

Strangeloop Site Optimizer™

Companies looking for a fast, scalable, cost-effective solution for accelerating their website's performance pick the Strangeloop Site Optimizer.

There are dozens of best practices and rules for optimizing web performance. The Site Optimizer – which is available as a service, virtual appliance, and hardware appliance – automatically applies these performance rules across your website or web application, delivering faster page-load times. Immediately.

The results: happier users, increased conversions, higher revenues, improved search engine results, and more productive employees. And in-house, your development team can return to focusing on building new features rather than endlessly optimizing your website's code.

“Speed is the next competitive advantage.”

Steve Souders,
performance evangelist

Research Findings



Industry leaders have demonstrated the impact of web performance on business value:

RESEARCH TEAM	BETTER WEB PERFORMANCE RESULTS IN
Google	2 X increased productivity ¹
Shopzilla	12% increase in revenue; 25% increase in page views for every 5 seconds of gain ²
AOL	2 X more page views for fastest customers ³
Microsoft Bing	5% more revenue per user for every 2 seconds of improvement ⁴
Amazon	1% more revenue for every 100 milliseconds of improvement ⁵
Yahoo	9% more traffic for every 400 milliseconds of improvement ⁶

References:

¹<http://assets.en.oreilly.com/1/event/29/Keynote%20Presentation%202.pdf>

²<http://en.oreilly.com/velocity2009/public/schedule/detail/7709>

³<http://en.oreilly.com/velocity2009/public/schedule/detail/7579>

⁴<http://en.oreilly.com/velocity2009/public/schedule/detail/8523>

⁵<http://sites.google.com/site/glinden/Home/StanfordDataMining.2006-11-28.ppt>

⁶<http://www.slideshare.net/stoyan/yslow-20-presentation>

CASE STUDY >

AutoAnything.com Substantially Increases Conversions and Reduces High Monthly CDN Costs

With a hand-picked team of internet professionals with an affinity for all things automotive, AutoAnything is one of the top, online sources for purchasing auto accessories.

GOALS

AutoAnything had two key goals when implementing Site Optimizer:

- **Increase Conversion Rates**
Ecommerce transactions account for a large portion of the company's revenues. AutoAnything needed to deliver high performance to encourage online purchases.
- **Deliver Superior Customer Experience**
AutoAnything wanted to make sure that its customers enjoyed a superior online shopping experience, especially returning customers.

RESULTS

Site Optimizer enabled the website to deliver a significantly improved visitor experience, resulting in lower abandonment rates, higher conversion rates, and larger purchases.

Site Optimizer also allowed AutoAnything to reduce the recurring monthly expense of the CDN service they subscribed to.

"We improved our download speed by 50%, which not only resulted in a better conversion rate of 9% but also increased our cart size by 6%, both of which have directly impacted our bottom line in a very short timeframe."

Parag Patel, CTO, AutoAnything

How the Strangeloop Site Optimizer Solves Six Key Performance Bottlenecks

1 Websites are increasingly complex

In 1995, the average web page contained just 2 objects. That meant just 2 calls to whatever data centers were serving the site. Today, the average web page contains a whopping 75 objects. That means 75 server round trips are required to download all of the resources (Javascript, CSS, images, etc.) to the browser.

Solution Site Optimizer reduces the number of roundtrips by combining multiple resources into a single consolidated roundtrip, significantly reducing the total number of HTTP requests necessary to render a webpage

2 Web pages are increasingly huge

In 1995, the average page size was a lean 14k. Today, the average page size is a bloated 498k. A web page renders properly only after all its components have been downloaded. When large pages meet limited bandwidth, download times suffer and page performance decreases.

Solution Site Optimizer enhances web page performance by using a number of payload reduction techniques, optimized for each request based on web development platform, browser type, and page structure.

