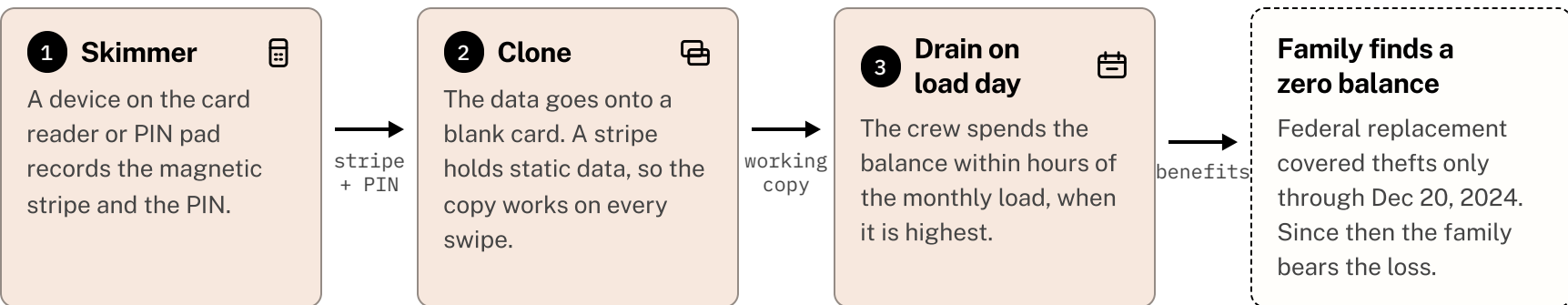


ATTACK PATH



CONTROLS, PLACED AT THE LINK THEY BREAK

BREAKS THE COPY

Tap to pay

Fewer cards pass through a tampered slot.

Phone wallet

Device binding and biometric unlock. No stripe to copy. The 2018 Farm Bill authorized mobile pilots.

BREAKS THE CLONE

EMV chip

A one-time code for each purchase: copied data fails the second time.

End stripe fallback

Decline stripe sales after a set date, except at stores with an approved exception.

BREAKS THE DRAIN

App card lock, location and online blocks

Lock between uses. Out-of-state and online sales blocked by default. Stops most cloned-card drains.

Varied load timing, step-up check

Spread loads by case number. A big spend soon after a load, far from usual stores, needs confirmation in the app.

SHRINKS THE LOSS

Per-swipe alerts

An alert for every swipe. The household reports theft within minutes instead of at the checkout.

Catch: in California's chip rollout, retailers had to upgrade terminals, and for a time most sales still fell back to the stripe. The step-up check must fail open for recipients without phones, or it cuts off the households least able to wait.