

Building an Unknown Domain in 29 Days

An architectural post-mortem on AI-augmented solo development, infrastructure stress-testing, and the product-engineering divide.

// status: PRODUCTION-READY | auth: PANPANMAO_BUILD_DIARY

The ultimate stress test of solo AI-augmented velocity.

29 DAYS

Total development time from zero to production.

9 VERTICALS

Distinct product identities (e.g., Tarot, Bazi, Heavenly Stems).

1,134 COMMITS

109 PULL REQUESTS

High-frequency iterative deployment.

Can one engineer + AI build a multi-vertical product in a zero-knowledge domain?

CSS inheritance follows the DOM tree, not the React component tree.

React Tree

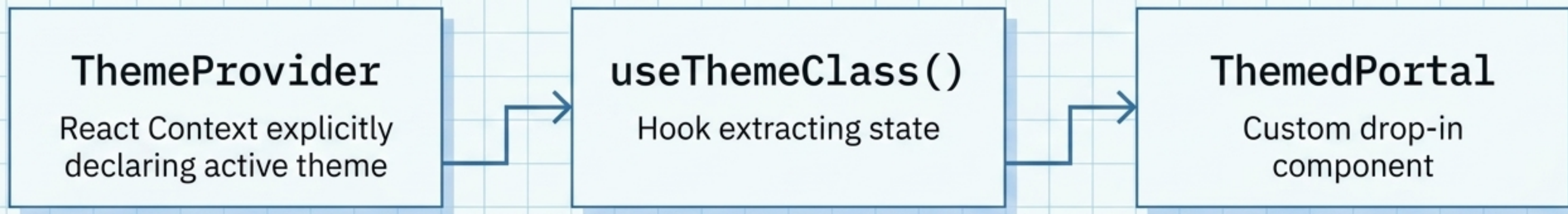
```
<App className="theme-hub">  
  └─ <Modal>
```

Actual DOM

```
<div class="theme-hub">  
  └─ └─    
      └─ <div class="portal">
```

`createPortal(content, document.body)` renders UI completely outside the active `.theme-[name]` wrapper, instantly breaking all 9 visual identities.

Restoring visual identity across 9 apps via context re-routing.



diff	
-	<code>.closest('.theme-hub')</code>
+	<code>ThemedPortal + MutationObserver</code>

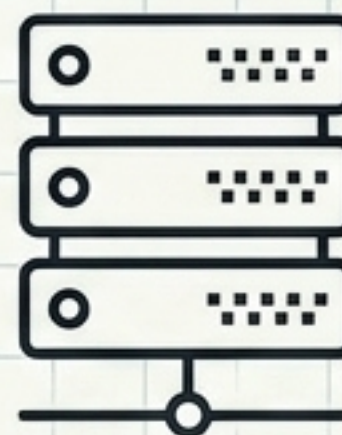
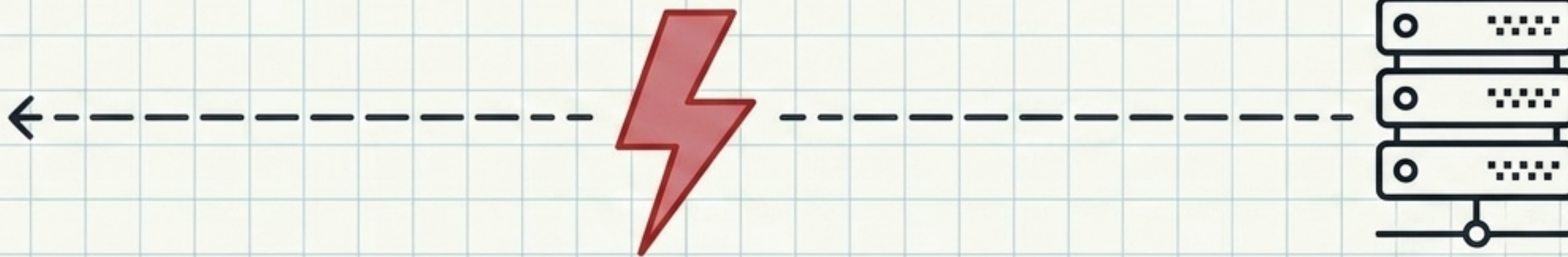
9 app layouts updated.
13 components migrated.
0 per-component hacks
remaining.

