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MAXIMIZING ROI FROM AKAMAI ION
USING BLUE TRIANGLE TECHNOLOGIES

FOR NEW AND EXISTING ECOMMERCE CUSTOMERS CONSIDERING ION

CONTENTS

EXECUTIVE SUMMARY

Akamai and Blue Triangle are working together to help eCommerce customers receive optimal value from their investments in the area of web performance. While Akamai Ion can help significantly improve the performance of your digital properties, there is often the need to understand how much value is being received and how to increase your returns.

Blue Triangle's software allows you to validate and quantify your ROI from Ion and will help you maximize your performance investments on an ongoing basis. Whether you are making improvements by fine tuning Ion's various performance-enhancing capabilities or implementing changes to your website that impacts page speed, you can use Blue Triangle to continually direct and optimize these investments in an accurate and actionable manner. Many Akamai customers attest that Blue Triangle's solution has provided them with high returns.

- In considering an investment in Ion, Blue Triangle analytics can show you the increase in revenue and conversions that you should expect to receive.

- When making configuration changes to Ion, Blue Triangle's solution allows you to measure the business and performance impact of each change you make to your Ion setup.

During and after your Ion implementation, Blue Triangle can provide rapid feedback to businesses and development teams – providing meaningful data to help them measure the business impacts of each configuration change so that sales and website usage are maximized.

THE CUSTOMER SITUATION

For businesses in verticals such as eCommerce, Travel, Hospitality, Video Entertainment, Gaming, and Online Banking, sales suffer when shoppers have a slow website experience. Solutions such as Akamai Ion can help accelerate sites and drive up revenue, and the business case for Akamai Ion is strongest when website owners are able to demonstrate a quantifiable return on investment (ROI) before implementation. Therefore, constant validation of these types of implementations is essential and can help measure the revenue opportunity that a performance investment has on their business.

The chart on the following page shows how conversion rates drop as page load times increase for two different online retailers. Notice how the behavior of each site varies. While every site has an opportunity to increase sales by improving performance, each page within a site reacts differently to changes in page load time. Blue Triangle has analyzed billions of real-user interactions and has observed large variations in conversion rate and sales sensitivity that occurs as page response time changes.

Conversion Rate by Page Response Time for Product Detail Page

SITE 2 CONV. RATE
6.3% at 3.5 seconds

SITE 1 CONV. RATE
4.4% at 3.5 seconds

CONVERSION RATE

12%
9%
6%
3%
0%

Page Speed

3   4   5   6

From 2015/9/3, 12AM to 2015/9/9, 11:59PM

Site 1   Conversion Rate   Site 2   Conversion Rate 2

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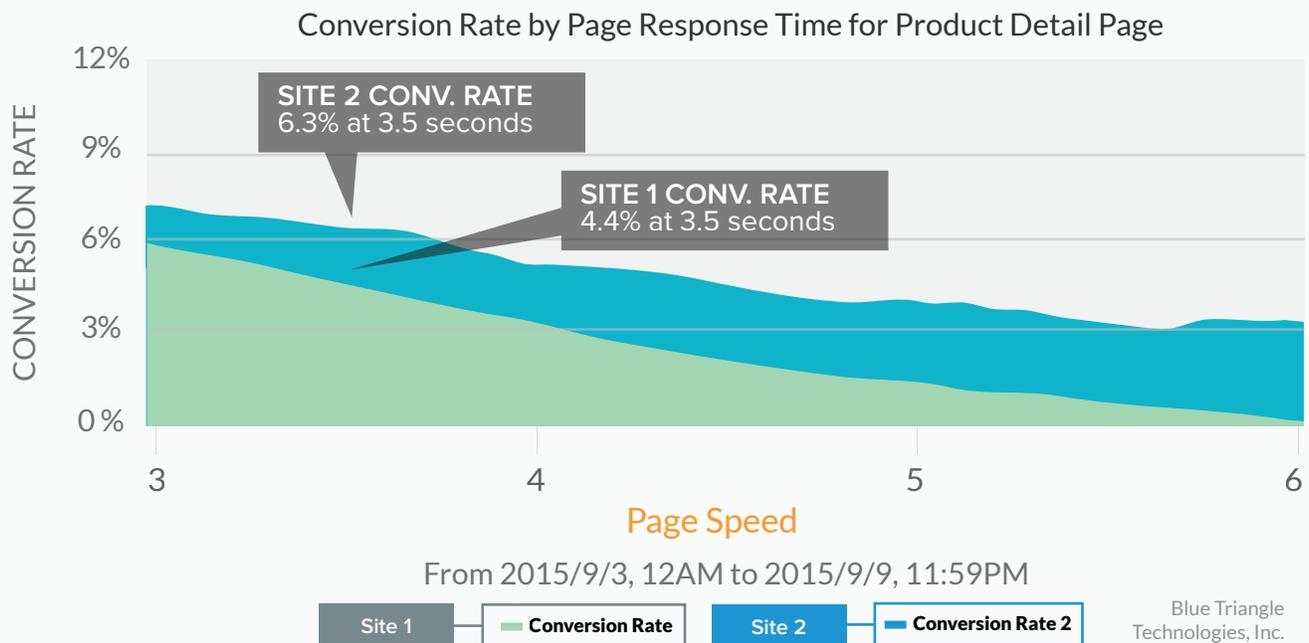
Akamai Ion is a powerful web performance solution with many features that can improve the speed of your web pages. Considering there are multiple ways to configure your site, it is important to understand the impact these adjustments have. This creates the need to be able to predict and measure how conversions and revenue are impacted by incremental changes to your Ion configuration. When doing business online, Ion customers have an opportunity to extract a tremendous amount of value made available to them by strategically optimizing their configurations and continually managing them.

