigzag

Mar 26 19:40:37.033 INFO m: 5, target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:181 zigzag

Mar 26 19:40:37.034 INFO expansion\_degree: 8, target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:182 zigzag

Mar 26 19:40:37.035 INFO sloth: 0, target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:183 zigzag

Mar 26 19:40:37.035 INFO layer\_challenges: Fixed { layers: 10, count: 1 }, target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:184 zigzag

Mar 26 19:40:37.036 INFO all\_challenges: [1, 1, 1, 1, 1, 1, 1, 1, 1, 1], target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:185 zigzag

Mar 26 19:40:37.037 INFO total\_challenges: 10, target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:186 zigzag

Mar 26 19:40:37.038 INFO layers: 10, target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:187 zigzag

Mar 26 19:40:37.038 INFO partitions: 1, target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:188 zigzag

Mar 26 19:40:37.039 INFO circuit: false, target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:189 zigzag

Mar 26 19:40:37.040 INFO groth: true, target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:190 zigzag

Mar 26 19:40:37.041 INFO bench: true, target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:191 zigzag

Mar 26 19:40:37.042 INFO running setup, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:207 zigzag

Mar 26 19:40:37.042 INFO setup complete, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:210 zigzag

Mar 26 19:40:37.105 INFO generating zeroed data, target: status, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:128 zigzag

Mar 26 19:40:37.108 INFO running replicate, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:224 zigzag

Mar 26 19:40:37.108 INFO encoding, layer {}: 0, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:440 storage\_proofs::layered\_drgporep

Mar 26 19:40:37.113 INFO encoding, layer {}: 1, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:440 storage\_proofs::layered\_drgporep

Mar 26 19:40:37.114 INFO encoding, layer {}: 2, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:440 storage\_proofs::layered\_drgporep

Mar 26 19:40:37.114 INFO encoding, layer {}: 3, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:440 storage\_proofs::layered\_drgporep

Mar 26 19:40:37.116 INFO encoding, layer {}: 4, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:440 storage\_proofs::layered\_drgporep

Mar 26 19:40:37.131 INFO encoding, layer {}: 5, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:440 storage\_proofs::layered\_drgporep

Mar 26 19:40:37.135 INFO encoding, layer {}: 6, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:440 storage\_proofs::layered\_drgporep

Mar 26 19:40:37.136 INFO encoding, layer {}: 7, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:440 storage\_proofs::layered\_drgporep

Mar 26 19:40:37.138 INFO encoding, layer {}: 8, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:440 storage\_proofs::layered\_drgporep

Mar 26 19:40:37.139 INFO encoding, layer {}: 9, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:440 storage\_proofs::layered\_drgporep

Mar 26 19:40:37.253 INFO returning tree, layer: 0, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:433 storage\_proofs::layered\_drgporep

Mar 26 19:40:37.259 INFO returning tree, layer: 3, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:433 storage\_proofs::layered\_drgporep

Mar 26 19:40:37.262 INFO returning tree, layer: 5, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:433 storage\_proofs::layered\_drgporep

Mar 26 19:40:37.263 INFO returning tree, layer: 6, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:433 storage\_proofs::layered\_drgporep

Mar 26 19:40:37.263 INFO returning tree, layer: 9, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:433 storage\_proofs::layered\_drgporep

Mar 26 19:40:37.264 INFO returning tree, layer: 10, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:433 storage\_proofs::layered\_drgporep

Mar 26 19:40:37.264 INFO returning tree, layer: 8, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:433 storage\_proofs::layered\_drgporep

Mar 26 19:40:37.265 INFO returning tree, layer: 2, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:433 storage\_proofs::layered\_drgporep

Mar 26 19:40:37.267 INFO returning tree, layer: 4, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:433 storage\_proofs::layered\_drgporep

Mar 26 19:40:37.268 INFO returning tree, layer: 7, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:433 storage\_proofs::layered\_drgporep