[PR #67]

Mobile network drops destroy both AI output and user credits.



Client

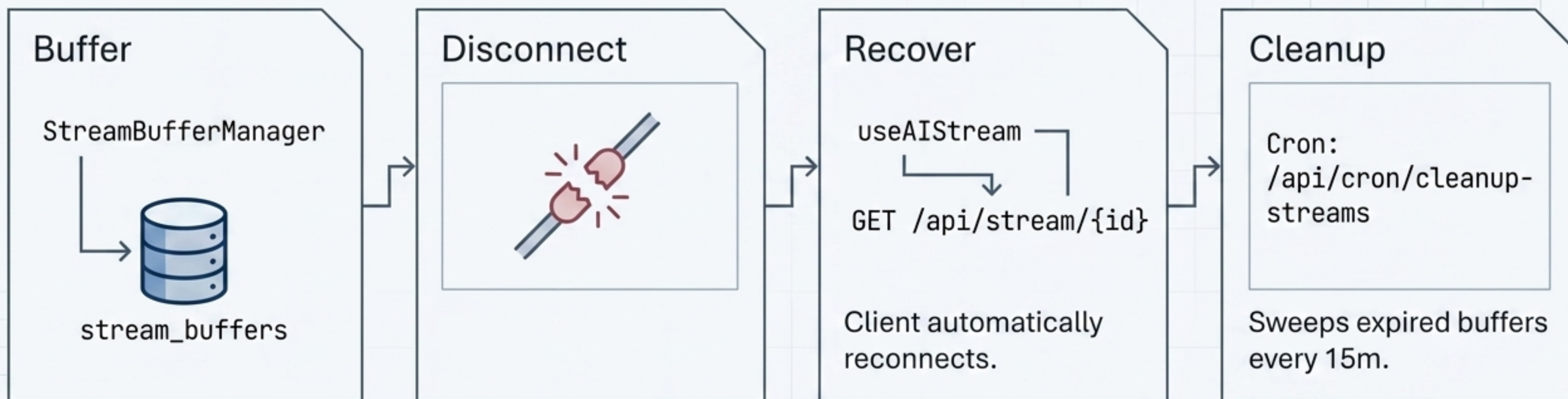


Server

User receives a partial reading, loses their paid credit, and cannot recover the state.

⚠ AI generation continues in a void, burning API costs.

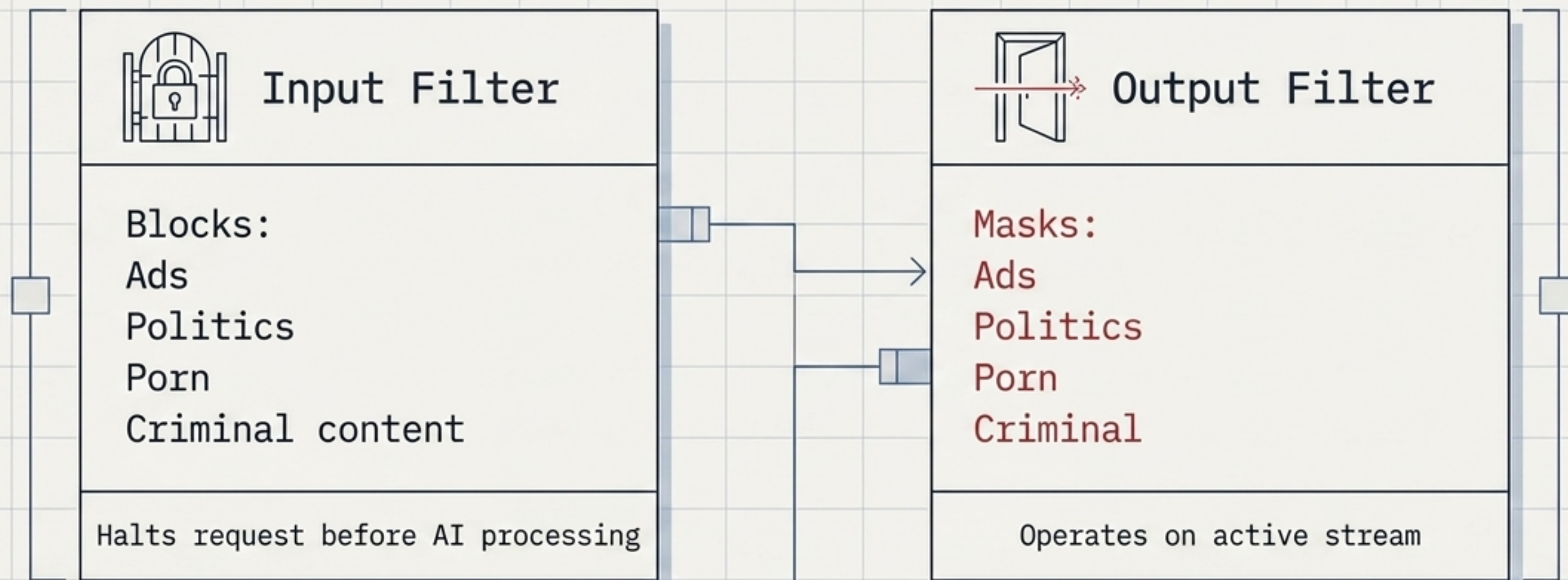
Shifting AI stream persistence entirely to the server-side.



