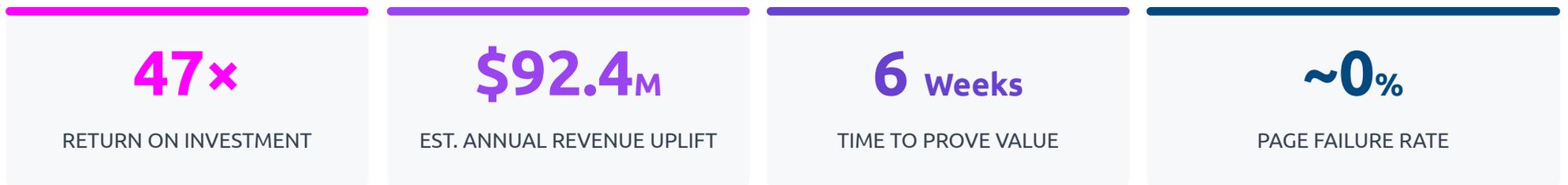


How a \$1B+ Retailer Unlocked \$92M in Annual Revenue, **Without Touching the Origin.**

An omni-channel department store deployed Harper at the edge to eliminate structural latency, resolve years of redirect failures, and prove ROI in six weeks. No re-platforming. No migration. Just performance where it matters.



The Company

One of the largest omni-channel department stores in North America, with over **\$1 billion in annual online revenue**, over 30 million monthly site visitors, and product catalogs spanning hundreds of thousands of SKUs. Digital is central to the business.

Problem

The retailer's monolithic origin architecture had become a compounding liability. Experimentation logic running on GCP was injecting **200ms of latency into 90% of all traffic**. Product detail pages failed at a rate of roughly 0.5%, translating to 1.6 million errors across just three trailing incidents. And a legacy redirect platform capped at 5,000 rules was covering only 13% of the pages that needed routing, leaving 39,000 URLs returning 404s to both customers and search bots.



The revenue impact was significant. Conservative estimates tied **\$38 million in annual losses** to unresolved redirects alone. Elevated Largest Contentful Paint (LCP) scores were dragging down both conversion rates and search rankings. And when the origin failed, there was no fallback. Pages simply went dark. The team knew performance was costing them. What they needed was a way to fix it that did not require re-architecting the monolith.

Solution

Rather than re-platform, Harper was deployed at the edge alongside the existing CDN. The origin remained the source of truth. Harper absorbed the performance-critical logic that was creating drag.

- **Redirects and experimentation** moved from origin to edge, eliminating 200ms of per-request latency across 90% of traffic.
- **Page Bank** cached and served pages instantly, providing automatic origin failure protection. During the 6-week trial it caught 4 downtime events.
- **Early Hints** preloaded critical CSS, fonts, and hero images before the full HTML response was ready. No code changes required.
- **SEO Bot Acceleration** served lightweight cached HTML to crawlers from the edge, dropping average bot response time from over 300ms to under 200ms.

All capabilities deployed across 8 synchronized geo-distributed nodes via Harper Fabric.

Impact

PERFORMANCE

Experimentation Latency	200ms → 5ms (P95)
Page Load (LCP)	23% faster
Redirect Capacity	5,000 → Unlimited

SEO

Bot crawl time (PDP)	>300ms → <200ms
Search position gain	+0.5 positions in 8 days
Google Click Lift	~30%

RESILIENCE

Downtime events caught	4 in 6 weeks
Total Avoided Page Errors	~105 k