Mar 26 19:40:37.268 INFO returning tree, layer: 1, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:433 storage\_proofs::layered\_drgporep

Mar 26 19:40:37.269 INFO setting tau/aux, layer: 0, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:469 storage\_proofs::layered\_drgporep

Mar 26 19:40:37.270 INFO setting tau/aux, layer: 1, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:469 storage\_proofs::layered\_drgporep

Mar 26 19:40:37.270 INFO setting tau/aux, layer: 2, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:469 storage\_proofs::layered\_drgporep

Mar 26 19:40:37.271 INFO setting tau/aux, layer: 3, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:469 storage\_proofs::layered\_drgporep

Mar 26 19:40:37.271 INFO setting tau/aux, layer: 4, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:469 storage\_proofs::layered\_drgporep

Mar 26 19:40:37.272 INFO setting tau/aux, layer: 5, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:469 storage\_proofs::layered\_drgporep

Mar 26 19:40:37.272 INFO setting tau/aux, layer: 6, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:469 storage\_proofs::layered\_drgporep

Mar 26 19:40:37.276 INFO setting tau/aux, layer: 7, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:469 storage\_proofs::layered\_drgporep

Mar 26 19:40:37.276 INFO setting tau/aux, layer: 8, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:469 storage\_proofs::layered\_drgporep

Mar 26 19:40:37.277 INFO setting tau/aux, layer: 9, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:469 storage\_proofs::layered\_drgporep

Mar 26 19:40:37.277 INFO replication\_time: 163.1422ms, target: stats, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:243 zigzag

Mar 26 19:40:37.278 INFO replication\_time/byte: 159.318µs, target: stats, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:257 zigzag

Mar 26 19:40:37.280 INFO replication\_time/GiB: 171066.399916032s, target: stats, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:262 zigzag

Mar 26 19:40:37.282 INFO generating 1 partition proofs, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:268 zigzag

Mar 26 19:40:37.282 INFO vanilla\_proving\_time: 1.2685ms, target: stats, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:279 zigzag

Mar 26 19:40:37.283 INFO sampling verifying (samples: 5), root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:284 zigzag

Mar 26 19:40:37.552 INFO Verification complete, target: status, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:298 zigzag

Mar 26 19:40:37.553 INFO average\_vanilla\_verifying\_time: 0.05641318 seconds, target: stats, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:304 zigzag

Mar 26 19:40:37.625 INFO Performing circuit bench., target: status, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:317 zigzag

Mar 26 19:40:54.568 INFO circuit\_num\_inputs: 164, target: stats, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:324 zigzag

Mar 26 19:40:54.569 INFO circuit\_num\_constraints: 2579824, target: stats, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:325 zigzag

Mar 26 19:40:58.965 INFO Performing circuit groth., target: status, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:342 zigzag

Mar 26 19:40:58.970 INFO parameter set identifier for cache: layered\_drgporep::PublicParams{ graph: zigzag\_graph::ZigZagGraph{expansion\_degree: 8 base\_graph: drgraph::BucketGraph{size: 32; degree: 5; hasher: PedersenHasher} }, sloth: 0, challenges: Fixed { layers: 10, count: 1 } }, target: params, root: storage-proofs, place: storage-proofs/src/parameter\_cache.rs:109 storage\_proofs::parameter\_cache

Mar 26 19:40:58.971 INFO checking cache\_path: "/tmp/filecoin-proof-parameters/v10-zigzag-proof-of-replication-708cccbdffd8263d435d8d1f97b39a0b9713eb36fcde1a0b0c79e877a46fc413", id: zigzag-proof-of-replication-708cccbdffd8263d435d8d1f97b39a0b9713eb36fcde1a0b0c79e877a46fc413, target: params, root: storage-proofs, place: storage-proofs/src/parameter\_cache.rs:138 storage\_proofs::parameter\_cache