HOW BLUE TRIANGLE IS UTILIZED TO INCREASE REVENUE

Measurements and Predictive Analytics

The previous chart is an example of how Blue Triangle is used to quantify the impact Akamai has on increasing revenues. Blue Triangle's software collects data from your website to show actual conversions and revenue being received in real time for all page speeds that users are experiencing. Then, the software shows your data in an easily filterable format, allowing you to predict the conversion and revenue impact of changes made to every page of your website. Knowing precisely how much and where speed matters on your site allows you to improve user experience and revenue while providing constant validation of your Akamai investment. Blue Triangle is the missing link that connects website performance to business value.

With Blue Triangle's unique website analysis solution, you can:

- Precisely measure the performance of each of your pages for every user and correlate this with your sales, conversion rates, and bounce rates.

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- Easily view the revenue impact of all changes you make to your website on a page-by-page basis.

- Filter and measure the correlation of your page speed to revenue, conversion rates, and bounce rates by time, traffic volume, device, operating system, and geography. Understand how each referral source (paid ad, organic search, etc) is influenced by performance by filtering by traffic type.

Blue Triangle's Real User Monitoring (RUM) and Synthetic Monitoring

- Expand your ability to measure performance and troubleshoot your webpages so you can continually optimize your site.

- Drill down to the root cause of performance issues and be alerted the second a problem occurs on your site that can impact performance and sales.

- Utilizing both forms of monitoring eliminates the need for scripting and reduces overhead costs.

THE BUSINESS CASE FOR ION: CUSTOMER EXAMPLES

Below, you will see real life examples of the performance and business benefits gained by Akamai Ion customers who use Blue Triangle.

In each example, companies doing business online were looking to either justify their budget for enhanced performance capabilities from Akamai or were confirming the optimal Akamai setting that provided them with the greatest revenue gain. Blue Triangle's solution is used throughout the year to help customers continually measure the performance-to-conversion impact of new features, new content changes, and new Akamai technology options.

Use Case: Upgrading to Ion and Improving Conversion Rate by 31%

Customer Challenge:
A women's clothing retailer had Akamai DSA technology in place, but was looking to justify the cost of upgrading to Akamai's latest generation web performance solution, Ion.

Actions Taken:
The retailer had Blue Triangle measure the before and after results of using Akamai Ion and compared the performance-to-conversion relationship.

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Results:

They found that their 15-day conversion rate increased by 31% and their revenue per visitor improved by $0.86. Additionally, the retailer's page response time was nearly 14% faster after Ion implementation.

ROI:

Based on the cost of upgrading from DSA to Ion, the payback ROI was within 30 days.

	Pre - Ion	Post - Ion	% Change	Post minus Pre
Page Response Time (On Top 5 Improved Pages)	2.64 sec	1.874 sec	-28.86%	-0.77sec
Revenue Per Visitor	$3.31	$4.17	26.00%	$0.86
Conversion Rate	2.42%	3.17%	31.00%	0.75%
Sales	$2.07M	$3.57M	71.90%	**$1.49M**

The chart below is a key component of Blue Triangle's dashboard and shows the correlation between page load time and conversion rates. The shaded portions of the graph represent the site's traffic volume before and after Ion, and the two lines represent the site's pre and post-Ion conversion rate curves.