Blunt content filters punish users for false positives.

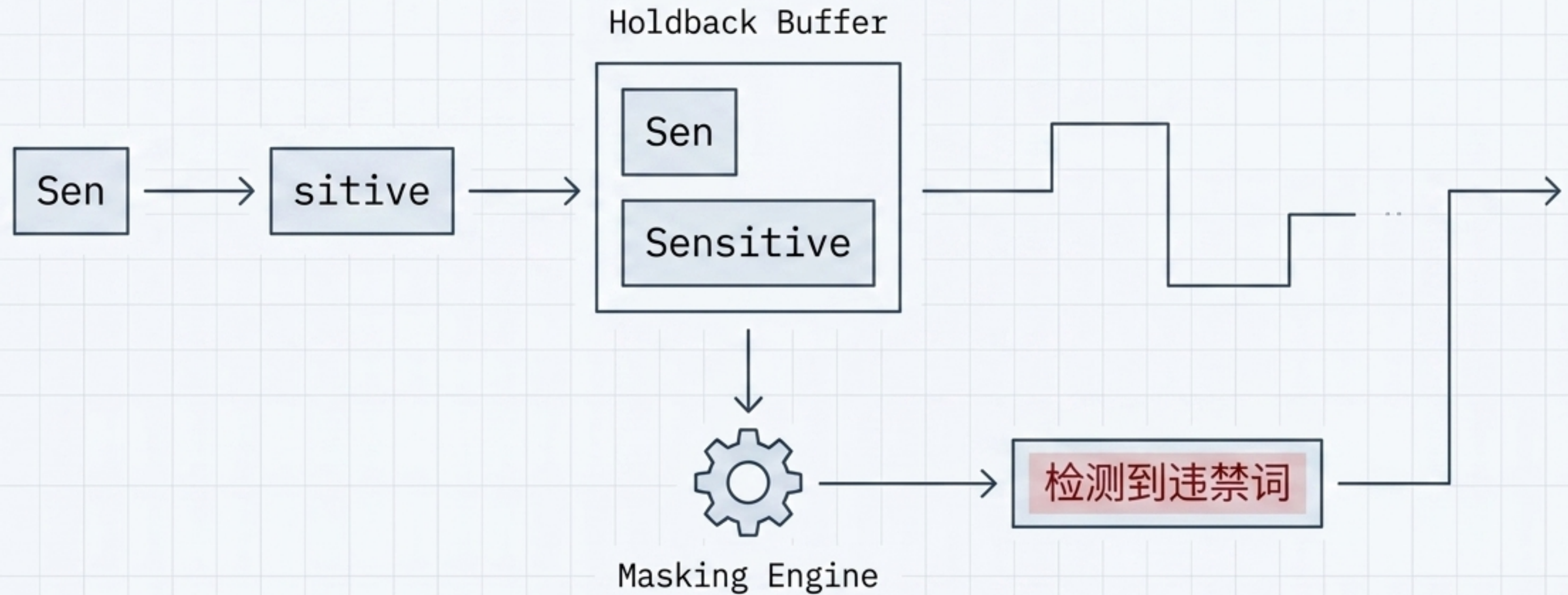
Iteration	Methodology & UX Impact	Edge Case Handling
V1 (DFA) ✗	Keyword block. Blocks entire message.	Overly aggressive.
V2 (PR #78) ✗	Stream-aware. Truncates stream mid-read.	User loses credits for partial reads.
V3 (PR #104) ✓	Inline masking. Stream continues uninterrupted.	Replaces violation with 检测到违禁词

Context-aware AI requires asymmetrical filtering rules



Fortune-telling AI naturally generates words like 兼职 (part-time work) and 桑拿 (sauna). Blunt filters flag this as advertising. Output filters must explicitly allow contextual overlap.

