



THE BUSINESS CASE FOR CHOOSING A CDN: SHOULD YOU RENEW OR CHANGE PROVIDER?

BLUE TRIANGLE PREDICTS AND QUANTIFIES
THE BUSINESS IMPACT OF WEB PERFORMANCE

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EXECUTIVE SUMMARY

Content delivery networks (CDNs) claim to provide your customers with a faster experience and suggest that investment in better performance has a strong return. Considering the high cost of a CDN, there are a few questions that should be raised: How do you choose a CDN? What is your success criteria? Do the benefits truly outweigh the cost? Does it make more business sense to switch, upgrade, or renew? Content delivery networks like Akamai, Instart Logic, and Yottaa all want to lock you into long term contracts, so this decision is impactful for your business.

In our experience at Blue Triangle, we have seen firsthand that CDNs can significantly improve the performance of your digital properties, but the questions posed above require the need to understand how much value is being received and how to increase your returns. The business case for choosing your CDN partner usually revolves around 3 concepts:

1. Having a faster site should positively affect your revenue and conversions.
2. Offloading traffic to CDN servers should save you money.
3. Your uptime and security should be improved.

Server offload, uptime, and security can be harder to quantify so we feel the strongest case should revolve around revenue lift. Blue Triangle's SaaS solution makes website performance a business conversion by tapping into the real user experience and correlating site speed with business metrics like sales, conversion rates, revenue per visitor, pages per visitor, and bounce rates. If you are only looking at a performance in a one-dimensional way without business correlation, then it is difficult and time consuming to drive revenue from site speed improvements. Blue Triangle solves this problem by quantifying and validating the ROI of your CDN and helping you maximize your performance investments on an ongoing basis. Whether you are choosing a CDN, making improvements by fine tuning your CDN's various performance-enhancing capabilities, or implementing changes to your website that affects page speed, you can use Blue Triangle to continually direct and optimize these investments in an accurate and actionable manner. Our customers that use various content delivery networks attest that Blue Triangle's solution has provided them with high returns.

- Blue Triangle's Predictive Analytics and Revenue Attribution: Blue Triangle can predict and quantify the revenue and conversion rate impact of your CDN investment. What does a one second improvement mean in terms of revenue? We can answer that question and help you choose which CDN makes best business sense for you.
- Blue Triangle's Actionable Real User Performance Data: We not only can help you compare the business impact of various CDN's, but we can provide ongoing reporting so when making configuration changes to your CDN, you can measure the business and performance impact of them (front-end optimization, image compression, client-side changes, etc).

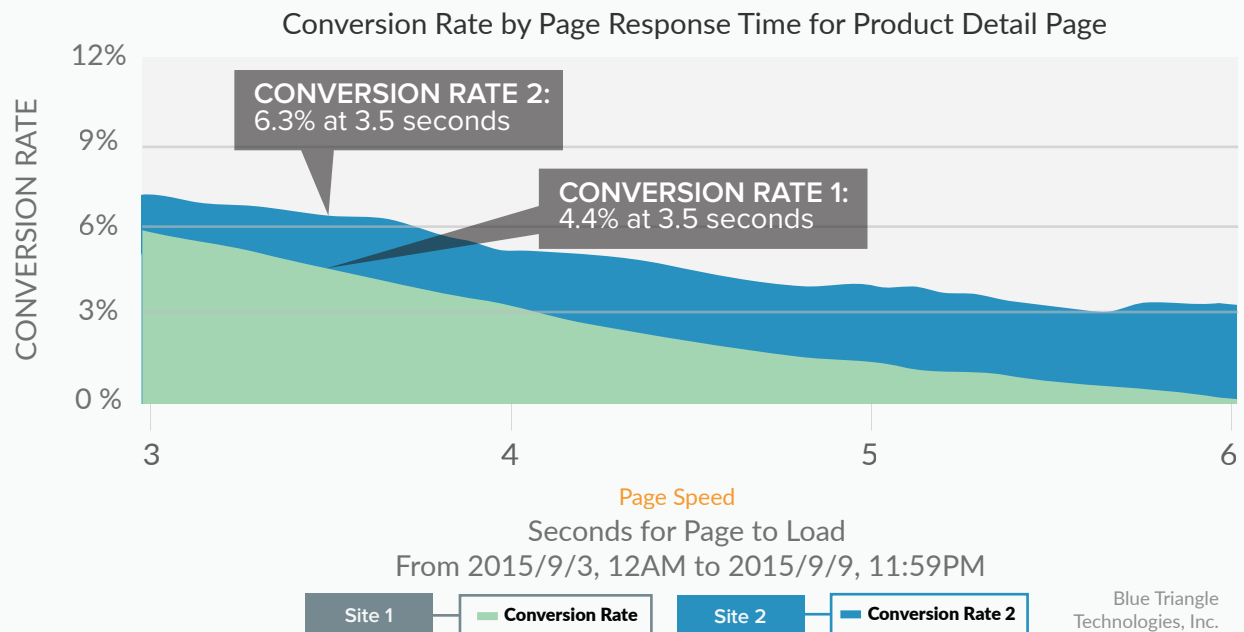
Blue Triangle will help you make a more informed business decision around your CDN investment, then ensure you receive the greatest ROI from your CDN choice. Our ongoing, rapid data feed to businesses and DevOps teams allow you to manage site performance from a real user perspective and have performance