Pre-Ion vs Post-Ion: Conversion Rate and Traffic Volume

From 2015-04-27, 00:00 **to** 2015-05-11, 23:59, EST (-05:00)
Women's Clothing Retailer

PRE-Ion — Traffic Volume — Conversion Rate   POST-Ion — Traffic Volume — Conversion Rate
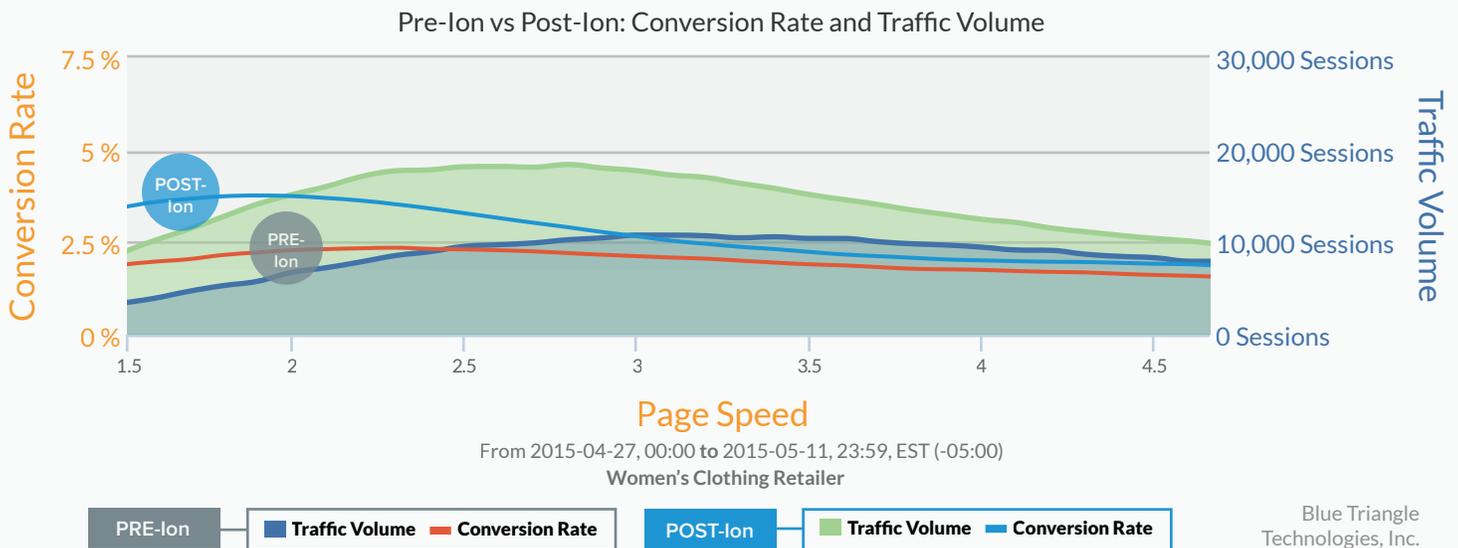
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Use Case: Implementing Ion for Mobile and Tablet Sites – 36% Page Speed Improvement

Customer Challenge:
One of the world's largest sporting goods retailers was looking to grow their mobile business but needed to justify Akamai Ion's cost before implementing it for their mobile website. They were using a 3rd party to host their mobile and tablet sites, but didn't have a CDN in place.

Action Taken:
Suspecting that a faster site would improve sales, the customer engaged with Akamai for a web performance solution. The company then implemented Akamai Ion for their mobile site and began using Blue Triangle at the same time.

Results:
Blue Triangle's real user performance analytics data showed that in just two weeks their overall conversion rate improved by 13.10% and sales increased 9.51% with faster performance.

Blue Triangle's Revenue Calculator, which predicts the sales impact of performance changes, was 97% accurate in forecasting the site's monthly revenue growth from Akamai speed-ups. These predictive analytics allowed for the retailer to have a quantifiable business case for performance investments.

ROI:
Based on the cost of a new Ion contract for their mobile site, the payback was inside 4 months.

Check out the impact Ion had on the mobile site's business and performance metrics:

	Pre - Ion	Post - Ion	% Change	Post minus Pre
Page Response Time (On Top 5 Improved Pages)	5.61 sec	3.33 sec	-36.00%	-2.28 sec
Revenue Per Visitor	$0.73	$0.83	13.70%	$0.10
Conversion Rate	0.84%	0.95%	13.10%	0.11%
Sales	$3.26M	$3.57M	9.51%	**$0.31M**