Catching sensitive words across network chunk boundaries

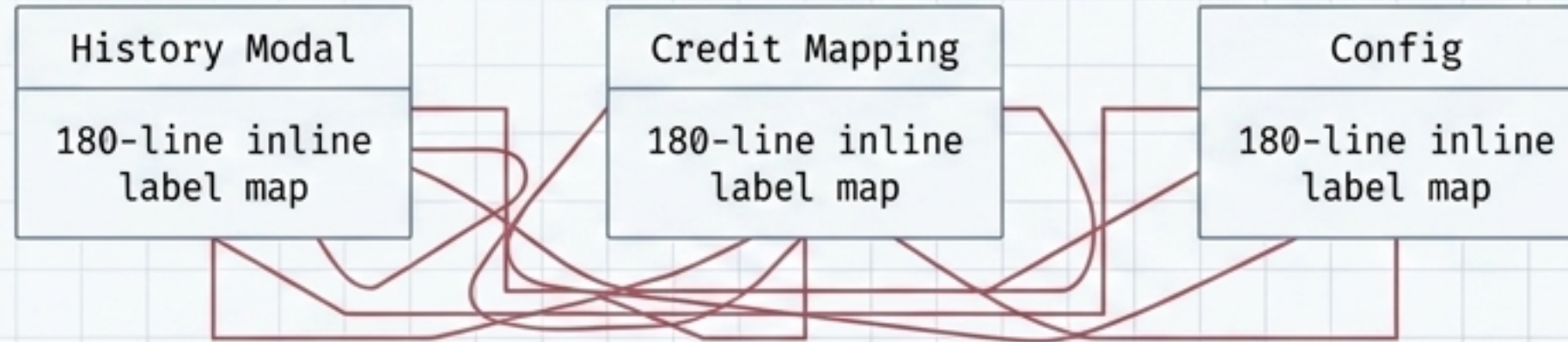


Supported by 158 tests across 6 files.

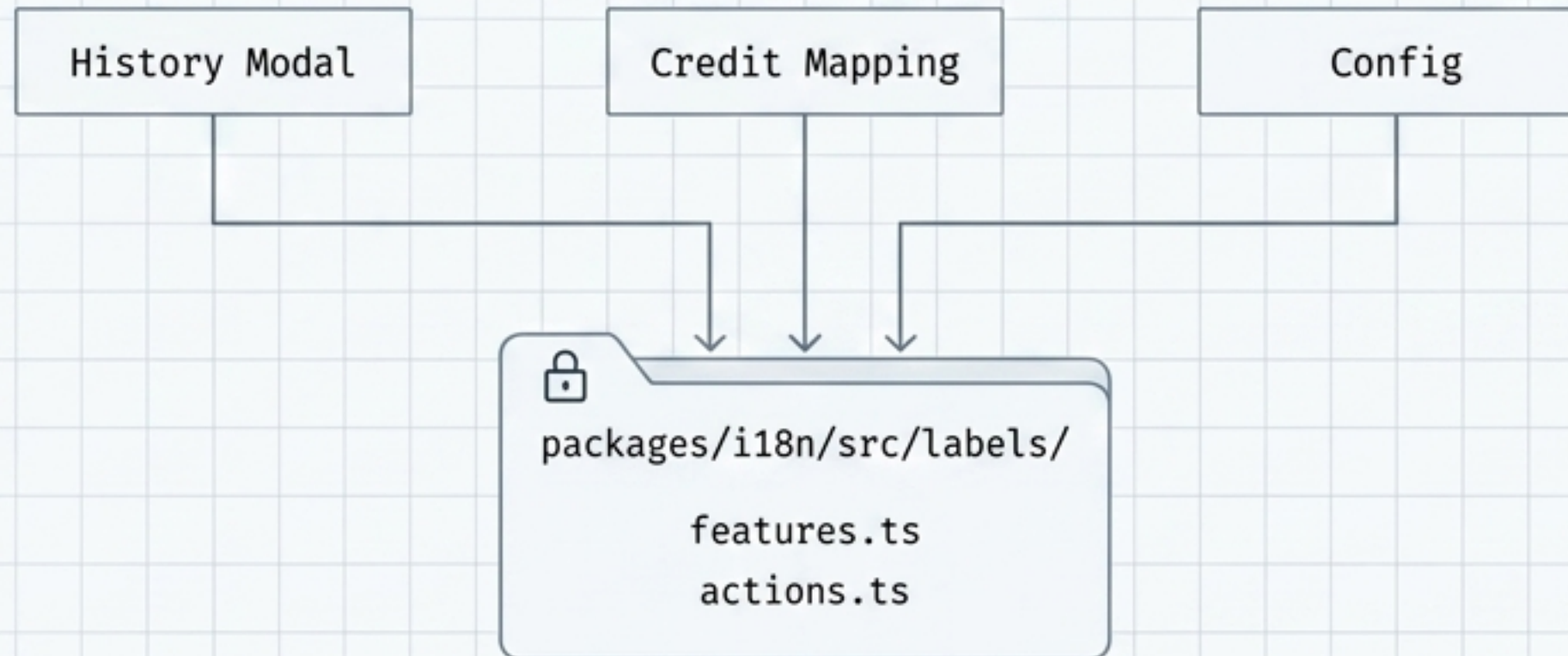
Centralized abstractions scale infinitely better than local maps.

