

## Aurora

source: aurora\_switch\_dir

fixture: 8

real: 500



Switch settings mapped to binary event stream.

## QCA

source: shot\_matrix

fixture: 4

real: 500



Shot matrices converted to stabilizer events.

## GKP

source: count\_table\_json

fixture: 11

real: not used



Count tables expanded to replay request lines.

## Normalization Layer

line-oriented decoder IO contract

code\_id | round\_index | n\_qubits

events: index, time\_ns, type

noise: sigma + gate/meas/idle/loss

metadata: provider, backend, source\_id

normalization flow

- 1) read provider-native records
- 2) map observables to event indices and event types
- 3) stamp noise priors and provenance metadata
- 4) emit one line-oriented decoder request per shot

integrity checks

- request and response line counts stay matched
- request/response parse errors remain zero
- decoder-name mismatch count remains zero

shared request stream for decoder-swap replay

## Replay Decoders

MWPM

UF

BP

Neural-MWPM

same input, different correction policy