

SEO Website Performance

HarperDB's collection of turn-key, enterprise-grade components is designed to improve performance and maximize revenue at any scale.

Performance Challenges

E-commerce success hinges on delivering fast and efficient web pages. However, achieving optimal SEO and user experience can be challenging with vast or dynamic product catalogs. Traditional tech stacks simply can't keep up. Common challenges include:

Page Load Latency:

Excessive network hops and system complexity slow down product pages, impacting search engine rankings.

Catalog Scale vs SEO Bot Performance:

For large product catalogs, SEO optimizations often outpace search engines' ability to index them, limiting revenue potential.

Redirect Optimization:

Frequent catalog updates and optimizations can lead to convoluted, circular, or chained redirect logic that can negatively impact search rankings.

Core Web Vitals:

Optimizing TTFB, LCP, and INP is crucial for top search rankings, but often requires dynamic content capabilities working in concert with your CDN.

Proven Results

Average Page Load Latency	< 50 ms
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Increase in Bot Crawl Rate	400%
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Average reduction in time to LCP	50ms
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Increase in Origin Offload	58% → 90%
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Performance Enhancement Strategies

HarperDB combines an API, In-Memory Cache, and High-Performance Database into a single package, delivering unmatched low latency, security, and value to your application. We then distribute and synchronize your applications and data close to every user, further improving latency and delivering unparalleled resiliency.

Most digital commerce customers encounter similar challenges as they scale, so Harper has created several open-source components that serve as starting points for site optimization. Our team of solution architects can work with you to select, configure, and deploy any number of these components to meet your performance goals, or you can clone and extend them yourself:

Early Hints

Improving core web vitals (CWV) by returning partial responses that outline assets to be downloaded before the page's HTML. Assets that benefit from early hints include hero images to help with LCP (Largest Contentful Paint) and other static assets such as CSS and JS files. The solution works seamlessly with your CDN to ensure the lowest possible latency, no matter how extensive your product catalog may be.

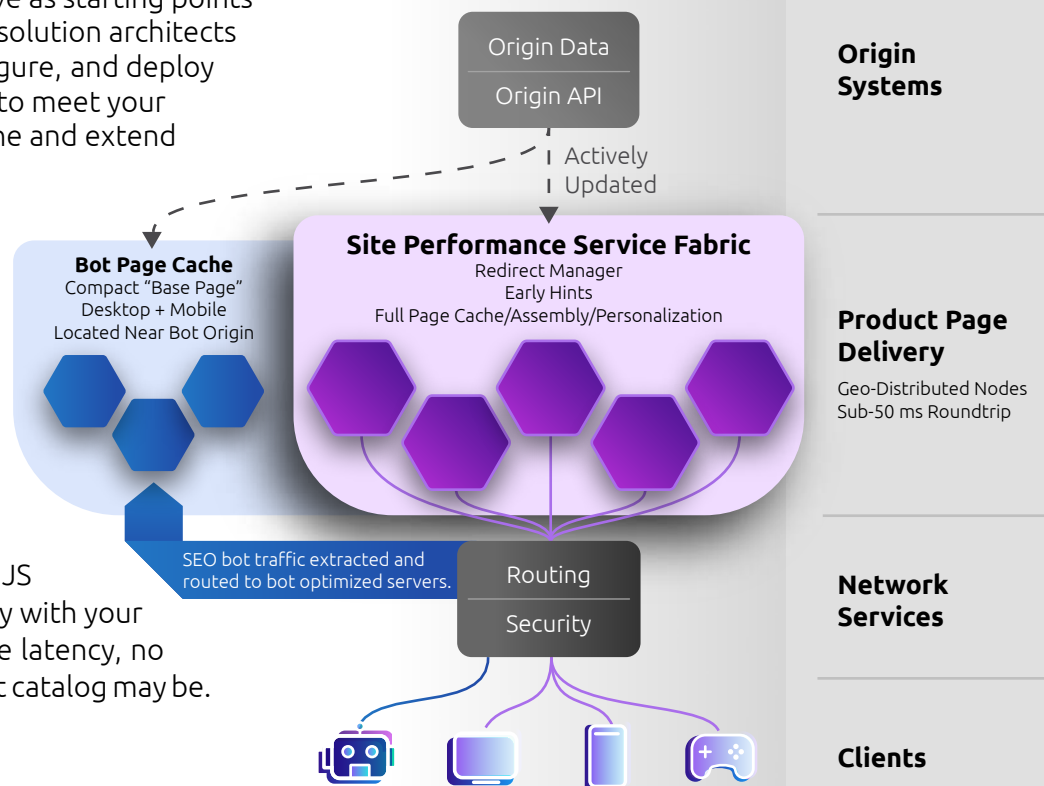
Redirect Management

Frequent page and URL updates are all too common. As URLs shift, redirect chains can lengthen, significantly slowing page load times. HarperDB overcomes this challenge with submillisecond redirect lookups at the front edge of an SEO Service Fabric, getting customers to the right page without delay.

SEO Bot Page Caching

Search engine bots with limited crawl budgets can struggle to index everything for vast, ever-changing product catalogs. To accelerate indexing, HarperDB can identify SEO bot traffic and deliver an optimized "base page" that takes less time to deliver and less time to crawl. By leveraging this targeted approach, companies have seen crawl rates increase by as much as 400%.

Reference Architecture



Full Page Delivery

Extending the SEO Bot Page Caching use case, HarperDB can deliver those same compiled pages to all users- especially important when extremely large catalogs exceed CDN limitations. HarperDB can also build pages at the edge, with personalization and dynamic content such as pricing and recommendations — using popular NodeJS frameworks like NextJS.

Edge DR (Disaster Recovery)

HarperDB's distributed nature offers massive redundancy. As such, using our platform for Full Page Delivery (either origin-compiled or edge-assembled) also provides you a turn-key solution if your origin experiences an outage, ensuring customers can still navigate your catalog while you get things back up and running.

Get Started

Contact HarperDB today to discuss your website performance challenges with a Distributed Systems Architect for tailored recommendations.

Contact Sales at
hello@harperdb.io.

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