Mar 26 19:40:59.030 INFO Actually generating groth params., id: zigzag-proof-of-replication-708cccbdffd8263d435d8d1f97b39a0b9713eb36fcde1a0b0c79e877a46fc413, target: params, root: storage-proofs, place: storage-proofs/src/parameter\_cache.rs:127 storage\_proofs::parameter\_cache

^C

3.64M 失败，卡在中间未知步骤（懒得等手动结束

✘ ywwuyi@DESKTOP-HNMK39  /mnt/d/go/src/github.com/filecoin-project/go-filecoin/proofs/rust-fil-proofs  ➦ 808dc88  /mnt/d/go/src/github.com/filecoin-project/go-filecoin/proofs/rust-fil-proofs/target/release/examples/zigzag --challen

ges 1 --size 65536 --sloth 0 --m 5 --expansion 8 --hasher pedersen --layers 10 --partitions 1 --groth

Mar 26 20:21:53.569 INFO hasher: pedersen, target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:539 zigzag

Mar 26 20:21:53.571 INFO data size: 64 MB, target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:180 zigzag

Mar 26 20:21:53.571 INFO m: 5, target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:181 zigzag

Mar 26 20:21:53.572 INFO expansion\_degree: 8, target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:182 zigzag

Mar 26 20:21:53.572 INFO sloth: 0, target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:183 zigzag

Mar 26 20:21:53.573 INFO layer\_challenges: Fixed { layers: 10, count: 1 }, target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:184 zigzag

Mar 26 20:21:53.573 INFO all\_challenges: [1, 1, 1, 1, 1, 1, 1, 1, 1, 1], target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:185 zigzag

Mar 26 20:21:53.574 INFO total\_challenges: 10, target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:186 zigzag

Mar 26 20:21:53.574 INFO layers: 10, target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:187 zigzag

Mar 26 20:21:53.575 INFO partitions: 1, target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:188 zigzag

Mar 26 20:21:53.575 INFO circuit: false, target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:189 zigzag

Mar 26 20:21:53.576 INFO groth: true, target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:190 zigzag

Mar 26 20:21:53.576 INFO bench: true, target: config, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:191 zigzag

Mar 26 20:21:53.577 INFO running setup, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:207 zigzag

Mar 26 20:21:53.577 INFO setup complete, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:210 zigzag

Mar 26 20:21:53.653 INFO generating zeroed data, target: status, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:128 zigzag

Mar 26 20:21:53.662 INFO running replicate, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:224 zigzag

Mar 26 20:21:53.851 INFO encoding, layer {}: 0, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:440 storage\_proofs::layered\_drgporep

Mar 26 20:22:19.871 INFO encoding, layer {}: 1, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:440 storage\_proofs::layered\_drgporep

Mar 26 20:22:45.742 INFO encoding, layer {}: 2, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:440 storage\_proofs::layered\_drgporep

Mar 26 20:23:11.979 INFO encoding, layer {}: 3, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:440 storage\_proofs::layered\_drgporep

Mar 26 20:23:38.967 INFO encoding, layer {}: 4, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:440 storage\_proofs::layered\_drgporep

Mar 26 20:24:05.820 INFO encoding, layer {}: 5, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:440 storage\_proofs::layered\_drgporep

Mar 26 20:24:32.425 INFO encoding, layer {}: 6, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:440 storage\_proofs::layered\_drgporep

Mar 26 20:24:58.933 INFO encoding, layer {}: 7, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:440 storage\_proofs::layered\_drgporep

Mar 26 20:25:25.530 INFO encoding, layer {}: 8, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:440 storage\_proofs::layered\_drgporep

Mar 26 20:25:51.916 INFO encoding, layer {}: 9, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:440 storage\_proofs::layered\_drgporep

Mar 26 20:32:15.067 INFO returning tree, layer: 8, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:433 storage\_proofs::layered\_drgporep

Mar 26 20:32:15.068 INFO returning tree, layer: 10, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:433 storage\_proofs::layered\_drgporep