Architecture Consolidation

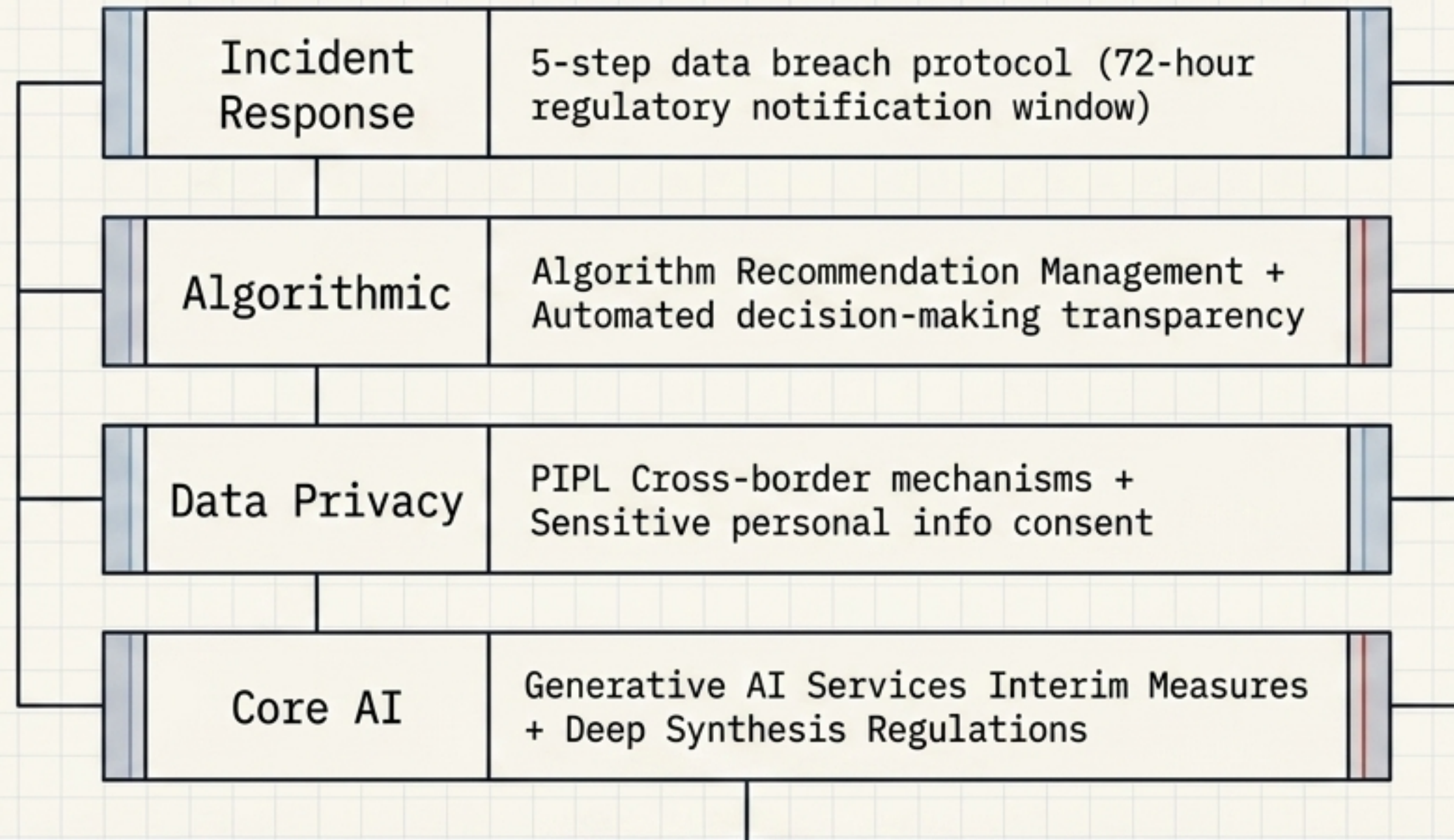
Before



After



Operating AI in China requires strict legal architecture.