3 Web pages are not optimized for repeat views or flows through sites

Successful web applications attract repeat users who visit favorite web pages or navigate consistently through a series of web pages. However, most websites do not take advantage of this behavior and serve the same resource to the client over and over as they come back to the site.

Solution Site Optimizer deploys a number of advanced techniques that optimize repeat views for users and targets the acceleration of page flows through a website, ensuring that a user never gets the same resource twice and guaranteeing that stale resources are never served to user.

4 Lack of browser standards

Browser manufacturers have a vested interest in keeping their products differentiated, adding proprietary features instead of obeying standards. As a result, each browser has its own preference as to how it consumes and displays pages. In an ideal world, a website's server environment would generate a unique version of each page of its site, optimized to suit the particularities of each individual browser. However, given the sheer volume of pages and the ever-shifting browser landscape, this is an enormous undertaking.

Solution Site Optimizer arranges each page's resources optimally for each browser type, without affecting the functionality of the page.

5 Browsers are idle during valuable server think time

While waiting for servers to generate web pages, browsers are idle and blocked from downloading the resources for that page. When increased server loads increase server think time, browsers have to wait even longer.

Solution While the server is thinking, Site Optimizer does two things. It offloads servers to allow faster web page generation, and it enables the web client to download each page's resources before the server has generated the HTML. As a result, it dramatically improves the time it takes a browser to render a web page.

6 Browsers are idle during valuable user think time

The time a user spends viewing a web page is wasted time that could be spent delivering resources to the user's browser to enable subsequent pages to load more quickly.

Solution Site Optimizer tracks and analyzes your visitors' behavior patterns. Using this data, it can predict which pages visitors are most likely to want to see next, based on the page they are currently on. Site Optimizer automatically pushes the resources – images, Javascript, CSS etc. – for these pages to the visitor's browser to have waiting on standby before the visitor clicks to see the page. The result: instantaneous page load.

Strangeloop + CDN + ADC = Maximum Acceleration

The days of single-solution implementations are history for any company that wants to take on the 2-second page load challenge and win.

Site Optimizer works in conjunction with other acceleration solutions, such as content delivery networks and application delivery controllers, to compound performance optimization.

Together, Strangeloop, your CDN and your network devices deliver a one-two-three punch that dramatically reduces payload and page load time.

Total Savings

Unaccelerated

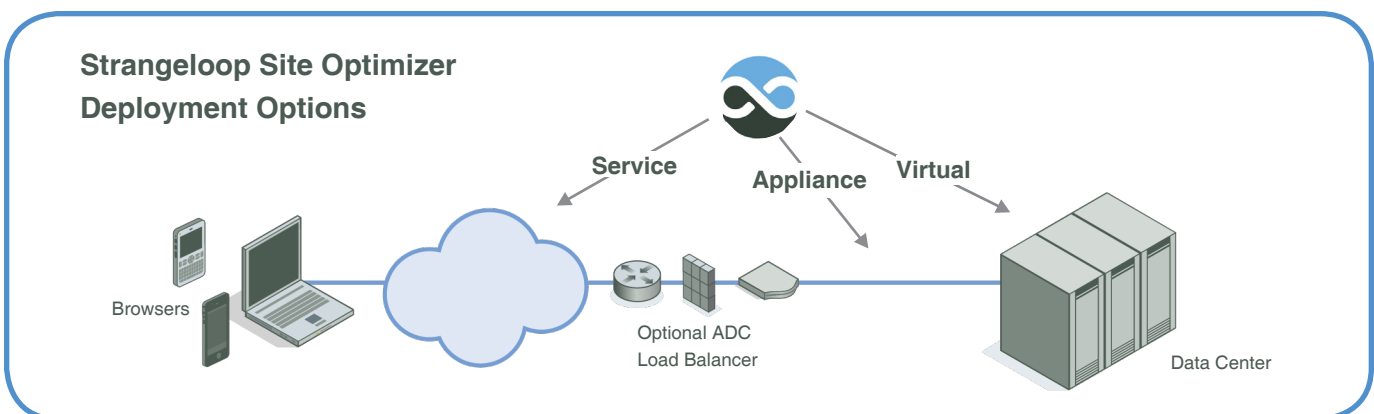
Number of Requests (roundtrips) = 63
 Payload = 769 KB
 Page Load Time = 9.5 s