Pre-Ion vs Post-Ion: Conversion Rate and Traffic Volume for Product Detail Page

Seconds for Page to Load From 2015-04-27, 00:00 to 2015-05-11, 23:59, EST (-05:00)
Sporting Goods Retailer

| PRE-Ion | Traffic Volume | Conversion Rate | POST-Ion | Traffic Volume 2 | Conversion Rate 2 | Blue Triangle Technologies, Inc. |
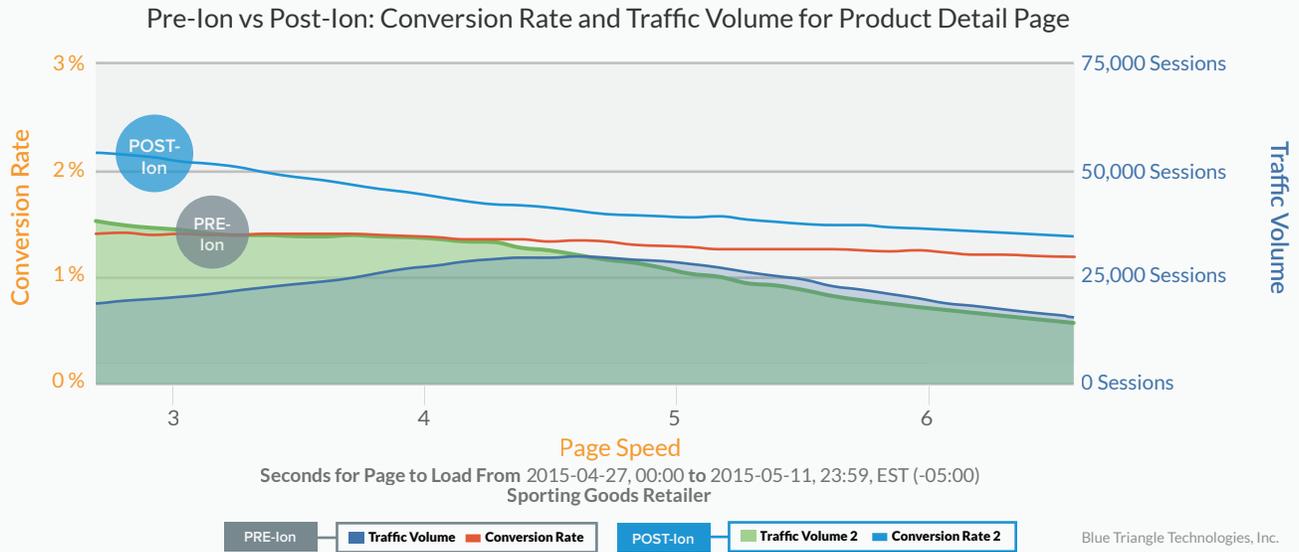
Use Case: Switching from Competitor to Ion – 10% Sales Improvement

Customer Challenge:
An outerwear retailer wanted a more reliable and faster CDN, but needed to justify the increased cost for the added benefits.

Action Taken:
The retailer implemented a proof of concept of Blue Triangle's real-user performance analytics solution to establish a baseline with their current CDN provider. Then, they implemented Akamai Ion and had Blue Triangle experts provide a differential report that measured the performance and conversion changes in order to justify the cost.

Results:
The Blue Triangle data confirmed the enhanced speed that Akamai Ion provides increased conversion rates and sales.

Blue Triangle's Revenue Calculator was 90% accurate in predicting the company's two-week revenue growth from performance improvements.

ROI:
For this outerwear retailer, the payback ROI was inside 30 days.

	Pre - ION	Post - ION	% Change	Post minus Pre
Page Response Time (On Top 5 Improved Pages)	9.81 sec	8.85 sec	-9.80%	-0.96 sec
Conversions	10.02K	20.53K	104.89%	10.51K
Conversion Rate	1.70%	2.26%	32.94%	0.56%
Sales	$2.71M	$3.18M	17.42%	**$472K**