targets that are centered around driving more revenue and conversions.

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. CDNs can help accelerate sites and drive up revenue, and the business case for using a CDN is strongest when website owners are able to demonstrate a quantifiable return on investment (ROI) before and after 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.



A CDN 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 using these features, 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 CDN configuration. When doing business online, CDN users have an opportunity to extract a tremendous amount of value made available to them by strategically optimizing their configurations and continually managing them.

THE BUSINESS CASE FOR CDNs: CUSTOMER EXAMPLES

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

In each example, companies doing business online were looking to either justify their budget for enhanced performance capabilities from their CDN or were confirming the optimal CDN 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 CDN technology options.

Use Case: Upgrading Current CDN and Improving Conversion Rate by 35%

Customer Challenge:

A high-end clothing retailer generating roughly \$900 million per year in online sales had a lower-end CDN technology in place, but was looking to justify the cost of upgrading to their CDN's latest generation web performance solution.

Actions Taken:

The retailer had Blue Triangle measure the before and after results of using the upgraded CDN and compared the performance-to-conversion relationship.

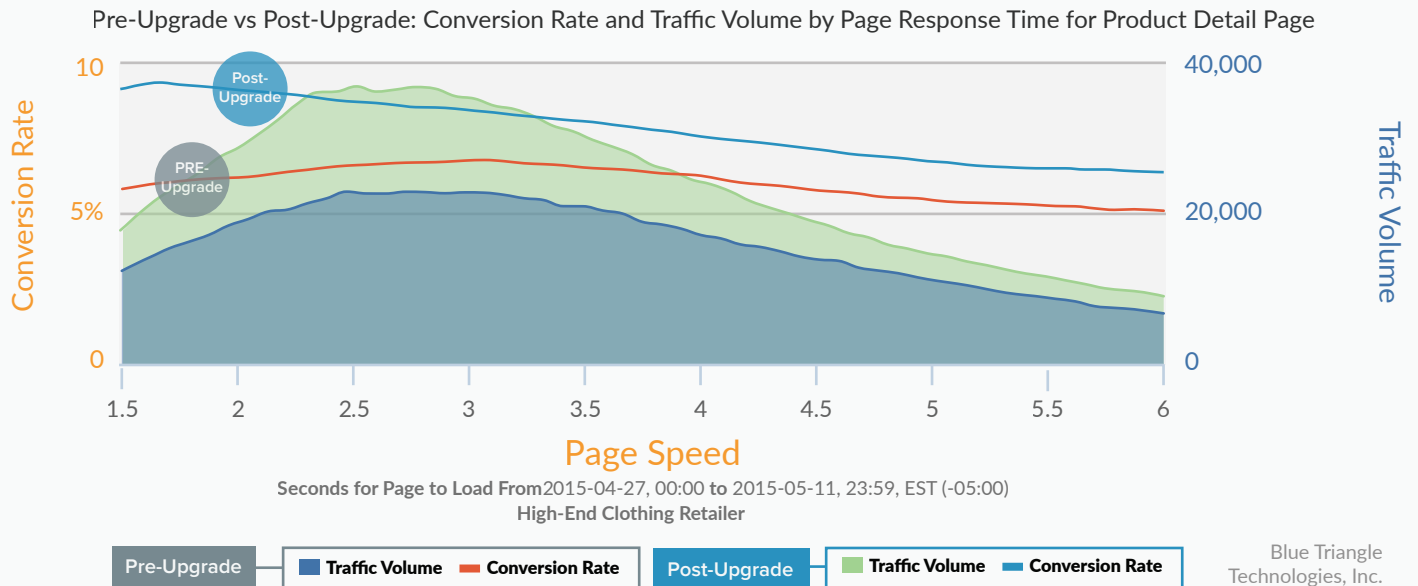
Results:

They found that their two-week conversion rate increased by 1.28% and their revenue per visitor improved by \$2.57. Additionally, the retailer's page response time was nearly 7% faster after the upgrade implementation.

ROI:

Based on the cost of upgrading, the payback ROI was within 30 days.

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 **Product Detail Page** traffic volume before and after the upgrade was made, and the two lines represent the site’s pre and post-upgrade conversion rate curves.



Use Case: Implementing a CDN for Mobile and Tablet Sites – 17% 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 a CDN’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 a CDN vendor for a web performance solution. The company then implemented the CDN 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.

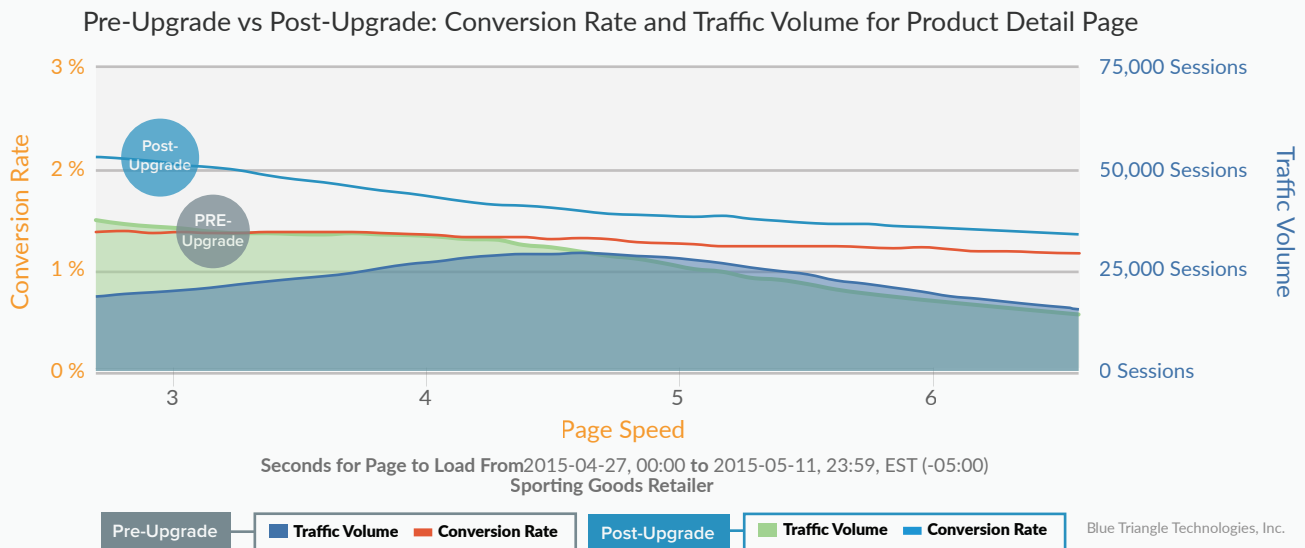
Blue Triangle’s Revenue Calculator, which predicts the sales impact of performance changes, was 97% accurate in forecasting the site’s monthly revenue growth from CDN speed-ups. These predictive analytics allowed for the retailer to have a quantifiable business case for performance investments.

ROI:

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

Check out the impact the CDN had on the mobile site’s business and performance metrics:

	Pre-Upgrade	Post-Upgrade	Post minus Pre	% Change
Revenue Per Visitor	\$0.73	\$0.83	\$0.10	13.70%
Conversion Rate	0.84%	0.95%	0.11%	13.10%
Sales	\$3.26M	\$3.57M	\$0.31M	9.51%
Page Response Time	5.36 sec	4.45 sec	-0.91 sec	-16.98%



Use Case: Switching from One CDN to Another – 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 an alternative CDN 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 the alternative CDN promised provides increased conversion rates and sales.