CDN + ADC Only

Number of Requests (roundtrips) = 63
 Payload = 769 KB
 Page Load Time = 6.2 s

Strangeloop + CDN + ADC

Number of Requests (roundtrips) = 9
 Payload = 456 KB
 Page Load Time = 2.8 s



APPLICATION ACCELERATION TREATMENTS

TREATMENT	DESCRIPTION	BENEFIT
Dynamic Browser Caching		
Browser Cache Expiry/ Invalidation	Leverages the browser cache by eliminating unnecessary requests for content and resource validation while ensuring content is kept current.	Improves repeat view performance / reduces roundtrips
Predictive Browser Cache	Intelligently pre-loads the resources that will be needed on subsequent pages.	Improves performance as a user navigates a website
Dynamic Output Cache		
Output Cache	Caches a high percentage of data from dynamic websites while maintaining proper application behavior.	Reduces server load
Dynamic Connection Maximizer		
Connection Maximizer	Enables a browser to open more concurrent connections to the website.	Accelerate page render time
Dynamic Resource Consolidation		
CSS Consolidation	Consolidates all CSS resources into a single file.	Reduces roundtrips
JavaScript Consolidation	Intelligently consolidates JavaScripts together.	Reduces roundtrips
Image Consolidation	Combines images together into sprites or image cabinets.	Reduces roundtrips
Landing Page Consolidation	Provides resource in-lining for webpages that a user initially "lands" on as they traverse through an application.	Reduces roundtrips
Rapid Rendering		
Deferred Script Loader	Delays execution of non-critical scripts until the rest of the webpage has loaded and rendered on the browser.	Accelerate page render time
Response Headstart	Enables the browser to start downloading webpage resources while the server generates the HTML page.	Hides server wait time / Accelerate page render time
Payload Reduction		
Data Compression	Compresses scripts, CSS, HTML etc.	Reduces payload
Image Compression	Compresses images.	Reduces payload
ASP.NET Viewstate	Transparently removes and re-inserts, Viewstate data in ASP.NET pages (where applicable).	Reduces payload

ADDITIONAL FEATURES

FEATURE	BENEFIT
Powerful Web-based Management Interface	Provides one touch software upgrades; profile based configuration; and full diagnostics and alerting.
Dynamic Segmentation Platform	Provides direct integration with leading analytics tools to continually correlate the business impact of performance-optimized pages with key performance indicators.
Visibility	Provides real-time reporting on optimization and website performance.
Protocol Optimization	Ensures optimal delivery of Web pages and resources by tuning TCP connections and HTTP request/response flows.
Flexible High Availability	Enables redundant configurations and full fault tolerance in all deployments.
SSL Acceleration	Offloads CPU-intensive cryptographic tasks from the server by terminating and decrypting all SSL connections. SSL re-encryption is available for back-end security.
Server Load Balancing	Provides support for multiple redundant server pools, a variety of load balancing algorithms, server health checking, various session persistence algorithms and graceful de-activation of servers.

TECHNICAL SPECIFICATIONS

The Strangeloop Site Optimizer appliance and virtual are available in three different models based on traffic demands*:

	Site Optimizer 1500	Site Optimizer 2500	Site Optimizer 5000
High Availability	No	Yes	Yes
Pages Per Second	0 - 5	6 - 100	100 - 500
Number of Web Applications	1	12	24
RAM	4 GB	16 GB	32 GB
CPU	1 Quad	1 Quad	2 Quads

*Specifications vary by application requirements and are subject to change. Talk to a Strangeloop representative for the latest specifications.