Pre-Ion vs Post-Ion: Conversion Rate and Traffic Volume for Product Detail Page

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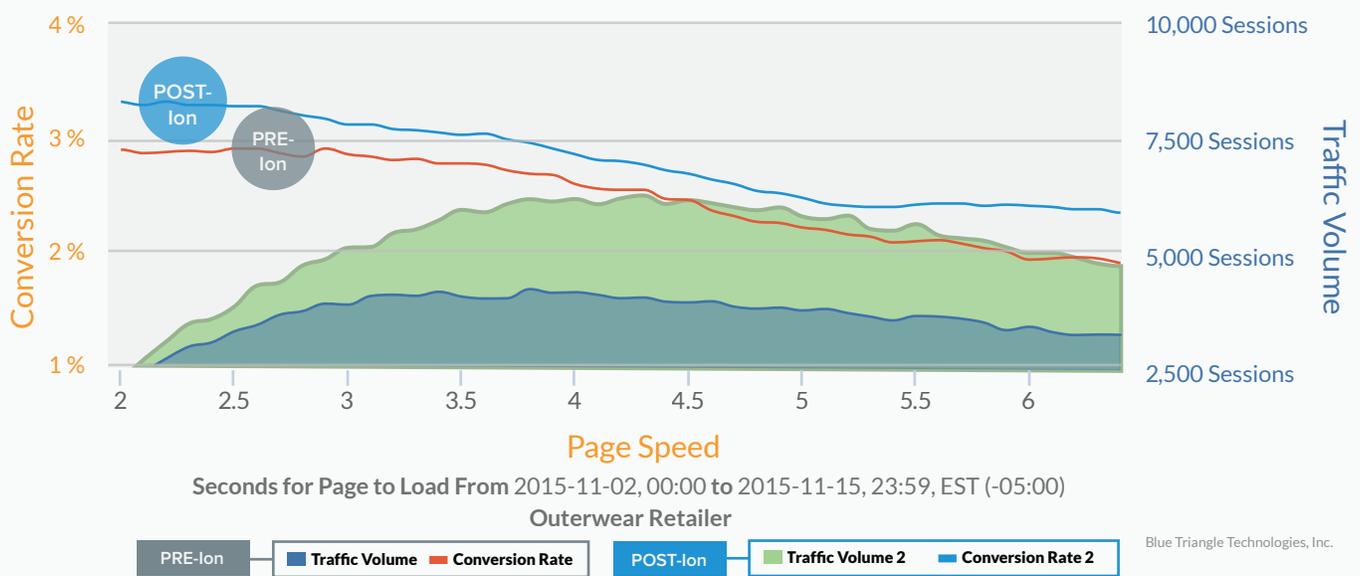
Use Case: Existing Akamai Customer Validating Ion with A-B Testing

Customer Challenge:
The client wanted a crystal clear business case to justify the ongoing cost of Akamai Ion.

Action Taken:
The customer's performance team conducted an A-B test, setting a cookie to divert half of their traffic to Ion-implemented pages and the other half to non-CDN-treated pages. The customer used Blue Triangle to measure both traffic segments simultaneously and report on the differences in conversion rate, revenue, and performance to justify their investment in Akamai with executive management.

Results:
By using Blue Triangle to measure their A-B test, the retailer was able to fully validate their investment in Akamai Ion – a potential $21,600 weekly increase if all traffic was diverted to the Ion-treated site.

ROI:

Based on the cost of a new Ion contract, the payback was inside 4 months.

	No Ion	Ion	% Change	Post minus Pre
Page Response Time	4.56 sec (desktop) 6.76 sec (mobile)	4.25 sec (desktop) 5.92 sec (mobile)	-6.80% (desktop) -12.43% (mobile)	0.31 sec (desktop) 0.84 sec (mobile)
Conversions	2,410	2,691	11.66%	281
Conversion Rate	1.75%	1.85%	5.71%	0.10%
Sales	$135,270	$146,078	7.99%	**$10,808**

No Ion vs Ion A-B Test: Conversion Rate and Traffic Volume for Product Detail Page

Conversion Rate

4 %
3 %
2 %
1 %

Ion

NO Ion

1   1.5   2   2.5   3   3.5   4

Page Speed
Seconds for Page to Load From
2015-12-09, 00:00 to 2015-12-15, 23:59, EST (-05:00)
Clothing Retailer

20,000 Sessions
15,000 Sessions
10,000 Sessions
5,000 Sessions

Traffic Volume

| NO Ion | ■ Traffic Volume | ■ Conversion Rate | | Ion | ■ Traffic Volume 2 | ■ Conversion Rate 2 |

