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Limelight Networks Automates Traffic Engineering and Reduces Infrastructure Cost and MTTR with Kentik

Limelight NETWORKS

CATEGORY

- Global content delivery network (CDN) provider

CHALLENGE

- Internally-developed network traffic analytics tool limited in ability to scale and extract real-time intelligence

SOLUTION

- Kentik Detect® for network traffic trending and analysis and traffic engineering

RESULTS

- Significant reduction in MTTR
- Automation for traffic engineering
- Big cost savings for transport and IP transit

Overview

Most web content and application providers today utilize Content Delivery Networks (CDNs) to ensure the best user experience. CDN providers compete to deliver the fastest websites and software downloads, most responsive applications, highest-quality video, and lowest latency gaming via their globally distributed networks, which aim to serve content from the best performing, most optimal network location for each end user. To thrive in the highly competitive CDN marketplace, operators must continuously optimize their networks for both performance and cost, while strategically planning capacity and growth. That's why Limelight Networks turned to Kentik.

Situation

Limelight Networks is one of the largest, fastest CDNs in the world today. The company's customers include software and device manufacturers, media and broadcasters, retailers and e-commerce, gaming companies, and any other business needing to deliver flawless streaming video, secure websites, or high performance digital content.

Limelight has a massive network, with more than 80 points-of-presence (PoPs) globally and 28 Terabits-per-second of egress capacity. To maintain its reputation as an always-on, secure CDN, Limelight places a high value on network traffic visibility, which helps the company to optimize capacity and proactively detect potential problems before they become customer-impacting incidents.

Limelight delivers between 40-80 petabytes of data daily, so the company initially built its own network traffic analytics tools after finding no viable commercial solutions that could handle that scale. However, everything within the in-house tool was command-line driven, making it helpful only to a small handful of highly technical engineers. Ultimately, it became too time consuming to use the tool to conduct analysis and troubleshoot core and edge networks.

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Solution

Limelight learned about Kentik and its SaaS-based network traffic intelligence platform, Kentik Detect, through a trial. The Limelight team was impressed by Kentik's trending and analysis capabilities, in addition to the platform's speed, scalability, ease of use, and IPv6 support.

"We deployed Kentik to help us with everything relating to network-based traffic visibility, including strategic capacity planning, traffic management, backbone troubleshooting, and data analysis for traffic flows," said Vaught.

"The implementation process with Kentik was simple," added Vaught. "You just point the flow data from your network at Kentik's platform, and you're off and running. It doesn't require any extensive training, meaning you don't have to be a network engineer to leverage the platform. Everyone from our network strategy, planning, management, operations, engineering, and even our development teams leverage the platform. The ease of use alone is highly worth it."

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Results

By leveraging network traffic intelligence from Kentik, Limelight observes the following ROI:

SIGNIFICANT REDUCTION IN MEAN TIME TO REPAIR (MTTR)

Real-time network traffic trending and analysis capabilities from Kentik have helped to make Limelight highly stable. With Kentik, Limelight can quickly drill down into traffic issues and fix them to minimize any customer impact or outage – saving both break-fix hours and engineering hours. As a result, Limelight has been able to reduce its MTTR from about 1.5 hours to just 20 minutes.

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In one instance, Kentik's fast, iterative, ad hoc querying allowed Limelight engineers to quickly identify a customer route leak as the root cause of an issue, limiting impact to only a few minutes' blip.

AUTOMATION FOR TRAFFIC ENGINEERING

With Kentik's ability to correlate BGP routing data and traffic volume information and an intuitive user interface, Limelight's engineers can easily filter and pivot on any combination of network constructs like ASNs, paths, PoPs, interfaces, or prefixes. Kentik's big data backend allows them to get the answers they need in the moment, without pre-defining queries or waiting minutes to hours for the results.

"Instead of trying to count bits, Kentik's menu-driven, intuitive UI allows us to quickly visualize traffic flows that inform engineering decisions," said Vaught. "Where it previously took us over an hour to gather the required data, we've now been able to shorten that workflow to about 15 minutes with help from Kentik."

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Limelight is also converting some traffic engineering workflows into fully automated processes by leveraging Kentik's powerful APIs. Through the API, Limelight can programmatically identify interfaces or PoPs that are approaching capacity or commit levels and automatically reroute a portion of the traffic to avoid customer impact from congestion or cost exposure from commit overages.

BIG COST SAVINGS FOR TRANSPORT AND IP TRANSIT

With Kentik, Limelight was able to uncover some difficult-to-pinpoint cases of non-optimal routing within their network. In one case, some traffic that should have been egressing via settlement-free peers was instead egressing via paid IP transit. In another, traffic that should have been egressing locally from a PoP was instead being carried across the backbone to egress from a distant PoP. Resolving these routing issues allowed Limelight to provide superior performance to customers by reducing the number of hops between traffic sources and end users.

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"As a CDN, you usually want to serve traffic as close to the end user as possible. With Kentik's visualizations and analytics we found some traffic traversing our backbone that shouldn't have been, including one case where we had no idea we were backhauling traffic between Vienna and Frankfurt. Finding and fixing issues like that has allowed us to defer a substantial number of capacity upgrades, which has been a big cost savings for us," said Vaught.

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Key Takeaway

"Kentik has the best feature functionality on the market and has substantially reduced our MTTR for customer, peering, and transit-related issues," said Vaught. "It's rare to be able to leverage one product for value in so many different and useful ways across the organization, but with Kentik, we've been able to do just that."

ABOUT KENTIK

Kentik is the network traffic intelligence company. Kentik turns network traffic – billions of digital footprints – into real-time intelligence for both business and technical operations. Network operators, engineers, and security teams use Kentik to manage and optimize the performance, security, and potential of their networks and their business. To learn more about Kentik and its award-winning solutions, visit www.kentik.com.

Products from Kentik have patents pending in the US and elsewhere.