Mar 26 20:32:15.534 INFO returning tree, layer: 6, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:433 storage\_proofs::layered\_drgporep

Mar 26 20:32:15.538 INFO returning tree, layer: 4, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:433 storage\_proofs::layered\_drgporep

Mar 26 20:32:18.593 INFO returning tree, layer: 9, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:433 storage\_proofs::layered\_drgporep

Mar 26 20:33:33.541 INFO returning tree, layer: 5, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:433 storage\_proofs::layered\_drgporep

Mar 26 20:33:34.771 INFO returning tree, layer: 3, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:433 storage\_proofs::layered\_drgporep

Mar 26 20:33:34.870 INFO returning tree, layer: 2, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:433 storage\_proofs::layered\_drgporep

Mar 26 20:33:34.969 INFO returning tree, layer: 7, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:433 storage\_proofs::layered\_drgporep

Mar 26 20:33:34.970 INFO returning tree, layer: 1, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:433 storage\_proofs::layered\_drgporep

Mar 26 20:33:34.971 INFO returning tree, layer: 0, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:433 storage\_proofs::layered\_drgporep

Mar 26 20:33:35.042 INFO setting tau/aux, layer: 0, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:469 storage\_proofs::layered\_drgporep

Mar 26 20:33:35.043 INFO setting tau/aux, layer: 1, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:469 storage\_proofs::layered\_drgporep

Mar 26 20:33:35.043 INFO setting tau/aux, layer: 2, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:469 storage\_proofs::layered\_drgporep

Mar 26 20:33:35.044 INFO setting tau/aux, layer: 3, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:469 storage\_proofs::layered\_drgporep

Mar 26 20:33:35.047 INFO setting tau/aux, layer: 4, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:469 storage\_proofs::layered\_drgporep

Mar 26 20:33:35.050 INFO setting tau/aux, layer: 5, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:469 storage\_proofs::layered\_drgporep

Mar 26 20:33:35.051 INFO setting tau/aux, layer: 6, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:469 storage\_proofs::layered\_drgporep

Mar 26 20:33:35.051 INFO setting tau/aux, layer: 7, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:469 storage\_proofs::layered\_drgporep

Mar 26 20:33:35.052 INFO setting tau/aux, layer: 8, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:469 storage\_proofs::layered\_drgporep

Mar 26 20:33:35.053 INFO setting tau/aux, layer: 9, root: storage-proofs, place: storage-proofs/src/layered\_drgporep.rs:469 storage\_proofs::layered\_drgporep

Mar 26 20:33:35.054 INFO replication\_time: 701.3842091s, target: stats, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:243 zigzag

Mar 26 20:33:35.054 INFO replication\_time/byte: 10.45µs, target: stats, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:257 zigzag

Mar 26 20:33:35.055 INFO replication\_time/GiB: 11220.6020608s, target: stats, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:262 zigzag

Mar 26 20:33:35.056 INFO generating 1 partition proofs, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:268 zigzag

Mar 26 20:33:35.061 INFO vanilla\_proving\_time: 1.7285ms, target: stats, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:279 zigzag

Mar 26 20:33:35.061 INFO sampling verifying (samples: 5), root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:284 zigzag

Mar 26 20:33:36.617 INFO Verification complete, target: status, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:298 zigzag

Mar 26 20:33:36.618 INFO average\_vanilla\_verifying\_time: 0.31385502 seconds, target: stats, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:304 zigzag

Mar 26 20:33:36.717 INFO Performing circuit bench., target: status, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:317 zigzag

Mar 26 20:36:17.593 INFO circuit\_num\_inputs: 164, target: stats, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:324 zigzag

Mar 26 20:36:19.185 INFO circuit\_num\_constraints: 5896624, target: stats, root: filecoin-proofs, place: filecoin-proofs/examples/zigzag.rs:325 zigzag

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