Blue Triangle Technologies, Inc.
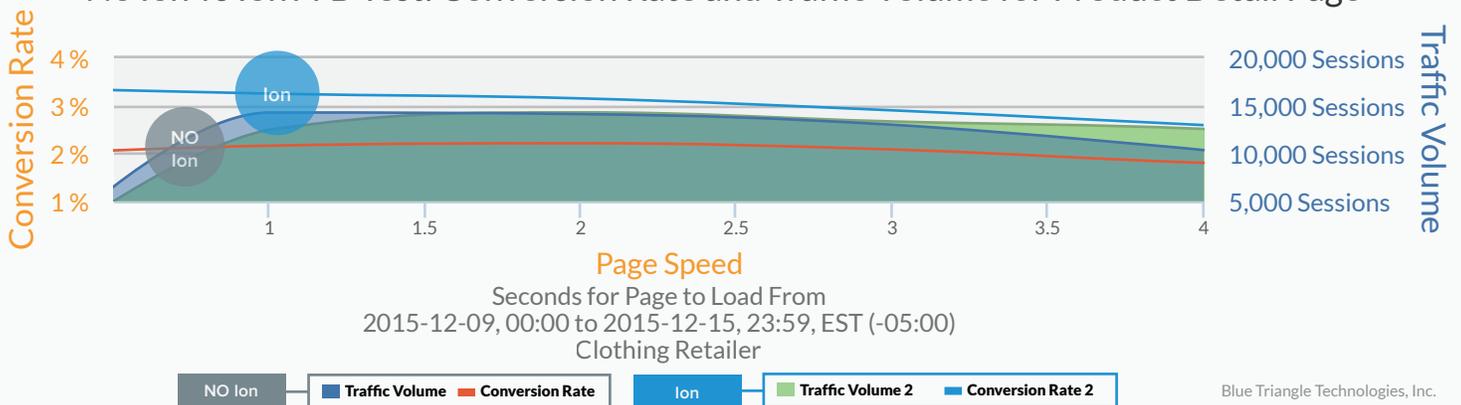
MEASURING THE SUCCESS OF ONGOING AKAMAI OPTIMIZATION TREATMENTS

As you explore various Akamai optimization solutions throughout the year, Blue Triangle can measure the specific ROI of these to help you measure success. Blue Triangle's solution collects and analyzes actionable data that can help you make various incremental improvements – inevitably increasing your revenue and improving user experience.

Here's how Blue Triangle can help.

Optimize Akamai's Image Treatments

Use Case: Adaptive Image Compression (AIC)

Customer Challenge:
A large national retailer generating over $2 billion in online sales annually was looking to reduce their site's

full page load time by using Akamai's Adaptive Image Compression (AIC), but needed to determine what the optimal compression levels were. Adaptive Image Compression allows companies to adjust between predetermined compression levels for images, depending on the quality of the network connection.

Action Taken:
When Ion's AIC treatments occurred in production, Blue Triangle measured the relationship that page speed had on conversion rates for specific pages.

Results:
The retailer found that while performance improved significantly with image compression, conversion rates dropped because the compression rate was too high. From here, they used Blue Triangle's exclusive analysis to continually monitor and fine-tune Akamai's AIC optimizations on a page-by-page level to support revenue improvements rather than just performance improvements. Every site must consider the business value of web performance before adjustments are made.

Pre-Optimized AIC vs Post-Optimized AIC: Conversion Rate for Product Detail Page

Conversion Rate

- 8 %
  - POST-OAIC
- 6 %
  - PRE-OAIC
- 4 %

3.5 | 4 | 4.5 | 5 | 5.5 | 6 | 6.5 | 7

Page Speed

Seconds for Page to Load From 2015-10-11, 00:00 **to** 2015-10-17, 23:59, EST (-05:00)
Large National Retailer

| PRE-OPTIMIZED AIC | ▬ **Conversion Rate** | PRE-OPTIMIZED AIC | ▬ **Conversion Rate 2** | Blue Triangle Technologies, Inc. |
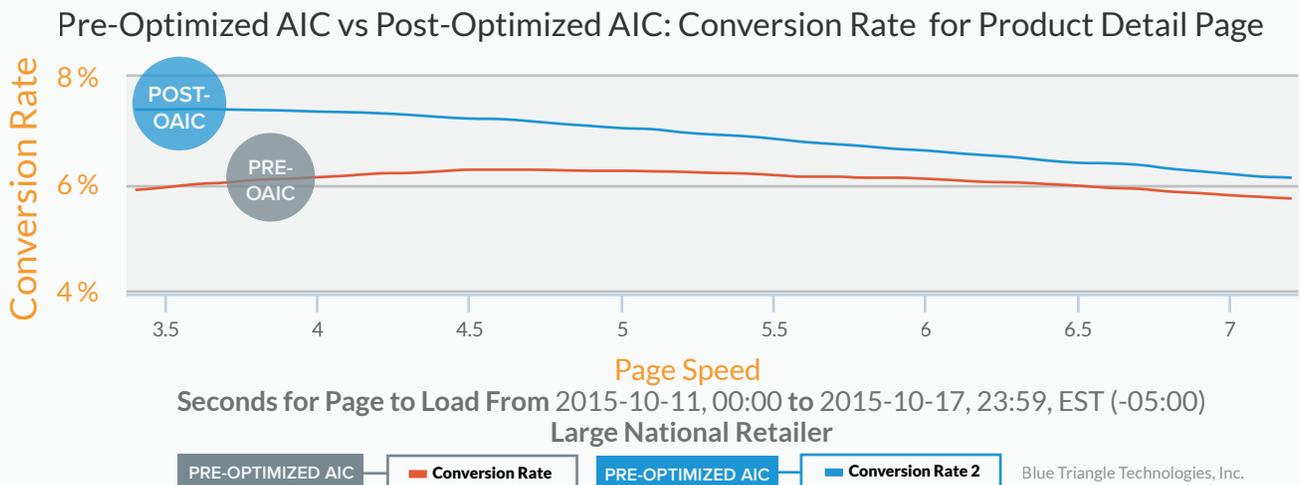
Image Optimizations – One Key to Optimizing Sites for Business