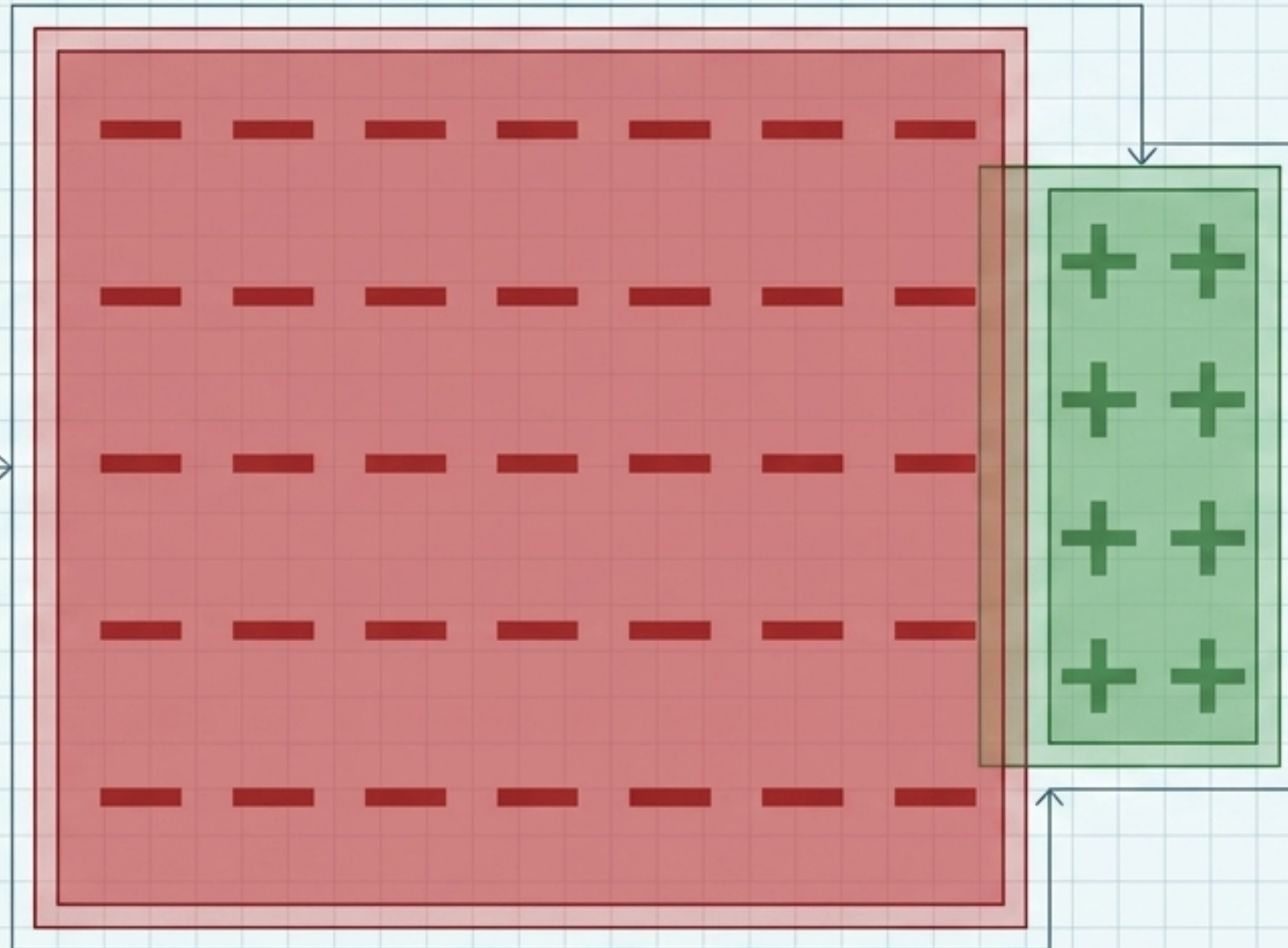
For Chinese users, this infrastructure is non-optional and non-trivial. Integrated via language toggle UI and browser auto-detection [PR #83].