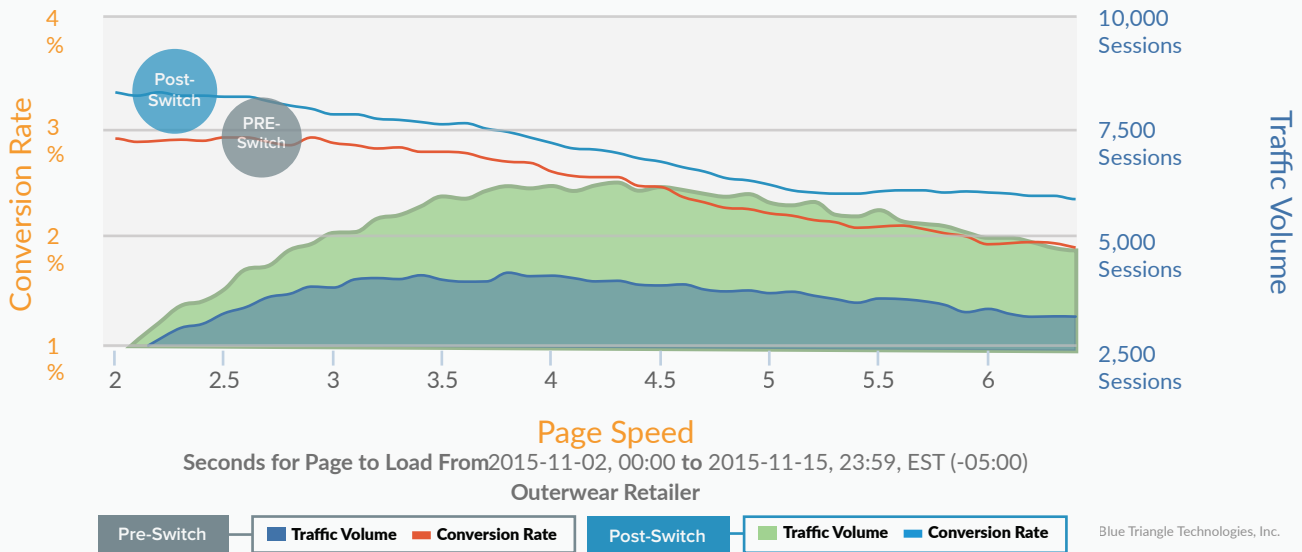
Blue Triangle’s Revenue Calculator was 90% accurate in predicting the company’s two-week revenue growth from performance improvements.

ROI:

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

	Pre-Switch	Post-Switch	Post minus Pre	% Change
Conversions	10.02K	20.53K	10.51K	104.89%
Conversion Rate	1.70%	2.26%	0.56%	32.94%
Sales	\$2.71M	\$3.18M	\$472K	17.42%
Page Response Time	12.31 sec	11.62 sec	-0.69 sec	-5.61%

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



Use Case: Validating Existing CDN with A-B Testing

Customer Challenge:

The client wanted a crystal clear business case to justify the ongoing cost of their CDN.

Action Taken:

The customer’s performance team conducted an A-B test, setting a cookie to divert half of their traffic to CDN-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 their CDN with executive management.

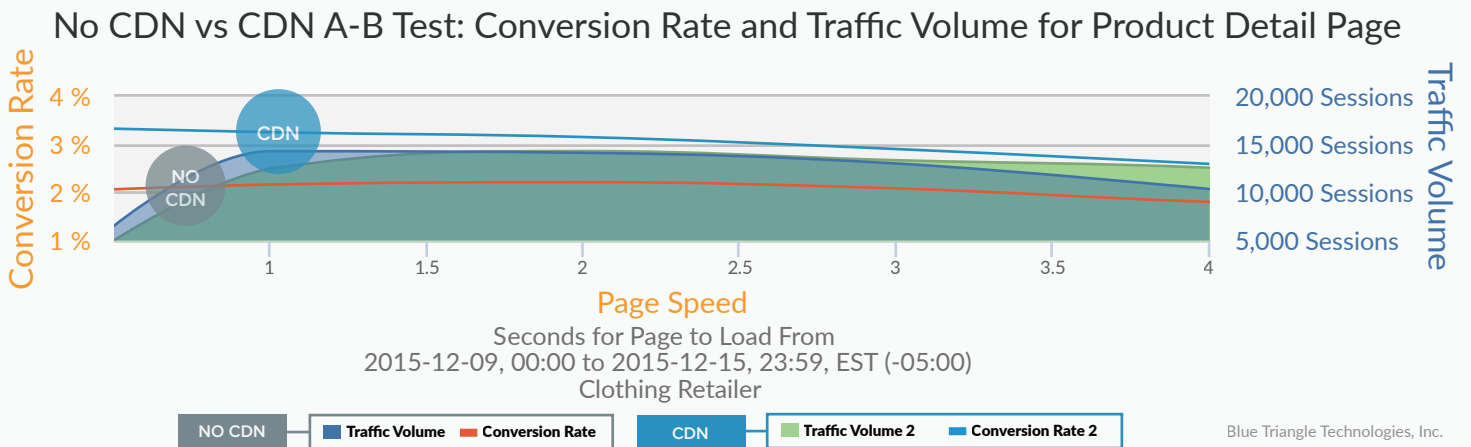
Results:

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

ROI:

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

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



MEASURING THE SUCCESS OF ONGOING CDN OPTIMIZATION TREATMENTS

As you explore various CDN 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 Your CDN’s Image Treatments

Customer Challenge:

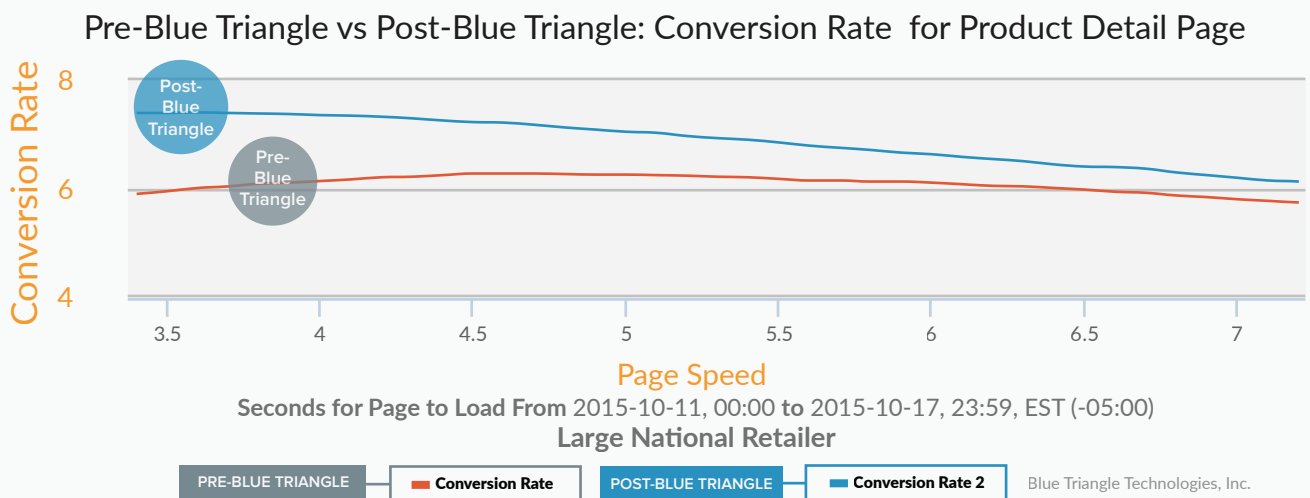
A large national retailer generating over \$2 billion in online sales annually was looking to reduce their site’s full page load time by using a CDN’s image compression feature, but needed to determine what the optimal compression levels were. This particular treatment allows companies to adjust between predetermined compression levels for images, depending on the quality of the network connection.

Action Taken:

When the image treatments occurred in production, Blue Triangle measured the relationship that page speed had on conversion rates for specific Product Detail 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 image 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.



CONCLUSION

Blue Triangle helps some of the largest internet retailers, as well as travel, hospitality, and financial services firms grow their revenue and conversions by connecting business value to web performance. Our solution allows organizations to justify their CDN investments, measure the success of any code or feature change, see the performance impact of every 3rd party tag, and maximize various optimization functions that a CDN offers.

By correlating page performance with business metrics, companies are realizing a significant revenue lift.

Contact us today to find how Blue Triangle can be the independent solution to help you choose your CDN partner and provide a day-to-day performance management solution that is tied to your business goals.

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