In addition to Adaptive Image Compression, Akamai offers capabilities to help companies establish and maintain control over their image creation, deployment and delivery options. Organizations seeking the greatest return on their investment should consider these features, and decide which are most aligned to their business goals.
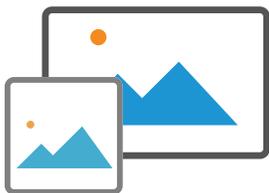
Image Converter: While your users may demand rich images, these can come at a cost to page load time and directly impact your revenue. Akamai's Image Converter provides the means to do real-time image transformation at the time of delivery to match end-user requirements with image size, compression, file format, and other options. With Blue Triangle, you will know exactly how users on each device respond

to changes in image quality and sizing. This will allow you to use Akamai's Image Converter to its highest potential – constantly optimizing images for every type of experience and growing revenue at the same time.
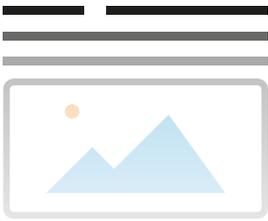
On Demand Image Loading: Having your images load within a user's browser as he or she scrolls through a page can help decrease load time - and this capability is available in Akamai Ion. Blue Triangle can show you how this treatment is impacting revenue on every page. For example, On Demand Image Loading may improve conversions on the Category page, but could decrease engagement on the Home page. Blue Triangle data can help you optimize image optimizations, using them together holistically, in order to boost engagement and sales.

Maximize Akamai Ion's Client-Side Optimizations

Customer Challenge:
Once you have Akamai Ion in pace, there are many client-side optimizations, or front-end optimizations, that can be utilized for specific connectivity situations to maximize performance. Being able to measure the business impact and not just the performance impact can prove to be very difficult.

Action to Take:
Companies with Blue Triangle can analyze and optimize their pages all year long as part of their overall business analytics and performance management strategy.

Every browser, device, and network behaves differently. Therefore, it is important to continually monitor the behavior of every type of user so you can customize your client-side optimization – providing the fastest experience possible for everyone. Blue Triangle's real user monitoring capabilities breaks down every visitor by operating system, net speed, browser, device, referral source, and geography to give you unparalleled analytics that will help you tune your configuration and maximize your investment in Akamai Ion.

Es

Akamai EdgeStart: Certain page elements can negatively impact your page load time. By coupling Akamai's EdgeStart and Blue Triangle's Object Level Detail Trending data, you can decide which resources should be prioritized in the loading sequence based on their individual load times and importance to user experience – providing a necessary drill-down approach to your performance monitoring.