The Architecture of Subtraction

Resilient Streaming

**-186 lines
of code**

Replacing 3 inconsistent patterns
with 1 unified hook.



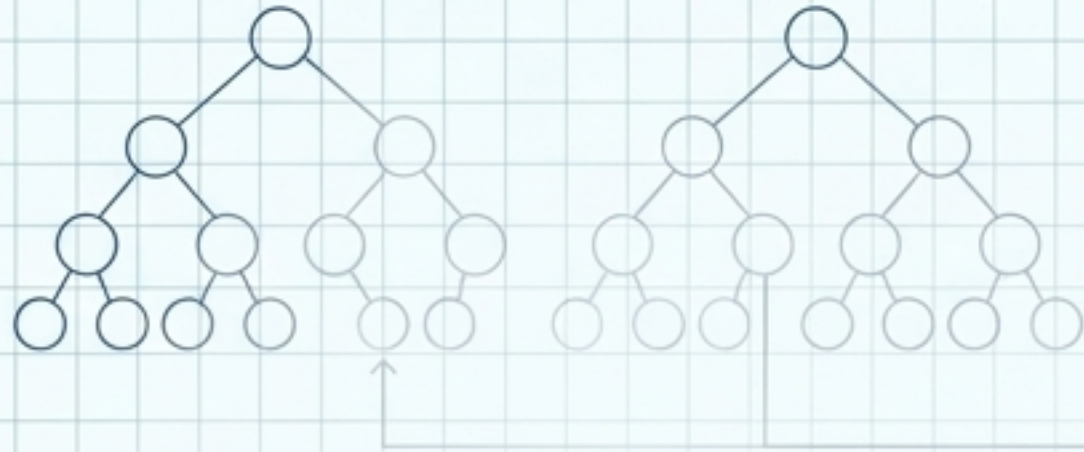
i18n Consolidation

**-223 lines
of code**

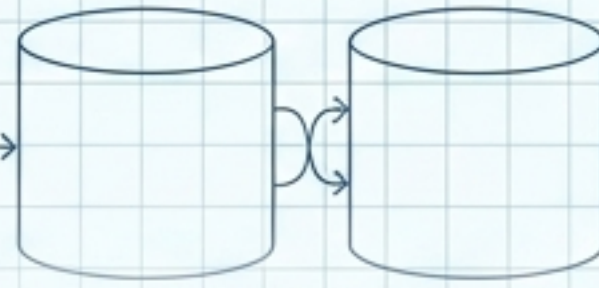
Removing scattered
inline maps for a
central truth.

Great engineering during rapid development isn't about writing more code. Building robust, centralized abstractions actively reduces system complexity and total line count.

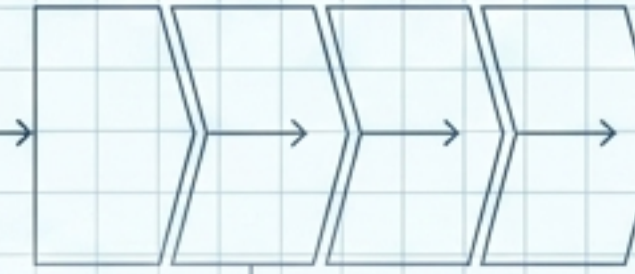
Theme routing tree



Stream Buffer



Boundary Masking



Compliance



The domain knowledge gap is fully bridgeable.

The hypothesis is proven. One engineer, augmented by AI, can build a real, multi-product platform from scratch in an unknown domain. The **velocity** is real.

“Building a product — the whole product, not just the engineering — is the most fun I’ve had in years.”