Object Level Detail Over Time By Domain for Category Page

Domain: facebook.com
Total Average Time: 0.127 seconds
File Count: 335297

Legend:
- Avg On Load
- Avg DOM Content Loaded
- Avg Time To DOM Interactive

2015-12-08, 11:00 to 2015-12-11, 10:59, EST (-05:00)
Clothing Retailer

Blue Triangle Technologies, Inc.
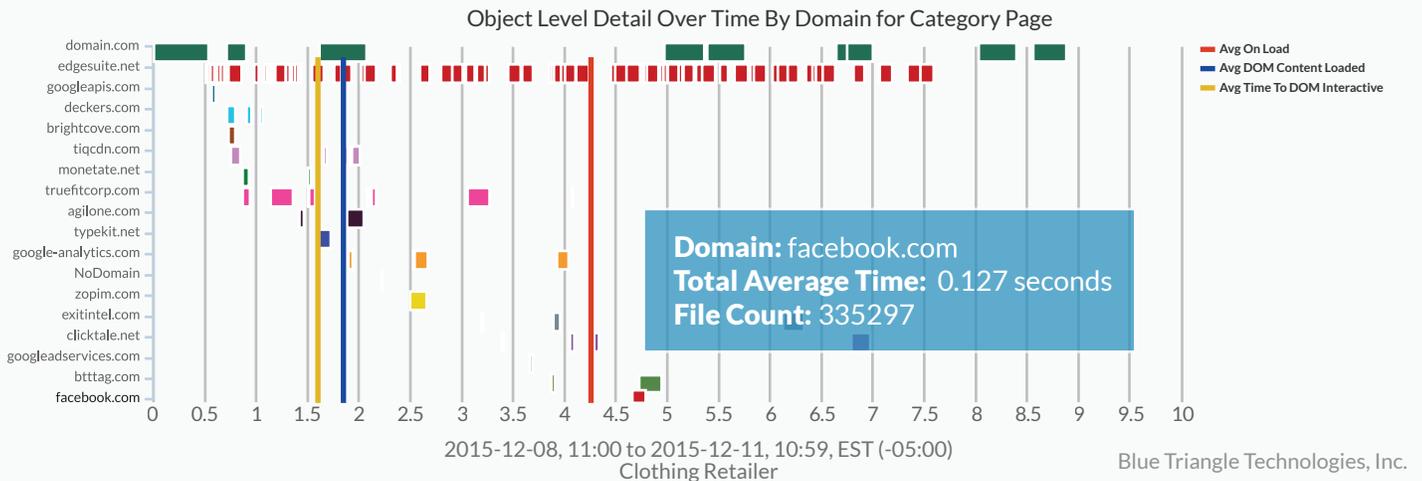
Akamai Page Prefetching: Blue Triangle can help optimize your investments by showing you which pages may benefit from prefetching and which may not. By looking at how much conversion rates are impacted by site performance on a page-by-page basis, you can effectively improve user experience and increase sales by loading pages before they are even clicked on. For example, say your traffic is more sensitive to page speed on your Clearance and Category pages than your Product Detail pages. Using this exclusive data from Blue Triangle, you would then be able to direct your prefetching to focus on the pages that need performance improvements rather than those that do not.
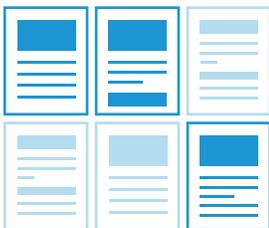
Akamai JavaScript Pre-Execution: Akamai's FEO capabilities can optimize the processing of JavaScript on mobile devices by executing much of it ahead of time and then providing a mostly static page. Utilize Blue Triangle's unique monitoring capabilities to know precisely which JavaScript pages are impacting mobile experience and which of these pages have load times that are impacting your site's revenue. From here, you can pre-execute the pages that need it most.
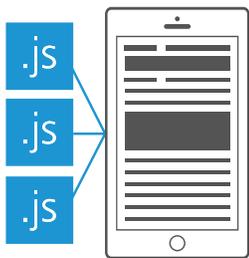
Akamai Advanced Offload: Akamai features advanced caching capabilities, including the ability to dynamically cache pages based on specific audience segments. Pages can be cached based on variables such as request path, query strings, cookies, and request headers. You can use this capability to improve user experience and increase revenue in a variety of ways. If Blue Triangle discovers that certain user-types are at risk of not converting on a certain page, you can easily cache
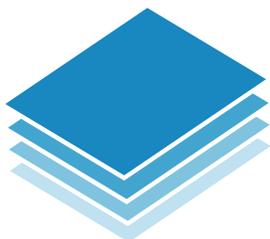
that page based on a specific variable that "saves" this user from having a slow experience. This decreases shopper abandonment and increases engagement.
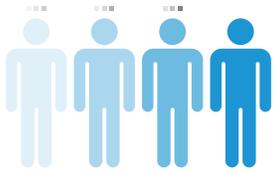
Akamai Visitor Prioritization Cloudlet: Akamai offers discrete business logic "modules" known as Cloudlets. These Cloudlets can be quickly and easily configured to provide additional functionality to specific use cases, such as those frequently needed by eCommerce shops. For instance, the Visitor Prioritization Cloudlet provides a waiting room experience for non-priority users. Blue Triangle can show you exactly what your site's highest and lowest converting user demographics are so you can prioritize who is allowed to engage with your site first in the event of a large surge in traffic. Actionable data like this maximizes sales during times like these.

CONCLUSION

Blue Triangle has helped some of the largest internet retailers grow their revenue by connecting business value to web performance. Their real user monitoring solution allows retailers to measure the success of any code or feature change, see the performance of every 3rd party tag, and maximize various optimization functions that a top CDN provider like Akamai offers.

Maximize your Akamai Ion investment and grow your revenue using Blue Triangle Technologies. To get started, speak with your Akamai representative or contact Blue Triangle today:

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